

The Aussie Mag  
for Amstrad owners

# THE AMSTRAD USER

WE'RE  
FOUR YEARS  
OLD!!

Issue No. 49 \$4.25

February 1989



- **CPC Structured Programming series continues + a fabulous hardware project to build + a Javanese Checkers type-in**
- **Lightning Basic review + a major article on PCW printers + a pot pourri of answered PCW questions + two challenging games**
- **Kuma PC Spreadsheet + PC function keys + more 1512 tip-offs**

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# THE AMSTRAD USER

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For Tape Subscribers, CPC programs appearing in this month's magazine can be found at the following approximate positions:

Side 1: SURAKART - 10	DFORM - 78
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All enquiries and contacts concerning this Publication should be made in the first instance by writing to The Amstrad User, Suite 1, 245 Springvale Road, Glen Waverley, Victoria 3150, Australia. Urgent matters can be phoned through on (03) 233 9661.

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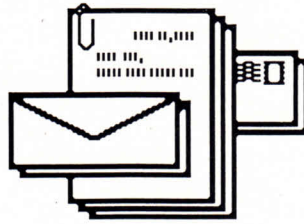
From time to time, some articles appearing in The Amstrad User will be reproductions from UK publications Amstrad Action, 8000 Plus and CPC Computing (formerly Computing with the Amstrad). The first two are printed under an agreement between Strategy Publications and Future Publishing Ltd, Bath, and the latter under an agreement with Database Publications.

The subscription rate (for Australia) is \$42.50 for 12 issues of the magazine only, or \$80.00 for 12 issues of the magazine plus tape (for CPC range only) 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 \$21 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: Cartoons \$10.00 and a rate of \$15.00 per page for programs, articles etc. unless otherwise previously agreed. Contributions will not be returned unless specifically requested coupled with a suitable stamped and return addressed padded bag (for tapes or discs).

*The Amstrad User is an independent Australian magazine and is not affiliated in any way with Amstrad or their Australian distributors or any other dealer in either software or hardware.*

# LETTERS TO THE EDITOR



A monthly selection of your comments, hints and tips, advice and news - all shared for the benefit of Australasian Amstrad users.



With the recent release of the Amstrad PC20 now not so recent, I am beginning to wonder if you were ever intending to publish a review of the machine - did you for some reason decide this was not 'newsworthy'? I (and I hope many others) would be greatly disappointed if this were the case, however I am inclined to think that you are just being a bit slow. Could you please get something in print soon??

Alex Crowley, Wahroonga, NSW.

*I would hope this letter is an encouragement to Amstrad who as yet have not sent us out a model for review. Understandably reviewing a machine we haven't seen is an impossibility. When the machine arrives, readers will have a review in the following month's publication. Promise.*



Could you please explain what the problem is with the computer game Renegade, where you have blue blood instead of red, and whether you can change it?

Cameron Bunn, Rockhampton, Qld.

*Perhaps the programmers were Royalists, you'll have to ask them. We don't believe you can change the colour, but the sequel Target Renegade seems to ooze correctly.*



About twelve months ago I bought an Amstrad PCW8256. I have no criticism of the machine, but I am not getting the best of it.

I was given three books of instructions, but no tuition. My difficulties arise because the machine is not strictly applicable to the instructions. Apparently the instructions are not updated to new modifications in the machine, which I use only as a word processor.

I notice that courses of instruction are available in Sydney for other machines. These are usually crammed in to two days at weekends.

Having had experience both as pupil and teacher in secondary and tertiary courses of instruction I am convinced such cramming sessions are not nearly as effective as one, or at the most two hour sessions with intervals between to practice what has been learned.

The Amstrad is highly regarded as a word processor, but apparently it is not being pushed very much in Sydney. Is there any possibility that those involved in marketing the machine will put on courses of instruction in Sydney?

C.E. Chadwick, Artarmon, NSW

*In what way does your machine differ from the standard PCW8256 - there aren't that many modifications you can do to it? Perhaps you are confusing the*

*software with the hardware. LocoScript 1 differs from LocoScript2 for example. To your rescue however comes a company called Amstrad Support run by Julie Pomery which provides 'one-to-one' personal tuition on the Amstrad PCW. The help can be tailored to suit the experience of the 'student'. Give Julie a ring on (02) 686 2216 for more details.*



With regard to the Poker Machine program on page 40 of issue 46, we require that program to suit a CPC464.

We programmed it but found it useless (it did not work).

The program supplied is for the PCW; obviously there is a difference. After much consultation amongst ourselves we came to the conclusion that either there was a printing error OR we stuffed up.

If there is a Poker Machine program to suit the CPC we would be very grateful if you would send it to us.

Peter Cusser, Wembley, WA.

*Yes - you did stuff up. The language this program was written in is called MALLARD BASIC, and is the BASIC language used on the PCW. It is not the same as the BASIC used on the CPC464 - which explains why the program didn't work. In future, please check carefully the type-ins before you spend an hour at the keyboard, to check they are written for your computer. We always make mention of this. In issue 7 of The Amstrad User was a program called Auld Langs Syne which is a Poker Machine program written for your computer. And to save you typing it in, cross my palm with \$5 and you can have that month's cassette tape, on which the program is included.*

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I suppose I'm not the only one to notice that the 'Calendar Maker' type-in in your December issue was not complete, or the first to let you know about it either.

When are you going to publish the rest? The bloody thing looks a bit funny without any numbers in the months.

Bruce Sinclair, Hervey Bay, QLD.

Sorry. The last paragraph of the text was not correct. It should say that the New Year's Day calculations are in lines 80-90 and the printing is governed by lines 140-240. Sure, others wrote in, but couldn't people with just a little BASIC programming skill figure out what was supposed to have been written? Anyway the program as printed works FINE.



With regard to the problem in Tower of Hanoi (The Amstrad User, December '88, p.52): in line 460, add a semi-colon after clw\$ (=

PRINT clw\$;...).

A better solution may be disabling the stack display: disable COSUB 450 in lines 240 and 430.

Note also that in line 40, 13 should be replaced by 10. Sorry about missing these.

Petr Lukes, Toowoomba, NSW

Another little OOPS concerns the Text Image Manager article in the December '88 Issue on page 21. Line 13380 has been replaced by a set of inverted commas where 13380 inv\$="Σ" should have been. The reason for this is that a CONTROL CHARACTER was embedded in the listing (shock horror!). The result of which was that the printer accepted it as some sort of a command. In this case all that happened was that inverted commas were printed, but in another case might have caused the printer to type double-strike or whatever. In future, could readers sending in any listings either REFRAIN from using control characters or explain very clearly where each one lurks in the listing.

**All our Mail Order items are now in one place starting from Page 59**

*The following items have been added this month:*

**CPC GAMES:**

- 4x4 Off Road Racing
- After Burner
- Artura
- California Games
- Corruption
- Echelon
- Giant Killer
- Inside Outing
- Jack the Ripper
- Last Ninja II
- Live and Let Die
- Mad Mix
- Overlander
- Psycho Pigs
- Roy of the Rovers
- The Bard's Tale
- The Train
- Total Eclipse
- World Class Leaderboard

**COMPILED:**

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- Flight Ace
- Space Ace

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- Shockway Rider
- Uridium Plus

**PCW:**

- Giant Killer
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- Match Day II
- Lightning Basic Plus
- Return to Doom
- Stockmarket
- World of Soccer
- MM3 Margin Maker

**PC:**

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- Echelon
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We (my family) purchased a CPC 8128 near the end of 1986, and I have found it immensely useful for school projects etc. especially with the use of Tasword and Mastercalc. I was however greatly disappointed that I couldn't print out the graphs on Mastercalc. So when I bought Mini Office II late last year I was delighted at the Graphics option and integration between the Word Processor, Spreadsheet, Database and Graphics.

It was when I was investigating the Spreadsheet that I came across a problem. If the width of the column is not large enough to hold the number entered, the program exponentializes it (eg, 20,000 becomes 2E4). I had adjusted my column width to 12 characters (it can give anything between 5 and 18), to

fit in large numbers and titles. When however, I entered in a six digit number (135,830) the Spreadsheet converted to 1E4, which in my mind is not only unsatisfactorily accurate but also wrong! It should be 1E5 and no matter what the width of the columns any number with more than five characters appears as an exponent. I would be greatly surprised if any other readers find this problem as I suspect a programming fault.

Keep up the good work! Especially the reviews and type-ins. By the way, how about a list of credits such as "The Amstrad User Team" so we know who does what? And who review those games (I want his job)?!

*A. Bradley, Sunshine, VIC*

*Too hard for us - maybe it is a fault. Our reviewer is the Joystick Wizard!!*

## CONTRIBUTIONS

We accept unsolicited articles or program contributions from readers with a view to possible publication, but in the case of programs we must insist that the coding is submitted on either tape or disc. We just do not have the time to key them all in. The tape or disc will be returned if originally accompanied with a stamped and return addressed padded bag.

## DISPLAY ADVERTISING DEADLINES

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Classified ads should be phoned or sent directly to The Amstrad User.

### The Duct Keyboard Routine for CPCs

Having originally promised you the keyboard routine for The Duct last month, here it finally is! The first listing is for tape users and the second is for disc users. Keys are as follows:

Z- left, X- right, [SPACE]- jump, [RETURN] (or enter)- fire.

#### Tape users

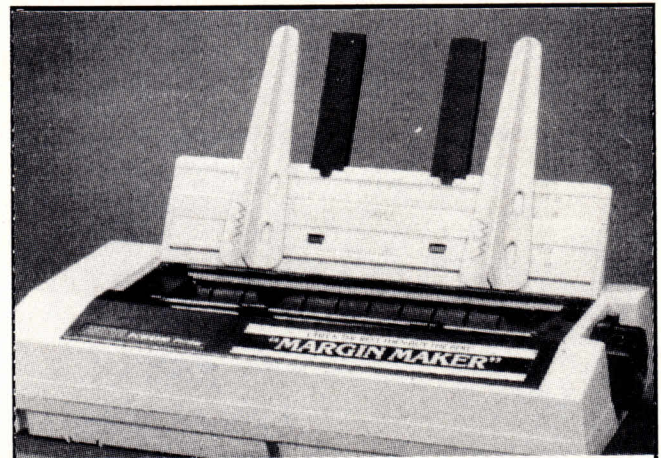
Enter the listing, rewind the cassette to the beginning of side A and type RUN. The Duct will automatically load.

```
1 ' Keyboard control for cassette users
10 ON ERROR GOTO 140
20 DATA 21,00,00,11,00,80,06,00,CD,77,BC,21,00,80,CD
30 DATA 83,BC,CD,7A,BC,3E,01,CD,0E,BC,3E,2C,21,00,C0
40 DATA 11,00,40,3E,2C,CD,A1,BC,3E,2C,11,87,9C,21,00
50 DATA 01,CD,A1,BC,3E,01,32,1E,9B,3C,32,18,9B,3E,7F
60 DATA 32,1B,9B,32,21,9B,32,0F,9B,3E,FF,32,0C,9B,3E
70 DATA 9A,32,0D,9B,32,25,9B,3E,FC,32,24,9B,3E,57,32
80 DATA 27,9B,00,C3,A5,52,4C,6F,61,64,65,72,20,62,79
90 DATA 20,52,70,4D,00,00,00,00
100 FOR t=&40 TO &B0:READ a$:v=VAL("&"+a$):c=c+v
110 POKE t,v:NEXT
120 IF c<>9659 THEN PRINT"DATA ERROR":END
130 TAPE:CALL &40
140 RESUME NEXT
```

#### Disc Users

Insert the disc with The Duct, type in the listing and run. A file called DUCTKEYS.BIN will save to disc. To choose key control simply enter RUN" ductkeys".

```
1 ' Keyboard control for disc users
10 DATA 21,46,00,CD,16,BD,CD,CB,BC,3E,01,CD,0E,BC,21
20 DATA A4,00,11,00,C0,06,0C,CD,77,BC,21,00,C0,CD,83
30 DATA BC,CD,7A,BC,21,B0,00,11,00,C0,06,0C,CD,77,BC
40 DATA 21,00,01,CD,83,BC,CD,7A,BC,3E,01,32,1E,9B,3C
50 DATA 32,18,9B,3E,7F,32,1B,9B,32,21,9B,32,0F,9B,3C
60 DATA FF,32,0C,9B,3E,9A,32,0D,9B,32,25,9B,3E,FC,32
70 DATA 24,9B,3E,57,32,27,9B,C3,A5,52,44,55,43,54,53
80 DATA 43,52,4E,2E,42,49,4E,44,55,43,54,43,4F,44,45
90 DATA 2E,42,49,4E,4C,6F,61,64,65,72,20,62,79,20,52
100 DATA 70,4D,00
110 FOR t=&40 TO &40+&89:READ a$:v=VAL("&"+a$)
120 POKE t,v:check=check+v:NEXT
130 IF check<>12752 THEN PRINT "DATA ERROR":END
140 SAVE"DUCTKEYS",B,&40,&40+&89,&40
150 RUN"DUCTKEYS"
```



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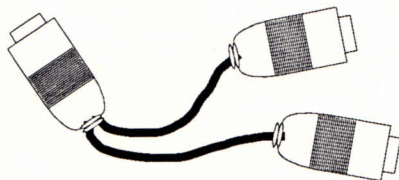
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Just \$7.50 gets you a spot in our Classies reaching over 8000 readers each month!

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This new section of the magazine offers you the chance to speak directly to the huge waiting world of Amstrad owners - or would-be owners.

You can place an ad of up to 30 words for just \$7.50. So you could use it to sell a printer, launch a user group or publicize a piece of software you have written.

One thing you can't advertise is the sale or swap of software you've purchased. Such ads can be misused by software pirates.

Just fill in the application form and send it to us together with payment. We'll then place the ad in the next available issue (published 3 to 7 weeks after we receive your order.)

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# HEAVY DUTY STAR CURSOR

A new, all Australian joystick comes under the fist of our games reviewer, the Joystick Wizard. How does it rate?

What a pleasant change to look at a joystick that has been designed and manufactured in Australia. I don't say that to knock the imported joysticks—they have served me well and will continue to do so, but I would rather support a home grown product if it is available and does the same job than add to the country's balance of payment problems!

The joystick in question is the "Star Cursor" from Multicoin Amusements in Queensland. Multicoin have been in the joystick business for some time now, but primarily producing heavy-duty joysticks for coin-op machines. You can imagine the wear and tear they go through for every coin

deposited. In fact, at the Dream Park during the recent Expo '88 most of the coin-op machines were fitted with Multicoin units and it is reported that there were no failures. Although Expo has finished, the Park remains and so too do the Multicoin joysticks.

It's from these tried and tested coin-op units that the Star Cursor has been developed. It's much bigger than any joystick I have used on an Amstrad CPC in the past and heavier too. The 'footprint', to coin a new piece of jargon which really means 'the room it takes up', is roughly 6" x 4.5" (or 15.5cms x 11.5cms to younger readers). On the base there are four suction pads which secures the unit pretty effectively to any flat surface. You'll also find a 'mode change' switch which allows the joystick to react to either 4 or 8 way movement. Moving one of the small protruding buttons turns a cylinder inside the unit to allow access (or not) to the NE, SE, SW and NW positions.

I found it a little stiff to move even though it had been greased inside, but really, you might as well leave it on the 8-way mode.

There are three fire buttons - a red one on top of the shaft and another red alongside a yellow in front of the shaft on a slightly lower level. At the back of the unit is a 'button common' switch which allows you to choose which fire buttons you want to use. With the switch facing you, the left position allows all buttons to be used, in the middle position just the red button on the base will fire, and the right position will allow either the red base or red

shaft fire button to be used. This is not quite what it says on the box, but then it doesn't mention the Amstrad either (the latter a printing error apparently).

There were three games which I used to put the Star Cursor through its paces. The first was Daley Thompson's Decathlon (now unavailable) which has been dubbed "the joystick destroyer" in the past because of the violent movements to the left and right which are necessary to achieve anything in the game. The other was "1943", the frantic air-battle game which test both the shaft movement and the continuous hammering at the fire button. The third was a few games from the "Karate Ace" compilation which generally tests the accuracy of the eight shaft positions in conjunction with the fire buttons.

I am pleased to say that the joystick stood up to a battering by four adults over a couple of weekends although we came off the worse for wear. Our verdict was unanimous. The Star Cursor responds very well - precisely, accurately and quickly in relation to shaft movements. The shaft is nice and easy to grip and positive in its movement. As far as the fire buttons are concerned, there is no reason why the base buttons should react any faster than the one on the shaft, but we had a 'feeling' that they did. This is not uncommon, and may have something to do with the fact that a plunger inside the shaft has to be moved down onto a lever which in turn presses the microswitch. The base fire buttons have less distance to travel to achieve the same result. If we had to find something wrong with it, we would probably say that it is not a unit suited to hand-held operation in view of its size, but we can't think of anything else.

So there it is, a fully microswitch operated Australian joystick for \$49.95 which can hold its own with others on the market, and is guaranteed for three years. It seems to live up to its slogan "the closest thing to having your own arcade game in your home"!





# The Generation Gap



February, 1989

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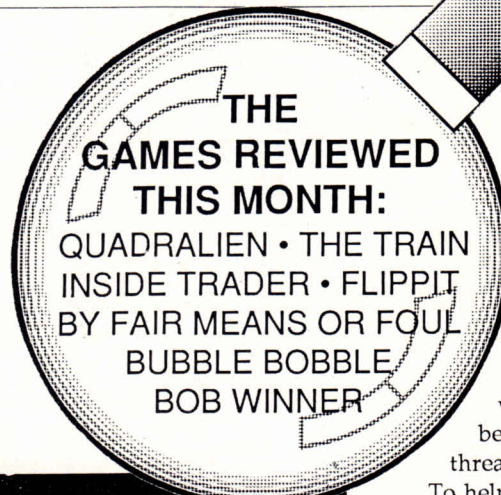
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# ACTION!

The 'Joystick Wizard' scours the Amstrad games horizon and finds the good, the bad and the ugly of current offerings.



site by either attracting or repelling energy depending upon their pairings. If they are paired incorrectly they will disperse energy all over the place. If that's not enough to worry you, the 'air' is full of radioactive material which has to be absorbed before it gets to a life-threatening level.

To help you out you have your own band of six droids. Each one has its particular redeeming feature: some can absorb radiation, some have the firepower to destroy, some are speedsters. Making the correct choice of which droid to use makes or breaks you. If a droid has absorbed its maximum amount of energy you can send it into an information booth (there's one in each room) and it's 'cleaned-out'. At the same time you can discover where the water tubes (cooling chutes) are and where there is more radiation to be removed.

Quadralien is not quite in the same league as its predecessor XOR, but still has some interesting puzzles to solve with a bit of shoot-em-up thrown in as well.

## QUADRALIEN

A Logotron sequel to XOR

PC \$69.95

Despite the fact that the importers Reckon Software 'forgot' to send us a copy for review, we still managed to get our hands on one and run it through our Amstrad PC.

Quadralien comes into the 'meltdown games' category – the sort where you have to tear around putting things right to avoid a reactor exploding. The scene in this game is set on a satellite called Astra which houses a reactor. Astra has been taken over by the evil Quadraliens, commanded by the Quadralien mother, who have allowed the reactor to get out of

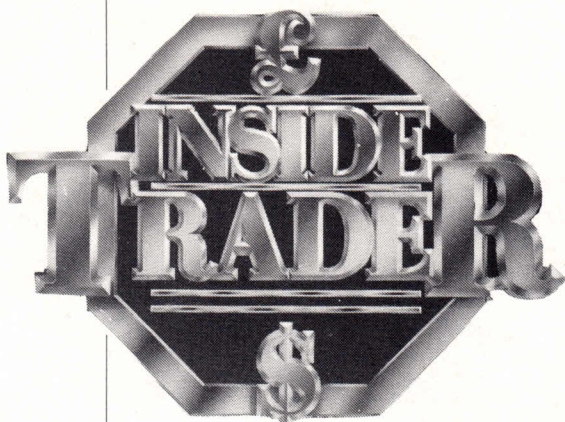
control, letting the temperature rise and the energy level fall. Your task is to sort out the mess and return the reactor to normal and finally use the controlled energy to destroy the Quadralien mother.

It all starts on the first level (obviously enough) where by pouring water down particular tubes you can keep the temperature at a more acceptable level. While this is going on DYMSEC droids (Dynamic Magnetic Systems of Entropy Control), who are responsible for keeping things going on Astra, appear to be doing the oppo-

## INSIDE TRADER

A game of illegal Stock Exchange dealings from Microprose

PC \$59.95



In the real world of the US Stock Exchange or any other Exchange for that matter, 'inside trading' is strictly illegal. To his cost, Ivan Boesky was caught by the Securities and Exchange Commission (SEC) trading in shares about which he had privileged information. The film "Wall Street" was based on a similar theme as this game.

The plot is fairly simple. You are presented with \$50,000 at the beginning of the game and must invest your way through to untold riches. The screen consists of, on the right, a continuous update of the

top 100 listed companies in 'ticker-tape' form, a command line at the bottom and the rest of the screen a Wire Service Window. The latter is where news reports and messages from dubious or otherwise characters will appear. To buy and sell shares is easy with the commands provided, so too is getting a run-down on your portfolio.

You become an inside trader when you begin to pay for inside information and things can become decidedly dangerous. You can never be sure that the information you are getting is going to be accurate,

especially with all the crooks around who ask for a great deal of money for the info. Then there are the (rather too frequent) messages telling you that the stocks you hold

have just lost their value. But the most damaging effect to your investment potential is made by the SEC who can fine you enormous sums if they find out you have been

trading illegally.

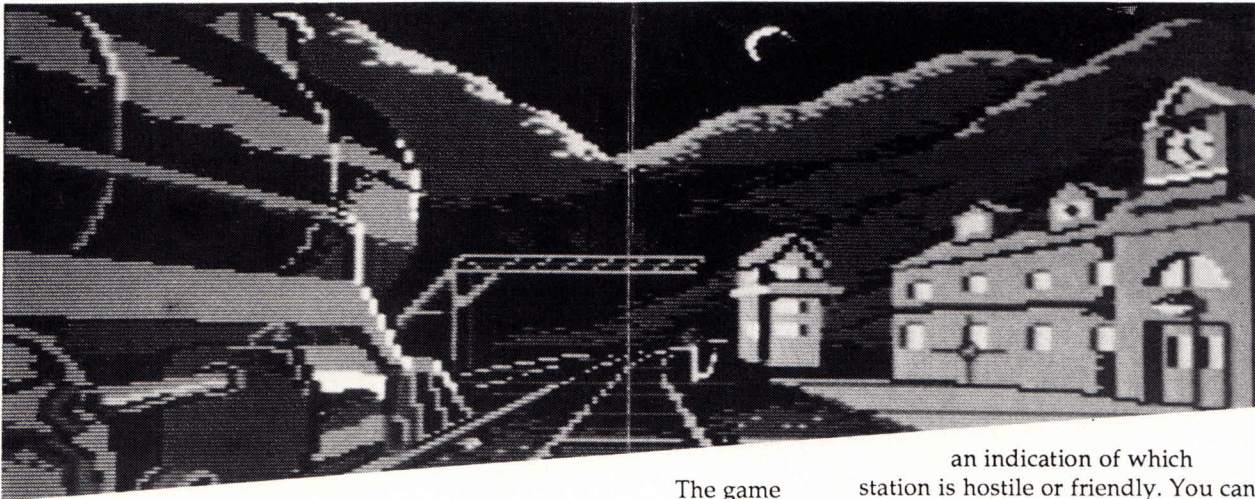
Inside Trading was not exciting enough to keep me engrossed. It's a game where luck plays a large part and little skill is required.

## THE TRAIN

A simulation in wartime Germany from Electronic Arts

CPC Tape \$29.95

CPC Disc \$44.95



As far as I remember, the idea behind this game could be based upon a film by the same name which starred Ole Blue Eyes (Frank Sinatra for you younger readers), there again I could be wrong. The film was exciting though and this game has the same potential.

It concerns a plan by the occupying German army to transport the best of France's art treasures to Berlin. Your task is to thwart the attempt by capturing the train and returning the treasures to the advancing allies at Riviere.

The game starts with you providing covering fire for your accomplice - Le Duc - who needs to throw a switch to allow the train to move out of the siding. The enemy keeps popping up and the best form of defence seems to be attack first. You may find this part a little difficult to master at first, but persevere. When Le Duc has thrown the switch he needs cover to run back again. At this point you get to choose the level of difficulty.

The game now changes to the simulation part, and a new screen showing the cab is presented. You need to get the engine steamed up ready to go, and for this purpose a number of things are provided: a throttle, furnace, brake, forward/reverse lever, steam blow off and whistle. To monitor this you have three dials showing steam pressure, speed and engine temperature. You need to stoke the engine with coal and keep the pressure up, but not too much or the engine will blow up. Excess pressure is released through the blow off lever. You can change direction by using the forward/reverse lever but you must stop first otherwise you wreck the gears and will only be able to go one way.

Pressing keys 1 to 4 selects different views: the front gunner, rear gunner, cab or map. As the Germans become aware of your escape to freedom, they obviously throw as much at you as possible, but without damaging the track which they will need for their retreat (that's lucky!). The map gives

an indication of which station is hostile or friendly. You can try to run straight through the hostile stations if you like, but don't do the same across enemy held bridges - you will lose. You have to stop first and pick off the boats in the water before proceeding.

Scoring is based upon shooting enemy planes, taking enemy stations and bridges and protecting your train from damage. The journey is not exactly straight - you will find it necessary to switch tracks. This is achieved by sending signals (one to three whistle blasts) to the resistance who will change the points and subsequently your direction. You also need to stock up on coal and water at convenient stations, in other words either friendly stations or those that have been captured.

Overall, the game has a lot to offer - plenty of action (the enemy seem to have a limitless supply of planes) and the steam train simulation aspect. The graphics and sound are good (green screen owners may have trouble in the station) with lots of scope and challenge at the higher levels.

# BUBBLE BOBBLE

The arcade conversion from Firebird

CPC Tape \$29.95

CPC Disc \$49.95

Now and again, a game appears on the Amstrad screen which on the surface seems much like the other games, but once you're into it becomes so addictive most other games pale into insignificance. Bubble Bobble comes into this category. It features a simultaneous two-player option.

The heroes are two brontosauri called Bob and Bub who progress through 100 levels, moving to each new level by destroying all the nasties on the current screen. This is done by blowing a bubble to trap the bullies (nasties) and then bursting it. Each level consists of platforms, from which falling off, for a change, don't lose you a life. The bullies of course are there to stop your progress. There are seven types (Benzo, Boa-Boa, Blubba, Bonnie-Bo, Bonner, Boris and Baron von Blubber) all intent on devouring either Bob or Bub. Boris has a habit of spitting rocks at you and Baron von Blubber (who is un-bubbleable) will appear from nowhere if you

have spent more time than is necessary on a particular screen.

The bubbles may also contain water, thunder, fire or be empty. Bursting the latter will add ten points to your score; the one with water will provide a flood destroying everything in its path; the fire bubble will drop a flame which kills anything it touches and bursting the thunder bubble releases a lightning bolt which will destroy anything which gets in its way.

Scoring is increased with bonuses which appear after a bully bashing session, and the more you destroy in one go the larger the bonus. A massive 32000 points can be added if you manage to make a diamond appear (but you need to destroy an awful lot of bullies in one hit to get that). Completing a level quickly will also give you a chance at extra points.

Magic potions or objects appear briefly from time to time. There are six: one provides speed of movement, another presents a screenful

of treasures. A third lets you 'bubble' at high speed engulfing everything, a fourth decimates everything on the screen, a fifth provides a 'bully freeze' and the last will allow you to shoot fireballs.

Even more points can be scored by collecting certain letters to spell 'extend' thus gaining more lives. On the subject of lives, eight are provided at the beginning of the game. If two players are involved and one 'dies', that player can re-enter the game by claiming one of the eight life credits.

The graphics are colourful and green screen owners will have no problems in identifying the characters. The sound is nothing special and is confined to beeps and bouncing noises. But who cares! The addictiveness of this game is what makes it a success. I haven't found anyone who has played it just once.

*(Although available as a single game on tape or disc for the CPCs it also appears on the Taito Coin Ops Hits in tape format).*

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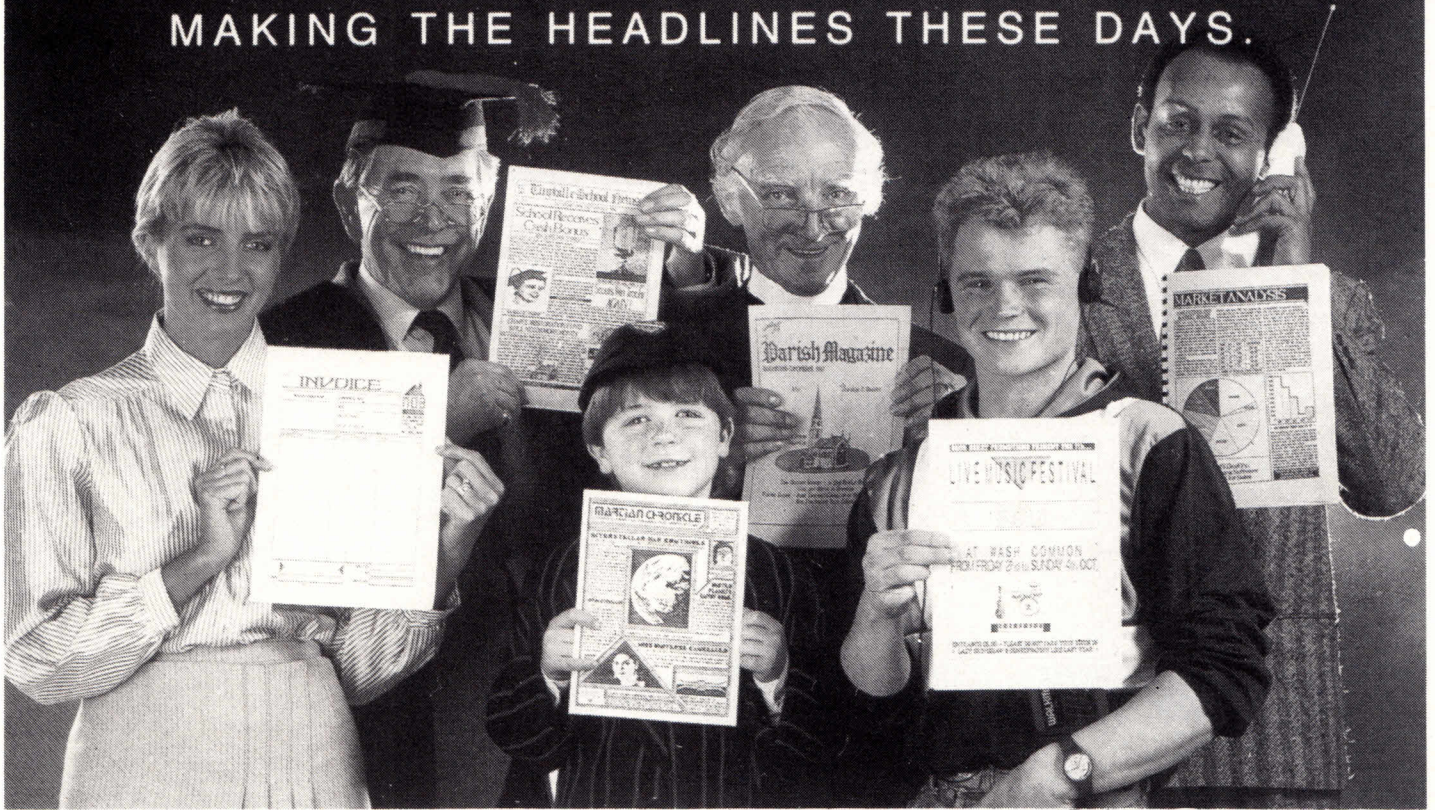
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**BY FAIR MEANS OR FOUL****A boxing simulation in which you can cheat****CPC Tape \$29.95****CPC Disc \$44.95**

If you thought that *By Fair Means or Foul* was just another boxing game you would be mistaken. The title alone should give you a clue. And like many sports, the results in this game from Superior Software all depend upon whether the referee is looking at you or not!

The screen consists of a boxing ring with you and your opponent plus a referee. At the top of the screen in each corner are displayed

and at the start the damage bars are set to a green colour. The object is to get more points than your opponent by the end of the match or to have reduced his 'chances' to zero. Each player has five 'chances' at the start of the match and these are reduced by one when a round is lost or the player is caught fouling his opponent. As the match progresses, the damage bars slowly change to red reflecting the amount of blows a player has received. When it is

Naturally, each opponent becomes tougher as you progress.

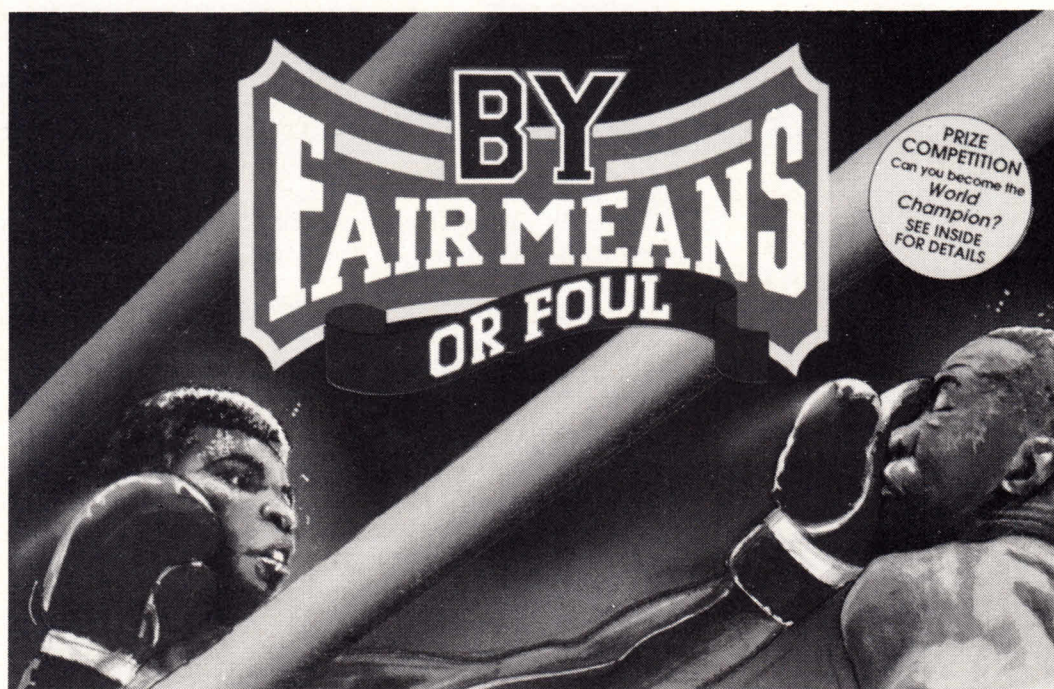
Of course, you can always play fairly, but then any boxing game will do. Where this one differs from the rest is that you can cheat. The opportunity arises if you keep one eye on the outlined figures at the top of the screen on either side. They can be any one of three colours. If yours is red this means that you must play fairly as the referee is watching you. If it's

orange then you can chance a foul and you may get away with it. If it's green it's no hold barred with kicking, butting and any other foul you can think of. Fouls are more fun and score better by inflicting greater damage on your opponent than fair play punches. There are sixteen possible moves you can make by joystick or keyboard and you also have the chance to block punches.

The graphics are well designed and colourful (no problems for green screens) with humour to boot. The

crowd in the background provides atmosphere with odd comments, cheering and jumping up and down after each round.

*By fair means or foul* is refreshingly different from standard boxing games. You can cheat and so can your opponent, which makes it much more than just a punch and grunt game and more exciting. The opponents too are quite a handful which adds to the interest. I like it!



two small outlined characters (more about these later) with the number of 'chances' each player has left inside them. In the centre of the screen above the ring is a board with the round number and below the ring are two bars which indicate the damage each player has received. In between the bars is a clock which counts down the time for each round.

There are fifteen rounds to a fight

completely red that player is knocked down and loses a 'chance'. Alternatively, the player with the most red showing at the end of a round will lose a 'chance'. If you are the winner and defeat Mild Martin in the Junior section you go on to the county level and have a go at Steady Eddie. Success against him will take you on to Deadly Dan at the World Championships and in all there are six opponents to fight.

**BOB WINNER****High speed, thinking man's shoot-em-up from Loricels****CPC Disc only****\$39.95**

The frogs seem to have given up on mankind. In this new release from the impressive French company, Loricels, humanity appears to be the enemy and the good guy is an android. Our manly metal marvel is dying to get the answer to an as yet unsolved mystery, but some people don't think he should. The scene is set for some merciless confrontations.

Set in 1934 when men were men and androids were not supposed to have been invented yet, Bob Winner is an addictive game that keeps you coming back until you either win or give up in frustration. It's one of those games where the harder you try the more likely you are to make a silly mistake and lose another precious life. These lives really are precious too. Bob Winner, being an android and possibly feeling somewhat inferior, has been endowed with nine lives, and if you want him to win this game you'll need all your feline ferocity up front. At any moment, you could be sinking in quicksand where there's simply nothing you can do, ducking killer bees where all you can do is stay down, jumping barrels, volcanoes or bounding rocks, or copping a hiding from either a French kickboxer, a Brit who packs a mean punch or a cowboy whose colt rarely misses.

Your aim is to kill each of these three meanies twice. To do this, you need to find something to fight them with. At vaguely random times in the game a gun, a boxing glove or a boot fall out of the sky and when you pick these up you are able to fight the fiends. It appears they each have two lives, or do they get resurrected? Anyway, once you've killed one of these three people twice, he will leave a very precious key. Repeat this slaughter again twice (six killings in all) and you should have all three keys. With these you enter a temple that

is at the end of the scrolling screens where you will have to answer a puzzle and... um...*(To be truthful I never got this far!)*

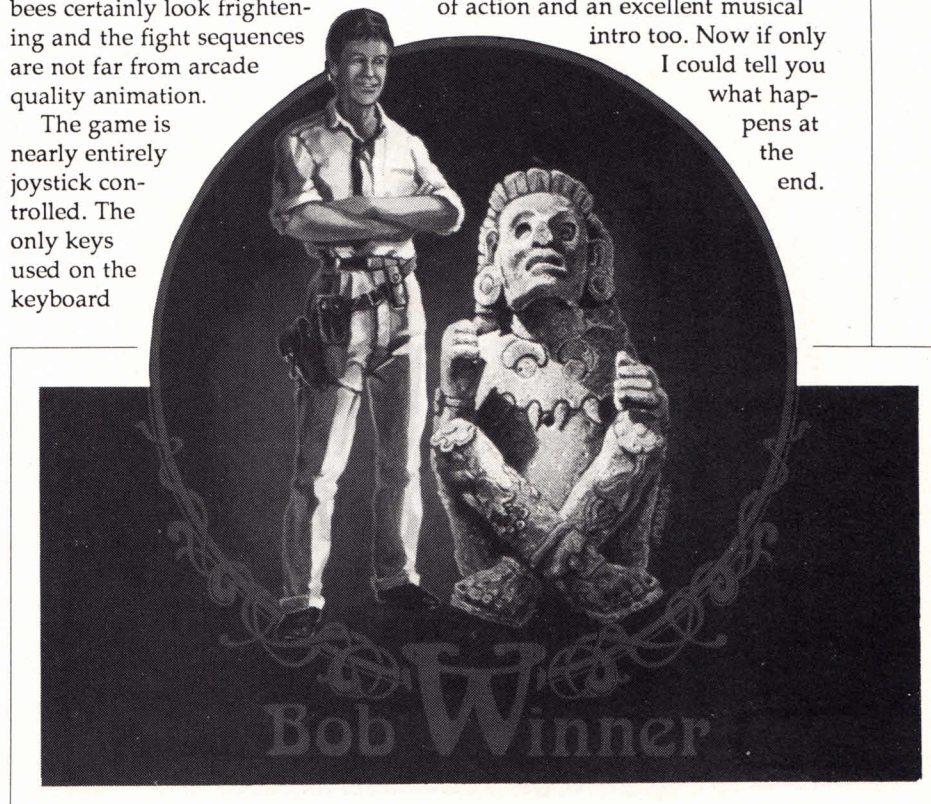
The game is set up as a long series of scrolling screens going either to the left or right (watch the scrolling action - it's very impressive). The player's view is a profile of Bob and one screen width's worth of scenery. Depending on where you are in the game you might be seeing the Eiffel Tower, Big Ben or a deserted street of New York. The colour design is such that not a lot is lost on a green screen. In fact, in colour on the 6128, everything during the game is a tone of amber or brown. This is not a criticism, rather the colour gives the setting a certain mood that is reminiscent of those early brown Deguerro photographs, and this is clearly the intention. The graphics are life-like and accurate; the killer bees certainly look frightening and the fight sequences are not far from arcade quality animation.

The game is nearly entirely joystick controlled. The only keys used on the keyboard

are the spacebar, for entering combat mode and [P], to pause the game. A little trick is to press pause when faced with say, a flying knife. That way, you have time to rehearse the joystick moves before Bob loses a vital part of his plastic anatomy. That brings me to another fiddly bit. Although you are mostly just using the joystick and the fire button, the use of the joystick differs depending on what mode you are in. There are four modes: walking, kickboxing, boxing and firing. Each of these is again divided into two, depending on whether the fire button is pressed or not. Sounds complicated? Don't worry - you get used to it pretty quickly.

All said and done, Bob Winner is a winner and the 'Bladerunner' characters are soon beatable. But can you imagine Harrison Ford kickboxing?? Loricels have released a quality game with personality, loads of action and an excellent musical intro too. Now if only

I could tell you what happens at the end.



**FLIPPIT****Reports of cerebral hernias up following Splash release****PC \$39.95 CPC Disc \$29.95****CPC Tape \$24.95**

There's a couple of guys out Perth way who are beginning to make the game writing establishment look up and then look up again. They call themselves Splash and if we can use the bucket of water analogy, in the computer games market, the ripples at least are becoming noticeable. Their latest piece is called Flippit.

The moral of Flippit, if games can be said to have morals, is that there is a hard and an easy way to do everything. Have a closer look at this Splash creation and you'll see what I mean.

Flippit is a brain teaser somewhat in the Rubik's Cube genre. For instance, in both of these the closer you think you're coming to solving the puzzle, the further in many cases you really are. Those readers with a history of mental instability steer clear.

In essence, Flippit is a simple game. The playing screen includes two boards of sixteen tiles each, both arranged as squares (4 by 4 tiles). One board is yours, the other smaller one is the solution board, which you must attempt to replicate exactly. To replicate means to get each of your sixteen tiles facing the same way as those on the solution board. Your aim is to do this by flipping the least tiles in the shortest time possible. There is, of course a hitch. Flipping a tile will cause a number of others to flip as well. Worse still, which tile when flipped will cause which other tiles to flip is not always immediately apparent. I'm going flippin' nuts!

To make things visually slightly less stressing, our friends at Splash have put pretty little pictures and patterns on the tiles - one on the top side and one on the bottom side. And so one doesn't get bored the patterns change each level.

Are you still with me? There are two ways I discovered, of playing. Be stupid and flip any tile at any time in the hope that you'll crack the solution by fluke, or think before you start and proceed cautiously, watching what happens to the other tiles as you flip one of them. As I mentioned earlier, flipping one tile will cause a set of others to flip at the same time - no more than four (I



think). To be honest you could never memorize the effect of a flip on any tile for any level in the game, so isn't that a bit unfair? Yes, except there would appear to be still an easier way. Now I wouldn't want to spoil all the fun so it suffices to say this: think laterally - think like the programmer who had a sense of humour. Level one, for instance can be done in one move if you know which tile to flip.

Game play can be controlled in one of three ways (as far as I know): using the arrow keys to select a tile and the spacebar to flip, using the mouse, or using an Amstrad style joystick plugged into the back of the keyboard. Using the mouse proved rather difficult, because the tile cursor was ULTRA responsive to any movement. Mention is actually made in an accompanying flyer that Flippit was not originally designed for a mouse. However the keyboard and the joystick proved quite satisfactory.

When you buy Flippit, make sure you don't lose anything from inside the box. Among other bits of paper is a crafty little thingy called a 'Paper Dongle'. It consists of a piece of cardboard with rows of letters

and numbers printed on it, wrapped in a piece of paper with a few holes in it. This is important! When you run the game you are asked to set box #1 (the first hole) on the Dongle to a given number and then type in two other corresponding letters you will see through two of the other holes. If you can't do this or you've lost the Dongle the game will go no further and you will politely be told

where to go. Splash don't like pirates, it would seem!

To keep you coming back, there are a whopping 105

preset levels to conquer, and if you still aren't satisfied, Flippit then continues by creating randomized versions of each level. So you really never run out of levels. In view of the fact that one can quite easily get carried away playing this game, our concerned friends at Splash incorporated a Boss Key into the program. Now, should the company president walk into the office right in the middle of level 99, just press [F10] and you're working assiduously on an elaborate spreadsheet! Press [F10] again and the game resumes. Never did a spreadsheet look so good.

There is clearly room for improvement in the graphics department. I was a little disappointed here and didn't feel justice had been done. At times the two patterns on each tile got very alike, making it a little difficult to distinguish between the pattern on my board and the solution board next to it. All said and played, Flippit is an enjoyable game that will test your skill and your understanding of spatial relationships. It won't win awards for excellence but Flippit will in its own way keep you satisfied. It's Australian and fun and makes me dread what Splash have coming up.



Those of you who have stuck with us steadily since the first article in this series have shown admirable patience, and deserve to actually see some concrete results. It is high time we got down to a few specific routines for the data base - although even some of these may well prove useful in other programs !

#### "MAIN LINE"

In a structured BASIC program the first few lines (in our standard pattern lines 10-99) constitute what is generally called the "main line" or "main loop" of the program. They form a kind of summary of the whole program for anyone reading it. If you look at either our old friend "Skelator" from the first article, or the testrig program TRIAL2 that you should have from the last two articles you should see what we mean. Practically ALL programs in fact follow a very similar pattern, which we can summarise as follows :

1. Initialise
2. Choose function (e.g. by a menu or command structure)
3. Branch to the chosen function
4. Repeat function ? (if so loop to 3.)
5. Another function ? (if so loop to 2.)
6. End

This is what is called a "logical" model - what this means is that it represents WHAT actually happens rather than attempting to explain exactly HOW it happens. In practice steps 4 and 5 may often be better placed in a physical sense within the structure (making "repeat function" either a menu option, or a yes/no choice within the routine - and inverting "another function" by including a "leave the program" option in the menu). We will do this, as it makes the main line even simpler to read. Here then are the first few lines of our program (note our introductory REMs).

```

1 'STRUCTURED DATA
2 ' A simple filing system written to demonstrate
3 ' the principles of structured programming
4 '
10 GOSUB 1000 ' Initialise
20 WHILE NOT finished
30   GOSUB 2000 ' Menu
40   ON choice GOSUB 3000,4000,5000,6000,7000,8000,9000
50 WEND
70 GOSUB 14000 ' close files etc.
80 CALL 0

```

It is a good idea to temporarily substitute "END" for "CALL 0" in line 80 - this will make your program rather more secure (!). What CALL 0 does, as you probably know, is to completely reset the computer - this is the best way to terminate a program, but not

# DOWN TO THE NITTY GRITTY

Returning to his series on structured programming, Paul Gerard finally lets us get our hands dirty on the keyboard. So what's in store this month?

necessarily very helpful if you are trying out something you have spent the last three hours perfecting BEFORE saving it !

You may notice we are following Skelator fairly closely, although it is really no more than a general guide. We may well eventually have more options available from line 40 - on the other hand we may prefer to have the options call their own sub-options. Having a more or less rigid line number allocation plan seems inefficient - it does mean that many line numbers will be "wasted", while others will be "squashed" (see our subroutine 200 for example), but then we can always RENUMber all the lines when we have finished. In the meantime knowing exactly which line number starts which routine is a tremendous help in finding your way about while writing and debugging the program, not to mention making it easier to substitute alternative versions of routines using MERGE.

Incidentally, while we are on the subject of line numbers, it is conventional wisdom in many quarters never to GOSUB (or GOTO) a REM line. The only rationale for this that I have ever been able to fathom is that it makes it easier to omit all the REM lines from a "running version" of the program. Personally I always ensure that any line that is the address of a GOSUB (or, even more, a GOTO) is a nice clear REM, which will NOT (ever) be omitted. It depends which you value most, the small difference in program size (and hence speed, as well as space for data) gained by wiping REMs from your finished work, or the gain in program legibility from having all subroutines and GOTO loops clearly and permanently labelled. You pays your money and you takes your choice. It is part of the philosophy of this series that readability is far more important than small differences in performance, but if your choice is still the "wipe the REMs" one, then it makes sense to number the REM labelling (say) sub routine 200 as 199. To me this would however still be confusing, fiddly and generally more bother than it is worth, even if it didn't produce harder to read source code. (Programmers, as you may have noticed, often

## STRUCTURED PROGRAMMING

become opinionated and dogmatic and generally difficult - it is probably the effect of long term excessive caffeine consumption !)

Type in the above main line (as I said, make line 80 "END" for the time being) - then merge the following subroutines from your "library" into the program -

```
100 (heading)
200 (User input)
500 (Yes/no)
600 (mode change)
2000 (menu)
```

If you do not have these, then get hold of the last six back copies of the AMSTRAD User ! The initialisation and DATA lines section is (more or less) new, and is as follows :-

```
1000 'initialise
1010 GOSUB 10000 ' set inks
1040 GOSUB 13000 ' initialise variables
1060 mde=1:GOSUB 600 ' set mode & windows for s
tart
1090 RETURN
10000 ' set inks etc.
10010 INK 0,23 ' light background
10020 BORDER 23 ' matching border
10030 INK 1,1 ' default & mode 2 writing
10040 INK 2,0 ' black writing
10050 INK 3,11 ' light blue writing
10090 RETURN
13000 ' initialisation of variables etc.
13010 DEFINT a-z
13015 ' Boolean operators
13020 TRUE=-1:FALSE=0
13030 ' User.input
13040 DIM control$(12)
13050 RESTORE 40000
13060 FOR i=1 TO 12:READ control$(i):NEXT 'User input
control
13070 user.input$=STRING$(254,"#")
13080 byte$="#"
13090 menu.number=1
13100 ' Menus
13110 DIM menu$(19)
13120 RESTORE 40100
13130 FOR i=1 TO 19:READ menu$(i):NEXT 'Menu values
13140 DIM menu.length(6)
13150 FOR i=1 TO 4:READ menu.length(i):NEXT 'Menu leng
ths
13160 DIM start(6)
13170 FOR i=1 TO 4:READ start(i):NEXT 'Menu star
ting points
13200 ' Headings
13210 DIM heading$(5)
```

```
13220 RESTORE 40200
13230 FOR i=1 TO 5:READ heading$(i):NEXT 'Heading valu
es
13900 RETURN
40000 ' DATA for control$(n)
40010 DATA "YN","123","1234","12345","123456","1234567"
,"12345678","123456789","1234567890","ABCDEFGHIJKLMNQPQ
RSTUVWXYZ","abcdefghijklmnopqrstuvwxyz ABCDEFGHIJKLMNQP
QRSTUVWXYZ","1234567890.,;:&'()abcdefghijklmnopqrstuvw
xyz ABCDEFGHIJKLMNQPQRSTUVWXYZ"
40100 ' DATA for menu$(n)
40110 DATA "Instructions","Open a new data file","Acces
s an old data file","Change drive (A/B)","Catalogue thi
s disc","Leave this program","Name the file","Define nu
mber of fields","Name fields","Leave this function","Ad
d records","Save file structure"
40115 DATA "Edit record","Display file","Find record","
Search file","Calculations","Save file","Print file/sea
rch"
40120 ' DATA for menu.length(n)
40130 DATA 5,3,6,9
40140 ' DATA for start(n)
40150 DATA 1,7,10,10
40200 ' DATA for heading$(n)
40210 DATA "Main Menu","New Data File","Defined data fi
le","Old Data File","Catalogue","Instructions"
```

By all means change the INK commands if you don't like the colour scheme produced by the ones I have put at 10000 - . Colour is after all entirely a matter of taste and it is your program. Don't give yourself eyestrain, however, check that your effort produces readable text in mode 2 ! You will also need this line in the menu routine :

```
2095 choice=VAL(byte$)
```

"Skelator" suggested a little loading tune to go at subroutine 12000 - by all means insert one if you like. We could also set up special characters with SYMBOL statements at 14000. Don't use SYMBOL AFTER unless you really have to (e.g. if you are setting up a whole new font) as it runs off with some memory.

Finally, what about a nice neat MODE 0 title screen with big letters, pretty colours and perhaps even a few simple graphics ? Perhaps not in this case, as memory is precious when we are going to load data files into RAM, but then it is entirely up to you. Remember that a line like:

```
14010 mde=0:GOSUB 600
```

is how you will set up mode 0.

A little sub-initialisation routines you add will need to be called from our "master" initialisation

routine at 10000, naturally.

There is no need at all to include the subroutines 50000 and 60000 in this program, as they were simply test modules, and should by now have done their work. Here however are two more minor but useful little routines. The first pauses for a moment or two (just how long is controlled by the variable "t!") and the other is a "Press any key to continue" routine. The exclamation marks (!) in "t!" and "pause!" are necessary as these are real numbers (remember?). I will not bother you with a test rig for these two routines - partly because they are so simple and partly because you should be able to test them yourself by now!

```

700 ' pause routine
710 pause!=TIME
720 WHILE TIME<pause!+t!:WEND
740 RETURN
800 ' press any key
810 CLS#1:PRINT#1,TAB((modewidth-13)/2)"Press any key"
820 control=12:length=1:PEN 0:GOSUB 200:PEN 1
830 CLS#1
840 RETURN
    
```

If you run the program (save it first!!) you should get a nice menu display - then when you input your choice you will get a nasty "Line missing in line 40" message. Never mind, next month we will start filling in the gaps, and learn how to write a "stub".

### AN ALTERNATIVE MENU ROUTINE.

The menu routine we have in subroutine 2000 is quite a workable one - however here is an alternative you may prefer. Some people find that a "single keystroke" menu is a little drastic - this one is a little more forgiving, and manages to be slightly prettier too. Try it in TRIAL2, or the start of your database program, and if you prefer it then save it instead of the existing routine at line 2000. To do this (just in case you are at sea) save the new routine as an ASCII file with SAVE <filename>,a - then load TRIAL2, delete lines 2000-2999, and finally MERGE your saved ASCII file with TRIAL2. Now there's something you can't do with unstructured code! If you add this line to the program you will be able to move the highlighting with the cursor keys as well:

```

13065 FOR i=2 TO 9:control$(i)=control$(i)+CHR$(240)+C
2000 ' menu routine (Version 3)
2010 mde=1:GOSUB 600 'set mode
2020 head=menu.number:GOSUB 100 'print heading
2030 choice=1
2040 FOR i=1 TO menu.length(menu.number)
2050 LOCATE 7,5+(i*2):PRINT STR$(i)". "menu$(i+start
(menu.number))
2060 NEXT
2070 CLS#1:PRINT#1," 1-STR$(menu.length(menu.number)
    
```

```

)" to select - [RET] to execute"
2080 WHILE NOT doit
2090 LOCATE 7,5+(choice*2)
"STR$(choice)". "menu$(choice+start(menu
"
2100 control=menu.length(menu.number)-1:length=1:PEN
0:GOSUB 200:PEN 1
2110 IF VAL(byte$)<>choice
THEN LOCATE 7,5+(choice
*2)
:PRINT STR$(choice)". "menu$(choice+start(menu.numbe
r))
2120 IF byte$=CHR$(240) THEN choice=choice-1
ELSE IF byte$=CHR$(2
41) THEN choice=choice+1
ELSE IF VAL(byte$)>0 THEN choice=VAL(byte$)
2130 IF choice<1 THEN choice=menu.length(menu.number)
ELSE IF choice>menu.
length(menu.number) THEN choice=1
2140 IF byte$=CHR$(13) THEN doit=TRUE
2150 WEND
2160 RETURN
    
```

### A DISC-MENU PROGRAM

The following is a complete listing - if nothing else it shows that no programming task is too small to benefit from a structured approach. To make it easier to type in I have RENUMbered it, and you will notice that it is basically an extension of the above menu program. For obvious reasons I have abbreviated some of our standard routines - since the program is so simple it doesn't need our fully flexible text input routine (for example). To install it on one of your own discs add the names of your programs and the relevant file names to the DATA lines, as well as the number of programs on the disc.

An even neater trick is to put all the data into a data file and read it (using INPUT#9) into the arrays. This means that you can have the same program on all your discs, with a different data file for each. You will have to write a little program to create the data files of course, but then that should be well within your capabilities by now (?). If not, then don't worry, because soon we will have a look at file handling, and apply this to the first few "real" routines of our data base program.

```

10 ' DISC MENU PROGRAM
20 '
30 ' structured, too !
40 '
50 GOSUB 270 ' Initialise
60 WHILE NOT finished
70 GOSUB 320 ' Menu
80 RUN program$(choice)
90 WEND
    
```

```

100 CALL 0
110 ' Heading routine
120 PRINT#2,TAB((modewidth-LEN(heading$))\2)heading$
130 RETURN
140 ' User Input Routine (abbreviated)
150 byte$="#"
160 WHILE byte$="#"
170   MID$(byte$,1)=INKEY$
180 WEND
190 RETURN
200 ' mode change (Version 1.0)
210 MODE mde
220 modewidth=(2^(mde+1))*10
230 WINDOW#1,1,modewidth,25,25
240 WINDOW#2,1,modewidth,1,1
250 WINDOW#3,1,modewidth,2,24
260 RETURN
270 'initialise
280 GOSUB 500          ' set inks
290 GOSUB 570          ' initialise variables
300 mde=1:GOSUB 200    ' set mode & windows for st
art
310 RETURN
320 ' menu routine (Version 3 abbreviated)
330 mde=1:GOSUB 200 'set mode
340 heading$="My Disc Menu":GOSUB 110 'print heading
350 choice=1
360 FOR i=1 TO 5
370   LOCATE 12,5+(i*2):PRINT STR$(i)".  "menu$(i)
380 NEXT
390 CLS#1:PRINT#1,"  1-5 to select - [RET] to execute"
400 WHILE NOT doit
410   LOCATE 12,5+(choice*2)
420   PRINT "X"STR$(choice)".  "menu$(choice)"X"
430   PEN 0:GOSUB 140:PEN 1
440   IF VAL(byte$)<>choice
                                     THEN LOCATE 12,5+(choice
*2)
                                     :PRINT STR$(choice)".  "menu$(choice)
450   IF byte$=CHR$(240) THEN choice=choice-1
                                     ELSE IF byte$=CHR$(24
1) THEN choice=choice+1
                                     ELSE IF VAL(byte$)>0 THEN choice=VAL(byte$)
460   IF choice<1 THEN choice=5
                                     ELSE IF choice>5 THEN
choice=1
470   IF byte$=CHR$(13) THEN doit=TRUE
480 WEND
490 RETURN
500 ' set inks etc.
510 INK 0,23          ' light background
520 BORDER 23        ' matching border
530 INK 1,1          ' default & mode 2 writing
540 INK 2,0          ' black writing
550 INK 3,11        ' light blue writing
560 RETURN
570 ' initialisation of variables etc.
580 DEFINT a-z
590 ' Boolean operators
600 TRUE=-1:FALSE=0
610 ' programs
620 DIM menu$(5),program$(5)
630 RESTORE 660
640 FOR i=1 TO 5:READ menu$(i),program$(i):NEXT
650 RETURN
660 ' DATA for menu$(n),program$(n)
670 DATA "Eliza","WAITING.BAS","Hangman","HANGMAN.BAS",
"Village","VILLAGE.BAS","Jumble","JUMBLE.BAS","Trucking
","TRUCKIE.BAS"

```

# ~~CORRUPTION~~

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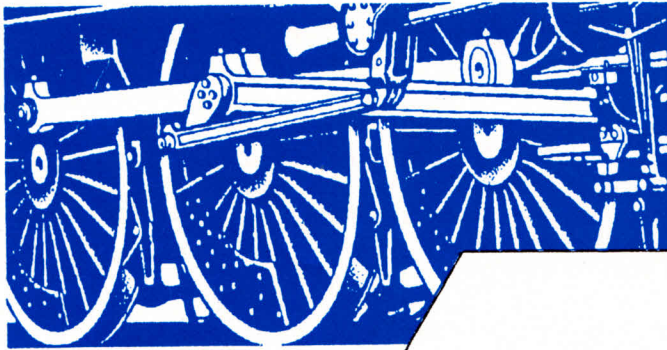
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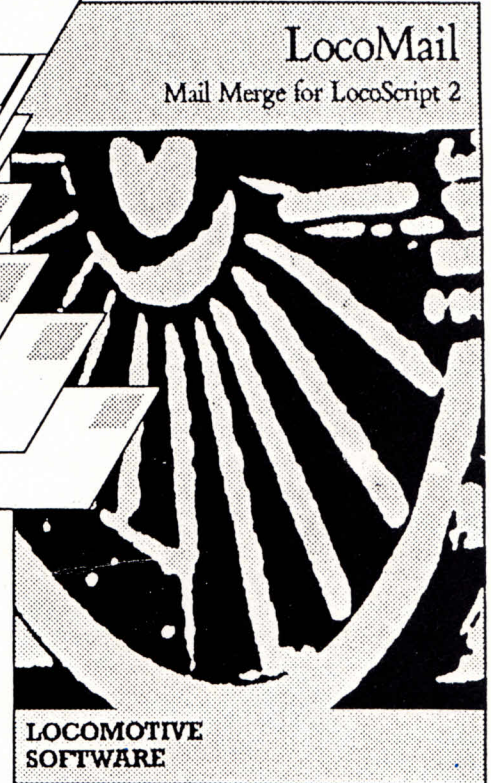


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# SERENDIPITY

Joseph Eikhorne explains the benefits of investigating Public Domain software and leaves us with a useful disc utility program.

**S**erendipity — n. faculty of making happy discoveries by accident (coined by Horace Walpole, the English writer) source: The Australian Pocket Oxford Dictionary.

This column will hopefully contain many happy discoveries, and few accidents. Serendipity often occurs when one approaches the computer from the viewpoint of a hacker: what happens if . . . ?

Frequently, there are nasty accidents, too. But, as you cannot hurt the machine by trying things, it is often the best way to learn. In the bad old days of early mainframe machines, the user was divorced from hands-on experience with the computer. He or she submitted a stack of cards to the "high priest" computer operator, and waited patiently for the results.

We sometimes forget how lucky we are, to have convenient machines like our Amstrads, available at our beck and call. To appreciate 'that was then, this is now' I recommend the book "Hackers, Heroes of the Computer Revolution" by Steven Levy, available in Dell paperback.

In the coming months, we will be looking at Public Domain software. I also plan to present original listings, tips and general information, and will try to answer reader queries. If a positive response is forthcoming, I will begin a tutorial series on machine language programming under CP/M.

## PUBLIC DOMAIN

What is Public Domain software? Where do you get it? What can you do with it?

PD software is user-written and available either free or at nominal cost, generally to cover media copying and library administration. Sources include user group libraries, computer bulletin boards and commercial companies.

It all began in computing's pioneering days, spoken of in "Hackers". Little commercial software was available; every routine and subroutine was a breakthrough to be shared with fellow workers. PD may or may not be copyright. Some PD software originates from commercial outfits releasing test versions of programs. Bugs which show up in real-world use are corrected, and the improvements are incorporated in the "for sale" release.

Other programs are "Freeware", introduced by software writers for no financial gain. In some cases, their occupations do not permit outside income. Others are enthusiasts, computer hobbyists wanting to share their

efforts generally.

"Shareware" describes programs released into the Public Domain by authors retaining copyright and hoping for donations from satisfied users. This try-before-you-buy PD approach avoids the overheads associated with conventional software houses. Registration of a Shareware package frequently benefits you with the latest release disk, a professional copy of the user manual, and user support. Fees are quite modest, compared with 'name' software packages and often the product is better.

One of the real beauties of PD software is the existence of source code. Not only do you get a working program, but you can see how it was achieved, or modify it to suit yourself. A word of caution: change the software as you please, but do not distribute your changes without permission. PD software can be copied and given to your friends, but not sold.

Documentation can vary widely with PD. The .DOC file that comes with PC-Write, an excellent word processor, ran to over 100 A4 pages and included an index. Some of the first CP/M PD material I saw was little better than rubbish! There are CP\M collections and MS-DOS libraries. I discovered a you-beaut Melbourne source which only charges \$5.00 a disk for MS-DOS material (to members). Annual membership costs \$40.00, for which you get an elegant loose-leaf catalogue, with monthly updates. Membership renewal is \$30.00.

With over 1500 disks to choose from, there is something for everyone. Categories include: artificial intelligence, bulletin board software, business applications, communications, computer education, databases, desktop managers, education, entertainment, financial applications, games, graphics, home applications, languages, maths/scientific, reference materials, special applications, spreadsheets, word processors, screen utilities, disk utilities, security and general utilities.

Today, I would like to recommend two PD programs: CHASM, and BridgePal. CHASM stands for Cheap Assembler. At \$5.00, unregistered, it is certainly that. What is more, it works. Not only do you get an assembler, but a 99-page user manual file, an 18-page primer, and some utility programs with both .ASM and .DOC files. Testing one of these proved it worked. I then modified the code to change hard carriage returns to soft ones, so I could process PD document files more easily in WordStar.

As some of you know, WordStar will allow you to do this using Control-6 — on each and every line. Being a lazy sort, and not necessarily wanting the paging that the document originator had done, I modified the appropriate .ASM file to achieve the end result. Now, one DOS command will do it.

I have written the CHASM author for permission to use the modified program in this magazine and hope to present this little technique in the near future.

The second PD offering is BridgePal. After a hard session of hacking, a little relaxation with a game could be in order. BridgePal is just the thing for the contract bridge

player who cannot find three other people at any given time for a swift rubber or two. This program gives you bidding practise and allows you to sharpen your play strategy. Options include random hands; best hand dealt to yourself, if you want it; bidding help and point count help; quit; relay same hand; and auto finish.

Solo bridge is for one player; two players can take turns alternatively on random hands. A third option offers duplicate scoring for two, with the same set of hands dealt to both players. Bidding is quite realistic. The program understands such niceties as preempt, take out double, overcall, and the Blackwood convention.

#### LESS IS MORE

And to close, some original material, as promised. As with most of the programs I write, there is more included than minimally necessary to achieve results. The REM lines from 200 describe the format parameters. The screen printing only lets you know something is happening (middle of line 100) and is not really necessary. I look upon these examples as teaching techniques. Often, when typing in listings from magazines, it is useful to know what is going on; once the program is working to your satisfaction, the surplus can be removed. Of course, if you cannot lay hands on the issue of the magazine at some time in the future, the included comments may pay their way.

When is half the available space twice as good as what you started with? When you add a five-and-a-quarter-inch drive to an Amstrad, that's when! Alan Michael Sugar's merry men decided that only single-sided drive capability was necessary (of course it should be a three-incher, also). The disk routines in ROM cannot cope with a second side, although it is accessible from CP/M by patching the disk parameter block.

Some time back, I added a 5-1/4" (13 cm.) Mitsubishi and was content to use it for backup storage and CP/M development work. More recently, I began to chafe at the uselessness of the thing under AMSDOS. Why, I asked myself, could I not use it from BASIC or applications like Tasword?

I had read a statement somewhere like "who needs 720K BASIC programs, anyway?" Well, that seemed to miss the point. The facility of 5-1/4 storage for data ought to have been the issue. So, I set out to prove whether access was possible. First, I went to CP/M and formatted a blank disk as an eighty-track, two-sided variety. Then, I returned to BASIC, wrote some code, poked and hacked, read and cursed. Finally, I achieved some degree of success. I am now able to run this short program as a preliminary to a Tasword session, save and retrieve reliably, thus getting more value from the add-on.

There is one flaw in the procedure: The system will not write to the B drive after 360K has been used. That is, of course, the capacity of one side . . .

I admit myself to falling into the trap of believing I had more disk space available during a work session. At this

point, I abandoned further experimentation, making a mental note about the "bug". It works for me.

Perhaps it will assist other Amstradders, or even lead to someone else's improvement on the technique.

P.S. — Don't try to use the AMSDOS applications disks in the CP/M environment.

```

1  dform    80 track - 2 side
2  reformat drive b
3  (c) J.L. Elkhorne - April 1988
4  The Amstrad User - Feb 89
9  :
10 GOSUB 100
19  :
20 POKE &ABD2,5:POKE &ABD3,31:POKE &ABD4,3
30 POKE &ABD5,179:POKE &ABD7,127:POKE &ABD9,128
40 POKE &ABDD,0:POKE &ABDF,193
50 POKE &ABEB,&FF
60 '
70 GOSUB 100:CLS:|B:CAT
80 |A:'can RUN application here
90 STOP
99  :
100 FOR j=&ABD0 TO &ABEB:PRINT PEEK(j),HEX$(j):NEXT
110 FOR j=1 TO 500:NEXT:PRINT:PRINT
120 RETURN
199  :
200 ' System Data  IBM  X
210 '   36   36   32   36  recs/trk
220 '   0    0    0    0
230 '   3    3    3    5
240 '   7    7    7   31
250 '   0    0    0    3
260 '  170  179  155  179  blocks
270 '   0    0    0    0
280 '   63   63   63  127 #dir.entrs
290 '   0    0    0    0
300 '  192  192  192  128
310 '   0    0    0    0
320 '   16   16   16   16
330 '   0    0    0    0
340 '   2    0    1    0  rsvd trks
350 '   0    0    0    0
360 '   65  193    1  193 1st sec #
370 '   9    9    8    9  sec/trk
380 '  42   42   42  42  gap (r/w)
390 '  82   82   80  82  gap(format)
400 ' 229  229  229  229 [0E5h]
410 '   2    2    2    2  log2SS-7
420 '   4    4    4    4  ss/128
430 '   0    0    0    0
440 '   0    0    0    0
450 ' auto-select? is 0; FF is no!
```

# WIRED FOR SOUND

Craig 'The Hermit' Nicholls thought it was about time CPC owners were initiated into the exciting world of computer communications.

Hello everyone, I'm The HeRmIt and I'm here to give you a bit of an insight into the world of Computer Communications. I'll be focusing most of our attention on the CPC, however, much of this series will be relevant to all types and varieties of computers. I'll start by introducing you to a few of the more basic concepts behind communications; we'll then take a look at determining your equipment needs, the cost and availability of this equipment and then, of course, what you can do with it. (No disrespect intended).

Firstly, let's establish a motive. O.K. you've got a computer. You can wipe out the entire alien population of the Universe, explore mysterious lands/dungeons etc, balance your finances, design eye catching letter-

heads to lend weight to your scholarly written correspondence and a myriad of other uses that we put out computers to. Yet, there comes a time when you sit there staring at the screen, wondering what you can do next. It's times like this when you need something new to stimulate the old grey matter. What better way to do it than a bit of spontaneous interaction...This is just one of a couple of dozen reasons to turn to 'COMMS' but it will suffice to lead into the next paragraph.

Using your computer to 'talk' to other computers over the phone line opens up a whole new and varied world to the user. Without leaving the comfort of your own home, you can correspond with other computer users across the country (indeed, all over the world!), electronically transfer funds and buy goods, get information on virtually any topic, buy and sell shares, accumulate free Public Domain Software, play multi-user games, etc. etc. The list goes on.

In my own experience I have found communications most rewarding. Over the last 18 months or so of 'talking' to people ON-LINE I have made many friends and acquaintances in such far-away places as Plymouth and Bath in the UK, Sacramento and Syracuse in the US and a host of others, both here in Australia and in New Zealand. Making friends is not the only benefit that I've gained. Over this period I have also collected some 2,000,000 bytes of Public Domain Software

which is probably less than one tenth of the total available from Bulletin Boards around the country.

## WHERE IS EVERYBODY?

There are hundreds of Data Services operating in Australia at the moment. Some are operated by Government bodies (such as Telecom's Viatel), some are run by large Corporations/Associations (as in Elderlink, Farmlink & Sharelink run by Elders - IXL), while other services are provided by individuals on a non-profit (and often at a loss) basis. This last group is commonly referred to as a PBBS (Public Bulletin Board System).

All of these services fall into two different groups: Videotex (known as Viewdata in the UK) and ASCII. Both types of service are generally arranged in Database form.

The term VIDEOTEX usually refers to Multi-user (where a large number of users have access at once) systems which have their 'database' arranged into screen sized 'pages' or 'frames' consisting of 40 characters by 24 lines. Each page is referenced by a number. (On Viatel this number can be up to nine digits long). Videotex is also distinguished by its peculiar characters. As you may or may not know, the normal characters that are produced on our monitors are made up from an 8 x 8 grid, but since not all computers follow the same standard, videotex has its own. The characters for normal alphanumeric characters on Videotex are made up from a 7 x 5 grid. Graphics, however, are a different story.

They are constructed from a table of mosaic 'titles' in the shape of a 3 x 2 grid (ref. fig 1).

Videotex services can be likened to a large book. Each 'page' of information is contained within a 'chapter' which is



FIG 1- THE VIDEOTEX GRAPHICS MOSAICS. THESE SIMPLE BLOCKS CAN BE USED TO FORM QUITE COMPOSITE PATTERNS ON A VIDEOTEX SCREEN IN UP TO SEVEN COLORS.



usually denoted by the first three digits of the page number.

ASCII services on the other hand, are generally displayed in the more conventional 80 characters across, 25 characters down format and the information scrolls from the bottom to the top of the screen. Different information is accessed by commands rather than page numbers. ASCII services use a more conventional display mode and are generally text only. There are advantages and disadvantages in both systems, as we shall discover as we delve deeper into the confusing World of Communications. ASCII services are the best place to pick up Public Domain Software and meet other Amstrad users at the moment, although there are quite a few Amstrad users appearing on Viatel.

#### FOUNDATIONS

We could consider computer communications as being any form of communication between a computer and any other electronic device. While this statement is certainly true, it is somewhat shallow. A better interpretation of 'communications' would be 'the two-way flow of information between two or more devices.' To highlight this definition, compare the difference between having your computer connected to a printer, with having your computer connected to another computer. Your computer can only SEND data to the printer which then performs an action on the data. (i.e. it prints what it was told and then stops).

In the case of sending data to another computer, once the data has been received, it can be acted upon and the resultant information/product/file sent back to the sender. The term usually associated with linking two or more computers is 'NETWORKING'.

While it is quite possible to connect two CPC's in close proximity together to swap data, for nearly all of us it would be of very limited use or extremely impracticable. Therefore, we make use of certain Hardware and Software devices to allow us to receive and send data over the

telephone line.

There are three devices that are essential. Firstly, the Hardware: The RS232 interface and the MODEM. For the moment, imagine that all computers speak the same language, but in different dialects and that the telephone line uses a different language altogether. As the data comes in from the telephone line, the MODEM intercepts it and translates the data word for word and then sends it on to the INTERFACE. The INTERFACE then converts the data into the correct 'dialect' which is understood by your computer. This process works in reverse when you are sending data to the computer at the other end.

(NOTE: this simple analogy will give you a good point of reference once we move into the more complicated aspects of each stage of the data flow. Keep it in mind).

All this Hardware action obviously needs to be controlled by the user. This is where, not surprisingly, the Software comes into it. As mentioned earlier, the RS232 INTERFACE acts as an interpreter. Before it can interpret the data it is receiving, however, it must be told which dialect it will be receiving/transmitting. This amongst other things is the job of the Software. Its other tasks include such things as the printing of the incoming information on the screen in the correct format, directing the data to either the printer or your preferred storage medium (i.e. Tape or Disc), controlling the flow of data and setting the speed at which the data will be directed at the phone line and/or received from it. We call this Software a TERMINAL PROGRAM.

#### AND FINALLY...

For those of you new to computing, I might explain the basic language of computers. While any good book on computers should be able to give you a complete explanation of Binary, I will attempt to explain the concepts relative to this series.

We all know that the 'guts' of our computer consists of nothing but wires and connections. So, when we press the letter 'A' on our keyboards

it is not the physical letter itself that travels from the keyboard along the wires to the screen but rather an electrical impulse. This impulse is made up of a series of eight high or low signals. The order in which these signals reach the screen represent the character corresponding to the key we pressed. For us simple human beings the best way to depict these High/Low signals is by giving them the values of '0' for the low signals and '1' for the high signals. The heart of the AMSTRAD CPC is the Z80 CPU (Central Processing Unit). It can handle these signals in groups of eight. This is known as a BYTE and each individual signal is known as a BIT... Thus the maximum number of characters we can represent with one BYTE is  $2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 = 256$  (remembering that a BIT can be either a '0' or a '1' and there are eight BITS to a BYTE). The AMSTRAD, like other computers follows the same standard of representing the more common alpha-numeric characters of the English language which is known as ASCII (American Standard Code for Information Interchange also known as the International Telegraphic Code No. 5). ASCII uses 7 BITS to represent 128 characters ( $2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 = 128$ ). The missing eighth bit has a special significance in Communications which we'll discover later. It should be obvious to you now that each BIT within the BYTE has its own special value.

ASCII is the language that I was referring to when I made the analogy of the interpretation made by the RS232 INTERFACE. This code is the foundation upon which the heart of computer communications is built so it would be wise, though not essential, that you get a good grasp of the concepts outlined above.

Well that's it for this month, I hope I have given you a taste of the benefits of computer communications and the basic groundwork for a course of investigation into this rewarding and challenging area of computing. Next month we'll take a more detailed look at and answer the where to get, what to get and how much to spend questions. Ciao!

# JAVANESE CHECKERS

Exercise your skill with this game of logic and strategy by Paul Robson. Said to have originated in Java, this two player game has the simplicity of draughts and the intrigue of chess.

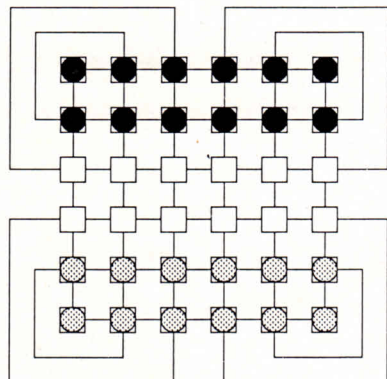
In this game, where one false move can destroy a carefully worked-out plan, the object is to capture enough of your opponents pieces so that only a prearranged number remain. You do this by taking it in turns moving your pieces around the playing area, trying to force your adversary into piece-losing situations.

Movement is made one square at a time, and can be in any of eight directions providing the destination square is empty.

Play opens with the choice of the remaining number of pieces that will result in a win - between none and nine - and how many games to play. Cursor movement is made with the numeric keypad, where 5 is Select, and the rest indicate directions to move. Each player starts with 12 pieces, arranged in two rows of six at either end of the board.

To move a piece, place the cursor on it, press 5, followed by one of the eight direction keys. If all is well the cursor will move to the new position, you will press 5 to release the piece and your opponent will take his turn.

Where Surakarta differs from other board games is in the method of capture. To take an opponent's piece



The playing area:

prisoner you have to use at least one of the eight connecting lines at the corners of the playing area. So like chess, you simply have to occupy the space that an opposing piece currently holds, having first however used one of the eight connecting lines. If you think about it, this method is very like a slingshot.

I didn't use a computer opponent as it would have made the program over long, but it would be an interesting project. If you succeed, let us know and if it isn't too lengthy we might be able to publish the add-on routine.

```

10 REM          SURAKARTA
20 REM          by Paul Robson
30 REM          The Amstrad User, Feb. 89
40 REM
50 REM GET INITIAL INPUTS
60 DIM scr(40,26),tk(50),cr(64)
70 ON ERROR GOTO 2020
80 ts(1)=0:ts(2)=0:tg2=0
90 MODE 1:INK 0,13:INK 1,0:BORDER 13
100 LOCATE 3,12:PEN 1:PAPER 0
110 PRINT"HOW MANY COUNTERS LEFT TO WIN? (0-9)":GOSUB 1
120 cw=VAL(k$)
130 SOUND 1,50,15,7
140 LOCATE 12,12:PRINT"ROUNDS PER GAME? (ODD 1-9)"
150 GOSUB 1720:tg=VAL(k$):IF tg/2=INT(tg/2) THEN 140
160 REM Select first player. Clear playing area and ini
170 tialise starting positions
180 r%=RND*1+1:pl=r%:IF r%=1 THEN r2=192:r3=336 ELSE r2
190 =192:r3=96
200 GOSUB 1740:GOSUB 1960
210 FOR f=1 TO 6:FOR g=1 TO 6
220 scr(f,g)=0:NEXT g,f:pp(1)=12
230 pp(2)=12:GOSUB 1490:x=r2:y=r3
240 INK 0,0:INK 1,6:INK 2,26:INK 3,2:INK 4,24:INK 5,6:INK
250 6,9:INK 7,15:INK 8,7:INK 9,26:INK 10,26:BORDER 0
260 GOSUB 1700
270 REM START
280 x2=x:y2=y:GOSUB 1560
290 IF scr(h,v)=0 THEN pe=3-pl:p2=x:p3=y:p4=143:p5=p4:G
300 OSUB 1690
310 IF scr(h,v)=pl THEN pe=pl:pa=3-pl:GOSUB 1590:GOSUB
320 1690
330 IF scr(h,v)=3-pl THEN pe=3-pl:pa=6:GOSUB 1590:GOSUB
340 1690
350 IF INKEY(11)=0 AND y<336 THEN y=y+48:GOSUB 1280
360 IF INKEY(14)=0 AND y>96 THEN y=y-48:GOSUB 1280
370 IF INKEY(4)=0 AND x<426 THEN x=x+48:GOSUB 1280
380 IF INKEY(20)=0 AND x>192 THEN x=x-48:GOSUB 1280
390 IF INKEY(10)=0 AND y<336 AND x>192 THEN y=y+48:x=x-
400 48:GOSUB 1280
410 IF INKEY(3)=0 AND y<336 AND x<426 THEN y=y+48:x=x+4
420 8:GOSUB 1280

```

```

340 IF INKEY(13)=0 AND x>192 AND y>96 THEN y=y-48:x=x-48:GOSUB 1280
350 IF INKEY(5)=0 AND x<426 AND y>96 THEN y=y-48:x=x+48:GOSUB 1280
360 IF INKEY(12)=0 AND mov=0 THEN GOSUB 1330:GOTO 390
370 IF INKEY(12)=0 AND mov=1 THEN GOSUB 1370
380 IF INKEY(18)=0 THEN GOSUB 1560:IF scr(h,v)=pl THEN GOSUB 410
390 CALL ck:GOTO 230
400 REM get direction
410 IF h=1 AND v=1 OR h=6 AND v=1 OR h=1 AND v=6 OR h=6 AND v=6 THEN RETURN
420 PRINT#1,"WHICH WAY?";:INK 9,0
430 GOSUB 1560:h5=h:v5=v:r=1
440 IF INKEY(11)=0 THEN t=v:t2=1:t3=-1:t4=-1:dir=1:GOTO 490
450 IF INKEY(14)=0 THEN t=v:t2=6:t3=1:t4=1:dir=3:GOTO 490
460 IF INKEY(20)=0 THEN t=h:t2=1:t3=-1:t4=-1:dir=4:GOTO 540
470 IF INKEY(4)=0 THEN t=h:t2=6:t3=1:t4=1:dir=2:GOTO 540
480 GOTO 440
490 FOR f=t TO t2 STEP t3
500 IF scr(h,f+t4)<>0 OR h=1 OR h=6 THEN no=1:GOTO 630
510 REM Check square is clear
520 tk(r)=(h+3)*48:tk(r+1)=(8-f)*48
530 r=r+2:NEXT:GOTO 580
540 FOR f=t TO t2 STEP t3
550 IF scr(f+t4,v)<>0 OR v=1 OR v=6 THEN no=1:GOTO 630
560 tk(r)=(f+3)*48:tk(r+1)=(8-v)*48
570 r=r+2:NEXT
580 IF f=7 AND dir=2 THEN h=6 ELSE IF f=7 AND dir=3 THEN v=6 ELSE IF f=0 AND dir=1 THEN v=1 ELSE IF f=0 AND dir=4 THEN h=1
590 RESTORE 2040:FOR g=1 TO 16:READ b,c,d
600 IF b=f AND c=h AND d=v THEN 610 ELSE FOR s=1 TO 8:READ b:NEXT s,g
610 FOR k=1 TO 4:READ b,type
620 ON type GOSUB 1050,1080,1110,1140
630 IF no THEN no=0:m$="YOU CAN'T!":INK 9,26:GOSUB 1710:GOSUB 1670:FOR f=1 TO 50:SOUND 129,20*f,0,0,1:NEXT:GOTO 1440
640 IF ok THEN ok=0:GOSUB 2000:GOTO 670
650 NEXT k
660 REM Move piece and capture opponent
670 INK 10,0:pe=3-pl:pa=3:p2=tk(r-2)
680 p3=tk(r-1):p4=252:p5=253:GOSUB 1690
690 r=1:TAG:WHILE tk(r)<>0
700 b=tk(r):c=tk(r+1)
710 pe=pl:pa=3:GOSUB 1630:GOSUB 1690
720 SOUND 129,70,0,0,1,2
730 pe=3:p2=b:p3=c:p4=143:p5=p4:GOSUB 1690
740 RESTORE 2210:FOR m=1 TO 16:READ a1,a2,a3,a4,a5:IF a1*16=tk(r) AND a2*16=tk(r+1) AND a3*16=tk(r+2) AND a4*16=tk(r+3) THEN GOSUB 980:GOTO 760
750 NEXT
760 r=r+2:WEND
770 SOUND 129,50,0,0,2,2,15:INK 9,26:INK 10,26
780 pe=pl:pa=3:GOSUB 1630:GOSUB 1690
790 REM Adjust screen array to new positions
800 scr(b/48-3,8-(c/48))=pl:scr(h5,v5)=0
810 pp(3-pl)=pp(3-pl)-1:GOSUB 1710
820 IF pp(3-pl)=cw THEN 850
830 GOTO 1460
840 REM Game over
850 tg2=tg2+1:ts(pl)=ts(pl)+1
860 IF pl=1 THEN PEN#1,1:PRINT#1," RED WINS"; ELSE PEN#1,2:PRINT#1,"WHITE WINS";
870 GOSUB 1700
880 s=71:s2=89:FOR g=1 TO 2:FOR f=1 TO 3:SOUND 7,s,4,0,1:SOUND 7,0:NEXT:SOUND 7,s2,100,0,1:s=80:s2=95:NEXT
890 CALL ck:CALL &BB18:PEN#1,8:CLS#1
900 IF pl=1 THEN r2=192:r3=336 ELSE r2=192:r3=96
910 IF tg2<tg THEN CALL ck:GOSUB 2000:GOSUB 1850:GOTO 180
920 IF pl=1 THEN s$="RED WINS" ELSE s$="WHITE WINS"
930 MODE 0:PEN pl:LOCATE 8-pl,10:PRINT s$
940 LOCATE 6,16:PRINT"BY";ts(pl);"TO";ts(3-pl)
950 RESTORE 2410:FOR f=1 TO 29:READ note,dur:SOUND 7,note*3,dur,0,2:SOUND 7,0,15:NEXT
960 LOCATE 7,25:PRINT"ANY KEY":CALL &BB18:GOTO 80
970 REM Move piece around corner lines
980 mk=a5*8-7:FOR s=1 TO 2:a2=cr(mk)
990 a3=cr(mk+1):FOR f=1 TO 32:pe=pl:pa=0
1000 p2=a2:p3=a3:p4=254:p5=255:GOSUB 1690
1010 a2=a2+cr(mk+2):a3=a3+cr(mk+3)
1020 pe=0:pa=0:p2=a2:NEXT:mk=mk+4:NEXT
1030 p3=a3:p4=143:p5=p4:GOSUB 1690:RETURN
1040 REM Check capture path is clear
1050 FOR f=1 TO 6:GOSUB 1170
1060 IF no OR ok THEN RETURN
1070 NEXT:RETURN
1080 FOR f=1 TO 6:GOSUB 1220
1090 IF no OR ok THEN RETURN
1100 NEXT:RETURN
1110 FOR f=6 TO 1 STEP -1:GOSUB 1170
1120 IF no OR ok THEN RETURN
1130 NEXT:RETURN
1140 FOR f=6 TO 1 STEP -1:GOSUB 1220
1150 IF no OR ok THEN RETURN
1160 NEXT:RETURN
1170 IF b=v5 AND f=h5 THEN 1200
1180 IF scr(f,b)=pl THEN no=1:RETURN
1190 IF scr(f,b)=3-pl THEN ok=1:GOTO 1200
1200 tk(r)=(f+3)*48:tk(r+1)=(8-b)*48

```

## CPC TYPE-IN

```

1210 r=r+2:RETURN
1220 IF b=h5 AND f=v5 THEN 1250
1230 IF scr(b,f)=p1 THEN no=1:RETURN
1240 IF scr(b,f)=3-p1 THEN ok=1:GOTO 1250
1250 tk(r)=(b+3)*48:tk(r+1)=(8-f)*48
1260 r=r+2:RETURN
1270 REM Rub out/redraw
1280 GOSUB 1570
1290 pe=3:GOSUB 1620:GOSUB 1690
1300 IF scr(h,v)=p1 THEN pe=p1:GOSUB 1610:GOSUB 1690
1310 IF scr(h,v)=3-p1 THEN pe=3-p1:GOSUB 1610:GOSUB 1690
1320 RETURN
1330 GOSUB 1560:IF scr(h,v)=0 OR scr(h,v)=3-p1 THEN RETURN
1340 x3=x:y3=y:mov=1
1350 SOUND 129,2000,0,0,1
1360 CALL ck:CALL &BB18:RETURN
1370 REM 5 pressed
1380 IF x=x3 AND y=y3 THEN mov=0:SOUND 129,p1*20,0,0,1:GOTO 1440
1390 GOSUB 1560:IF scr(h,v)<>0 THEN m$=" TRY AGAIN":GOSUB 1650:RETURN
1400 IF x=x3 AND y=y3-48 OR x=x3 AND y=y3+48 OR y=y3 AND x=x3-48 OR y=y3 AND x=x3+48 OR x=x3-48 AND y=y3-48 OR x=x3-48 AND y=y3+48 OR x=x3+48 AND y=y3-48 OR x=x3+48 AND y=y3+48 THEN 1410 ELSE m$=" TOO FAR":GOSUB 1660:RETURN
1410 SOUND 129,p1*20,0,0,1
1420 GOSUB 1580:scr(h,v)=0:GOSUB 1560:scr(h,v)=p1:x2=x:y2=y:pe=3:p2=x3
1430 p3=y3:p4=143:p5=p4:GOSUB 1690
1440 pe=p1:pa=3:p2=x:p3=y:p4=254:p5=255
1450 GOSUB 1690
1460 IF p1=1 THEN p1=2:x=192:y=96 ELSE IF p1=2 THEN p1=1:x=192:y=336
1470 mov=0:RETURN
1480 REM counters
1490 FOR y=288 TO 336 STEP 48:FOR x=192 TO 432 STEP 48:GOSUB 1560:scr(h,v)=1
1500 pe=1:pa=3:GOSUB 1590:GOSUB 1690:NEXT x,y:FOR y=96 TO 144 STEP 48
1510 FOR x=192 TO 432 STEP 48
1520 GOSUB 1560:scr(h,v)=2
1530 pe=2:GOSUB 1590:GOSUB 1690
1540 NEXT x,y:RETURN
1550 REM calc h,v
1560 h=x/48-3:v=8-(v/48):RETURN
1570 h=x2/48-3:v=8-(y2/48):RETURN
1580 h=x3/48-3:v=8-(y3/48):RETURN
1590 p2=x:p3=y:p4=254:p5=255:RETURN
1600 REM calc pen, paper and symbols
1610 pa=3:p2=x2:p3=y2:p4=254:p5=255:RETURN
1620 p2=x2:p3=y2:p4=143:p5=p4:RETURN
1630 p2=b:p3=c:p4=254:p5=255:RETURN
1640 REM PRINT messages
1650 GOSUB 1560:pe=scr(h,v):pa=3:p2=x:p3=y:p4=254:p5=255:x=x3:y=y3:GOSUB 1690:GOTO 1670
1660 pe=3:pa=3:p2=x:p3=y:p4=143:p5=p4:GOSUB 1690:x=x3:y=y3
1670 PRINT#1,m$;:AFTER 150 GOSUB 2000:RETURN
1680 REM print symbols
1690 PEN pe:PAPER pa:CALL a:TAG:MOVE p2,p3:PRINT CHR$(p4);:MOVE p2,p3-16:PRINT CHR$(p5);:TAGOFF:RETURN
1700 LOCATE 18,5:PEN 1:PAPER 0:PRINT USING"#";ts(1):LOCATE 18,21:PEN 2:PRINT USING"#";ts(2):RETURN
1710 FOR f=1 TO 50:tk(f)=0:NEXT:RETURN
1720 k$=INKEY$:IF k$<"0" OR k$>"9" THEN 1720 ELSE RETURN
1730 REM screen and symbols set-up
1740 FOR f=0 TO 15:INK f,0:NEXT: BORDER 0
1750 SYMBOL 254,0,0,24,60,60,126,126,126:SYMBOL 255,126,126,126,60,60,24,0,0
1760 SYMBOL 252,24,60,126,126,219,219,255:SYMBOL 253,255,231,195,90,126,126,60,24
1770 ENV 1,1,15,1,3,-1,1,5,0,1,12,-1,5:ENV 2,3,5,1,15,-1,5:ENT 2,5,1,15
1780 MODE 0
1790 FOR y=178 TO 398 STEP 220
1800 FOR x=128 TO 352 STEP 224
1810 MOVE x,y:DRAWR 176,0,4:DRAWR 0,-176:DRAWR -176,0:DRAWR 0,176:NEXT x,y
1820 FOR y=128 TO 360 STEP 232:FOR x=168 TO 400 STEP 232:MOVE x,y:DRAWR 84,0:DRAWR 0,-88:DRAWR -84,0:DRAWR 0,88:NEXT x,y
1830 FOR x=82 TO 322 STEP 48:MOVE 204,x:DRAWR 242,0,4:MOVE 204,x-2:DRAWR 242,0:MOVE 204,x+2:DRAWR 242,0:NEXT
1840 FOR x=206 TO 446 STEP 48:MOVE x,322:DRAWR 0,-242:MOVE x+4,322:DRAWR 0,-242:NEXT
1850 FOR y=96 TO 336 STEP 48:FOR x=192 TO 432 STEP 48
1860 PLOT x,y,3:MOVE x,y:TAG:PRINT CHR$(143);:MOVE x,y-16:PRINT CHR$(143);:NEXT x,y:TAGOFF
1870 WINDOW#2,19,19,8,18:PAPER #2,0:PEN #2,7:PRINT#2,"SCORERS";
1880 n=1:i=9:FOR g=1 TO 3:FOR f=15 TO 11 STEP -2
1890 n$=STR$(n):LOCATE g,f:PEN i:PRINT RIGHT$(n$,1)
1900 IF i=9 THEN i=10 ELSE i=9
1910 n=n+3:NEXT:n=n-8:NEXT
1920 MOVE 28,212:DRAWR 36,0,9:DRAWR 0,-24:DRAWR -36,0:DRAWR 0,24:PEN 9:LOCATE 2,18:PRINT"E":MOVE 20,136:DRAWR 48,0:DRAWR 0,-32:DRAWR -48,0
1930 DRAWR 0,32:RESTORE 2300:FOR f=1 TO 64:READ x:cr(f)=x:NEXT
1940 RETURN
1950 REM set up machine code
1960 MEMORY 39000:ck=39992:a=40000

```

# MASTERFILE III

FOR THE AMSTRAD CPC6128  
(ALSO CPC464/664 WITH DK'TRONICS 64K RAM)

## FIRMLY ESTABLISHED...

MASTERFILE III is now firmly established as THE filing system for the CPC6128.

For the benefit of newcomers to the CPC machines: MASTERFILE III is a powerful and flexible data filing and retrieval system. All "database" systems require that your data is organised into fields and records. Unlike most, MASTERFILE does not commit you to field lengths or formats, since ALL data is variable-length and optional. Files are not preformatted, and only used bytes are saved to disc. Also, unlike the rest, MASTERFILE allows multiple user-defined ways of viewing/printing your data. And unique in its price range, MASTERFILE offers RELATIONAL FILE options, whereby common data can be entered just once and shared by many records. Maximum field size is 240, maximum fields per record is over 50, and maximum file size is 64K. Room for 1,000 full names and addresses, for example. Only one disc drive is required. It is menu driven throughout, and comes with detailed illustrated manual, and example files.

## SO VERY VERSATILE...

Just about ANY kind of information can be handled by MASTERFILE. You can EXPORT the data to other systems (eg. PROTEXT/MERGE and TASWORD). You can even merge your own USER BASIC to MASTERFILE for customised file processing, or build new files from other computer sources. The speed of SEARCH of MASTERFILE is second to none. Records can be sorted ascending/descending, character or signed numeric, even embedded keys such as surnames. Other functions are field-to-field calculations, and several-across label printing. We simply don't have room to list all the features; give us a call if you are still in doubt of the power of MASTERFILE III.

## ALL THIS POWER...

This is no toy thrown together in BASIC and half-tested, but real machine-coded computing power professionally constructed. We have had IBM and Apricot users beg us for a MASTERFILE for their machines - when they had seen the earlier CPC MASTERFILE.

# MASTERCALC 128

THE MODERN CPC6128 SPREADSHEET SYSTEM

This is the sister program to the famous MASTERFILE III, and is a fast and friendly spread-sheet program with high capacity (over 7,000 cells) and impressive speed. Like MASTERFILE, it is entirely machine coded. Like MASTERFILE, it needs just one disc drive and does not use CP/M and it uses the same optimised RAM bank-switch code. "Another exceptional utility from Campbell" said Popular Computing Weekly of the original MASTERCALC. The "128" edition is more powerful.

All spread-sheet systems allow manipulation of any array of numeric data.

What sets MASTERCALC 128 apart from the rest are these features:

Full-screen or split screen windows; variable column display width; variable column formats, 0-7 decimal places; columns can be formatted individually; ultra high-precision floating point arithmetic; direct totals and sub-totals; up to 99 relocatable formulae (usually 10 is ample!); formulae up to 75 characters, and arithmetic expressions, plus conditions, relative cell references; instant highlight of computed data; store text anywhere;

pop-up help menu; 40/80 column mode; auto cursor-advance; text output to printer or to disc for word processing; fast hi-res histogram of any 3 rows; Epson screen dump; detailed manual with illustrated tutorial.

For the enthusiast, there is even USER BASIC access to the cell data, so that special operations can be performed. For example, it is possible to ship data to/from MASTERFILE III.

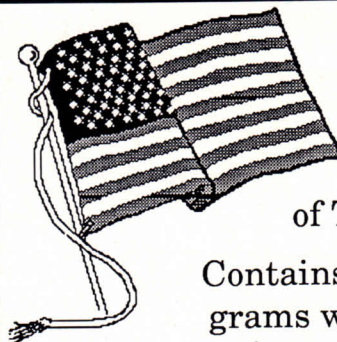
MASTERCALC 128 costs just \$99.00 and MASTERFILE III costs \$109.00 including postage and packing, and if you request air-mail within Australia, we'll do that at no extra charge too! (If you live outside Australia please add \$4.00 for air-mail cost. Bankcard, Mastercard or Visa accepted).

Send your order now to:  
THE AMSTRAD USER  
Suite 1/245 Springvale Road,  
Glen Waverley,  
Victoria 3150. Tel: (03) 233 9661.

```

1970 FOR f=39992 TO 40011
1980 READ a$:POKE f,VAL("&"a$):NEXT
1990 WINDOW#1,6,15,25,25:PAPER #1,0:PEN #1,8
2000 CLS#1:MOVE 128,2:DRAWR 176,0,4:DRAWR 0,62:MOVER 48
,0:DRAWR 0,-62:DRAWR 176,0:MOVE x,y
2010 RETURN
2020 INK 0,15:INK 1,0:BORDER 15:PEN 1:PAPER 0:MODE 1:PR
INT CHR$(7);"Error in line";ERL:END
2030 REM look-up tables for edge positions
2040 DATA 0,2,1,2,1,5,2,5,3,2,4,0
2050 DATA 3,1,3,1,4,2,4,3,3,4
2060 DATA 0,4,1,3,3,3,2,4,1,4,4,0
2070 DATA 5,1,2,3,2,2,5,1,5,4
2080 DATA 7,6,2,5,2,5,3,2,4,2,1,7
2090 DATA 6,3,4,2,4,3,3,4,3,1
2100 DATA 7,6,4,4,4,3,3,3,2,4,1,7
2110 DATA 6,5,5,4,2,3,2,2,5,1
2120 DATA 7,5,6,5,3,2,4,2,1,5,2,7
2130 DATA 4,6,4,3,3,4,3,1,4,1
2140 DATA 7,3,6,4,1,4,4,3,3,3,2,7
2150 DATA 2,6,5,1,5,4,2,3,2,2
2160 DATA 0,1,5,2,4,2,1,5,2,5,3,0
2170 DATA 1,4,3,4,3,1,4,2,4,3
2180 DATA 0,1,3,3,2,4,1,4,4,3,3,0
2190 DATA 1,2,2,2,5,1,5,4,2,3
2200 REM look-up for row/colomn and direction of travel
2210 DATA 12,18,15,21,1,12,15,18,21
2220 DATA 1,15,21,12,18,2,18,21,12,15
2230 DATA 2,21,21,27,15,3,24,21,27,18
2240 DATA 3,27,18,24,21,4,27,15,21,21,4
2250 DATA 27,12,21,6,5,27,9,24,6,5,24
2260 DATA 6,27,9,6,21,6,27,12,6,18,6,12
2270 DATA 12,7,15,6,12,9,7,12,9,15,6,8
2280 DATA 12,12,18,6,8
2290 REM data for array CR
2300 DATA 136,266,0,4,136,394,4,0
2310 DATA 260,394,-4,0,136,394,0,-4
2320 DATA 364,394,4,0,488,394,0,-4
2330 DATA 488,266,0,4,488,394,-4,0
2340 DATA 488,164,0,-4,488,36,-4,0
2350 DATA 360,36,4,0,488,36,0,4
2360 DATA 260,36,-4,0,136,36,0,4
2370 DATA 136,164,0,-4,136,36,4,0
2380 REM machine code and music data
2390 DATA F5,CD,09,BB,38,FB,F1,C9,CD,93
2400 DATA BB,CD,DE,BB,CD,99,BB,C3,E4,BB
2410 DATA 47,5,47,5,47,5,60,5,45,5,45,5
2420 DATA 45,5,53,5,40,5,40,5,40,5,47,5
2430 DATA 0,0,80,5,80,5,60,5,60,40,63
2440 DATA 40,63,5,63,5,53,5,53,40,60,40
2450 DATA 47,10,47,10,53,10,60,50,71
2460 DATA 100,47,200
    
```

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### Side 1 (63k free)

BCDAP1	(46)	3K	SMODEC1	(45)	1K
BCDAP2	(48)	5K	SMODEC2	(45)	1K
BOMBDISP	(47)	2K	SSTRUPRG	(46)	2K
DUCTCODE	(47)	40K	SUPER1	(45)	1K
DUCTSCRN	(47)	17K	SUPER2	(45)	1K
FLASHGEN	(46)	9K	SURVIVAL	(48)	11K
RE-FOR	(45)	1K	THE-DUCT	(47)	1K
SHEAD1	(45)	1K	TIM	(47)	9K
SHEAD2	(45)	1K	TRIAL2	(45)	4K
SMENU1	(45)	1K	WHEEL	(47)	3K
SMENU2	(45)	1K			

*\*Figures in brackets denote Issue Number*

Reference to original magazines may provide more  
information on the above programs

### Side 2 (116k free)

#### FREE PUBLIC DOMAIN SOFTWARE

BASEBALL	13K	FOOTBALL	8K
CIVILWAR	8K	HORSE	6K
CRAPS	5K	LANDER	3K
DRAGRACE	4K	SWARMS	15K

These programs are all run in Basic, most suitably in MODE2.

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Suite 1, 245 Springvale Road,  
Glen Waverley, Vic 3150

The following is a hardware project that I have built that had more success than I bargained for. I wanted an interface to turn on the lights, boil the kettle, or turn on my shortwave radio to record various broadcasts. Unable to buy such an item for the Amstrad, I decided to make my own. Many thanks go to Allan of Eyre Electronics for putting up with all my questions.

The circuit uses only three chips and is operated from the printer port to drive either a relay(s) or optocoupler(s) and runs from a 5-volt power pack. It is connected to pins 3,2,5 and signal ground pin 20 of the edge connector.

**WARNING:** power must not be supplied to the power port or bye bye CPC. IC sockets are a must.

#### A FULL CHECK-OVER FIRST

After constructing the circuit, check for correct wiring, that ICs are the right way round and that your coffee cup is full. Plug in the edge connector, apply 5-volt power and switch on the computer. **DO NOT APPLY 240VOLT POWER TO THE BOARD YET!** If the screen looks normal - great, if not, turn it off immediately and recheck everything. If it looks as if it is working type &eff,1 and one LED should light up. Type &eff,2 and both LEDs should be lit. Typing &eff,0 will switch both off again.

Now you can apply 240volt power to the board. If you have a multimeter, use it to check the voltage. To test that the circuit works correctly, turn everything off, plug in a low wattage bedside lamp, apply 5V power to the circuit, turn on the computer and finally apply 240V to the board.

The lamp should be off, so either type &eff,1 of &eff,2 and the lamp should light up. If the lamp is not lit, turn it all off and check everything again. **DO NOT TOUCH THE TRIACS** as

# AUTOMATED HOME HELP

Steven Leslie of Wyalla has discovered how to make your humble CPC take over the house and control everything from the kettle to a burglar alarm. Got your soldering iron?

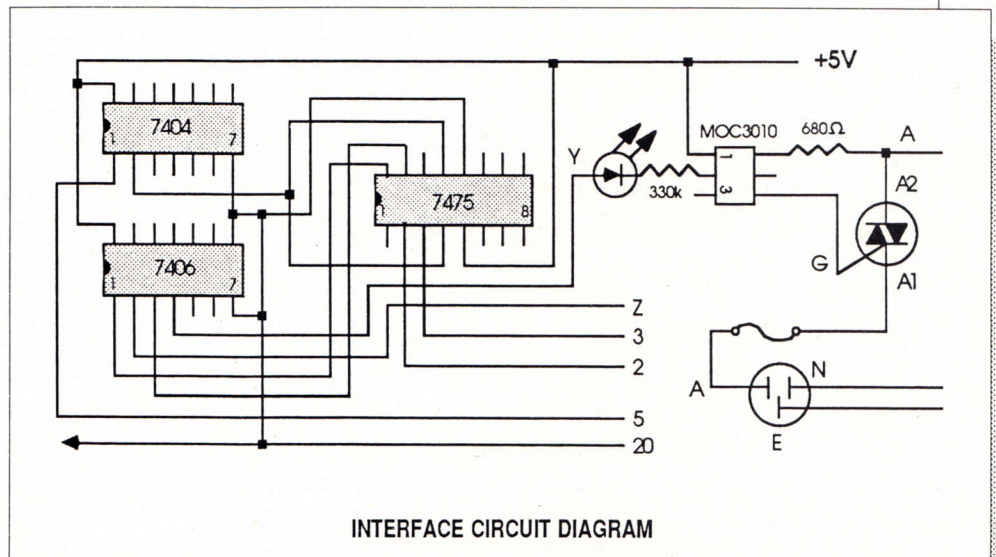
they are live. If you intend to run things like kettles, fans, antenna rotors or the like, you will have to fit a heat sink to the triacs. Electricity **KILLS** so if you don't know what you are doing see someone who does - I did.

#### PARTS NEEDED:

- 1 7404 hex inverter
- 1 x 7406 hex inverter buffer/driver
- 1 x 7475 4-bit bistable latch
- 2 x SC141D triacs (for 240V control only)
- 2 LEDs
- 1 5V power pack

- 1 34 pin edge connector
- 2 5.8k resistors
- 2 MOC3010 optocouplers
- 2 AC outlet plugs
- Lots of wire to connect it all up.
- 2 fuses
- PC board or bread board
- 1 meter ribbon cable

My system is connected to an alarm bell and outside lights. The joystick port is connected to sensors around the house and serves as a burglar alarm. I am happy to say it worked the first night when someone tried to break in. It works for me!



INTERFACE CIRCUIT DIAGRAM

# GREASED LIGHTNING

Mike Turner reviews the Lightning Basic Extension for the PCW's trusty Mallard Basic.

As basic languages go, the Mallard basic supplied with the PCW is fast, powerful and efficient. The added advantage of random access filing with Jetsam makes it eminently suitable for most applications and particularly suitable for more complicated business type packages.

However, until now the average home user wishing to design simple educational or games programs for the family has had to suffer from a lack of graphics capability, which led to fairly boring text oriented programs. The problem can be overcome by installing a Graphics System Extension (GSX) to Mallard basic; but the associated jiggery pokery makes the task a daunting one for the beginner.

Mallard basic also has some peculiar quirks and omissions. At least it seems that way to someone like myself with limited program-

ming experience in basic and who is used to the ease and flexibility of Locomotive basic as supplied with the CPC 6128. For example, Mallard lacks a simple Clear Screen (CLS) command and things like the ability to quickly and easily position the cursor anywhere on the screen as in the LOCATE command in Locomotive basic.

The PCW as a computer is capable of these and many more interesting things. The problem is that Mallard cannot utilise them without a lot of effort on the part of the programmer and many lines of extra code. Despair not, for help is at hand. CP Software in the UK have produced a package called the Lightning Basic Extension, which provides these and other useful features.

## INTRODUCING...

The package will retail for \$75.00 of your hard earned dollars. For the money you will receive one CF2 disc containing the necessary software, demonstration programs and other useful utility programs. All these fit neatly onto one side of an A drive disc with some 20K left over. You will also receive a small 17 page instruction manual. I have seen better quality manuals in my time but this one (although crudely produced), does the job well. It is clearly set out and covers each of the various features of the package in an easy to read format.

Lightning Basic consists of three modules called Light 1, Light 2 and

Light 3. Light 1 contains about 95% of the enhancements to Mallard basic and is all that would be required for most programming tasks not involving graphics. Light 2 allows you to create icons and adds further graphics oriented features such as screen saves and screen dumps. With Light 3 you can create big sprites and juggle between different character sets such as futuristic '2001 style' characters or italics.

Loading and running the package is a simple process. The various levels of Lightning Basic are loaded from within MALLARD basic. Load CPM in the usual manner and from the A> prompt load Mallard basic by typing BASIC [RETURN]. Lightning Basic is invoked by typing RUN"LIGHT" [RETURN] from Mallard's OK prompt. This will load Light 1 and will provide you with the following extensions.

The cursor can be more easily controlled than normally with commands for enable and disable, positioning by row and column and homing to the top of the screen without clearing the screen. There is also a function which allows you to store a cursor position and restore the cursor to that position after carrying out some other operation. Various sound effects can be created by a routine to easily control the PCW's inbuilt beeper. There is an invert command to reverse the screen colours. The screen can be flashed a number of times alternating between inverse and normal video and there is also a Clear Screen command.

There are various commands which help in the control of the printer, such as sending listings to the printer in condensed print, resetting and printer echo on and off. A function key setter allows you to redefine the function keys to perform certain tasks within your programs, similar to the SETKEYS program in CPM. A page command eliminates the need to write routines to produce a "Press any key to continue" at the bottom of the screen. Line drawing and fill routines are also now made easy. Many other commands (too numerous to mention in detail) are also

LIGHTNING has several character sets  
**LIGHTNING has several character sets**  
 LIGHTNING has several character sets

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**LIGHTNING has several character sets**  
 LIGHTNING has several character sets



provided.

This is just a partial list of the features of Light 1. The number of commands available is impressive. The sceptics will say that you can do most of these things in Mallard basic already. This is true, but not without many extra lines of code. The main point of this extension software is ease of use. Instead of having to write various subroutines to do all these things, they are now available as simple commands. These may be either used in lines of your programs or accessed directly from the OK prompt in basic.

### CRAFTY LITTLE FELLAS, AREN'T THEY?

So how does it all work? There is a cunning little trick that has been used here. One word has been taken from the Mallard vocabulary and given a new meaning. This diverts the basic interpreter to the new commands in Lightning, without affecting the way Mallard operates. So all the programs you have already written or purchased in Mallard will run perfectly with Lightning installed. The word chosen for this diversion process is LET. Although in the vocabulary, LET isn't required when defining variables and the like unless, as the manual suggests, you enjoy unproductive typing. When Lightning is installed LET is replaced by LEB (for Lightning Extended Basic). Cute eh?

Using the new commands then becomes a simple matter of using the word LEB followed by the abbreviation for the command. As an example, let's look at the Clear Screen function. To use this you would type LEBcls<> where <> stands for hitting the RETURN key. The interpreter doesn't mind whether you use upper or lower case or a mixture of both. However, all LEB commands have abbreviated forms. In the same way as PRINT can be replaced by ? in programs LEB can be replaced by the # symbol. Also words like CLS can be shortened to one or two letters. In this case a single C would do. So the four usual ways of entering this command are:-

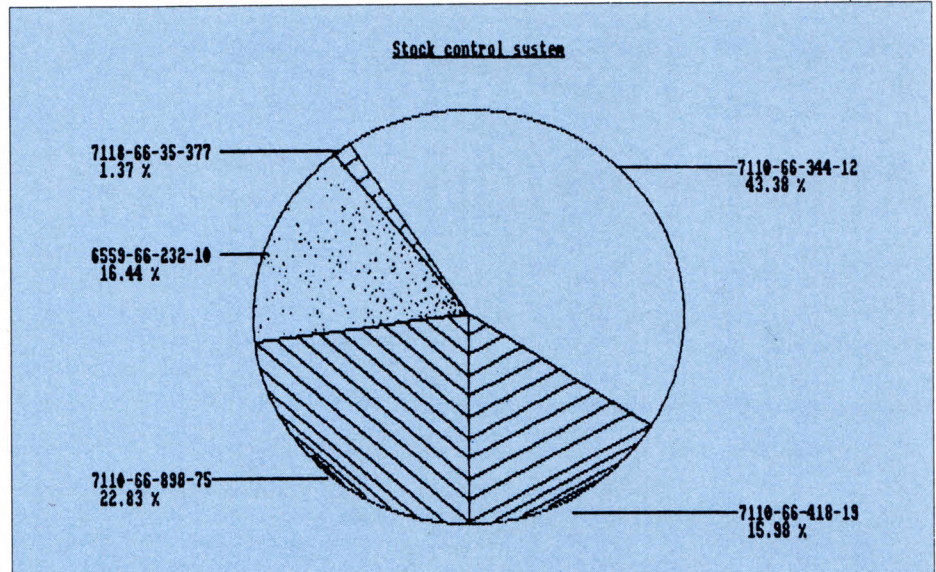
```
LEBcls<>
LEBc<>
#cls<>
#c<>
```

Other commands are just as easy to use. Positioning the cursor anywhere on the screen is simple as the following program lines show.

```
10 #c
20 #a,16,42,;?'MAIN MENU'
```

In this example the screen is cleared and the words MAIN MENU will appear at row 16 column 42. The time saving during programming rapidly becomes evident.

Lights 2 and 3 are loaded by typing RUN"EXT2" or RUN"EXT3" respectively. It is also possible to load all three modules at once by initially running LIGHT3 when you start up Mallard basic. For the more adventurous Lights 2 and 3 contain a feast of goodies to help you create Icons and Sprites to use in your programs. You can also save screens in memory and swap them around at will. This could be particularly useful for help pages called up from within a program. Another useful feature is the option when installing Lightning to redefine some of the editing keys normally used by Locoscript to assist you when typing in listings or debugging.



An easy to use demonstration program is included on the disc with full instructions on page one of the manual. As if that weren't enough, there are some 15 other basic programs included on the disc for your use. They are not all just demonstrations either. There are some very useful utilities such as graph makers, Icon generators, programs to draw circles and polygrams, a program that saves screens economically to disc and more.

If you think I am enthusiastic about this product, you'd be right. I couldn't find any bugs in the programs and was generally quite impressed. On the negative side, (there's always one isn't there?) you won't be able to give away or sell the programs you write utilising Lightning to others unless they also possess the extensions. Normal Mallard won't understand the new commands. But if you are writing applications for yourself the advantages of using Lightning will soon become apparent. In the short time I had the product to review, I merely scratched the surface regarding its capabilities and potential. Adding Lightning to Mallard is a case of making a good thing even better.

At \$75.00 some may balk at the price, but if you are into programming it is definitely recommended buying.

# TYPE IT AGAIN, SAM

Alec Rae discovers how SETKEYS can give you power over your PCW keyboard.

**H**ave you ever tried to work out how much of your life is spent typing the same words or phrases over and over again on your PCW? You would need a computer to work it out. But with a little bit of know-how you can get CP/M to take most of the hard work out of repeating yourself with its clever SETKEYS utility.

This works a bit like the [PASTE] key works in LocoScript. Suppose you are using a program in CP/M - let's say BASIC for argument's sake. When typing in a listing you might find that you were regularly typing and retyping the word 'GOTO'. Or maybe in SuperCalc when printing a file out you keep typing the sequence of keys '/GB/ODALL,P'. You can arrange so that a simple key press will do all this typing for you, maybe [f1] or, as a mnemonic for 'print', [EXTRA]+P.

The first task is to decide on which key to use for the abbrevia-

tion. You obviously don't want to choose a simple letter key like 'e' to represent a phrase, for example ERA \*.BAK, or every time you typed 'e' in a word you would find half your files being deleted.

However, there are a number of keys on the keyboard normally unused by CP/M which you can conveniently adapt to your own needs - for instance the function keys [f1] to [f8] and all the vague keys like [UNIT] or [LINE] that are usually only used for LocoScript.

## TOKEN OF AFFECTION

Most people want to make one key press produce a word or phrase, in which case you need to get to grips with what the manual gaily calls 'expansion tokens'.

In SETKEYS, you don't directly say "key [f1] is to produce the word 'GOTO' from now on". What you have to do is say "key [f1] will produce phrase number #80 from now on, and phrase number #80 will be the word 'GOTO'". The number associated with a phrase, #80 in this example, is the 'expansion token', and you can have up to 31 expansion tokens numbered from #80 to #9E inclusive (the '#' means it is a hexadecimal number - see the box if you are confused). It follows that you can't define more than 31 different phrases in SETKEYS.

While all 31 tokens are in theory free for use, most of them are already attributed to various keys. It is therefore worthwhile checking

that you are not going to accidentally redefine a key that is vital in any program you commonly use. For instance, it is a good idea to steer clear of tokens #80, #89, #93 and #94, since these respectively define the [STOP] key, the forward and backward [DEL] keys and the cursor left and right keys. Change those and you won't be able to edit command lines in CP/M or BASIC.

The simplest thing is to always use expansion tokens #9B, #9C, #9D and #9E first of all, as these are unused and won't mess up any of the existing keys. A complete list of which expansion tokens are tied to which keys is given on page 112 of the 8000 series CP/M manual, or page 538 of the 9512 manual. For example, looking at that you can see that as long as you don't need the [CUT] key for anything else, you can re-use expansion token #8C safely.

## PUTTING IT ON FILE

All that remains is to put the right commands into a file. This must be an ASCII file so if you don't have a CP/M editor like NewWord or Protext you will either have to get to grips with BASIC's RPED editor (not a too impossible task) or just write the file in LocoScript and then use the 'Make ASCII file (simple text)' command. If you use LocoScript remember that the resulting ASCII file has to be put into group 0 (nearest the left).

For every key which is to be redefined, you need two lines. One to set up the phrase the expansion token is to produce, and one to tie the key you have chosen to that expansion token. Suppose you want to make the key [f1] produce the CP/M command DIR A: (a bit like the 'Disc Change' command in LocoScript 1).

First you pick the expansion token you want to use - let's pick #9B, the first genuinely free one. Now every key on the keyboard has a code number given on a diagram in the manual. The key marked [f1/f2] is key number 02, you can see. Type the following two lines into a

## GETTING BACK AGAIN

There are a couple of practical reasons why you shouldn't go mad and try to assign every possible key combination to one of your favourite words however.

(1) There is a limited size to SETKEYS's memory (around 750 characters) and if you go beyond the number of characters this can take it will just ignore new settings.

(2) You won't be able to remember what and where all the combinations are.

Once you have discovered the joys of SETKEYS you can get going. You could have a suitable SETKEYS file with all the keys set up for short commands in every program you use - BASIC, a spreadsheet, a database and so on.

The problem is of course that once you have redefined your keyboard it can be difficult to get it back to normal without switching off and starting again. 9512 owners are all right since they have a new utility called CPMKEYS.COM which clears everything and allows you to start again if you want - just type CPMKEYS [RETURN] at the A> prompt.

Although this file isn't supplied with the 8000 series machines, it does work fine with them - find a friend with a 9512 and copy it. The only other option for 8256/8512 owners is to look at page 112 of your CP/M manual and write a special SETKEYS file to revert all the keys to the default settings listed there.

file called CHANGED.KYS (you can of course use any file name you like - CHANGED.KYS is just an example):

```
E #9B "DIR A:"
02 N "↑#9B"
```

The first line says 'Expansion token number #9B is the phrase DIR A:' - the line takes the form E (for 'Expansion token'), then the token number, then the phrase in double quotes. The second line says that key number 02 in its Normal state (ie. no [SHIFT]ing, [ALT]ing or anything) produces expansion token number #9B. What this all means is that once it is set up every time you press [f1] the phrase 'DIR A:' will appear on the screen.

To actually tell CP/M to obey these key changes defined in the file CHANGED.KYS, get SETKEYS.COM from your CP/M master disc onto the same disc as CHANGED.KYS, using PIP to copy it if necessary. Then at the CP/M A> prompt type SETKEYS CHANGED.KYS. The disc will whirr for a moment and when the A> prompt returns your keyboard is miraculously changed. Instead of producing boring things like ↑Q your [f1] key will print out DIR A:.

There is one snag. After printing DIR A: it doesn't actually do it - you have to press [RETURN] to make it work. Fortunately you can even save yourself the trouble of pressing [RETURN] at the end by writing E #9B "DIR A:↑M" in CHANGED.KYS instead (the up-arrow (↑) is [EXTRA]+;). ↑M is a special code for [RETURN].

BASIC users might like to produce LOAD " as a standard phrase that could save them hours of typing. The problem is that as soon as you type a ", SETKEYS takes this as being the end of the phrase. You have to type "LOAD ↑" in the expansion token definition to do this - the ↑ tells SETKEYS just to read the following " literally and not to treat it as a command.

It is not just text that you can produce with this method. For

instance you can produce escape codes just as easily. Use E #9B↑[E↑[H - the Escape Codes to clear the screen and return the cursor to the top of the screen - in your CHANGED.KYS file and every time you press [f1] the screen clears. For the technical, ↑[ produces ASCII code 27, or 'Escape', so this expansion token has been set up to produce Escape-E Escape-H, ie the PCW's 'Clear Screen' code.

### JUST A LETTER

There are obviously other uses. If, for instance you use é regularly (normally rather cumbersome to achieve) you might want to attribute this to a special key.

so that it will only work while the [ALT] key is pressed - ie. pressing E alone will still produce 'e', but [ALT]+E will give 'é'. Finally, the bit in quotes tells SETKEYS to generate ASCII code 225 for [ALT]+E. And that's all you need - no expansion token in this case because it is only a single character.

As has been explained, the 'A' in the above commands makes the SETKEYS definition only work when [ALT] is held down. You could use the letters N, A, E, S or SA at that point in the command if you wanted the definition to work with Normal use (no [SHIFT]ing etc), with [ALT], with [EXTRA], with [SHIFT] or with [SHIFT] and

### A HEX ON YOU

An alarming number of computer operations, the expansion token numbering in SETKEYS being one such, expect things to be typed in in 'hexadecimal' or 'hex' for short. To all students of modern maths, this is 'counting in base 16'.

In Hex, the letters A to F are used as the digits 10 to 15 respectively. So to count in hex you go 0,1,2,3,4,5,6,7,8,9,A,B,C,D,E,F,10,11,12....18,19,1A,1B,1C,1D,1E,1F,20,21...9E,9F,A0,A1...FF. Hexadecimal FF (written #FF) corresponds to 255 in ordinary decimal numbering.

You don't need to understand this to use SETKEYS, but it's interesting (isn't it?). In practical terms, when SETKEYS expects the number of an expansion token between #80 and #9E you can use any of #80, #81, #82...to #89 and then #8A,#8B, #8C,#8D,#8E and #8F, then #90 to #99 and #9A to #9E - a total choice of 31.

There are two differences here. First, because you can't type é normally you have to find its ASCII code, which happens to be 225. You can find all the relevant codes on pages 113-118 of the 8000 series CP/M manual, or pages 547-554 of the 9512 manual. Secondly, because you only want to produce a single character, the é, you don't need to use an expansion token.

This is one case where using an f-key would not be suitable, and you would probably be far happier to get é by pressing [ALT]+E. Now, looking on the keyboard chart the E key is number 58, so add a line to your CHANGED.KYS file which says:

```
58 A "↑'225"
```

Here 58 is the number of the E key, the A that follows stands for [ALT]

[ALT]. You can combine these, so 58 A E "↑'225" would make the E key produce é if either [ALT] or [EXTRA] were held down.

Things are even simpler if you can type the character in question directly at the keyboard - you don't need to look up the ASCII codes at all. For instance, suppose you want to redefine your QWERTY keyboard to the continental AZERTY standard, you might start by redefining the Q key to produce A. So your file to be given to SETKEYS would start:

```
67 N 'a'
67 S "A"
```

Which means, whenever key no. 67 (the Q) is pressed normally, generate an 'a'. Whenever [SHIFT] and key 67 is pressed, generate a capital 'A'. All you have got to do now is paint over your keytops!

# USING PRINTERS WITH LOCOSCRIPT2

Apart from upgrading to a PCW9512, the only way to get better than NLQ printing on the 8256/8512 dot matrix is to add a daisy-wheel printer.

When LocoScript first came out, the only printer you could use to print any of the documents you prepared was the PCW's built-in printer. This is a perfectly adequate printer but, simply because it is a dot matrix printer, the print quality can never match that produced by a daisy-wheel printer.

LocoScript2 (especially since version 2.12) gives you the freedom to use all sorts of different printers to print your documents. However, using a different printer is not just a case of attaching this printer to the PCW. Thanks to the difference even between printers that are described as being compatible, you also have to ensure that you work with the correct "Printer Files" for your printer. (The word 'compatible' often only means 'similar up to a point'!) With the correct printer files everything is straightforward.

The key to working out which Printer File you need is to understand how printers work and how LocoScript copes with the differences between different types of printers.

When LocoScript prints a document it sends a long list of codes to the printer which the printer's own software decides how to interpret. These codes tell the printer everything – which character to print, where to start a new line, where to start a new page, what character pitch and line pitch to use, what print effects (bold, italic etc.) to apply etc.

Some of the codes represent characters; others are instructions to the printer to carry out particular actions such as moving to the beginning of the next line. Some of the codes work together as a group to carry out further actions, such as changing the character pitch or turning on or off a print effect like Bold.

Ultimately, what each code represents depends on the software that is interpreting it – ie. on your printer's own software – though, fortunately, a number of conventions have been established. In particular, most manufacturers follow the American ASCII standard, which defines codes for a range of basic actions and for A...Z, a...z, 0...9 and the common punctuation marks.

Outside of these conventions there are few common standards and each piece of software and each printer uses its own character codes – though many use the same set of codes as one of the major manufacturers like IBM or Epson. In addition, ASCII itself comes in a number of different 'language' variants in which some of the codes have different meanings. For example, UK ASCII differs from US ASCII in that the code hexadecimal-23 represents £ rather than #.

On top of this, some printers support more than one set of characters and codes and you can select the one you want by setting the 'dip switches' on the printer. For example, on the Amstrad

DMP3000/4000 printers you can choose between variants of the Epson and IBM sets of characters. It may also be possible to select a different 'language' either by setting the 'dip switches' on the printer or by sending a special sequence of codes – and this, of course, will affect the characters available and/or the codes associated with some of the characters.

For daisy-wheel printers the issue is further complicated by the wide variety of different printwheels that you can use.

To cope with the variety of codes used by printers, LocoScript2 uses some special files known as Printer Files. These tell LocoScript how to translate the codes used in a LocoScript document into those required by the printer.

This translation is, of course, affected by the capabilities of the printer. For example, LocoScript lets you specify that you want a section of text to be printed using 15 pitch characters but your printer may not be able to print 15 characters per inch. Similarly, LocoScript's character set includes a wide range of characters that aren't available in other printers' character sets. (LocoScript will leave a blank wherever you ask for one of these characters so that you can put it in later – by hand if necessary.) However, with the right Printer File telling LocoScript how to translate the codes in the document, your document will print correctly. The question is which is the 'right' Printer File and how do you ensure that LocoScript uses this file when you come to print your document.

## THE PRINTER FILES YOU NEED

The information in the second part of the Printer Driver (.PRI) file is called a Character Set. So that the file is applicable to as many compatible printers as possible, this Character Set tends to contain just the characters that appear on all these different printers. For dot-matrix printers, this Character Set in the .PRI file is often all you need because these printers generally use

either the same set of characters as an Epson FX-80 or the same set of characters as an IBM printer. However, the characters you can print on your daisy-wheel printer depend on the printwheel you have fitted and this can vary greatly from printwheel to printwheel. In such cases the Character Set in the .PRI file will at most allow you to print A...Z, a...z, 0...9 and a few punctuation marks. The other characters on your wheel either won't be printed at all or will appear in the wrong places. For example, you might have } where you expected ] or vice versa.

So as well as the Printer Driver file, LocoScript lets you have a number of 'Character Set' files – sharing the same main name as the Printer Driver file but with filetypes that start with a #. Each of these files contains an alternative Character Set, to be used instead of (or as well as) the one in the .PRI file. So you can have Character Set files to support both different printwheels and alternative character sets on your dot matrix printer. For example, the Amstrad DMP3000/4000 printers offer both the Epson and the IBM character sets. The .PRI file for these printers includes the Epson character set, and in a .# file (DMP3000.#IB) can be found the IBM character set.

It isn't necessary to have a different Character Set file for each of your printwheels, just one for each 'family' of wheels. For example, the Juki 6100 printers are often fitted with Triumph Adler Group 2 printwheels such as Primus 10, Caroll 10, Madeleine PS, Tile PS and many others. These wheels all have the same characters on them and the widths of the characters on the PS wheels are the same, and so they can all be supported by the same Character Set – the one in the JUKI1600.#02 Character Set file. So for each Character Set, you give LocoScript a list of the names (Primus, Caroll etc.) and pitches (10, 12, PS etc.) of the wheels you will use with this Character Set. These are known as Character Styles and

are purely labels (though the pitch part has to be accurate because it enables LocoScript to get underlining right) and you can change these names at will.

The first thing to identify is the .PRI file you need because this contains the information LocoScript needs to 'drive' the printer. Ideally, you use one that is specifically intended for your printer because this will enable LocoScript to use all your printer's features as it prints out your documents. But if there isn't a .PRI file specifically for your printer, you can usually use a file designed for a printer that is described as being compatible with your printer. For example, if your printer is said to be FX-80 compatible, you should be able to use the .PRI file supplied on the LocoScript disc for use with the FX-80 printer or the FX-80 NLQ version. Saying a printer is 'compatible' with another means that the same codes select the same printer features on both printers.

However, using another printer's .PRI file can mean that you aren't able to use all your printer's features. For example, if you use the file for an FX-80 with some other dot-matrix printer, you won't be able to produce 15 pitch characters, even if your printer has this facility – because the Printer File you are using has been set up to cope with the fact that the Epson FX-80 printer does not have a 15 pitch option. Similarly, if you use D630 files with a daisy-wheel printer that uses 100-petal wheels, you won't be able to use four of the characters on your print wheels because the D630 files are set up for 96-petal printwheels.

Once you have identified the .PRI file to use, you then have to think about the Character Set you require – does the Character Set in the .PRI file support the character set or printwheel you want to use or do you need a different one? Again, if the Character Set doesn't exactly match the character set or printwheel you propose to use, you can often still use it – thanks to the way most printers use the standard

ASCII character codes. The drawback is that the widths and positions particularly of special characters like } and ] are not the same on every printwheel and so you may have to put, say, { in your document wherever you actually want to print #. You may also find that the letters won't be spaced properly when you are using proportionally-spaced text.

If you use the standard range of ASCII characters your documents are unlikely to be affected by such 'deficiencies'. But if you use non-ASCII characters and/or like to use proportionally spaced text, you really need a .#xx file containing the correct details for the Character Set you are using. Many are supplied with the latest version of LocoScript2 and others can be prepared with the aid of the Printer Character Sets Disc. This disc contains a program that will generate a .#xx Printer File from the information you prepare about your printer's character set or your printwheel.

#### INSTALLING A PRINTER

Installing a printer on your system is simply a matter of making the Printer files and a special file called INSTALL.DRV 'available' and then updating the Setting file to include details of your new printer. (The Settings file SETTINGS.STD, you will remember, records all the details of the printers and the types of paper you like to use, together with details of which printer you regard as your standard printer and the main printwheel that you use on each of your printers.)

Whenever LocoScript wants to use a Printer File, there is just one place it looks – group 0 on Drive M. So making a Printer File available is a matter of arranging that there is a copy of this file in group 0 on Drive M.

The way to do this is to store copies of the Printer Files in group 0 of your Start-of-Day disc because LocoScript automatically copies any Printer Files in this group to group 0 on Drive M as part of the process of loading LocoScript. Thus with the

# Joined up writing on a PCW8256? Yes, use LocoFont!

LocoFont Set 1 & 2 give you ten distinctive tpestyles on the PCW's built-in matrix printer.

With LocoFont your PCW printer can print in a variety of different tpestyles. A total of fourteen styles are available in Set 1 and Set 2.

A set of LocoFont tpestyles consists of a disc including a "character set" file for each of the extra tpestyles, together with full installation instructions. Except for Old English, all styles include all of the characters provided by LocoScript2. Briefly, all you need to do to access the fonts is to copy the files to the Start-of-Day disc and update the Settings file. To use one of the new tpestyles, simply select the appropriate character set.

The Sans Serif style has been designed with the same character widths as the standard style. So Sans Serif documents lay out identically to the standard style. The other new styles have different character widths and documents using these may lay out in a slightly different way.

The two "Mini" styles are designed for use at eight lines per inch, giving more characters to the page. The rest are intended to be used at six characters per inch.

Note that a document can only use a single style.

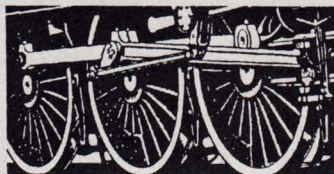
LocoFont Set1 & 2 are available from The Amstrad User at \$75.00 and \$65.00 respectively.

## LocoScript2 - New Edition!

If you haven't already, now's the time to move up to LocoScript2 - the better word processor for the PCW.

Not only have we released LocoFont (which only works with LocoScript2), but for LocoScript2 itself now comes with two highly quality tpestyles. And if you want to use a different printer, we now support over 250 matrix, daisywheel and laser printers - but for some, you may need the Printer Drivers Disc

The new edition of LocoScript2 costs \$87.00. Buy LocoScript2 together with our spelling checker LocoSpell for \$130.00 saving \$32 on the combined price. To complete the family, add LocoMail for \$105.00.



## LOCOMOTIVE SOFTWARE

Allen Court, Dorking, Surrey RH4 1YL  
Phone (0306) 740606

## LocoFont - Set 1

**Definite**  
We have been forced to adopt a tougher approach regarding returns of faulty product. We request that you now call our office on the number....  
ABCDE abcde aByde ABfAE aBerr AEBfT

**Roman**  
All amounts are now expressed inclusive of Value Added Tax. The amount still remains payable at the prevailing rate, subject to the....  
ABCDE abcde aByde ABfAE aBerr AEBfT

**Script**  
We're glad to hear that you enjoyed the little "surprise" party that we threw for you. The flowers were father's idea and he even chose the...  
ABCDE abcde ABfDE aBye aBerr AEBfT

**Copper Plate**  
You are invited to join in with another of Ted's housewarming parties. This time if you want anything other than hotdogs, crisps and beer then...  
ABCDE abcde aByde ABfAE aBerr AEBfT

**Standard**  
Please find enclosed confirmation of your order for an additional 50 brass fittings with screw threads. There is a five percent increase to our....  
ABCDE abcde aByde ABfAE aBerr AEBfT

**Modern**  
After you have disconnected the rear cover, gently remove the card marked screen and place it to one side. You should not attempt to force any of ...  
BCDE abcde aBye ABfAE aBerr AEBfT

**Capitals**  
FOR SALE :  
MINI 1000 - GOOD LITTLE RUNNER, NEEDS A LITTLE WORK. TAX AND M.O.T. UNTIL JANUARY 89. NEW SUBFRAME, BRAKES ....  
BCDE ABCDE ABfAE ABfAE AEBfT AEBfT

**Deco**  
Avocado Pear £1.95  
Prawn Cocktail £2.50  
Paté £1.95  
Cantaloupe Melon £1.95  
BCDE abcde aBye ABfAE AEBfT aBerr

**Finesse**  
St David's School - Summer fête 88  
This year's fête will be even bigger than last year's. We hope to exceed last year's fund raising efforts ....  
BCDE abcde aBye ABfAE aBerr AEBfT

## LocoFont - Set 2

**Penman**  
This will probably be the longest letter that I have ever written to you. I just haven't had time to put "pen to paper" since I started my...  
ABCDE abcde aBye ABfAE aBerr AEBfT

**Mini 15/17**  
The software contained in this package is supplied on the terms and conditions indicated below. Opening of this package indicates acceptance of...  
ABCDE abcde aBye ABfAE aBerr AEBfT

**Old English**  
The Old Antique Shop  
27 The Square, West Street  
Somerton, Somerset  
BA22 4BN  
ABCDE abcde

**Mini PS**  
You should follow very carefully the installation instructions enclosed with this package. Do not start to use the package until you have first...  
ABCDE abcde aBye ABfAE aBerr AEBfT

**Mail your orders to:**  
**THE AMSTRAD USER,**  
1/245 Springvale Road, Glen Waverley,  
Victoria. 3150.  
**Phone your firm orders to:**  
**(03) 233 9661**  
*Bankcard, Mastercard or Visa accepted.*

files stored on your start-of-day disc, you can be certain that the Printer Files are available for use any time you switch on and load LocoScript – without you having to do a thing.

This is the first stage of installing the printer; using the Settings menu to change the Settings file is the second. Until you have updated the Settings file, you can't access your printer. But before you bring the settings menu onto the screen to do this, you need to arrange that there are copies of your printer files in group 0 on Drive M. The mechanism for adding new printer names to the list in the Settings file relies on having the relevant Printer files available in Drive M. If the Printer files aren't there, LocoScript won't see them.

If you have a single-drive PCW, these files will probably be on Drive M when you get to this stage – simply because you have to go via Drive M to create copies of these files on your start-of-day disc. If you don't have these files on Drive M already, then the easiest thing to do is simply reset your PCW and re-load LocoScript – because this automatically gives you the files you need on Drive M.

Simply open the Settings menu and then writing the new Settings file to your start-of-day disc is enough to update the list of printer names, but that is not all the information that needs to be recorded. You also have to specify some fundamental details about the printer so that LocoScript can send information to it. In particular, you have to record whether the printer is a serial or a parallel (Centronics) printer (effectively, which connector on the interface it is attached to). From version 2.12 you also have to tell LocoScript how wide the printer is: this has been added to allow the same printer file to work with printers designed to handle different paper widths.

With a serial printer, you also have to set some other information – which baud rate it works at and what parity and protocol it uses.

The baud rate specifies the rate at which information should be sent to the printer; the parity and the protocol set the rules about how the information is sent and what type of checks are made to ensure that the information is being sent and received correctly. The printer's own manual should tell you what you need to set.

These details are set through the 'Printer Options' part of the Printer Defaults menu, which you display by selecting the Printer Defaults option in the Setting menu. But be careful when you are setting these details that the Printer Defaults menu is dealing with the defaults for your new printer or you will set the information for the wrong printer!

When you leave the Settings menu after using these menus, LocoScript automatically updates its working copy of the Settings file – which means that you have the printer information fully available certainly until you switch off or reset the machine. However, it doesn't make this information permanent. To ensure that, you have to save the new version of the Settings file on your start-of-day disc. (LocoScript always takes its working copy at load time from the Setting file on the start-of-day disc.)

LocoScript automatically offers to update the copy of the Settings file on your start-of-day disc as you leave the Settings menu – or rather, it offers to update the Settings file 'on the disc in Drive A'. The idea is that you now insert your start-of-day disc in Drive A (Side 1 to the left) and have the Settings file updated now (so that you don't forget to do it later!). When the message appears, you just have to check your start-of-day disc is in Drive A, check that the option to 'Write SETTINGS.STD to the disc in Drive A' is selected and press <enter>.

#### USING THE PRINTER

Installing the printer is half the battle. All that remains to do is to connect the printer to your PCW, set

whatever switches are necessary on the printer itself and, finally, tell LocoScript that you want to use it.

Connecting the printer is usually a straightforward matter of using the correct cable and is in any case fully explained in the printer supplement.

The switches on a printer allow you to select a range of special printer facilities such as proportional spacing and auto bi-directional printing. In fact, most of these features can be (and are) selected by LocoScript directly and so, contrary to what you might expect (and to what your printer's manual might suggest!), you should generally leave these unselected.

To tell LocoScript to use your printer, you have to make it the 'Current' printer. There are two ways of doing this. One way is to press 'PTR' to enter Printer Control State, and then use the f5=Printer menu to select the printer (and Character Set and Character Style) you require. The other is to set up the document you want to print for this printer and then accept all the 'Change to intended' options that appear when you come to print the document.

Which of these methods you use is up to you. Setting the document up for the printer takes a little more time and effort, but it will give you properly positioned proportionally-spaced text. It also means that LocoScript will, if necessary, set itself up for your chosen printer: you don't have to remember to do this before you print.

For this reason, it is generally recommended that you set up each of your documents for the printer you will use to produce the finished version, particularly if you want to use any proportionally-spaced text. You are also recommended to set up the template for any group of documents for the printer that you will ultimately use to print these on: then any new document you create using this template will automatically be set up for the correct printer.

For fixed pitch, unjustified text

and for draft versions of the document, a mismatch between the printer the document is set up for and the printer you actually use doesn't really matter and you might just as well leave the document set up as it is. You may, however, see some curious effects in justified and right-aligned text. In particular, if you print a document set up for the built-in printer on some other printer, you may see full stops, commas, and underlining extending beyond the end of the line. These are side effects of the extra work LocoScript does so that the best possible result is produced on the built-in printer, and will clear if you set up the document for the printer you are actually using.

**AND FINALLY...**

When you have done all this, your

problems are basically over. There are just two more things that you need to know about – handling single sheet stationery and what you have to do to install your printer on any new version of LocoScript2.

Handling single sheet stationery is just a matter of appreciating that LocoScript can't detect when you have loaded a fresh sheet of paper on an external printer in the way it can on the built-in printer. It therefore can't tell when to clear its 'Waiting for paper' state. Instead, you have to go into Printer Control State and clear it yourself.

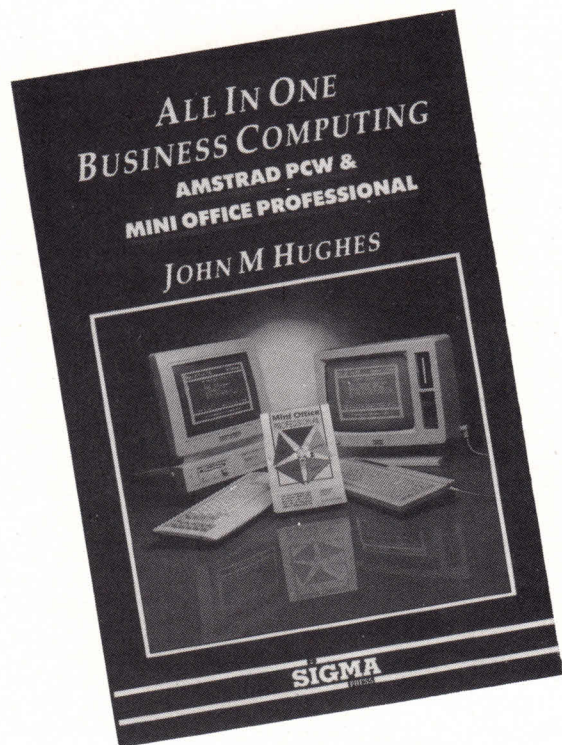
To install your printer on a new version of LocoScript2, you will usually just need to transfer your current SETTINGS.STD file from your old start-of-day disc and move the printer files you require from one side of the new Master disc to

group 0 on your new start-of-day disc. (You should always use the most up-to-date version of these files that you have).

The only time you need do anything more is when you upgrade from one of the earlier version (2.00...2.06) to the latest version. Because the Printer options menu now includes a setting for printer width, you have to update your Settings file to include this information.

The penalty for not doing this is that LocoScript will assume that your printer is just four inches wide – so that there is absolutely no risk of the printhead crashing into the right hand side of your printer. This will make your documents very narrow!

## Everything you ever wanted to know about Mini Office Professional but were too afraid to ask...



Hot off the press, this well written and easy to follow book by John Hughes takes you through the Mini Office Professional business package for the PCW. Make the most of your PCW, maximise your productivity, and never complain again that you don't understand your computer.

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FOR THE  
AMSTRAD PCW  
8256/8512  
DISC

# DEADLY DOUBLE

Here's a pair of games for the PCW that will get you thinking.  
There's a lot more than mere shoot-em-up here.  
Fancy some strategy with action?

## THE ARMAGEDDON MAN Strategy game on how to *KEEP* world peace

RRP - \$57.95

Are you tired of letting people push you around? Do you wish you could have a bit of real influence over people? Do you think you could make a peacemaker? If you've been answering yes maybe you should take a look at this release from Martech. This game of full on strategy and brain twisting will either leave you with a big headache or a peaceful world and a big score.

Sorry to those sado-masochist psychotic degenerative Rambos out there, but this game is about making peace and promoting fruitful socio-economic relations between the sixteen member countries of the UNN, so turning the planet in a steaming radioactive wasteland won't do anything for your score.

You are designated the glorious position of Supreme Commander of the UNN, and to be successful at your job you'll need to be skilled in diplomacy, tactics and military command - indeed no less. You can't forget that you are working with sixteen different nations, each with its own personality, problems and needs. You need to maintain constant contact with all the nations, because if you don't know what they are all doing you're in for the

occasional nasty surprise. Nations left to their own devices can do strange things. Also you need to be liked by each nation. Your success depends a lot on the respect you command and earn.

It is important to encourage and work towards improving and maintaining good relations between the countries. Obviously some of the countries will always be enemies, or so it seems, so you might at times need to intervene with a well placed defence satellite to inhibit nuclear warfare. Smaller conflicts can be resolved without too much trouble, maybe a small redistribution of resources.

Each nation will normally remain happy if its supplies of food and resources are up, but a sure sign of future turmoil is a shortage of food or some resource, so as Supreme Commander, you must attempt to control trade between nations so as to maintain a worldwide economic equilibrium.

The military scene can be a chaotic one if you are not very careful. The secret here is to balance the powers so that an aggressive nation is not laden with weaponry while its neighbour is being over-

supplied with food. You will soon realise that all is not obvious on the surface and it takes some researching and listening in on conversations to get ahead of the trouble before it erupts.

The game's design makes it relatively easy to use and understand. The program as far as possible uses icons to clarify and simplify operation, and in all this works well. The main screen shows a map of the world with five icons to select from. These icons control the major functions of the game, including the positioning of satellites for surveillance, access to information on the state of the sixteen nations, control of communications between you and the nations, and finally the operation of a radio network.

The radio network allows you to monitor the world's airwaves. You can listen to commercial radio, or more to the point, tap in to clandestine conversations between nations. The radio monitoring system is not terribly easy to operate at first but gets easier with practice. You learn with time to tune into the correct frequencies that enable you to hear the at first unintelligible messages flashing on screen.

To make things a bit clearer for you, a fold out map is provided with re-useable peel off flags. This way, at least you don't have to store everything in your head. The map refers to a future time when a European Alliance has been formed, creating one European nation. The

same has occurred in Central America and the Middle East. As for Down Under, Papua New Guinea is included with Australia but sorry Kiwis, New Zealand doesn't rate a mention!

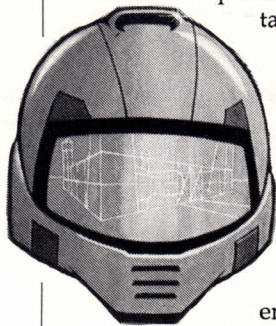
This game always has something happening, and if you can spend the

time getting familiar with the techniques and operation, you should get a lot of enjoyment out of Armageddon Man. If you're asking yourself "Could I be a peacemaker", this will tell you while you have a lot of fun.

## CATCH 23

3-D vector graphics from Martech

RRP - \$57.95



Picture this. You have just been pushed out of a military plane and you are parachuting down onto a highly fortified enemy island a long way from nowheresville. Your brief is simple. You are to stop "the enemy" from using their latest super-weapon - the CK23 Orbital Interceptor. Your mission is to explore the island and find the heart of the complex where the CK23 is housed. After stealing the design papers you are to set a time delay bomb in the nuclear reactor and get out fast. The explosion will destroy the entire island, so you won't really want to be there.

Hope you weren't expecting coral reefs and wet T-Shirt competitions, because your time on this island, if you last any time at all, is strictly business. The island is divided up into fourteen zones, and depending on the wind at the time that you jump out of the plane, you could land in any one of these. Each zone is set out with its own terrain, buildings, flora and enemy bases and each, it would seem has its own surprises.

You proceed on foot around the island and the screen shows the view from your helmet. The outside world is shown in 3-D vector graphics style, which although minimalist and at times a bit dull, does create a very ominous scene. The reason

given for this presentation is that a moonless night was chosen for your drop and the screen is a pseudo infra-red representation of the terrain created by an advanced image enhancer! Top marks for creativity anyway. The screen also provides you with some useful information including the current zone you're in, the time (between 2200 and 0600 hours), the score, bullets and bombs remaining, battery status, compass bearing and a gauge called a dangerometer. This serves the useful purpose of forewarning you by a few seconds of a confrontation with a foot patrol or an armoured vehicle.

Sadly, but perhaps to preserve realism, you are afforded only one life, so be very careful not to walk into an enemy proximity mine. If your battery isn't flat, your mine detector should notify you in good time, if your batteries are flat... well... Enemy patrols can pop up at any time from virtually anywhere, so you really have to be on your toes. Luckily the compass allows you to look around you very quickly and avoid an untimely end.

Although never without excitement, walking around on foot can be a bit slow, so nearly 50 shuttle services are provided across the island. The graphics showing the scenery accelerating towards you are impressive, but one warning from the manual - taking the shuttle is not always a wise undertaking.

As you walk around and investigate, blow up enemy buildings and have shoot-outs with enemy foot patrols, you begin to think you'll

never make it. Persevere. Luckily, if you run out of bombs (you are only allowed three at any time) you can find these around the place easily to remain stocked up.

For a bit of added excitement and apprehension, the manual goes to quite a lot of trouble to explain the existence of an underground resistance movement - "I weel say ziss onle once". These mysterious sixteen characters and their unknown seventeenth accomplice managed to nearly sabotage the CK23 project when they worked as engineers, but were discovered and thrown out. What should happen if you meet one of these is never explained and I can't provide any help either because I never met any. They seem pretty interesting folk though. One of them, a sports crazy Australian called Colin Lassiter is a three-times married (!!) Karate blackbelt who hates snakes. He sounds a bit more exciting than his Norwegian astrologer friend Olaf whose claim to fame is discovering a new star.

Overall this game rates eight out of ten - it's well designed and very addictive. It requires a good balance of nous and reflexes, and is never boring. You never quite feel in control, and it's the desire to get further into the island and complete the mission that keeps you coming back. It's a pity that you only have one life but a save facility like on adventure games is offered.

If you like games with a bit more to them than just trigger-happy cowboys and Indians, then Catch 23 is the game to keep you coming back for more.

# DAATAfax

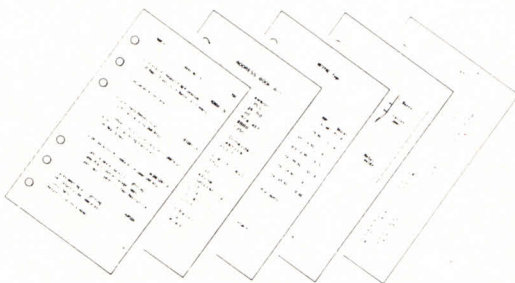


## DAATAfax for the AMSTRAD PCW 8256/8512/9512

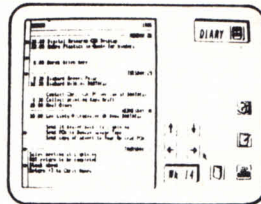
This exciting new product is a computer-based personal organiser that generates Filofax (TM) compatible output using the Amstrad PCW printer, together with DAATAfax computer stationery, which is available pre-punched with six holes either in white or a range of pastel colours.

The program, which consists of four modules, makes use of ICONs for ease of use and can be used either by the keyboard function keys or alternatively via the Kempston Mouse.

The datafiles generated by the program can be backed up on disc so eliminating the heartaches associated with losing your Filofax!

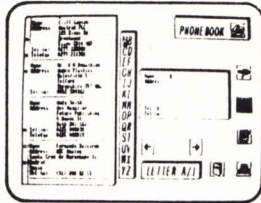


### DIARY



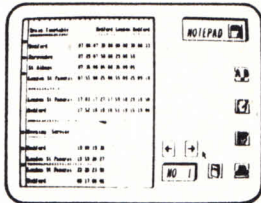
This features six lines per day and four days per page. Printing is selectable for a range of weeks up to a complete year. The powerful on-screen text editing facilities include cut and paste, enabling entries to be moved to other parts of the diary via the clipboard.

### PHONEBOOK



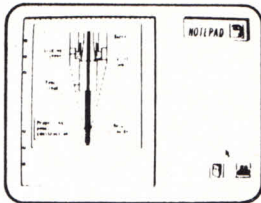
The phonebook allows names, addresses and telephone numbers to be stored in abbreviated one or two line formats, or as full entries. An alphabetic index is provided enabling fast access to the entries. The powerful search facility enables entries to be located by matching phone numbers and/or part of the name and address.

### NOTEPAD



This option allows text entry in free format and can be used to hold notes in greater detail than those held in the diary. As well as comprehensive text editing; facilities which include word-wrap, cut and copy, cut and paste, tab setting are provided which are particularly useful for printing timetables, expense sheets, bank balances etc.

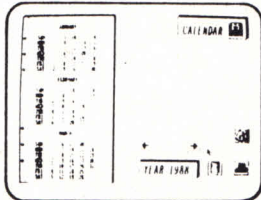
### GRAPHICS



A graphics conversion program is provided enabling graphic images generated from within "The Desktop Publisher" (Database) to be read into the Notepad Option, which can then be printed onto DAATAfax paper.

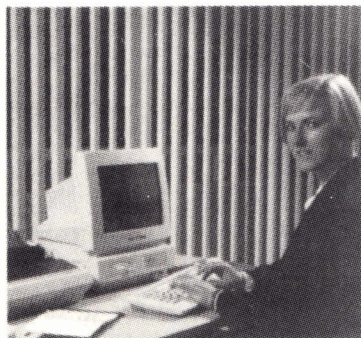
A further conversion program is provided for Locoscript files enabling these also to be read into the Notepad.

### CALENDAR

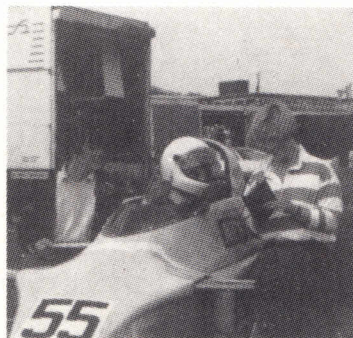


This option prints three months per page for any year. The selected month is also shown whilst in the Diary Option (standard mode).

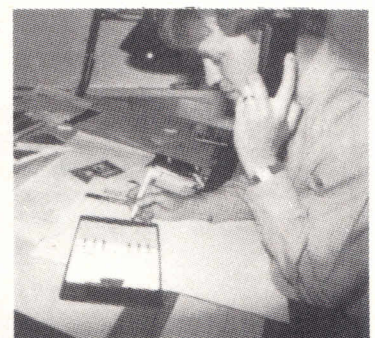
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# PCW POT POURRI

An honest attempt to answer a myriad of PCW queries, the sorts of questions we just don't get to answer anywhere else. No stone is left unturned...

## NOGO LOGO

Is anyone out there using Logo? If so, has he sussed out how to combine text and graphics in the same area and will he be so kind as to spread the benefits of his genius to us lesser mortals?

The PCW8256 User Guide lists the 'primitive' tt, which the Guide to Logo (Soft 160) identifies as 'turtle text' and shows how it can be used to write text (on screen and printer) within graphics, ie not just in a separate area.

So what's the problem? Unfortunately, the User Guide, which recommends the Guide to Logo, doesn't mention that it was written for CPCs - nor that the program supplied with the PCW doesn't recognise this primitive.

*It's not listed in the User Guide. I imagine you must have an early version of the guide and that later editions removed reference to a primitive which, as you say, is not available on the PCW version of DR Logo.*

*Do any readers know of a way of combining text with Logo graphics? It should be possible to write Logo procedures to draw each letter, but they'd take up a fair amount of space.*

## PRINTER PROBLEM

From time to time my PCW8256 has a very stubborn mood. I may

have edited a file or created one and, when satisfied, I EXIT so I can choose a print out and up comes a shortened menu, offering only the options 'Finish Editing', 'Save and Continue' or 'Abandon Edit'.

What on earth is this menu? I cannot find any mention of it in the manual. Once it gets in this mood the 8256 proves too stubborn to desert it, no matter how many files are called up and offered - hence this letter on an ordinary typewriter!

How do I get a print out from this shortened menu?

*Locoscript, being a clever sort of word processor, can tell whether your printer's in a fit condition to print a document. If it is, it offers the 'Save and Print' option in the expected way. If the printer's not properly connected, or busy printing something else, the option isn't offered.*

*First press [CAN] to remove the menu. Check that the printer is properly connected and ready to print, then press [PRT], [f7] for 'Reset' and [Enter]. This will reset the printer so Locoscript knows it's available.*

## ITTY BITTY SCREEN DUMP

I have at times been recommended by those more knowledgeable than myself, using [EXTRA] + [PRT] for a screen dump. This gives my double printed compressed type which is slow and difficult to read. Is it possible to obtain a screen dump in a larger pitch and screen quality?

*There's no way of obtaining a larger screen dump from the PCW, unless there's a printer utility available commercially (or in the public domain) of which I'm currently unaware (but will no doubt be told about very soon by hundreds of readers!)*

## KEEPING THE PROGRAM INFORMED

Using NewWord with Drive B as the data disc on the 8512, I encountered a couple of problems but I do not know why.

I tried to recall a document and got the message 'Cannot create temporary files.' Assuming the disc to be full I checked and to my surprise

found 186K space left. The only way that I could recall the file was to delete a couple of address files.

I then changed to a new disc and part way through the next letter put in the old disc to recall a block and then changed back to save to the new disc.

The message received was to the effect that the disc was full (on a practically empty disc) and I had to abandon the file.

I tried again with the same result but this time, instead of abandoning the file, made the whole letter a block with a slightly different name and this time was successful in saving it. I then abandoned the letter file and printed the block.

*NewWord can't cope with disc swapping while you're editing a file. Even if you log the disc in again by typing [ALT]KL, you will continue to get the 'disc probably full' error. The only way out is, as you describe, to mark the top and bottom of the file and write it out to a file with a different name with [ALT]KW.*

## SUBMITTING TO THE RULES

Would you, or any of your readers, know how to use the SUBMIT.COM CP/M utility with an unprotected disc? I have set up both SuperCalc and dBase II to cold boot, but can only do so with the system disc write permitted, which I consider to be a dangerous practice. Any ideas?

I am using an 8512 in a small business environment (no games at all), running Locoscript, SuperCalc and dBase II (just learning). It is of great value and has cost less than \$2,000 in total, as opposed to \$12,000 for an all-dancing, all-singing man-sized system which I could not financially justify.

*A lot of people have realised the potential saving of a PCW over a PC.*

*As far as your problem is concerned, I assume you mean you want to use SUBMIT on a protected disc, as it works normally on an unprotected one. The answer is no; you cannot run SUBMIT if the disc is protected. SUBMIT creates a temporary file while*

*it's running, so it can make a note of where it has got to. It has to be able to put this file on the boot disc.*

*There is no danger in writing to your boot disc, as long as this disc is a copy of the master.*

### FOREIGN ACCENTS

From time to time I have to produce foreign language texts. NewWord doesn't support accents and special characters, which means I have to put them in by hand (which defeats the object of buying NewWord).

I've fiddled around with SETKEYS for ages but to no avail. All the extra characters I want have an internal hex value of 7F upwards, and p.103 of the Amstrad Manual points out that such characters will be misinterpreted by certain CP/M programs. In fact NewWord either ignores the character altogether or returns a seemingly random character from lower down in the ASCII set. The NewWord manual doesn't discuss the problem at all.

Am I trying to achieve the impossible?

*The reason WordStar and NewWord ignore the foreign language characters is that both word processors work on the 7 bit ASCII character set. In other words, they ignore all ASCII characters with values above 128 decimal.*

### I'M LOSING MY MEMORY

May I enquire if any of your readers has encountered a similar problem to mine since fitting a memory upgrade to my PCW8256. My machine is one of the earlier models and since it involved some soldering, I got a friendly Electronics Engineer to do the actual fitting.

It works beautifully when first switched on, '368K drive M:' every time, but if I clear the machine with [SHIFT][EXTRA][EXIT] it reverts to the old '112K drive M:'. In both cases the statement is correct. If I need the extra memory for a particular purpose then instead of clearing I have to switch off and then on again. Neither the supplier of the chips nor Amstrad have any words of wisdom to offer on the

matter so I am wondering if any of your readers might have any suggestions.

*The only thing we can think of is the setting of the links on the main circuit board of old PCWs. If these aren't set correctly, they might produce the problems you describe. Has anyone any other suggestions?*

### SCREEN SHOTS

I wonder if any PCW owners out there could possibly let me know how to clear the screen and 'home' the cursor, as there is no 'CLS' command as on CPC machines. Also, is there a way of doing a clear screen command in CP/M as with the IBM PC, ie 'CLS'?

*You have to send 'Escape sequences' to the screen in order to clear it or home the cursor. The commands are PRINT CHR\$(27);"E" and PRINT CHR\$(27);"H", respectively. Note that the clear screen command doesn't automatically home the cursor. The only escape codes can be found on pages 139 to 149 of the manual.*

*You can clear the screen from CP/M by pressing [EXIT]E ([EXIT] being the equivalent of Escape).*

### BASIC PROBLEMS

I wonder if someone could help with the following:

(1) Is it possible to renumber line numbers when compiling a BASIC program (without editing each individual program line, that is)? A problem arose while copying a lengthy program from a book and finding that the first module had been numbered out of sequence with the rest of the program. The AUTO command is a great time saver but if you edit a program while AUTO is running you have to reset it and can sometimes miss a cypher or two which completely scrambles entire sections of the program (does this make sense?)

(2) When typing in a program one often hits RETURN only to find there is an error in the previous line. How can you edit this without going through the laborious task of

cancelling AUTO and using the EDIT command (ie. is there any way of moving the cursor up a line or two to use the DELETE keys etc.)?

(3) Where could one obtain a comprehensive guide to Mallard Basic? In the past I have used a ZX Spectrum etc. and find it a little confusing coming to terms with the different BASICS!

*The renumber command in Mallard BASIC takes the form RENUM new line number, old line number, increment, so RENUM 500, 100, 10 takes all the lines from 100 onwards and numbers them 500, 510, 520 etc. I'm afraid there's no way out of the AUTO, EDIT, AUTO cycle. It looks like you are one of the unfortunate people who didn't get a BASIC manual with your PCW (a change of policy at Amstrad). A Mallard BASIC Manual by Locomotive is available from most Amstrad dealers or by mail order through The Amstrad User for \$39.50.*

### TAKE YOUR PICK

I note you welcome and request questions and problems from readers (we do?! -ed.), but add the usual rider 'no personal replies'. Why ever not? Is it:

A: Those queries you are unable to publish are small in quantity and would be a nuisance to answer personally?

B: You feel unqualified to answer?

C: You receive so many queries it would take a separate department to deal with them?

If 'A', you should be ashamed of yourself, if 'B' you should not be in publishing. If, as I suspect, 'C', then there is obviously a need articulating itself which it behoves you to satisfy.

*We love you too. The answer is 'C'. Our business is publishing a magazine, not doing Amstrad's support job. If we set up a department to answer involved technical questions, we would have to charge at cost for our experts' time. I wonder how many people would be prepared to pay \$50 to \$100 for detailed advice through the post?*

# IF ALL ELSE FAILS READ THE MANUAL!

Mike Tuner looks at the trials and tribulations facing the writers of technical manuals and other documentation.

If you are like most people purchasing a new computer or piece of software, the first thing you want to do when you get the thing home is use it. There seems to be a tremendous urge to throw caution to the winds and launch straight into the use of your new acquisition without really consulting the accompanying documentation. "What documentation?" I hear you say. We will look at that particular problem a little bit later.

Documentation seems to be the flavour of the month at present, with more emphasis being placed on this important part of any hardware or software purchase. This is the first of what I hope will be a series of articles on various aspects of documentation. Whilst aimed particularly at those people developing their own software don't feel left out if you are a non-programmer. The principles involved are just as relevant to the average user who wants to clearly communicate ideas to others.

## WHERE DO YOU START?

Imagine you are making up a simple "cheat sheet" for your children to follow, to help them start up the computer and run a particular piece of software. Where would you start? Do you assume that they have a certain level of knowledge about the machine already, or do you start right from the beginning? How do they get themselves out of trouble after hitting a wrong key? Does the program concerned involve the use of the printer? If so

there is obviously a need to include instructions on that piece of equipment as well.

Suddenly your little one paragraph set of instructions has grown to several pages, as you try to anticipate every possible thing that could go wrong. You are now, (like it or not), writing a user manual. And you thought this article wouldn't be relevant to you. Before you despair at the complexity of the task and race out to buy a copy of "Brainstorm" (an ideas organiser), stop and look around at the manuals you already possess. There is much to be learned from the mistakes of others. So before we get into the nitty gritty of setting out your pearls of wisdom on paper, let's look at some of the problems encountered with some commercially available software and the associated manuals.

It is a sad fact of life that much of the software you are likely to buy will have inadequacies in the accompanying manual. This of course suits other writers who produce "How to" books and make a great living out of this thank-you very much. Some major packages such as WordStar and DataFlex have survived for years with rather hard to follow documentation. They have depended on the strengths of the software itself to keep the sales rolling in. Quite often manuals launch straight into fairly detailed technical explanations of things, which leave the computer novice floundering. A good cross referenced index and a glossary of terms

in easy to read English can be a real life saver to the novice. Well set out tutorials that allow the user some "hands on" practice with the package are also worthwhile. In this regard the manuals that accompany Amstrad computers are better than most although the setting out of topics still leaves a bit to be desired at times.

High printing costs combined with subsequent updates of the software often mean that you will find a "READ.ME" file somewhere on your software disc. This file should hopefully hold the latest information on the package concerned complete with corrections to the original version of the manual. With some software these files seem to be growing to almost the same length as the manual itself. I was quite peeved recently when using Mini Office Professional on my PCW to find that the manual had some very ambiguous sections in it. Having encountered "READ.ME" files before, I naturally turned to this file for help. I would simply call up the word processor and load in the file to have a look at it on the screen. This, I thought, would help me learn the various word processing commands at the same time. Imagine my horror when confronted with a very polite message saying that this was not a Mini Office Professional document. I had to resort to using the TYPE command in CP/M to bring the offending file up onto the screen.

## READING THE FINE PRINT

My heart went out to the poor souls who had just purchased their PCW and a copy of Mini Office thinking this would solve all their problems; only to find they had to learn more about CP/M just to read the instructions to their program. Let's be honest folks CP/M is not the most user friendly of operating systems for a first time user.

In my early days of computing with a CPC 6218, I purchased a copy of Printmaster Plus and Art Gallery 1, foolishly believing advertisements offering a preview of

your work option. The manual even had lovely screen diagrams showing both graphics and text. Then to find in small print that CP/M versions of the program don't support graphics was disappointing to say the least. The Printmaster manual is a classic example of what not to do when producing documentation. As the program comes in various versions for different computers, the manual tries to be all things for all machines and fails in the process.

So what does all this scrutinizing of other manuals teach us? Firstly, a manual has to be tailored to suit the particular program. If, for example there are lots of on screen prompts and help available within the program you can get away with a less detailed manual. Secondly, if the program can be run on different machines, the manual should be specifically designed to show the correct operating controls and limitations if any for each machine. If that means a separate manual for a CPC and one for a PCW then so be it. However a generalised manual with a supplement for

different machines may be the only economically sound option open to you. Thirdly, a well structured layout with a good index is important.

#### SAYING WHAT YOU MEAN

I prefer a multi-tiered approach when laying out a manual. By this I mean that there should be one part of the manual designed for beginners to get them started. A later section can then go into things in greater detail for the technically minded or those who wish to do more than just the basics and exploit the package to its full potential. Another worthwhile inclusion in a manual is a command card (or guide) listing all the necessary commands in tabular or diagrammatic form. If the program requires installation as many CP/M programs do, a separate section on the installation procedure should be provided. As this is a vitally important to the eventual successful use of the program, it should be written as clearly and concisely as possible.

Developing your own software can be fun and very satisfying. But unless the program is very simple and liberally sprinkled with in-built instructions, you will need to have some form of accompanying documentation. Even if you never intend others to use the program, the documentation can assist you at some later stage; particularly if you use the program infrequently. Several months down the track, in the wee small hours of the morning you won't have to wrack your brain for the correct command.

Even if you never write a program in your life you will still need to know what to look for in program manuals when buying other peoples software. Be discerning and make sure that the manual makes sense to you. If possible, have the particular piece of software you wish to purchase demonstrated to you. Try it out for yourself. If you and/or the salesman can't drive it and have trouble finding the answers to your questions in the manual; think twice before shelling out your hard earned dollars.

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# PRIVATE FUNCTIONS

Those ten function keys on the left of the keyboard *can* make things easy for you. Alan Murdoch explains how.

If you are anything like me then you are probably sick and tired of typing in DIR/W every time you want to check the contents of a directory.

As I am sure you will agree it can become a tedious necessity. However, with a little help from MS-DOS, your favourite word processor and a couple of files called ANSI .SYS and DEBUG .EXE, you can create a program that will give you the ability to call up a directory of any drive you wish with just one press of a key.

Now if that sounds like something you can use then keep reading and learn a little bit about defining the function keys on your Amstrad PC. The function keys, just in case you didn't know, are the keys on the left hand side of the keyboard and can be identified by the F that precedes the number on the keys.

You may be surprised to learn that there are 40 different function keys that can be defined. What's that you say? Where are the rest you ask? You can only see 10, clearly numbered from F1 to F10. Well that's perfectly true but by using them in combination with either the Alt, Ctrl or the Shift keys you can have up to 40.

But before you can get down to actually defining any function keys you need to ensure that the file ANSI .SYS is loaded into your computer's memory when the machine is first turned on. So the first thing to do is to check your CONFIG .SYS file to

see if it contains the line DEVICE = ANSI .SYS.

The file CONFIG .SYS can be found on your working copy of the Red MS-DOS start-up disc or if you have a hard disc in the root directory. To check to see if the required line exists type the following line at the DOS prompt:

```
TYPE CONFIG.SYS
```

and press [RETURN]. The contents of your CONFIG .SYS file should now be displayed on your screen. Check it carefully and see if it contains the line you require.

If it does then you can skip the next part and continue on from the heading DEFINING YOUR FIRST KEY. If it doesn't then you will have to add the line DEVICE = ANSI .SYS. One way is to load CONFIG .SYS into your word processor and then add the line. If you don't have a word processor then RPED will do the job nicely.

If you do own a hard disc machine then you may find that ANSI .SYS is not in the root directory but in a subdirectory. For example, the MSDOS directory. If this is the case you will need to tell MS-DOS where to find it when you add the line to your CONFIG .SYS file. For example, if the above is true then the line would look like this:

```
DEVICE = \MSDOS\ANSI.SYS
```

I would point out that just typing ANSI at the DOS prompt will not load ANSI .SYS into memory but instead call ANSI .COM which is something else again.

Once ANSI is loaded into memory it will remain there all the time but don't worry, it only uses just over 1600 bytes and will not interfere with anything else at all.

Now if you have done all the above and resaved the CONFIG >SYS file to disc, be it hard or floppy, you can reboot your computer by pressing Alt+Ctrl+Del to load ANSI into memory.

## DEFINING YOUR FIRST KEY

Once ANSI .SYS is loaded it becomes possible to redefine any key on the

keyboard to act as any other. For example, you could reverse the action of the cursor keys.

Or you can disable certain keys by defining them with no function at all.

So to assign different values to your function keys you need to use the appropriate ANSI commands.

Now you are going to create a small file that contains the correct ANSI codes to define a function key so that it gives you a directory listing on the screen with just one press of a key.

As an example, let's define F7 to produce a directory and when you know how to define this key you should be able to define the rest easily. The format that ANSI uses to define a function key is:

```
Esc [c;"d";13p
```

ESC and the [ (left square bracket) indicate the start of an ANSI command. The c represents the code for the key that you wish to define, (a table of values for all the function keys is listed below). The "d" which is enclosed in quotes is the definition you want that key to perform. The 13 is the ANSI code for a carriage return and the small p ends the define command.

Therefore, the command that makes F7 give us a directory looks like this:

```
ESC [0;65;"DIR/W";13p
```

Now that you have the correct command all you have to do is put it into a file. However, there is one small hitch. How do you enter an ESC character into a file when pressing ESC tells MS-DOS to abandon the command and start again?

If you remember at the start of this article I mentioned that you would need ANSI .SYS, MS-DOS and DEBUG .EXE. Well here's where DEBUG comes into play, but first, let's use MS-DOS to write a file that contains most of what you need. At the DOS prompt type:

```
COPY CON F7.DFK
```

and press [RETURN]. (Note: COPY CON tells MS-DOS to copy the following lines from the console into



a file called F7.DFK. The DFK stands for Defined Function Key). Now type:

X[0;65;"DIR/W";13p

(Important: The p must be a small p.) and press [RETURN]. Now type:

Ctrl+Z

(This means press the Ctrl key and the Z at the same time.) and press [RETURN]. The words 1 file(s) copied should have appeared on your screen. If it didn't, repeat the process again until it does.

So far so good but the X is not a good substitute for an ESC code. You still need to enter the ESC code and for that you need the file DEBUG .EXE.

Make sure that DEBUG .EXE is on the current disc or, if you have a hard disc, that it's on the path then type the following:

DEBUG F7.DFK

and press [RETURN]. If all is well a hyphenated prompt will have appeared on the screen. Now type

e100

and press [RETURN]. You will see some numbers on the screen that look something like this:

XXXX:0100 58

The XXXX's represent a 4 digit number that varies from one computer to another and can be ignored. The 0100 is the start of the file F7.DFK that you are editing and the 58 is the letter X which we used instead of ESC at the start of the line you entered above. Now type:

1B

and press [RETURN]. 1B is Hexadecimal for Escape, so you have just changed the X to ESC.

Now type:

W

and press [RETURN]. This Writes the changes you just made to disc, you should see the words:

Writing 14 bytes

on your screen. Now type:

Q

and press [RETURN]. This Quits DEBUG and returns you to MS-DOS. That's it! you have just defined your first function key. Now all you need to do is test it. To do that type:

TYPE F7.DFK

and press [RETURN].

Hopefully all went well and nothing appeared to happen except the screen scrolled up one line. If however, when you TYPED F7.DFK something like the contents of the file appeared on the screen, ANSI .SYS has not been loaded or there's an error in the file. Check that DEVICE = ANSI .SYS is in the CONFIG >SYS file, then reboot the computer. Try TYPEing F7.DFK again. If it still doesn't work rewrite the file F7.DFK exactly as it appears on these pages and try again. If you have it right pressing F7 will give you a directory of the current drive.

CODE TABLE

Key	Normal	Shift	Ctrl	Alt
F1	0;59	0;84	0; 94	0;104
F2	0;60	0;85	0; 95	0;105
F3	0;61	0;86	0; 96	0;106
F4	0;62	0;87	0; 97	0;107
F5	0;63	0;88	0; 98	0;108
F6	0;64	0;89	0; 99	0;109
F7	0;65	0;90	0;100	0;110
F8	0;66	0;91	0;101	0;111
F9	0;67	0;92	0;102	0;112
F10	0;68	0;93	0;103	0;113

At this point you will have one function key defined. From here it is a simple matter to define as many more as you would like. For example, to define F8 to give a directory of the A drive if you have a hard disc, or the B drive if you have 2 floppies type:

COPY F7.DFK F8.DFK

and press [RETURN]. You have just created an exact copy of the file F7.DFK but it is called F8.DFK. Do a directory and confirm that you do indeed have 2 files with these names. You may continue creating as many files as you think you will need, or you can load your favourite word processor and make as many copies

as you like.

At this stage you could have 10 or more files all with different names but the same extension. However, they all have the same function, so the thing to do is to edit them using a word processor or RPED and using the table supplied edit the numbers to suit the keys you wish to define. In the case of F8 you are changing 0;65 to 0;66 and "DIR/W" to "A:\DIR/W" or "B:\DIR/W" depending on your computer, so that when TYPED F8.DFK will define the function key F8.

You can define a function key to log onto a different drive, or for those of you with hard discs it is possible to call up your favourite applications by simply defining a function key to do the job for you.

Once you have all the files edited and tested, you can load them each time they are needed by simply TYPEing them.

This could be annoying if you have a lot of keys to define. Wouldn't it be handy if you could load them automatically when you turned on your computer? Well you can. All you need to do is copy all the files into a single file that you can place in your AUTOEXEC.BAT file. So that your function keys are defined each time you boot your computer. To copy your group of files onto one file type:

COPY \*.DFK FUNCTION.DFK

and press [RETURN]. This will create one file named FUNCTION.DFK (You can call this file anything you like). Now all that's needed to run this file automatically when you boot your computer is to add the following line to your AUTOEXEC .BAT file.

TYPE FUNCTION.DFK

This has to be the last line in your AUTOEXEC .BAT file, as any command after it will fail to be executed. Although there's a lot involved, being able to define your own function keys should prove to be very useful even if you only use it for a one key directory selection.

# MORE AMSTRAD PC1512 HINTS

When you first start out with a computer you're full of zeal and everything is done in a bit of a rush. Kevin McLean will help you to understand what you're doing and avoid some undesirable mistakes.

This article deals with the 'fiddly bits' associated with buying and starting out with a computer, such as disc drives, discs, formatting, booting up, memory, files etc.

## DISC DRIVES??

Recently, a friend purchased a brand new AMSTRAD computer (XT model) with a single drive. The obvious question, before purchase, was whether one drive was adequate for the user. After working out just what the computer was to be used for and what software would be required, figuring out the number of drives became common sense.

'What software' is the key question for most new users, as usually they have no idea just what software they require to do the tasks they have in mind. The user from the above example required the computer to keep records, write correspondence, help with household accounts, and to be an educational tool for the younger members of the family. These reasons are fairly universal, but don't include the big attraction for the kids, the games.

Purchasing a single disc machine allows for expansion to a hard drive later. The current low price of hard discs makes them a feasible purchase when compared to the cost of another floppy drive. Also, the ability to store 10,000k or 20,000k of

programmes on a disc is much more preferable to 30 or 60 floppies.

## MEMORY

Two types of memory exist within most computers. ROM memory is installed at the factory and contains information that will not change. Every time the computer starts up this information is used to 'fire' the engine. RAM memory is temporary and can be made to hold any data. The only catch is, that this data is lost at power off.

Most popular MSDOS software will run in 256k or 512k of RAM at the very most. Depending on what software, if any, has been made 'memory resident', there should always be plenty left over in a 512k or 640k machine to run even the largest programs. To be 'memory resident', a program is loaded into memory and stays there. This program can be called upon to perform a particular task, and will stay in memory until it is removed from memory. Sidekick is such a program.

Smaller programs 100k to 200k are loaded into RAM and run from there without needing further disc access. Larger, more complex programs will load into RAM in sections, called 'modules' as required, and run from there. For example Wordstar's printing module will load into RAM only if it is required to print a document.

The standard XT model Amstrad has 512k RAM in which to organise it's display, disc drives and peripherals, and to run programs. The newer 640k model is in line with the standard IBM XT model.

## BOOTING UP

In order to start the computer up, a language or operating system has first to be put in place so that the computer can communicate between its keyboard, the screen and its input and output devices. (e.g. printer, disc drive, modem, etc.) This operating system is searched for by the computer at switch-on time. Firstly it looks in drive a:, then b:, and so on. If an operating system is found it is loaded into the computer to allow it to run programs. (Try booting up without a floppy in the drive and you will receive the 'reminder' message from the computer . . . Insert system disc.)

If the computer has only floppy drives, then it will have to be booted from a: or b: drive. The MSDOS operating system is contained in the file COMMAND.COM and 2 associated hidden files. When MSDOS is happily loaded it will let you know by displaying the letter of the current drive and a neat little arrow like this . . . a>.

## FORMATTING DISCS

The system files are copied onto the discs when they are formatted by the MSDOS 'format a:/s' command. The /s stands for system. In other words /s creates a disc that can boot the computer. No /s will make the disc a plain data disc which will have more room to store files, but will not be able to 'boot' the computer.

Formatting a hard disc will erase all data and put the MSDOS operating system in the root directory of the hard disc. This will automatically be found by the computer in its routine search at start up time.

A single disc machine without a hard disc has to be booted from its only available drive. Therefore, it makes sense to have programs

stored on 'bootable' discs in order to save slotting in a boot disc before each program disc. It is probably a good idea to make all discs k/s system discs on a single drive machine, to save hassles later.

#### AUTOSTART SOFTWARE

After loading the system files MSDOS will look around for a file called the AUTOEXEC.BAT file. If found, the line by line instructions of this file will be executed. A .BAT or batch file is simply a list of commands to be executed. To write a batch file the editor RPED.EXE can be used. A simple batch file for a Wordprocessor on a 2 drive computer may look like this. . .

```
PATH=A:\;B:\
TASWORD
```

This tells the computer you require it search both drives a: and b: when looking for files and then to execute the program TASWORD.EXE.

#### FILE CONVENTIONS

As we can see from the previous example typing the first part of an .EXE file will make that programme run. This applies to .COM files as well. The left side of the filename is allowed to have up to 8 characters. Most first time users may be tempted to call their data files A, or ABC, etc. I've found over the years that it is best to use all B characters in a filename, even if the typing is a nuisance.

The second part of a filename is called the EXTENSION and is often reserved by software to identify its own particular files, e.g. Dbase calls its database files .DBF files and Lotus 123 uses the file extension .WK1 to describe its worksheet files.

All MSDOS files stick to this convention, and the common sense approach is to group files of the same type under the same extension. For example, Basic programmes have the extension .BAS and basic data files usually have the extension .DAT.

Wildcards consist of the ? & \* characters. These characters can

replace a particular character in the filename e.g. ?ello would find a file with any character for the first letter . . . mello, jello, hello, kello, etc. The \* character represents all characters, e.g. \*.dat would find all files with the extension .DAT, and abc.\* would find all ABC files with any extension.

File-naming is a personal preference, however the following points may be of assistance.

1. Filenames should have no spaces
2. The filename should reflect the contents
3. MSDOS allows 8 characters
4. An extension of 3 characters is allowed
5. A fullstop separates the filename & tailend
6. Filenames can have alpha-numeric characters
7. A \* represents the rest of the characters
8. A ? represents any character.

#### BACKING UP

The very first chapter of any software manual will instruct the user to make a back-up of the software and to use this backed-up copy for working purposes. This fundamental piece of advice is often ignored by experts. Back-up discs can endure anything thrown at them . . . beer, coffee, tea, or being spun about the room . . . this is because they are meant as a back-up of original software and are expendable.

Users should also back-up data discs regularly. Especially those users who insist on using hard discs for data storage. If data must be stored on hard disc, then back-up time, i believe, should be based on a time/cost formula. If, for example, users take an hour to punch in data then you can bank on another hour to re-punch the data if the computer or hard disc crash. The company I work for has users who are guilty of backing up 'every few days' (work out the cost on 3 lost days, assuming the hard disc crashes just before back-up on the third day).

#### CONCLUSION

Well, I hope these ideas might enlighten anyone starting out into the world of computers. My viewpoint may differ from other users, but I have encountered first hand, most of the abovementioned problems and if someone had told me the answer to these problems beforehand, I'd probably have a lot more hair now. Most of the solutions were mentioned in the computer or software manuals somewhere, its just a matter of finding where they hide!

## FLIPPIT

**FLIPPIT is an addictive new game from an ALL-AUSTRALIAN company. It requires the same sort of "spatial relationship" logic as Rubik's cube, and it is just as frustrating. It has 105 preset levels, PLUS (if you ever finish those) it has a**

## FLIPPIT

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## FLIPPIT

# COMMUNICATIONS CONTINUED...

Chris Collins works his way through some PC communications software, managing to dig up some news, bargains and useful hints for all you modem maniacs.

Well readers, the Christmas and New Year season has once again passed and we will all now be getting back to work and its normal routine. As you read this, it is probably the first week of February and you will all have enjoyed the Christmas season and all it has to offer. As I write it, the second week in December is approaching, so I have yet to enjoy the festivities.

As always, we had better get some of our news items out of the way first. A special plus for all you PPC users. At great expense to the management, I have managed to procure a 3.5" floppy disc drive and have it fitted to my machine. Therefore, all of my software collection will now be available on these diskettes, at the following cost. First diskette is \$13.00 and all others with the same order will cost you only \$9.00. Please remember that these diskettes hold 720K of data, so a normal 2 diskette (5.25") package will only require one diskette (3.5"). Packages like PC File+ and PC Calc+ will require 2 3.5" diskettes. Total cost \$22.00 (same as 3 \* 5.25" diskettes).

Even in the week since the issue of the December magazine, response to the modem offer has exceeded all of my expectations. So, after due consideration with my boss, he has decided to extend the modem offer to the end of February. Don't forget, the package includes a 1200/1200 automatic everything modem with three telecommunications (Telix v3.10, Procomm Plus and Qmodem

SST) programs. Total cost \$439.00.

Readers have even been asking for the communications software all by itself. So for this month, we have the following collection of diskettes for you:

Telix v3.10 (2 diskettes)  
Qmodem SST (2 diskettes)  
Procomm Plus (1 diskette)  
Boyan-D3 (1 diskette) and  
Pibterm (1 diskette).

All seven of these diskettes, which cover the greatest telecommunications software in the shareware world should cost you \$46.00. But because I am still in the Christmas mood, and because I would like to get as many readers as possible in telecommunications as possible, they are yours for \$40.00. For those of you worried about the quality of the software, let me tell you that these are the latest copies that I have been able to find on any of the bulletin boards. Also included on most of the diskettes are utility programs to make life even easier with these programs.

Remember, if you are still using any of this software, or any other software that you have purchased from me, after 45 days, you must register with the author involved. Send off your registration fees, and keep all the good shareware software coming.

## TELEX IS NOT A COUGH MIXTURE

I will now give you a simple rundown on Telix v3.10. The reason that I am using Telix to explain this collection of software is that it is the

program that I use and know. Also I am a registered user! Most of the comments will apply to the other programs, with minor differences.

Telix is called up from the DOS command line, and will bring up it's introduction screen. This tells you who wrote Telix, when and why. It also states the registration fee and where to send it. Pressing any key will allow you to progress to the program proper. All of the programs above have similar screens.

If this is the first time that you have started Telix, you will be missing a lot of files. These are nothing to worry about, and are simply some parameter files that Telix will create after asking you a few questions. The first of these relates to your graphics card and monitor. Make sure you select colour card and colour monitor, even if you only have a mono monitor. This will allow you to get shades of grey.

Telix will then ask you what is the maximum speed that your modem will support, and what serial (com) port it is connected to. Select the appropriate answers, and answer the question about whether or not you want a status line on the screen. Telix will then say that it is unable to find a dialling directory, and will create an empty directory for you. All being well, Telix will now try to initialise the modem for you. If you have done everything right up to this point, you should see a couple of OKs on the screen. If not, chances are you are trying to go to the wrong serial port, or you don't have your modem switched on. Reset, and try again.

Okay, we now have our modem responding. Just to check, type AT and press <ENTER>. The cursor should go to the next line and respond with OK. This is great. Now we have to configure Telix to our hardware. Press ALT-O. This will call up the Configure Telix menu.

The first option is SCREEN AND COLOUR. Ignore this for now, and if you wish you can go back and change colours after. The second option is TERMINAL OPTIONS.

Place the highlight bar over this, and press <ENTER>. This gives us a few of the settings that are related to terminal mode. The only two that need changing are J and K. Set both of these to ON. Press <ENTER> to return to the configure menu.

Move down to GENERAL OPTIONS, and press <ENTER>. This allows us to configure other personal options. For the time being set option F (Confirm Hang-up) to ON. Exit that menu, and enter the MODEM AND DIALLING menu.

This is an important menu, so don't any of you stuff it up. Options B, C and D show ATDT. This must be changed to ATDP. Ensure that all the letters are in capitals. What we are doing is telling Telix to Pulse-dial the modem, not Tone-dial as is the American norm.

At this point, you can go into the FILENAMES AND PATH menu. For those of you with two floppy disc drives, set your download path to B:\. For those of you with hard discs, create a directory (probably called DOWNLOAD), and set it to that. For those of you with only one drive, this is where you will strike problems. You must have somewhere for your files to go, your only basic option is to create a RAMDISK to store Telix on, and then use drive A:| for all your downloads. Do the same for the UPLOADS directory.

Escape back to the configure menu, go down to WRITE SETUP TO DISC. Do this and you will be presented with your terminal screen. At this point, I would suggest that you exit Telix (press ALT-X), and then reload it. It isn't strictly necessary to do this, but it always makes me feel safer.

**HOOKED UP AND READY**

All being well, we will see our initialisation string come up and the modem will respond with OK. If it doesn't do this, very carefully go back through the above to set it all up correctly, and resave to disc. Then try again. Once you have the modem's OK to proceed, press ALT-D to access the dialling directory. This will be empty. First of all go to

EDIT by using the arrow keys, and press <ENTER>. This will allow you to edit the entry on which the highlight bar is resting.

At this point you can enter the name of the BBS, its phone number and other sundry details. Accepting the defaults is usually a good way to go, with the exception of DEFAULT PROTOCOL. Always set this to Zmodem. Zmodem is the best method of error checking to use. It is also the quickest. At another time we will go into Zmodem more carefully.

After editing this entry, save it to disc, and you will return to the dialling window. Move the highlight bar along the bottom to DIAL, press <ENTER>, and the modem should start dialling the number for you. After you connect to the host system, simply follow the prompts provided, and have fun. If you run into any trouble do not be afraid to call the sysop for help. On most BBS's, this is achieved from the main menu by using the Y (Yell) command.

The first file that you should download is the rules of the house, and the instructions on how it works. Download it, un-archive it and read on. And if you get into trouble, always remember that you can't hurt the other computer or your own.

All of the above programs work similar to Telix. There may be small changes between the programs such as different keys doing different jobs, but the basics will all be the same. The only difference is Qmodem. This has an external installation program called Qinstall. This must be run before you try to use Qmodem. If you run into trouble, do not forget to have a look in the manual for directions and help.

Well, unfortunately that is about all we have time for this month. Next month we will go a little further. Until then, Happy Telecommunicating!

*Chris Collins' mailing address is:  
1 Woods Street, Newport 3015*



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# CLEVERLY CALCULATED

**KSPREAD2, the GEM based spreadsheet package from KUMA Software is challenging the other Lotus style programs on the PC market. How far does it go?**

Users of spreadsheets and other business packages tend to cling fearlessly to a particular program or package when presented with another. Once one has become familiarized with a particular way of doing things, one doesn't fancy going through the process of change required to acquaint one with a new program. Make sense? So I see my review of this package as primarily enlightening the ignorant and unknowledgeable rather than an attempt to convert those of you well into another spreadsheet program. On the other hand, who can withstand the temptation to have a peek at someone else's offerings?

As with KWORD, reviewed last month, KSPREAD is GEM based and therefore gets a big plus on the simplicity and clarity scale. Using a window and pull-down menu format, KSPREAD conforms to the standard of the entire series of KUMA business programs. The spreadsheet is all on one disc (make a back-up copy before anything else), and a comprehensive manual is included. On my disc two "readme" files were included - one explaining certain updates to the manual and other little additions, and the other further clarifying the use of macros (explanation coming).

#### DOS OR DOS+ FOR 1512S?

With regard to loading and using the program, the manual states that

due to the memory requirements of the program, the PC1512 user should use DOS instead of DOS+, as less memory is taken up in this way. However, when I used MSDOS and then proceeded to load GEM, I received the following message:

GEM may be run with MSDOS for your convenience but please note:

- 1) The programs DISKCOPY and FORMAT on the GEM DESKTOP disk will not operate (unless replaced by MSDOS3.2 versions) and
- 2) You should not attempt to run ".CMD" programs from the desktop.

This doesn't seem to cause any problems and is certainly much better in my experience than trying to run KSPREAD under DOS+. It never successfully completed loading and I received "out of memory" remarks telling me to abort. So, 1512 owners with DOS+, there is no guarantee KSPREAD will even load - use DOS instead.

To a large extent, KSPREAD is much like other spreadsheets on the PC. Windows consist of grids made up of labelled columns and rows, the maximum size of a window being 256 columns by 8192 rows (this is way beyond the needs of any normal user). Each cell on the spreadsheet can contain data of one of four types: value, text, formula or label. KSPREAD works at all times in one of two "modes", evidenced

by the function of the mouse and cursor keys. Thus the EDIT mode is either on or off.

To assist arithmetical operations, the program sports a good selection of trigonometric functions. These include (arc)SIN, (arc)COS, (arc)TAN, PI, LOG, ABS etc. As well as these, the user has access to certain logical operators that can be incorporated within a formula. These include IF, THEN, ELSE, AND, OR and NOT.

Along the left of the screen are five icons. These enable simple operation of a number of procedures. For instance, to load a file from disc you simply drag the disc icon over the spreadsheet icon. The five icons are labeled: Disc, Printer, Spreadsheet, Clipboard and Rubbish. The function of these icons differs depending on how the mouse is used. The clipboard can store up to ten separate blocks of data and is useful for manipulating data beyond the capabilities of the spreadsheet and without altering the spreadsheet.

#### RESTRICTED ENTRY USING 'HIDE'

KSPREAD provides a few interesting surprises, and one of these is the HIDE command, allowing the user to hide a section of data only accessible via a password. So say, if the package were being used in a commercial environment, the user may enter confidential information into the computer which no-one else were allowed to see. Using the HIDE command, any section of cells or the whole lot could be selected and hidden. To reaccess the cells would require the entry of a password. A word of warning: forget your password and you have to write to KUMA for a special program called RESCUE.PRG, costing around \$25 (£10). Further included in the OPTIONS menu are the SORT (eg. alphabetical or numerically ascending order), OPEN (to open a new window), RECALC, FIND, GOTO, EDIT, MACRO and TYPES commands. The TYPES option allows the user to change the data type. This can be useful if say,

you wanted to temporarily disable a formula operation, yet not lose the formula. By re-defining the type as 'text', the formula would become simply text and would not be recognised as an arithmetic operator.

If you recall the discussion on the KEYS menu option in KWORD, you might be interested to know that KSPREAD follows the same theme with the MACRO option. Here the user is able to define a customised function which the computer treats like SIN, COS or the like. Up to nine variables can be stored within any one macro, and up to 254 macros can be stored in memory at one time. Using macros simplifies the repeated use of complex formulae and functions where a number of variables have to be entered each time. Macros also make things a lot clearer when viewing a complex spreadsheet.

#### COMPATABILITY

To benefit users of the full set of KUMA business programs, KSPREAD files can be transferred to other KUMA programs by translating the data in DIF format. The transferring of these DIF (Data Interchange Format) files is controlled by the GIVE and TAKE commands in the FILES drop-menu. If a user had a word processor other than KWORD2 that read ASCII files, he/she could print a soft copy to disc in the form of an ASCII file. In this way, KSPREAD data is compatible with some other programs.

What one can appreciate about KSPREAD is that it usually tells the user what is going on. You are at most times warned of sudden-death

occurrences before they happen, except that I have not yet found an UNDO facility should something dreadful somehow manage to happen. However to give KSPREAD its due, there are two options in one drop-menu called SAFETY and PROTECTION, and these serve the dual purpose of asking confirmation before a number of executions, and overwrite

spreadsheets are often wider than they are long - so sideways printing is more efficient.

#### MAY I SAY IN CLOSING...

There are few complaints here. KSPREAD at times lost a bit of clarity on the screen, and I don't know how long someone could sit at the screen without a break. Also I found the mouse a bit sticky to use at times, mainly while in the

drop-menus, but this appears mainly to be a characteristic of GEM. There are certainly better IBM PC compatible spreadsheet packages around, but not in this price bracket. If you're a high-flying accountant or thinking of opening a new bank, you might find KSPREAD somewhat limiting, but for the majority of us, it would well suffice.

To say that KSPREAD was great value for money would be a slight exaggeration (nothing is these days), but what it can do it does well. To be realistic, you don't get the earth but you don't pay the earth either. KSPREAD is an above average spreadsheet package that stands out because it is based on

GEM and quite easy to use. Once the usual stumbling blocks are conquered, the user has a reasonably powerful, well presented spreadsheet that will stand up to most other spreadsheets in its price range.

*KSPREAD is distributed throughout Australia by Dataflow and is available from most software dealers or by mail order from The Amstrad User for \$119.*



protecting cells or a range of cells.

The PRINTER menu works in conjunction with the printer configuration program also supplied on the disc, and together allow the user total control over the printer and document presentation. The user may set control codes for the specific printer in use, change margins, headers and footers, page breaks, fonts, type styles and sizes, and if the file SIDEFONT.DAT is on disc, have a choice of either NORMAL or SIDEWAYS text. The benefits of this are obvious, as

# AFTERSHOCK AFTERMATH

Philip Riley can't understand what all the fuss is about. After all, getting out of the office block in Aftershock is a piece of cake. Alright smarty-pants, tell us how...

Some time ago we reviewed Aftershock in this column, so this month we've decided we'll take you through the first part of the game and in other words, hopefully get you out of the office block and into the street in one piece! If you've been having some trouble with the beginning of this game (we have had a few letters from people unable to get out of the office block) just load it into your computer and I will let myself into your office and guide you out.

What a boomer of an earthquake that was, eh? But at least we survived it in one piece - what are you raving about?! Nuclear reactors? No, I don't know a thing about them - why do you ask? You reckon one is going to explode soon, just out of town. Well, I suppose we had better be heroes then. Come on then, let's go and make it safe. After all, I'm allergic to high doses of radiation and I don't particularly want to glow in the dark.

What have you got around your office? Let's see... grab the radio, your pen and the chair. Yes - that's right, the chair as well. You never know when you may need a chair. Right! Let's head out into the main office, go to the washroom and get the tissues I saw in there earlier on. Why? I might want to blow my nose or something. Don't argue - just do it! I will check out the lift while you are gone.

Ah - you're back, are you? Good! Well, I've got some bad news for you. The lift is out of order and the stairwell is on fire. Now stop running around in panic and move yourself into the lift. Yes, I know I said the lift was out of order but we've got to get out of here somehow.

Right then. EXAMINE LIFT for me - now what do you see? A panel in the ceiling. Good - but it's too high to reach. Well why don't you STAND ON THE CHAIR, that's right, now try CLIMB OUT OF LIFT. You see - there was no need to panic, was there? With a little thought we are on the top of the lift and every lift shaft has a ladder somewhere. So let's climb down.

Well, here we are at the bottom of the lift shaft with a passage that runs south. If we move south then east we should be in the right tunnel to get out of here.

What are you going on about - sparking cables...what's wrong with you? Scared of a few hundred volts are we now? You don't want to glow in the dark either, very funny. Alright then. Let's head west and see if we can turn off the power. There must be an isolator somewhere around here. Yep, I thought so - an isolator switch in the janitor's room. Try SWITCH OFF ISOLATOR. Have you done that? Good. Let's get going and see what has happened back in the passage. Ah! Just as I thought - the cables have had their last spark. Quick, out of here.

Ahhh. It's good to be back in the fresh air again. I told you that I would get you out of the office block, did I not?? Well I'll be off now, so see you later... What's that you're saying? You thought I was going to help you with the reactor. You've got to be joking - you won't get me near an unsafe nuclear reactor! Don't tell me you believed that hero stuff, did you? I'm not a fool - I'm going to leg it to somewhere safe. See ya!

Is your intrepid writer really a coward? Is he really the hero he claimed to be at the beginning of the column? Will he stick around and try to repair the reactor? Or will he, just as he put it - 'Leg it to safety'? Does Kylie really love Jason? Is Santa really an undercover Marxist hit-man? Guess you'll just have to wait and see - won't you!

*The adventurers' contact list will reappear next month - bigger than ever.*

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# Hint Sheet

## THE VERA CRUZ AFFAIR

by Adam Kongspark

The Vera Cruz affair is a detective type adventure from Infogames in which you must discover how prostitute Vera Cruz died. Throughout the game it would be advisable to take lots of notes and always use people's full names if known.

### PART ONE

The only thing that you need to find at the scene of the crime are a thread, a revolver, a cartridge, a button, a packet of Rothmans, a letter, some handwriting and some names and addresses. In total there are eleven things to be found at the scene of the crime.

### PART TWO

For part two I have placed the points in order of occurrence, meaning that what you find out from the first clue will directly help you with the following clue.

1. Try getting statements from a resident and a caretaker of the 'Forrest' apartment block.

2. You can get the statement of Nadine from the information in your notes taken in part one.
3. CRRJ will give you the background of Vera and her friend Eva Delarue.
4. You can get a statement out of Eva now by using this information and your notes.
5. Now ask Hubert for a statement and follow up the information at CIAT.
6. Follow up the cartridge case at CRRJ and again at GIE.
7. The missing two letters from the middle of the BMW's registration are "CD".
8. Quote CRRJ on the owner of the BMW after receiving his name from PREF.
9. BDRJ will tell you if he is wanted by the police and CIAT will tell you why.
10. You now have enough information to get a statement from him.
11. Ask CRRJ about "Fuzzy" Bar Of Poplars.
12. Get a statement from this new suspect.
13. Quote CRRJ to find out about another suspect discovered from "Fuzzy's" information.
14. Find out about Philibert at GIE.
15. Ask the prison for his address and the names of his cellmates.
16. Get a statement from Philibert.
17. Consult CRRJ about Gilles and the CIAT.
18. Get a statement from him using a 'matchbox' address.
19. Find out more information from Gilles' friend from CRRJ and then GIE.
20. Now ask Stanislas for a statement and you might get a confession.
21. Next ask for an autopsy on Vera and a graphological examination on someone who seems suspicious.
22. Try to get comparisons on at least three different people, and at least two comparisons each.
23. Receive another statement from Gilles and finally get another statement from Philippe.
24. All that remains is for you to arrest the right person.

*This is our tenth Hint Sheet and earns Adam a cheque for \$25. Now that you have the format the sheet should take, why not cash in your experience and send your solutions (don't give whole game away) to:*

*The Editor (Hint Sheets),  
The Amstrad User,  
1/245 Springvale Road,  
Glen Waverley, Victoria. 3150.*

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 Treasurer: John Hille  
 Secretary: Ben Hille (095 27 5246)  
 Venue: Cooloongup Primary School, Westerly Way, Cooloongup (Rockingham), every second Wednesday at 7.30 pm. and every other second Tuesday at Medina Primary School, Medina Ave, Medina at 7.30pm.  
 Mail: The Secretary, R-KAUG, 104 Milina St, Hillman, 6168

### SOUTHSIDE AMSTRAD USER CLUB

President: W. Van Der Kooi (09 271 1085)  
 Secretary: Steve King (09 354 2068)  
 Treasurer: Eric Tytherleigh (09 390 8865)  
 Venue: Huntingdale Primary Sch., Maitilda Rd. Huntingdale every 2nd and 4th Wednesday of each month from 7.00 pm.  
 Mail: The Sec., Southside Amstrad Users Club, 61 Keslake Way, Parkwood, WA 6110.

### AMSTRAD COMPUTER CLUB TOM PRICE

President: Colin Smith (091 89 2074)  
 Secretary: John Elliot (091 98 1735)  
 Treasurers: P. & C. Montgomery (091 89 2398)  
 Venue: Primary School every 2nd Wednesday night. Contact the above for more details.

## SOUTH AUSTRALIA

### AMSOUTH AMSTRAD USER'S GROUP

President: Drew Ames (085 371 0151)  
 Treasurer: Bob Bleachmore (085 56 2048)  
 Secretary: Ross Kennewell (08 386 2737)  
 Venue: Christies Beach High School, Western Section, Beach Road, Christies Downs (adjacent to Staff Car Park off Mander Road) every 2nd Wednesday at 7.30.  
 Mail: PO Box 612, Noarlunga Centre, SA 5168

### AMSNORTH AMSTRAD USER'S GROUP

Organisers: J.T. Clark (08 262 6342)  
 R. Britton (08 258 7861)  
 Venue: Lacrosse Hall, Terama Street, Gepps Cross every Wednesday at 7.00 p.m.

### AMSTRAD COMPUTER CLUB INC. (SA)

President: Frank Matzka (08 382 2101)  
 Vice Pres: David Simpson (08 373 1693)  
 Treasurer: Les Jamieson (08 356 9612)  
 Secretary: Ross Barker  
 Venue: Torrensville Primary School, Torrensville every tuesday between 6.30 & 9.00pm.  
 Mail: PO Box 210, Parkholme, SA 5043

### NORTHERN COMPUTING SOCIETY INC.

President: Chris Clemas (085 62 8064)  
 Treasurer: Percy Cook (08 248 1065)  
 Secretary: Valerie Clarke (08 248 4031)  
 Venue: Drop-In Centre, Salisbury North Primary School, cnr. Bagster & Woodyates Rds every Wednesday from 7.00.  
 Mail: 596 Military Road, Langs North, SA 5016.

### PORT LINCOLN AMSTRAD USERS GROUP

Contact: Rita Bascombe (086 82 1633)  
 Venue: Third Tuesday of each month from 8.00 pm. Ring above number for address.

### PORT PIRIE AMSTRAD USER GROUP

President: Doug Gowers (086 36 5206)  
 Treasurer: Dave Green (086 32 6834)  
 Secretary: Tim Eckert  
 Youth Rep: Mark Fusco (086 36 2452)  
 Venue: Education Ctr, 370 The Terrace, Port Pirie every 2nd and 4th Monday from 7.30 pm.  
 Mail: The Pt. Pirie Amstrad User Group, c/o D.T. Green, 207 Senate Rd., Pt. Pirie, SA 5540.

### SOUTH EAST AMSTRAD USER GROUP (SA)

Contact: Neil Taylor (087 25 8068)  
 Venue: Mount Gambier from 1.00p.m. to 4.00p.m. on the 3rd Sunday of each month. Ring above number for address.

## VICTORIA

### CENTRAL AMSTRAD USER SOCIETY

President: Fred Gillen (03 580 9839)  
 Vice-Pres: Dennis Whelan (03 367 6614)  
 Treasurer: Doug Jones (03 560 8663)  
 Secretary: Craig Tooke (03 359 3736)  
 Venue: Bogart's Restaurant on the corner of Victoria and Errol Streets, North Melbourne on the first Sunday of each month starting at 1.00 pm.

### EASTERN AMSTRAD USER GROUP Inc.

President: Tony Blakemore (03 890 3116)  
 Secretary: Peter Douth (03 763 2908)  
 Treasurer: Ron Dunn (03 807 7868)  
 PCW rep: Ron Hawthorn  
 Venue: St. Nian's Church Hall, cnr. McCracken Avenue and Orchard Grove, South Blackburn on the 1st Sunday of each month from 1.00pm.  
 Mail: 6 Moss Court., Rowville, Vic 3178

### GEELONG AMSTRAD USER CLUB

President: Arthur Pounsett (052 78 2160)

Vice-Pres: Diethard Kuhlmann (052 81 9200)  
 Secretary: Mick Stone (052 91 505)  
 Venue: South Barwon Community Services Ctr, 33 Mount Pleasant Rd, Belmont on the first Wed. of each month, from 7.30p.m  
 Mail: 346 Autumn St., West Geelong, 3218.

### GOULBURN VALLEY AMSTRAD USERS CLUB

President: Shad Aitken (058 52 1001)  
 Sec/Treas: Bill Brown (058 21 7569) or (058 22 1011)  
 Venue: 98 Nixon Street, Shepparton on the first floor every third Wednesday from 7.30 pm.

### LATROBE VALLEY AMSTRAD USER GROUP

President: Stan Hughes  
 Secretary: M.G. Donaldson (051 345 711)  
 Venue: Morwell Neighbourhood House, 17 Symons Crs., Morwell on the first Thursday of each month at 7.30pm.  
 Mail: PO Box 947, Morwell, Vic 3840

### MARYBOROUGH AMSTRAD USER CLUB

President: Chad Banfield (054 68 1351)  
 Treasurer: Brendan Severino (054 61 3191)  
 Secretary: J. Fothergill (054 75 2667)  
 Venue: Maryborough CCC each week on Tuesday from 12.10 p.m. to 12.45 p.m.

### MOUNTAIN DISTRICT AMSTRAD USER GROUP

President: David Jamieson (03 870 1016)  
 Treasurer: Ian Pearson (059 965 019)  
 Secretary: Craig Bell (03 758 9921)  
 Venue: Country Womens Association Hall, 4 Sundew Avenue, Boronia from 7.00 pm. every second Monday of the month.  
 Mail: PO Box 132, The Basin, Vic 3154

### NORTHERN AMSTRAD USER GROUP

Contact: Brian Ellis (03 469 4425 A/H)  
 Venue: Every three weeks in Brunswick West for CPC owners with a sincere interest beyond games.

### SOUTHERN AMSTRAD USER GROUP INC.

President: Noel Sheard (03 786 5469)  
 Secretary: Bob Patterson (03 786 6976)  
 Treasurer: Christine Donaghey  
 Venue: Karingal Tennis Club, Gretana Crescent, Frankston every third Tuesday at 7.30pm  
 Mail: The Sec., PO Box 100, Sealford, Vic 3198.

### SUNBURY MELTON AMSTRAD USER GROUP

Contacts: Wayne Urnston (03 744 2719)  
 Norman McEntee (03 743 7104)  
 Venue: Toorern Vale Hall, Toorern Vale every third Saturday at 10.00 a.m.

### WENDOREE AMSTRAD USER GROUP

Contact: Brad Maisey (053 44 8356)  
 Venue: Cnr. Charles and Appleby Drive, Cardigan Village on the first Sunday of the month at 3.00 pm.

### WESTERN AMSTRAD COMPUTER CLUB

Venue: Fairbairn Kindergarten, Fairbairn Road, Sunshine on alternate Tuesdays from 6.30pm.  
 Mail: PO Box 161, Laverton 3028

## ACT

### CANBERRA AMSTRAD USER'S GROUP

Convener: Paul Kirby (062 86 5460)  
 Secretary: James Gifford (062 47 5126)  
 Treasurer: Rod MacKenzie (062 54 7551)  
 Venue: The Oliphant Building, ANU, Canberra on the first Tuesday of each month from 7.30 pm.  
 Mail: PO Box 1789, Canberra, ACT 2601.

## NEW SOUTH WALES

### AM-USER's (North Ryde)

Contact: Lawrence Walters (02 888 1898)

Venue: Meeting Room at 2 Leisure Close, North Ryde from 7.30 p.m. on the first Tuesday of each month.

### BLUE MOUNTAINS AMSTRAD USERS

President: Bob Chapman (047 39 1093)  
 Vice Pres: Dennis Shanahan (047 39 4568)  
 Treasurer: Peter Traish (047 53 6203)  
 Secretary: Malcolm Stone (047 51 2791)  
 Jun. Rep: Nathan Stone (047 51 2791)  
 Venue: Springwood Neighbourhood Centre, Macquarie Road, Springwood on 2nd and 4th Wednesday of each month at 8.00pm.

### CENTRAL COAST AMSTRAD USERS CLUB

President: Lloyd Mitchell (043 88 2950)  
 Secretary: Douglas Green (043 42 2568)  
 Treasurer: Nick Winter (043 84 6766)  
 Venue: Minjarra Recreation Club, Adelaide St, Tumbi Umbi every 2nd and 4th Monday at 7.30 p.m. sharp.  
 Mail: C/o 1/254 Railway St, Woy Woy, 2256

### COFFS HARBOUR AMSTRAD COMPUTER CLUB

President: Bruce Jones (066 52 8334)  
 Secretary: Don Donovan (066 52 6909)  
 Treasurer: Brian Claydon (066 49 4510)  
 Venue: Orara High School, Joyce Street from 7.00 on the first Friday of each month.

### FAIRFIELD MICRO USER GROUP

Contact: Ekrem [after 6.30 pm] (02 609 6581)  
 Venue: Room 65, Canley Vale High School, Prospect Road, Canley Vale every third Wednesday from 7.00.

### HAWKESBURY AMSTRAD USER GROUP

President: Terry Webb (045 76 5291)  
 Secretary: Dave Keen (045 77 5536)  
 Venue: Richmond Swimming Club Rooms every third Tuesday of the month at 7.30 pm.

### ILLAWARRA COMPUTER USERS CLUB

President: Mark Jones (042 29 2109)  
 Secretary: Neville Dillon (042 56 2642)  
 Treasurer: Steve Astill (042 71 5462)  
 Venue: AGA Gremania Club, Berkeley at 2.00 pm. every third Saturday of the month.

### LISMORE DISTRICT AMSTRAD COMPUTER CLUB

President: Max Muller (066 337 113)  
 Vice Pres: Nick Van Kempen (066 874 579)  
 Sec/Treas: Laurie Lewis (066 62 4542)  
 Venue: Goonellabah Public School, Ballina St. on the last Tuesday of each month from 6.30.  
 Mail: 20 Johnston Street, Casino, NSW 2470

### PARKES COMPUTER USER GROUP

Contact: Eileen Magill (068 643 285)  
 Mail: North Gunning, Gunningbland, NSW 2876

### S & W MILLER AMSTRAD USER'S CLUB

President: Wal Sellers (049 33 5459)  
 Secretary: Nikki Lee (049 33 5459)  
 Treasurer: Georgina Todd (049 66 2788)  
 Venue: Maitland Park Bowling Club, Maitland on the second Tuesday of each month at 7.30pm

### S & W MILLER NEWCASTLE USER GROUP

President: Chris Hollander  
 Secretary: Mark Pogson (049 613181) B/H  
 Venue: Hamilton North Bowling Club, Boreas Road, Broadmeadows on the third Tuesday of each month.

### MURWILLUMBAH AMSTRAD USERS GROUP

President: Nick Bruin (066 79 3280)  
 Vice Pres: Kel Philip (066 77 1440)  
 Secretary: Laura Goode (066 72 2499)  
 Treasurer: Lorraine Montgomery (066 72 1823)  
 Venue: Murwillumbah High Sch. on the 2nd Wednesday of each month at 7.00p.m.  
 Mail: c/o Post Office, Burringbar, 2483

### NEWCASTLE AMSTRAD USER GROUP

President: John Harwood  
 Treasurer: Erica Harwood  
 Venue: Contact John Harwood at the address shown below.  
 Mail: PO Box 18, Charlestown, NSW 2290

# USER GROUP INFORMATION

## PCW AUSTRALIA GROUP

President: Jacqueline George  
 Secretary: Beverley Trehear (02 527 4236)  
 Venue: Burwood RSL Club, 96 Shaftsbury Road, Burwood every second Tuesday of the month at 8.00 pm.  
 Mail: PO Box 478, Smithfield, NSW 2164.

## PORT MACQUARIE AMSTRAD USERS GROUP

Mail: Craig Tollis, Box 584, Pt. Macquarie, 2444.

## SYDNEY AMSTRAD COMPUTER CLUB

President: Tom Caldwell (02 661 7573)  
 Sec/Treas: Reed Walters (02 560 9487)  
 Venue: Camdensville Comm. Ctr., Newtown on the 1st Saturday of every month at 2.00 p.m. For more details contact the Secretary between 6.00 p.m. and 9 p.m.  
 Mail: PO Box 423, Matraville, 2036

## SYDNEY PC1512 USER GROUP

Contact: Geoff Craine (02 76 6467) A/H  
 Venue: To be arranged; meeting initially on the third Tuesday of each month at 7.00 pm.

## QUEENSLAND

### BRISBANE AMSTRAD COMPUTER CLUB

President: John O'Connor (07 271 3350)  
 Vice Pres: John Digby (07 351 2553)  
 Secretary: Bob Ashe (07 355 5699)  
 Treasurer: Ivan Dowling (07 269 8795)  
 Tech. Editor: Franz Hendrickx (07 356 0633)  
 Venue: Main meetings in Room 15a of Junction Park State School, Waldheim St., Annerley starting at 7.30pm on the 1st Tues. of the month. Another is held at Wynnum Central State H.Sch, Florence St., Wynnum Central on the 3rd Saturday of each month at 1.00pm. The coordinator is Warren Kennedy (07 351 4232). A third is held at Newmarket State Sch., Banks St., Newmarket on the second Saturday of each month at 1.30pm. The co-ordinator is Cherry Shrier (07 351 6179).  
 Mail: PO Box 167, Alderley, Qld. 4051

### BUNDBERG AMSTRAD USER'S GROUP

President: Ray Babbidge (071 72 1223)  
 Secretary: Clive Barrett (071 73 3668)  
 Treasurer: Sheila Coe (071 72 8884)  
 Venue: The third Tuesday of the month. For more details contact the above.  
 Mail: 11 Laack St., Bundaberg, QLD 4670.

## CABOOLTURE AMSTRAD USER GROUP

President: John D'Archambaud (071 95 4860)  
 Secretary: Stephen Yench  
 Treasurer: Craig Deshon  
 Venue: Contact above number for more details.

## CAPRICORN AMSTRAD USERS GROUP

Pres/Sec: Anthony Trost (079 33 1951)  
 Treasurer: Dorothy Jasperson  
 Venue: Block 2, Waraburra State School, Johnson Road, Gracemere on the first Friday of each month at 7.00 pm.  
 Mail: 4 Sunrise Crescent, Gracemere, 4702

## COMPUTER USER GROUPS OF AUSTRALIA

**Pittsworth Branch**  
 President: David Siebhuhr  
 Contact: Ron Langton (076 931 690)  
 Venue: Every first Tuesday of every month from 5 pm. at the St. Peter Lutheran Church Hall, Grand Street, Pittsworth.  
 Mail: CUGA, PO Box 166, Pittsworth, 4356

## GOLD COAST AMSTRAD USER GROUP

President: Stephen Greenwood (075 572 442)  
 Treasurer: Pamela Scott (075 323 334)  
 Secretary: Ray Maclaren (075 398 743)  
 Venue: Benowa State High School, Mediteranean Drive, Benowa on the first Saturday of each month at 2.00 pm.  
 Mail: 7 Coral Gables Key, Broadbeach Waters. QLD 4218.

## IPSWICH AMSTRAD USER GROUP

Contact: Peter Wighton (07 288 4571)  
 Venue: Every second Wednesday from 7.15 p.m. at Bremer High School, Blackstone Rd, Raceview

## MACKAY AMSTRAD USER GROUP

Contact: Des Mulrealey (551 409)  
 Ron Coates (547 222)  
 Venue: Meet every second Sunday morning. Contact the above for location and time.

## PENINSULA AMSTRAD CLUB

(amalgamated with BACC)  
 President: Ivan Dowling (07 269 8795)  
 Treasurer: Keith Johnston (07 203 2339)  
 Secretary: Tracie Payne (07 267 6645)  
 Venue: Kippa-Ring State School Library, Elizabeth Avenue every third Tuesday of the month at 7.30 pm.

## SOUTHSIDE AMSTRAD USER GROUP (QLD)

President: Michael Toussaint (07 200 5414)  
 Vice-Pres: Peter Incoll (07 208 2332)  
 Secretary: John Botwright (07 208 4969)

Treasurer: Ronald Waters (075 317 838)  
 Librarian: Carol Watts (07 287 2882)  
 Venue: Loganlea State High School (in the Communications Room) every 3rd Sat. of the month starting at 2.00 p.m. A Basic programming course is held fortnightly.  
 Mail: 10 Carramar St, Loganlea, 4204

## TOOWOOMBA AMSTRAD USERS GROUP

President: Stephen Gale (076 35 5001)  
 Vice-Pres: Doug Selmes (076 35 5092)  
 Secretary: Adrian Dunsmore (076 91 1561)  
 Treasurer: Edwin Gerlach (076 33 1054)  
 Venue: Toowoomba Education Centre, Baker Street, Toowoomba on the 4th Monday of each month starting at 7.30 pm.

## TOWNSVILLE AMSTRAD USER GROUP

President: Ian Wallace (077 73 1798)  
 Vice Pres: Doug Selmes (077 79 6011 xt 252)  
 Treasurer: Chris Nisen (077 79 6299)  
 Secretary: Alister Buckingham (077 73 3955)  
 Venue: Science Block of the Kirwan High School in Thuringowa Drive on the first and third Tuesdays each month at 7.30pm.

## THE WARWICK AMSTRAD USER GROUP

President: Mrs. D. Christensen  
 Secretary: John Wode (076 61 5176)  
 Treasurer: Neville Christensen

## WEIPA AMSTRAD USERS CLUB

President: Andrew Seaborn  
 Vice-Pres: Dave Wootton  
 Treasurer: Frances Casey  
 Secretary: Gary Chippendale (070 69 7448)  
 Venue: Noola Court in Weipa. Contact above for more details.  
 Mail: 15 Noola Court, Weipa, QLD 4874.

## WESTERN SUBURBS AMSTRAD USERS GROUP

President: Peter Wighton (07 288 4571)  
 Secretary: Jimmy James (07 376 1137)  
 Contact: Keith Jarrot (07 376 3385)  
 Venue: The Jamboree Heights State Primary School; 35 Beanland Street, Jamboree Heights at 1.30 p.m. on the first Saturday in each month.  
 Mail: Jimmy James, 36 Penong Street, Westlake, Brisbane 4074.

## TASMANIA

### SOUTHERN TASMANIAN AMSTRAD USER CLUB

President: David Burt (002 44 3385)  
 Secretary: Lance Brown (002 28 2018)

Treasurer: Robin Johnson  
 Publ. Off: Danny Brittain (002 47 7070)  
 Venue: Northern Regional Library, Glenorchy on the forth Wednesday of each month from 7.30 pm.  
 Mail: PO Box 247, North Hobart, 7002

## NORTHERN TASMANIA AMSTRAD COMPUTER CLUB

President: Keith Chapple (003 26 4338)  
 Treasurer: Shane Crack (003 97 3298)  
 Secretary: David Double (003 44 4243)  
 Publicity: Bobby Lockett (003 44 8972)  
 Tech. Off: Richard Wilson (003 93 1437)  
 Junior Del: Jay Donati (003 31 6597)  
 Venue: Launceston Community College (opposite Park Street) in Room 27 on the first Saturday of the month at 5.00 p.m.

## N.W. COAST AMSTRAD USER'S CLUB

President: Peter Gibson (004 24 7586)  
 Treasurer: Robert Simpson  
 Secretary: Karen Stevenson  
 Venue: Hellyer College, Mooreville Rd, Burnie on the third Friday of each month at 6.30.  
 Secretary, 112 Payne St., Burnie 7320

## NEW ZEALAND

### THE AMSTRAD COMPUTER CLUB OF CANTERBURY

Contact: Ian Orchard 524 064  
 Venue: Four Avenues School, cnr. Madras Street and Edgeware Road, Christchurch 1 on the fourth Wednesday of each month.  
 Mail: C/o 50 Rapaki Road, St. Martins, Christchurch. 2 NZ.

### AMSTRAD USERS GROUP

Contact: John Court (666 143 A/H)  
 Venue: Oranga Scout Hall, Ferguson Park, Waitangi Road, Auckland. Between 9.30 am and 4 pm on the third Saturday and the last Sunday of the month. CPC and PCW's catered for.

### WELLINGTON AMSTRAD USER GROUP

Contact: Tony Teobis 791 072 (evgs)  
 Venue: Cafeteria, NZ Fisheries Research Division, Greta Point, on the first Monday of each month from 7.30 pm.  
 Mail: 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.

### NSW

Nick Rogers	Bogan Gate	(068)	64 1170
Chris Craven	Canowindra	(063)	44 1150
Trevor Farrell	Coolah/Mudgee area	(063)	77 1374
David Higgins	Cooma/Monaro	(064)	52 1531
Paul Wilson	Moruya	(044)	74 3160
Frank Humphreys	Mummulgum	(066)	64 7290
Reuben Carlsen	North Sydney	(02)	957 2505
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

Brian Russell	Ballarat	(053)	31 2058
C. van de Winckel	Ballarat	(053)	313 983
Rod Anderson	Camperdown	(055)	93 2262
Adrian De Luca	Glenroy	(03)	300 3735
Paul Walker	Heathmont	(03)	729 8657
Terry Dovey	Horsham	(053)	82 3353
Andrew Portbury	Leongatha	(056)	62 3694
R. Kernebone	Mildura	(050)	23 3708
Angela Evans	Mt. Evelyn	(03)	736 1852

Keith McFadden	Numurkah	(058)	62 2069
Maureen Morgan	Warnambool	(055)	67 1140
<b>QLD</b>			
Beryl Schramm	Boyne Island	(079)	73 8035
Steven Doyle	Caloundra	(071)	91 3147
Ric Aliberry	The Gap	(07)	300 1675
Kylie Telford	Goondiwindi	(076)	76 1746
D.F. Read	Ingham	(077)	77 8576
Ian Jardine	Pialba	(071)	28 3688
<b>SA</b>			
Lindsay Allen	Murray Bridge	(085)	32 2340
Mrs. S. Engler	Penola	(087)	36 6029
<b>WA</b>			
Barry Kauler	Narrogin	(098)	83 1011
Graeme Worth	Scarborough	(09)	341 5211
P.M. Nuyens	Waroona	(095)	33 1179
<b>TAS</b>			
Conal McClure	Scottsdale	(003)	52 2514
<b>NT</b>			
G.P. Heron	Tiwi	(089)	27 8814

For new readers: if you want to start a group in your area just drop us a line with the relevant details and we will add you to the list.

# CPC & PCW PUBLIC DOMAIN SOFTWARE

The following discs contain compilations of public domain programs put together by the Advantage Computer User Group (in England) and which have been tested under CP/M Plus.

Unless otherwise stated, programs will run on the PCW, 6128 and 464/664 with extra memory and CP/M Plus. Programs for the 464/664 are on the CP/M 2.2 Collection. The discs are supplied in

Data format and contain documentation files to help the user get started and provide instructions on running the programs plus useful sorted directory and MENU systems.

*But remember, as Public Domain programs they are supplied on an as-is basis.*

## CP/M 2.2 COLLECTION

For 464/664 disc drive users with CP/M 2.2. Contains File Manager, Compare, Find, Disc sector editor, Key definer, Bad sector eliminator, Grep, Full Screen text editor, Easy lister, File transfer utility, Unerase erased files, erased files catalogue and many more.

CPC Ref: #430

## FULL SCREEN TEXT EDITOR

This machine code editor offers full screen editing, full block operations, windowing, automatic horizontal scroll (line length up to 255 characters), macro functions, word-wrap and formatting, pagination, find/replace, undelete and many user options.

The editor, which is less than 10k in size, is fast because it edits a file entirely in memory. It produces ASCII text files and has enough features to be used as a word processor. A comprehensive on-disc manual is included together with keyboard configuration files for the CPC and PCW.

CPC Ref: #601 PCW Ref: #801

## DATABASE

A small relational database suitable for storing simple data and producing reports and forms letters from the data. Offers free format query language with macros and commands plus on-line help. The disc also contains an Inventory Database. Whilst these databases provide a useful introduction and you can use them to set up a full operational database system they are not meant to replace commercial packages for professional or business use.

CPC Ref: #602 PCW Ref: #802

## COMMUNICATIONS

Programs to allow data transfer between computers (local and remote), access databases and bulletin boards. UKModem7, New Kermit, MEX and various communications utilities. The disc also contains software for Prestel (Viatel) emulation (PCW only).

CPC Ref: #603 PCW Ref: #803

## VIDEO CLERK

Keep track of your video collection. With four Sort options and Forms Management system for printing out the data in order of title number, video number, global alphabetic or unique. Includes extensive on-disc documentation.

CPC Ref: #604 PCW Ref: #804

## FIXED ASSETS LOG

Allows you to keep a record of all your assets and their value. For example, at home, you may wish to

keep a record of how much money you are spending on your computer or the value of a stamp collection etc. In business you can use it to keep a record of how much money you have tied up in land, buildings, office equipment, cars etc. It can also be used as a stock-taking program.

CPC Ref: #605 PCW Ref: #805

## COMPLETE UTILITIES

- *Newsweep* - one key erase, copy, rename and print, plus many other features. Ideal for sorting out your disc collection quickly and efficiently
- *Superzap* - disc sector editor - edit by track/sector or filename. Fully menu-driven with cursor key SETKEYS file
- *DisckitA* - multi-choice disc formatter, offers 178k data format for PCW discs and 5.25" second drive formatting
- *Unerase* erased files
- *Read/write* PCW discs on a CPC
- *CP/Mv2.2 emulator*
- *Make* - allows you to copy files across user areas
- *Cleanup* - useful for speedy file deletion
- *Lookat* - speedily lists any file in Hex and ASCII
- *Screen Dump* (CPC only)
- *Password*
- *Easy Lister*
- *Password Protection*
- *File Scrambler*
- *File Splitter*
- *Directory check*

CPC Ref: #606 PCW Ref: #806

## TEXT PROCESSING UTILITIES

- *Sideways* - prints text file sideways on an Epson-compatible printer. Ideal for those wide spreadsheets
- *Sort any ASCII* list into alphabetical order
- *Word count* - can be used on any ASCII file
- *WSClean* - removes higher order bits from a text file and converts it to straight ASCII
- *Calendar Generator* - prints out calendar for any year
- *Simple Spell Checker* - with starter dictionary and dictionary editor
- *Scoring card generator*
- *Banner printers*
- *Typewriter emulator*

CPC Ref: #607 PCW Ref: #807

## DISC ORGANISATION

Catalogue your disc collection and produce a printed index. Useful for speedy location of files and for keeping your discs in order. Library utilities for archiving and saving disc space. File dating system. Squeeze and unsqueeze for saving up to 40% disc space. Menu system - allows menu-driven access to programs on a disc. Completely and easily user-definable.

CPC Ref: #608 PCW Ref: #808

## Z80 PROGRAMMER

A complete Z80 Assembler which is capable of converting an ASCII assembler file into a fully executable machine code .COM program. Plus Z80 Disassembler, Z80 Debugger, Z80 Library, 8080 Disassembler, Z80 to 8080 Translator and associated utilities.

CPC Ref: #609 PCW Ref: #809

## 'C' PROGRAMMER

The Small 'C' Compiler by Mike Bernson. Includes source code and 25k of documentation. Produces executable .COM programs.

CPC Ref: #610 PCW Ref: #810

## 'C' TOOLBOX

A disc full of 'C' source code examples together with the corresponding executable .COM programs. Useful to those wishing to see some practical examples of 'C'. As a bonus, the programs are quite useful too. The 'C' source was written for a variety of compilers and may need modifying to compile on MIX or Small 'C'.

CPC Ref: #611 PCW Ref: #811

## FORTH, STOIC AND 'C' INTERPRETER

For experimenters interested in using these languages. Documentation is included on disc.

CPC Ref: #612 PCW Ref: #812

## GAMES COMPENDIUM

A varied selection of the best machine code programs available for CP/M. Includes Pacman, Snake (PCW only), Chess, Othello, Mastermind, Spellit, Awari, Life, Golf, Polish Pong, Maze, Bio-rhythms, Word Search puzzle maker, TicTacTo.

CPC Ref: #613 PCW Ref: #813

## ADVENTURES

- *Colossal Cave Adventure* which originated on main frame computers. With game save and re-load
- *Bestiary* - you play the part of a young prince, your greatest love being to read the ancient bestiaries about strange and often legendary animals. Your task is to find a solution to the terrible blight which, one year, destroys both crops and animals in the kingdom. Includes game save and re-load
- *Return from Arg* - a short but interesting new adventure written in 'C'.

CPC Ref: #614 PCW Ref: #814

## PCW GRAPHICS (PCW only)

Simple user-designed graphics drawing program. Enables you to create, save, edit and print pictures on your PCW. Plot lines, points, boxes, four fill patterns, easy to use and wholly interactive

- *PCW Screen Font designer* with several ready-to-run font sets
- *Biomorph* - fascinating, graphic demonstration of natural selection - develop your own bugs!
- *Readme* - program to display any ASCII text file in 45 character format on the 90 character screen - makes it easier to read.

PCW Ref: #815

## How to order your discs

You may either order over the phone by credit card or by post. *It is very important that you get the reference number correct. CPC and PCW discs are different.* (Software contained on 3" discs only). The cost per disc is \$17.50. • **BANKCARD, MASTERCARD & VISA accepted** •

• Price includes postage in Australia, overseas add A\$2.00 •

## Send Your Order to:

The Amstrad User,  
1/245 Springvale Road,  
Glen Waverley, Victoria, 3150.  
Phone: (03) 233 9661

# THE AMSTRAD USER MAIL ORDER SERVICE

For details on how to order please see the last page of this list.

## Amstrad CPC Range 464, 664 and 6128 (unless otherwise stated)

### GAMES

	Discs	Tapes
4x4 Off-Road Racing	39.95	29.95
720° (Skateboarding)	44.95	29.95
1943	44.95	29.95
Activator	30.00	16.00
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Arkanoid	44.95	29.95
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Bad Cat	44.95	29.95
Ball Breaker	44.95	29.95
Bard's Tale, The	44.95	29.95
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Battle Valley	-	12.99
Batman - new version	44.95	29.95
Bedlam	-	29.95
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Bobby Bearing	22.00	-
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California Games	39.95	29.95
Captain Blood	44.95	29.95
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Classic Quest Adventures:		
Catacombs (hard)	49.95	-
Goblin Towers (mod.)	49.95	-
Forestland (hard)	49.95	-
Witch Hunt (very hard)	49.95	-
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Dragon Ninja	44.95	29.95
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Empire Strikes Back	49.95	34.95
Espionage	44.95	29.95
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Fury, The	34.95	34.95
Future Knight	-	16.00
Gauntlet II	44.95	29.95
Gee Bee Air Rally	-	29.95
Giant Killer - maths adventure	49.95	-

Glass	25.00	-
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Gothik	39.95	-
Gm. Gooch's Cricket	29.95	-
Gryzor	-	29.95
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Gunsmoke	44.95	29.95
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Hopping Mad	34.95	34.95
Hot Shot	37.95	29.95
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Hydrofool	-	12.99
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Madballs	44.95	29.95
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Rambo III	44.95	29.95
Ramparts	44.95	29.95
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Sapiens	39.95	29.95

### CPC - continued

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Shackled	44.95	29.95
Shockway Rider	-	12.99
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Star Wars	49.95	35.95
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Tanium	-	10.00
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Terra Cognita	-	11.00
Terramex	34.99	29.99
Tetris	34.99	29.99
Thunder Blade	44.95	29.95
Tiger Road	44.95	29.95
Total Eclipse	44.95	29.95
Trailblazers	-	20.00
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Young Players edition	27.95	22.95
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Typhoon	44.95	29.95
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Untouchables	44.95	29.95
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Vindicator, The	44.95	29.95
Vixen, The	34.95	34.95
WEC Le Mans	44.95	29.95
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Dizzy Dice/Joe Blade	22.00	-
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Theatre Europe/S. Davis Snooker	22.00	17.00
Who Dares Wins/Spitfire 40	22.00	17.00

### COMPILATION PACKS

<b>Arcade Force 4</b>		
with Road Runner, Metrocross, Gauntlet and the Deeper Dungeon, and Indiana Jones and the Temple of Doom	49.95	39.95
<b>Daley Thompson's Olympic Challenge</b> (not 664s)		
10 Decathlon events	49.95	39.95
<b>Elite Collection</b>		
with Bomb Jack I and II, Frank Bruno's Boxing, Commando, Airwolf, Paperboy, Ghost 'n' Goblins, Battleships	39.95	34.95
<b>Elite Six-Pack - Vol 1</b>		
with Shockway rider, Eagle's Nest, ACE, Batty, Int. Karate and Lightforce	39.95	34.95
<b>Elite Six-Pack - Vol 3</b>		
with The Living Daylights, Ghost 'n' Goblins, Paper Boy, Dragon's Lair, Escape from Singes Castle (on tape only) and Enduro Racer	39.95	34.95

### CPC - continued

<b>Fists 'n' Throttles</b>		
with <i>Thundercats, Ikari Warriors, Dragon's Lair, Enduro Racer and Buggy Boy</i>	39.95	34.95
<b>Flight Ace</b>		
with <i>Air Traffic Control, ACE, Spitfire 40, Strike-force Harrier, Tomahawk, ATF</i>		39.95
<b>Game, Set and Match I</b>		
Incl. <i>Baseball, Tennis, Squash, Pool, Ping Pong, Hyper Sports, Soccer, Boxing, Basket Ball, Super Tests</i>		39.95
<b>Game, Set and Match II</b>		
Incl. <i>Super Hang-on, Winter Olympiad, Match Day II, Nick Faldo's Open etc.</i>	49.95	39.95
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<b>Three discs or tapes containing Summer Games 1 and 2 and Winter Games</b>	59.95	49.95
<b>Karate Ace Compilation</b>		
with <i>Way of the Exploding Fist, Bruce Lee, Kung Fu Master, Avenger, Samurai Trilogy, Uchi Mata etc.</i>	49.95	39.95
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with <i>Shao-Lin's Road, Jail Break, Mikie, Yie Ar Kung Fu I and II, Hypersports, Green Beret, Nemesis, Jackal and Ping Pong</i>	49.95	39.95
<b>Leaderboard Par 3</b>		
with <i>Leaderboard, Leaderboard Tournament, and World Class Leaderboard</i>	49.95	39.95
<b>Live Ammo Compilation</b>		
with <i>Green Beret, Rambo, Top Gun, Army Moves &amp; Great Escape</i>	49.95	39.95
<b>Magnificent Seven Compilation</b>		
with <i>Wizball, Short Circuit, Arkanoid, Head over Heels, Great Escape, Cobra, Franki goes to Hollywood + FREE Yie Ar Kung Fu</i>	49.95	39.95
<b>Space Ace</b>		
with <i>Venom strikes back, Xevious, Cybernoid, Zynaps, Trantor, Exolon</i>		
<b>and North Star</b>	49.95	39.95
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<i>Loriciel's compilation with 3D Fight, Billy, Soccer, MGT, Flash and ZOXT099</i>	39.95	29.95
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<b>TAU Games + (6128s only)</b>		
<i>Dominoes, Snakes and Ladders, Mah-Jong, 3-D Noughts &amp; Crosses, Trucking, Tycoon plus Graphic Designer and Sprite Designer</i>	32.95	
<b>Ten Great Games Vol III</b>		
with <i>Iridis Altha, Tenth Frame, Firelord, Ranarama, Fighter Pilot, Leaderboard, Rebounder, Alley Cat, Eagles and Last Mission</i>		39.95
<b>Ten Mega Games Vol 1</b>		
with <i>North Star, Cybernoid, Deflektor, Triaxos, Blood Brothers, Mask 2, Tour de Force, Hercules, Blood Valley, Masters of the Univ.</i>		39.95
<b>Time and Magik trilogy</b>		
<i>Lords of Time, Red Moon and Price of Magik</i>	49.95	45.95
<b>We are the Champions</b>		
with <i>Renegade, Barbarian, SuperSprint, Rampage and International Karate</i>	49.95	39.95

### AMSTRAD USER YEAR DISCS

Containing all the type-ins appearing in each month of *The Amstrad User*

Year Disc 1 - Issues 1 to 12	50.00	-
Year Disc 2 - Issues 13 to 16	22.50	-
Year Disc 3 - Issues 17 to 20	25.00	-

### CPC - continued

Year Disc 4 - Issues 21 to 24	25.00	-
Year Disc 5 - Issues 25 to 28	25.00	-
Year Disc 6 - Issues 29 to 32	25.00	-
Year Disc 7 - Issues 33 to 36	25.00	-
Year Disc 8 - Issues 37 to 40	25.00	-
Year Disc 9 - Issues 41 to 44	25.00	-
Year Disc 10 - Issues 45 to 48	25.00	-

Separate tapes for each issue's type-ins are also available: each 5.00

### SERIOUS SOFTWARE

<b>Advanced Art Studio (Rainbird)</b>		
Graphics package (128k only)	69.95	-
<b>Advanced Music System (Rainbird)</b>		
Music package (128k only)	69.95	-
<b>Brainstorm</b> - ideas and reporting system (6128s only)	99.00	-
<b>Cardbox</b> - card index system (6128s only)	129.00	-
<b>Cardbox Plus</b> - enhanced version of Cardbox (6128s only)	199.00	-
<b>Expendiport</b> - cheque management and analysis system	39.95	-
<b>Extra Extra</b> - a disc full of ready made graphics, fonts and clip art compatible with AMS Stop Press	89.00	-
<b>Instant Recall</b> - database with very fast search facility	59.95	-
<b>Masterfile III</b> - the best relational database system	109.00	-
<b>Mastercalc 128</b> - spreadsheet program for 6128s (or 464 with disc drive and memory expansion)	99.00	-
<b>Matrix</b> - spreadsheet with text editing facilities, database, mail merging etc.	79.95	-
<b>Mini Office II</b>	59.00	49.00
<b>Money Manager</b> - powerful cash book program	59.95	-
<b>Personal Excellence Package</b> - High quality Mental performance analyser	109.00	-
<b>Plan-It</b> - desktop organiser	39.95	-
<b>Protext</b> - high speed w/p	89.95	-
<b>Protext Filer</b> - pop-up database module for Protext. (Requires Promerge & Protext)	69.95	-
<b>Protext Office</b> - pop-up add-ons for Protext including mailmerge and invoice generator. (Needs Promerge & Protext)	99.95	-
<b>Prospell</b> - spell checker	79.95	-
<b>Promerge</b> - mail merger	79.95	-

### STOP PRESS from AMS

*The ultimate Desktop Publishing package for CPC owners. Combine text and graphics with 'what you see is what you get' facilities. The ideal publishing software solution for home enthusiasts, schools, societies and small businesses.*

Stop Press (disc only)	159.00
With AMX MkIII Mouse	289.00
Extra Extra clip art	89.00

Tasword 464	-	59.95
Tasword 464/D	79.00	-
Tasword 6128	79.00	-
Tas-spell	56.00	-
Tasprint	45.95	32.95
Tascopy	45.95	32.95
Tasdiary	45.95	-
Tas-sign	89.95	-

### CPC - continued

<b>Touch 'n' Go</b> - Typing tutor (6128s only)	69.00	-
<b>Ultrabase</b> - easy database	69.95	49.95

### EDUCATIONAL

#### From SCHOOL SOFTWARE

Play School (3-7)	29.95	22.95
Magic Maths (4-8)	29.95	22.95
Maths Mania (8-12)	29.95	22.95
Better Maths (12-16)	29.95	22.95
Maxi Maths (12-16)	29.95	-
Physics (12-16)	29.95	22.95
Better Spelling (9-99)	29.95	22.95
Chemistry (12-16)	29.95	22.95
Biology (12-16)	29.95	22.95
Weather/Climate (12-16)	29.95	22.95

#### From LCL SOFTWARE

Micro Maths (9-11)	59.95	49.95
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Micro English (9-11)	59.95	49.95
Primary Maths (7-11)	79.95	49.95

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*(Developing Reasoning, Logic, Estimating and Forward Planning skills).*

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Vol3. <i>Thorn Sea/Ferry Captain (9-13)</i>	49.95	-

#### From FUN SCHOOL: three discs in the series each containing 10 educational programs.

Vol 1 - ages 2 to 5	29.95	-
Vol 2 - ages 5 to 8	29.95	-
Vol 3 - ages 8 to 12	29.95	-

*(All reviewed Issue 48 - Jan '89)*

<b>The Magic Sword</b> - including full colour reading book	39.95	-
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<b>Three Bears</b> - graphic adventure to improve logic, deduction and reasoning	34.95	-
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### PERIPHERALS

**AMX MOUSE Mk III** - with superior ball technology and high resolution movement this updated mouse from AMS gives total control and flexibility, and compatibility with AMS Stop Press. Comes with an interface for CPC owners 150.00

**KEMPSTON MOUSE** - comes complete with Blueprint, a comprehensive graphics package 199.00

#### COMPUTER/TV MODULATOR CONVERTER

This Amstrad unit (MP3) allows a CPC colour monitor to be used as a colour television - all you need to connect is a TV aerial to watch your favourite stations 149.00  
*(Please add £7.50 for certified post & packing)*

**MOUSE MATS** - keeps Mouse clean (Blue) 19.95

### UTILITIES

<b>Animator</b> - animation utility	-	30.00
<b>Fido</b> - unique disc catalogue and menu maker program	-	29.95
<b>Locksmith</b> - unlock the secrets of your discs and tapes	69.95	49.95

## CPC - continued

Model Universe - 3D rotating drawing program	54.95	-
Rampak - nearly fifty machine code subroutines	44.95	37.95
Rembrandt - multi mode icon driven drawing prog.	69.95	-
Supersprites - sprite designing and control program	29.95	19.95
System X - adds over 40 new Basic extension commands	29.95	19.95
Toolkit - the most advanced Basic extension for the CPC	69.95	49.95
Zedis II - machine code monitor and disassembler	29.95	-

## JOYSTICKS

**TURBO** - with six high performance micro-switches, 2 fire buttons, suction feet, a solid steel break resistant shaft, and a very fast response trigger. 34.99

**ZIPSTICK SUPERPRO** - 90% British made quality moulded high impact plastic with self-centring actuator & eight-way micro switches. 1.4m of cable. Left and right hand fire buttons, steel shaft, non-slip rubber pads 39.95

**ZIPSTICK ELITE** - a smaller, specially designed hand-held model with similar specifications to the Superpro, but with just one forward centrally located fire button. Also has rubber pads on base for flat surface use 29.95

## MISCELLANEOUS

Screen Filter	29.95
<b>Ribbons</b>	
Black Nylon for DMP 2000/3000/3160	19.95
Black Nylon for DMP4000	19.95
3" drive cleaning kit	19.95
CF-2 3" discs each	7.00
Joystick Splitter Cable - to allow the use of two joysticks through the single joystick port of the CPCs (not simultaneously)	19.50
CPC6128 'Seal 'n' Type' Keyboard protector Stops damaging spills etc.	29.95

**Amstrad PCW Range  
8256, 8512 and 9512**  
(unless otherwise stated)

## GAMES

Academy (Tau Ceti II) §	65.95
Armageddon Man §	57.95
Batman §	57.95
Catch 23 §	57.95
Classic Quest Adventures:	
Goblin Towers (moderate)	49.95
Forestland (hard)	49.95
Witch Hunt (very hard)	49.95
<b>Corruption</b>	59.95
CP Compilation - with 3-D Clock Chess, Backgammon, 3-D Draughts and Bridge 2000 all on one disc	59.95
Distractions: 3 graphics games compilation: On the Run, 2112 AD and Nexor §	59.95
Double T Patience - compilation of six frustrating games including Kuala Lumpur,	

## PCW - continued

Poker Patience and Fourways	64.95
Giant Killer - maths adventure 10 to adult	54.95
Graham Gooch Cricket (Limited Overs & Test Match)	49.95
Guild of Thieves	69.95
Gnome Ranger	59.95
Head over Heels §	57.95
Heathrow ATC/Southern Belle	57.95
Ingrid's back	59.95
Jinxter	69.95
Knight Orc	59.95
Lancelot	59.95
Living Daylights	49.95
Match Day II - animated soccer action	57.95
Mindfighter §	65.95
Pawn, The	69.95
Return to Doom (Topologika adventure)	
Scrabble de luxe	65.95
Starglider	69.95
Steve Davis' Snooker	54.95
Tetris: mind/strategy puzzle	59.95
Time and Magik Level 9 trilogy	
Lords of Time, Red Moon and Price of Magik	54.95
Tomahawk: helicopter simulation	57.95
World of Soccer - international soccer management simulation	59.95

## PUBLIC DOMAIN DISCS 17.50

(The games above marked with a § symbol are known to work only on the 8256/8512)

## PCW YEAR DISC

Containing all the PCW type-ins published in The Amstrad User for issues shown  
Year Disc 1 - Issues 25 to 40 27.50

## EDUCATIONAL

Better Maths (12-16 yrs)	39.95
Better Spelling (12-16 yrs)	39.95
Biology (12-16 yrs)	39.95
Chemistry (12-16 yrs)	39.95
Giant Killer - maths adventure 10 to adult	54.95
Magic Maths (4-8 yrs)	39.95
Maths Mania (8-12 yrs)	39.95

## PUBLISHING

Desk Top Publisher	99.00
Newsdesk International	125.00

## STOP PRESS from AMS

The ultimate Desktop Publishing package for PCW owners. Combine text and graphics with 'what you see is what you get' facilities. The ideal publishing software solution for home enthusiasts, schools, societies and small businesses  
Stop Press (disc only) 179.00  
With AMX Mk III Mouse 299.00

## DATABASES

Cardbox	129.00
Cardbox Plus	199.00
Condor One	149.00
Masterfile 8000	119.00
TAIT Database and Labeller	49.95

## MISCELLANEOUS

Brainstorm - tool for structuring raw ideas in a logical manner	99.00
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## PCW - continued

**Daatafax Personal Organiser Gift Pack** from Kempston - with soft-ware, stylish binder, subject tabs, and starter stationery 149.00  
(Additional stationery available)

## Graphics, the Universe and everything...

This latest version (2.0) provides the means to create professional graphics output and more. Source code included (8000s only) 75.00

**Lightning Basic Plus - turbo charge your Mallard Basic (all PCWs)** 75.00

**Master Paint** - deluxe graphics program, for use with either mouse or keys 59.95

**Mini Office Professional** - the PCW version of the highly successful Mini Office II with Spreadsheet, Wordprocessor, database, graphics and communications 149.00

**Money Manager Plus** - cashbook/personal accounting 99.00

**NewWord2** - only one available just 150.00

**Personal Excellence Package** - High quality mental performance analyser 109.00

**Plan-it** - desktop organiser, plan budgets, sort files etc. 39.95

**Protex Filer** - pop-up database module for Protex 69.95

**Protex Office** - as Protex Filer but with mail-merge and invoice generator module 99.95

**Protex PCW** 179.99

**Prospell PCW** - spellchecker for most word processors incl. Wd/Star and LocoScript 89.95

**Scratchpad Plus** spreadsheet 99.00

**Stockmarket - watch your investments** 79.95

**Tait Accounting System** - small business Debtors, Creditors and Invoicing 129.00

**Tempdisc** - a disc full of instant templates exploiting LocoScript to the full. Provides a wide range of heading styles, agendas, invoices, borders and documents:

Tempdisc 1 (needs Loco1) 59.95

Tempdisc 2 (needs Loco2) 59.95

Tempdisc 8.2 (needs Loco2, Locomail and 8512) 67.95

Tempdisc 9 (for 9512) 67.95

**T/Maker - Relational database, Spreadsheet, Word Processor, Spell Checker, Graphics, List processor - for 8000s and 9512** 149.00

**Touch 'n' Go** - typing tutor 69.00

## PERIPHERALS

8256/512 'Seal 'n' Type' Keyboard protector Stops damaging spills etc. 29.95

9512 'Seal 'n' Type' Keyboard protector Stops damaging spills etc. 29.95

**AMX MOUSE plus interface from AMS** - the most popular and sought after peripherals for your PCW, especially with StopPress 165.00

**MM3 Margin Maker - Single sheet locator and aligner for PCW 8000 printers** 39.95

**PCW Joystick Interface** from Kempston 59.95

**SCANNER - Master Pack** - a scanning device which attaches to a PCW printer head to copy photos or other art work, Master Scan software and Master Paint, a powerful graphics package.

Compatible with Desktop Publisher, FSE and Newsdesk International 279.00

**SCREEN FILTER** 29.95

**PCW - continued**

**TASMAN RANGE**

Tasword 8000	79.95
Tas-spell 8000	56.00
Tasprint 8000	52.00
Tas-sign 8000	89.95

**CONSUMABLES**

**PCW 8000s Printer Ribbons**

Black Carbon or Nylon	19.95
Coloured Nylon - Blue, Red or Green	24.95

**PCW 9000s Printer Ribbons**

Black Carbon or Multistrike	15.95
Black Nylon	19.95

**Daisy Wheels for 9000s**

Prestige Pica 10; Prestige Elite 12; Courier 10;	
Cubic Pica 10; Mini Gothic 15/Micro; Orator 90%/10;	
Letter Gothic 10/12; Script 12	each 19.95

<b>3" disc drive cleaning kit</b>	19.95
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**PCW - continued**

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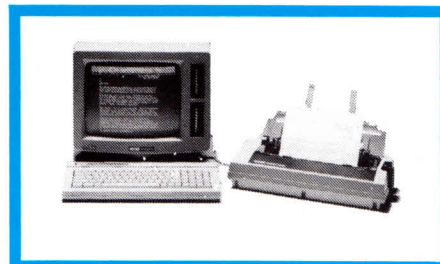
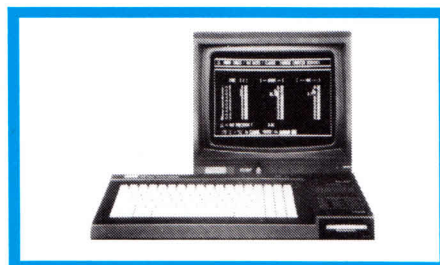
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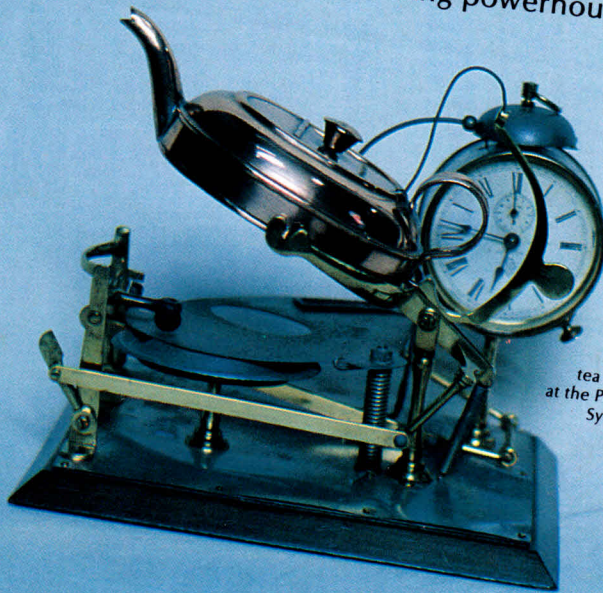
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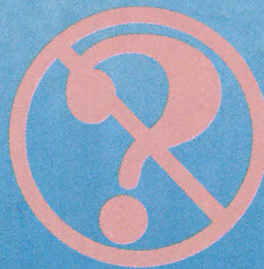
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