THE
AMSTRAD
USER

16 PAGES of articles for PCW owners

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FOR THE NOVICE & EXPERIENCED USER

THE AMSTRAD USER

For Tape subscribers, the programs can be found at the following approximate positions:
Side 1: **GREMLINS** - 15, **REEDPROG** - 87   Side 2: **DOODLE** - 15, **LONGX** - 60

The subscription rate (for Australia) is $35.00 for 12 issues of the magazine only, or $75.00 for 12 issues of the magazine plus tape containing programs appearing in that issue. Postage is included in the above prices. For subscriptions to New Zealand, PNG, Solomon Islands or Vanuatu please add $12 airmail. Other overseas prices available upon application.

Please note that whilst every effort is made to ensure the accuracy of all features and listings herein, we cannot accept any liability whatsoever for any mistakes or misprints.

Contributions are welcome from readers or other interested parties. In most circumstances the following payments will apply to published material: Letters $5.00, Cartoon $5.00 and a rate of $10.00 per page for programs, articles etc. Contibutions will not be returned unless specifically requested coupled with a suitable stamped and return addressed padded bag (for tapes or discs).

THE AMSTRAD USER

G'day,

No, your hands are not deceiving you - the number of pages has increased yet again, and I must admit that I am under pressure to relinquish this particular page to provide even more space. In fear of preaching to the converted, it's worth restating that The Amstrad User is truly an Australian publication for Australia, New Zealand and surrounding countries. In the main, it contains "local" news, points of view and programs, and information about software that is normally available on this side of the world, unlike imported, or rehashed copies of, other magazines (that always seem to have a preponderance of "£" signs), and generally make us antipodean users envious at first but finally frustrated. That said, I am putting up a strong battle to keep the only spot in the magazine where I can talk without fear of the "blue pen"!

And talking about pens, you would have gathered by now that our "special" this month is a $5 dollar saving on the Amstrad LP-1 Lightpen for 464/664/6128 owners with colour monitors. Unless stocks run out beforehand, the offer must close on 31st October. So if you want to get an early Christmas present (horrors, it's less than four months away) you'd better strike while the bargain's hot.

PCW owners should be pleased with the fact that a third of this magazine is devoted to articles relevant to their machines. We will try our hardest to continue the trend, providing the software developers can keep up with us, and don't forget that many items can also be run on a 6128. Our next problem is to cover the Amstrad IBM-PC compatible due for release in the UK at the beginning of September and over here in November. There are heaps of rumours surrounding the 'package', but we will have to wait to see if Amstrad continue to live up to their reputation.

Finally, we have been receiving a number of calls from people wanting Strategy Software. I know it may be confusing, but they are a totally different company from The Amstrad User (Strategy Publications). So please, if you have a problem, check who you want to talk to first before ringing.

See you next month,

Ed

Letters
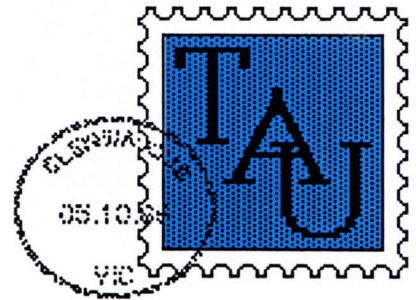
Roger McLennan's article on SETUP.COM in the June 86 edition of TAU prompted me into this. The article recommends using the time honoured [CTRL]P technique to obtain a printed copy of the keyboard expansion strings so that you can remember which key has been assigned to each function. However, if you are like me, printed menus get buried under mountains of paper when you need them most. Therefore, my solution to the buried menu problem may be of use to others.

I assign the first expansion token as TYPE MENU.TOK ^M , then use Amsword to place a table of expansion tokens and expansion strings, called MENU.TOK, onto my CP/M disc. Calling up the first expansion token automatically displays the MENU on the screen. No more buried menus. A useful additon to this is to enter the Initial Command Buffer of SETUP and insert TYPE MENU.TOK ^M, this will cause the menu to be initially displayed on the screen. A typical menu would have the following style:

f0	MENU
f1	DIR
f2	PIP
etc.	

The joys of menu driven CP/M are not confined to 2.2 users, a menu driven system can be created for CP/M Plus as follows.

1. On Amsword or similar write a program called KEYS.TOK and save to your CP/M Plus disc. I construct this programme in two parts, firstly the key definition section, and secondly the expansion token definition section. It is very easy with this layout to keep track of which token numbers and expansion strings have been used e.g.

Key definition
format = (key no.)	(shift state)
15	N S
13	N S
(token number)	(comment)
"^'#80'"	f0
"^'#81'"	f1

Expansion token definition
format = (esc)	(token no.)
E	#80
E	#81

(expansion string)
"TYPE MENU.TOK ^M"
"DIR ^M"
(The HELP disc that comes with CP/M Plus explains the range of numbers and shift states, in the section headed SETKEYS, and under subtopics .KEYS & .TOKENS)

2. As for CP/M 2.2 write a menu called MENU.TOK and save to your CP/M Plus disc.

3. Use PROFILE.SUB as follows to initiate the above programs.
    SETKEYS KEYS.TOK
    TYPE MENU.TOK
The ^M acts as a <cr> in the CP/M environment and initiates the selected programme. Some programmes, such as Palette and Date in CP/M Plus, and Pip in CP/M 2.2, operate best without ^M.

Alan Walker, Hawker, ACT

I must write to inform you and your readers of a problem I encountered after buying the helicopter flight simulator Tomahawk.

Due, presumably, to copyright laws being frequently ignored, Digital Integration have introduced a security system - Lenslok - to prevent illegal copying.

This consists of a rectangular piece of of plastic with a transparent window in the centre. The idea being that after the cassette has loaded, the letter "H" appears on the screen.

You then place the outstretched lens (It folds: to use later in code cracking) on the screen and alter the size of the "H" (using designated keys) to that of the Lenslok lens.

When this has been achieved you can then proceed to crack the code.

However, as I have found to my annoyance, if you are like me and use a large colour television with a modulator and not a smaller screened colour monitor, the letter "H" on the TV is much larger than that of the lens, even at the smallest obtainable size. Hence my inability to crack the rest of the code, if you see what I mean?

I can only imagine therefore that Digital Integration either didn't foresee such a problem, or that there is some way unbeknown to me of loading the game without the problem described. If so, I'd be glad to hear from you. Otherwise please inform your readers of the absurdity.

G. Pennington, Burnley, Vic

Though reasonably effective, the Lenslok security system is not ideal as you have discovered. However, if there were less pirates about Digital Integration would not have had to go to such lengths.

Having obtained Protext on ROM for the serious application of my CPC6128, I let myself go by purchasing Cyrus 2 Chess on disc; only to find that, when I got home, inserted the disc and tried to ru n the program, I was given the blunt message 'not enough memory' (this was with my Protext ROM card plugged in at the back). However when I eventually thought of removing the ROM, Cyrus had enough memory and functioned normally.

Could you please enlighten me, and tell me whether anything can be done to resolve this problem.

Paul Webb, Ashburton, Vic

When you turn on your Arnold, he looks around the memory map to see what ROMs are plugged in, and makes notes in a little corner of his memory. Most programs don't use this little corner of memory, and so run fine regardless of ROM boards. Unfortunately some programs need all the memory thay can get, and so give poblems when they discover Arnold's little notebook. I am afraid there is not much you can do about it - except switch off, unplug the ROM board, and reload.

AMSTRAD MP1/MP2

The distributors of Amstrad computers, accessories and software advise that the MP1/MP2 power supply modulators will not be released for sale as it is not suitable for Australian conditions.

Mitsubishi Electric AWA Pty Ltd

I have had trouble with some of my friends (they aren't friends anymore) who keep trying to hack into the programs I write and save on tape. At school, I have heard

that the Amstrad has a firmware routine somewhere in its memory for creating headerless files. I am sure these couldn't be hacked into, as they can't be recalled using LOAD" or RUN". If such a routine exists, could you tell me its address and how to operate the routine? Could you also tell me the routine (there must be one) which loads these files into memory? My friends wouldn't find out, they're pretty thick, but they have got a tape-to-tape utility, so SAVE"prog.p doesn't stop them.

I'd be grateful for these bits of info.

John Nelson, Luton, NSW

This is complicated. Basically there are two routines; CAS WRITE and CAS READ, at locations &BC9E and &BCA1 respectively, that do what you require. Both require the address of the start of the program in the HL register and the length in the DE register. The content of register A is not important but must be the same in both cases. We would suggest &16 as a suitable value.

However, these routines will not work with programs written from Basic without considerable jiggery pokery. If you want to look into this further, we suggest you buy a copy of the CPC464 Firmware Manual (Soft 158).

Playing around with my 6128 recently, I discovered the following which I have never seen documented:

CTRL+cursor up forces the cursor to the beginning of a string or Basic line you happen to be editing at the time.

CTRL+cursor down forces the cursor to the end of a string or Basic line.

CTRL+cursor right forces the cursor to the right-most column of the screen.

CTRL+cursor feft forces the cursor to the left-most column of the screen.

I found these useful when editing Basic programs.

Karl Wridgway, Mulgrave, Vic

May the force be with you.

P.S. How about giving us readers a series about LOGO - from basics to more advanced programming? *It's on the drawing board.*

P.P.S Would you be interested in some Basic games/applications I have written?

We are always interested, after all, it's a user magazine for users to share their discoveries and developments. However, a big BUT - we have a surfeit of metric conversion programs, quizzes, disc file erasers and maths tutors. The ones that are a little different normally get published. By the way, don't forget to supply a tape or disc with the working software on it.

I read in edition of the UK magazine (The Amstrad Computer User) that DR LOGO as provided with the Amstrad CPC6128 will not entertain the example program for the "FILL" command (Chapter 6 - Page 28). "FILL" is not one of LOGO's built-in primitives.

Because of it's potential as an educational tool, I am particularly interested in LOGO.

I find that there are a number of areas where LOGO will not respond as indicated by the instruction book.

1. Chapter 6 - Page 2: "SUBMIT LOGO3" will not load into CP/M. "LOGO3" will load.

2. Chapter 6 - Page 5: The use of "ESC" will not interrupt the execution of a program.

3. Chapter 6 - Page 6: Using the "ED" command puts LOGO into edit mode. The use of the control and cursor keys, instead of moving the cursor in the required direction, causes it to move to the right and print a character (a different character for each cursor key). Similar behaviour is noted with the use of the Escape and Copy keys.

I find it frustrating when, if I make a typing mistake with LOGO, I have to delete everything in the line back to the point of error. If I have already entered the line, I find it easier to "END" the procedure, erase it and start again.

Perhaps there is a LOGO-Whiz who can help me with my problems. LOGO programs are so easy to write, and I feel the keeness is taken off it when functions do not behave correctly.

My congratulations on a superb magazine.

G. Nebe, Rockhampton, QLD

I was pleased to see my article on Recursive Curves in the June TAU. There are two comments however.

1. The box on block 5 (Page 31) should read 'HT PATTERN 256 5' and 'HT SIERPINSKI 256 4' - not as shown.

2. The " ! " on the 4th last line (block 5) should not be there. " ! " is a mark DR LOGO's editor inserts when the automatic wrap-around is invoked and should not be typed in.

J. Hughes, Rockhampton, QLD

I have recently bought an Amstrad 6128 and when I received the Amstrad User magazine (Issue 18) I started on the game "Orangeade Store" adapted by A.F. Ryan. But I have found a problem in line 2290 which reads:

```
dp.cstp=(dp-cstp)*100:
byr=byr*(100-dp.cstp)
?1.01)/100
```

Where I have placed the " ? " there is a misprint in my magazine. I was wondering if you or anybody would know what this is?

J. Dawson, Cygnet, Tas

The program was actually called "Orangeade Stall" and if you have a misprint in your magazine, so does everyone else. But you will be pleased to know that you don't. The character is a " ^ " and is represented on the keyboard by the character below the " £ " sign, the upward pointing arrow.

What follows is an upgrade to version 2.0 of my game "Orangeade Stall", which considerably improves the "playability by allowing the player to make much more intelligent decisions, because he/she is now provided with a weather forecast before making the tactical decisions about the next days trading. There is also a very minor alteration to the code at statement 1350 to clear up a small inconsistency.

Make the following changes: Add lines -

```
1205  GOSOB 3600  'Prepares
      weather forecast
1351  IF 0<>(CP MOD10) THEN
      LOCATE 10,16: PRINT"You
      must buy in units of 10
      or 100" ELSE GOTO 1360
1352  FOR a=1 TO 1500: NEXT
      a
1353  GOTO 1350
```

Renumber lines 2020 to 2060 to be 3600 to 3640 and add the new code 3650 onwards as shown below.

```
3650  REM now decide the
      accuracy of forecast
3660  x=RND+1: IF x>1.5 THEN
```

```
        x=x-0.5 ELSE IF x<0.5
        THEN x=x+0.5
3670    y=RND+0.5:IF y>1 THEN
        y=y-0.5 ELSE IF y<0.2
        THEN y=y+0.5
3680    x=x*y:wfore=wea*x
3690    IF wfore<5 THEN
        fore$="Gale Force winds
        and heavy rain":GOTO
        3760
3700    IF wfore<10 THEN
        fore$="Rain all day":
        GOTO 3760
3710    IF·wfore<30 THEN
        fore$="Rain at times,
        cool": GOTO 3760
3720    IF wfore<40 THEN
        fore$="Showery wit
        hfine periods, cool":
        GOTO 3760
3730    IF wfore<60 THEN
        fore$="Partly cloudy,
        mild": GOTO 3760
3740    IF wfore<70 THEN
        fore$="Mostly fine,
        mild": GOTO 3760
3750    IF wfore<80 THEN
        fore$="Fine and Warm"
        ELSE for$="Sunny and
        Hot"
3760    REM now print the
        forecast
3770    LOCATE 10,14:PRINT"The
        weather forecast for
        Saturday is:-"
3780    LOCATE 10,16:PRINT
        fore$
3790    LOCATE 10,18:PRINT
        "Press space bar when
        ready"
3800    a$+INKEY$;IF a$="" GOTO
        3800
3810    LOCATE 10,14:PRINT
        SPACE$(40)
3820    LOCATE 10,16:PRINT
        SPACE$(40)
3830    LOCATE 10,18:PRINT
        SPACE$(40)
3840    RETURN
```

Tony Ryan, Wellington, N.Z.

Gossip from the UK

✦ Campbell Systems have released a third version of their popular database Masterfile. New features include field-to-field calculation capability, enhanced customising and the ability to update directly from reports.

Another important improvement claimed is in speed - file Save/Load operations are said to be three times faster. **Masterfile III** is aimed at CPC6128 owners.

✦ Gem distribution are the latest company hoping to earn a bob or two out of the seemingly insatiable hunger of PCW owners for accounting packages. Gem have got the distribution rights for **Compact Accounts**, a range of software available in separate modules or as a complete package.

✦ Fresh from their tasteful reactor simulation Meltdown, Alligata are about to release a compendium of pub games for the CPC micros called, suprisingly enough, **Pub Games**. It features bar billiards, dominoes, darts, table football (soccer), poker, pontoon and bar skittles.

Alligata's press release suggests that reviewers should consume large amounts of alcohol while testing the program. Clearly an attempt to ensure that any faults are accidentally slurred over!

✦ Even before the release of their Pagemaker program, Advanced Memory Systems have announced a package which will go one stage further. **Magazine Maker** is a combination of Pagemaker with a video digitiser which converts the signal from a video camera so that the graphic image can appear on an Amstrad screen. In other words you can have pictures included in your pages and have fun editing them, adding moustaches, etc.

Unfortunately, the low resolution means your pictures won't look too professional when printed out, but it could be great fun for a simple newsletter, say.

✦ From Melbourne House a machine code monitor for the CPC464/664 and 6128 called **Breakpoint**. It is claimed to be "the most flexible and powerful system for testing and debugging machine code programs on the Amstrad computers". *(Likely to be $29.95 if released by Melbourne House in Australia - Ed).*

✦ Two other bits of news which may be of interest, first a mouse for the 6128 is shortly to be released at a cost in the UK of £69.95. Apparently it will be compatible with Mirrorsoft's Fleet Street Editor. Second, Oxford Pascal for the 6128 and PCW's is on the way. It runs under CP/M and claims to be "the fully extended implementation of Pascal". I'll keep you posted.

NATIONWIDE USER GROUPS

After last month's swag of new groups we thought things would go quite for a while - but no - WA and SA have produced a couple more and New Zealand's North Island adds to the list across the Tasman. The **Albany Amstrad Users Group** has emerged from the lower south of WA with assisting users with their problems high on the list of their priorities whilst going east across the Great Australian Bight (or should that be Byte?) is the newly formed **Port Lincoln Amstrad Users Group.** With those two, we also welcome the **Wellington Amstrad User Group.** We look forward to receiving news on your progress.

In the following list you will find details of all registered groups, including a change of venue for Amsouth (SA) and news that the Northern Amstrad User Group (Vic) have now opened their doors to novices and will be sharing their expertise and running training sessions.

WESTERN AUSTRALIA

AMSWEST (Perth)
President:	Tony Clitheroe	(09 275 1257)
Vice President:	Steve Cushnahan	(09 445 2062)
Secretary:	Mrs. P.T. Ardron	(09 361 8975)
Treasurer:	John Firth	

Regular meetings take place at a venue in Shenton Park on the first and third Tuesdays of each month starting at 7.30p.m.

AMSWEST (Blackwood) USERS GROUP
This small group is affiliated to AMSWEST (Perth). For further details contact George Muscat on (097) 61 1488.

SOUTHSIDE AMSTRAD USER CLUB
President:	John Marshall	(09 390 7335)
Secretary:	Debbie Hoffman	(09 459 8702)
Treasurer:	Eric Tytherleigh	(09 390 8865)
Librarian:	Roy Depurouzel	(09 457 9026)

SAUC meets from 7.00 p.m. every 2nd and 4th Tuesday of each month at Gosnells Scout Hall on the corner of Verra and Corfield Streets, Gosnells. All meetings are socially orientated with a minimum of business matters and can include software and hardware demonstrations, discussions or lectures which all prove to be helpful for beginners or advanced users alike. The club has an extensive library of tapes, discs, magazines etc. and discounts have been obtained from most local dealers and are available to financial members. Contact can be made with any of the above officers or by writing to The Secretary, Southside Amstrad Users Club, PO Box 324, Gosnells, WA 6110.

ROCKINGHAM-KWINANA AMSTRAD USER GROUP
President	Bob Harwood	
Vice-President	Keith Gaisford	
Treasurer	Rob Macilroy	
Secretary	Keith Saw	(095 27 6519)

This group meets at 7.30 p.m. at the Cooloongup Primary School, Westerly Way, Cooloongup (Rockingham), every second Wednesday. Further details can be obtained from Keith Saw on the above number or by writing to 29 Millgrove Avenue, Cooloongup, WA 6168.

ALBANY AMSTRAD USER GROUP
President:	Gerry Barr	(098 41 6884)
Secretary:	Steven Hands	(098 41 5183)
Treasurer:	Gavern Grose	

Regular meetings are held on the first and third Mondays of each month at Priess Street Centre, 14 Priess Street, Albany from 7.00 p.m., and are conducted in a friendly atmosphere with families welcome. An emphasis is placed upon educating and assisting users with their problems. Discounts have been obtained for financial members from certain dealers in the area.

SOUTH AUSTRALIA

AMSTRAD COMPUTER CLUB INC. (SA)
President:	Chris Sowden	(08 295 5923)
Vice Pres:	Frank Matzka	(08 382 2101)
Treasurer:	Les Jamieson	(08 356 9612)

The group now meets each Tuesday at the Church Hall, 15 Clayton Avenue, Plympton between 6.30 p.m. and 9.00 p.m. Any of the above officers can be contacted for further details and correspondence can be addressed to PO Box 210, Parkholme, 5043.

PORT PIRIE AMSTRAD USER GROUP
President:	Rick Cable	(086 32 5967)
Treasurer:	Dave Green	(086 32 6834)
Secretary:	Keith Partridge	(086 32 3919)

The group meets at 7.30 p.m. every first and third Monday of each month at the Way Inn Coffee Lounge, Ellen Street, Port Pirie City Centre. Meetings are well attended with members from Pt. Broughton, Warnertown and even Burra. For further details contact Rick Cable who will advise on the benefits of belonging to this group.

AMSOUTH AMSTRAD USERS GROUP
President	Geoff Martin	(08 384 4796)
Treasurer	Bob Bleachmore	(085 56 2048)

As the name suggests, this group has been established to

cater for Amstrad users living south of Adelaide with the emphasis on family involvement. They meet every second Wednesday of each month at Christies Beach High School, Western Section, Beach Road, Christies Downs. Meetings commence at 7.30 pm.

PORT LINCOLN AMSTRAD USERS GROUP
Contact: Rita Bascombe (086 82 1633)
This new group currently meets at Rita Bascombe's house on the third Tuesday of each month from 8.00 p.m. until more suitable premises are found. All interested parties should contact Rita on the above number.

VICTORIA
WESTERN COMPUTER CLUB
The meetings are held on alternate Tuesdays, from 6.30 p.m. to 9.30 p.m., and Sundays from 1.30 p.m. to 4.00 p.m. (to allow for shift workers) at the Fairburn Kindergarten, Fairburn Road, Sunshine. For further information contact PO Box 42, Braybrook 3019 or PO Box 161, Laverton 3028.

CENTRAL AMSTRAD USER SOCIETY
President:	Fred Gillen	(03 580 9839)
Vice-Pres:	Dennis Whelan	(03 367 6614)
Treasurer:	David King	(03 546 3992)
Secretary:	John Holmes	(03 434 1607)

Meetings are held twice a month in the Hall at the corner of Church and Somerset Streets, Richmond on the first Sunday of each month commencing at 1.00 p.m. and generally twelve days later on a Friday evening starting at 7.00 p.m. All meetings are conducted in a friendly atmosphere - families are welcome.

EASTERN AMSTRAD USER GROUP
President:	Tony Blakemore	(03 878 6212)
Secretary:	Barry Fredrickson	(03 846 1340)
Treasurer:	Ron Dunn	(03 277 7868)

Regular meetings are held on the first Sunday of every month at St. Ninian's Church Hall, cnr. McCracken Avenue and Orchard Grove, South Blackburn. The group organises tutorials in Basic and CP/M as well as lectures. PCW courses are being planned. Meetings start at 12.30 p.m. Their postal address is PO Box 279, Heidelberg, Vic 3084.

SOUTHERN AMSTRAD USER GROUP
President:	Mike Prezens	(03 781 2158)
Secretary:	Martin Scragg	(059 78 6949)
Treasurer:	Herman Schutte	(03 799 2482)

Meetings are held on the third Tuesday of every month (except December when it is the first Tuesday) from 7.30 p.m. to 10.30 p.m. The venue is the Senior Campus at John Paul College, Frankston.

NORTHERN AMSTRAD USER GROUP
Contact: Brian Ellis (03 469 4425)
Meetings are held every second Sunday in Preston. The group has a twofold structure and the alterante meetings are devoted to novice training and systems development. Games are discouraged.

SALE AMSTRAD GROUP
Organiser: Alan Harris (051 44 1454)
The Group meets informally every Thursday night from 7.00p.m. at the Sale Neighbourhood House in Leslie Street. In addition, small group tutorials are held twice a month. Contact Alan Harris for further details.

GEELONG AMSTRAD USER CLUB
President:	Ron Butterfield	(052 50 2251)
Vice-President:	Arthur Pounsett	(052 78 2160)
Secretary:	Ross Bennett	(052 44 1556)

This club now meets at South Barwon Community Services Centre, 33 Mount Pleasant Road, Belmont on the first Wednesday of every month, starting at 7.30 p.m.

MACEDON RANGES AMSTRAD USER GROUP
Contacts:	Wayne Urmston	(03 744 2719)
	Ken McMaster	(054 22 2620)

Covering the Gisborne, Sunbury, Kyneton and Woodend areas, this group meets in the Admin. Building of Flexdrive Industries on the second Wednesday of each month from 7.30 p.m.

MARYBOROUGH AMSTRAD USER CLUB
President:	Chad Banfield	(054 68 1351)
Treasurer:	Brendan Severino	(054 61 3191)
Secretary:	Paul Clark	(054 61 2135)

This group consists of a number of students and teachers from Maryborough CCC. Meeting take place each Friday from 12.10 p.m. to 12.45 p.m.

ACT
CANBERRA AMSTRAD USER'S GROUP
Convenor:	Arthur McGuffin	(062 31 9437)
Secretary:	Peter Stehn	(062 81 0258)
Treasurer:	Phil Rogers	(062 41 3039)

The group meets at 7.30 p.m. on the first Wednesday of each month in the Seminar Room of the Oliphant Building at the Research School of Physical Science, Australian National University.

NEW SOUTH WALES
JUBOL AMSTRAD USER GROUP of COFFS HARBOUR and DISTRICT
Contacts:	Bruce Jones	(066 52 8334)
	Jim Owen	(066 55 6190)

The "JUBOL" User Group is currently a small group covering the Coffs Harbour area. They meet informally on the first Friday of each month. Some members attend external DP courses and it is hoped that the group as a whole will shortly be embarking upon internal machine code tutorials.

SYDNEY AMSTRAD COMPUTER CLUB
President:	Raja Vijayenthiran	(02 88 3143)
Secretary:	Reed Walters	(02 560 9487)
Treasurer:	Jim Chryss	(02 327 7872)
Junior Rep:	Daniel Story	

This club now meets in a community hall in the Newtown area, on the first Saturday of every month for a normal club meeting

and on the third Saturday of each month for the purposes of programming tutorials only. Both meetings commence at 2.00 p.m. Prospective members should contact either the Secretary or Treasurer between 6.00 p.m. and 9 p.m. on the phone numbers above for the exact location. Any enquiries concerning a new division for the PCW 8256/8512 users can be directed to R. Carlsen on 957 2505 (B/H) or 90 5725(A/H).

NEWCASTLE AMSTRAD USER GROUP

President	John Harwood	(049 48 5337)
Sec/Treasurer	Erica Harwood	(049 48 5337)

Meetings take place on the first Tuesday of each month at Kotara Public School, Park Avenue, Kotara. A Newsletter is produced each month for members. Interested parties should contact John or Erica on the above number.

AM-USER's (North Ryde)

Contact: Lawrence Walters (02 888 1898)
The primary objective of the group is to enhance member's knowledge on both hardware and software available and on the Amstrad computers themselves. Meetings are held in the Meeting Room at 2 Leisure Close, North Ryde from 7.30 p.m. on the first Tueday of each month. Discounts for members have been established at several stores in the area.

WAGGA WAGGA AMSTRAD USER GROUP

Contact: J.D. Tipper (069 21 3697)
This recently formed group meets very informally with all interests catered for. Meetings take place on Saturday afternoons - all are welcome. For more information contact Julian Tipper on the above phone number or write to 36 Wills Place, Kapooka, NSW 2661.

CENTRAL COAST AMSTRAD USERS CLUB

President:	Lloyd Mitchell	(043 88 2950)
Secretary:	Ray Thompson	(043 32 9095)

Established in March 1986, this club meets on every second Monday of the month at The Entrance Aquatic Club, Salt Water Reserve, Long Jetty. Proceedings start at 7.30 p.m. sharp. Anybody wishing to attend the meetings is welcome, and further information can be obtained from the above officers.

PORT MACQUARIE AMSTRAD USERS GROUP

This group hopes to produce professional quality hardware add-ons for the Amstrad. The group can be contacted through Craig Tollis, PO Box 584, Port Macquarie, 2444.

BLUE MOUNTAINS AMSTRAD USERS

President:	Bob Chapman	(047 39 1093)
Vice President:	Dennis Shanahan	(047 39 4568)
Treasurer:	Peter Traish	(047 53 6203)
Secretary:	Christine Preston	(047 51 4391)

/meetings are on the fourth Wednesday of each month at the Springwood Neighbourhood Centre, Macquarie Road, Springwood and start at 8.00 p.m. Activities include interaction of users with exchange of information and resources, a newsletter and tutorial sessions.

QUEENSLAND
BRISBANE AMSTRAD COMPUTER CLUB

President:	Paul Witsen	(07 371 9259)
Secretary:	John Roberts	(07 283 3349)
Tech. Editor:	Peter Walker	(07 371 4286)
Tech. Librarian:	Peter Golledge	(07 376 1651)

Meetings are held on the first Tuesday of each month at Junction Park State School, Annerley starting at 7.30 p.m. in Room 15a.

SOUTHSIDE AMSTRAD USER GROUP (QLD)

President:	Michael Toussaint	(07 200 5414)
Vice-President:	Peter Incoll	(07 208 2332)
Secretary:	Ken Henry	(07 208 8730)
Treasurer:	Tony Reynolds	(07 841 4823)

Meetings take place every third Saturday of the month at the Loganlea State High School (in the Communications Room) starting at 2.00 p.m. The group was formed to service the southern outskirts of Brisbane and membership consists of beginners to advanced programmers. Demonstrations of various hardware and software packages are given at meetings and the formation of smaller instruction groups for personal attention is under way. A BASIC programming instruction course is held fortnightly.

WEIPA AMSTRAD USERS CLUB

President	Andrew Seaborn	
Vice-President	Dave Wootton	
Treasurer	Frances Casey	
Secretary	Gary Chippendale	(070 69 7448)

This new group has already had a few meetings at Noola Court in Weipa. Prospective members should contact Gary on the above telephone number or write to 15 Noola Court, Weipa, 4874.

PENINSULA AMSTRAD CLUB

President	Ivan Dowling	(07 269 8795)
Treasurer	Keith Johnston	(07 203 2339)
Secretary	Tracie Payne	(07 267 6645)

The aims and objectives of this new club are to "further the knowledge, understanding and enjoyment of the Amstrad computer in its entirety". Meetings are held every third Tuesday of each month at 7.30 p.m. in the Kippa-Ring State School Library, Elizabeth Avenue.

THE WARWICK AMSTRAD USER GROUP

President:	Adrian Christensen	
Secretary:	John Wode	(076 61 5176)
Treasurer:	Neville Christensen	

Meetings take place at the Warwick Education Centre on the first Saturday of each month from 7.30 p.m. Discounts for members have been obtained from two local dealers.

TOWNSVILLE AMSTRAD USER GROUP

President:	Allan Maddison	(077 79 2607)
Vice President:	Brett Kettle	(077 78 6915)
Treasurer:	Shirley Paull	(077 78 2318)
Secretary:	Alister Buckingham	(077 73 3955)

The club meets at 7.30 p.m. on the first and third (only) Tuesdays in each month in the Science Block of the Kirwan High School in Thuringowa Drive. Activities include Basic programming and CP/M sessions, new product reviews, problem solving, competitions and social outings. Club members also receive discounts on software and stationery from selected stores.

MACKAY AMSTRAD USER GROUP
Are newly formed small mixed group with meetings held every second Sunday morning. For further details contact either Des Mulrealiey on 551409 or Ron Coates on 547222.

WESTERN SUBURBS AMSTRAD USERS GROUP
President: Peter Wighton   (07 288 4571)
Secretary: Jimmy James   (07 376 1137)
Contact: Keith Jarrot   (07 376 3385)
At the moment informal monthly meetings are held at Western District Office Supplies, 500 Seventeen Mile Rocks Road, Jindalee at 9.30 a.m. on the first Saturday in each month. All age groups from 9 to 90 are welcome. Prospective members may contact any of the above or write to Jimmy James, 36 Penong Street, Westlake, Brisbane 4074.

TASMANIA
SOUTHERN TASMANIAN AMSTRAD USER CLUB
President   Peter Campbell
Secretary   Rosemarie Parkinson   (002 43 8101)
Publicity Officer   Danny Brittain   (002 47 7070)
Meetings generally take place on the first Wednesday of each month, commencing at 7.30 p.m. Enquiries should be made to Graham or Jenese West - (002) 34 5817.

LAUNCESTON AMSTRAD USER GROUP
This is a new group which has provisionally organised meetings at the Launceston Workingman's Club on the last Saturday of each month from 1.30 p.m. onwards. For more details contact Andrew Banfield on (003) 44 3181 after 6.00 p.m.

NEW ZEALAND
AMSTRAD CANTERBURY
Contact: Christine Linfoot   459 132
                 Ian Orchard   524 064
The club meets on the fourth Wednesday of each month at Four Avenues School, cnr. Madras Street and Edgeware Road, Christchurch 1. They are currently running tutorials in Basic for beginners, machine code and general purpose debugging, with ad hoc discussion groups on the working utilities such as Tasword, Masterfile etc. The postal address of the group is: PO Box 23.079 Templeton, Christchurch, NZ.

WELLINGTON AMSTRAD USER GROUP
Contact: Tony Tebbs   791 072 (evgs)
This group meets at 7.30 p.m. on the last Wednesday of each month. The normal venue is Room 718, Kirk Block, Victoria University. The postal address is PO Box 2575, Wellington, New Zealand.

User Group Contact List
Please note that the following names are listed as contacts for new user groups and should NOT be viewed as a problem solving service.

See also Nationwide User Groups list.

NSW

Name	Location	Phone
Chris Craven	Canowindra	(063) 44 1150
Trevor Farrell	Coolah/Mudgee area	(063) 77 1374
T.J. Webb	Glossodia	(045) 76 5291
David Higgins	Inverell	(067) 22 1867
John Patterson	Lismore	(066) 21 3345
Paul Wilson	Moruya	(044) 74 3160
Frank Humphreys	Mummulgum	(066) 64 7290
Martin Clift	Narrabri	(067) 92 3077
Bob Hall	Newcastle	(049) 52 6915
Stephen Gribben	Singleton	(065) 72 2732
Ken Needs	St. Ives	(02) 449 5416
Chas Fletcher	Toongabbie	(02) 631 5037
Nick Bruin Snr.	Tweed Valley	(066) 79 3280

Vic

Name	Location	Phone
Stuart McLean	4/304 Albert St. Sebastopol, 3356	
David Carbone	Burwood	(03) 29 4135
Rod Anderson	Camperdown	(055) 93 2262
Paul Walker	Heathmont	(03) 729 8657
Terry Dovey	Horsham	(053) 82 3353
Andrew Portbury	Leongatha	(056) 62 3694
Sue Kelly	Manangatang	(050) 35 1402
M.G. Donaldson	Morwell	(051) 34 5711
Angela Evans	Mt. Evelyn	(03) 736 1852
Keith McFadden	Numurkah	(058) 62 2069
Lindsay Parker	Wandin North	(059) 64 4837
Maureen Morgan	Warnambool	(055) 67 1140

QLD

Name	Location	Phone
Debbie Topp	Bribie Island	(075) 48 1688
Steven Doyle	Caloundra	(071) 91 3147
Mick O`Regan	Gladstone	(079) 79 2548
Kylie Telford	Goondiwindi	(076) 76 1746 (weekendsonly)
D.F. Read	Ingham	(077) 77 8576
Tim Takken	Ipswich	(07) 202 4039
Alan Laird	Maryborough	(071) 22 1982
R.C. Watterton	Toowoomba	(076) 35 4305

SA

Name	Location	Phone
Lindsay Allen	Murray Bridge	(085) 32 2340
Michael Spurrier	Murray Bridge	(085) 32 6984
Mrs. S. Engler	Penola	(087) 36 6029
Rita Bascombe	Port Lincoln	(086) 82 1633

WA

Name	Location	Phone
Dave Andersen	6 Kitchener Rd Merredin, 6415	
Graeme Worth	Scarborough	(09) 341 5211
P.M. Nuyens	Waroona	(095) 33 1179

TAS

Name	Location	Phone
Conal McClure	Scottsdale	(003) 52 2514

NT

Name	Location	Phone
G.P. Heron	Tiwi	(089) 27 8814

CHEAT MODE

Some Tips, Pokes and Game busting ploys to improve your scores. If you've got any - let's have 'em.

To input the majority of pokes, there are two methods.

Method 1: Type in the listing. Rewind the game tape. Type RUN followed by pressing enter. Follow on screen prompts to load the game.

Method 2: The tape header/loader/title screen, comprising usually of one or two data blocks has to be skipped. Rewind the game tape. Type in CAT followed by enter and play the tape. Watch the screen and a message will come up:

Found FILENAME block 1 OK

where FILENAME will be replaced by the name of the loading section. The next message that appears will be the main program appearing in the same style:

Found MAINFILE block 1 OK

where MAINFILE will be different for each game. Note the point on the tape counter at which this second file appears. Stop the tape and rewind to just before that point. Type in the program and RUN it. Then press play on the tape deck.

Laserwarp

This POKE provides invunerability.

(Use Method 2 to skip the first two blocks of the program).

```
10    MEMORY &3FFF:LOAD"LASERWARP"
20    POKE 27388,255
30    CALL &4000
```

TAU CETi

For infinite flares, AMMs, missiles, shields, fuel and also stops the laser heating up. (Method 1)

```
10    MODE 1:BORDER 0:INK 0,0:INK
      1,11:INK 2,26:INK 3, 24:PAPER 0
20    OPENOUT"d":MEMORY1529:CLOSEOUT:WIN
      DOW 4,36,21,24: PEN 1
30    LOAD"!title":CALL2000:LOAD"!part1"
      :LOAD"!part2":INK 1,20
40    POKE &4FF2,0
50    POKE &5025,0
60    POKE &4FC0,0
70    POKE &5264,0:POKE &5265,0:POKE
      &5266,24
80    POKE &4E93,0:POKE &4E94,0
90    POKE &4F5F,0
100   CALL &88BB
```

Daley Thompson's Decathlon

The keyboard alternative to breaking up your joystick on this game is R for left, T for right and G to jump. Now you can smash up the keyboard instead.

Now you know there are other cheats around, you needn't keep quiet any more. Send your hints, pokes or any information you feel would be helpful to:

Cheat Mode, The Amstrad User,
Suit 1, 245 Springvale Road,
Glen Waverley, Victoria 3150.
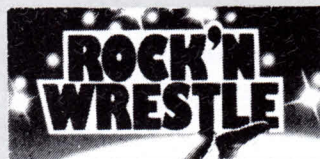
BAT MAN

Provides infinite lives. (Use Method 1.)

```
10   DATA 21,90,1c,36,00,
     c3,00,01,21,2d,22
20   DATA 36,d3,21,40,20,
     11,40,00,01,f2,01
30   DATA ed,b0,21,40,00,
     e5,21,00,bb,e5,21
40   DATA f2,01,e5,21,07,
     b8,e5,21,bb,02,e5
50   DATA f1,21,ea,bI,11,
     d9,b1,f3,c9
60   MEMORY &2000
70   FOR x=&BE00 TO
     &BE34
80   READ a$
90   POKE x,VAL("&"+a$)
100  NEXT
110  LOAD""
120  CALL &3A6A
130  LOAD"!",&2040
140  CALL &BE08
```

ROCK'N WRESTLE

Rock'n Wrestle - this game can be made very easy by softening up each opponent. If you don't your opponent simply throws you off when you try to hold him down. To beat each one, get behind him and start kicking. When he starts spinning, move up and kick again. Once all his energy is gone perform a simple move (aeroplane spin for example) and pin him down.

ELITE ELITE ELITE ELITE ELITE ELITE ELIT E ELITE ELITE ELITE ELITE ELITE ELITE E LITE ELITE ELITE ELITE ELITE ELITE ELITE

To increase ship's cargo potential

1. Find a cluster of two to three systems no more than 2.5 light years apart.
2. Sell all cargo. If possible arm yourself to the hilt with a mining laser, cloaking device and energy bomb.
3. Enter witch space by choosing a hyperspace system, launching, pausing the game, press the F key, restarting and then hyperspacing. Switch on the cloaking device just before you hyperspace and then destroy all but one Thargon.
4. Switch off cloaking device and wait until Tharglets appear. Destroy Thargon and collect Tharglets.
5. Repeat this until you feel you've got enough alien items, or are in danger of getting killed.
6. Enter normal system and abandon ship using escape pod. When you get your new ship you'll have a 35 ton cargo bay plus some alien items. Sell these and you can use the extra cargo space. This will disappear if you have to use the escape pod again and aren't carying alien items, but you can always repeat the process.

SPELLBOUND

Florin the Dwarf: give him the bottle of liquid ' and take it back to restore energy. Give him the bar of gold, broken talisman and tube of glue, then command him to help and he will fix the talisman.
Lady Rosmar: summon her to the wall on the ground floor and give her the pocket laser. Command her to help and she blows a hole in the wall.
Elrand Halfelven: summon him to the wall on level two and give him the trumpet. Command him to help and he blows the wall down.

Samsun the Strong: summon him to the pit on the ground floor and give him the javelin. Command him to help and he builds a bridge across thepit.
Thor: summon him to the wall on the fourth floor and give him the miolnir. Command him to help and he loosens the wall with a bolt of lightning. Elrand can then blow the wall down with the trumpet.
Banshee: Released by dropping the glowing bottle - gives clues when commanded to help.

Candelium Illuminatus: pick up the laser and shield and take them to the room containing the four leaf clover, then cast spell to loght the candle.
Project Physical Body: can be cast if you have the crystal ball and talisman, and allows you to transport to other people.
Armouris Photoicus: stand in the pool of liquid on ground floor and cast spell. You no longer need the glowing bottle to pass through the dark room on the third floor.
Fumaticus Protecticum: cast using white herring and power pong plant - protects you against the gas room on the first floor.

Gremlin Hunt

by Henry and Brendan Piner

This game kept us amused late one night earlier this year as we relaxed having just got The Amstrad User to the printer. It's one of those frustrating games that having been beaten once, you have to have another go ... and another ... and another ...

The rules are quite simple; all that is required is to clear the screen of gremlins before they reach the pool. If you run into one it eats you and if you fall into the pool you also lose a life. Your defence is a gun and limitless supply of bullets.

Of course, there always has to be a catch. If any Gremlin reaches the pool, the number of Gremlins doubles. You see they thrive in water, so when it rains they double again. Unfortunately it rains quite a bit. Be careful, you only have three lives!

```
10 REM ***********************
20 REM ***  GREMLIN HUNT  ***
30 REM ***    NO.8861     ***
40 REM *** BY H & B PINER ***
50 REM ***   (JAN 1986)   ***
60 REM ***********************
70 KEY 138,"SPEED KEY 5,5"+CHR$(13)
80 GOSUB 2440
90 'HOUSEKEEPING
100 DIM SA(20,25),QA(50),PA(50),N(50),O(
50):M$=CHR$(254):H=10:HE=H:V=21:VE=V:B=0
:D=2:GR=5:A=1:RANDOMIZE TIME
110 'GAME SCREEN SET
120 GOSUB 1770:GOSUB 2090:GOSUB 2160:X=0
130 'MAIN PROGRAM START
140 IF X>GR THEN X=0 ELSE IF X=GR THEN 1
60
150 X=X+1
160 'MOVE MAN JOYSTICK SENSOR
170 WET=WET+1
180 IF WET>=WR+35 THEN 2260
190 IF INKEY(LM)=0  THEN 200 ELSE 210
200 H=H-1:M$=CHR$(253):D=1:GOTO 280
210 IF INKEY(RM)=0  THEN 220 ELSE 230
```

```
220 H=H+1:M$=CHR$(254):D=2:GOTO 280
230 IF INKEY(DM)=0 THEN 240 ELSE 250
240 V=V+1:M$=CHR$(253):D=4:GOTO 280
250 IF INKEY(UM)=0 THEN 260 ELSE 280
260 V=V-1:M$=CHR$(254):D=3:GOTO 280
270 'GAME AREA LIMITS
280 IF H<1 THEN H=1 ELSE IF H>20 THEN H=
20 ELSE IF V<4 THEN V=4 ELSE IF V>25 THE
N V=25
290 IF SA(H,V)=143 THEN 310 ELSE IF SA(H
,V)=255 THEN 330 ELSE 300
300 IF D=1 THEN 370 ELSE IF D=2 THEN 390
 ELSE IF D=3 THEN 410 ELSE IF D=4 THEN 4
30 ELSE 140
310 GOSUB 2210:L=L-1:IF L<1 THEN 980 ELS
E 320
320 FOR DG=300 TO 200 STEP-25:SOUND 1,DG
,8,5,0,0,0:NEXT:MODE 1:CLS:PRINT"THE HUN
TER LANDED IN THE POOL. YOU LOSE  A LIFE
";:GOSUB 2390:MODE 0:CLS:GOTO 350
330 GOSUB 2210:L=L-1:IF L<1 THEN 980 ELS
E 340
340 FOR DG=300 TO 200 STEP-25:SOUND 1,DG
,8,5,0,0,0:NEXT:MODE 1:CLS:PRINT"THE HUN
TER LANDED ON A GREMLIN SO HE ATE  YOU.
YOU LOSE A LIFE";:GOSUB 2390:MODE 0:CLS:
GOTO 350
350 GOSUB 1880:GOSUB 2090:GOSUB 2160:X=0
:GOTO 140
360 'IF FAULT MOVE MEN RESET
370 IF SA(H,V)=244 THEN 380 ELSE 450
380 H=H+1:GOTO 450
390 IF SA(H,V)=244 THEN 400 ELSE 450
400 H=H-1:GOTO 450
410 IF SA(H,V)=244 THEN 420 ELSE 450
420 V=V+1:GOTO 450
430 IF SA(H,V)=244 THEN 440 ELSE 450
440 V=V-1:GOTO 450
450 GOSUB 2160
460 'GUN ORIGIN
470 F=400-(VE*16-10):G=HE*32
480 IF D=1 THEN 500 ELSE IF D=2 THEN 510
 ELSE IF D=3 THEN 520 ELSE IF D=4 THEN 5
30 ELSE 510
490 'DRAW GUN
500 PLOT G-15,F,3:DRAW G-30,F,3:GOTO 540
510 PLOT G-1,F,3:DRAW G-22,F,3:GOTO 540
520 PLOT G-20,F-3,3:DRAW G-20,F+5,3:GOTO
 540
530 PLOT G-15,F-2,3:DRAW G-15,F-10,3:GOT
O 540
540 FOR T=1 TO 50:NEXT
```

```
550 'FIRE ·JOYSTICK SENSOR
560 IF INKEY(FM)=0 AND D=1 THEN GOSUB 10
40 ELSE IF INKEY(FM)=0 AND D=2 THEN GOSU
B 1180 ELSE IF INKEY(FM)=0 AND D=3 THEN
GOSUB 1320 ELSE IF INKEY(FM)=0 AND D=4 T
HEN GOSUB 1460 ELSE 570
570 IF X>GR THEN 580 ELSE 590
580 X=1
590 IF GR<1 THEN 600 ELSE 610
600 GR=5:CLS:GOSUB 1880:GOSUB 2090:GOSUB
 2160:X=0:GOTO 140
610 Q=QA(X):P=PA(X)
620 LOCATE Q,P:PRINT CHR$(128);:SA(Q,P)=
0
630 'RANDOM GREMLIN MOVES
640 IF P>19 THEN 700
650 RA=INT(RND*4)+1
660 IF RA=1 THEN 670 ELSE IF RA=2 THEN 6
80 ELSE IF RA=3 THEN 690 ELSE 690
670 Q=Q+1:GOTO 820
680 Q=Q-1:GOTO 820
690 P=P+1:GOTO 820
700 IF Q<11 THEN 710 ELSE 760
710 IF P=25 THEN 750
720 RA=INT(RND*2)+1
730 IF RA=2 THEN 750
740 P=P+1:GOTO 820
750 Q=Q+1:GOTO 820
760 IF P=25 THEN 800
770 RA=INT(RND*2)+1
780 IF RA=2 THEN 800
790 P=P+1:GOTO 820
800 Q=Q-1:GOTO 820
810 'GREMLIN EXTREME LIMITS
820 IF Q<1 THEN Q=1 ELSE IF Q>20 THEN Q=
20 ELSE IF P>25 THEN P=25 ELSE IF P<4 TH
EN P=4
830 'GREMLIN POSITION AND COUNT
840 IF SA(Q,P)=0 THEN 870 ELSE IF SA(Q,P
)=143 THEN 910 ELSE IF SA(Q,P)=255 THEN
640 ELSE IF SA(Q,P)=244 THEN 640 ELSE IF
 SA(Q,P)=3 THEN 850
850 PRINT CHR$(22)+CHR$(1);:LOCATE Q,P:P
EN 2:PRINT CHR$(255);:FOR T=1 TO 100:NEX
T:PRINT CHR$(22)+CHR$(0);:FOR DG=300 TO
200 STEP-25:SOUND 1,DG,8,5,0,0,0:NEXT:MO
DE 1:CLS:PRINT" THE GREMLIN LANDED  ON T
HE HUNTER. YOU LOSE A LIFE";:GOSUB 2390:
MODE 0:CLS
860 L=L-1:IF L<1 THEN 980 ELSE CLS:GOTO
350
870 LOCATE Q,P:PEN 2:PRINT CHR$(255);:SA
(Q,P)=255:QA(X)=Q:PA(X)=P
880 'MAIN PROGRAM END
890 IF X=GR THEN X=0
900 GOTO 140
910 LOCATE Q,P:PEN 2:PRINT CHR$(255);:GR
=GR*2:IF GR>50 THEN GR=50
920 FOR T=1 TO 200:NEXT
930 'LIVES CALCULATING
940 FOR DG=100 TO 50 STEP-15:SOUND 1,DG,
8,5,0,0,0:NEXT:FOR DG=50 TO 100 STEP 15:
SOUND 1,DG,8,5,0,0,0:NEXT:MODE 1:CLS:PRI
NT" THE GREMLIN MADE IT TO THE POOL. YOU
R  REMAINING GREMLINS NOW DOUBLE.
950 GOSUB 2390:MODE 0:CLS
960 CLS:H=HE:V=VE:GOSUB 1880:GOSUB 2090:
GOSUB 2160:X=0:GOTO 140
970 L=L-1:IF L<1 THEN 980 ELSE 1020
980 FOR DG=150 TO 300 STEP 6.5:SOUND 1,D
G,10,5,0,0,0:NEXT:MODE 1:CLS:PRINT"YOU H
AVE LOST ALL YOUR LIVES.YOU SCORED";s;"D
O YOU WISH TO PLAY AGAIN? ANSWER Y OR N"
;
990 IF INKEY$="N" OR INKEY$="n" THEN 100
0 ELSE IF INKEY$="Y" OR INKEY$="y" THEN
1010 ELSE 990
1000 CLS:LOCATE 9,12:PRINT"Thank-you for
 playing":LOCATE 1,20:END
1010 MODE 0:CLS:LOCATE 5,5:PRINT"PLEASE
WAIT":GOSUB 2390:CLS:GR=5:GOTO 120
1020 LOCATE 19,2:PRINT L;:GOTO 190
1030 'LH BULLET PRINT AND CHECK
1040 SOUND 1,290,18,7,0,1,30
1050 FOR XA=1 TO 10
1060 B=H-XA
1070 IF B<1 THEN B=1
1080 LOCATE B,V
1090 IF SA(B,V)=0 THEN 1100 ELSE IF SA(B
,V)=255 THEN 1600 ELSE 1160
1100 PEN 1:PRINT CHR$(252);
1110 FOR T=1 TO 10:NEXT
1120 LOCATE B,V
1130 PRINT CHR$(128);
1140 IF B=1 THEN 1160
1150 NEXT
1160 RETURN
1170 'RH BULLET PRINT AND CHECK
1180 SOUND 1,290,18,7,0,1,30
1190 FOR XA=1 TO 10
1200 B=H+XA
1210 IF B>20 THEN B=20
1220 LOCATE B,V
1230 IF SA(B,V)=0 THEN 1240 ELSE IF SA(B
,V)=255 THEN 1600 ELSE 1300
1240 PEN 1:PRINT CHR$(252);
1250 FOR T=1 TO 10:NEXT
1260 LOCATE B,V
1270 PRINT CHR$(128);
1280 IF B=20 THEN 1300
1290 NEXT
1300 RETURN
1310 'UP BULLET PRINT AND CHECK
1320 SOUND 1,290,18,7,0,1,30
1330 FOR XA=1 TO 10
1340 B=V-XA
1350 IF B<4 THEN B=4
1360 LOCATE H,B
1370 IF SA(H,B)=0 THEN 1380 ELSE IF SA(H
,B)=255 THEN 1610 ELSE 1440
1380 PEN 1:PRINT CHR$(251);
1390 FOR T=1 TO 10:NEXT
1400 LOCATE H,B
1410 PRINT CHR$(128);
1420 IF B=4 THEN 1440
1430 NEXT
1440 RETURN
1450 'DOWN BULLET PRINT AND CHECK
1460 SOUND 1,290,18,7,0,1,30
1470 FOR XA=1 TO 10
```

```
1480 B=V+XA
1490 IF B>25 THEN B=25
1500 LOCATE H,B
1510 IF SA(H,B)=0 THEN 1520 ELSE IF SA(H
,B)=255 THEN 1610 ELSE 1580
1520 PEN 1:PRINT CHR$(251);
1530 FOR T=1 TO 10:NEXT
1540 LOCATE H,B
1550 PRINT CHR$(128);
1560 IF B=25 THEN 1580
1570 NEXT
1580 RETURN
1590 'GREMLIN HIT CONTROL
1600 PEN 3:LOCATE B,V:PRINT CHR$(255);:F
OR T=1 TO 150:NEXT:LOCATE B,V:PRINT CHR$
(238);:FOR T=1 TO 25:NEXT:PEN 0:LOCATE B
,V:PRINT CHR$(128);:SA(B,V)=0:GOTO 1620
1610 PEN 3:LOCATE H,B:PRINT CHR$(255);:
FOR T=1 TO 150:NEXT:LOCATE H,B:PRINT CHR
$(238);:FOR T=1 TO 25:NEXT:PEN 0:LOCATE
H,B:PRINT CHR$(128);:SA(H,B)=0
1620 FOR DG=25 TO 1 STEP-1:SOUND 1,DG,3,
5,0,0,0:NEXT:s=s+1:PEN 6:LOCATE 1,2:PRIN
T"Score:";s
1630 GR=GR-1:IF GR<1 THEN 1750
1640 FOR U=1 TO 50
1650 IF QA(U)=H AND PA(U)=B OR QA(U)=B A
ND PA(U)=V THEN 1660 ELSE 1670
1660 QA(U)=0:PA(U)=0
1670 IF QA(U)=0 AND PA(U)=0 THEN 1700 EL
SE 1680
1680 N(A)=QA(U):O(A)=PA(U)
1690 A=A+1
1700 NEXT
1710 FOR U=1 TO GR+1
1720 QA(U)=N(U):PA(U)=O(U)
1730 NEXT
1740 A=1
1750 RETURN
1760 'INITIALISE AND SCREEN SET
1770 s=0:L=3
1780 REM ** symbol data
1790 'symbol 238=explosion
1800 SYMBOL 254,120,124,48,120,48,48,72,
204 'MAN LEFT/DOWN
1810 SYMBOL 253,30,62,12,30,12,12,18,51
'MAN RIGHT/UP
1820 SYMBOL 252,0,0,0,24,0,0,0,0  'BULLE
T HORIZ
1830 SYMBOL 251,0,0,16,16,16,16,0,0 'BUL
LET VERT
1840 SYMBOL 244,253,253,253,0,223,223,22
3,0 'WALLS
1850 SYMBOL 255,231,255,126,24,60,24,36,
102  'Gremlin
1860 SYMBOL 249,136,136,34,34,136,136,34
,34 'rain
1870 MODE 0:BORDER 1:INK 0,0:INK 1,26:IN
K 2,21:INK 3,6:INK 4,3:INK 5,5:INK 6,15:
INK 7,1:INK 8,6:CLS:PAPER 0
1880 PEN 7:LOCATE 1,1:PRINT STRING$(20,1
43)
1890 LOCATE 1,2:PEN 6:PRINT"Score:";s:PE
N 7:LOCATE 10,2:PRINT STRING$(2,143);:PE
N 6:LOCATE 12,2:PRINT"Lives:";L:LOCATE 2
0,2:PEN 7:PRINT CHR$(143)
1900 PEN 1:PRINT CHR$(22)+CHR$(1):LOCATE
5,1:PRINT"GREMLIN HUNT":PRINT CHR$(22)+
CHR$(0)
1910 Y=3:FOR X=1 TO 20:LOCATE X,Y:PEN 7:
PRINT CHR$(143);:NEXT
1920 FOR X=8 TO 13:FOR Y=23 TO 25      'S
WIM POOL
1930 PEN 5:LOCATE X,Y:PRINT CHR$(143);:S
A(X,Y)=143
1940 NEXT:NEXT
1950 'WALLS
1960 PLOT 224,0,1:DRAW 224,46:DRAW 412,4
6:DRAW 412,0:DRAW 224,0
1970 PAPER 1:PEN 8:FOR X=3 TO 7:LOCATE X
,6:PRINT CHR$(244);:SA(X,6)=244:NEXT
1980 FOR X=11 TO 15:LOCATE X,16:PRINT CH
R$(244);:SA(X,16)=244:NEXT
1990 FOR X=3 TO 5:LOCATE X,21:PRINT CHR$
(244);:SA(X,21)=244:NEXT
2000 FOR X=15 TO 17:LOCATE X,6:PRINT CHR
$(244);:SA(X,6)=244:NEXT
2010 FOR Y=9 TO 14:LOCATE 4,Y:PRINT CHR$
(244);:SA(4,Y)=244:NEXT
2020 FOR Y=17 TO 21:LOCATE 3,Y:PRINT CHR
$(244);:SA(3,Y)=244:NEXT
2030 FOR Y=15 TO 18:LOCATE 17,Y:PRINT CH
R$(244);:SA(17,Y)=244:NEXT
2040 FOR Y=22 TO 25:LOCATE 18,Y:PRINT CH
R$(244);:SA(18,Y)=244:NEXT
2050 FOR Y=7 TO 8:LOCATE 3,Y:PRINT CHR$(
244);:SA(3,Y)=244:NEXT
2060 FOR Y=7 TO 10:LOCATE 12,Y:PRINT CHR
$(244);:SA(12,Y)=244:NEXT
2065 PAPER 0
2070 RETURN
2080 'RANDOM GREMLIN PLACE
2090 FOR W=1 TO GR
2100 QA(W)=0:PA(W)=0:LA=INT(RND*19)+1:MA
=INT(RND*17)+4
2110 QA(W)=LA:PA(W)=MA:IF SA(LA,MA)=0 TH
EN 2120 ELSE 2100
2120 PEN 2:LOCATE LA,MA:PRINT CHR$(255);
:SA(LA,MA)=255
2130 NEXT
2140 RETURN
2150 'MAN DELETE AND MOVE PRINT
2160 IF SA(H,V)=244 THEN 2200
2170 LOCATE HE,VE:PRINT" ";:SA(HE,VE)=0
2180 PEN 1:LOCATE H,V:PRINT M$;:SA(H,V)=
3
2190 HE=H:VE=V
2200 RETURN
2210 LOCATE HE,VE:PRINT" ";:SA(H,V)=0
2220 PEN 1:LOCATE H,V:PRINT M$;
2230 H=HE:V=VE:SA(H,V)=3
2240 RETURN
2250 'RAIN SUB
2260 INK 13,14,13:PEN 13:PRINT CHR$(22)+
CHR$(1);
2270 FOR U=4 TO 25
2280 FOR W=1 TO 20
2290 SOUND 1,0,1,5,0,0,10
2300 LOCATE W,U:PRINT CHR$(249);
2310 NEXT:NEXT
```

```
2320 FOR T=1 TO 1300:NEXT
2330 GR=GR*2:IF GR>50 THEN GR=50:FOR T=1
 TO 1300:NEXT:PRINT CHR$(22)+CHR$(0);
2340 CLS:MODE 1:PEN 2:PRINT"THE RAIN CAM
E AND YOUR GREMLINS DOUBLED";
2350 GOSUB 2390:CLS
2360 IF GR<10 THEN WD=50 ELSE IF GR<20 T
HEN WD=100 ELSE IF GR<30 THEN WD=150 ELS
E IF GR<40 THEN WD=200 ELSE WD=250
2370 WR=INT(RND*WD)+1:WET=0:MODE 0:CLS:G
OTO 960
2380 'ARRAY CLEARING SUB
2390 FOR UA=1 TO 20:FOR YA=1 TO 25
2400 IF SA(UA,YA)=244 OR SA(UA,YA)=143 T
HEN 2420
2410 SA(UA,YA)=0
2420 NEXT:NEXT
2430 RETURN
2440 REM ** instructions **
2450 GOSUB 2800
2460 N=0:Y=200
2470 FOR X=1 TO 320 STEP 2
2480 INK 12,13
2490 PLOT 320-X,Y-N:DRAW 320-X,Y+N,12
2500 PLOT 320+X,Y-N:DRAW 320+X,Y+N
2510 PLOT 320-X,Y+N:DRAW 320+X,Y+N
2520 PLOT 320-X,Y-N:DRAW 320+X,Y-N
2530 N=N+1.25
2540 NEXT
2550 INK 0,13:PAPER 0:MODE 1:CLS:INK 1,0
:INK 2,26:BORDER 0
2560 PEN 1:LOCATE 1,1:PRINT CHR$(212);:L
OCATE 40,1:PRINT CHR$(213);:LOCATE 1,25:
PRINT CHR$(215);:LOCATE 40,25:PRINT CHR$
(214);
2570 PEN 2:LOCATE 12,2:PRINT"** INSTRUCT
IONS **"
2580 PEN 1:PRINT
2590 PRINT"In this game you portray the
character  of  a  Hunter  who  is  out t
o stop the Gremlins."
2600 PRINT"What  you  have  to  do  is
stop  the  Gremlins from reaching the po
ol."
2610 PRINT"The  only  way  you  can  do
this is by killing them with your gun. I
t may seem easy so far."
2620 PRINT"But you have to avoid getting
 eaten  by  the Gremlins. Or if you accid
ently  go  into the pool you drown and l
ose a life";
2630 PRINT"You get 3 lives.If a Gremlin
makes it   to the pool all your Gremlin
s  on  the screen double."
2640 PRINT"If it still seems easy watch
out becauseif it rains your Gremlins dou
ble. Once  you  clear  the  screen of Gr
emlins you start again with five Gremlin
s."
2650 PRINT"Your score is continous until
  the game  ends."
2660 LOCATE 2,25:PRINT"                Pre
ss Space"
2670 IF INKEY$<>" " THEN 2670
2680 CLS:PEN 1:LOCATE 1,1:PRINT CHR$(212
);:LOCATE 40,1:PRINT CHR$(213);:LOCATE 1
,25:PRINT CHR$(215);:LOCATE 40,25:PRINT
CHR$(214);
2690 PEN 1:LOCATE 2,1:PRINT"Oh, I  almos
t  forgot the  Gremlins can jump over wa
lls."
2700 PEN 2:LOCATE 14,5:PRINT"** CONTROLS
 **"
2710 PEN 1:PRINT
2720 PRINT"Press <SPACE> to use cursor k
eys"
2730 PRINT:PRINT:PRINT
2740 PRINT"Press <FIRE BUTTON> to use jo
ystick."
2750 A$=INKEY$:IF A$<>" " AND A$<>"X" TH
EN 2750
2760 IF A$=" " THEN LM=8:RM=1:UM=0:DM=2:
FM=9 ELSE LM=74:RM=75:UM=72:DM=73:FM=76
2770 INK 3,6:N=200:Y=200
2780 SPEED KEY 1,1
2790 RETURN
2800 REM ** title **
2810 BORDER 0:INK 2,21
2820 MODE 0:INK 0,0:INK 1,15:INK 2,26:IN
K 3,6:INK 4,5:INK 5,21
2830 PLOT 35,300,1:DRAW 35,380:DRAW 120,
380:DRAW 120,370:DRAW 50,370:DRAW 50,310
:DRAW 100,310:DRAW 100,320:DRAW 80,320:D
RAW 80,330:DRAW 120,330:DRAW 120,300:DRA
W 35,300
2840 LOCATE 5,6:PEN 2:PRINT"REMLIN"
2850 PLOT 405,300,1:DRAW 405,380:DRAW 42
5,380:DRAW 425,350:DRAW 455,350:DRAW 455
,380:DRAW 475,380:DRAW 475,300:DRAW 455,
300:DRAW 455,330:DRAW 425,330:DRAW 425,3
00:DRAW 405,300
2860 LOCATE 16,6:PEN 2:PRINT "UNT"
2870 LOCATE 10,12:PEN 3:PRINT"BY"
2880 LOCATE 2,18:PEN 4:PRINT"H.G  &  B.E
  PINER"
2890 LOCATE 4,23:PEN 8:INK 8,7:PRINT"Pre
ss [SPACE]"
2900 A$=INKEY$:IF A$<>" " THEN 2900
2910 RETURN
```

The Artist in Joyce

by Andrew Wilton

Alan Sugar might have intended the PCW machines for the world of business, but lightpen specialists Electric Studio have other ideas. This new package of theirs shows just how those special features - the big screen and the bundled printer in particular - can be used for more than just spreadsheets and Locoscript.

The package consists of the lightpen itself, its interface and a disc carrying the bundled art program. Setting up is a simple procedure - the interface plugs into the expansion port securely, and the pen is already connected to the interface - but there are a few points to note. Firstly, the pen doesn't need any interface other than the one it's supplied with - a major point in its favour, given the PCW's lack of standard ports. Secondly, you'll almost certainly need to turn the brightness control on your PCW up to full. The pen needs a lot of light coming off the screen for it to operate properly, and normal brightness levels just don't provide it.

Once you've got the pen plugged in and the brightness turned up, you simply boot CP/M and run

ART.COM. This is the heart of the bundled software. It's a menu-driven drawing/screen dump program, and it's very nice indeed.

THE MENU SYSTEM

The main drawing screen consists of an upper program status/prompt line, a main drawing area and the bottom printer/'Drive is...' status line. Commands are chosen from menus that overlay the drawing area, a system immediately familiar to Locoscript users.

On loading, the drawing area is blank and has a main function menu overlaying it. Moving the light pen down the menu highlights each option in turn. Simply hit the space bar to choose the highlighted option. Appropriate prompts and messages appear on the top line and, where necessary, further menus appear on the drawing area.

Suppose you choose DISK from the main menu. A new menu now appears, offering you the various disc operations. From here you can choose to SAVE a screen to disc, for example, in which case the top line prompts you for a filename to save under.

This menu system is in marked contrast to the icon arrangement used on Electric Studio's CPC lightpen software. As well as bearing a useful similarity to Locoscript, this avoids problems with unidentifiable icons. When you're dealing with concepts like clearing the screen or getting a directory of the disc, it's hard to come up with clear, meaningful symbols for them. Despite this, there are places where a pictorial rather than verbal approach would have made things a lot easier.

CREATING YOUR PICTURE

The main commands you'll want to use here are DRAW, FILL, LINES and SHAPES. Between them they offer most of the facilities you could ask for, if not exactly in the form you might want them.

DRAW covers a great deal of ground. On choosing it from the main menu you get a sub-menu offering pen (freehand draw), spraycan, point-plotting and brush-painting. All of these work on the same principle, - move the cursor with the pen, holding the space-bar
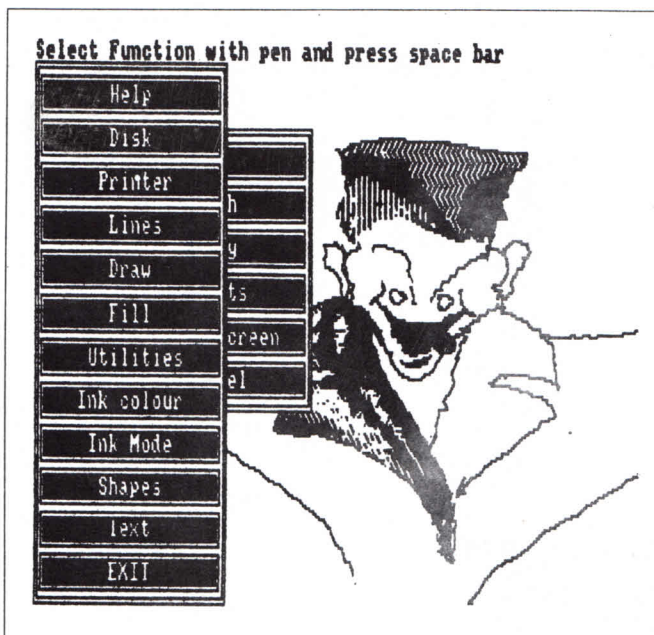
down if you want to draw.

If you select spraycan, you're prompted for a nozzle size. Similarly, you have to set brush width before painting. Unfortunately, the nozzle sizes and brush widths are just numbers between 1 and 9. There's no on-screen indication of what these actually come out as in terms of spray-pattern or width of brush stroke, so you've just got to guess until you're used to them.

That's not all. For one thing, there's no way of setting up a default brush width or nozzle size. If you have to keep switching between brush and pen, for example, you'll have to set the brush width every time. For another, brush-painting is a very limited function. You might expect to be dealing with an artist's sable, but the program's brush is more the sort of thing you'd use for decorating your living room. The width of the brush is certainly adjustable, but only for up and down strokes - painting from side to side always gives you the same pencil-thin line.

Wide brushes also show another weakness of the program, namely its speed. Move the pen at all rapidly and the cursor lag becomes quite painful. At its worst, the program can take over five seconds to catch up with a single brush stroke. This kind of sluggishness doesn't crop up too often in the package as a whole, but even on medium widths things are slow enough to make the brush feel unresponsive.

On the plus side of brush use, you don't have to paint in solid black the whole time. You can choose a 'texture' to suit your taste - the texture pallette has everything from a smooth grey to an extremely loud check, plus stripes, diamonds and herring-bones galore.

You can use these same textures to FILL an area, another process which can take time. The area must be closed and must be either solid white or solid black - continuous texture isn't good enough. The routine can find its way out of almost any gap, but if the texture should escape you can restore your picture to its original state easily enough.

SHAPES and LINES are straightforward enough, allowing for rubber-banding and a range of polygons, amongst other things. Additional features include INK COLOUR which allows you to work white on black rather than black on white, and INK MODE which offers AND, OR and XOR plotting - very thorough, but not necessarily very useful. You can add TEXT in a range of sizes, upside down or sideways. Also you can COPY or MOVE areas of your drawing around quite freely - though these are both fairly slow.

ZOOMING IN

Of course even the steadiest hand can make the odd slip, so the program offers a ZOOM feature to let you

see and alter tiny details. The area around the cursor is magnified to eight times actual size, so that you can see the individual dots, or PIXELS, that the drawing is made up of. This can be extremely useful for finding gaps that a FILL has leaked out through, for example. Individual dots can be set to black or white, but the enlarged area can't be moved around and there's no simultaneous view of the area at actual size. These omissions seriously restrict the usefulness of an essential function.

Another thing I found annoying was the way you can't use normal functions like brush or XOR pen while you're in zoom mode. Thus, if you want to add some points and erase others you have to keep switching ink colour. You don't have to return to the main menu to do this - you can set Normal (black on white) with the N key and Reverse with the R key - but it's still restrictive.

The function's redeeming feature is the fact that it can be called up while you're in DRAW mode without returning to the main menu, in other words, - by pressing Z on the keyboard. You have to be careful if you do this, however. If you call ZOOM from the menu, you get a message on the top line of the screen reminding you of the various keys that control the mode. If you call if from the keyboard on the other hand, you're left with the DRAW KEY message there. This can easily mislead you, until you're used to things.

DOCUMENTATION AND HELP

On page two of the manual, the authors tell you that you should be able to use the program without

Zoom lets you see
the individual dots
that go to make
up your picture
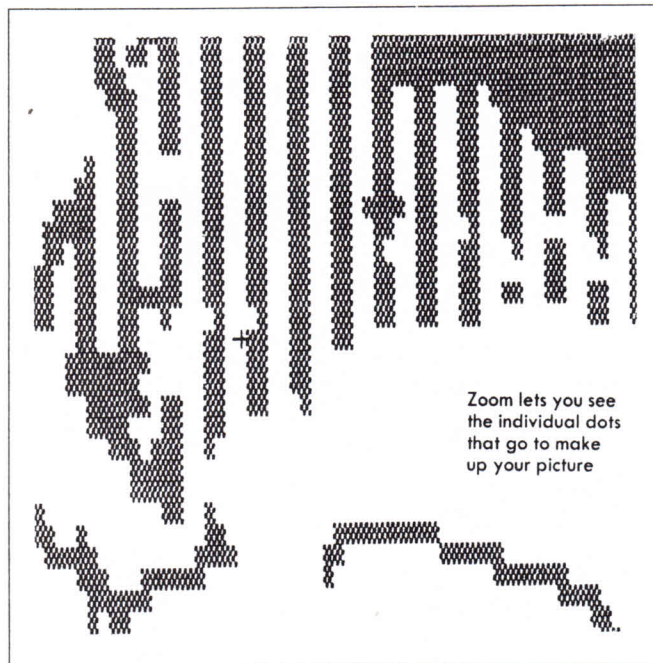
much difficulty just from the prompt line and the HELP screen. By and large they're right, but there are a few points it'd take you a long time to work out this way. For example, all the textures on the pallette are 'reversed out' - select white dots on a black background, and you'll actually get black dots on a white background. Things really get confusing when you want to select solid black as a texture, - something you'll probably want to do pretty early on. To do this, you have to select the blank texture, that is to say the one that has no black on it at all. Clear?

In some respects, however, you really are best off working without the manual; quite simply, it is wrong in places. If you want to clear the screen without going via the menu, the manual tells you to use <alt>, <shift> and <cut> together. This won't work, despite the fact that this reference is itself a correction made after the manual was printed; and neither will <alt><del>, which the manual claims will restore a picture to its state prior to a fill. In both cases the help screen gets the key combinations right.

OVERALL

It's all very well giving a list of program features, but what really matters is how the package actually performs. The complaints up to now have mostly been minor quibbles or matters of personal taste. One could add to these a list of things you should be able to do and can't - define your own textures, for example, or create mirror images of blocks. The main problems with the package, however are those of any lightpen package.

Aside from the discomfort that comes from holding pen to screen over long periods of time - and this should not be underestimated - there are the ever-present diffiuclties of placing the cursor on dark areas of the screen. Quite simply, the pen can only 'see' bits of the screen that glow brightly. If you put your pen over a black area, the cursor simply hugs the nearest white dot it can find.

To get into solid black areas, you have to press the B key which produces a 'negative' of the whole screen. Thus the black areas are temporarily white, and the pen can see them. This continual switching from negative to positive and back, is very cumbersome, and even then does not help with areas of fine grey tone. These are effectively unchanged by pressing B, and I found that even on maximum brightness the pen just couldn't cope. If you're desperate you can use the cursor keys instead, but that really is laborious. If these problems sound serious to you, I guess you'll just have to wait for a PCW mouse.

The Lightpen should be available in Australia within the next two months, but no price as yet.

PCW Software List

WORD PROCESSING
Newword	*	195.00
Wordstar	*	P.O.A
Spell Plus	*	172.50
Star Index	*	290.00
Pocket Wordstar	*	195.00
MicroWord/		
MicroFile	*	105.00

FINANCIAL MODELLING
Supercalc 2	*	103.95
The Cracker	*	122.50
Planner Calc	*	97.50
Master Planner		175.00

UTILITIES
Devpac	**	89.00

PROGRAMMING LANGUAGES
HiSoft C	**	89.00
Nevada Basic	**	103.95
Nevada Fortran	**	89.00
Nevada Cobol	**	89.00
Nevada Pilot	**	89.00
Microprolog	*	215.00
Pascal/MT+	*	124.50
Mallard Basic	**	179.50
CBasic compiler	*	124.50
Turbo Pascal	**	179.50

GRAPHICS
Dr. Draw	*	124.50
Dr. Graph	*	124.50
Polyprint/Polyword/		
Polyplot/Polymail		179.00
Polytype		120.00

DATABASE MANAGEMENT
Cambase	*	97.50
dBase 2	*	910.00
Cardbox	*	245.00
Sage Retrieve	*	295.95
MicroWord/File	*	105.00

COMMUNICATIONS
Sage Chit Chat		
Combo Pack	*	295.95

ACCOUNTS
Sage Popular		
Accounts	*	295.95
Sage Invoicing	*	239.50
Cash Book		88.50
Accounting 1		695.00
Camsoft Stock		
Control		103.95

TRAINING
Guide to Locos'pt		24.50
Touch 'n' Go	*	62.50
Two fingers	*	65.50
Typing crash		
course	*	65.50

PROJECT PLANNING
Brainstorm	*	125.00
Target Task		245.00

GAMES
Classic Adventure		
plus Mordens Quest		
(1 disc)	*	63.00

Note
We have been advised that items marked * can also be run on the 6128.
Items marked ** can be purchased to run on the 464/664/6128 and PCW machines.

For more details consult your Amstrad dealer.

dBaseII

An exhausting look at a massive program

by Andrew Wilton

It would be fair to say that dBASEII is a classic. It is to database management what WORDSTAR is to word-processing. That's not to say that it's the best of it's kind by any means; but it is certainly the best known. It's been available on the PCW for some time, but the $900 price tag made it only slightly cheaper than the hardware needed to run it.

Clearly the price needed to come down, and that's just what's happened. In a bid for the mass market, Ashton-Tate have licensed a much cheaper version from First Software. It's still expensive - so is it worth it?

For your money you get a smart ring binder containing the loose-leaf manual, the program disk and a '£5 off' voucher for the book 'dBASEII TRICKS AND TIPS'. If you find the presence of this last item ominous, your mind obviously works the same way mine does. You have probably also realised that the copy under review is an English one, but I can't tell you if the book offer will apply over here. Already privately imported copies have hit the Australian shores, but no major importer has yet revealed his/her intention to make it generally available. Perhaps they could let us know.
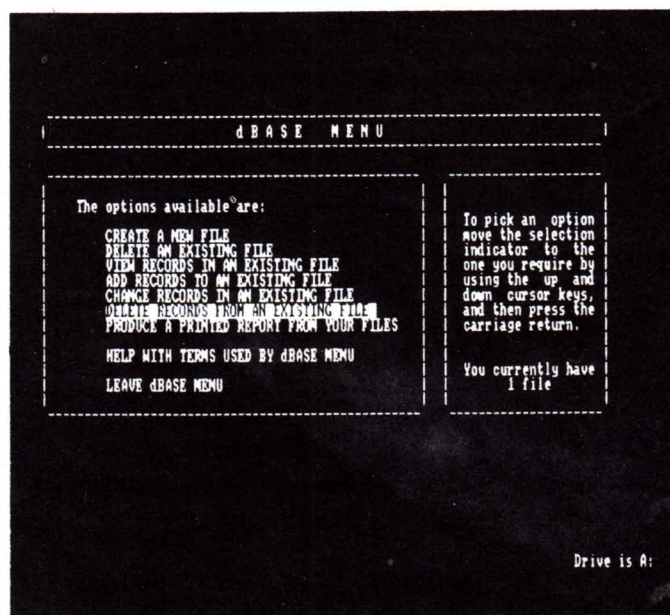
The loading instructions are the only Amstrad-specific information in the whole package. As usual, the start-up process involves transferring program files to the M: drive. Unfortunately there is no .SUB file to do this for you, so you'll have to either write your own or do the transfer by hand every time.

Once you've PIPped the files across, you run the main program DBASE.COM. After a date prompt and a lengthy copyright message, you're offered a command prompt. This takes the form of a dot, and gives no indication of the logged drive. Above it is a message advising you to type 'DO MENU' unless you are a programmer. At this stage you're definitely not a programmer so the chances are you're going to do just that.

TYPES OF FILE

MENU is intended as a sort of 'dBASEII without

tears'. It allows you to create and manipulate files by choosing options from different menus. It has comprehensive onscreen help throughout, and is really very easy to use.

The first thing MENU does is to request your initials. Using these it can tell if you've already created files in a previous session, and respond accordingly. If you haven't you'll get a lot more explanation than normal, and fewer options. To start with there are only three options, in fact - to create a

can add or delete records, browse through them or turn them into a printed report. All these MENU options have equivalent commands which you could type in at the dot prompt. Once you're used to the commands you'll find they work much faster than MENU; you'll see why later.

Once a file has been created you can open it from the dot prompt with the command USE, and type data into it with APPEND. This latter is the first you'll see of the record card itself, and it doesn't look very

```
. list name, author,publisher
00001 Fabulous Furry Freak Brothers  Shelton, Gilbert  Rip Off Press
00002 Zap 0,1                        Crumb, Robert     Apex
00003 Zap 10                         Various           Apex
00004 Nexus,B/W                      Baron & Rude      Capital
00005 American Flagg!                Chaykin, Howard   First Comics
00006 Teenage Mutant Ninja Turtles   Eastman & Laird
00007 Miracleman                     Moore & Beckum    Eclipse
00008 Badger                         Baron & Butler    First/Capital
. locate for 'Chaykin'$author
Record: 00005
. disp title
*** Syntax error ***

disp title
Correct and retry? (y/n)Y
Change from: title
Change to: name
disp name
More corrections (y/n)?N
00005 American Flagg!
. continue
End of file encountered
. locate for 'Apex'$publisher
Record: 00002
. disp name
00002 Zap 0,1
. continue
Record: 00003
. disp name,author
```

```
                              This is

            ***  ***  ***  ***   *  *  ***  *  ***
             *    *   *   * *      ** *    *  *   *   *   *
            ***  ***  ***  ***   *  *  ***  *  ***  *  ***

                         Ashton-Tate UK

  aim  is to help you do useful  work with  dBASE II without having to
  n its more powerful command language. As  far  as possible dBASE MENU
   take you through the actions in  easy stages, but you will find there
   extra screens of information available to "help" if you get stuck.

  continue enter your initials and press Carriage Return. (To leave dBASE
  U just press Carriage Return) -> █
```

Drive is A:

file, call up onscreen help or quit. If you choose the file creation option you'll have to give the new file a name and define its record structure.

For each field on the file's record card you have to provide a name, specify its size and the type of data it is to contain. This must be either Numeric, Character or Logical. 'Numeric' speaks for itself, 'Character' here just means alphanumeric but 'Logical' needs some explanation. A logical is the answer to a true/false question. It is always one character in length, and must contain one of the characters 'Y'(yes), 'N'(no), 'T'(true) or 'F'(false). As an example, a person's marital status could be indicated by a logical field. If you give the field the title 'Married' then true/false would tell you what you need to know.

There's no need to DO MENU just to create a file. From the dot command-prompt you could instead type CREATE. This would create a file and dBASEII would then prompt you for its name and the details of its structure.

Once you've created the file from within MENU, you're faced with a whole series of new options. You

impressive. You have no control over its layout and there isn't really any way to decorate it at all. You simply have a column of fieldnames each with its respective field.

Entering data is normally just a matter of typing the field contents and hitting return. If an entry overflows, it simply runs into the next field. Mistakes are easily rectified by moving the cursor back to the field concerned. The cursor and delete controls are all Wordstar standard, and this certainly made things easier as far as I was concerned.

To get a screen summary of the data entered, you can LIST the records by any combination of fields. Alternatively you can use the REPORT command to produce hard copy.

ORDER OUT OF CHAOS
Once you've entered the data you'll find you want to knock it into some kind of shape. The brute force way of doing this is the SORT command. This simply makes a copy of the currently open file, with all the records sorted into alphabetical or numerical order on a given field.

Thus .SORT ON NAME TO MLIST will create a new data file called MLIST which contains all the entries of the current file, only sorted into name order. You can only specify one field to sort by, and there is very little flexibility to the command. This doesn't really matter however, because of dBASEII's invaluable INDEX command.

INDEX creates a ¹ist of all current file's records in order of some given field, together with a reference to the position of each record. This list is an INDEX and, like the index in a book, can be used to find a piece of information much faster than a straightforward search would do.

You can create several indexes for a file, if you think you'll want to order it by different fields on occasion. You might, for instance want to index a catalogue of books by both title and author. The thing to watch under these circumstances is that all a file's indexes get updated every time you alter the file itself - and that can be tricky.

Once you've created an index, subsequent LISTings will automatically be ordered according to it. You can also use the super-fast FIND command to search for a given characteristic in an indexed field. The speed difference between this and the non-indexed LOCATE command can be very marked if you're handling large files.

PROGRAMMING

What we've seen up till now is only a small part of what dBASEII really is. Partly this is because of the program's complexity - there just isn't the space to describe each individual dBASE command in detail. More importantly however, we've only been seeing the commands used in immediate mode - just typed in as they're needed.

In fact, dBASEII's capable of a lot more than this. Like CONDOR 1 (another database management system from Caxton, who I believe import it into the UK from America) you can build up programs out of the individual data manipulation commands. These programs can completely shield the operator from dBASEII's complexities - though bear in mind that someone will have to grapple with these complexities, in order to write the program in the first place.

The programmer is very well catered for in dBASEII, at least in terms of commands available. It's definitely a job for the technically minded, however.

If you're proficient in machine code there's documentation to help you interface to dBASE - - MENU is a program written in this way, it may interest you to know - but normal mortals could have a job producing anything at all.

dBASE vs CONDOR

It's all very well my describing program features to you, but if you're thinking of buying a database management system you really need to know which one's best. As it stands, the fight is between dBASE and CONDOR.

The pay-off is of user-friendliness against power. CONDOR 1 isn't the easiest or simplest program going, but it makes dBASE look positively hostile. dBASE commands can't match the natural feel of CONDOR.

On the power side of things, dBASE II can offer the determined programmer a full-blown programming language. The indexing can also give it an impressive turn of speed. You've really got to need that power badly though. CONDOR is much simpler to use and is better documented. dBASEII is going to take a great deal more time. If you're after the maximum raw power available, however, there's no arguing with it.

Inducing a Brainstorm

Spreadsheet, word processors, databases - you know all about that lot. But 'ideas processors'? Not till Caxton brought out BRAINSTORM on the Amstrad did you have a clue what one of those was.

BRAINSTORM was the brainchild of David Tebbut, one of Caxton's founders. Not surprisingly, he's a great enthusiast for the program: 'I use it day in day out. It's a great way of sub-contracting your thinking.' He likes to describe it as a way of 'freezing my ideas at the end of the thinking period.'

It's one of those original ideas which almost - but not quite - come to light on the back of a packet of fags. In fact, it grew out of David Tebbut's experience as a project manager for ICL way back in the 1970s. Using the technique of 'mind-mapping' - drawing ideas in chart form - Tebbut found he was running out of wall space for the ramifications of his thinking. Hence BRAINSTORM, with more room for duplication, connection and movement.

Once Tebbut had thought it through, the program was refined by his colleague Mike Liardet. It appeared first on PC DOS but was very quickly converted for the PCW. As David Tebbut says: 'The Amstrad had been marvellous for BRAINSTORM.'

BRAINSTORM seems to have been good for lots of other people as well - the list of UK corporate customers is impressively long, from the Cabinet Office to the Department of Health and Social Security.

BRAINSTORM should be available from your local Amstrad dealer at $125.00

The PCW8512

A user point of view

by Harold J. Konz

Ever since the PC has been around, I have been 'watching from the sidelines', and putting off getting into computers. However, having read of the good reviews the Amstrad was receiving, I decided to invest in one and see if a computer could do for my business any of the things I had read about.

Initially, I was reticent about the time input that would be required to shift myself and my business onto computer. I am a sole operator of a freelance video and photography business, my work involves TV news, newspaper news (photos and writing) as well as weddings, portraits and general photography.

I am always busy and having had some contact with computers some years ago, I was not looking forward to the time spent on 'writing the program' and actually getting it to run! My decision of a few years ago was to wait until the companies had their act together in the software field, as I just did not see myself spending hours and hours away from my business whilst I wrestled with 'bugs' etc.

My prayers have been answered! I decided to make my move into computerising my business when a small operation on my back put me out of action for a few weeks. I figured that as I could not carry around my heavy Video recorder, I might as well have a go at getting computerised.

I decided to invest in a PCW 8512, because of the extra capacity and the double disc drive. I have not regretted it for a moment! For an outlay of only $1800, my business is computerised! The Locoscript which is supplied with the computer is magic, and the Sagesoft Accounts is everything I could need.

The convenience of not continually swapping discs, and the extra storage capacity of the Double Density Discs justifies the small extra cost of the PCW8512 over the PCW8216. Amstrad have designed a great little computer with only one power plug, two connecting cords, and the whole lot (keyboard, VDU and printer) takes up much less than a square metre on my desk. A veritable mountain of programs and files can be stored on a handful of discs.

I am full of admiration for Locoscript as used on the PCW8512. A lot of my work involves writing newspaper articles, and the features of the program suit that admirably. The Cut & Paste, the Blocks, the Editing, the Re-lay capabilities all make writing a breeze. This article was written with the Locoscript program, and checking and editing all carried out using its fast and efficient editing functions.

The beauty of a word processor in writing articles such as this is that words, phrases and paragraphs can be easily deleted, added and moved and the computer takes care of the line layout and even adjusts line length for added or deleted words. The tedious re-typing involved with a typewriter often means that, under pressure of time, an article is often not re-written to the best effect. You can throw out your correction fluid, as the article is not 'typed out' until fully corrected on the screen.

Initially, my shift from typewriter to word processor

required a changed approach and I had some frustrating moments when things 'just wouldn't work'. However with perseverance I got the whole thing up and running with a minimum of fuss.

One of the powerful uses of the work processor is when multiple copies of an item are required, so now my customers all receive a **personal** quote for their wedding photography or video, a **personalised** follow up letter, and a **personalised** order form, and all that's required is to type in each client's details, hit the 'Print' button, and there it is!

Copies of all quotes are safely stored away on disc, and when a customer makes a booking perhaps six months after the quote, there is no problem in remembering what was quoted. I am now embarking on a direct mail program to all my previous clients, and each client will receive a 'personal letter' outlining my services as of today. Not the usual Roneo-ed or printed circular, but a personal letter typed with their own details included in the body of the letter. The best part is that it's as easy as typing in each client's name and address!

My monthly statements now carry a 'teaser' advertisement at the bottom, a different one each month, and it appears to be part of the statement details!

I do have a few criticisms of the Distributors and Dealers, and perhaps this is a criticism of 'computerism' generally. I did have some trouble wading through the technical information that the magazines and manufacturers insist on putting out. Perhaps if computer manufacturers would 'Sell the sizzle, not the steak' they could remedy this problem.

Frankly I am not interested in Rams, Roms, CPMs, Ms/Dos's and the like. What I am interested in is:

HOW THE COMPUTER WILL HELP ME TO SAVE MONEY, AND IF IT WILL BE SATISFACTORY FOR MY NEEDS?.

Unfortunately I found little help from dealers, mostly they knew how to switch the machine on and how to run a demonstration program, and that was all. Most didn't know what software was available, or its prices. Practically none stocked anything but games and had I by nature not been a persistent type, I could have very easily lost interest there and then, and I would not have found out what a fantastic tool the PCW8512 is for a small business. Magazines only seem to want to talk technicalities, not uses.

Once I discovered the 'Hotline' number to Amstrad in Sydney, however, things changed for the better. They have been very helpful, and sent full details of programs, prices and answered my queries over the phone. I could suggest that when business people are looking for a program, they want to see a **detailed** description of the program, its capacity, and its complexity. One does not like the prospect of outlaying several hundred dollars for a program, only to find that it is not suitable for one's needs. Unfortunately, many brochures only give one or two line descriptions of the program, this is just not good enough.

I would advise all small businesses to seriously consider a computer/word processor similar to the PCW 8512, no matter how small their business. I like to compare it to employing a clerk to look after your correspondence and accounts -- an added bonus is that there's no tedious document filing, yet my files are immaculately kept -- automatically by the computer, and ready for instant recall.

I am looking forward to saving money on my accountancy bill, in fact, I foresee that the cost of setting up will be covered by savings in accountancy fees in only two years!

My next project is to computerise my negative files and my diary of appointments.

A few word of advice:
1) Take the time to read the books.
2) Spend time doing the tutorial for Sage Accounts.
3) Spend time checking program content - **before you buy.**
4) Don't be put off by Salesmen who don't know the product they're selling.
5) Don't be afraid to appear 'dumb' about 'Computerese' - - the Salesman is probably only trying to cover up his lack of knowledge.
6) You don't need to be a Computer Buff, and know how to write a program to use the PCW8512 to full effect.
7) Magazines will 'dazzle you' with a vast array of Hardware and Software, most of which is only of academic interest.
8) Take a touch typing course, or do one on your new computer; typing speed and accuracy, although not essential, can save you a lot of time in entering data and correcting mistakes.
9) And finally, and with great relief, I discovered that playing computer games is not a pre-requisite to using, the PCW8512 for your business.

Harold Konz is the proprietor of Video Productions, PO Box 764, Inverell, NSW 2360.

Locoscript Beater?

A review of Tasword 8000
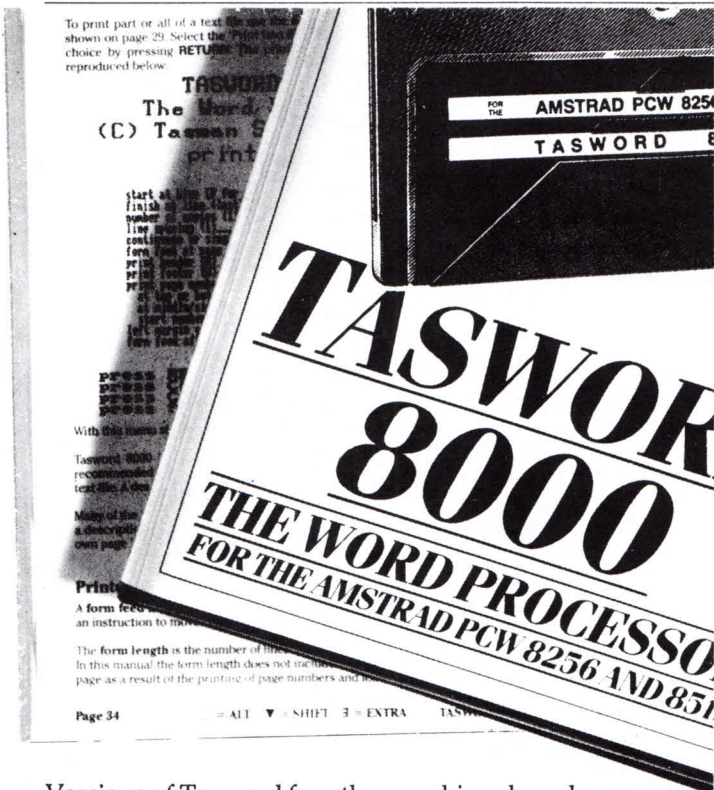
Versions of Tasword for other machines have been around for quite some time, and they still offer a cheap alternative to big name CP/M word-processors. With the release of Tasword 8000, however, Tasman are making a bid for the tougher PCW market. The key question is, what's it got that Locoscript hasn't?

The central idea behind Tasword 8000 was that existing Tasword users who bought PCWs wouldn't feel at home with Locoscript. They would, therefore, be willing to shell out for a program which was more familiar to them. Although it's obviously a program of general interest, let's start off with a look at Tasword 8000's features from the viewpoint of someone who's used a Tasword variant before.

COMPATIBILITY

If you've used Tasword on a CPC machine, Tasword 8000 has a major advantage for you right from the word go - file compatibility. Any disc files from Tasword 6128 or 464-D will load in the normal way so

you won't lose, or be forced to retype, vital data.

Tasword fans will also find the behaviour of the program broadly similar. Apart from the difference in display size the editing, help and menu screens are almost identical. Some of the key combinations are different, it should be pointed out, but in general they are more memorable and logical than their CPC counterparts, making use of the extra keys on the PCW keyboard and indeed the <extra> key itself. To toggle auto-insert, for instance, you use <extra>A rather than the CPC version's totally forgettable <Ctrl>O.

Of course, there is a price to be paid here in terms of learning time. If you're used to the old key combinations you'll start off using them on the new program. These differences aren't too serious, though. The tough part of learning a new word-processor is understanding precisely what the cursor controls etc. actually do, rather than which keys you have to use to get them - and in this former respect, Tasword 8000 is almost identical to the older versions.

The only really obvious change is the increase in speed. The differences in hardware between Arnold and Joyce mean that Tasword 8000's vertical scrolling is both smooth and fast. The horizontal scroll isn't quite so good, but it's still a big improvement. Sadly the same can't be said of the reformatting function, which seems to take as long as ever - but more of this a little later on.

The other change you may notice is the text space available. On the 8256 there's room for about 100K - as much as most people are going to want, and a big improvement even on the 6128 version - while the 8512 can manage well over 300K. There aren't going to be too many people needing that kind of space, I don't suppose, but it's nice to know it's there.

THE COMPETITION

If you're not a Tasword user of long standing, you're probably wondering how 8000 measures up against Locoscript - the main competition for any PCW word-processor. The comparison is none too easy to make, as the two programs are very different.

In speed terms Locoscript is slightly faster in

scrolling, but Tasword is far more powerful when it comes to jumping around within a long document - one of Locoscript's worst failings. Tasword 8000 has commands allowing you to move directly (give a second or two) to any page or line-number you specify. You can also move pretty quickly from the start to the bottom of a document and back again. If you're trying to write a book, this feature alone would make Tasword a much better bet.

Printing can also be much more satisfactory in Tasword. For example, there are options to print out any number of copies of your document, and you can print any specified section of it (using pages or line numbers).

But Locoscript wins out in text reformatting - it does it automatically, while in Tasword you have to force it using <alt>J. The program is a little quirky in this regard. For example, if you try inserting text in a paragraph which is wider than the current margins Tasword scrambles the text up in the most alarming way. The only way to avoid this is to do a 'hard' reformat on the paragraph before trying to alter it. This could cause frustrating problems when it comes to editing someone else's text, if it was typed with a different margin setting, although you'll find things 100 times faster if you select the 'Override on-screen justification' option from the comprehensive Customise Program menu.

A further problem on reformatting is that Tasword identifies the start of a new paragraph only by coming across a blank line or an indent. You cannot begin new paragraphs (or, say, tabulated data) flush with the left hand margin without leaving a line's gap, without risking having it reformatted onto the end of the previous line next time you press <altJ>.

Tasword is also weak in its Search and Replace function. This works very slowly and you can only search for a whole word. Not a patch on Locoscript here.

HELP

When it comes to ease of use, Locoscript doesn't compare so favourably. Tasword has a whole screenful of help which you can summon up just be pressing <STOP>. Alternatively you can, while still editing the text, leaf through this information a section at a time in the optional help window. This conventional approach is, for my money, rather easier to learn than Locoscript's pull-downs.

As for documentation, Tasword scores points here too. Its 70 page manual can't rival Locoscript's mighty volume in terms of size but it more than makes up for this with its clear, straightforward style. As well as a comprehensive reference section, there are some useful tutorial sessions complete with worked examples of the program's trickier features. In addition there's a helpful tutorial document for you to practice editing on, containing both instructions and subject matter for a brief guided tour.

EXTRAS

Once you've got the hang of editing your text, you'll want to actually do something with it. Tasword has a couple of features which you may find useful here.

Firstly there's a handy mail merge and conditional printing facility. With this it's easy to run out, for example, personalised letters to all your customers who have Sydney telephone numbers. You can also set up text-entry points in pieces of text so that the user is prompted for dates etc as the letters are printed out. The conditions available are something of a weak point - you can't search for sub-strings, for example - but the system should still be adequate for most purposes.

The second and less conventional feature is a utility for printing text in a variety of different fonts. Known as Tasprint, it comes with two built in fonts - you switch between normal PCW printer mode and Tasprint using control characters embedded in a piece of text. This same control character system also allows you to switch between the normal facilities of the PCW printer - italic, condensed, underlined and the like.

The main limitation on the system is that you can't mix normal and Tasprint fonts on the same line. But you can get hold of six extra fonts if those supplied don't satisfy you - Mitsubishi Electric AWA will be distributing the Tasprint system separately, with the full range of eight fonts, as a stand-alone for $50.00.

If you like the sound of Tasprint but aren't so keen on Tasword, this separate system could be the answer. It can cope with any pure ASCII files, so you can use it with Locoscript if you put in a little effort. If you're buying Tasword anyway, the additional fonts probably aren't worth the extra cash. They're mostly decorative, and not nearly so functional as the two which are bundled.

VERDICT

If you've used Tasword before and like it, you're probably best sticking to what you know. If you're just disgruntled with Locoscript, that's a different matter. Tasword is a lot faster in handling long documents, but in other respects it can be quirky and slow. And it's not compatible with documents you've already created on Locoscript. On the other hand it is substantially cheaper than the other alternative word-processors such as WordStar and NewWord. It is expected to retail at $75.00.

Gambling on the Amstrads

Caxton Software is a UK based software house which had to slash their prices to enter the Amstrad CP/M software market, but the risk paid off with a string of favourable reviews and high sales. Peter Turpin visited their underground HQ in London.

It used to be that when you heard the word 'Caxton' you immediately thought - if you thought of anything at all - of massive Bibles created on the presses of England's first and still most famous printer. Now, as befits these days of VDU's and interfaces, it has another connotation: some of the best and most competitively priced CP/M software to be found for the Amstrad computers - the database CARDBOX, the bigger database CONDOR 1, the powerful spreadsheet SCRATCHPAD PLUS and the 'ideas processor' BRAINSTORM.

Caxton is one of those companies who seem to have been just playing it cool until the right computer came along to stimulate them. That machine, of course, was the PCW 8256 - although it's only been around since August of 1985, over 60% of Caxton's business is now in PCW software. And they weren't doing too badly before.

They've done it, of course, by pricing their products sensibly. Unlike many other software houses with well-known CP/M programs, Caxton never made the mistake of thinking that they could charge the prices that the corporate buyer with a tower-block of IBM PCs could pay. They realised that what you're prepared to pay for the software bears a pretty close relation to what you were prepared to pay for the computer in the first place. You're unlikely to ever to see a Caxton program costing more than $350.

As if reflecting their bargain-basement prices Caxton Software are to be found in - a basement. No ordinary basement, mind you. No, this one is in the heart of London's fashionable Covent Garden and supports, on the building's other floors, the large offices of Digitus, a computer company with close links to Caxton.

Running the show down below is Caxton's managing director Bob Huckle, lately ennobled from the position of sales director. He it was who explained to your correspondent the history of the company.

Caxton was established back in 1980 by Bill Barrow and David Tebbut. The two wanted to run a software house in the same manner as a book-publishing venture: finding talented authors, 'printing' and marketing their work.

The first product they found was CARDBOX, written by one Martin Kuchanski. David Tebbut tells an amusing tale of his first sight of the program: after he and Bill Barrow had nodded sagely throughout the author's presentation he turned to his colleague and said 'Do you know what all that was about?' to which Bill Barrow replied 'No, I was rather hoping you did'. They obviously found out pretty quickly, because CARDBOX soon became Caxton's major product. In those days it was for machines that have now been almost forgotten - the Superbrain, the North Star and the Osborne 1. But Cardbox has been given a new lease of life by Amstrad and it's still selling well.

CP/M as an operating system seemed to be doomed when, in 1982, PC DOS hit Britain. In those days a 'cheap' computer meant something around the $2500 mark; the only machines that could run serious software were in offices. Caxton went with the market and their next few programs appeared on that system. One of them - BRAINSTORM - was a real original (see page 22). Things progressed as normal for a medium-sized software house until the arrival, in summer of 1985, of....the PCW 8256!

And that was when Caxton made a name for themselves. As Bob Huckle explains: 'We knew something was going on in the summer of 1985. And we can move very quickly.' Move quickly they did. 'We were inundated with requests in the first week of October. Within another week our products were out for the PCW.' As befits someone who's seen his

business increase dramatically because of it, Bob Huckle has some nice things to say about the PCW: 'I think it's a marvellous machine. What you get for the price you pay is terrific. We've been using them ourselves since last October'.

As far as software is concerned Bob Huckle will tell you that 'pricing is one of the most difficult decisions to make'. Just think about it for a moment: it takes a certain amount of courage to reduce the price of a program, as Caxton did with all of theirs, in some cases by up to 75%. It had to be a gamble, but for Caxton - and the Amstrad user - it paid off handsomely.

If you've written an ace program for the serious user, Caxton will certainly give it the once over. But these days they do little programming themselves. Nearly all their programs are American products which they licence in the UK. But they do produce the manuals themselves. Not only that, but they copy and pack all Caxton programs in that basement in Covent Garden - with a workforce of only eight.

Like everybody else in the Amstrad CP/M market Caxton are thinking hard about the imminent arrival of Amstrad's IBM PC-compatible. 'It's a critical time for the software market', says Bob Huckle, 'because Amstrad and the mainstream are two completely different markets. But if the price is right....we think we're better positioned than any of the big boys to take advantage.'

Otherwise, Bob Huckle has some interesting, if cryptic, prophecies for Caxton: 'We have some very exciting plans for the next six months with regard to the way in which we are selling our software. The way in which we are perceived by the outside world may change.' Make of that what you will, but it certainly suggests to me that Caxton will be around for a long time to come.

CARDBOX

Reviewed by Tony Blakemore

I have felt that the only really serious omission in the CPC Amstrad computer range was that they could not randomly access files on the disc storage area.

With more than just a passing interest in Databases I was pleasantly surprised to see Cardbox (from Caxton Software) advertised with the ability to have almost unlimited files on the disc. The only limitation being the storage size of the disc itself. As many applications require much larger storage capacity than has been available I looked forward to getting the program and putting it through its paces.

Cardbox has been around for some time on other computers running under PC-DOS, MS-DOS and CP/M. It has had little or no mention in the lower priced end of the market. At approximately $100.00 cheaper than a CPC464 tape system I am not surprised.

What can be done with Cardbox? A record of 26 fields (areas) can be produced with a total character count of 1404. This would enable about 150 records to be kept on a 3" disc. As most records average 100-150 characters this would enable over 1000 records to be kept in one file. Pretty impressive......As with all powerful programs there is a price to pay. In this case a complexity of operation because of

the amount of different commands available to the user.

To speed up the operation of Cardbox only one or two characters need to be typed in and the rest of the word is displayed. Most commands are then executed by pressing <ENTER>. Pressing the escape key in most cases aborts the command. All very simple, but .... Why don't software writers take the extra time required to set the keys in the program to execute on the keys that most people are used to. Being a program produced for a variety of machines a lot of execution keys are still actioned by use of CTRL and one other. This is my only major gripe about Cardbox. When paying around three hundred dollars for a program I would expect the escape key to be ESC not CTRL [. *(A note is made in the manual to this effect for 6128 owners. For PCW owners, the ESC key is called EXIT and the CTRL key is labelled ALT - Ed).*

Other than that I found the on-screen prompts and messages to be very helpful. For example, if WAIT is displayed at the top of the screen no input will be accepted. READY indicates that input will be accepted. All very straightforward but very helpful especially if the program is updating the file on disc and you are not sure what is happening.

All options selected are shown at the bottom of the screen and it does not take too long to get into the hang of things. If for any reason the screen becomes corrupt pressing CTRL 0 will re-display the screen. All functions of Cardbox are controlled from a main menu and it is important that you return to the menu before quitting the program as the program is continually writing to disc and exit from these areas could cause loss of data or, worse, a complete file.

To set up a record' (CARD

DESIGN)' you select from the main menu either Format Create or Format Edit. This sets up the layout of the card. A total set of options is made available and cards of great complexity can be created. Practise is needed in this area but a few sessions was all that was needed to set up a couple of different types of cards. Any mistakes are easily corrected and old formats can be changed using the Format Edit.

Having set up the card, data can be entered and saved. An unlimited range of indexed words

are allowed and any particular file can be searched for by any or all indexed fields. Sufficient to say that the options are many and varied. Only practise is required to produce a very powerful indexed system that will allow retrieval of information from all or any of the fields.

One of the amazing parts of Cardbox is its ability to output records in a wide variety of ways. Cardbox will print on fanfold, tractor feed or single sheets. Files can be saved as ASCII, Wordstar,

ASCII indexed or Cardbox format. Options are also available for label formats.

Accidents will happen and Cardbox allows a wide range of repairs to the files. A duplicate of the corrupted file should be made before repair is attempted and most minor accidents can be corrected.

A chapter in the manual is devoted to using Cardbox files for your own applications. I felt that more could have been explained about this function but a little bit of detective work will uncover a large range of possibilities with the main function being personalising mail drops.

Finally, an analyse function is provided to study formats and layouts of Cardbox. I found this area a little complex and difficult to understand. I am sure that a little more time spent would clarify this function.

In summary Cardbox is a powerful database that will fulfill the needs of all but the most demanding user. Like all powerful programs the author of the manual assumes a lot of prior application knowledge and it would take the beginner some time to master the program. If you have the need for storage of a lot of records Cardbox is one answer.

If you have a CPC464 or CPC664 Cardbox will run under CP/M Plus with the DK'TRONICS memory expansion unit. Of course one then has to try to obtain the CP/M Plus utilities, but that's another story.

At $295.00 I feel that Cardbox is over priced. Perhaps I have been spoiled by the wealth of good programs that are available for the CPC range of computers at reasonable prices. As this program is designed more for the PCW range the price may be acceptable for business applications where the usage of the program is much higher and the price can then be justified.

DR Draw

Reviewed by Arnold Goldman

Last month, Arnold Goldman provided a review of DR GRAPH and, by all accounts, was reasonably happy. This month he turns his attention to DR DRAW which boasts "lets you create high-quality visual aids for business presentations and reports".

The first impression, on opening the well presented DR DRAW package, is of a very professional organisation which has thought out the whole matter of graphic presentation, and has produced DR DRAW to complement DR GRAPH, and provide everything that the small computer user could ask for. Well, it depends upon what you ask for! In this review I shall attempt to explain what DR DRAW will do, and how well it does it, and also point out some of the things it will not do. There is also a grey area in between, where although some things may be possible, they can be very time consuming.

The first thing to do is prepare the working disk for the PCW8256. The supplement provided gives instructions on preparing disks for the CPC6128, PCW8512 (or PCW8256 with extra disk drive). In my case, and for this review, the comments generally apply to use on the standard PCW8256. The instruction says copy the disk supplied. This cannot be done using the DISCKIT utility on the PCW8256, a "wrong format" message appearing on the screen. The use of the CP/M PIP utility is necessary, and even so, it was not possible to fit all the files on side A of the release disk onto a CF2 standard format disk. Some files had to go on side B. When I have time to sort out which files I need to generate working disks for the PCW8256 I will try again and rearrange the files using a spare

disk for the surplus files. Anyway, generating the working disk is easy with the on-screen instructions being quite explicit. It would be even easier with a two-disk system.

Well, now we have the working disk prepared, what can we do with DR DRAW? In the introductory pages of the instruction book it says you can produce pictures like the one I have shown in Fig.1. The fact that my teenage daughter did produce it on the screen does not mean it was easy, there being 12 separate elements required, none of them being copies of one another. I shall return to this later. DR DRAW is good at producing shapes, and allows a choice of lines, polygons, circles, arcs, and bars. Circles may be changed to ovals with a change of scale as shown in Fig.2. Polygons can be quite exciting and comprise of a series of lines where the last point joins up with the first. The weird shapes on Fig.2 are all the same polygon with a change in scale. Producing diagrams, graphic designs, and patterns can be fun, and is quite easy to do. Unfortunately, the task of fitting all the software onto a single disk did not leave much room for storing picture files on side B, and on a number of occasions the message "recursive disk overflow" appeared when DR DRAW was updating the temporary file with further additions. This message was also accompanied by the prompt A> telling me that I had lost everything and should start

again from the beginning. On the two-disk system, with the second disk being the 700 kbyte double density variety, this problem will not arise. On my PCW8256 the problem was overcome in the following way. Ignore the recommendation in the supplement that says store your picture file on disk B. Instead, when creating a picture refer to it as A:picturename. This will store it on side A of the working disk which has 103 kbytes available compared with the 35 kbytes on side B. During picture editing three files are created, each having the same name but with extensions .PIX, .TMP, and .BAK. If a large number of elements or text is used the files can easily pass 15k each. On completion the files can then be transferred to another disk using PIP, which is already on side A of the working disk.

Mentioning text brings me to another problem area. DR DRAW allows the user to place text on the diagram at any location. The text may be one of 4 fonts selected, when making the working disk, from a total of 8 available. Each letter is stored as a separately drawn line diagram taking up much storage space. With the single disk system the amount of disk swapping is ridiculous and leads to the suggestion that it be left until last and kept to a minimum. Once again this should not be a problem with the twin-disk systems.

The next design my daughter produced was the one shown in Fig.3, and in a ZOOM view in Fig.4. This taught us something else that DR DRAW will not do. The COPY facility shown at the top of the screen allows the user to repeat any element as often as desired anywhere on the screen, and was used to produce Fig.2. However, in Fig.3 the six identical elements had to be drawn
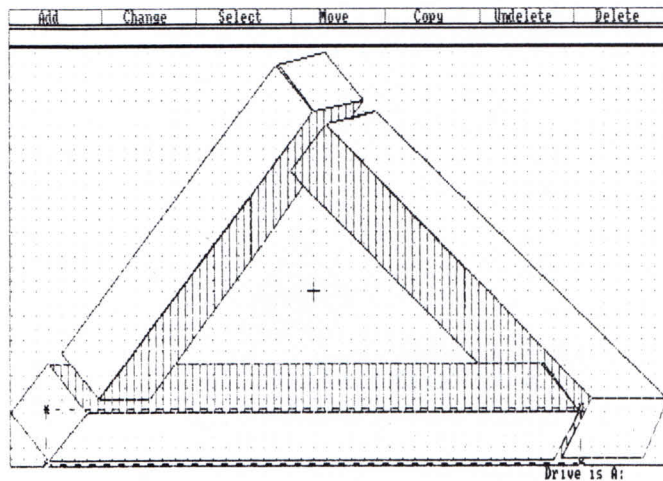
Figure 1
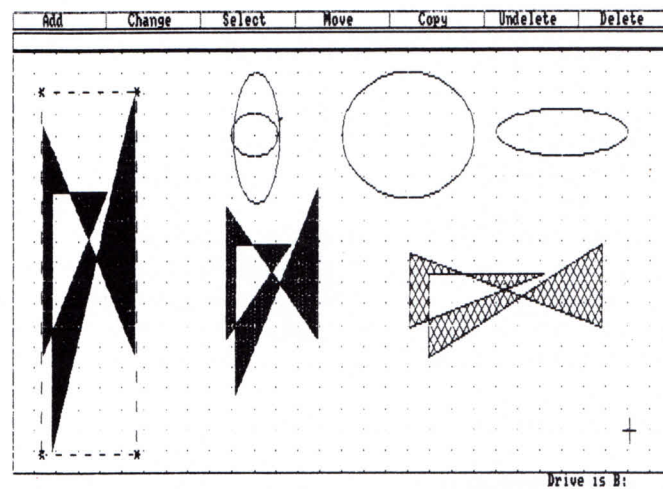
Figure 2

Figure 3

Figure 4
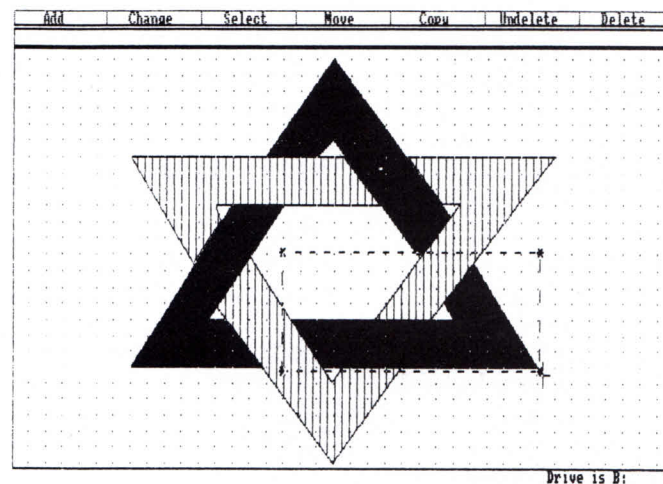
Figure 5
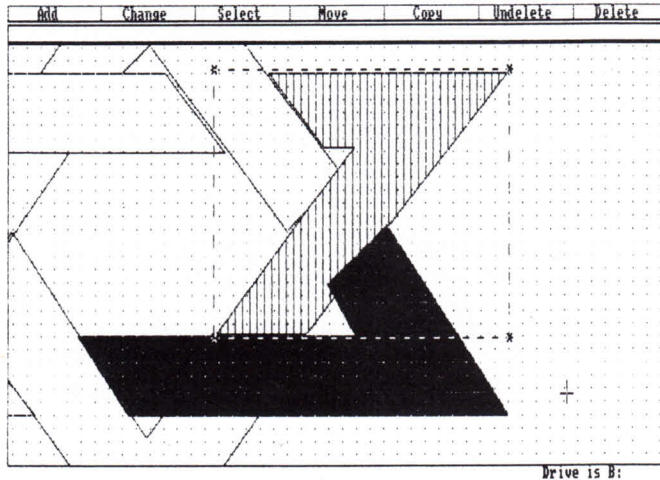
Figure 6

Figure 7

Figure 8

separately because the COPY function does not allow rotation or mirrored images. Also, it is not possible to copy a collection of elements, so to repeat the double triangle of Fig.3 requires 6 COPY actions. This is a commonly required facility and is surely an oversight by the clever guys at Digital Research.

Anyway, having sorted out some of the things DR DRAW will and won't do, let's think of what use it could be put to by the sort of person who may buy the Amstrad PCW8256. Front covers of club magazines and newsletters, menus and letterheads for small restaurants, project reports for college students, and teachers' assignment sheets are some of the things that spring to mind. I chose to use my daughter's design shown in Fig.3 and make a menu cover and a logo for a letterhead. Fig.3 was easily changed to Fig.5 using the ZOOM OUT function, the textured background being put in with a PUT TO BACK function. To make the cover smaller again the ZOOM OUT function produced Fig.6. Figure 7 shows the full size reproduction of Fig.6, on which it may be noted that the blank background to the text has been over-printed. This seems to be another problem that creeps in

between saving the picture and printing it. A few DELETEs, ZOOM OUTs, and MOVEs later, the letterhead shown in Fig.8 was produced, and easily printed out for photocopying if required.

I had the idea that DR DRAW could be used for technical drawing, but I think the difficulty and slowness of text addition, and the lack of a rotation function would put me off. To produce any sort of house plan would require left hand, right hand, inward and outward doors all to be drawn separately, and a reversed layout would mean starting all over again.

So, in the summary, DR DRAW has the potential to become an excellent package for someone with the twin disc PCW8256 or CPC6128, or the PCW8512. On the single disk models the amount of disk swapping for text addition prevents me from being too enthusiastic. In spite of this it is easy to use, and as long as the limitations mentioned above are borne in mind, it could be a useful addition for the report writer who would like to add some sophistic- ated graphics to the text and data presentations of Locoscript and DR GRAPH.
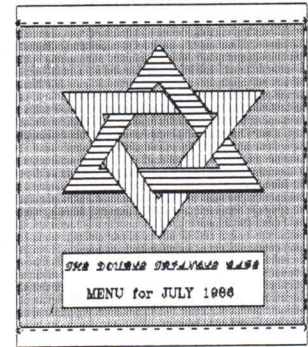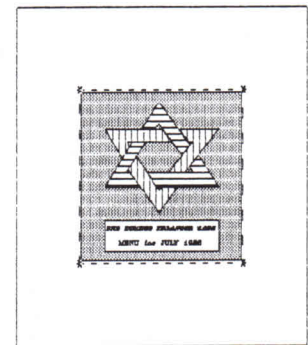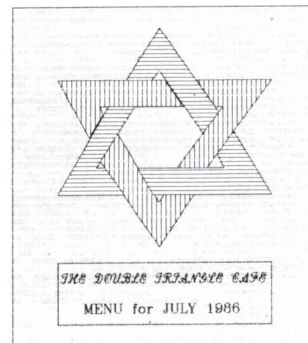
Doodle

A drawing program from P.T.Crowe (SCUAG)

This is a simple drawing program which will enable users who have a disc drive to design good looking intro screens or just doodle to their hearts content. The MENU for the program is not displayed on screen, so here it is:

MENU
Left, Right, Up and Down are controlled by the cursor keys.
Press '0': allows the pixel to move by one.
Press '1': allows the pixel to move by ten.
Press '2': allows the pixel to move by twenty.
P = Plot: plots a dot on the screen.
D = Draw: draws a line to plot point.
W = Wipe: wipes out a line.
S = Save: save screen to disc 17k.
L = Load: load screen from disc.
B = Border: prints a border around the screen.
@ = Print text to screen.
H = Height: used when drawing circles.
C = Circle: input deg. after setting plot and height.
I = Pen colour or pixel.
CTRL-F = Fill.
CTRL-D = Screen Dump - if DUMP program is loaded.

Now we can see what can be achieved when using the above MENU. Lets take each command one at a time. Firstly run the program (RUN"DOODLE). Input Y/N then enter, now select a MODE. Press '0' then enter, this will allow the full use of the facilities. What you should see now is a dot in the middle of the screen, a number on the left bottom corner of the screen followed by sixteen different colours. Well, every-thing looks good so far.

CURSOR CONTROL
Press the left cursor control key and the dot will move to the left. The up, down and right cursor keys move the dot accordingly. The dot moves around the screen twenty pixels at a time. Pressing '1' will now reduce the pixel movement to ten. Press '0' and the dot will only move one pixel at a time. Pressing '2' will set the movement back to twenty pixels. You should have noticed the number on the screen change to indicate to you the amount by which the dot is moving.
P 'lot: Will simply plot a point on the screen to draw to. Press 'P'. Now move the dot to the left.
D 'raw: Draws a line to the plotted point on the screen. Press 'D' and you can see the line is drawn.
W 'ipe: Press 'P' now move the dot to the right then press 'W' and the line will be wiped out.
S "ave: saves screen to disc (takes 17k). Input your own file name then enter, this also applies with 'L'oad. Input and 'R' at either prompt will return you to the main program.
B 'order: Allows any character to printed around the screen. Press 'B' input 255 then enter. As you can see the character has been changed using SYMBOL.

@ ' the "at" sign: Produces a cursor on the screen allowing the input of text. The text is printed in the current pen colour of the dot. Press '@' move the cursor to where you want it then type in you name then enter. An additional feature of the @ key provides for scrolling your picture off the screen. If RETURN is hit, this will effectively wipe your picture and present a fresh blank screen.
C 'ircle: Press 'P' then move the dot to the left say three presses of the cursor key, now up to two. Press 'H' (height of circle) then back down two. Press 'C' and at the bottom of the screen you are asked to input the degrees you want. For now input 360 and enter, the circle now will be drawn. Now move the dot out of the circle.
I ' Selecting Pen: Take note of the sixteen colours at the bottom of the screen. These colours are numbered from left to right 0 to 15. To make it a bit easier the arrowed characters indicate five and ten. Press 'P' so as to not upset any of the previous works of art. Now Press 'I' then input the pen colour you have chosen and enter. Note the dot has changed colour. Now draw a square. When drawing from point to point there is no need to plot each time, just move the dot and press 'D'.
F 'ill: Move the dot into the square and then choose a colour from the pallet. Now Press 'CTRL-F', input the colour number then enter, and the shape will be filled with the colour you selected. Note when you wish use to FILL, be sure the section you are going to FILL is totally enclosed and the dot is the same colour as the the outline of the shape.
CTRL-D': Screen Dump to printer: This function can only be used if you load your own screen dump program before loading and running DOODLE. If you do decide to load a screen dump program, then replace line 980 with your DUMP COMMAND.
Here is a short LOADER program if using your own DUMP program.

```
10 MEMORY 36999
20 LOAD"dump.bin"
30 CALL 37000
40 RUN"draw
```

PITFALLS
Not pressing 'P' before changing pens.
Not pressing 'P' when using the wipe facility.
Not having a shape totally enclosed when using FILL.
Flashing dot must be the same colour as the outline of the shape to be filled.
When inputting text, moving the cursor too hogh or too low will scroll the screen.

Note for CPC464 owners with a disc drive.
You machine does not have a FILL facility. However, a short machine code FILL program was published in the MARCH 1985 edition of the English Amstrad User Magazine.

```
10 ON BREAK GOSUB 1260
20 ON ERROR GOTO 1480
30 MODE 1:BORDER 0:INK 0,13:INK 1,0:j=11
0:k=76
40 LOCATE 5,12:PRINT" Due to the CPC - 4
64 not having":LOCATE 5,13:PRINT"a FILL
facility it is  necessary":LOCATE 5,14:P
RINT"to by pass the FILL command. "
50 FOR td=1 TO 2000:NEXT td
60 LOCATE 10,18:PRINT"Are you using CPC
- 464. "
70     LOCATE 10,20:INPUT"Input Y/N :";am
s$:IF ams$="Y" OR ams$="y" THEN f=1 ELSE
 f=0
80 MODE 0:INK 0,1:INK 1,26:INK 2,20:INK
3,2:INK 4,0:INK 5,13:INK 6,11,13
90 PLOT 100,379,2:pl=9:GOSUB 280
100 PLOT 160,379:pl=5:GOSUB 280
110 PLOT 180,299:pl=5:GOSUB 280
120 PLOT 230,339:DRAW 180,339
130 PLOT 250,379:pl=5:GOSUB 280
140 PLOT 370,369:pl=11:GOSUB 280
150 PEN 5:LOCATE 4,10:PRINT"PRESENTS"
160 PLOT 40,179,5:pl=15:GOSUB 280
170 PLOT 60,79:pl=10:GOSUB 280
180 PLOT 200,119:pl=17:GOSUB 280
190 PLOT 200,79:pl=5:GOSUB 280
200 PLOT 300,119:pl=17:GOSUB 280
210 PLOT 300,79:pl=5:GOSUB 280
220 PLOT 400,119:pl=22:GOSUB 280
230 PLOT 400,79:pl=5:GOSUB 280
240 PLOT 500,179:pl=10:GOSUB 280
250 PLOT 564,119:pl=27:GOSUB 280
260 PLOT 564,99:pl=4:GOSUB 280
270 PLOT 567,77:pl=4:GOSUB 280:GOTO 290
280 FOR R=1 TO pl:READ X,Y:DRAW X,Y:NEXT
 R:RETURN
290 IF f=1 THEN GOTO 350
300 FOR l=1 TO 5:MOVE j,k:FILL 4:j=j+100
:NEXT l
310 MOVE 570,96 :FILL 4
320 MOVE 110,189:GOSUB 340:MOVE 140,179:
GOSUB 340:MOVE 150,139:GOSUB 340:MOVE 22
0,129:GOSUB 340:MOVE 240,119:GOSUB 340:M
OVE 250,99:GOSUB 340:MOVE 320,129:GOSUB
340:MOVE 350,119:GOSUB 340:MOVE 350,99:G
OSUB 340:MOVE 420,129:GOSUB 340:MOVE 430
,119:GOSUB 340
330 MOVE 460,189:GOSUB 340:MOVE 470,169:
GOSUB 340:MOVE 470,169:GOSUB 340:MOVE 52
0,189:GOSUB 340:MOVE 530,169:GOSUB 340:M
OVE 590,129:GOSUB 340:MOVE 600,129:GOSUB
 340:MOVE 600,109:GOSUB 340:GOTO 350
340 FILL 3:RETURN
350 FOR td=1 TO 1500:NEXT td
360 SPEED INK 40,40:PEN 6:LOCATE 5,25:PR
INT"Press any Key":CALL &BB18
370 MODE 1:LOCATE 17,4:PRINT"DOODLE"
380 LOCATE 19,6:PRINT"BY"
390 LOCATE 15,8:PRINT"P.T.Crowe. "
400 LOCATE 14,9:PRINT STRING$(12,"-")
410 LOCATE 9,12:PEN 1:PRINT"Select MODE
0,1 or 2"
420 LOCATE 9,14:INPUT"";mm
430 '*** MAIN SECTION ***
440 MODE mm:x=320:y=199:b=20:cc=1:i=15:p
x=640:py=199:
450 IF mm=0 THEN INK 0,1:INK 1,11:INK 2,
5:INK 3,3:INK 4,6:INK 5,16:INK 6,15:INK
7,7:INK 8,24:INK 9,25:INK 10,12:INK 11,9
:INK 12,19:INK 13,0:INK 14,13:INK 15,26
460 IF mm=1 THEN INK 0,1:INK 1,24:INK 2,
6:INK 3,26
470 IF mm=2 THEN INK 0,1:INK 1,24
480 IF mm>0 THEN m=40*mm ELSE m=20
490 WINDOW#1,4,m,25,25:WINDOW#2,1,3,25,2
5:PAPER#1,0:PEN#2,15:SYMBOL 255,66,231,6
6,24,24,66,231,66:GOSUB 1160
500 menu$=CHR$(4)+CHR$(6)+"pdwslbhci@"+C
HR$(241)+CHR$(242)+CHR$(240)+CHR$(243)
510 WHILE DD=0
520 GOSUB 560
530 z=INSTR(menu$,a$)
540 ON z GOSUB 950,1000,920,900,930,1060
,1110,1190,1270,1310,1400,1290,690,790,7
40,840
550 WEND
560 '*** DISPLAY POINTER ***
570 a$=""
580 WHILE a$=""
590 t=TEST(x,y):PLOT x,y,i
600 a$=LOWER$(INKEY$)
610 IF a$="0" THEN b=1:a$="":GOSUB 1160
620 IF a$="1" THEN b=10:a$="":GOSUB 1160
630 IF a$="2" THEN b=20:a$="":GOSUB 1160
640 PLOT x,y,0
650 IF t>0 THEN PLOT x,y,t ELSE PLOT x,y
,0
660 PLOT px,py,i
670 WEND
680 RETURN
690 IF y>19 AND b=1 THEN y=y-1
700 IF y>19 AND b=10 THEN y=y-10
710 IF y>19 AND b=20 THEN y=y-20
720 IF y<19 THEN y=19
730 RETURN
740 IF y<399 AND b=1 THEN y=y+1
750 IF y<399 AND b=10 THEN y=y+10
760 IF y<399 AND b=20 THEN y=y+20
770 IF y>399 THEN y=399
780 RETURN
790 IF x>0 AND b=1 THEN x=x-1
800 IF x>0 AND b=10 THEN x=x-10
810 IF x>0 AND b=20 THEN x=x-20
820 IF x<0 THEN x=0
830 RETURN
840 IF x<639 AND b=1 THEN x=x+1
850 IF x<639 AND b=10 THEN x=x+10
860 IF x<639 AND b=20 THEN x=x+20
870 IF x>639 THEN x=639
880 RETURN
890 '********** DRAW ***
900 px=x:py=y:DRAW x,y,i:RETURN
910 '********** PLOT ***
920 hx=x:px=x:py=y:PLOT x,y,i:RETURN
930 '****** WIPE OUT ***
940 DRAW x,y,0:px=640:py=199:RETURN
950 '*** SCREEN HARD COPY ***
960 GOSUB 1440:IF p=1 THEN p=0:GOTO 1160
970 ORIGIN 0,0:CLS#1
```

```
980 PRINT#1,"Input your DUMP";:FOR TD=1
TO 5000:NEXT TD
990 PLOT px,py:GOTO 1160
1000 '*********   FILL    ***
1010 IF f=1 THEN GOTO 1050
1020 CLS#1:INPUT#1,"Select Pen :";cc:IF
cc<0 OR cc>15 THEN 1020
1030 MOVE x,y
1040 FILL cc:GOTO 1160
1050 CLS#1:PRINT#1,"No FILL Facility";:F
OR td=1 TO 3000:NEXT:GOTO 1160
1060 '***   SAVE TO DISC    ***
1070 CLS#1:INPUT#1,"S Name :";N$
1080 IF N$="r" OR N$="R" THEN 1100
1090 GOSUB 1220:SAVE""+N$,B,49152,16384
1100 N$="":GOTO 1160
1110 '***  LOAD FROM DISC  ***
1120 CLS#1:INPUT#1,"L Name :";N$
1130 IF N$="r" OR N$="R" THEN 1160
1140 LOAD""+N$:N$=""
1150 '*** UP DATE MOVEMENT ***
1160 CLS#2:PRINT#2,USING"##";b;:CLS#1
1170 PEN#1,1:PRINT#1,CHR$(24)CHR$(233)CH
R$(24);:PEN#1,1:PRINT#1,CHR$(233);:PEN#1
,2:PRINT#1,CHR$(233);:PEN#1,3:PRINT#1,CH
R$(233);:PEN#1,4:PRINT#1,CHR$(233);:PEN#
1,5:PRINT#1,CHR$(240);:PEN#1,6:PRINT#1,C
HR$(233);:PEN#1,7:PRINT#1,CHR$(233);
1180 PEN#1,8:PRINT#1,CHR$(233);:PEN#1,9:
PRINT#1,CHR$(233);:PEN#1,10:PRINT#1,CHR$
(240);:PEN#1,11:PRINT#1,CHR$(233);:PEN#1
,12:PRINT#1,CHR$(233);:PEN#1,13:PRINT#1,
CHR$(233);:PEN#1,14:PRINT#1,CHR$(233);:P
EN#1,15:PRINT#1,CHR$(233);:RETURN
1190 '***   PRINT BORDER   ***
1200 CLS#1:INPUT#1,"Input CHR$:";bb
1210 IF bb<32 OR bb>255 THEN GOTO 1200
1220 PEN i:LOCATE 1,1:PRINT STRING$(m,bb
):LOCATE 1,25:PRINT STRING$(m,bb);
1230 FOR L=2 TO 24:LOCATE 1,L:PRINT CHR$
(BB):LOCATE m,L:PRINT CHR$(bb):NEXT
1240 IF LEN(N$)>0 THEN RETURN
1250 GOTO 1160
1260 MODE 2:PEN 1:LIST
1270 '***  SET HEIGHT-CIRC ***
1280 hy=y:PLOT x,y,i:RETURN
1290 '*** PRINT CHARACTER   ***
1300 LOCATE 2,12:PEN i:INPUT"",w$:w$="":
GOTO 1160
1310 '***   DRAW  CIRCLE   ***
1320 CLS#1:INPUT#1,"Input DEG :";D
1330 DEG
1340 hx=hx-x:hy=hy-y
1350 FOR a=1 TO D STEP 0.5
1360 ORIGIN x,y
1370 PLOT hx*COS(a),hy*SIN(a),i
1380 NEXT a:ORIGIN 0,0:GOTO 1160
1390 '***     SET PENS     ***
1400 CLS#1:INPUT#1,"Select Pen :";i
1410 IF i<0 OR i>15 THEN 1400
1420 GOTO 1160
1430 '*** PRINTER ON LINE  ***
1440 PP=INP(&F500) AND 64
1450 IF PP=64 THEN CLS#1:PRINT#1,"P - of
f line !!":FOR td=1 TO 2000:NEXT:p=1

1460 RETURN
1470 '***     ERROR TRAP    ***
1480 RESUME 510
1490 '***    INTRO DATA    ***
1500 DATA 60,379,50,369,50,349,60,339
1510 DATA 90,339,100,329,100,309,90,299
1520 DATA 50,299,130,379,120,369,120,309
1530 DATA 130,299,160,299,180,369,190,37
9
1540 DATA 220,379,230,369,230,299,250,30
9
1550 DATA 260,299,290,299,300,309,300,37
9
1560 DATA 360,379,330,379,320,369,320,30
9
1570 DATA 330,299,360,299,370,309,370,31
9
1580 DATA 370,329,350,329,380,329,40,59
1590 DATA 120,59,140,79,140,159,120,179
1600 DATA 40,179,60,199,140,199,120,179
1610 DATA 140,199,160,179,140,159,160,17
9
1620 DATA 160,99,140,79,100,79,120,99
1630 DATA 120,139,100,159,60,159,60,79
1640 DATA 80,99,80,159,80,99,120,99
1650 DATA 180,99,180,79,200,59,220,59
1660 DATA 240,79,240,99,220,119,200,119
1670 DATA 220,139,240,139,220,119,240,13
9
1680 DATA 260,119,260,99,260,119,260,99
1690 DATA 240,79,200,99,220,99,220,79
1700 DATA 200,79,220,99,280,99,280,79
1710 DATA 300,59,320,59,340,79,340,99
1720 DATA 320,119,300,119,320,139,340,13
9
1730 DATA 320,119,340,139,360,119,340,99
1740 DATA 360,119,360,99,340,79,300,99
1750 DATA 320,99,320,79,300,79,320,99
1760 DATA 380,99,380,79,400,59,420,59
1770 DATA 440,79,460,59,460,179,440,179
1780 DATA 440,99,420,119,400,119,420,139
1790 DATA 440,139,420,119,440,139,440,17
9
1800 DATA 460,199,480,199,460,179,480,19
9
1810 DATA 480,79,460,59,400,99,420,99
1820 DATA 420,79,400,79,420,99,500,79
1830 DATA 520,59,520,179,500,179,520,199
1840 DATA 540,199,520,179,540,199,540,79
1850 DATA 520,59,554,109,554,69,564,59
1860 DATA 584,59,594,69,574,69,564,79
1870 DATA 564,79,564,89,594,89,594,109
1880 DATA 584,119,564,119,584,139,604,13
9
1890 DATA 584,119,594,109,614,129,604,13
9
1900 DATA 614,129,614,109,594,89,564,89
1910 DATA 564,79,574,69,594,69,614,89
1920 DATA 577,99,577,106,567,106,567,99
1930 DATA 580,89,615,88,599,88,575,69
```

Put your Amstrad to work

from Lindsay Allen

So you would like to put your Amstrad computer to work either counting or measuring time, but you have read an article on interfacing and have been put off by things like, address decoding, buffers, AND gates, NAND gates etc.

If you look carefully on the back of the computer the port you plug the joy-stick into is labelled USER PORT. Provided what ever you want to measure can operate a mechanical switch, you can connect it to this port. The easiest way to set this up is to use a damaged joystick. The wire that goes to all the switches is the common (pin 8). If you are going to use more than 5 switches you will have to install diodes as used in the Amstrad joy sticks. Where a wire from pins 1 to 7 is split to go to 2 switches 2 diodes have to be installed (see diagram) with the colour band on the diode pointing towards the

common wire. the other side of the 2nd switch is connected to common 2 (pin 9).

WARNING Any switches and wires connected to the User Port MUST be insulated from any other electrical current no matter how small! Also, unplug the cord from the computer before soldering etc. on the wires and switches.

Some types of switches that could be used are:

REED SWITCHES

Reed switches are two strips of metal, usually encased in a glass tube, that when a strong magnetic field acts on them either touch (normally open) or separate (normally closed). For example a reed switch could be installed in a slot car track, and a magnet installed in the car (if the motor

Are you sick of the kids arguing over how many laps their slot cars have done or would you like to record how long the Fridge door is open on a hot day?

USER PORT DIODES

Diodes — Switches — Common 1 (Pin 8)
UP Pin 1 — Common 2 (Pin 9)
DOWN Pin 2 — Common 1 (Pin 8)
Colour Band — Common 2 (Pin 9)
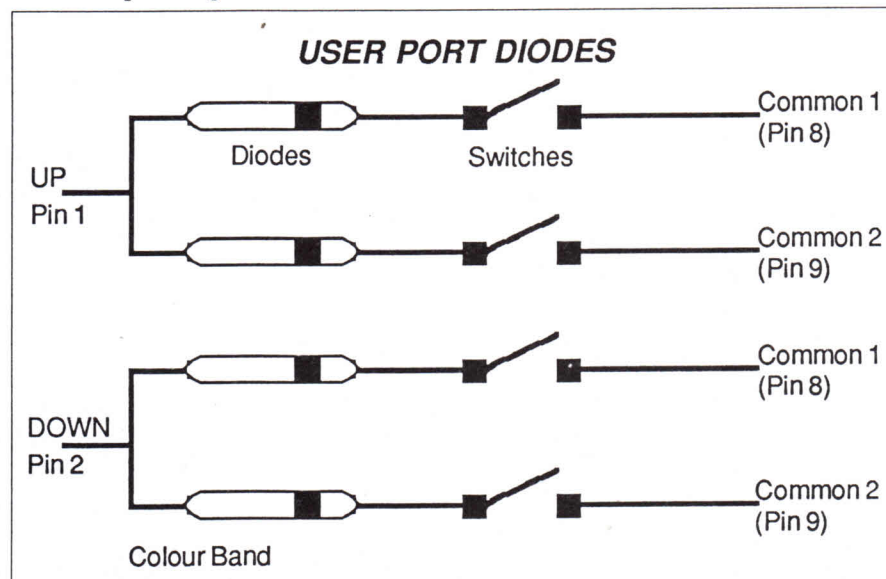
magnet is not strong enough). The problem with reed switches is that they open and close several times as the magnet passes over them, and for counting it may be necessary to cause a delay of several seconds before reading that switch again.

MICRO or LEVER SWITCHES

Micros switches have a switch in a plastic body with a metal lever on one side that operates the switch, and usually only need a small movement to throw the switch.

RELAYS

Relays use a electric current in a coil to open or close a set of contacts. If what you want to measure is electrical in basis you can connect that to the coil of a suitable relay and connect the User Port to the relay's contacts. But make sure that the coil is insulated from the contacts because in some automobile relays the coil earths through the contacts.

MERCURY SWITCHES

These are a small glass bulb with two wires entering the bulb, which contains several drops of Mercury. When the bulb is tilted so that the mercury touches both wires the switch is conducting.

Following is a small program that has been used with reed switches on a H.O. Model Railway to check the scale speed of the trains.

It uses the @ key to enter the timing mode, the Up pin of the Joy stick to start timing and the down pin to stop/display speed.

When the program asks for scale, enter the large

```
10 REM USER PORT Speed measuring Program
 by L.J. Allen
20 MODE 1:WINDOW#4,1,40,1,6:WINDOW#0,1,4
0,7,25:KEY DEF 26,0,0,0,0
30 INPUT"SCALE ",scale:INPUT"DISTANCE (i
n metres) ",dist:CLS
40 AFTER 25,2 GOSUB 500
50 GOTO 50
490 END
500 IF INKEY(26)>-1 THEN 510 ELSE AFTER
25,2 GOSUB 500:RETURN
510 DI:PRINT CHR$(7);:REM 1st Switch Dec
.
520 IF INKEY(72)=-1 THEN 520 ELSE sttm=T
IME
530 IF INKEY(73)=-1 THEN 530 ELSE fhntm=
TIME
540 eltm=fhntm-sttm
550 tspeed=(dist/1000)/((eltm/300)/3600)
:REM This gives Speed in Km/Hr
560 scalespeed=tspeed*scale:REM (to conv
ert to Mile/Hour remove this rem) :scale
speed=scalespeed*.621:goto 580
570 PRINT#4," Speed is "ROUND(scalespeed
,2)" Km/Hr":GOTO 590
580 PRINT#4," Speed is "ROUND(scalespeed
,2)" Mile/Hr"
590 AFTER 25,2 GOSUB 500:EI:RETURN
```

number (e.g. If the scale is 1:32, enter 32). If you want to time something in normal Km/Hr. enter 1. When a REM is removed in line 560 it will display Miles/Hour.

Oddjob

A review by C.J. Collins

For those out there with a disc system, most of you, at one time or another, will have wanted to play around with your disc and modify them to suit yourself.

To be able to do this with safety, you will need to be able to find your way around the disc and then modify it under CP/M. Now there is a way to be able to do all these things with a very useful utility called ODDJOB.

Oddjob consists of eight parts on the one disc plus the necessary help files to let you know what the program will actually do. The eight parts are listed below;

1) DIREDIT
2) FASTFORM
3) DISCLONE
4) SECTEDIT
5) DISCMAP
6) DISCTAPE
7) SPEEDISC
8) REMPRO

All of these options are available from the opening menu as well the help files which are accessed by pressing Option 9. After reading the help file on a part of ODDJOB, you are then given the option of running that part. Most useful.

All of these parts serve a useful purpose although some of them I have yet to use. The easiest way to explain them is to go through each part separately and give you a quick rundown.

DIREDIT

Allows for editing of the directory to suit yourself. Shows directory entries in two pages of 32 files and allows you to modify them in the following ways;

1) Renaming of files.
2) Erasing of files.
3) Unerasing of files as long as nothing has been written to that file area.
4) Set files to SYS, which stops files appearing in the directory.
5) Set files to R/O, which cannot be erased except under ODDJOB or by resetting to R/W.
6) Reset SYS files to DIR and R/O files to R/W.
7) Change user number.

These changes to the disc will not affect the disc until such time as the <S> option is utilised and even then you are given another chance. A very useful part of ODDJOB and one part that I use quite often.

For those of you that use it often, to bypass the menu and save a bit of time, type RUN"DIREDIT.ODJ and this will get you straight in.

FASTFORM

This option will format a disc in super fast time. Works with all formats and also 5.25 inch drives. There is however a slightly increased chance of a READ ERROR. Just press <R> to retry.

DISCLONE

This is similar to the copy option under either of the Disckit versions except that it will copy any type of disc. If there is a fault while using Disckit, it will tell you and ask you what to do. With DISCLONE, it will copy any disc that I have so far come across including ones with funny loaders.

SECTEDIT

Allows you to examine and/or modify any formatted sector on a disc. Must be used with DISCMAP to identify the correct sector. Haven't found much use for either of these two options.

DISCMAP

Lets you locate the necessary parts of a file on disc that you may wish to modify and then use SECTEDIT on them.

DISCTAPE

Very useful option to allow you to transfer some of those not often used programs to tape and reclaim some expensive disc space. Very large binary files (in excess of 43k) cannot be transferred with this. When saving to tape 7 speeds are available from 1000 baud to 4000 baud.

SPEEDISC

Hypes up your disc drive unit to allow it to work anywhere up to 25% faster. The pamphlet only claims 20% but some timings indicate that it is even quicker. Doesn't use any of the computer's memory to achieve this feat. However the program is lost when the computer or the disc parameters are reset. Is very useful when working with large files on programs like Tasword 6128.

REMPRO

Allows a protected basic program to be loaded and then listed to modify them to your own ends. Only works with basic programs that have been saved with the ,p command.

One of the rules that you must abide by when using any part of ODDJOB is that it must not be used to infringe copyright on a program unless you have bought that program yourself.

That is a very quick rundown on the options that are available under ODDJOB. It is definitely one of the most useful pieces of utility software that I have in my collection and I would well recommend it to anyone.
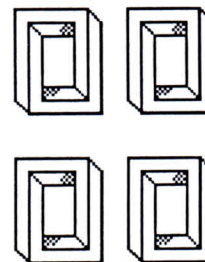
Adventurer's Attic

by Philip Riley

In July (a curse on the Editor who pushed us out of the August issue claiming lack of space) we looked at moving around your adventure. This month we will take a look at picking up and dropping useful or in some cases useless objects.

When trying to pick an item up you need only check for one thing, are you in the same room as that item (rather obvious really). But before you can check for this you must first of all place that item into your game. (Again, rather obvious).

Let us now go back to the map in the July issue in which we had two items, a key in location 4 and a gun in location 6.

```
10    DIM IT$(2),IT(2)
20    FOR T=1 TO 2:READ
      IT$(T),IT(2):NEXT
30    DATA KEY,4,GUN,6
```

The above program reads two different types of data. The name of the object and its position in the game.

The next step is a subroutine for picking up items and is as follows:

```
5000 IF P>2 THEN 5020
5010 IF n=IT(P) THEN
     PRINT"YOU TAKE THE";
     IT$(P):IT(P)=100:RETURN
5020 PRINT"THAT ITEM CANNOT
     BE TAKEN":RETURN
```

Line 5000 checks that the item that can in fact be taken, the variable P, is the number of the item. If P=1 then the item would be the key.

Line 5010 checks that the item is in the same place as you are." n" is your position on the map.

You will notice that IT(P) is changed to equal 100. This number will of course vary from game to game, depending on how many locations you have on the map. This figure should always be more than the amount of locations used.

Line 5020 is the default line if you cannot pick the item up.

When dropping items you use the same sort of routine but in line 5010 you check to see if IT(P)=100 and if so then you change IT(P) to equal n (IT(P)=n).

Doing an inventory, a most important part of any adventure, is just as simple as dropping or taking an item.

```
6000 FOR T=1 TO 2:IF IT(T)=
     100 THEN PRINT IT$(T)
6010 NEXT
```

Simple isn't it. Of course you can add your own little bits to it, for instance if you are carrying nothing you could get it to print "NOTHING", but I will leave any add ons like this to you, after all you cannot expect me to tell you everything.

Printing the visible object at each location as you enter it is done much the same as the above routine except you must check IT(T) against n.

If at any time you break an item or render an item useless then you get IT(P) to equal zero. As you can see there is no location zero on the map so you have no way of getting to it.

At the moment I am developing a ??????? style program in basic for writing your own games without any complex program. Perhaps when it is finished the editor will publish it in the mag. (*We wait with bated breath - Ed*).

SOME QUESTIONS

John Wode (Warwick, QLD) is looking for help in the first part of "A view to a kill" where he cannot find the room with the number three .

Clinton Willis (Bayswater, Vic) has two problems. The first - he can't find the right command to take the seatbelt off in the travel car in Firebird's SeaBase Delta. The second - in Mordens Quest, he cannot get past the pygmy or the carnivorous plant.

Mrs. F. Moss (Launceston, Tas) is stuck in the Heroes of Khan and can't get past the spider or the pirate and is unable to find the dwarf or elf.

S. A. Mah (Willetton,WA) has made it into Bastow Manor but what lies beyond the stairs at the south hall, how does he get the silver key under the crate (without an old man attacking him) and how does he unlock the door by the clock? Any more questions and we would have virtually solved the game for him!

James Edmundsen (Sorrento, Qld) provides an answer on The Hobbit below but has problems himself, he can't get Beron to come with him, if the goblins dungeon turns dark what do you do, what path (ie. N,S etc.) do you need to take to get the Dragon from Beron .

By the way, James has completed The Forest at Worlds End (it took him twelve months) and is happy to help any "lost souls". Well done James!

Douglas Mansell (Derby, WA) has got past the cannibals in the Jewels of Babylon but cannot get past the crocodile or lion.

SOME ANSWERS

For David Brooks who had a problem with The Hobbit (June), James Edmundson (Sorrento, Qld) writes " as soon as the eyes see you, move once in the same direstion, look, look, then move in the same direction again. For example: WEST, WEST, LOOK, LOOK, WEST. This is the only way to survive".

Giant Multiplication

from Peter Davies and Ralph Page

*Performing a multiplication on a computer is easy isn't it? PRINT 123 * 456 gives the immediate result of 56088. Simple! What about PRINT 192374 * 634512?*

The result is 1.22064E+11. What does the E+11 mean and is the displayed answer the EXACT (correct) result of the calculation?

The E+11 just means move the decimal point eleven places to the right, (E-11 means move it eleven places to the left), adding the appropriate number of zeros when you have run out of figures. Doing this give 122064000000.

The second question is a little more involved.

192374 * 634512 should end in an 8 because the last two digits of these numbers, 2 and 4, multiply to give 8. The print command does not give us an exact answer (but, admittedly, for the size of the answer it isn't far out). The problem is caused by using an 8-bit processor to manipulate denary (the correct word for what we often call decimal) numbers.

So how do we get around this limitation?

The program provided will accept very large numbers, (the size of the numbers accepted depending on the option chosen).

If you request the FULL CALCULATION option the screen display will be done exactly the same as you would produce with pen and paper, with the limitations

1. The MULTIPLIER cannot have more than 18 non-zero digits; it can have more only if zeros are included.

2. If the answer has more than 76 digits it may not fit on a single line and will destroy the formatting.

If the ANSWER ONLY option is selected only the second section of the program is used. This section has a further option which is SCREEN or PRINTER, (the display is sent only to the one selected, but defaults to the screen if ENTER only is selected).

The numbers that this section can handle are huge. (The main limitation is the amount of time that you are prepared to wait for an answer).

What is the use of it? Well, the full calculation display could be used by a student to check his/her working out and answer to pen and paper practice of long multiplication. We had some fun testing it to its limits, and checking for PALINDROMES (numbers which read the same backwards as forwards). Maybe the Federal Government could use it to calculate its debts!!!

What follows is a fairly comprehensive coverage of how the program was developed and how it works. If this is of no interest then just type in the listing and use it. However, we would suggest that you follow through our notes, they might also help in understanding some of the capabilities of your AMSTRAD.

Lets study doing a long multiplication by hand.

```
      123      - the multiplicand
  x   456      - the multiplier
      738      - partial product
     6150      -   "       "
    49200      -   "       "
    56088      - the product
```

First we take the units digits of

the multiplier - that is a 6. Then each of the digits in the multiplicand is, in turn, multiplied by the 6, taking into account the "carries". We thus start off with 6 by 3 = 18; that is 8 down and carry 1 (which isn't really one but a unit of ten which appears as a one in the tens column).

Next we move to the tens column of the multiplicand and have 6 by 2 = 12 with the 1 unit of ten carried over. So 12 + 1 = 13, write down the 3 and carry "1" (1 unit of 100 this time). It is the same process again, but with different numbers so we can use a loop.

Finally 6 by 1 = 6, plus 1 (unit of 100) carried over gives 7. We now have a partial product 738.

The above process is repeated (which means we can use another loop) with the 5 in the multiplier (which is really a 50 not a 5) to get 6150, and yet again with the 4 (that is 400) to get 49200.

The final stage is to add up the partial products to get the product (answer).

BUILDING UP THE PROGRAM

The multiplicand and muliplier are entered as strings, the multiplicand in line 140 as a$ and the multiplier in 180 as b$. Line 160 gets the number of characters (length) of a$ and stores it as 1a, in line 190, 1b does the same for b$.

Each string is then broken down into its separate digits, which, via the loops in line 270 for b$ and 300 for a$ are then stored in arrays a(j) and b(i).

In line 270, for the first time through the loop i=1 therefore b(i) is b(1). Now line 280 "reads" b(1) = VAL(MID$(b$,1b,1))

If 1b = 4 then MID$(b$,4,1) means "what is the fourth digit in b$, the 1 at the end meaning only one character is required.

Suppose the fourth digit is a 9. We now have "b(1) is to be the value of a string containing just the character 9". b(1) is thus the

number 9. The loop then increments to 2,3... up to its limit, picking out 1 digit at a time.

Note that b(1) is the first character counting from the right hand end [the same applies to a(i)]. b(3) is the third digit from the right, the one in the hundreds column.

For the example above 123 x 456, a(1)=3 and b(1)=6 so 6 x 3 is found by pp=a(1)*b(1) in line 320 (but ignore the +ca for the moment). So pp=18.

Now comes the fun of turning 18 into 8 and a 1 to carry over to the next stage (the tens column), this is done by using the WHILE-WEND loop structure (lines 340 to 370).

WHILE pp>9 (> means is greater than, < means is less than) which 18 is, then subtract 10 (line 350), and add 1 to the counter ca (line 360). As a result pp is now 8 and ca = 1, this now causes us to exit from this loop and continue. If pp is much greater than 9, such as 63, then the WHILE-WEND LOOP keeps operating, taking 10 off pp and adding 1 to ca on each pass. The final result in this example is pp=3 and ca=6 equivalent to "write down the 3 and carry 6" (ca for carry).

So what happens to the current value of ca? On the next pass through the j loop ca is added to pp (line 320) and then immediately reset to zero (line 330) ready in case pp is greater than 9 (line 340) on the next pass through the loop.

By the way, the i loop picks out one digit from the multiplier and the j loop then uses this with each digit in the multiplicand. Within the j loop each value of pp is printed as pr$. The reason for this has to do with the formatting. PRINT pp will print (space)(digits). Since we don't want a space we have stripped it off using the RIGHT$ command (line 390).

When the j loop has been

completed we have to see if ca has a value higher than zero. This is the final carry and it has to be printed (line 430), we have used another WHILE-WEND routine to take care of this.

Each time the i loop (line 270) is incremented we have to check whether we are multiplying by units, hundreds, thousands etc., so the appropriate number of zeros can be added to the end of the partial products. When i = 1 we are multiplying by a units digit, for i=2, a tens digit and so on. The k loop (line 380) prints the zeros.

The last stage in the calculation is to add together the partial products. To do this we have used nested loops (line 500 - 730) starting the calculation from 'scratch'. This routine does all that the partial product calculations do plus it adds them together as well, using a slightly different approach. It is actually quite independent of the partial product calculations and, in fact it is used again for the gigantic calculations that can be handled by the answer only option, line 800 onwards.

The rest of the program lines deal with either option routines, input traps (which may not be completely fool proof), or formatting.

Since we wanted the full calculation output to be as close as possible to working by hand (as stated earlier) the partial products are printed from left to right, and we had to think very carefully to get the '76-i+j-r' type arguments for the various LOCATE, TAB and WINDOW commands (a single character window has been used for the partial product).

LIST OF MAIN VARIABLES

a$	Multiplicand
b$	Multiplier
1a	Length of a$
1b	Length of b$
c$	CHR$(12) which is

another way of CLS

ca   The carry over in the Partial Product

pp   A Digit in the Partial Product

o$ Is a pointer to direct the stream to the screen or printer as required in the answer only section.

i,j, & r   Are used for holding the variables for calculation of the locations, and also in the calculation of the actual product.

In line 740 we used the SCREEN DUMP routine from The Amstrad User Issue No.11, December 1985, page 5, by Roy Eiberg.

(When originally testing this program on both the 464 and 6128, we changed line 740 to a REM line which included in its text the characters "| SCNDMP". This simple action caused the program to run incorrectly on the 464 because the contents of line 750 were deleted. It didn't effect the 6128. The REM line as shown in the listing below doesn't cause any problems, so clearly its the " | " which is the fly in the ointment. Perhaps some advanced user could tell us why? - Ed).

The program listing is set out so you can use the AUTO line numbering command, as the REMark statements are used on in between lines they are to be omitted when typing in the listing.

Here we have included an example of the answer only, which takes approximately 25 minutes to perform.

9999999999999999999999999999999999999999999999999999999
999999999999999999999999999999999999999999999999999999999 x
9999999999999999999999999999999999999999999999999999999
9999999999999999999999999999999999999999999999999999 =
9999999999999999999999999999999999999999999999999999999999
99999999999999999999999999999999999999999999999998000000000
00000000000000000000000000000000000000000000000000000000000
0000000000000000000000000000000000000000001

whereas 123 x 456 = 56088 takes less than one second!

Sample Screen Dump

```
10 '        *
*******************************
20 '        *   GIANT LONG MULTIPLICATION
*
30 '        *              BY
*
40 '        * PETER DAVIES AND RALPH PAGE
*
50 '        *******************************
*
60 '
70 c$=CHR$(12):     REM   CLEAR SCREEN USIN
G ASCII CODE
80 MODE 2  :       REM   80 COLUMNS MODE U
SED BECAUSE OF THE LARGE NUMBERS
90 INPUT "Do you want FULL CALCULATION (
C) or ANSWER only (A)";q$
100 IF UPPER$(q$)="A" THEN 800
110 DIM a(40),b(40),c(80)
120 r=0
130 PRINT c$
140 INPUT"Multipland (1 to 40 Digits lon
g) ";a$
150 PRINT
160 la=LEN(a$)
170 IF la>40 THEN PRINT CHR$(7);"Number
TOO LONG";CHR$(7):FOR t=1 TO 250:NEXT t:
GOTO 130
180 INPUT"Multiplier(1 to 40 Digits long
)";b$
190 lb=LEN(b$)
200 IF lb+la>80 THEN PRINT CHR$(7);" Num
ber TOO LONG";CHR$(7):FOR t=1 TO 250:NEX
T t:GOTO 150
210 PRINT c$
211 REM  *  *  *  *  *  *  *  *  *
    *  *  *  *
212 REM           START OF THE CALCULATIO
N
213 REM  *  *  *  *  *  *  *  *  *
    *  *  *  *
220 LOCATE 75-la,1:PRINT;a$
230 LOCATE 73-lb,2:PRINT;"X ";b$
239 REM  *  *  *  *  *  *  *  *  *
    *  *  *  *
240 IF lb=1 THEN 500:    REM IF THE MULTI
PLIER IS ONLY 1 DIGIT LONG THEN NO PARTI
AL PRODUCT SO GO TO THE PRODUCT (answer)
 ROUTINE
241 REM
242 REM      CALCULATE PARTIAL PRODUCT
243 REM  *  *  *  *  *  *  *  *  *
    *  *  *  *
250 IF la>lb THEN LOCATE 75-la,3:FOR i=1
TO la:PRINT CHR$(154);:NEXT:GOTO 270
260 LOCATE 75-lb,3:FOR i=1 TO lb:PRINT C
HR$(154);:NEXT
270 FOR i=1 TO lb
280 b(i)=VAL(MID$(b$,lb-i+1,1))
290 IF b(i)=0 THEN r=r+1 :GOTO 490
300 FOR j=1 TO la
310 a(j)=VAL(MID$(a$,la-j+1,1))
320 pp=b(i)*a(j)+ca
330 ca=0
340 WHILE pp>9
```

```
350 pp=pp-10
360 ca=ca+1
370 WEND
380 IF i>1 THEN LOCATE 76-i,3+i-r::FOR k
=1 TO i-1:PRINT "0";:NEXT k
390 pp$=STR$(pp):pr$=RIGHT$(pp$,1)
400 WINDOW #1,76-i-j,77-i-j,3+i-r,4+i-r
410 PRINT#1,pr$
420 NEXT j
430 WHILE ca<>0
440 WINDOW #1,76-i-j-1,77-i-j-1,3+i-r,4+
i-r
450 PRINT#1,ca;
460 ca=0
470 WEND
480 PRINT
490 NEXT i
491 REM * * * * * * * *
* * * *
492 REM  CALCULATE  PRODUCT (answer)
493 REM * * * * * * * *
* * * *
500 PRINT TAB(75-la-lb);:FOR i=1 TO la+l
b:PRINT CHR$(154);:NEXT:PRINT
510 FOR i=la TO 1 STEP -1
520 a(i)=VAL(MID$(a$,la-i+1,1))
530 NEXT
540 FOR i=lb TO 1 STEP -1
550 b(i)=VAL(MID$(b$,lb-i+1,1))
560 NEXT
570 FOR j=1 TO la
580 FOR i=1 TO lb
590 c=i+j-1
600 c(c)=c(c)+b(i)*a(j)
610 WHILE c(c)>9
620 c(c)=c(c)-10
630 c(c+1)=c(c+1)+1
640 WEND
650 NEXT i
660 NEXT j
670 FOR i=la+lb TO 1 STEP -1
680 p$=p$+RIGHT$(STR$(c(i)),1)
690 IF LEFT$(p$,1)="0" THEN p$=RIGHT$(p$
,la+lb-1)
700 NEXT i
710 lp=LEN(p$)
720 PRINT TAB(75-lp);p$
730 PRINT TAB(75-lp);:FOR i=1 TO lp:PRIN
T CHR$(154);:NEXT:PRINT
740 REM PUT YOUR CALL SCREEN DUMP ROUTIN
E IN HERE
750 LOCATE 1,1: INPUT "Any more (Y/N)";d
$
760 d$=UPPER$(d$)
770 IF d$="N" THEN PRINT c$;"THATS ALL F
OR NOW.....GOOD-BYE":END ELSE RUN
771 REM * * * * * * * * *
* * *
772 REM     Routines For Answer Only
773 REM * * * * * * * * *
* * *
800 DIM a(100),b(100),c(240)
810 CLS
820 WIDTH 80
830 INPUT "Too Screen (S) or Printer (P)
";o$
840 o$=UPPER$(o$)
850 IF o$="P" THEN o=8:PRINT"The answer
will go to the PRINTER " ELSE o=0:PRINT"
The answer will go to the SCREEN"
860 PRINT:PRINT
870 INPUT"Multipland 1 to 100 digits";a$
:PRINT
880 la=LEN(a$):IF la>=101 THEN PRINT"Num
ber to long":GOTO 870
890 INPUT"Multiplier 1 to 100 digits";b$
:PRINT
900 lb=LEN(b$):IF lb>=101 THEN PRINT"Num
ber to long":GOTO 890
910 PRINT#o,:PRINT#o,:PRINT#o,
920 PRINT#o," ";a$
930 PRINT#o,"X ";b$
940 FOR i=la TO 1 STEP -1
950 a(i)=VAL(MID$(a$,la-i+1,1))
960 NEXT
970 FOR i=lb TO 1 STEP -1
980 b(i)=VAL(MID$(b$,lb-i+1,1))
990 NEXT
1000 FOR j=1 TO la
1010 FOR i=1 TO lb
1020 c=i+j-1
1030 c(c)=c(c)+b(i)*a(j)
1040 WHILE c(c)>9
1050 c(c)=c(c)-10
1060 c(c+1)=c(c+1)+1
1070 WEND
1080 NEXT i,j
1090 FOR i=la+lb TO 1 STEP -1
1100 p$=p$+RIGHT$(STR$(c(i)),1)
1110 IF LEFT$(p$,1)="0" THEN p$=RIGHT$(p
$,la+lb-1)
1120 NEXT i
1130 PRINT#o,"= "+p$
1140 PRINT#o,
1150 PRINT#o,
1160 INPUT"Any More (Y/N)";d$
1170 GOTO 760
```


JUST GOTTA GET THESE DARN HUMANS OUT THE PROGRAM AND IT'LL WORK!
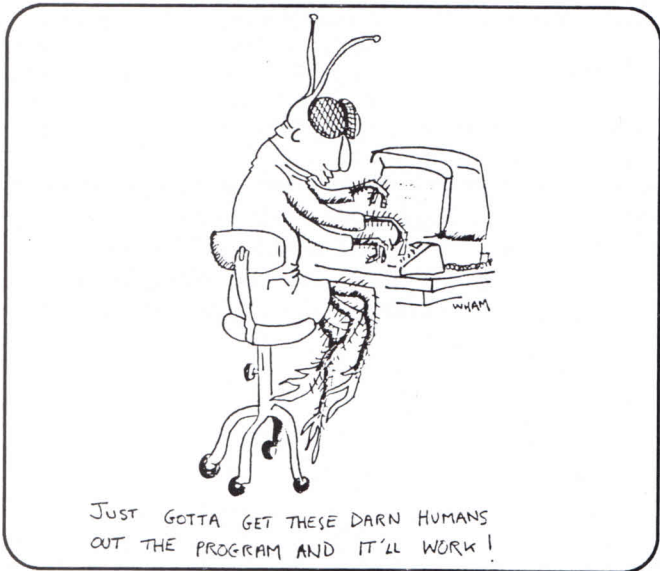
The Amstrad User
Hall Of Fame

GAME	SCORE/TIME	ACHIEVER
Airwolf	1500/25 mins	Heath Corcoran
Battle for Midway	8 carriers:speed 1:level 3	Steve Alatakis
Beach Head	132500/16 mins	Anthony Eden
Chuckie Egg	395960/45 mins	Tony Barberi
Codename Mat	20470/90 mins	Brett Hallen
Combat Lynx	81450/no time specified	Steve Alatakis
Decathalon	675090/137 mins	Malcolm Fraser
Defend or Die	44500/15 mins	Darrell Harris
Er-Bert	68350/21 mins	Anthony Eden
Galactic Plague	118690/80 mins	B.Weich/G.Cherry
Gilligan's Gold	107403/9.75 mins	Alex Smyth
Grand Prix Rally II	47984/10.5 mins	Justin McShane
Harrier Attack	337600/14.5 mins	Michael Hopkirk
Haunted Hedges	466460/35 mins	Lorraine Martin
Hunchback	332400/22 mins	Robert Willert
Hunter Killer	17/67 mins	Chris Catalfamo
Jet Set Willy	33 items/11 mins	Inga Callahan
Knight Lore	98%/44 mins	Umut Akcelik
Minder	$17749/no time specified	Steve Alatakis
Moonbuggy	152400/26.75 mins	Alex Smyth
Raid	416950/26 mins	Allan Etherington
Roland in the Caves	9748815/6 mins	Anthony Eden
Roland goes Digging	$805.65/45 mins	David Thomas
Roland on the Ropes	738900/92 mins	Allison Pilbeam
Roland in Time	72/18 mins	Paul Azzopardi
Sorcery	92500/15 mins	Mike Nicolai
Sorcery +	136788/44 mins	Mike Nicolai
Space Hawks	72300/7 mins	Murray Taylor
Spannerman	53500/no time specified	Allison Pilbeam
Splat	7280/45 mins	Neil Campbell
Star Commando	193810/133 mins	Alex Smyth
Survivor	223160/19.5 mins	Alex Smyth
Way of Exp. Fist	558900/66 mins	Gavern Cherry
Wild Bunch	10539/no time specified	Steve Alatakis
Yie Ar Kung Fu	7065940/3 hours	Gavern Cherry
Zorro	29100/22.5 mins	Jason Scott
3-D Monster Chase	1320:7 keys/7 mins	Adam Broadway

AMSTRAD's first IBM PC compatible is being released in the UK on the 2nd September.

Unfortunately, our magazine is published before that date, so we are not able to give you any inside information.

However, next month we should be able to give you an overview to whet your appetite with a major follow-up in November (the release month in Australia).

Never a cross word spoken

We put the spotlight on a new Amstrad dealer, Cross Computers, nestling near the foothills of the Dandenongs in Victoria.

Until recently Amstrad owners in Victoria could have been forgiven for thinking that they were a quick sale - "here's your machine, thanks for the money and don't come back with any questions 'cos we're not computer buffs". Perhaps that is an over-simplification and a touch exaggerated, but if you had listened to the number of complaints as I have about lack of adequate after-sales advice, particularly to the confused first time owner, you've got to believe it.

However, the situation is beginning to change for the better with the emergence of a number of smaller retailers who are now stocking the Amstrad range of computers and software.

So it's nice to know in this often materialistic world, that amongst this growing band there is somebody who enters into business not just for the financial rewards, but because they care for, and believe in a product. I refer to Ray Cross and Andrew Martin, who consider Amstrad a great product (and so say all of us!), but were concerned about the lack of support for Amstrad owners by retailers. Ray Cross and his Sales Manager Andrew Martin have set about to change this by setting up a shop dedicated to Amstrad Computers.

Ray Cross enters the exciting world of computers after 25 years in the Electronics Industry. Ray, a TV technician by trade, built up a small repair business to a large successful Electrical-Electronics shop. The key to his success in the Electronics Industry was a dedication to personal service and support for his customers, a personal philosophy that his new customers will certainly benefit by. Ray has never had a cross word with any customer and adopts the cliched but refreshing approach in these computer times of "the

customer may be wrong sometimes, but in the end is always right".

Andrew Martin is an Amstrad buff from way back, being very well known as a foundation member of an Amstrad user group - that's always good grounding. For Andrew to be employed in a computer shop specialising in Amstrads, with the opportunity to review new hardware and software products, "it's not work but a pleasure".

Clearly Cross Computers is making a sincere attempt to rectify the vacuum of support which Victorian Amstrad users have experienced of late and I have no reason to doubt that they will succeed.

With Ray and Andrew's combined talents of business and marketing expertise and computer enthusiasm, I am sure Amstrad computer owners will have somebody who really cares.

Ray Cross and Andrew Martin (seated) in their new premises

Communications

by Shane Kelly

Communications with computers fall mainly into two categories - computer to computer and computer to modem to modem to computer. Both these categories have similarities but it is the difference that is of most importance if you are starting out into the world of communications.

Computer to computer communication involves connecting both computers together with some form of interface. The one most usually used is the RS-232 or serial interface. This is an interface that is generally terminated by a 25 way 'd' type connector (so called because of it's shape). A cable with a varying number of wires joins each interface and each electrical impulse is sent down a single wire one after the other. One of the problems with this type of interface is that it is very difficult to control the transfer of data by this simple method. To overcome this, communications protocols were established. All this means is that there are certain lines in the RS-232 that are designated control lines because they act as traffic lights for the data flow from each computer. Of course, both computers must be using the same protocols or the signals received will not be understood! To this end, there are many programs written that are designed to facilitate computer to computer transmissions. One of the best know is MODEM7. This program is public domain and contains a terminal mode that allows computers to talk directly to one another without modems. It is readily available - someone in your user group will have it somewhere on disk.

As is usual in the computer world, a standard is often found to be not so standard when it comes to actually using it! This is the case with the AMSTRAD RS-232 interface. It uses 8 signal lines as against a defined 21 of 25 pins available in the RS-232 standard. Admittedly, those 8 signal lines are used as defined in the RS-232 standard, but problems can arise when connecting it to other equipment that implements the full standard.

The simplest form of an interconnection is take pin 2 of the AMSTRAD i/f (interface) to pin three of the other i/f and pin 7 to 7. This will allow transmission from one computer to the other, but will not allow the second computer to talk to the first. It's uses are limited to say the least. The next step is to connect pin 2 of the second computer to pin 3 of the first computer. This will allow the second computer to talk to the first. This set up is only slightly more useful than the first as there is no provision for hardware 'handshake', i.e. for each i/f (as opposed to each computer) to talk to the other i/f. Now things get complicated. To implement hardware handshaking there are three or four and sometimes five signals that need to be connected. These signals and their uses vary from equipment to equipment and the possible permutations are many. If you wish to talk purely to another AMSTRAD using the same RS-232 i/f then the second connection described above will suffice, provided that you are prepared to let only one computer talk at a time. This is known as synchronous communication

because the computers are synchronising with each other and everything is proceeding step by step. You can write a small program using the commands available in the RS-232 ROM. This will enable you to implement your own communications protocol in that you may send a special character to start data transfer and another special character to stop it. One person has informed me that he has written a small program that will capture any input from the i/f and store it in a disc file for later perusal. The program was written in BASIC and has worked well for him.

The last area we must touch on is that of 'baud rate'. Baud rate is the speed at which characters are transmitted from and received at the i/f. In computer to computer transfers it does not matter what speed is used as long as both are the same and your software can handle it. The format of the information sent must match also. That is it doesn't really matter what length of data word or how many stop bits or what parity is used as long as they are the same. If you don't know what data length, stop bits or parity is, don't worry, just ensure that they are set up the same at both ends of the i/f.

Many of you will have access to a CP/M computer of some other kind and will wish to download files from this to the AMSTRAD. I can't really help other than to say that most of the problems can be overcome by careful study of the other computers documentation with special notice taken of what that computer expects in the way of handshaking.

Computer to modem to modem to computer communications is the type of communication that most people get excited about as it allows two distant computers to be connected over the public telephone system. The most striking example we have of this

is VIATEL, Telecom's very own videotext database. To access VIATEL you must have a modem capable of operating at 75/1200 baud. That is it must receive at 1200 baud and transmit at 75 baud. These rates were chosen because it was reasoned that most of the information would flow from VIATEL to the user and that the user was unlikely to exceed 75 baud when typing responses.

In the RS-232 standard, to send at 75 and receive at 1200 was defined as receiving on the main channel and sending on the 'back channel'. In my experience, most modem manufacturers have incorporated the back channel into the main RS-232 pins in the belief that it will be simpler for the user to implement this type of connection. This fits in well with AMSTRAD'S i/f as they have made no provision for the back channel pins. Those of you who have a modem that makes use of the back channel pins would be well advised to make up separate cables for accessing VIATEL and another for general bulletin board systems as it is extremely difficult to marry the two successfully (I have tried!)

O.K., assuming yours is one of the modems that does not implement the back channel pins and you have fathomed out the connections required to operate successfully, what do you get when you log onto VIATEL? Firstly you get access to many, many pages of goods and services that you may buy over the communications link. Secondly you get access to many pages of information ranging from stock market prices to statistics on VIATEL itself. Also there are areas of special interest such as microcomputing and agricultural data. For me, the greatest advantage of VIATEL is the mailbox facilities. This allows me to send and receive messages to any other VIATEL subscriber and to get

an answer almost immediately. You may also store messages for later reading. This alone, for me, has been worth the subscription price. What you get from VIATEL varies with your need for these services. However, if you are outside the large centres of population, the cost of accessing private bulletin boards via STD charges is prohibitive and a real bar to the communications revolution for country users. As more services become available on VIATEL so it will appeal to more people and have a snowball effect. I look forward to the day!

I will be happy to answer queries sent to me through this magazine and if you are having trouble getting your modem to work with AMSTRAD'S RS-232 then I may be able to help there also. If you enclose any documentation for your modem's pinout then make it a disposable copy as I cannot guarantee to return it.

NEXT MONTH

For Adventure addicts, Philip Riley will reveal how to solve your adventure games plus we'll get the rest of the questions and answers in.

For Forth followers, Petr Lukes gives us some more tips.

For Cheats we've gathered some more game-busting pokes and tips.

For Book worms we review Soft 971, the long awaited Amstrad CPC6128 and PCW8256 CP/M Plus Handbook.

For Alternative language lovers we compare some Pascal packages.

Plus heaps more if there's any room left!

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