

COMPUTING WITH THE AMSTRAD CPC

The independent magazine for Amstrad CPC users

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AND COMMS
PACKAGES
ON TEST**

AMTIX!
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PRESTIGE
COLLECTION**

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with the
AMSTRAD

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*Our first visit to the fabulous
Great Hall at Alexandra Palace
was an **OUTSTANDING** success.*

*So for our May show
there'll be . . .*

- ★ **More stands** (lots more to try and buy)
- ★ **More space** (a much bigger floor area)
- ★ **More savings** (special offers galore)

THURSDAY MAY 26 10am-6pm	FRIDAY MAY 27 10am-6pm	SATURDAY MAY 28 10am-6pm
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AMSTRAD COMPUTER SHOW



Help celebrate Amstrad's 20th anniversary at the 10th Amstrad Computer Show - the biggest event of its kind ever held. This is the show where both beginners and experienced users can find the answers to all their questions. A **Computerised Product Locator** will give visitors an instant guide to which stands have products they want to see. An **Expert Advice Centre** will be staffed by some of Britain's top computer professionals. And **Demonstration Areas** will enable you to see the very latest software in action.

A great day out for all the family!

The **NEW** Alexandra Palace is at the heart of a vast leisure complex, with a magnificent panoramic view over the capital. When you're at the show the rest of the family can enjoy the excellent park, the butterfly lake, the children's play centre and zoo, and the park's own picnic grounds. And new facilities completed when the last show finished include a **Japan, Italy-licensed restaurant**, bar and music arena, and the original **Poker Club** (where you can win the weekly chess and tennis titles). There's extensive car parking too - and all of it is free.

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CPC NEWS UPDATE

Big boost for CPC games

A MAJOR new software house has been launched with a budget of £1 million to provide exclusive games for discriminating Amstrad CPC users.

To be known as Mandarin, it will combine the marketing muscle of the Europress Group in a series of joint ventures with the UK's top programming teams.

The first link up is with award-winning authors and designers Level 9, Britain's best known adventure game creators.

"We believe that our programming ability combined with Mandarin's knowledge of the marketplace and understanding of the need to get products out on time will be an unbeatable combination", said Peter Austin of Level 9.

Mandarin's involvement with the adventure games house is the first of a series of joint ventures.

"We find ourselves in the position that, unlike many other publishers, we don't have to push our titles to maintain cash flow", said Chris Payne, spokesman for the new venture.

"Mandarin couldn't be more sound financially - we have £1 million in the kitty - so we are in a superb position to pick and choose not only our partners, but also just what products we decide to release and when.

"It is our aim that our label will become synonymous with quality, providing the Rolls Royce of software games. And what better way to start this with Level9?"

Sugar socks it to 'em again

ALAN Sugar has again taken everyone by surprise in announcing record sales and profits for the last half of 1987. Six-month sales were £365 million - compared to £232 million the previous year - and profits were £90 million, up nearly £20 million.

City analysts are now predicting Amstrad profits for the full year of £165

million - a £20 million increase over last year.

The interim figures also helped boost Amstrad's share price.

As usual, Sugar would not be specific about product development, other than to mention "expansion of facilities and new products due to come on stream within the next few months".

...and sets his sights on Europe

A NEW wholly owned Amstrad subsidiary to serve the German, Austrian and Swiss markets has been formed.

The move was expected following the company's recent decision to end its partnership with its West German distributor Schneider, and is the latest step in a major European expansion programme.

There are already Amstrad subsidiaries in France, Spain and Italy, and Alan Sugar has said he will also form com-



Alan Sugar, *Amstrad*
Noggin in Germany

panies in Belgium and Holland this year.

Announcing the new subsidiary - Amstrad GmbH, based in Frankfurt - Sugar said: "We expect the German company to be the largest contributor to the group's European sales within the next few years".

All go on the games front

LATEST arcade adventure from Quicksilver: 801-429 0688) requires the player to help save humanity from a giant asteroid hurtling toward planet Earth.

But first, scientist scientist Albert Einstein must be located, persuaded to assist, and provided with the tools he needs for the job.

Terramac features tortuous puzzles spiced with humour, and a choice of five quite different characters to control. Price £9.99 on cassette, £13.99 on disc.

CULT board game five - described by *The Times* as "more challenging than chess" - is now a colourful CPC program.

Released by Endurance Games (81-884 8188) it costs £3.95 on cassette and £14.95 on disc.

CDM-OP cassette *Karnage* is the latest arcade conversion by the CPC from Electric Dreams (27-421 1103).

There are nine hostile levels full of angry dragons, deadly ninjas and killer robots on the trail of the lost treasure of Babylon. Price £9.99 on cassette, £14.99 on disc.

GRANADA Television's space-challenge *The Knight Factor* can now be tackled from the comfort of your armchair thanks to TV Games (01 867 9623).

Up to four players can take part, testing their mental and physical qualities in a variety of tests. Price £7.95.

IT'S THE LEAN MACHINE

AMSTRAD easily leads the first *Sunday Times* business index - a new measure of the performance of Britain's top companies. A scientific tool at how British industry is doing now, it rates 250 major firms on factors including profit margins and return on assets.

Amstrad was the star performer on two of the measures and placed first overall. "This reflects Amstrad's lean management team and well-motivated work force", said *The Sunday Times*.

A RECORD turn-out for the last Annual Computer Show at Alexandra Palace has established it as the number one event for company-specific, more exhibition world-wide.

Crowds totalling 17,760 besieged the new venue in the Great Hall over the three days, with family day on the Saturday drawing a staggering 8,500 people. The record

attendance figure means the Annual Computer Show now arguably boasts a pulling power in excess of any comparable event anywhere in the world.

"We had anticipated a high turn-out but we were staggered by the reality", said Michael Maslin, head of Database Exhibitions.

"It was, by any standards, fantastic. The only

event that seems certain to be bigger and better is the next Annual Computer Show which is to be held at Alexandra Palace from May 26 to 28".

Among the team from competing with the Annual Computer Show was former Popular Computing Weekly editor Christine Evans.

This is what she found.

The CPC range of machines may be most popular for games and leisure use, but the Annual Show at Alexandra Palace showed that a significant number of firms make their business products available right across the Annual range.

With some of these, the CPC version will be a CRM Plus implementation, and thus geared towards the CPC8128. But for the serious users of all CPC models there was plenty of powerful utility software on show.

Rombo Digitiser

Graphics packages were much in evidence with Rombo's Midi-CPC making a particularly impressive display.

With Midi-CPC and a video recorder or camera you can either digitise still pictures, or "grab" single frames from action shots. The digitiser operates in the CPC's Mode 1 or Mode 2, plus Mode 0 for still pictures.

The pictures produced on screen are, not surprisingly, in black and white, so the choice of modes depends not on the colour of the image, but the screen resolution you require and the number of grey shades.

Should you wish to edit the pictures, they can be saved to tape or disc, and cleaned up in conjunction with an art package such as Rainier's Art Studio. Midi-CPC is also compatible with AMS's Stop Press

Power for CPC goes on show

DTP program.

Midi-CPC is available at £89.95 with software on tape or disc from Rombo Productions, 100 Raabour Rigg, Livingston, West Lothian, EH56 2QJ.

If you want to draw your own masterpieces, Metrotec has produced Easitrac and Easidraw (both £18.95) for that very purpose.

Easitrac is available on tape or disc, and is an icon-driven program which can use the CPC's full spectrum of colours.

Easidraw is only available for the CPC8128/864 and is a single-colour technical drawing package rather than an art program.

Further details from Metrotec at 55 South View, Haverhill, Newcastle-upon-Tyne, NE1 3JH 2491.

Closely related to graphics packages are those which enable you to combine pictures with text to design posters or newsletters, the home version of desktop publishing.

Also in Metrotec's East-range is EasyPublish, again for the CPC864 and CPC8128 only. This will mix text and graphics on a page, and is compatible with both Easitrac and Easidraw.

Show faithful AMS had its full range on display, which includes AMX Art, now with the latest Mouse Mix II, and Stop Press, in

which you can mix your graphics with text in up to 18 different typefaces.

Siren Software was demonstrating Micro Design, a page design program which is compatible with AMS's mouse.

Micro Design is geared more diagrammatic rather than pretty pictures, but is particularly flexible in its handling of text on the page. You can print your words upside-down, side on to the page, in wavy lines, back to front or in white on a black background.

Mainly aimed at CPC8128 owners - it requires 128k and a disc drive - Micro Design costs £24.99 from Siren at 24 Oxford Road, Manchester M1 5QA, 061-228 1831.

Serious side

Anyone who visited the show in the hope of seeing the newest games would have been disappointed.

This was largely a show for the serious minded CPC user, although there were some excellent bargains to be had from some of the retailers' stands on older titles.

However there were a couple of interesting new programs on display which sit somewhere outside the conventional games, utility and pro-

gramming categories.

PEP, from Intersoft, stands for Personal Excellence Package, and aims to help you assess your mental and social powers, and improve them.

The program includes 60 tests, a personality assessment module, coordination skills tests - and it will measure how much they deteriorate under the influence of alcohol or stimulants - and memory tests.

The documentation points out that you could use the program professionally to assess, say, job candidates, as well as having some fun with it at home (and perhaps learning some home truths). At £24.95, it's CPC8128 only, I'm afraid - it runs under CP/M Plus, latest is at 41 North Road, London N3, 01-887 5884.

Stockmarket, from Meridian Software, is for Post-Bangor everywhere. It enables you to record details of your shareholdings, unit trusts, and will plot their performance in graph format or on a linear scale.

You can, of course, also enter and keep track of share prices and markets, or practice, to test your own business "nose" before diving into the market for real.

Again it's for disc-based CPCs, and priced at £29.95. Contact Meridian at 28 Baldock Road, London SE8, 01-850 7657 for further information.



NEWS...NE

More power, speed for MicroLink

MAJOR improvements to MicroLink have been announced, following the successful outcome of prolonged negotiations with Telecom Gold.

The enhancements are based on speeding up connect time on the system, with the aim of bringing down the cost to subscribers.

"With the vast increase in slow traffic in particular over

Costs will be cut

the last few months, one of our top priorities has been to simplify the sending of messages", said the head of MicroLink, Derek Maslin.

"Our programmers have achieved a significant breakthrough which we are now

implementing. We are also completing the switch to our new Prime 9950 computer which provides more than four times more power than has been available to MicroLink subscribers so far.

"The other big development is the opening of 2000 baud access to the MicroLink computer - doubling the speed at which users can transmit and receive data".

Wanted - a disaster

If anyone out there has recently found disaster turning into a crisis, there could be a silver lining to their troubles.

A company on MicroLink specialising in providing locations for films and still photography is asking other users to help.

"We've got a stinker of a job", says spokesman Neil Gathers.

"Our brief is to find a location for a photo to illustrate an advert for a smoke detector.

"We need a recently built but detached house where roof timbers are charred and standing out against the sky - we're as desperate, any part of the country would do.

"We've offered a small reward to any MicroLink user who finds the building we eventually use".

Now disabled study at home

PHYSICALLY disabled people in London are being helped toward employment with the aid of MicroLink.

Over the next three years 60 housebound residents of the Borough of Greenwich

will be given the chance to study computing and information technology in their own homes.

Aim of the scheme, funded by the Urban Aid Programme and Greenwich Council, is to

enable trainees to eventually either gain employment as subwaiters for businesses or to become self-employed in computer-related activities such as programming, word processing or desktop publishing.

Each trainee is being provided with a computer, modem and printer. A tutor will regularly visit each trainee to sort out any problems and to check on their progress.

"But there will also be a constant 24 hours a day computer link to the base at Greenwich IT&C through MicroLink", said tutor Marie Robinson.

"The first 30 students start this year and should be fully trained after twelve months.

"During the year we hope employers will be found who are willing to provide work experience for the trainees".

DIAL FOR A DEMO

COMPUTER users who haven't yet seen the massive range of facilities MicroLink has to offer can now logon directly for a free interactive demonstration - and all from the comfort of their own home or office.

All they need is a 1200/75 baud modem and telephone connection to 01-580 1275.

Once online, at the F40 prompt simply key CALL 72 then Return. When asked to sign on, key 02 MAG111 then

Return. The password DATABASE, followed by Return, will bring up the menu.

There are four sections to browse through - communication, information, services and leisure - each describing a different aspect of the system.

"This free demo vividly illustrates that MicroLink has lots to offer everybody from hobbyists to business executives", said head of MicroLink, Derek Maslin.

Laying it on the line

WHETHER it is Mary Whitehouse is about, but MicroLink subscriber Keith Channing is looking for people who like to take their clothes off.

Rid that there's anything naughty going on, Keith is membership secretary of COBRA - standing for Clothes Optional Recreation and Leisure - which is a beach, camping, and general outdoor natural group.

At present he is trying to bring together all those MicroLink subscribers who are naturists so that they can chat about their pastries in electronic mail.

HAVE you ever been in the infuriating position of knowing that somewhere in your disc collection is a vital file or program, and then catalogued a dozen discs before you found it? Disc Library will put an end to all that by using the disc directories to produce a catalogue of filenames in alphabetical order.

Now you can look up a filename and find out the disc, side, and user group in which it is stored. You can even print out the catalogue and keep it handy for quick reference.

Type in the program and wade out your typing mistakes with the help of the checksum utility from the June 1987 issue. Although Disc Library isn't a big program it uses most of the free memory in your machine for storing data, and overall it's a very tight fit. If you have some fitted you may find you have to switch them off for the program to run properly. In most cases Disc Library will warn you if there isn't enough room, but if you suffer from odd crashes, try turning off all cores except number seven — the disc core.

When you run the program you will see a menu, and the nine options are summarised in Table 1. To avoid confusion I'll refer to the physical disc

1. Load catalogue from disc.
2. Add disc directory to catalogue.
3. Print catalogue on the screen.
4. Send catalogue to printer.
5. Save catalogue to disc.
6. Erase one disc side from catalogue.
7. Erase or pick out one file type from catalogue.
8. Erase catalogue from memory.
9. Look for named file.

Table 1. Menu options

directory as a directory, and the file or names produced by this program as the catalogue.

Option one allows you to load a previously saved catalogue and will prompt you for a filename. The first time you run the program you won't have a catalogue on disc, so to begin building one — or add to the one in memory — select option two and insert the disc to be read.

You will have to choose a disc name up to eight characters long. Then you'll be asked which side is being read — A or B. Finally, you can opt to read user 0 only, or 0-15 industries.

The disc directories will then appear on screen and the program will copy them into its database. As the CPC404 doesn't have a CDPY0088 command there's some machine code which does the job, though on the CPC8128

68k it duplicates the existing facility.

Disc Library can't find SFS files, but you can edit the catalogue file stored on disc in a word processor. Remember that the last row must be an empty record consisting of 26 spaces.

When adding a directory, the old filenames on the same disc side are first erased from the catalogue. In this way you can easily perform an update after changing the contents of a disc. If you have given two files on different discs the same name don't worry, they'll both appear. Don't forget to save the updated catalogue with option five before you exit from the program.

After the filenames have been added to the database you will be returned to the menu. Select option three to see the names in alphabetical order on the screen. In the list you will see the filenames, disc name, disc side and user number.

The fourth item on the menu will send the catalogue to the printer and option for continuous or single sheet stationary. The variable *pr* in line 1690 should be set to 0 for single sheet or left as 1 for continuous. The records are printed either three items across

the page using shift, or five items in continuous list.

The sixth option allows you to erase from the catalogue the filenames on one disc side. This can be user 0 only, or users 0-15. If you have a large number of files and are working with users 1-15, this option is very slow.

Item seven allows you to erase certain file types or pick one out and erase all others. This is useful for extracting all files ending in, say, .BAS, or erasing any .BANK files.

Every item in the catalogue is 26 characters long. Between 990 to 1064 entries can be stored, and the program will not allow you to read in another directory if there isn't room for a full disc side of new entries.

If you run out of room you'll have to work with more than one file, but most people won't find this necessary. We used Disc Library to produce a catalogue of our master discs containing all the programs published in the last three years, and that took up

Turn to Page 118



00	0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0
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00003 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0
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00006 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0
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00008 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0
00009 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0
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00028 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0
00029 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0
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00032 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0
00033 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0
00034 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0
00035 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0
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00064 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0	0 00000 000 0
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4 From Page 2

less than half the available space.

Should multiple files be necessary, option eight allows you to clear the current catalogue from memory to enable you to start off a second one. This has the same effect as glopping out a non-existent file type, but is a lot quicker.

Finally, option nine will hunt through the catalogue for a specific filename. Type in the first part of the name and the extension separately. If

you miss out the extension by pressing Return/Enter, the routine will try to find a match with as many characters you have given it. In this way you can look for all filenames starting with a particular character or set of characters. Note that ? and * wildcards are not supported.

The original version of the program used a string array for the filenames, one element for each. This worked perfectly on the CPC8128 but caused problems on the CPC464. With large files, whenever the array was

accessed the micro lost itself in huge amounts of garbage collection, causing the program to pause for long periods.

To make Disc Library compatible with all models it was decided to go for a ram file system. Each record is poked directly into memory with an INX | WRITEDEC, and read out again with a READDEC. Another bar command - INDCOPY - copies one record into another. The end result works on all models and a little faster than the original CPC8128 version.

```

10 REM      Disc Library
20 REM      by Alan Peckin
30 REM      001 00001101 0101 001 0001100
40 REM      ***** CPC *****
50 REM      00000000 0000 0000 0000 0000
60 REM      00000000 0000 0000 0000 0000
70 REM      ***** END *****
80 REM      00000000 0000 0000 0000 0000
90 REM      00000000 0000 0000 0000 0000
100 REM      00000000 0000 0000 0000 0000
110 REM      00000000 0000 0000 0000 0000
120 REM      00000000 0000 0000 0000 0000
130 REM      00000000 0000 0000 0000 0000
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970 REM      00000000 0000 0000 0000 0000
980 REM      00000000 0000 0000 0000 0000
990 REM      00000000 0000 0000 0000 0000

```

Turn to Page 52

EPSON PROGRAMMER 020.85

Simple, easy-to-use programmer card (20 pins)

- Supports 128 pin EPSON Systems
- Available for £1.5 on 20 pin base
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Model	Price	Availability
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EPSON 128 pin	£1.50	Available
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USER CLUB
it pays to belong!

ROBIN NIXON visits two software houses about to slug it out in the budget sector

BUDGET

CODE Masters is renowned for producing good quality games at a low price, and its software consistently makes it into the top 20.

To gain an insight into how this is achieved I visited two of Code Masters' top programmers - the Oliver twins - at a recent press launch for Jet Bike Simulator.

When I arrived they were demonstrating Pro Ski Simulator (which had just hit the number one spot in the charts) to a reporter from a skiing magazine.

This is typical of Code Masters' approach. It specialises in endeavouring to get publicity wherever it can, including television where the Darlings - directors of Code Masters - made an appearance on the children's programme, Number 73.

According to marketing manager Bruce Everiss, this is how they keep the price of the software so low. And this approach works: At the time of writing Pro Ski Simulator is still number one, Grand Prix Simulator is number two, Crazy is in fifth place, BMX Simulator is sixth, Super Robin

then the twins' output has been phenomenal.

The games are written with the non-based Maxam assembler, which they

“Two programmers working together work three or four times faster than one; three programmers do nothing!”

- Bruce Everiss

describe as brilliant because it's so fast and takes up virtually no ram.

Code Masters has an in-house graphics manager and a team of about 100 freelance programmers. Occasionally the Darlings come up with an idea they want programmed and get some people to work on it, but more often programmers come up with the ideas themselves.

Once they've got the idea they'll storyboard it and then get the programmers to start coding. The graphics are created separately on an in-house art package, and are then linked into the program.

Having done that they create a title screen, and then subcontract someone to write the music. Finally the games go through a rigorous screening process by David and Richard Darling, their 29-year old friends and, very importantly, their six-year-old brother.

So what does the future hold for

Code Masters? Apart from continuing to support the Amstrad, they intend to branch out into 16-bit budget software selling at around £10 and also hope to set up distribution channels in Europe and America to take the battle of the budget further afield.



Phillip and Andrew Oliver

“The difference between Code Masters' and full-priced games is in the advertising, not the quality.”

- Bruce Everiss

Hood is (twelfth), and Transmuter is just in the top 20 at number 35. Some food!

I asked Phillip and Andrew Oliver how they became involved with the company. At school they had a BBC Micro, and with it they taught themselves to program.

As soon as the CPC8128 appeared they bought one and started writing games almost straight away. When the Darlings saw Phillip and Andrew's work, they snapped them up. Since

SOFTER isn't known for budget games, but husband and wife team Gordon Tin and Cheri Langbell intend to change that in a big way.

Softex considers the info released under its label The Edge to be what they call "high quality games that make you think".

Following on from its latest full-priced releases under that label - Inside Outing (reviewed in our February issue), and Garfield (previewed this month) - Softex is to start a budget label, The Micro Selection.

That may not sound particularly snappy, but according to software manager Denise Cahill, it is their

GET BATTLE

intention to take the label right to the top.

They fully researched the market before embarking on the launch. Suppliers, distributors, and retailers were asked what they wanted in terms of price, packaging, and advertising and The Micro Selection was born from the answers received.

Preliminary shots across Mastertron's and Code Masters' boxes are releases of some back catalogue material from Cascade Games and Alog.

The first three titles to be given a new lease to life are Thai Boxing, Questor, Jump Jet and Activator, each of which will be released on tape for £1.99.

There will also be other releases on sub-labels called The Micro Selection Plus and Limited Edition. These are Bobby Beating (£2.99), Shadow Skirmisher (£2.99) and Fairlight: The Legend (£4.99).

I asked Denise why Softex is

entering a market in which other companies have failed, and what the main differences are between budget and full-priced software. She said that the



“The Micro Selection represents budget at its best”

— Denise Cahill



difference is not only price, but it's like that between a single and an album.

Many people buy a single or two each week, but save up for albums, which have more in them. Although both are equally good products, albums — representing greater value — cost more.

She believes there is a gap in the budget software side at the moment, and that there will always be a market

for this type of game — especially if the quality is as high as The Micro Selection is intended to be.

As well as budget titles, Softex has moved into coin-up conversions (which it believes will continue to be one of the main sources of inspiration for a good while yet) through a new label — Ace.

The first titles to be released around



Garfield: Reviewed this issue

Faster, are Soldier of Light, Dallas, and Alien Syndrome. According to Tim Langdell, the quality of these conversions will be higher than the public may be used to from other companies.

Softex also intends to release original arcade style games under the Ace label.

There is also a fourth label, Soft Technics, with a range of business and home productivity software including word processors, graphics packages and database managers. So, with all these vans in the fire, they are well prepared for the future — no matter what it holds.

It will be interesting to see if they are up there competing with the likes of Mastertron's and Code Masters' this time next year.

NEXT MONTH:

Fire off to the heart of the East End to visit the whirlwind software house GFI. Read all about it next month.



The first three Micro Selection releases for the CPC

LUCASFILM GAMES PRESTIGE COLLECTION



Activision
£9.99 (tape)
£14.99 (disc)
Joystick or
keys

FEW compilations offer more than one or two big hits, but here we have a selection of four of the most popular games of recent times.

Star Trek II is difficult to describe. According to legend, the planets used the chess rules on the planet Korolia to test their most powerful weapons.

After days of travelling through uncharted space, your monitoring systems detect the strongest radiation flux you've ever seen. Could this be the legendary planet?

Leaving your drift system analyzer Poyak in control of the orbiting spacecraft, you board the surface rover and begin the descent to the planet's surface.

Your task is to traverse for miles of ancient technology in the hazardous hills; you will find traps in the rifts. They can be taken back to the spacecraft where your Poyak drift can evaluate their power and efficiency.

Your quest is made more difficult by the guardian spaces which are out to get you. Until you reach level 30 and destroy their base, the only choices you have are to either evade them or fight back.

You can end the game at any time by returning to the spacecraft to rest in so all the technology you've gained up, but you can't claim the planet unless you have destroyed the guardian's base.

There is much more to the game than I have space to describe, and it's well worth studying the instructions in

detail before grabbing your joystick.

Spellblazer has been described as the fastest and most competitive sport in the universe as strapped to a rocket, you face your opponent.

The screen is split in two, so you each have your own view of the game. One fires the ball, and you must try to get it before your opponent does, find the moving goalposts, and kick the ball through to score.

Fast reactions are essential if you are to win. Play is fast, with fast smooth control, but winning is difficult, especially against the computer.

My only criticism is that the instructions are not displayed on-screen, and you have to keep referring to the instruction sheet to remind you of which key does what.

The Babylon is a machine that represents the sum of a lifetime's research into the mystical powers of the human mind.

Based in this device with its



power at a peak, you press the trigger at the side of the main operating lever, and the lights flash. When you realize you find you're in a strange world inhabited by the dragon.



As you venture through a labyrinth of caves you must gather jewels and capture fireballs which can be used to dissolve the dragon's barrier so that you



reignite, and wait for them to rush into the block. Then you move on to the next level. Levels 1 to 10 take place near the south pole, where the sun never sets, but later stages allow you to practice your night flying skills near the equator.

These are much more difficult to negotiate, with high-energy ion beams to avoid and sectors to shoot down with your anti-laser. A good game with plenty of action.

The presentation of all four is excellent, with plenty of instructions, background information and playing tips. Especially they offer some of the best pictures to hit the screen of your Amstrad, with sound effects to match. What a compilation!

If you didn't pick them up first time round, now you've got the chance to bag them at a bargain price. By the way, despite the name, I don't have any connection with Lucasfilm!

Steve Luss

Presentation 85%

Plenty of instructions, lots of options.

Graphics 96%

Range from very good to superb.

Sound 85%

Nothing to complain about.

Playability 95%

You're spoilt for choice.

Addictiveness 92%

How can I get away from the joystick?

Value 98%

Four top-class games for the price of one!

Overall 95%

Some of the best games available.

can't move further into the system.

There are several different coloured fireballs, and each out for the real ones, which are deadly. This is a game to keep you on your toes.

The final game is **Rescue on Fractalus** in which you are a pilot whose mission is to fly a Vulcan fighter over the surface of the planet Fractalus. You fight your way through jagged defences to find pilots stranded during a recent invasion.

Using your instruments and viewscreen you search for their crashed ships, shut down your

BEDLAM

US Gold
£9.95 (tape)
£14.95 (disc)
Joystick or
keys

BEDLAM is a good old fashioned vertical shoot-'em-up before you go on and turn the page. It has several novel features which make it worth looking at.

You are a hot-shot sailor in the British Imperialist's pilot's academy, and your final test is the X12 fighter simulator, known as Bedlam. In short you control a spaceship with double-barrel fire power.

The alien appear in formation and look like spinning tops, a variety of spinning globes, and butterflies. They flash on and off the screen in seconds, so you have to be ready for them. Some even swirl off the bottom of the screen and re-appear behind you.

There is a safe spot for all alien formations where you can just sit and blast them, although you may be hampered by obstacles.

I found the ship just a little sluggish in its response to the controls. It's a sort of built-in inertia, and while this may be an intentional part of the game play, I don't think this fits a fast-moving shoot-'em-up. Still, you can learn to handle it with a little practice.

One or two players can take part, and a dual option puts both ships on the screen at once. In this mode your ships bounce off each other if they collide, and you can choose to fight the Bedlam's together or compete against each other. Great fun!

There are 15 stages, plus a

bonus one, and after every fourth level a member ship appears. You'll get through the first few levels easily enough, but these things start to get tough.

Some of the formations which appear later in the game can only be defeated by occupying players in dual play mode.

Pickups appear at various points in the game. These will give you temporary invulnerability or extra lives. If you destroy an entire formation you get bonus points plus temporary invulnerability.

An especially nice feature is the option to start from the last completed stage instead of from the beginning.

Bedlam has no variations. It's had been well thought out and designed. Do yourself a favour and check it out.

Ian Mough

Presentation 90%

Excellent instructions, definable keys, pause, high score table, two-player option.

Graphics 90%

Very attractive game design.

Sound 45%

Just some ordinary zap and crash noises.

Playability 70%

I really wasn't totally happy with the response.

Addictiveness 85%

Unquestionable.

Value 75%

A little gem, but how much bigger it would be at a lower price.

Overall 80%

Get tapping!

ROLLING THUNDER



US Gold
£9.95 (tape)
£14.95 (disc)
Joystick or
keys

YOU assume the role of Atlas Greiss, whose real name is Bill - and your prime objective is to penetrate and overthrow a secret organisation controlled by the sinister Gelda.

Your secondary objective is to rehabilitate everything is aight.

There are 10 levels. Obstacles include guards who shoot, punch, and drop bombs. You have a pistol and a machine gun, and entering doors marked with a bullet of gun gives you extra firepower.

The instructions say you must recruit Donald Campbell for the game controls. Not being clumsy, I needed for real and error.

A joystick works, so does the keyboard, but there doesn't appear to be a definable key option.

The key the boss gets activated for me; why don't programmers at least give us a choice? I really wasn't happy with the joystick controls either; Bill doesn't seem to do what you want him to do when you want him to do it.

You can fire, jump, hide in doors, and tap over balconies, and it makes a change to see an Amstrad game which controls basically - and quite precisely, too - instead of flailing from screen to screen.

As soon as the action starts you are pounced on by Gelda's hordes, which look like the Ku-

Klux Klan in purple headgear.

No easy beginnings or tough-the-players-into-the-game-probably here. Before you can get 10 seeds you've got to learn to trap balloons, jump, and dash.

When you progress you'll come across balloons lower fire and the swimming fitness who inhabit the last pool.

After you've defeated the army and captured the command centre you finally get to confront Gelda in the showdown.

Rolling Thunder has nothing new to offer. It's interesting to play for a while, but I don't find it particularly exciting, and I wouldn't like to pay full price for a 5. We've seen it all before, it's a fact.

Ian Mough

Presentation 80%

No high score table, and no definable key option.

Graphics 60%

Big characters, but thin and angular.

Sound 25%

No loading music and the most terrible gameplay I've ever heard. The 20% is for the music OK key!

Playability 60%

Controls were far too sluggish to make me think it was giving Bill a fair deal!

Addictiveness 45%

Sorry, Bill!

Value 40%

You pay more money... it's rather naive really.

Overall 50%

My money's on Gelda!



TETRIS

Mirrorsoft
£8.95 (tape)
£12.95 (disc)
Joystick or
keys

ACCORDING to the myth this is the most remarkable computer game yet, all the way from Russia no less.

After the hype preceding its arrival, my first reaction on loading Tetris was amazement. It looks like a baffled-up magazine listing. Ah well, thought I, might as well give it a go before shunning it in the alternative.

Hell as four laser wars CPC in the office (and I loathed), and normally priced editorial staff were breaking over the joystick - I'm not exaggerating. This game is one of the most addictive I've come across.

The idea, like all the best ones, is simple. The screen shows a rectangular window. From the top descend blocks of different shapes and colours. On their way down you can



move them from side to side and rotate them. When the block gets to the bottom it rests there unable to move, while more blocks pile on top of it.

The game ends when the pile reaches the top. Every block scores points, and the skill is moving and rotating the shapes so they fit together in the most compact way, thereby clearing as much as possible into the play area.

If you can get the blocks to land so as to form an unbroken line across the window, that row disappears, creating more space as the ones on top of it

drop down to fill the gap.

There are different skill levels which just appear to be faster or slower. An option to drop a block instantly if you think it's heading for the right place helps like more experienced players, and you can also see which shape is going to come next.

All that stands between Tetris and an accolade is the price. As a piece of programming there's nothing to it, and I'm bothered about something this simple being flogged so much and so often a priori to death.

However it does have the

redeeming feature of being incredibly addictive, which is more than I can say for a lot of games.

As an added incentive there's even a competition with a trip to Russia as first prize.

Tiffany Wood

Presentation 82%

Good range of options.

Graphics 65%

Nothing this basic can rate more, but they're OK.

Sound 80%

Good music, otherwise nothing special.

Playability 85%

Good, apart from a minor bug.

Addictiveness 95%

This is one time-eating game.

Value 85%

As a program it isn't worth it, as a game - maybe.

Overall 80%

Hours of totally addictive entertainment.

GARFIELD/BIG FAT HAIRY DEAL

The Edge
£9.99 (tape)
£14.99 (disc)
Joystick or
keys

I AM one of Garfield's greatest fans, so when a preproduction copy of his Big Fat Hairy Deal came into the office I allowed my way to the front of the queue at the m's desk.

The scenario is that Garfield's girlfriend, Arlene, has been

imprisoned in the city pound. In control of Garfield you must come to her rescue.

This is an arcade adventure with a side-on view of the current location. The ones I saw were inside the house, in the cellar, out of doors, in a shed, and at the shops.



in his travels Garfield needs frequent rests to avoid becoming worn out (it's curious if he does), and must be fed (it's curious if he isn't). Fortunately cherry pie and minced tattie are to be found.

As you'd expect, there are objects which are necessary for progress to be collected. Ode - the world's mightiest dog - follows Garfield around, but as far as I can see is just gone in the way most of the time, though I think he could be stood upon if the need arose.

If you want a little light relief, you can give Ode a good kick on the backside and send him flying.

The graphics are excellent with all the characters instantly recognisable. In fact, the only drawback Ode is more like Edd than is Ode, and definitely needs the show.

The preview copy was still some weeks off completion, so I couldn't check it out in more detail. I had a go with the Commodore version which is more advanced, and that was fairly good. The main criticism was that the price may be too relaxed for some tastes.

On the whole though, I'll say



it's an above average arcade adventure, with the added attraction of being part of what The Edge call The Garfield Experience. I'm sure it's first favour with ar-venturers and Garfield Bonds alike.

Tiffany Wood

MASTERS OF THE UNIVERSE

Gremlin
£9.99 (tape)
£14.99 (disc)
Joystick or
keys

HU-MAN, of Masters of the Universe fame, is the cartoon character that inspired a wealth of movie-bound sword-wielding superheroes. We've seen him in a television programme, as a toy, in a drama release, and now in the computer game of the film.

As the defender of good, you, as He-Man, are charged with the task of restraining the eight clouds that will activate the computer, sending you back to Castle Greyskull for a final meeting with the evil Skeletor. The clouds are distributed around an American town. Many are in the streets and can easily be collected, while others lay in more forbidding places full of Skeletor's forces.

Having played many spinoffs in a similar vein, I prepared

myself for another sword-and-society spectacle.

But there is no slashing, cutting, or plowing here. What you get is a 3D representation of streets and buildings, and He-Man is a small character brandishing a high-tech laser pistol.

You speed round of your time wandering, roving, avoiding and/or blasting Skeletor's henchmen and searching for the clouds.

Occasionally, one of your comrades will appear with a message or hint to visit one of the special places in town.

These, like Charlie's Electrical Shop, feature a different game to the one found in the streets. For instance, your task at the store involves controlling a gun sight and shooting bottles as they appear at the shop windows and doors. If you do well enough, you will be granted an extra cloud.

At all times the battles' fire graphics tap your strength, represented by an enormous sword that takes up about a fifth



of the screen. And I do mean gradually, because even when you are hit continuously the game seems to last an eternity.

The graphics fall a little short of expectations. He-Man is just a blond-haired figure looking as muscular and as powerful as me, a self-confessed 11-year-old

wrestler. His enemies are small, darkly coloured creatures without much detail.

The samst of a meeting with Skeletor does urge you are to play more than once, but the game doesn't really live up to either the film or the cartoon.

Clive Gilford

Presentation 70%

Good instructions, clear presentation.

Graphics 60%

Nothing more special.

Sound 60%

Unimpaired, standard effects.

Playability 70%

Easy to control.

Addictiveness 60%

Searching for the clouds does keep you hooked - for a while.

Value 58%

For what you get it's rather overpriced.

Overall 62%

Typical arcade exploration game with nothing extra.

WARHAWK

Firebird
£1.99 (tape)
Joystick or
keys

IN this colourful blast-are you set off in your space fighter, Warhawk, to do an air high above the stratosphere. Your mission is to wipe out as many enemy bases as you can.

They can be found on the ground or concealed in skeletal structures floating in space.

The alien forces aren't too happy about this. Some come in waves and are easily destroyed or dodged. Others, usually single units, are more lethal as they move more quickly and can attack from behind. Other craft divide it will so that what you thought was one enemy turned out to be four.

The action is seen from above, Warhawk standing stationary as the screen scrolls smoothly down. The scrolling is fairly measured so that you have chance to glimpse the enemy before they'll open you.

If you want to analyse the situation at a more leisurely

pace, you can always resort to the pause button.

Being hit does not destroy you outright - that happens when your three shields have been destroyed - so avoiding contact with starfighters will ensure that you get to see subsequent levels.

Avoiding their missiles, however, is easier said than done as they have a built-in homing device.

Warhawk is equipped with twin guns which not only gives you increased firepower, but also means you can destroy many craft at once with very

little manoeuvring. A wave of enemy fighters is, therefore, less dangerous than at first appears. In fact the single fighters present a bigger hazard.

Missile showers make life in this case just a bit even more difficult. The fact that they are impervious to fire means that they are best avoided altogether.

The game is graphically colourful but sometimes lacks detail, particularly in the background. Nevertheless, it is the action that makes games like this worthwhile, and there's

plenty of that. Bob Hubbard's 1984 music is simply superb, and there is an impressive range of spot effects.

There's something incredibly enjoyable about aiming at a target and hitting it. In this respect, Warhawk is fun, but don't expect to see anything you haven't seen before.

Tony Hagan

Presentation 51%

One player game, responsive keys.

Graphics 62%

Colourful but lacking detail in places.

Sound 91%

Excellent title music, good range of sound effects.

Playability 85%

Straightforward.

Addictiveness 73%

Yes, in the usual shoot-'em-up so sort of way.

Value 86%

A good cheap, shoot-'em-up.

Overall 75%

Unimpressive.



FIVE STAR GAMES III

Beau Jolly
£8.95 (tape)
£14.95 (disc)
Joystick or
keys

This compilation is the third in a series of five game collections from distribution giant Beau Jolly. This time two extra games are included, in effect for free.

Way of the Exploding Flat is one of the best martial arts simulations I have played on the Amstrad. With joystick or keypad and one or two player options, the program offers a great range of moves, from smashing high kicks that bring tears to your face, to parrying body blows, outrageous back flips, and deadly traps.

With just the one scenario and no objective other than to win the contest, the game relies on the quality of action, the range of moves, kicks and defenses, and excellent graphics to keep you amused.

I think most gamers would prefer this to some half-baked plot tacked on to an inferior genre.

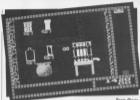
The one-player mode features a computerised opponent good enough to provide the right degree of challenge. Each round is timed and each successful action is graded according to its complexity. At the end, a Buddha-like figure decides the winner.

Trap Door is set up in this standard. On paper, the idea of a large character - Bark - scrambling around various colourful screens manipulating trap doors, lifts and a variety of other mechanical devices to please his master seemed good. Instead, for the first time, the program looked promising.

The option to play a trainee Bark without ghosts and goodies to bother you is a good idea, as are the large chunky colourful characters and objects.

Bark is especially large, colourful and stupid, but I don't think ignorance can be blamed for the jerky screen movements, poor response and lethargic action that results.

Tempest, originally from Electric Dreams, is a fairly



Trap Door

faithful version of the old arcade game. For the uninitiated, Tempest places a shape on the screen and into a number of sections. Along these travel a varying selection of malevolent creatures, each with its own movement patterns.

You must move round the tops of the segments firing laser bolts in an attempt to prevent the creatures from reaching the outside where they will be hell-bent on destroying you.

Each level consists of a different shape and a differing selection of creatures. The provision of bonus lives for destroying green spinners greatly aids our progress through the first half dozen levels. I don't know how many screens there are to this infernal game, but I managed to reach level 12 with a score of over 80,000. If I can do

that, I imagine most people could double it.

Battle Force Harrier is an interesting simulation of flying a Harrier, admittedly without getting the chance to sample its vertical take-off ability.

Some elements of the theory of flight are avoided or simplified so that you can quickly get to grips with flying the machine and concentrate your efforts on missions, avoiding attacks, and aiming accurately when confronted with a missile attack or other hazards.

I was proud of my barrel roll and loop, but my ability to complete a full successful mission is another thing. The game certainly holds the attention for a decent length of time and one that I enjoyed most.

Tau Ceti and **Alien** are both

interactive arcade adventures. **Tau Ceti** putting more emphasis on problem solving than **Alien**. This latter is based on the film sequel to the popular space horror/thriller, **Alien**. It depicts the six crew members headed by the first film's only survivor, Ripley.

They wander around their craft parking past to any attempts by the xenotic or face-huggers to kill them and take over the ship. You can switch between characters, and the game is graphically effective, though not an inspired piece of programming.

One feature of note is the programmer's attempt at mimicking an older Spectrum loading system. Unfortunately, the result also seemed to mean the game's slowness and lack of reliability.

Five Star Games III is a package definitely worth considering. Certainly, as a looking at some other sort of present, its appeal will last because of the wide variety of screens on offer.

Several show their age and would find a lot of competition from current versions sold under a budget banner. However, the inclusion of quality programs such as **Tau Ceti** and **Beau Jolly's** masterstroke, **Way of the Exploding Flat**, make this collection amongst the best in other categories.

Oliver Gifford



Alien

Presentation 70%

Most programs straightforward to use with handy options.

Graphics 75%

Very, but generally colourful and of a decent standard.

Sound 69%

Nothing too special.

Playability 77%

Most games responsive with good screen layout.

Addictiveness 85%

Better than they'll keep you amused for a long time.

Value 90%

A couple of dull programs, but a good selection of others.

Overall 85%

A worthy addition to your collection.

BUBBLE BOBBLE

Firebird
£8.95 (tape)
£14.95 (disc)
Keyboard only

Third person and steady aim of Bubble Bobble is a concept known only to the chosen few. Bub and Bob, two of its finest specimens, are about to face 80 screens of bouncing bubbles.

The game can be played by one or two players, and in two-player mode you work as a team.

Each screen consists of a series of suspended platforms on which the ball guns resembling the left, right, and jump controls, you leap between levels, knocking down each bubble in turn.

In these days of gory games it is refreshing to play one where your avatar is dispatched with a soap bubble. Just blow a bubble in which is encapsulated him, then pop it before it floats out of town.

A prepped Teddy floozles around the screen and finally falls to earth in a bonus object. These can be collected to boost

your score. The first three types of bonus are awarded for destroying bubbles, or for a speedy clearance of the screen.

The fourth type appears at random, and has unaccounted magical properties. From experience I can say that one increases your speed, while another transports you to a point three or four screens further into the game.

On one occasion I was narrowly missed by a giant snake falling from the sky, upon consuming it I was awarded three lives.

Apart from the bubbles that you fire yourself, others drift up from openings in the floor.

Depending upon the symbol displayed on its side, a bubble may contain a variety of things.

The most common on the lower levels is the water bubble. Bursting this sends a torrent down the screen washing away anything in its path, including yourself.

When attempting levels that contain a large number of bubbles the computer will begin to release bubbles embossed with letters. Your aim is to spell the word released.

The longer you take to clear the screen, the better your chance of collecting every letter. However, dithering is punished by the appearance of

the fearsome Sarah von Blobba!

Despite the simplicity of the graphics, Bubble Bobble is a most addictive and original game.

James Hobart

Presentation 80%

Limited controls and no high score table.

Graphics 85%

Primitive characters and backgrounds.

Sound 85%

Single sound effects and no title tune.

Playability 80%

Response to the controls was instantaneous and reliable.

Addictiveness 90%

In spite of the mediocre sound and graphics, I just couldn't put it down.

Value 84%

Hours of good clean fun.

Overall 80%

This would do really well in a arcade.



COMPENDIUM

Gremlin
£9.99 (tape)
£14.99 (disc)
Joystick or keys

THERE'S a distinct Christmas flavour about this package, what with snow, Christmas cards, and Christmas Eve events all included. A four-game collection, Compendium includes computer versions of two traditional board games, and two originals as well.

The presence of the eccentric Wink family - Tobby, Mavis, Ralph, Victoria, Tiny Tim, and Sniffles - is the link between all four games. In each you take on the role of one of these characters, with four players permitted per game.

Other characters, such as Shady Leaf, Holly, Maxine Puckler and Sam Snake, though not participating as such, do their best to get in your way and generally make life difficult.

In the first game, Snakes and Ladders, the screen displays a

small section of the board - exactly which section depends on the number your character is on when your turn comes round.

It is accompanied by appropriate sound effects, bells across the screen. After that it's up to you to move your character along the rows.

This computer version differs from the original in a number of respects. Some of the squares will hold you up, according to what they contain.

If you play the part of Sniffles, for example, you might find

your progress hindered by the square containing a lamp post.

You might be scheduled to move five squares, but find yourself temporarily stuck at the third. Well, dogs will be dogs!

You may also pick up, and later drop, objects which might be useful in obstructing your opponents. For instance, dropping a bone in Sniffles's path will certainly delay him.

The minor characters, such as Sam Snake or Shady Leaf, will also do their best to slow you down by preventing you

making the full number of moves the die gave you.

Christmas Luck, like Snakes and Ladders, follows the traditional game but similarly contains minor deviations. Again, only part of the board is seen at any one time.

As in the original game, each of the four players has to guide four counters round the board, being careful to avoid landing on an opponent's counters.

Starting from the bottom of whichever character you choose, you must make your way to the top. Life is made a little more difficult by the fact that it's Christmas. Eve and mother and father (Tobby and Mavis) are wandering about the house. Should they catch you up when you should be in bed your go will be brought to an abrupt end.

The third game, Shave-A-Sheep, is something else again. The screen displays a grid marked from 1 to 10 and the object is to push a sheep-comprising Tiny Tim so that it lands cleanly in one of the numbered squares.

Push Tim hard and Tiny Tim



REFLEX

Players £2.99 (tape) Joystick or keys

SET in the future, Reflex puts you in charge of a Sceptre star craft fitted with the very latest plasma orb generating reactor.

Your task is to get through the mine fields in order to reach the final screen, dock with the waiting mother ship, and so find your way back to the great wizard Zai.

Despite its scenario, Reflex bears a resemblance to a number of old favourites, and could have been called *Breakout meets Space Invaders*.

So closely does the first screen resemble *Breakout* that I half expected the game to be just one day's work. Don't be put off though, because after a few minutes play you realise that there's much more on offer.

To complete each level you must destroy all of the coloured blocks on a grid. This is achieved by bouncing your orb

off the movable Sceptre.

To make things more exciting, a number of blocks contain icons which you can collect to give yourself extra powers. Some give greater control or boost firepower; others rebuff up to four bouncing edges.

The game is easier to master with the keyboard than by joystick. All keys can be defined from the main title page, but selecting a joystick can only be achieved by adding your keys, and not as a separate option.

Having cleared the first screen, life gets almost impossible. Watching the demo inside should help you to plan your strategy, but I must admit that I've not yet managed to get past two.

If you can make it to the third screen, life gets almost impossible. Watching the demo inside should help you to plan your strategy, but I must admit that I've not yet managed to get past two.

Although the graphics don't stretch the CPC to its limits, the bright colourful fluidly sprites do help to lift this above the



average.

This is a game that I just can't stop playing. The packaging really doesn't do it justice. A couple of sentences to set the scene, a few MEX screen shots, and that's about it. In practice, however, this doesn't matter

because full instructions are included within the game itself. Reflex is challenging and addictive, with good graphics and even better sound effects. What more can you ask at this price?

Steve Looms

Presentation 80%

Fair range of options.

Graphics 75%

Fast smooth chunky graphics.

Sound 85%

Good effects.

Playability 95%

Easy to control, hard to master.

Addictiveness 90%

I can't leave it alone and neither will you.

Value 95%

A good game at a budget price!

Overall 90%

Exciting with plenty of action.



grid, flying off the edge of the grid into oblivion.

Each player has three turns per round, and the game ends when one of the players has managed to land the sledge in each of the numbered squares.

An interesting feature is that the sledges from the first two games in each round are left on the grid. This means that in the

next turn it is possible to push one sledge into another, moving it into another square.

The final game is the weakest of the four. This time it's Christmas Eve down at the local watering hole.

Each character takes it in turn to follow Tiddly around the bar as he consumes rather more than he should — six pints in all.

Indeed, let's be drunk already that instead of putting his empty glass back on the bar he's not to take it in the air.

Consequently it's your task to look after him by catching the glasses before they reach the floor. The main problem is that the action is very slow. It seems you can spend a great deal of time following Tiddly around between pints.

All in all, this collection is disappointing. The first two games do not translate well to the computer screen. Besides, Ludo

must rank as one of the most tedious games of all time.

Graphically, none of the set has much to offer. The characters are pale and transparent, the colour combinations rather plain, and overall there is a lack of detail.

To make matters worse, all four games are slow and monotonous. Four for the price of one appears to offer excellent value for money, but frankly I'd rather have one good game any time.

Tony Manages

Presentation 85%

Detailed playable, good on-screen instructions.

Graphics 42%

Unimpressive colour combinations, lacking in detail.

Sound 81%

A wide range of Christmas carols and other well-known tunes.

Playability 55%

Slow and tedious.

Addictiveness 43%

Hardly any.

Value 56%

Four games, but none is very strong.

Overall 48%

If you're a fan of board games this collection might sell you... but I doubt it.

STRAIGHT SIX

Loricels
£9.99 (tape)
£14.99 (disc)
Joystick or
keys

AFTER the exceptional features of the French invasion in the Marsk issue, and having played Gat Buster 2, I was eager to see what else goes on across the Channel.

Straight Six is a collection of France's finest past to do battle with the likes of Beau Jolly, Deman, and US Gold.

3D flight has you looking up the blazing exhaust port of your steamer as it battles over the surface of an enemy planet, or down a trench or tunnel as the game tries to.

The surface rolls beneath you as waves of bizarre space-craft play dodge-ems, with potentially terminal results.

You can't see back, and you need to adjust by blasting the fuel dumps. There are also

meteorites to contend with. The ultimate object is to turn the enemy base to fine ash. It's all pretty mindless stuff, though fast, furious, and fun. My young cousin got hooked on it.

100% football – and computer football games – are said to have been pioneered into testing Soccer. The wonder is that it's not as good as Matchday II, but it's still playable and gets the thumbs-up.

The computer makes the player you control the nearest one to the ball, and if you're not careful you can find yourself unexpectedly changing off in the wrong direction.

Now **Billy** was more my style, an arcade adventure set in a seedy downtown Paris in the 1920s, swans, and ality.

The aim is to find four hidden video games. Various shifty characters bar progress, ranging from bats and bankers to thugs and rappers.

To get past them you need to collect the right objects and do some riffs representing. The graphics are atmospheric and



really well done – with the exception of the Raped sports routine.

I'm sure **MOT** has been out in this country before. Set in the future, it's a 3D maze game in which you drive a magnetically levitated tank around a real crystal palace.

The graphics are superb and

this is the highest quality game in the collection. It's probably worth most of the ading price, and awaits adventures will find lots in it. I love it a lot.

Sam 2000 is weird. At the start you peer out of the cabin of your interstellar battle cruiser. Against the moving starry background planets have this alien, but prove impossible to land on.

Enemy craft appear and, like all good enemy craft, start blasting. Of course you can't see back



and fixate a few alien ribs. Everything's done with a nice 3D effect, but so far it's only

BOB WINNER



Loricels
£9.99 (tape)
£14.99 (disc)
Joystick or
keys

In Bob Winner Loricels has come up with an interesting game featuring stunning Mapple 1 graphics and animation. Set in the 1930s, as Bob you travel the world in search of buried treasure.

This lies in a temple, and to gain entry you must fight three opponents to obtain the neces-

sary keys. Each adversary is a specialist in physical violence, making this a formidable task.

Beating out the enemies involves negotiating your way across each screen, ducking under flying knives, side-stepping bouncing balls, and jumping over quicksand.

Scrambling over a ball or rolling barrel, or being hit by a knife results in some great animated sequences. Falling into quicksand looks and sounds very real and nasty, and is very definitely fatal.

Each screen has a digitised backdrop. When you reach the

far side there is a key placed while the next one is loaded from disc, and then scrolls in smoothly from the side.

The first enemy is an exponent of la savate – French kick boxing – dressed in long johns and football boots. After a daunting display of footwork he ignores you, and you can pass with no more than a steadily-paced kick at your receding head.

The way to engage him is similar to to proceed until you find a pair of boots. If you collect them and return, pressing the spacebar will transform you into a kick boxer.

Now the fun begins as a wicked repertoire of kicks is at your disposal. An energy gauge for each of you appears at the bottom of the screen, and the first player to reduce the opponent's energy to zero wins.

Once vanquished, the fighter disappears to be replaced by a garden law. The same process applies to the other two human opponents – a boxer and a gun-fighter.

The latter is the most deadly of all, and once within range he will shoot with remarkable accuracy. No matter how tried,

I always ended here as a cramped corpse in the middle of a lonely ghost town.

Bob Winner left a great impression on me, and I recommend it to disc drive owners, though it'll be a pain to play from tape.

Chris Nixon

Presentation 88%

Supports title sequences

Graphics 84%

Digitised scenery. Amazing character animation and sprite handling.

Sound 46%

Spice effects only, although the introductory credits play a great tune.

Playability 88%

Responsive, satisfying ability to place foot and fire where intended.

Addictiveness 92%

I kept playing well into the morning.

Value 85%

For the content.

Overall 89%

A step-up in realism and worth buying.

average budget standard.

I was about to get it aside when, to my surprise, the aliens disappeared, and I landed on a planet, evidently the enemy stronghold — that's it on the cover by the way. At this stage you're in a 3D-ish maze game where you have to wander around the fortress and find and rescue the planet's inhabitants who have been incarcerated by the evilous Zos.

Scrawl's font painter is really the best I've tried, but there doesn't seem to be any of that so it's down to your mits and your trusty standard-issue hand blaster. After getting that far, I revised my opinion upwards a

should clean up with this one, but the ad-poured cold water on the idea.

It's a variation on the old-man-against-an-army theme with you tearing round on foot, in a tank, or in a helicopter laser-ing the enemy, his bases, and his droids.

The view is an aerial semi-3D job, from the author's three-point by the looks of it. As you move about it won't usually so reveal more trouble to be dealt with.

There's a window showing an animated view of what the computer thinks you're doing with the joystick, and plenty of flashing lights.

As with Get Dexter 2, the games have a different look and feel to typical British software, and overall the graphics are pretty and eye-catching.

The games on this compilation range in quality from something better than budget to what you'd expect at full price. *Wildland* — especially — they've got something going for them, and fear I rate as pretty good. At under £1.75 per game on tape you can't go wrong, and *Strategic Six* is well worth a try.

Tiffany Wood

ciels®

far way. Do we're outstanding, but it's entertaining, and looks good too.

Lastly, we have *Flash*, it's something to go for another cheap laugh and eye-lasers



Presentation 80%

I would have liked more expensive restrictions.

Graphics 85%

Range from average to magnificent.

Sound 85%

Varies, on the whole good.

Playability 85%

Apart from a couple of glitches, this is all very playable.

Addictiveness 90%

It's certain to keep you coming back for a month or two at least.

Value 85%

Even less than the price of a budget title, you can't miss.

Overall 90%

Different, something for everybody.

ANARCHY

**Hewson
£1.99 (tape)
Joystick or
keys**

But large the scenario is a stable place, yet every so often things go wrong and disorder ensues. The time anomaly has broken out on the planet Scandal 4, which has been taken over by a group of mutants. You've been given the awesome task of restoring order.

At the start you are in the planet's security complex where the rebels' weapons and explosives are cached.

Encased in your Air MK2 interceptor, it's your job to destroy the enemy's weapon containers. At the same time you have to avoid the paralling droids.

Each screen is a colorful maze-like network of squares reminiscent of *Flanagram*. Solid walls and weapon containers are easily distinguishable, so it

is clear which squares have to be destroyed.

The horizontal scrolling is smooth and easy on the eye. Initially, droids move slowly and are more of a nuisance than a threat. They have no firepower, and appear to move randomly. Their real ability is to slow you down.



Limitless fire power makes the destruction of containers and droids fairly easy. Droids can only be temporarily disabled, though if this happens at the wrong place they can form a frustrating barrier to progress.

What makes the game really playable is the time restriction imposed on each level. Should you fail to destroy all the containers in two minutes you lose one of your five lives and have to start again from the beginning of that stage. Every fifth level contains nuclear weapons. Here it is not only a matter of avoiding or tapping droids, but also dealing with a super droid which can follow you through the maze, if he manages to catch up. It's another life up the funnel.

There's a wide range of atmospheric sound effects, and for a budget title the graphics are colourful and detailed, if a little abstract.

Unfortunately, the review copy contained a couple of irritating bugs which made reloading necessary.

Anarchy is an interesting

shoot-'em-up with a nice element of strategy. Ultimately the gameplay is repetitive, but this is also true for a lot of games far more expensive than this one.

Tony Flanagan

Presentation 71%
One or two-player games, definite plus.

Graphics 81%
Colourful and quite detailed.

Sound 83%

A good range of FX, though the title music's a bit bland.

Playability 81%

Easy to get into.

Addictiveness 79%

A little repetitive, but the time limit adds excitement.

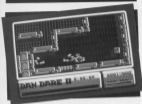
Value 71%

You CAN'T expect much more for a couple of quid.

Overall 80%

A simple but extremely playable game.

DAN DARE II



Virgin
£9.95 (tape)
£14.95 (disc)
Joystick only

Dan Dare was a masterpiece — it was big, colorful, and required both mental and physical agility. Dan Dare II is a different game, but you'll need all your skills from the original, plus a little more.

The Mission has created 24 supermen — six are focused in isolation chambers on each of four levels in his orbiting stronghold — and Dan's mission is to destroy them.

The stronghold is a maze of beautifully-drawn corridors and shafts. Having learned from his first adventure, Dan is no longer on foot — he slips around on a jet bike. He has also equipped his newly-companion Digby for a mission of space fleet troops.

Alongside each superman is a control console. Beating it kills the associated team — easy eh? Unfortunately the Mission has body-mapped each level, and as soon as the first superman is destroyed you have 90 seconds in which to locate and destroy the remaining five teammates.

Because of this incredible short time limit you must formulate a plan of action before attempting the mission. The trick is to map out the level and locate all six supermen before killing the first one.

In addition to the supermen, there are hordes of the standard robots — trigger-bugger little alien-worms (at times, Laser fire is highly detrimental to your health; each time your stamina indicator is reduced to zero you

lose another of your six lives).

On the positive side, Dan has the backup of his space loop allies who will fire upon any team that enters the room. However, there will be traps when you find yourself directly between them and looper. The beauty results in Dan being cooked equally on both sides.

In the unlikely event of you becoming so expert that the game becomes boring, you can swap sides and play the Mission: now you have 90 seconds to locate and destroy your beloved supermen before the fiery trap explodes.

Dan Dare II is an extremely professional sequel. But why must it be so difficult to play?

James Mitchell

Presentation 81%

You can play as Dan or the Mission, but someone forgot a high score table.

Graphics 88%

A touch smaller than the original characters, but just as colorful.

Sound 65%

Good effects, but no title tune.

Playability 62%

I would have appreciated more supermen appearing later on the first level.

Addictiveness 75%

You'll need a great deal of time if you're to be successful.

Value 80%

Fair for the coins.

Overall 80%

Superb graphics, but a touch too difficult.

THE GALLUP CHART

TOP 20

SOFTWARE

THIS MONTH	LAST MONTH	TITLE (Software House)	PRICE
1	↔	OUTRUN <i>US Gold</i>	9.95
2	▲	PRO-SKI SIMULATOR <i>Code Masters</i>	1.99
3	▲	GRAND PRIX SIMULATOR <i>Code Masters</i>	1.99
4	●	TRAP DOOR <i>Alternative</i>	1.99
5	▲	MATCH DAY 2 <i>Ocean</i>	8.95
6	●	3D STARRIGHTER <i>BMX Simulator</i>	1.99
7	●	POPEYE <i>Alternative</i>	1.99
8	●	WAY OF THE EXPLODING FIST <i>Ricochet</i>	1.99
9	↔	DIZZY <i>Code Masters</i>	1.99
10	▼	MAGNIFICENT SEVEN <i>Ocean</i>	9.95
11	↔	BMX SIMULATOR <i>Code Masters</i>	1.99
12	▲	JOE BLADE <i>Playtex</i>	1.99
13	●	LA SWAT <i>Masemtronic</i>	2.99
14	●	GHOST HUNTERS <i>Code Masters</i>	1.99
15	▲	STAR WARS <i>Dorland</i>	9.95
16	●	OLLIE AND USA <i>Firebird</i>	1.99
17	▼	COMBAT SCHOOL <i>Ocean</i>	8.95
18	▼	ELITE COLLECTION <i>Elite</i>	14.95
19	▼	SOCCER BOSS <i>Alternative</i>	1.99
20	●	TANK BUSTERS <i>Firebird</i>	1.99

There are eight new titles in the chart this month — look out for the budget re-releases from Alternative and Mastertronic. US Gold is keeping a firm hold on the number one position with Out Run. Read the reviews of its new releases, Bottom and Rolling Thunder, in this issue.

In the August 1987 issue of *Computing with the Amstrad* I reviewed the Pace RC332 interface and Comstar, its in-built communications software. I said that, by leaving Comstar undeveloped since its introduction in the early days of the CPC, Pace had left the market open for something better.

Comms – the process of communicating with other computers via the telephone network – is here to stay and one company with its eye on this expanding market is Monfleur. Axis, its new comms package, runs under CPM Plus, thus making it suitable for the CPC8128 or modified CPC464/684.

The first job is to use a configuration program to set up Axis for your modem, interface, and the services you want to use. This information is then stored in a file of profiles – one for each service.

A profile may be designated as the default which is then automatically loaded – unless you specify another when entering the program. If you have an autodial modem, Axis will dial the required number and in any case will send your password.

I thought more information could have been given in the manual to ease the beginner's passage through the configuration process. For instance, when setting up a profile for Prestel I had to give details of its protocol. Not the sort of thing I carry round in one book and it's not in the manual either. I ended up going back to Comstar to find out the settings.

The Axis kernel

Axis consists of a central program – or kernel – with modules for specific purposes. Monfleur pursues an additive policy of adding new modules and upgrading existing ones.

There are two types of service you

Joining the comms revolution

IAN SHARPE takes a new CPC comms package out for a spin and has a few reservations



might want to access – *viewdata and Acolit terminal*. The difference is that *viewdata services* – such as Prestel – are organised in frames very much like *Cadfax and Oracle*. They have 40-character-wide screens displayed in colour. Services like *MicroLink, Telecom Gold*, and many bulletin boards use *Axis*. As each line of information is printed the display scrolls upwards: the screen can fit up to 88 characters wide and there is no colour.

From this you can see that a comprehensive comms program needs two parts. *Axis* caters for both, but as the *viewdata* side differs most from other packages I'll concentrate on that.

The *viewdata* emulation isn't bad, but the presentation isn't as slick as Comstar's. The screen update is slower and not as tidy – particularly noticeable when offline and with dynamic frames – and you can't program keys with the numbers of regularly used pages. The *Delete* key isn't implemented and there is no indication of elapsed time.

At any stage you can press Com-

tris-F0 and capture the current frame which is added to a file of up to 120 on disc. When you go offline the stored frames can be viewed in carousel mode, where they're displayed sequentially at 20 second intervals – it's a pity you can't speed up the process with a keypad as you can with Comstar. The captured frames can also be incorporated in the *Axis* microbase together with your own creations.

The microbase is like a mini-Prestel where you can wander from frame to frame along routes accessed by the keys 1-8 and *, or go straight to a particular place by specifying its name or number. A frame linkage editor allows you to set up these routes. Don't confuse this with bulletin board software: The *Axis* microbase isn't that sophisticated and can only be accessed through your own keyboard, not by the modem.

Frame editor

Your own frames are created with an integral frame editor which caters for *viewdata* text, graphics and colours. One of the main problems when designing *viewdata* screens is remembering what keys the graphics characters use as. An easy way of selecting them would have been nice.

You can dump the screen to the printer either at least 97 shaded graphics. The dump takes a while but is a background operation, so after a few seconds control is returned to the

Turn to Page 28



The front end of the Axis comms system

From Page 27

keyboard and you can get on with what you were doing.

However once again Siskiva CP80 owners are left out in the cold as the graphics dump will only work with 180 per cent Epson compatibles. There should have been an option to cater for this in the configurator.

Fortunately the text-only dump performs without difficulty. Fortunately enough, although you can dump screens while on line or in the microbase, you can't do it in carousel mode. When trying to dump a screen with a white background the graphics dump had the unfortunate habit of showing control codes as black blocks and left a corrupted pixel column somewhere on every line.

Mailbox facilities

Axis has a sophisticated system for the transmission and reception of mail. This is an important area in any communications program because if you have to type mailboxes while on line — as you do with Comstar — it's costing you money which mounts up over the months. It's far better to compose them offline without running up a telephone bill and then log on and upload.

Within Axis's mail module you can set up a directory of names and mailbox numbers. When you go to Presitel's frame 27 to send a mailbox Axis intervenes. At the point where you would normally enter the mailbox number of the recipient you can type in a name and if it is in the directory, Axis will retrieve the corresponding mailbox number and send it for you.

In normal Presitel mailbox operation you would now type in the text of your message finishing off with a # character. With Axis you have the option of pressing Control-F9 which will bring up a prompt asking for the filename of a document. This would have been prepared with a word processor before dialling up and it will be transmitted to Presitel as if it was being typed in. If it's longer than a mail frame, Axis will print "Continued..." at the bottom, send the frame, call up a blank one, insert the mailbox number and continue sending the message.

This is excellent and a real money saver, but there are a couple of rough edges which let it down. First, whatever the line length of the original file Axis wraps words at column 40 and right justifies the text — in other words pads it with spaces so the right edge is not ragged. With such a narrow screen the number of spaces between words — sometimes three or

four — can be unightly. If a line contains no spaces the program can't cope and locks up.

I encountered this when sending a Protop document which has a ruler line at the start. Of, so you don't want ruler lines in a mailto, but the program shouldn't lock up because of one. I also heard Axis died on me when an unterminated character appeared in the text.

Another problem is that as well as starting a new line after every 40th character, Axis also sets on carriage returns, giving you an extra one at the end of each line in the original text. Obviously it is better to format it to 40 characters in the first place. It takes almost three minutes per frame to upload — far slower than it could be — and there's no way of aborting once you've started sending a sequence of frames.

I think Mailfair should do away with the automatic justification, leaving you to put it in the source file if required. If all single carriage returns were ignored and a new line started for a double return, it would be a better system, and faster. It should also be possible to force a new frame with a # in the same way as a word processor allows you to force a new page.

I mentioned before that Axis has a frame editor for the creation of viewdata frames. As far as I can see these are only for use in the microbase so you can't transmit graphics, which is disappointing.

On the other side of the coin — receiving mailboxes — when Presitel displays one and you press Control-F9 to capture the frame it goes into a separate mailbox store. Axis keeps a directory of up to 170 stored mailboxes which can be viewed offline, deleted or printed at your leisure, again an excellent feature.

Telesoftware downloader

There is a telesoftware downloader which will automatically download compacted software and leave unpacked programs alone. With Comstar you have to run a decompact — itself downloaded from Presitel — if software is in the compressed format.

As well as the riggles I've mentioned already, some of the graphics characters look a little odd. I also experienced the occasional crash for no apparent reason.

The other side to Axis is the scrolling Ascii terminal emulation. It offers the standard facilities plus a couple of enhancements. As well as communicating with the remote computer via your keyboard and screen you can

send and receive Ascii text files or transfer program/text files with the error-checking Xmodem protocol. There's a time display with alarm functions, and you can catalogue discs and specify the default drive.

I wish longer had been taken over writing this. Apart from the time facilities it isn't up to the standard of a superb public domain Ascii communications program called MEX, short for modern executive. I regularly use it for file transfers from machine to machine at 9600 baud in the office, and for logging on to MicroLink.

Friendly system

The Axis equivalent is Transfer at first because it's menu driven whereas MEX uses a command system. Axis, however, has great difficulty at speeds over 2400 baud and lacks options to set local echo and line feed. The speed problems wouldn't be apparent for the home user because cheaper modems operate at lower speeds.

When transferring a file to a PC using Xmodem Axis locked up when a disc full caused the PC to abort the transfer. I found the need to alter baud rate and so on by creating separate profiles and rebooting irritating. Comstar does it via a pull-down menu. MEX is typing at 9600 baud, where xxx is the new rate.

Conclusions

I feel that if Mailfair had delayed the Ascii module until after some extensive field testing and had concentrated on smoothing out the bumps in the viewdata side everybody would have been better off.

Mailfair has come up with a good viewdata system which is marred by a few glitches, probably due to not being tested other than by the programmers. I could live with the warts as Axis offers advantages over Comstar, particularly when involved in a lot of mailtoing. The Ascii emulation is just adequate, but nothing special.

Some of my criticisms will have been modified by the time you read this and there should be at least one new module to cater for the calculation of telephone charges. In its present state Axis is usable and I hope Mailfair gets enough support to ensure the continued development of it.

Product: Axis
Price: £29.95
Supplier: MicroLink, PO Box 1908,
Bristol, M31 1DU.
Tel: 01-807 1237

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030	Adventure 30	£1.95	055	Star Trek 30	£1.95
031	Adventure 31	£1.95	056	Star Trek 31	£1.95
032	Adventure 32	£1.95	057	Star Trek 32	£1.95
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035	Adventure 35	£1.95	060	Star Trek 35	£1.95
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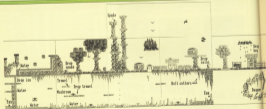
Code Masters

DIZZY

THE
MAP



COMPUTING 
AMSTRAD 



BRING YOUR DRIVE ALIVE

IT'S surprising how a second drive comes in useful, especially if you do a lot of serious work such as programming, database management or word processing. However, second disc drives tend to be expensive – around £180 – so how about building one yourself for around half the cost?

Actually we're going to cheat and use a ready-built disc drive mechanism and electronics. Hitachi HD0905X and HD0906XA drives are available from a variety of sources, but we got ours from Meimex Office Electronics Ltd – the address is at the end of the article.

The drive comes without case or power supply so the purpose of this project is to provide the 12 volts and 5 volts required. It shouldn't be beyond the ability of most people to construct a simple protective casing.

Total cost of the project is around £90 – £10.14 including VAT and postage for the drive, plus about £70 for the power supply, not including the case. You'll also need a cable which is £8.62 from Meimex, but can be made much more cheaply.

I use a CPC6128 and it is this machine for which I've built the project. There's no reason why CPC604 owners shouldn't build it, and as far as I know CPC484 users just need to use a different connector to match the pins in the cable to the first disc drive.

In addition to the parts, you'll need

the following tools: A small soldering iron and some solder, a pair of wire strippers, pliers, screwdriver, and a test meter.

You can manage without the last, but it makes testing much easier. Anyway, if you intend doing any other projects, a small test meter is cheap and a worthwhile investment.

The drive requires 12 volts at 0.5 amps to drive the stepper motor – the one which positions the head – and the motor which spins the disc. Five volts at 0.5 amps are needed for the drive's electronics.

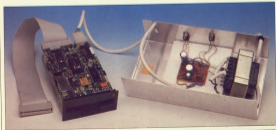
These voltages are both floating around in the CPC6128, but using the internal power supply could lead to overloading. To avoid this we derive both voltages from the mains supply

using the circuit shown in Figure 1.

This can be split into three sections. The transformer – TR1 – reduces the 240 volt mains to 12 volts AC. This is converted to DC by the bridge rectifier – BR1 – which supplies the two voltage regulators, REG1 and REG2. These are responsible for converting the raw DC into regulated 12 volt (REG1) and 5 volt (REG2) supplies.

In this context regulated means that the supplies stay within a few per cent of the stated voltage for a wide range of voltages at the input of the regulators.

The other devices – the capacitors – are there to get rid of hum on the DC voltages from the bridge rectifier, and to smooth the supplies. This arrangement means sudden fluctuations in



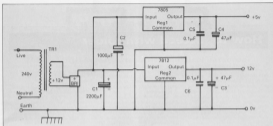


Figure 1: The power supply circuit diagram

the output voltage from the bridge rectifier do not affect the working of the regulators.

The arrival of the voltage regulator chip made it easy to build power supplies such as this one. Before they came along we would have had to build the regulator circuits ourselves – not an easy task.

Building the power supply

The first thing to do is to get the parts. Don't be tempted to use a cheaper lower-rated transformer. The chances are that it would overheat.

The chassis-mounting transformer should have a 240-volt primary, 12 volt secondary capable of providing a current of at least 1.0 amp. I used type 89-0286, from Rapid Electronics (see addresses at end of article) though similar transformers of the same rating will work just as well.

The bridge rectifier, type W006, is available from Rapid Electronics or Maplin Electronic Supplies. REG1 is a type 7805, 5 volt, 1 amp voltage regulator and REG2 is a 7812 12 volt, 1 amp voltage regulator. Again, available from Rapid or Maplin.

C1 to C4 are electrolytic capacitors. You must quote the value and their working voltage. You require:

- C1 2200µF 25 volt working
- C2 1000µF 25 volt working
- C3,C4 47µF 25 volt working

You can use capacitors with a higher working voltage such as 50 volts, but not a lower working voltage. So for C1, 2500µF, 50 volts working is

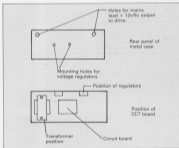


Figure 2: Layout of supply in box

fine but 2200µF, 12 volts working is not suitable. C5 and C6 are 0.1µF polyester devices from Maplin or Rapid Electronics.

You will also need a small piece of 0.1in mains varnished and a box to put everything in. The box should be metal, and large enough to house the transformer inside, standing upright. There should be enough clearance between the box lid and the highest

point of the transformer to preclude any accidental connection between the transformer terminals and the box.

The one I used is 230mm long by 60mm high and 100mm deep. This is slightly larger than it needs to be – 150 long by 110 deep is about the minimum.

The first step is constructing the

Turn to Page 38 ▶

How to succeed with solder

Soldering is the process of joining together electrical components with molten metal. Sounds awful, doesn't it? Soldering is the method of making electrical joints.

It's a good technique to learn, especially if you intend doing any interfacing with your Amstrad. Here are the rudiments of the skill. Very practical electronics book will give you more detailed instructions.

■ Get a good soldering iron rated at 10 to 15 watts. Blow torches, plumbers soldering gear, very heavy duty electrical soldering irons, or electric烙 are out unless you want a glob of molten paste and metal where your circuit should be!

Soldering guns are also available. These are DC, but a little expensive for the occasional user. You get a small 10 watt iron which is perfectly adequate and cost less than 10p.

The iron has a bit which transfers heat to the joint. Use one that is quite narrow, 5/16in or 3/16in. This is ideal for fine work.

■ Solder is an alloy of lead and tin which melts at a relatively low temperature. It's available in rods, and

looks like thick, silvery wire. You want lead-core solder which contains a chemical to make the solder flow properly when heated. The most run solder used by plumbers is not suitable.

■ Cleanliness, apart from being neat in generalness, is crucial. Anything to be joined by soldering must be clean and grease-free. Use fine emery paper or a scalpel to gently scrape clean the wires to be soldered.

Grease of the sort that can be delivered by grubby (or even clean) fingers is probably the main problem that you need to watch for.

Have a slightly damp cloth to hand the first time you use the iron. Give it at least five minutes to heat up, and wipe the bit with the cloth. Liberally coat the bit with solder until it's shiny all over.

Wipe off the excess solder with the damp cloth, and repeat these two steps until the bit is shiny all over. This is called tinning the bit.

Any bare copper wires you intend soldering should also be tinned in this way. The leads of many components are already tinned; this is why they are silver coloured. These needn't be tinned

again unless you're being very thorough. During the soldering process the bit should be kept clean with the damp cloth.

When making a joint it is important to get a good mechanical connection between the two wires. If possible, twist them together. Then heat the joint with the iron - 5 or 10 seconds is enough.

Some components are very sensitive to heat, so take care not to overheat them. Anything delicate will be mentioned in the article, but it's good practice to treat all components like this.

Now apply the tip of the solder to the joint, if the joint is hot enough, the solder will flow over the it. This should take at most a few seconds. Use as little solder as is necessary to cover the wires.

Don't use the soldering iron to carry solder to the joint, though. Results won't be good, and over a period of time the bit will start to corrode.

A good soldered joint should be shiny and smooth. If it's lumpy, dull, grainy or bumpy, it must be redone. Bad joints, apart from having a tendency to fall to bits, might not even conduct electricity!

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power supply unit (PSU) is to drill out the back and bottom of the box as shown in Figure 8. The holes for the power cables should be slightly larger than the flex, and a rubber grommet should be put in each one to prevent the cable chafing on the metal.

The mounting holes for the voltage regulators should be a couple of inches apart in the middle of the rear panel.

The mounting holes for the transformer is the bottom of the box can be made by placing the transformer where it will eventually be mounted (see Figure 10) and using it as a template to mark the hole positions.

Mount the voltage regulators on the

HEALTH WARNING!

This project involves making electricity, in other words IT CAN KILL YOU IF YOU GET IT WRONG! If you have any doubts about your ability to tackle the work, get the help of someone more experienced.

inside of the box, with the leads slightly bent away from the casing. The metal back of the voltage regulator should be flush against the metal box.

■ Now we're in a position to build the circuit board. As many of you may not have done any soldering before, I'll leave you with some cable on how to solder in the adjoining panel. Next month I'll cover the construction of the

Addresses

Marmas Ltd.,
1 Church St.,
Cuckfield,
W. Sussex RH11 5JZ

Martin Electronics Ltd.,
PO Box 3,
Rayleigh,
Essex SS8 6LR

Rapid Electronics,
Hill Farm Industrial Estate,
Booted,
Colchester,
Essex CO4 6RD

FAMILY TIES

IAN WAUGH investigates a genealogical database

THE Registrar General's office receives a huge number of visitors each day, all eager to discover if they have any famous — or infamous — ancestors. Genny is a specialised database which reflects this rapidly growing interest in family history.

First surprise on loading is a few bars of the tune which begins: It was in Baghdad where my mother met my dad... that's so many printable lines as I can recall. Very appropriate, too.

The database can organise and store records on up to 1,000 individuals. It holds their name, sex, date and place of birth, and date and place of death or burial. It also stores the names and birthdates of parents, up to 10 spouses (more than enough for Henry VIII) plus marriage dates and the names, sex, and birthdates of up to 10 children.

There is also room for comments such as place of marriage, occupation, documentary references and so on.

Genny is disc-based and your data files are stored alongside the program on the system disc. Owners of dual drives can use separate data discs, and there are utilities to copy data files from one disc to another, although the system disc backed up without any problems.

Because of the amount of processing and data storage required, Genny is divided into four sub-programs. Genny1 sets up and initialises the system, Genny2 lets you write and edit subject entries, Genny3 is used to read, display and search the files, and Genny4 lets you trace male or female lineage and produce generation and tree charts.

All options are menu-driven and it's easy to find your way around. There is a lot of disc access and programs can take several seconds, possibly minutes, to process and sort data.

It may even take longer on the CPC464 while it performs a garbage collection. There is a vacate memory option, however, to speed up the job.

The 21-page A4 manual begins with

a run through of all the options. There's no way you're going to take all this in (the manual admits as much but suggests you browse through it anyway) and it's not until you hit page 12 that you get down to using the program.

I gather I'm one of the few computer users (and reviewers) who actually like to read instructions, and I think the manual should have started with the tutorial section.

Apart from a little juxtaposition, it's quite helpful, although I would have expected the producers of such a program to have a knowledge of English grammar. When referring to relationships they insist on writing *George's father's infant*.

First steps involve playing with the sample database. It contains more than 170 cards so there is plenty of data for you to cut your teeth on before starting to enter family trees in earnest.

It is quite easy to find your way round, and I was quickly able to enter a new database containing several generations of the royal family. Genny is designed to sort on surname, and typical royal family trees lack such

information. I suggest, therefore, that you experiment with something less blue blooded.

When you enter subjects' details, cards are automatically created for their parents and, if they have any, their spouses and children. Care must be taken when deleting a card to ensure that there are no links between it and any existing cards. It would have been nice if the program checked this, but again it's not something you're likely to do very often.

As you might imagine, there is a considerable amount of cross-referencing. As far as possible, changes made to subjects' details are automatically reflected in the records of their relatives. However, changes of marriage dates, for example, must be made on the cards of both partners.

Many of the options ask you for a reference number, so it's a good idea to write down the card number for each subject as you go. If you don't you'll be forever flipping between modules. It's not the sort of program you'll be using every day, however.

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Typical Genny output

ADVENTURE

THE good news this month is the imminent release of the third Magnetic Scrolls adventure, *Jinxter*. I have been looking at a variety of pre-release versions and can say that not only is this the best of their three games, but it also looks like a strong contender for game of the year title.

First impressions are that *Jinxter* is as good as the Infocom range. Watch this space for a full review.

Talking of Infocom, I come to the bad news. They and UK importers Activision have decided to stop producing adventures for the Amstrad CPC and PCW machines. I've told that low sales are the cause, but that the situation is under review.

I urge you all to write to Activision and impress upon them the support Infocom has. Their address is - Activision, 23 Pond Street, Hampstead, London, NW3 2PW. So dust off the word processors folks, because this is an occasion when you can influence the future of CPC adventuring.

Matthew Waterston has written to ask what exactly public domain PD software is, what costs are involved, and whether he can get adventures this way.

Public domain programs are those which programmers donate to anyone who wants them. No fee or royalties

Activision's dropping out

Exploring adventures with GANDALF

are charged, and the programs are usually written by members of a club for the benefit of other members. These clubs generally swap the programs with other clubs and, by doing so, manage to build up a library of free programs.

By joining the club (which can involve a fee, you have access to the library. There is a nominal charge for putting the programs on a disc - for the time taken - and the cost of the disc itself, unless you supply your own.

The original idea was to pool the talent within a club for the benefit of all the members. Unfortunately, since the introduction of CP/M on the CPC

range, there has been a tendency for some clubs to perform the service for profit - something that was never intended.

Some companies have also jumped on the bandwagon and have started making up discs of PD software, including commercial programs, and charging for them - effectively making you pay for the PD software itself. This abuses the principle and does not deserve support.

I don't know of many adventures available in PD libraries, but there are a considerable number of excellent utilities and other programs. I recommend that anybody running CP/M on their CPC contacts one of the non-profit PD libraries. They provide a forum for news on CP/M jobs (not from America) and some excellent programs.

If any PD libraries have adventure software in their collection, please feel free to send it to me for review. Any adventure worth playing should be brought to the attention of a wider public.

Stephen Lawson has written to help with a problem I had with *Leather Goddesses*, namely how to avoid getting a fatal headache. It seems I must send the barge ahead of me down the canal, and out across land to avoid the location that causes it.

Finally, my thanks to Carsten Bliedward from Denmark for his excellent solution to *Escape From Khoulmas* (printed here). Thanks also to Graham Wheeler for more support solutions, and to Glenn Picketing for another charity letter. I would also like to wish Sandra Sharkey luck in her new venture, and continuing luck with the old one.

H-E-L-P

Michelle Denney has written in with some problems she is facing in *Castle Blackstar*.

She asks:

- How to get the ring without being trapped.
- How to get the sword.
- How to take the goblet without being crushed.

If anyone can help, or even better, send me a solution, I would be very grateful.

Michelle has also sent me some short cuts to improve an *Glynnshire's Hall of Fame Adventure Quest* solution in our November 1987 issue.

- You do not need to drop the lamp in the cave, just the lung token -

which you won't need again.

- From the vein-topped hill, raise everything down the west slope to the vampire's house in the marsh. Then throw what you need out of the window.

Tony Gannon has pointed out that Anthony Robinson's solution to *Worlock* leaves a few loose ends. Following the solution strictly will leave you unable to complete the game.

The food, once obtained, should be eaten to reduce your inventory enough to allow you to collect further objects. Failure to do so will result in the message 'You can't carry any more at several stages throughout the game.'

HALL OF FAME

Snowball - A solution by Stephen Parker

Pull the lever and get out of the coffin. Go North to the control panel, and press (any) three buttons. A coffin will slide out. Go South, and up twice to the next level. You are now safe from nightingales if you keep a closed door between them and you. If you are in the mortuary and you hear them coming, get into a room of the lift until they have gone.

Open the door, go out into the corridor, and East to the lift. Press the button and go into the lift. Go down to the bottom of the lift shaft, and take the toolbox. Climb up to the watch room, and use the spanner from the toolbox to open the tapdoor.

The mortuary has 18 sections, each with a lift. Each section has 10 levels, connected by the lift, though you can climb between levels through trapdoors. Each level has a circular corridor off which 10 blue rooms open to the south, and 10 green rooms to the north. There is a revival machine north of the lift on each level.

The sections, levels, and rooms are colour coded: Brown (1), red (2), orange (3), yellow (4), green (5), blue (6), purple (7), grey (8), and white (9). Examining the indicator lights above each door will tell you where you are. For instance, green, orange, red is the code for green sections, level red, room orange.

Having climbed through the trapdoor, you are now in the N/S tube/

tunnelage which links the 10 sections of the mortuary, and which terminates in an airlock at its south end. In each section, going down from the tube will bring you to the lift door on the black level.

Go South to the airlock end, to open the far door, press the yellow button. Pressing the green button in any airlock will open the door by which you have entered, and the yellow button will open the other door.

Go South, down, and East, and collect the washer. You don't need the scalpel. Go back to the airlock, and leave the stacker and toolbox, removing the screwdriver from the latter. Go South twice and then wait for a droid to go down the cylinder. Follow it and go South twice. Examine the body, and wear the hatard (which is actually one half of a spacesuit), the necktie, and the bracelet which tells you your location if you examine it.

Move North four times and take the message. To find the colour codes of the room and coffin holding a crewmember, insert it in the video machine in the library.

Remove the battery from the video using the screwdriver, and travel South, East and North to the console. Search it for the diagnostic probe (L8 D8), travel East and North to the cupboard, take the lamp, and insert the battery in it. Get the cap, and fill it with liquid from the machine in the diner.



Snowman - Part 2 of a solution by Graham Wheeler

You may now enter, so move W, W, S, and get the ball. Open the apple vat and drink the potion to improve coordination. Throw the ball at the barriers, then examine the glittering scroll. Granto Malyon, drop the apple vat, and travel N, E, E, NE, and E. Learn Malyon and cast Yank on the Malyon spell to make it stronger. Malyon the dragon to open an exit south, then enter it, and drop it.

Get the spell book and orange vat, and Frost yourself to make yourself a light source. Go East, and open the vat. To avoid having to breathe, drink the potion, and then give the spell book to your twin to receive a random combination number.

Move East, set the dial to the number your elder self gave you, and open the door. Go East, drop the vat, get the rope, and go up. Travel SW and get the timber. Then go S, NE, N, W, and tie the rope to the timber. Put the timber across the chasm, drop the rope in the chasm, and then climb down it.

Get the scroll and cast Golmac on yourself to become your elder self. Open the door and get the smelly scroll. Move East to see your younger self, and say Tada, the number is the number you used earlier. Take the spell book from him, and Granto Varkid.

Go South and wait until the potion wears off. Sleep, learn Gaspar, and use it on yourself. Learn Meat, drop the spell book, go East and down, and Meet Spanswood. The plants die. Get the crate, W, open and drop it. Get all but the crate (you will automatically wear the Gray suit), then learn Meat, Swanzo and Varkid. Turn the lamp on, and move NE and North. Meet the vines (they die) and spray the Gray repellent on yourself.

W, W, and open the white door. Varkid yourself to protect your mind, and Swanzo Bellco. Jessar is driven out of Bellco, and because he cannot enter your protected mind, he is beaten and the game ends.

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Escape from Khoshiev - A solution by Gersten Ekstrand

W, W, examine the desk, open the drawer, and get the keys. E, S, S, S, get the cigarettes, E, get the car, and examine it. W, N, W, N, N, E, N, get the meat, E, give the cigarettes to the soldier. W, S, E, S, unlock the box with the key, drop the key, get the bottle, and examine it.

N, W, W, S, S, S, S, S, throw the meat to the dogs, examine the alarm, get the lighter, E, N, N, N, N, N, N, N, M, get the wood, N, W, W, W, examine the alcohol, fit the lighter, E, E, E, S, N, E, N, sleep, S, drink the water, S, S, S, S.

Cut the vine, drop the knife, get the vine, S, S, W, get the stick, and examine it. E, N, N, get the pitch on the wood, drop the can, light the wood, drop the lighter, walk through the waterfall.

E, E, E, E, E, E, S, S, S, climb the

statue, enter the tunnel E, E, open the bottle, pour the ether into the hole, drop the bottle, put your hand into the hole, get the stone, examine the star, put the stone into the indentation.

Down, E, trap the snake with the stick, get the pot, W, up, drop the stick. W, W, N, N, get the log, S, W, W, S, W, S, S, W, put the log across the pit. W, get the cork, W, W, N, S, take the axe into the pot, put the cork into the pit.

S, N, N, walk through the waterfall, E, S, S, N, N, drop the wood, E, E, N, N, W, N, W, N, E, get the rashes, and weave them into a mat. S, W, W.

Put the mat across the quicksand. W, W, N, give the pot to the natives, S, E, E, E, E, E, N, N, tie the vine to the tree and the spear, throw spear across the ravine, walk across the ravine, N, N.

HALL OF FAME (Continued)

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Leather Goddesses of Phobos -
A Solution by Graham Wheeler

Select either the girls or the ladies toilets. This solution assumes you choose the girls. Use the toilet, get the stool, and return to the bar. Wait until you are captured.

Get and examine the tray, get the chocolate, and drop the tray. Get the picture, blanket, stool and flashlight, and open the door. Move South, and open and enter the south door. Get the paper, and read it. Tell Trent to follow you and then move North, up, and North again.

Light the flashlight, drop and stand on the stool. Get the basket, and jump down again. Enter the circle. You will be transported to the jungle. Trent will give you a matchbook. Go it is a mixed-up list of the objects you need.

Move East twice, and get the car. Go NW. Offer the flashlight to the salesman, and accept the machine. Knock on the door. Go down. Put the chocolate in the cage, and then wait. You will be turned into a gorilla. Get the chocolate and hose, and eat the chocolate, and kiss the gorilla. Open and leave the cage, drop the hose, open the straps, and turn off the power. Stand up. You are in your own body again. Get the hose and enter the circle to be transported to the Voodooon book.

Turn the knob, open the box, and take the coin. Leave the booth and enter the circle. You are transported to Royal Deck.

Board the barge, and press the orange button. Wait until you see

Baby Duck on the north side of the canal, and then press the orange button again. Leave the barge, go north, get the balm, and get and read the message. It says your mission is to contact a wife random number and identify yourself by asking her to kiss your knuckles. Drop the message, go South, and re-enter the barge. Press the purple then orange buttons. Wait until you see ducks on both sides of the canal and are near the east bank. Press the orange button.

Leave the barge at My Kinds Dock and press the orange button. The barge carries on down the canal. Put everything in the basket, move East and South, get the pin, and go North and NE. The Sultan will ask you if you will answer a riddle, say yes, and then Say-A-Riddle.

Move West to be asked which wife you want. Give the number from the message, but in reverse. Enter the hatch and wait until you are taken to the inner hatch. Tell the wife to kiss your knuckles. You will be given a map and a tooth. Take them both, and go down into the catacombs.

Travel NW, N, NE, E, clap your hands, NE, NE, SE, hop, clap and say knuckles, go down, NW, NE, step again, M, S, hop, say knuckles, clap, NE, up, MW into the storehouse. Get the directory, clap, NW, hop, S, say knuckles, clap, SE, SE, down, E, clap, hop, N, W, say knuckles, step, E, W, S, hop, clap, SW into the burial chamber.

Get the raft, go North, say knuckles, clap, NE, hop, E, clap, NW, NE, SE, say knuckles, clap, hop, up, NW to the well bottom. Enter the circle. You are transported to Ivy Dock.

Leave the barge, drop the map and

tooth, and wear the balm. Go South, SE, give the coin to the penguin for a one marmalid piece, tell the penguin at camp get killed, M, empty the basket, get and put the baby in the basket, get the blanket and cover the baby with it, S, S, put the baby on the stool. You automatically hide.

Wait until the nurse takes the baby. She will close, but not lock, the door. Open the door and enter. Get the cotton balls, leaves, M, N, get everything, S, N, W, and enter circle. You are transported to Water Up Dock.

Move West. Trent appears from the fountain. Get the reamless, stain the circle, and drop the can. Go W, NW, put the pin on your nose. You are already wearing the balm. Drop it, put your fingers in your ears, close your eyes and kiss the frog. The frog will change into a princess who will give you a blender.

Leave all your subjects here for collection later. E, SE, remove the pin, drop it, and enter the circle. You are transported to Cleveland.

Travel South, get the rake and sack, N, NE, E, move the sock, get the nails, W, up, get the sheet, and tear it into strips. Tie the strips together, tie the rearboard rope to the bed, put the rope through the window. Trent offers to climb down.

Wait. Trent goes and gets the headlight and is hit by a truck. Wait again. Trent comes in through the roof. Get the headlight, climb down the stairs, E, and enter the circle. At the end of the hallway go up, N, and enter the circle. You are transported to the jungle.

E, E, the Nympg retreats. W, cover the hole with the bricks, open the sack, and cover the bricks with the leaves. Go W, E, and wait until the Harzo appears. It will fall into the hole. W, W, get the jar, put everything in the sack, and enter the circle. You will be transported to the spaceship.

Get the sword, S, mount the horse, W, dismount. Get and wear the suit, open the hatch, N. With the sword keep killing Thorblast until his sword leaves his hand and spins towards you. Get his sword. Give it back to him to prove that he won't win because you are the good guy. He then kills himself.

Kill the monster with the sword, until the woman, and follow her to receive a picture of Jean Harlow. For a laugh, open the east door, S, S. Trent appears. Mount the horse, E, dismount, W, W, W. Enter the circle and you will be transported to My Kinds Dock.



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Fair shares for all via Prestel?

I BELIEVE it possible to buy and sell shares over Prestel. I'm thinking of buying a modern and aerial interface so I can use this service.

My idea is to access share prices, send them into a home-broker database, and then use the information as a basis for trading. Can you tell me if this idea is feasible? — **Harold Roberts, Oldham.**

● Yes, it can be done, but you need to think carefully before committing yourself.

If you log on to Prestel in the evening, it is largely free apart from the cost of a local telephone call — around 50p per hour. As soon as you access really useful information such as share prices the name of it is so carries a charge.

A single frame doesn't carry many prices, so if you want to monitor a large number every day the costs soon mount. Other services related to shares and finance are available, but they often require a further subscription to Citibank, a

specialist area within Prestel. And that isn't cheap.

The costs are, of course, acceptable if they are offset by your profits. The online broking service is run by Hoare Gossett. The minimum fee for a buy or sell is £28 plus VAT. So, if you buy and then sell one share the total brokerage fee is a minimum of £56.20. Bear in mind that there's a difference between the price a share is bought for and the price it sells at. This can be 1-5 per cent. On £1,000 worth of shares — the minimum they like to handle — you therefore need to make around 10 per cent to break even on the deal, plus enough to cover your other costs.

If you are confident that

on average you can exceed this figure plus what you would have got had you left your money in the bank, by all means go ahead. If not, steer clear — it's not, as they say, for widows and orphans.

Tackling blown fuses

WITH reference to the letter in the February postbag about blown fuses in Amstrad monitors, I'm sure that the fuse is inadequate and should be replaced by a larger one.

When I had some trouble with my computer the firm which traced the fault said they fit larger fuses as a

matter of course, and that it is quite safe to do so. — **Tony Baker, Farnham.**

● This sounds a bit dubious. The vast majority of Amstrad monitors operate without difficulty on the standard fuse.

If your value would have been calculated by the engineer who designed the monitor, and it's there for safety — years and the electronics, if the fuse was too small, Amstrad would fit a larger one to stem a flood of returned monitors.

It is possible that the fuse doesn't need much extra current before it blows, and that is a few machines add-on and extra current consumption brought about by manufacturing tolerances may justify a marginally higher value, but this is not a modification to make without very good reason.

Regularly blowing fuses are more likely to indicate a genuine fault which should be rectified by a competent repairer.

Helpful Basic reading

WITH reference to the letter from Mr. Towey in your February issue, I may be able to help.

I bought a CPC6128 last May with the intention of becoming a proficient Basic programmer within about two years.

After getting a very elementary book on Basic, I found the one I'm presently using as a text, it's Basic Programming as the Amstrad by Myford James, ISBN 0-7447-0004-0 at 7.95. It is written for the CPC464, but is also suitable for the CPC6128.

It is presently out of print but there may still be stocks. I got mine last October from Marway Ltd., 37 Staveley Rd., Welwyn, Herts SG13 4JN. Tel. 051-433 3013.

I have found the book most helpful and I have

learned a lot by working through it and using every exercise.

If the book is unavailable, Myford James has published a second book, Basic Programming on the Amstrad 484, ISBN 0-7447-0005-1.

I haven't seen it yet but if it's anything like his earlier book, it'll be just the thing Mr. Towey is looking for. — **R.L. Homally, London.**

MY recommendations for good books on Basic would be 30 Hour Basic, Standard Edition published by the National Extension College, and Advanced Amstrad CPC6128 Computing by Ian Sinclair starting at chapter one which deals with filing techniques. Chapters one

and two are about CP/M.

There are a few instructions in 30 Hour Basic which differ from the CPC's, but are easily corrected from the CPC User Guide.

Ian Sinclair also wrote an elementary book Amstrad Computing with the CPC464 but it is out of print. If it is as well written as his later book, it will be very good.

Also The Complete Programmer: A guide to better programming in Basic by Miss James, published by Granada, is very good once the basics have been mastered. It is not written for a specific computer.

In my opinion, most books for the CPC that I have bought, including the Amstrad manual, are very well written and must be very frustrating to a beginner. — **John Shaw, Chiffers.**

CPC with a DMP3160

I FEEL sorry for anyone with a CPC who owns a DMP3160 printer. The basic is beyond description. Have a go — Ed!

I cover the several long distance calls to Sunderland before they supplied me with the correct lead for a CPC — the one that came with it was for a PC. After following the instructions very carefully I could not get the printer to work.

Eventually I managed to get it to work to a degree, but I was told I'd need the DMP3160 instruction book.

From Page 17

to use it properly. I was advised to phone Amrad (long distance who told me to phone CPC Components at Preston King distance again).

CPC informed me that the best would cost over £8. I will not pay the extra. When I buy goods I expect to get a proper working article with correct instructions.

The moral is: Don't buy a DMP3160 for your CPC. It is compatible with the CPC8128, but it will cost you. Maybe this letter will save others making the same mistake. — Mrs. Mark V. Mansden, Colford.

■ The DMP2166 is really intended for the PC, which is why it comes with a PC printer lead. Using the correct lead it will work with a CPC, but the DMP3160 is the one to get.

It's cheaper, it comes with the correct cable, and the print quality is exactly the same. The only thing the DMP3160 has over the DMP2160 is the IBM character set which includes graphics characters.

The problem, as is often the case, is that not enough beginner-compatible infor-

mation is given in the manual. I had the Panasonic KP1180, at only a few pounds extra, a more solid machine with better quality output.

Cursors foiled again!

I AM an absolute beginner struggling desperately to understand my CPC664. I have worked out a program for a maze and I would like to be able to have my young children make an asterisk character through it.

How do I allocate the cursor keys to control the movement of the character?

I take it that this would involve the BASIC commands and that the assignments must be altered by \uparrow —I am the same way! Further than that I cannot believe! The starting point of the asterisk is $x=2, y=20$.

I do hope you can help me as my husband is getting terribly neglected with me spending every available minute trying to work it out.

I think my husband is beginning to regret buying me the thing. I don't! My brain hasn't been so stimu-

lated in years. — Mrs. D.A. Evans, Whitstable.

■ You are on the right track. The following example uses the INKEY command which tests a specific key. Keys 0, 1, 0 and 2 are the numbers of the cursor keys.

The 0 after the INKEY command is the value returned by a key if it is pressed without Control or Shift.

It's not the shortest method, but it is easy to

```
10 READ X:Y:Z:GOTO 20
20 INKEY:GOTO 210:PRINT
   " "
30 GOTO 100:PRINT:PRINT
   " "
40 GOTO 30:GOTO 40:GOTO 50
50 IF INKEY="0" THEN X=X+1
60 IF INKEY="1" THEN X=X-1
70 IF INKEY="2" THEN Y=Y+1
80 IF INKEY="3" THEN Y=Y-1
90 IF X=100 OR Y=100 THEN
   GOTO 100
100 PRINT X:Y:GOTO 20
```

understand. The last line stops the cursor flickering, which would happen if it was just a GOTO 20.

The way to stop the asterisk crossing walls is to set up a 10 array which keeps a copy of the maze. Make pathways 0, and set

walls to a 1. A line such as

```
11 IF wall(x,y)=1 THEN GOTO 20
```

will stop it going astray.

Prize letter

Tunes for Grand Piano

IN the January issue there was a CD-Liner called Grand Piano which was brilliant. I kept my little sister quiet for hours, so it must be good. I have worked out how to play some songs with it:

Happy Birthday
J00000 J00000
J01 0000 0000

Oh Susanna
J0000 0000 00000
J0000 0000 00000
J01 0000 0000
J0000000 000000

Twinkle, twinkle little star
J00000 000000
000000 000000
J00000 000000

Angie Baby
000 000 0000
00000000
0000 00 000 0000
00000000 00000

London Bridge
0000 0000000
0000 0000000

That's all folks. — John Colling, London.

Games on the loose

COULD you please tell me the best way to release a computer game? I've nearly finished writing an adventure, and I'm also writing an arcade game.

I use the Graphics Adventure Game Creator and Laser Basic. I've also written 19 demos of music and graphics for my CPC664. I'm looking for a CPC664

Does DMP3160 hide a bug?

I RECENTLY bought an Amrad DMP3160 printer, mainly for use with Tarnwell 8126, and as the whole I am very pleased with both items.

I would like to be able to print characters from both the default and the second character set in the same text file. I have the printer set to Epson typeface as I also want to use Dallas.

The way I have tried to accomplish this is as follows:

□ I have set the printer control character 5 to 27 109 2, and a to 27 109 0. This allows me to change

between IBM and Epson within a file.

□ The printer control character P has been defined as 27 62, and q as 27 81. In theory this allows the selective use of the eighth bit.

□ I have set the characters which are common to both the IBM and second set to their base values, for example the code for 12 is 43.

On printing a sample like this:

```
"0123456789ABCDEF"
"0123456789ABCDEF"
```

it is printed correctly up to and including the A's, but

the eight bit remains set to one. I would appreciate any advice on how to solve the problem. — Alan Lewis, Alford.

■ As far as I can see, you're doing everything as you should. A bug on our DMP3000 produced the same problem.

The same thing on the Panasonic KP1180 which supports IBM/Epson modes and eighth bit selection produced perfect results.

It looks, therefore, as if there is a bug in the DMP3000/3160 operating system — unless someone knows better.

pen put anywhere in England, the nearer Southampton the better. He or she must be able to program, or use G4C or Laser Basic. — Carl Barton, 88 Broadway Rd., Souththorne, Stoke-on-Trent, Staffs ST5 3PE.

■ It depends how good your game is, Carl. If it's a really professional job, send it to a reputable software house such as Mammusia, CSE, or Rainbird to see if they're interested in marketing it for you.

If it isn't quite up to that standard but you feel people would be getting value for money, you'd probably better try to sell it yourself through small ads.

Moving by machine?

I AM writing concerning *Save Data* in your January issue. After observing the little characters I would like to make some of my own.

I am experiencing some difficulty in understanding which of the machine code commands I should use for this purpose.

Please could you explain how to design the characters and exactly what the machine code does? — S.J. Davis, Bristol.

■ A long time ago we ran a series on machine code graphics. Unfortunately the relevant book issues are out of print, so there might be a case for doing a little review on the subject if it can be done in such a way as to avoid being longstanding readers!

You can print multi-coloured characters in Basic by setting up transparent mode which stops a character's background colour overwriting what's on the screen.

PHIL (08872008811)

Now you can build the character by printing different shapes in the same place using different pen colours. This shortc

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The address is: Postbag, Computing with the Amstrad, Storage House, Adlington Park, Adlington, Macclesfield SK10 5MP.

States two methods of doing it:

```

10 READ B:PRINT CHR$(221)
20(11)
20 FOR I=104416 TO 5,5,20,21
CHR$(148)
30 FOR J=204416 TO 5,5,20,21
CHR$(129)
40 FOR K=3,2,2,18 TO 1,1,20,27
CHR$(108)
50 PRINTCHR$(I)+CHR$(J)+CHR$(K);CHR$(12)+CHR$(13)+CHR$(14)+CHR$(15)+CHR$(16)+CHR$(17)+CHR$(18)
60
80 LOCATE 18,18:PRINT #1

```

Unfortunately it's far too slow when you try to move several rounds at the same time. That's why a machine code character printing routine was used in *Save Data* — it's a lot faster.

The characters were designed using a Basic program which displays a grid and allows a point to be plotted in any colour. It then converts what's on the screen into the data needed by the machine code routine.

As to how the machine code works, that's too involved for the mail pages so we'll get to work on an article for publication later in the year.

Prometheus unbound

SWAN's first Bulletin board for amateur astronomers, Prometheus viewers, is now on line.

It features a database, observation stories, monthly

updates, sunrise/sunset, night astronomy, computer-aided amateur club news, columns board, downloadable software, and more.

Viewides
01-350 7177

All callers are welcome, no city and long and browser? — N. Spencer, Strap.

Romboard switch

HERE is an easy solution to the very annoying problem of some programs not running properly when a romboard is attached to the computer.

If your board is fitted with a cable, this consists of 50 wires one of which — number 27 — supplies five volts. The connector wire can be identified by counting from the right-hand side looking from the underside. Separate this wire from its neighbours with a sharp hobby knife. Cut it, and connect the two ends to a small on/off switch. Extending the wires makes it possible to place the switch in a suitable place.

This job takes about five minutes. Whenever a program does not load or run properly, just switch the romboard off. — John Stefansen, Copenhagen.

■ We haven't tried this so it's at your own risk. It may not work in all cases because the romboard electronics are still there even if they're not powered up.

Bea is mild that any other peripherals behind the board will also be switched out.

Looking for the book

IN the February issue David Hood recommended *Assembly Programming for the Amstrad* by A.P. and D.J. Stephenson. I tried to buy it but I'm sold it's out of print. Has anyone out there got a copy they would like to sell?

While putting pen to paper, please can you help me with *Save Data* from the January issue? When running the program I get Type mismatch in line 2108 and I can't get any further. — C.A. Robinson, Sandyfields, Coed, Shrewsbury SY6 6AP.

■ Anybody wanting to sell the book should get in touch with Mr. Robinson direct.

With regard to your bug, you need to buy our June 1987 issue. In it is a checksum utility you can use in conjunction with the Get it Right numbers to pinpoint lines where you've made typing mistakes.

In your case, even though the error report is at line 2180, the mistake will be in the data at the end of the program.

We don't have the staff to offer individual advice, so please only write in if the listing still doesn't work after it checks out correctly. If there's a genuine problem, we'll reply on these pages.

Linnet problems in Italy

I'M an Italian CPC6128 owner with a Race Linnet. I'm having problems with the modem and if anybody who could help would write to me, I'd be very grateful. — Michele Mazzonella, Via M. Rocco 51, Trapani 91 180, Italy.

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You're back in the fantasy world of Arcadia, in the role of a novice thief who has applied to become a member of the illustrious Guild. To prove your worthiness you must embark on a quest of all its members.

There are 29 beautiful illustrations, a massive vocabulary, and a text parser which is claimed to be more sophisticated than the parser in the Infocom adventures.

"The puzzles are delightfully well constructed and actually logical... Guild of Thieves must surely merit the title of Best graphics adventure. It's very impressive."

— *Gardner, Computing with the Amstrad CPC, January 1987*



Available for	Product	Format	RRP	Special reader offer	YOUR SAVE	Offer including subscription	YOUR SAVE
Amstrad CPCs 128 only	Guild of Thieves	Disk	£19.95	£14.95	£5	£24.95	£10

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Searching through your records

IAN SHARPE concludes his series on the CPC6128's extra memory

LAST month we saw how Bankmanager can store and retrieve records from the CPC6128's extra ram. By its nature Bankmanager is suited to database type applications, so having stored information in the second bank of ram we want to be able to search through it.

Imagine you'd written an address book program which used Bankmanager to store a list of names, addresses and telephone numbers. If the file comprises one record per entry and they're laid end to end, you obviously need some way of retrieving the information relating to a particular person.

In a conventional address book you'd have one or two pages for each letter of the alphabet. This means you get large areas of blank paper between entries or groups of entries - the Xs and Zs tend to be empty while the Ts and Bs are crowded.

This system can be made to work on paper, but presents problems if you try to do the same thing with Bankmanager. You'd have to leave large areas of memory free to take future entries, meaning that every time you loaded or saved the file you'd have to deal with the entire file.

You might find at a later date that you didn't leave enough room in one place and had too much in another. It would be quite a headache trying to reorganise the file.

In computer systems there are more sophisticated ways of organising information, but they require equally sophisticated programming. Fortunately Bankmanager has a command that avoids these problems.

Instead of trying to keep the entries in alphabetical order you just add them to the end of the file. If you took that approach on paper, an average you'd have to search half the list every time you wanted to look somebody up. Believe it or not, that's exactly what Bankmanager does, but it uses a fast machine code program.

The command is `!BANKIND` which is used like this:

```
!BANKIND,0,0,1,AAAAA,0
```

The variable `0` is the string you're looking for in the extra ram. `0` returns the record number where it was found, or an error code, and `0` are optional and specify the record numbers where the search will start (`0`) and end (`0`). You can see or without or but not `0` by itself.

Let's see it in action. Run Bankmanager and type in the following short listing. It sets up a record length of six

and uses a loop to fill the first 200 with spaces. Then it inserts three records, one at 50 and one at 100 each comprising six A characters, the third at 150 being `AAAAAA`.

```
10 0001
20 100:000000,0
30 000 100 00 00
40 00000011,0,0,0
50 000 100 00 0 00000
60 00000 1,0,00000 0
70 0001
80 00000011,0,1,00000,0
90 00000 11,0,1,00000,00
100 00000111,0,1,00000,00
```

When it's finished, type the following:

```
!BANKIND,0,0,1,AAAAA,0
0001 0
!BANKIND,0,0,1,00
0001 50
```

If you don't tell it otherwise, `BANKIND` starts searching at the current record and carries on until it finds a match or gets to the top of memory. By adding `0` as a third parameter the search starts at record 0 and you will see that `0` reports a final of 50.

When `BANKIND` finds a match it leaves the pointer to the current record in that position so the next read or write will operate on that record.

What about the second `AAAAAA`? Bankmanager stopped when it got to the first one, so if you're storing data which might have multiple matches you need to resume the search from the next record, and so on right up to the end of the data.

After the first match has been found, if we hadn't moved the pointer on using `BANKREAD` it would still be set at record 50. If you then try a further search for `AAAAAA`, it'll find 50 again because that's the current record. This is OK if you want to read or write to 50. If you don't, you must tell `BANKIND` to move up to the next record by specifying `1`:

```
!BANKIND,0,0,1,AAAAA,0-1
```

As it is, we moved the pointer on with

`BANKWRITE` so:

```
!BANKIND,0,1,00000
0001 0
```

will start at 50 and come to rest the second `AAAAAA` - record 100.

What happens if no match is found? Try this:

```
!BANKIND,0,1,00000,10,000
0001 0
```

Here we're assuming the search at record 100 and terminating it at 100. As there is no other record containing `AAAAAA` no match will be found.

According to the manual `0`'s should contain `-3`. Well it doesn't on either of the otherwise healthy machines I've got access to; I get `-2`, so I assume there's a bug in the instructions.

If we'd missed out the 100 in the above example the search would have continued to the end of memory. It's just possible that the jumble of random numbers after record 100 will contain a sequence of six As in a record, but it's more likely that after a few seconds delay you'll get `-2` in `0` again.

Now try this:

```
!BANKIND,0,0,1,00000,0,100
0001 0
```

This illustrates that the search is case specific, in other words `a` and `A` are different and searching for `aa` will not find `Aa`. It's a good idea to decide that you're going to work in upper or lower case and stick to it, converting strings with `UPPER` or `LOWER` as necessary.

If the string you search for is shorter than the record length, only the number of characters in the string are checked in each record. This means that if you do the searches for `AAA` instead of `AAAAAA` you'll also turn up `AAAAAA` as a match.

`AAAA` would fail to find `AAAAAA` because the fourth `A` is compared to the first `B`. If your string is too long only the characters up to the record length will be compared. There is one

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