POPULAR COMPUTING WEEKLY

NOW ONLY 55p!

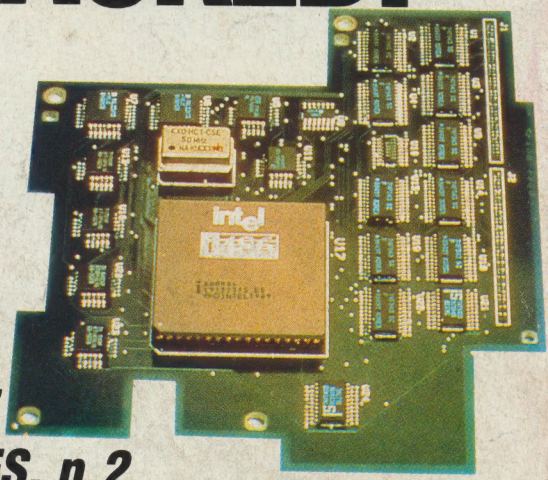
INCORPORATING

JUNE 29 1989

IN GAMESWEEK

POWER PACKED!

HOW THIS CARD COULD REVOLUTIONISE PERSONAL COMPUTING



ARC BUNDLE

NEW A3000 PACKAGE HAS TWELVE GAMES, p.2

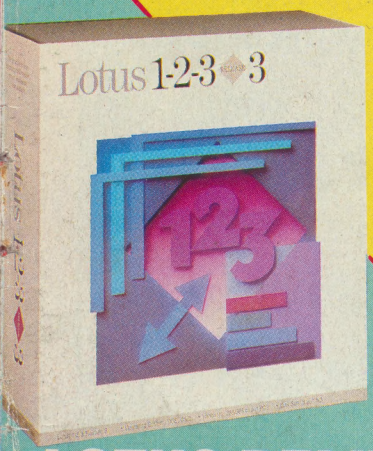
ASTAROTH

NAVY MOVES

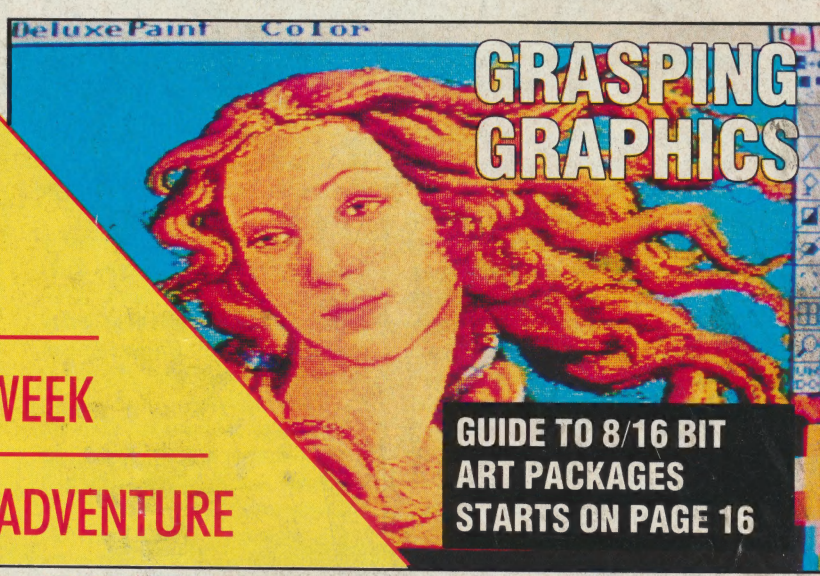
PHOBIA

SKWEEK

ADVENTURE



LOTUS DELIVERS THE GOODS, p.6



GRASPING GRAPHICS

GUIDE TO 8/16 BIT ART PACKAGES STARTS ON PAGE 16

ATARI ST

- All the news that is news from last week's Atari User Show – the final show ever before it is merged into the Computer Shopper Show.
- Catch Soundcheck on p.30 for Midi news at the speed of sound.
- How to peek and poke the screen from Hisoft Basic.

AMIGA

- We review (p.30) a new hints 'n' tips book for the machine. Don't miss it.
- U.S. news in our great new column, p.4.

SPECTRUM

- We explain how to design a joystick interface, p.44
- Spectrum +2A still causing problems with its +3 circuit board, p.44.
- We list XPRINT from Paul Dias, a brilliant machine code program that which allows you to use 64 column fonts in Basic programs.

PC Compatibles

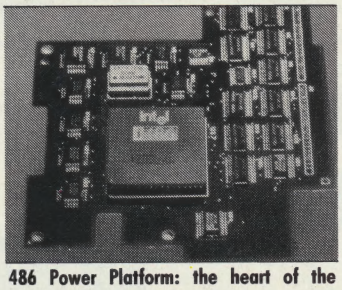
- A host of new machines (below) from Dell Computer Corp mark further expansion into the 32-bit arena.
- Lotus 1-2-3 3.0 is at last available, p.6.

A GREAT NEW U.S. NEWS COLUMN STARTS THIS WEEK! SEE p.5

Massive PS/2 power hike

A MEGA-POWERFUL new circuit board for IBM PS/2s will put virtual mainframe power on a desk-top – more than doubling the power available from today's most powerful 32-bit PC clones.

Less than two months after Intel introduced the 80486 32-bit microprocessor, IBM – which once owned 10 percent of Intel – has produced a Micro-channel add-in board for the PS/2 Model 70, the company's most powerful desk-top micro.



486 Power Platform: the heart of the matter.

IBM says the upgrade will provide the PS/2 with more than twice the power of a 33MHz 80386-based PC, like that recently launched by Acer, in which instructions are pumped in at a blistering 33 million times a second.

The 80486 is a 32-bit processor like the 80386 but it differs in that it has memory on chip for storing the most often used data and instructions – a so-called cache memory. Reducing the number of external data accesses hikes the system throughput dramatically. A burst bus enables fast communication with other chips in the micro-processor system.

IBM PS/2: amazing speed hike.

The new IBM board is called Power Platform and will be available in the last quarter of this year. Do not expect much change out of £3,000. IBM can be reached on 0705 321212.

Amiga ad flies into trouble

FOLLOWING our exposure last year of the row surrounding CBM's Christmas TV advertising for the Amiga, the IBA has stepped in to ban it.

The advertisements were due to be reshown during Channel 4 Daily, the breakfast-time news program, but following viewers complaints, they will be withdrawn. Stewart Patterson of the IBA explained: "The advertisements featured computer graphics which were not produceable by the machine."

Patterson went on to say that the original film was passed by the IBA last year because: "We are experts in advertisement regulation rather than the workings of a computer." Since the screenings of the ads in the run-up to Christmas, several viewers have pointed out that the sophisticated modelling of the graphics sequence is clearly beyond the capabilities of the Amiga A500.

However, Patterson did not think Commodore's ad agency, Evans Hunt Scott, which produced the advertisement, had set out to deliberately mislead potential purchasers: "We're not saying the agency were trying to pull the wool over our eyes – it was a mistake, he says."

A spokesman for Evans Hunt Scott was more optimistic about the commercial's future: "The advertisement has not been finally withdrawn but there has been a problem. We are in discussions with the IBA."

Archie Twelve pack for £809

CAMBRIDGE International Computing is to sell an unofficial games software bundle, the Hyperpack, on the Acorn A3000, the latest version of Britain's first 32-bit home micro. The bundle content had not been finalised as we went to press but it is most likely to include the A3000, a modulator, a joystick and twelve games, yes, apparently there are that many games for it. The bundle will sell for £809.95, whereas the basic A3000 from Acorn costs £743.

The leisure software will probably include *Pacmania, Corruption, Fish, Terramax, Repton 3, Zarch, Conqueror, Star Trader* and *Orion*. Other possibilities are *Quasar* (from Impact), *Hole-Out* (the golf game) and *White Lightning*.

Cambridge International Software is a new division of heavy Acorn user Academic Studies, a computing and technology school.

CIS spokesman David Kelly told *Popular Computing Weekly* that the bundle should be ready for the BBC Acorn User Show July 21-23, at Alexandra Palace but he could not guarantee that availability date as problems with squabbling software houses still have to be ironed out.

Acorn will launch the A3000 officially at the show, but has offered no official backing to the CIS Hyperpack.

Instead, Acorn will be offering showgoers zero percent finance on the new machine. Those tempted to buy the A3000 on the spot will be able to arrange a finance package with Mercantile Credit within the walls of the show, and then pick up the micro from a giant Acorn pantechnicon parked outside. An optimistic Acorn is expecting 18,000 visitors to the show.

Acorn A3000: Cambridge Computer's bundle will probably include a joystick and 10 games.

Kelly for CIS claims that its bundle buyers will be able to join a new Arc user group, which will hold "regular meetings and publish a magazine, *Archimedes User*".

A possible second bundle from CIS could involve business packages like *1st Word Plus, System Delta Plus* and a DTP package from Minerva. CIS can be reached through parent company Academic Studies on 01-278 6622.

This Week

SIMULATIONS p.9
Lee Paddon is up, up, and away with Bomber which simulates a whole host of different fighter planes.

LETTERS p.11
More retailing discussion; are games consoles a good thing? . . . EPROMs in the sun . . . User group news . . . GFA Basic upgrade.

COMMS p.13
Malcolm Arnold feels the pulse of Heartbeat, the BB for the deaf.

8-BIT GRAPHICS p.16
Although limited by screen resolution and availability of colours, many 8-bit users are incorporating graphics into DTP output. Tony Hetherington looks at some of the available packages.

16-BIT GRAPHICS p.16
Now we're really talking . . . this guide to the best graphics packages for 16-bitters will definitely put you in the picture.

COMPUTER GAMESWEEK p.21
HOTLINES p.21
ASTAROTH p.23
NAVY MOVES p.24
PHOBIA p.26
SKWEEK p.27
ADVENTURE BRIDGE p.28
BOOK REVIEW p.30
Kenn Garroch reviews 'More Tricks and Tips for the Amiga'.

SOUNDCHECK p.30
Tony Sacks reviews a desk accessory which acts as a library for all your Midi files.

BYTES & PIECES p.42
XPRINT for the Spectrum; create 64-column fonts in your Basic programs.

PUZZLE p.43
A digital watch poser.

Atari show goes out with a bang

THE LAST Atari Computer Show was probably one of the most interesting. London's Alexandra Palace was the venue for the exhibition of over 50 new products, including the much acclaimed *Spectre 128* Macintosh emulator and Calamus DTP software from Signa Publishing.

Some of us were familiar with many packages as some companies were simply giving an already-released product a first public showing.

As usual, the box shifters were out in force. Blank discs were unbelievably cheap with some companies selling 50 DSDD 3.5 inch discs for just £27.99 including a one-for-one guarantee.

Bath Computer Shack – 0225 310300 – was showing an interesting little add-on for the ST, the *Tweety Board*. For £49.95, the Tweety converts the rather dull and lifeless sound of the ST into glorious stereo.

The Llamasoft – 07356 4478 – stand was substantially smaller than usual and the main display was of *Grid Runner* with the fabulous *Trip-a-Tron* being displayed on a large monitor to the sounds of Pink Floyd.

Atari's presence in the show was non-existent. Yes, the company after whom the show was named was absent and the only person I recognised to be remotely related to Atari was Les Player, who left the company a few months ago.

Signa Publishing – 0252 341600 – surprised many with two large stands either side of the main one at the front of the hall. Here they were showing their new products including *Calamus* and the new *Hawk* handheld scanner.

Frontier Software – 0423 567140 – showed their usual products as well as the new memory board which will boost an ST to 2.5 Mb. page 6 Publishing were back with force after a brief absence from the market with the new combined magazine, *New Atari User* and were also selling back issues as well as their excellent range of public domain software.

Shifting ST games by the shovelful.

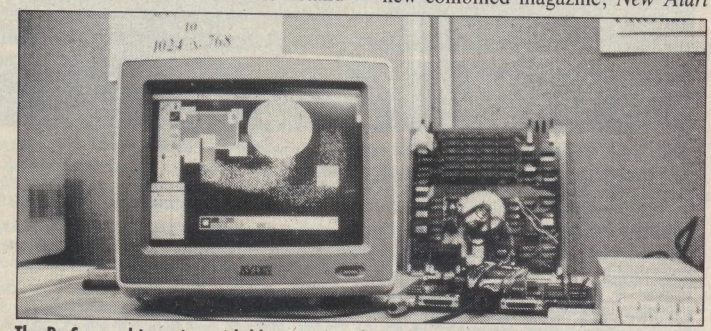
Elmtech Research – 021-472 5719 – displayed its new *ParSec Graphics Interface* boards. These are a new development which doubles the resolution of the ST and bumps up the colours to 4096 or 6 million, depending on the model of the board. While graphics boards were being displayed at one end of the show, Audio Visual Research – 0582 457348 – were showing off two sampling packages. *Replay 4* and the new *Master Sound*, marketed by Software Horizons.

Take Control – 021 706 6085 – demonstrated *Music Publisher*, a page layout program for musicians. The software costs £290 + VAT and is the only music program which will actually print music on paper up to A3 size.

Many Atari 8-bit owners would have been grossly disappointed with the show as I only saw two 8-bit machines in the whole show.

The Atari User Group Stand was probably the biggest ever but ironically this was because only two groups were fighting for the space, whereas if there had been four or five, the stand would have been minute.

The Atari Show was probably the most interesting of all time, it is a real shame that it was also the last.



The ParSec card in action with blistering graphics.

Blow your own EPROM

EPROM BLOWING, once the preserve of BBC owners has reached the heady heights of the ST market, which presently lacks a developed range of ROM software.

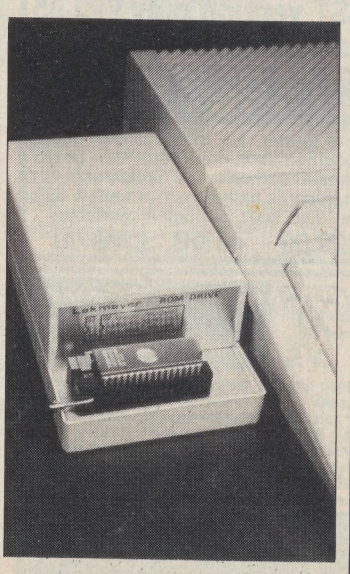
But J. E. Sinclare – telephone 01-316 1779 – are probably not too concerned as they have released a new EPROM programmer to cater for the latest 32 pin, one megabit chips.

The device is software-controlled and plugs straight into the cartridge port, and can cope with the more common 28 pin chips as well. Other features of the device include high speed warning if the chip is not blank before blowing, and protection against incorrect insertion.

The software claims to be easy to use, and allows the transfer of files between EPROM, disc and a RAM buffer, hex keyboard entry, relocation and block programming. A special feature allows the splitting of 16-bit data in two separate EPROMS, and 32-bit in four EPROMS.

Also included with the package is the very useful *Silicon Disk* software, which enables your own programs to be written, once only, to an EPROM, for instantaneous access at power up.

The producers, Lakmeyer, and their distributors, J. E. Sinclare are retailing the plug-in unit plus all the software at £165 + V.A.T. while also catering for non-ST owners by offering a 520STFM plus the unit and software at £425.



No place like ROM.

IN BRIEF

The Nazis' soft option

FOLLOWING a worrying advance made by far right wing parties in the German euro-elections, where a former Waffen SS commander took 12 percent of the vote, there are further reports of Nazi software from the German district of Mittelfranken. There, reports Newsbytes, district governors have asked the populance to be watchful and to "weigh the consequences" of using and distributing such software, which is officially banned. What is particularly worrying moderates is that the Nazis' chief means of distribution is through school playgrounds.

Knock off!

MICRON Computer Centre of Sudbury, Suffolk has knocked £30 from the price of its 40MB hard drive for the Amiga 500. The A500/40 has an integral power supply, fan and 2MB unpopulated RAM board. The drive is an 11ms Quantum Pro-Drive; a disable switch allows the Amiga to ignore the drive without a physical disconnection. The price is now £650 inclusive: for details call 0767 881998.

Alternative show dates

WHAT have Einstein, the Enterprise and Ace in common? If you do not know you probably will not be going to The Alternative Micro Show, which this year will be held on Saturday, November 11 at Bingley Hall, Stafford. If you have a wild craving to exhibit your ageing dongles, call Taurus Computer Systems – the organiser – on 0473 602460.

Chips get battered

A $3.96 EUROPEAN research project into semi-conductor technology is being launched in an effort to gain a greater slice of the chip market presently dominated by the Americans and the Japanese. Europe's share of the $50 billion chip market has slipped from 16.1 per cent to just 9.7 per cent in the last ten years.

Evesham Micros

All prices include VAT and Delivery

ATARI 520STFM SUPER PACK

Includes STFM with 1MEG drive, 21 games with business software (worth over £450) & joystick.

Only £329.00

520 STFM latest version with 1MEG drive fitted	£269.00
1040 STFM including TV modulator	£399.00
1040 STFM model as above, with 'Microsoft Write' & 'VIP Professional'	£419.00
1040 STFM model as above, including 21 games, business software and joystick as supplied with above '520 STFM Super Pack'	£419.00
1040 STFM as above with super pack extras, with 'MS-Write' & 'VIP Pro'	£459.00
Buy any 1040 STFM model with a monochrome monitor for only £110.00 extra	
Mega ST1 with mono monitor, 'Microsoft Wite' and 'VIP Professional'	£599.00
Mega ST2 with mono monitor, 'Microsoft Write' and 'VIP Professional'	£849.00
Mega ST4 with mono monitor, 'Microsoft Write' and 'VIP Professional'	£1099.00
'Super Pack' Software, as supplied with above 520STFM offer	£60.00
SLM804 laser printer, great value at	£1099.00
SM124/5 mono monitor	£119.00
Mega-File 30Mb hard disk	£539.00
Mega ST2 package - includes Mega ST2, mono monitor, external 1Mb 3.5" drive, SLM804 laser, 'MS-Write', 'VIP Pro.', 'Fleet St Publisher' and 90 days on site maintenance	£1795.00
Atari DTP system - (Mega ST4/MM/SLM804/30MB HD/S'WARE)	£2795.00
Vortex HDplus 40Mb hard disk	£519.00
5.25" External drive 40/80 track 360/720K formatted capacity	£159.95
Pye 1185 15" FST Teletext TV/Monitor inc.full remote control and cable	£269.00
Philips CM8833 colour monitor c/w ST or Amiga cable	£229.00
Philips CM8852 as above, higher resolution	£299.00

commodore hardware

NEW SPECIAL OFFER AMIGA PACK

Specially priced Amiga 500 package including the following:

★ Amiga 500 computer
★ TV Modulator
★ Mouse & Mouse mat
★ Joystick
★ Return of the Jedi
★ Eliminator
★ Zynaps
★ Custodian
★ Powerplay
★ Mercenary
★ Hellbent
★ Bubble Ghost
★ *plus 5* disks of
★ public domain s/ware

all for only £399.00

Amiga 500 computer including TV modulator	£359.00
Oceanic OC-118 64/128 disk drive for 64/128 with free GEOS software	£129.95
Freeze Machine complete backup cartridge, with integral reset button	£28.95
LC-10 commodore 64/128 ready printer inc. 2 extra black ribbons free	£199.00
LC-10 7-colour version of above printer inc. 2 extra black ribbons	£249.00

Amiga & ST 3.5" Drives

★ Very Quiet
★ Slimline Styling
★ Fully Compatible
★ Top quality Citizen drive mechanism
★ On/Off switch for Amiga
★ External plug-in PSU for ST
★ Throughport for Amiga
★ 1Mb unformatted capacity

Fully compatible, high quality 3.5" external drives for the ST and Amiga

Amiga version only £79.95

Atari ST version only £82.95

Prices include VAT & delivery

Western Digital Filecards

Upgrading your PC to hard disk? Look no further, we offer the best prices on top quality hardcards. Thorough documentation supplied, low power consumption, with free XTree file management software and Speedread. For Amstrad PC1512/1640 users we supply hardcards tested and formatted, with our simple software installation procedure. The best packages available!

20MB...£199.00 32MB...£229.00 40MB...£289.00

DISECTOR ST V5

for all Atari ST models only £28.95

New Version 5 disk utilities for the ST, features include: **protected software backup**, incorporating **turbo nibbler**, a *very fast and powerful* copier, which uses all available drives & memory and includes 80 parameter options for handling a greater range of software; **drive B boot** allowing many programs to startup from drive B; **organiser accessory** providing many major disk management commands; **special formatters** giving *up to 25% extra* user storage per 3.5" disk and accelerating access speed by *up to 30%*; **fast backup version 2** copies standard disks speedily; **ramdisk accessory**; **undelete file**; PLUS much,much more!

3.5" disks

10...£11.95 in plastic case £13.95
25...£27.95 in 40 cap case £34.95
Fully guaranteed double sided media

5.25" disks

25...£13.95 in 50 cap box £22.95
in 100 cap box £24.95
Fully guaranteed double sided media

Amstrad PC1512/1640/2086

We offer a wide choice of Amstrad PCs with many upgrade options, including the very latest PC2086 range. For the hard disk option, check our 'Evesham Upgraded Models'. Only the best will do - so we normally upgrade by means of a Western Digital Filecard, which includes XTree and SpeedRead software; however on single drive 1512/1640 models we can offer internal installations at the same price (leaving more expansion room but no upgrade opportunity for a 2nd floppy drive). On-site service contracts are available on any PC1512/1640 model for only £39.00 inc.VAT. Prices in lighter type exclude VAT.

Free with 1512 models... Ability and 4 US Gold Games

	SD	DD	AMS H.D.	SD 20MEG	DD 20MEG	SD 32MEG	DD 32MEG
				EVESHAM UPGRADED MODELS			
MONO 1512	384.35 **442.00**	477.39 **549.00**	N/A N/A	557.39 **641.00**	650.44 **748.00**	583.48 **671.00**	676.52 **778.00**
COLOUR 1512	494.78 **569.00**	555.65 **639.00**	N/A N/A	667.83 **768.00**	728.70 **838.00**	693.91 **798.00**	754.78 **868.00**
MONO 1640	474.78 **546.00**	555.65 **639.00**	738.26 **849.00**	647.83 **745.00**	728.70 **838.00**	673.91 **775.00**	754.78 **868.00**
CGA (COLOUR) 1640	581.74 **669.00**	651.30 **749.00**	825.22 **949.00**	754.78 **868.00**	824.35 **948.00**	780.87 **898.00**	850.43 **978.00**
EGA (ECD) 1640	677.39 **779.00**	738.26 **849.00**	936.26 **1079.00**	850.44 **978.00**	911.30 **1048.00**	876.52 **1008.00**	937.39 **1078.00**
2086 MONO	569.57 **655.00**	682.61 **785.00**	912.17 **1049.00**	742.61 **854.00**	855.65 **984.00**	768.70 **884.00**	881.74 **1014.00**
2086 CD	712.17 **819.00**	821.74 **945.00**	1051.30 **1209.00**	885.21 **1018.00**	994.78 **1144.00**	911.30 **1048.00**	1020.87 **1174.00**
2086 12" HRCD	794.78 **914.00**	912.17 **1049.00**	1120.87 **1289.00**	967.83 **1113.00**	1085.22 **1248.00**	993.91 **1143.00**	1111.30 **1278.00**
2086 14" HRCD	886.09 **1019.00**	1007.83 **1159.00**	1233.91 **1419.00**	1059.13 **1218.00**	1180.87 **1358.00**	1085.22 **1248.00**	1206.96 **1388.00**

PC1512 special offer ..... Buy an Amstrad DMP3160 10" carriage 9pin printer with any PC1512 model for only £120.00 extra !

optional extras

1512 memory upgrade to 640K	£39.95	Enhancer 101 replacement keyboard	£74.95
Maths Co-processor 8087-2	£129.00	3.5" drive (720K) for SD models	£79.95
NEC V30 (8086 replacement)	£24.95	PC2000 series compatible 5.25" (360K) external drive	£100.00
Cipher CT1525 tape streamer	£319.00	Joystick & Controller Card self centering analog type	£34.95
Amstrad Modem Card V21/23	£99.00		
Amstrad MC2400 Modem Card	£199.00		

Amstrad PPCs

Low prices on all portable PCs - especially twin drive models
prices in brackets are excluding VAT

PPC512S	(£373.04) £429.00	PPC640S	(£477.39) £549.00
PPC512D	(£433.91) £499.00	PPC640D	(£546.96) £629.00

New low price *External* 3.5" floppy drive (720K) to suit *ANY* Amstrad 1512/1640 inc. DD and HD models! Uses no expansion slots £99.95

Central Point Software

For all your PC disk management requirements

PC Tools Deluxe Version 5... Other utililities may claim to 'do it all' but only PC Tools Deluxe is the complete disk utility package, providing a fast hard disk backup, the best undelete available, 100% safe formatting of floppy and hard disks, unformat, reliable disk caching, compress facility, in fact everything required to manage & protect your data at a sensible price..... **£49.95**

Copy II PC Version 5..... The most effective floppy disk backup utility of it's type. We always ship the latest version. Can also transfer many programs to hard disk and then run them without reference to floppy. Supports both 5.25" and 3.5" disk format. Don't be without it..... **£24.95**

Copy II Deluxe Option Board..... The ultimate solution to backing up copy-protected software using the hardware option. All the original features of the Option Board, including the most powerful backup copier product on the market, and can even transform any PC equipped with a 3.5" drive into a dual purpose IBM/Macintosh drive. Allows your PC to read and write to MAC data disks easily through DOS. Comes as an easy-to-fit short card..... **£84.95**

PRINTERS

All prices include VAT, delivery and cable

star

We use and recommend Star printers since they do offer an unbeatable combination of features, print quality, reliability and value. Make the sensible decision - get it right with a Star printer at our special, all in, prices.

Star LC10 best-selling 144/36cps printer, 4 NLQ fonts, inc.2 extra ribbons free	£199.00
Star LC10 7-colour version of above printer, inc.2 extra black ribbons	£249.00
Star LC24-10 feature-packed multifont 24 pin printer	£319.00
Star NB24-10 great value 24pin inc. cut sheet feeder + 2 extra ribbons	£499.00
Star NX-15 budget wide carriage printer	£329.00
Star NB24-15 wide carr.version of NB24-10 inc. cut sheet feeder	£649.00
NEC P2200 budget 24pin, great value 168/56 cps	£319.00
Amstrad DMP3160/3250DI good value 10" 9pin	£169.00
Panasonic KXP1081 reliable budget 10" printer 120/24 cps	£169.00
Panasonic KXP1180 super new 9pin with over 3400 typestyles, 11" carriage	£199.00
Panasonic KXP1124 great new sturdy 11" multifont 24pin printer	£319.00
Epson LX800 popular 10" 180/25 cps	£199.00
Epson LQ500 good 24pin printer 150/50 cps	£319.00
Citizen 120D good value 10" 120 cps	£139.00
Citizen HQP-45 wide carriage 24pin printer	£399.00

How to order

All prices VAT/delivery inclusive
Express courier delivery £5.00 extra
Send cheque, P.O. or ACCESS/VISA details
Phone with ACCESS/VISA details
Govt., educ. & PLC official orders welcome
All goods subject to availability E.&O.E.
Open to callers 6 days, 9.30-5.30
Telex: 333294 Fax: 0386 765354

Evesham Micros Ltd
63 Bridge Street
Evesham
Worcs WR11 4SF
Tel: 0386 765500

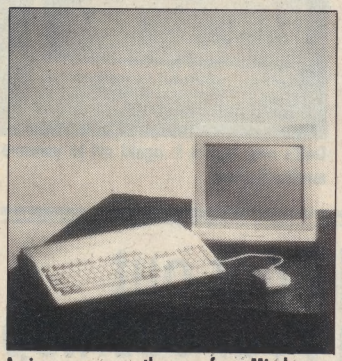
Also at: 1762 Pershore Rd., Cotteridge, Birmingham, B30 3BH Tel: 021 458 4564

Stateside

Steve Gold reports on the hot news in the U.S. computer world, courtesy of the on-line systems spanning the world.

★ It is good to see that at least some of the U.S. software houses are announcing details of their future Amiga software releases. One company, Mindscape, has revealed plans to launch a range of games in the next year or so, starting with *Gauntlet II* next month, *After-Burner* in September, and *Star Trek V* in January, 1990. Star Trek V? The film is not even out yet.

★ Staying with the Amiga, I note that one company, Electronic Ecstasy – 0101 805 682 8330 – is selling the Readysoft A-Max, the Mac emulator for the Amiga. A-Max is reported to be as good as the Spectre 128 cartridge for the Atari ST, which was shown at the Atari Show at Alexandra Palace.



Amiga: games on the way from Mindscape include Star Trek V and look out for the Mac emulator, A-Max.

★ The good news for Amigans with an eye to running Mac programs on their machines is that A-Max costs $149.95 and, unlike the Spectre 128, requires no Mac ROMs or extra hardware to run Apple Mac programs. Electronic Ecstasy, as you might expect, takes all the usual credit cards.

★ Lake Forest Logic – 0101 312 816 6666 – is now shipping its answer to Norton Utilities on the PC for the Amiga. Disc Mechanic is an $89.95 package which can speed your Amiga disc drives by as much as 400 percent.

★ Finally on the Amiga front this week, Newtek – 0101 913 354 1146 – of Topeka, Kansas, has launched *Digipaint 3*, a much-upgraded edition of its graphics and paint package. The software usually costs $99.95 but Newtek is offering it for $49.95, provided you have a competing package, such as *Deluxe Paint, Deluxe Photolab, Express Paint* or *Photon Paint.*

★ Atari ST fans, meanwhile, may have read elsewhere that a new version of TOS, the ST operating system, is about to be shipped. That is not the case. According to Chris Roberts, the Atari User Group co-ordinator in the U.S., the package will not be available on an upgrade basis until at least the autumn.

His comments, revealed in Ron Kovacs' Z-May electronic newsletter, contrast directly with ST Report, another electronic newsletter, which said earlier this month that TOS 1.4 was ready to ship to U.S. ST dealers on June 19. Atari officials are reported to be worried by the news, which conflicts with the real situation.

The reason for the seemingly stop-go situation on TOS 1.4 is that the new release of the ST operating system is a true ROM and must therefore be designed and produced by a full chip production process, rather than as an EPROM chip, as is the norm for the ST operating system of late.

★ Atari has just begun production of TOS 1.4 and has a number of ROM chips available for shipment. It is, however, diverting the chips to models of the ST shipping with its long-awaited DTP system, which includes the SL-004 laser printer and Moniterm 19in. monochrome monitor. Apparently, TOS 1.4 is the only revision of the ST operating system which supports such a large screen.

Atari is not overlooking existing owners of the 520 and 1040ST. My sources suggest that the Tramiel family will announce a blitter upgrade facility for existing ST console users later this year. Watch for what Atari U.K. does in this respect.

★ If you are thinking of buying a Mega ST, wait a few weeks, as my sources also suggest that Mega-6, equipped with 6MB of RAM, has been prototyped by Atari in the U.S. The machine may not be released in the U.S. because of tight FCC rules, which means that Atari U.K. and Europe may have an exclusive on the machine, as happened with the Atari 1MB Mega ST.

★ You may have heard already that Apple is concerned about the unauthorised public release of the source code to *Quickdraw*. The Nuprometheus League, the anonymous group behind the mailing of the source code, had threatened to release the complete Mac operating system source, including the code relating to the as-yet-unreleased new System 7.0 Mac operating system.

Apple has now called in U.S. Federal agents who reckon they are hot on the trail of the San Francisco-based group. They may be too late. The U.S. news wires suggest that the source code to all the Mac operating system has now been passed to Mac clone makers in Taiwan.

Microlink quits Gold

By Paul Marks

ON-LINE computer news service Microlink has delivered a punishing blow to British Telecom by abandoning its use of the Telecom Gold e-mail service. A cheaper and far more varied Microlink is promised as a result.

Claiming to be tired of the restrictions that Telecom Gold supposedly places on service providers, Microlink will run on Istel's *Infotrac* network from October 1. Users will be given new dial-up telephone numbers in the near future, though user IDs and passwords will remain unaffected.

One major advantage of using Infotrac over Telecom Gold is that users will be able to log onto local Infotrac nodes for the price of a local call – like Micronet – rather than having to dial into BT's packet switch system, an expensive business if you live outside London.

In an exclusive interview with *Popular Computing Weekly*, Microlink's joint managing director Derek Meakin said that after repeatedly attempting to get Telecom Gold to provide gateways to other on-line databases, he had "no response".

"We have become increasingly frustrated by constraints imposed on us, which have prevented us from moving into exciting new areas of activity." Meakin told *Popular Computing*.

With Istel, Meakin claims access to popular U.S. services like *The Source* and *Compuserve* will be just a matter of time.

In addition, Infotrac will give Microlink users access to some 1200 global databases, use of which will simply incur time charges for the area accessed, without the user having to register separately for each one.

Says Meakin: "For the first time we shall be offering up to the minute news, sport and weather services, and for the business community, who now form the largest single user group on Microlink, we shall have the regularly updated city and financial information."

Telecom gold is run by Dialcom, a BT subsidiary. Dialcom also runs Prestel, the on-line service which carries Micronet, so it was perhaps inevitable that one day BT and Microlink would part company, for the simple reason that its own Micronet service (a joint venture with EMAP) competes with Microlink.

Micronet boss David Rosenbaum is unworried by Microlink's seemingly ambitious plans, saying: "This is certainly an interesting development but I don't expect it to affect us, as Microlink's user base is largely business based."

For its part, Microlink is predicting a doubling of membership over the next year. Right now membership is put at 8,000, 10,000 or 14,000, depending on who's talking.

Belfast software boost

From Mike Johnson
In Belfast

A STATE-OF-THE-ART business planning package has produced a fillip for the Northern Ireland software industry. Belfast-based publisher Intersoft Plus has won an order worth £2.5 million from a U.S. company. Talking to reporters and TV cameramen from its Regency offices directly opposite Belfast City Hall, Colum Rafferty, Intersoft Plus chairman, gave details of the deal.

The order is for the Intersoft *Executive Modelling System*, a powerful, artificially intelligent spreadsheet utilising straightforward English commands. It allows results to be predicted from the input of business variables using analysis functions with what-if? and goal-seek commands.

The order is from a major financial software company which will be marketing the product under its own name, Realworld.

Intersoft Plus was formed two years ago with assistance from LEDU, the Small Business Agency for Northern Ireland. Planning more business package releases this year and a doubling of staff, the company is helping the drive to retain graduate programmers who often leave the province for better opportunities.

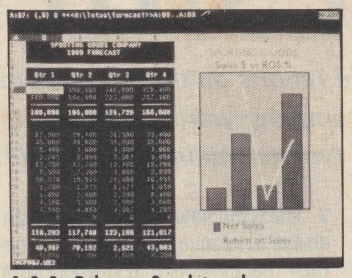
Colum Raffery, Chairman of Intersoft, has announced the Irish-American package.

Now Lotus crosses finishing line

If "WHO SHOT J.R.?" was one of the great questions of the early 1980's, then "Where the hell is Lotus 1–2–3 *Release 3*?" must be the computer industry's biggest puzzler in this latter half of the decade.

But now, the waiting is finally over, and the Lotus Development soap opera has a new star, centrestage. Release 3 of the world's most popular spreadsheet was not only launched last week but also delivered.

Offering most of the facilities already on the market in the form of *Supercalc 5* from Computer Associates, 1–2–3 Release 3 has 3-D spreadsheeting facilities and graphs that can be changed in real time on the same screen as the spreadsheet: as the numbers are changed by the user, so the representative graph changes to take account of the new numeric values.



1–2–3 Release 3: data changes are immediately reflected in the graph.

Release 3 will only work on 80286 and 80386 based PC's. It maintains the same user interface that the original Lotus 1–2–3 had in the beginning; users simply have to learn the new facilities.

The new 1–2–3 is priced at £395; Lotus is on 0753 840281.

286-priced 386 from Dell

MICHAEL DELL, the multi millionaire whizz kid who introduced his company to the U.K. in 1987 having successfully challenged IBM and Compaq in the U.S., was in London this week to unveil his latest PC.

Dell Computer Corporation has launched an expandable 16 MHz 386SX-based PC which costs less than many 286-based systems. Versions will be available to DOS and OS/2 users and it will also act as an entry-level model in the Dell range of UNIX systems.

The machine has a fast 80 nanosecond memory, a 16-bit VGA adaptor and the hard disc controller is integrated on the system board. By selling direct to the public Dell can offer a fully configured System 316 from £1,949. This price includes a 40MB hard disc and monochrome VGA graphics.

Dell's after-sales service comprises unlimited use of a technical 'hotline' and a one year, next day maintenance contract.

To extend its useful life System 316 has seven expansion slots and five peripheral bays giving a total hard disc capacity of 640MB.

For further details contact Dell on 0344 860456.

Dell's new launch is again set to unnerve market leaders.

Commodore packs punch

COMMODORE is courting the small businessman with the announcement of a bundling package for its PC10 Series 3 range of micros.

Available from July 1, each will have the Ashton-Tate *Framework 2*, a mouse and a 9-pin dot matrix printer. Prices start at £949 for a twin floppy/mono monitor configuration and £1,149 for a 40MB hard disc/mono monitor configuration. The Framework 2 integrated software package comprises a word processor, database and spreadsheet with 90-day hot-line support.

The move is presumably to rival Amstrad, which last month launched a special deal for its 2000 range of PC's. For £999 the PC2086 is available with a Lotus *Symphony* integrated package and a 24-pin dot matrix printer.

For further details of the Commodore bundle call 0628 770088.

Boot out your desktop

ISM has launched MultiDesk for the Atari ST to help users beat the annoyance of continual re-booting. Costing £29.95 including VAT, MultiDesk allows the user to run desk accessories such as a thesaurus or an address list like any other program without having to re-boot the discs separately.

Contact 0983 864674.

POPULAR COMMENT

In an extraordinary move, Commodore has decided to run its own Christmas show the week before the November Computer Shopper Show, the event that is supposed to roll the Atari, Commodore, BBC and Amstrad shows into one big pre-Christmas extravaganza of computerabilia.

The CBM event is apparently geared towards keeping a high standalone profile for the show in preparation for a mega event next summer. It will be held at the Novotel, Hammersmith, on November 17-19. Shopper runs from November 24-26 at Alexandra Palace. Commodore is hoping to tempt at least 15,000 people to the November event, and will have the added attraction of showing off its PC line in addition to Amiga and C64 products. But the big question is this: who will go to both shows? For the Shopper show to succeed on the CBM front it will need to be visited by Amiga and C64 fans, many of whom will have been to the previous week's show. CBM executives expect buyers to be willing to make two trips into London on adjacent weekends. Enthusiasts we have questioned on the matter have said that they would certainly do nothing of the kind. As usual, your input on this is welcome.

YOUR CONTACTS 01-834 1717

Editor ..... Paul Marks
News Editor ..... Michael Johnson
Production Editor ..... Dominique Coughlin
Gamesweek Editor ..... Duncan Evans
Chief Sub-editor ..... Harold Mayes MBE
Art Assistants ..... Paul Ellis, Adrian Hulf
Contributors: Technology: Kenn Garroch. Music/MIDI: Tony Sacks. Comms: Steve Gold, Malcolm Arnold. DTP: Tony Hetherington. Simulators: Lee Paddon. Arcades: John Cook. Adventure: Tony Bridge, Ken Matthews. CIA: Rik Henderson.
Advertising Manager ..... Robert Cole
Asst. Ad. Manager ..... William Saville
Display Executive ..... Nicholas Carr
Classified Manager ..... Elizabeth Solanke
Classified Executive ..... Andrew McAngus
Publisher ..... Perry Trevers
Managing Director ..... Peter Welham
Financial Director ..... Brendan McGrath
Chief Executive ..... Richard Hease

Popular Computing Weekly, Greencoat House, Francis Street, London SW1P 1DG. Telephone 01-834 1717. FAX 01-630 6165.

© PCW 1989.
ISSN 0265-0509.
Typeset by Hamilton Press. Printed by Southern Print. Distributed by SM Distribution, Streatham, London SW16. Telephone 677 811.
Subscription rates: UK £35 per year. Overseas £49.95 per year.

'MICRO-MONEY'

Now, you don't need to be a computer wizz-kid to make £100's after school, all you need is a micro.

READ ON !!! Everyone has heard of the computer wizz-kids, who make more money in their half-term holidays than their dads make in six months. How?? you're asking yourself can you make £100's for just a few hours a week.

Well it's easy, all you need is the book **'MICRO-MONEY'**, the full guide to making money on a full/part-time basis from home.

The book is partially devoted to making money, and shows you don't have to be a computer wizz-kid to make £100's a week.

It also shows you how to run your business **'PROFESSIONALLY', and how to advertise and promote it successfully, so that by the time you have left school you could be earning £25,000+, a year.**

So, if you want to make lots of money to buy that new computer, car, bike etc, then what you need is our book.

The book costs ONLY £9.49 (inc P&P), less than the price of an average computer game and just a fraction of what you could make on your first job. So why not give it a try. You're never too young to be rich.

If you want to know how this book, your micro and not much time can make you £100's then send **NOW.**

FORGET THE REST – WE'RE THE CHEAPEST AND THE BEST

.....

Please rush me my copy of 'MICRO-MONEY'.
I enclose cash or a cheque/P.O. for only £9.49 (inc. P&P) payable to: **'RECRUTE SERVICES'**
Please complete in BLOCK CAPITALS.

NAME .....

ADDRESS .....

.....POSTCODE.....

Send to **'RECRUTE SERVICES', P.O. BOX 63, SHIPLEY, W. YORKS BD17 5TJ**

Books normally sent within 24 hours

£ £ £ £ £ £ £ £ £ £ £ £ £ £

DON'T WITH 5¼ 3½ DICE DISCS

CHECK THESE PRICES FOR BRANDED VERBATIM

Genuine branded Kodak & Verbatim discs at Rock bottom prices.

Now you don't have to compromise!

5.25" VEREX Double S Double D	£5.94
5.25" VEREX Double S Quad D	£8.94
5.25" DATALIFE or KODAK 1.6 Meg	£10.94
3.5" DATALIFE or KODAK DSDD	£11.94
3.5" DATALIFE or KOKAK DSHD	£28.94

All prices per box of 10 including VAT. Orders over £39 sent CARRIAGE FREE next day delivery, elsewhere add 39p per box. First Class postage. FREE 'Filofax' 3.5" disc clip with any order for this type.

Just Phone in your VISA or ACCESS No. to:
0903 770044 orders during business hours
0903 776000 24 hour answerphone orders
0903 775656 FAX or send cheque/PO to:

DOCTOR SOFT DISC SUPPLIES, P.O. Box 66
East Preston, West Sussex BN16 2TX

Micro Mountain!!

NEW LOWER PRICES

TEL: 0525 853333
24 HOUR ORDERLINE

UNBRANDED DISKS 100% Certified & Lifetime Guarantee including sleeves, labels and WP Tabs

5¼"	D SIDE 45 TPI	PLUS DP100 DISK BOX	D SIDE 96 TPI	PLUSDP100 DISK BOX	D SIDE HD 1.6	PLUS DP100 DISK BOX
25	£8.86	£11.86	£9.49	£12.49	£27.20	£30.20
50	£14.09	£17.09	£15.09	£18.09	£43.27	£46.27
100	£26.57	£29.57	£28.46	£31.46	£81.59	£84.59
3½"	**S SIDE**	**PLUS DP080 DISK BOX**	**D SIDE 135 TPI**	**PLUS DP080 DISK BOX**	**D SIDE HD.20**	**PLUS DP080 DISK 80**
25	£20.00	£25.00	£21.13	£24.13	£52.18	£55.18
50	£38.00	£41.00	£40.85	£43.85	£100.88	£103.88
100	£73.00	£76.00	£78.89	£81.89	£194.81	£197.81

BRANDED DISKS. TOP BRANDS, BEST PRICES, SHIPPED TODAY

5¼"	3M	DYSAN	VERBATIM	STOP PRESS
	QUANTITY 10	QUANTITY 10	QUANTITY 10	MAY PRICE LIST NOW AVAILABLE, CALL FOR DETAILS
DS48	£7.49	£7.49	£7.49	
DS96	£12.99	£9.99	£11.99	
DS HD	£12.99	£11.99	£12.99	
3½"	**3M**	**DYSAN**	**VERBATIM**	**SONY**
	QUANTITY 10	QUANTITY 10	QUANTITY 10	QUANTITY 10
DS135	£13.99	£13.49	£13.49	£12.99
DSHD	£39.99	£34.99	£34.99	£29.99

HEAD CLEANING KITS 5¼" + FLUID £2.50 – 3½" + FLUID £3.50

NO HIDDEN EXTRAS
VAT INCLUDED
FREE CARRIAGE ON ALL ORDERS OVER £10.00
ALL PRODUCTS CARRY OUR NO-QUIBBLE REPLACEMENT FOR LIFE GUARANTEE

DISK BOXES

DP020	20 x 3"	£8.95
DP040	40 x 3½"	£4.95
DP080	80 x 3½"	£6.95
DP050	50 x 5¼"	£4.95
DP100	100 x 5¼"	£6.95
DP140	140 x 5¼"	£7.95

LABELS
3 1/2 x 1 7/16
TRACTOR/FRICTION
£4.99/1000

TO ORDER
TEL: 0525 853333

WE ALSO SUPPLY RIBBONS, LISTING PAPER, IBM PRINTER CABLES FROM £7.95 AND MUCH MORE.

MICRO MOUNTAIN 0525 853333 (10 lines). FAX: 0525 850485.
DATAPRO HOUSE, NORTH ST., LEIGHTON BUZZARD, BEDS LU7 7EQ.

PLEASE SUPPLY .....
.....
MY COMPUTER IS.....
I ENCLOSE CHEQUE/P.O. for £.....
OR CHARGE MY ACCESS/VISA NO. EXPIRY DATE .....

CARRIAGE £2 BUT FREE ON ALL ORDERS OVER £10

Name.....
Address.....
.....
.....
Postcode .....Daytime tel. no. ..... PCW

Contriver (Europe) Ltd

WORLD OF IDEAS

The Original **MAGIC STAGE**

FEATURES

★ Sits over the top of most keyboards, ideal for desks with a shortage of space.
★ Manufactured from high quality ABS plastic and fitted with antistatic rubberised mouse pad.
★ Incorporates stationery holder for pens, pencils, rubbers etc.
★ Incorporates ruler, scaled in cm.
★ Can be folded up when not in use.
★ Mouse Tray, to hold mouse when not in use.

RRP £11.95

Contriver (Europe) Ltd are sole UK distributors of the "MAGIC STAGE".
The original "MAGIC STAGE" is available from all good stockists.

For further information call: Tel: 0280 822803/4 – Fax: 0280 822805

C-LIGHT

– REAL TIME 3D ANIMATION –

C-Light is a complete ray tracing system for generating 3D pictures and animations for the AMIGA.

Some of the amazing effects:

- Mirror surfaces
- True shadows
- Multiple light sources
- Fisheye and telephoto lens effects
- Variety of colours
- Easy 3D scene editor for creating and changing scenes

C-Light runs on all AMIGA's and comes with an easy to use program and manual.

Price £49.95

To order send cheque/PO payable to Artronic Systems quoting items required or telephone 0423-525325 for credit card sales.

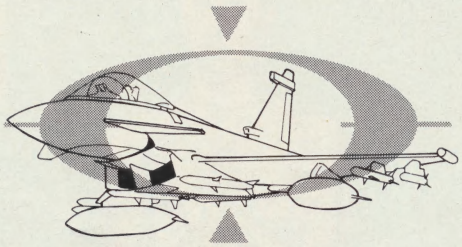
Trade enquiries welcome

ARTRONIC

1-3 Haywra Crescent, Harrogate HG1 5BG

Bombs away

Lee Paddon makes some new sightings on the flight paths.



SIMULATIONS

Throw together a refugee from Cascade flight simulation days and a bunch of 3D specialists and what do you have? An outfit called Vektor Graphics producing a flight simulator called; provisionally, *Bomber.*

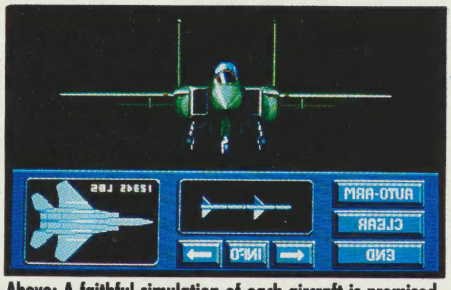
John Lewis was with publisher Cascade when it produced the very popular *Air Combat Emulator* series. The pedigree on the programming side of Vektor is from Andy Craven and chums who were responsible for *Star Wars* from Domark.

Bomber seeks to simulate a variety of multi-role strike aircraft, including the Tornado IDS, F-15 Strike Eagle, F-4 Phantom, F-111 Aardvark, Saab Viggen and the MiG 27 Flogger. It is good to see the Tornado finally on the simulator scene. As the most important aircraft in Western European inventories at the moment, it is long overdue for the treatment.

As Vektor is the first to point out, many other flight simulators, such as *Chuck Yeager,* claim to offer a variety of aircraft but, in fact, contain only superficial differences. A prime example of this was the EA *Interceptor,* where the differences between the F/A-18 and F-16 were minimal. Since the similarity of the simulator to the real thing was superficial anyway, it scarcely mattered.

In *Bomber,* it is claimed, the differences between all these vastly different aircraft will be reproduced faithfully. There will even be a list of no fewer than 14 aircraft against which to fly.

The *Bomber's* Head Up Display... Up, up and away.



Above: A faithful simulation of each aircraft is promised. Below: Coming at you. Choose your weapons.

Apparently the idea is to stage the Curtis E Le May Trophy on your micro. The competition is organised by the USAF Strategic Air Command which invites the world's air forces – the friendly ones – to demonstrate the accuracy of their strike bombing. Strike bombing is Pentagon language for what my defence editor at *Flight* used to call "chucking the bucket of sunshine at Smolensk" – in other words nuking.

If I remember correctly, a few years ago the RAF won the trophy with Vulcans. Judging by the inability of that type to hit Stanley airstrip during the Falklands conflict it does not say much for the remainder. I suppose it might make the inhabitants of Smolensk sleep a little easier, safe in the knowledge that the farmers in the neighbouring collectives would probably cop it instead of them.

This game and EA/Argonaut *F-117A Aggressor* emphasise the way fast 3D can allow many complex objects to be plotted on the screen at the same time without sacrificing speed. I hope with both these games that the programmers realise that there is more to a first-class flight simulation than pretty graphics.

Another simulator which appears to be pushing the speed of its graphics is *Jetfighter: The Adventure* from, appropriately enough, the Velocity Development Corporation. I know nothing about the game other than it claims to be four times faster than *Falcon AT* in terms of frames of animation. The publicity material claims that John C. Dvorak says it is "the ultimate flight simulator" and it appears to be our old friend the F-14; it is on the IBM PC only and costs £40.

Something about which I know is *Gunship* from Microprose on the Amiga. It costs £24.95 and is the game we all know and love. There is little in the way of enhancements for the Amiga owner, despite the long wait.

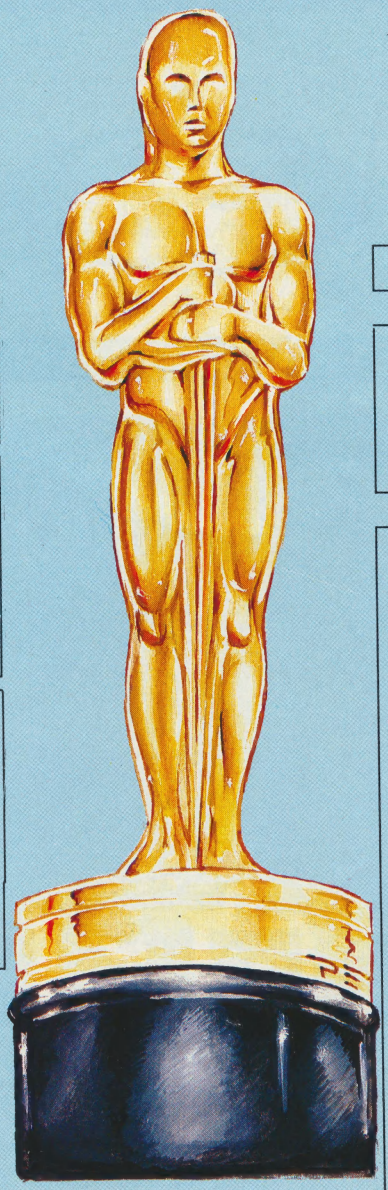
There is certainly nothing wrong with the Amiga conversion and Gunship is a fine game. In many ways it was the first of the new wave of flight simulators which addressed the problem "I am up here, give me something reasonably challenging to do".

Hot on its heels will be the Amiga conversion of *F-16 Combat Pilot.* While Dave Marshall takes a well-earned furlough at DI, Rod Swift and company are still hard at work, with the conversion due in a month or so, followed reasonably closely by the C64 version. I have now made it as far as the third squadron – the Ghostriders – in Combat Pilot, so by next time I might put my thoughts together and provide a few playing tips. Any tips from readers, of course, are always welcome. □

SOFTWARE CLUB INTERNATIONAL

WHY PAY MORE FOR LESS

SUBSCRIBE NOW FOR AWARD WINNING SOFTWARE



Now for the first time in Europe – the opportunity to enjoy the benefits of the ultimate in Software Club membership

Joining SCI could not be easier. The annual membership fee is just £10 and new members will receive 5 × 5¼″ discs or 3 × 3½″ discs containing up to 20 quality Shareware programs. All programs are supplied in compressed format on either 5¼″ or 3½″ discs.

Each month our members receive up to 20 newly released shareware titles carefully selected from around the world by our experts for:

5¼″ — £5.95 per month
3½″ — £7.95 per month

Fully inclusive of VAT & P & P

Available for:
MS DOS Atari ST Amiga Macintosh

If not 100% satisfied, you can terminate the agreement at any time!

A NEW SERVICE IN SHAREWARE.

With over 12,000 delighted subscribers in the U.S.A. in less than 8 months, we know we've got the balance right!

SPECIAL: FOR MEMBERS ONLY

BLANK DISKETTES

HIGH QUALITY BULK

HIGH CLIP

LIFETIME WARRANTY

MINIMUM QUANTITY 50

5.25″ DS/DD 48TPI
25p each = £12.50

MINIMUM QUANTITY 25

3.5″ DS/DD 135TPI
79p each = £19.75

SEND TO: SOFTWARE CLUB INTERNATIONAL, 17 SHIRLEY LODGE, 470 LONDON ROAD, LANGLEY, BERKS SL3 3QY POP6

COMPUTER: ☐ PC ☐ ATARI ST ☐ AMIGA ☐ MACINTOSH DISC: ☐ 5¼″ ☐ 3½″

AS A MEMBER OF SCI, I WILL RECEIVE 10/20 PROGRAMS PER MONTH FOR THE NEXT 12 MONTHS.

I AUTHORISE SCI TO DEBIT MY CREDIT CARD EACH MONTH UNTIL FURTHER NOTICE. I CAN CANCEL MY SUBSCRIPTION AT ANY TIME BY GIVING ONE MONTH'S NOTICE IN WRITING. MEMBERSHIP FEE: £10.00

MONTHLY 5¼″ — £5.95, 3½″ — £7.95

NAME:_____ ADDRESS:_____

CREDIT CARD: ☐ VISA ☐ ACCESS ☐ DINERS CLUB ☐ AMEX CARD No._____

EXP.DATE:_____

SIGNED:_____ DATE:_____

BLANK DISKETTES QUANTITY	PRODUCT	PRICE EACH	TOTAL
_____	50 5¼″ DISKETTES	£12.50	_____
_____	25 3½″ DISKETTES	£19.75	_____
TOTAL:			£_____

CHEQUES AND POSTAL ORDERS PAYABLE TO SOFTWARE CLUB INTERNATIONAL (CHEQUES ACCEPTED ONLY FOR BLANK DISKETTES. MEMBERSHIP FEES AND MONTHLY CHARGES PAYABLE ONLY BY CREDIT CARD).

Weather eye

The poor old retailer in recent weeks has been threatened by many changes in attitude in the computer industry. First, a reduction of the distribution discount rate and now an Atari bundle that is so good people are not buying any more computer games. Let us consider several points for more far-reaching effects.

This is typically the slow selling part in the year and low sales are part of the cycle. The continuing increase in interest rates probably effects the southern-based shops more than the northern counterparts. I would like to hear from owners in both areas to compare differences.

Typical arguments at Christmas are that too many titles are released at once and effective yearly sales are ruined. For the rest of the year any reasonable releases are few and far between. The recent hot weather in the U.K. is bound to deter people from using computers while the sun is shining long into the evenings.

The increased competition of some reputable direct-mail firms is pushing prices down. Increasing competition from other high street sources like W. H. Smith and Boots must make it more difficult, especially since the likes of them have dropped hardware sales in favour of the more profitable side, software. Who are the small retailers kidding? It is just sour grapes because things are not too hot. Wait until Christmas and computer sales are boosted. With the added incentive of 20 games thrown in, you will hear no complaint then.

Everyone has different tastes and not all of us are alien blasters. Word processors, strategy games and some other utilities are bound to sell. I believe a selection of bundles should be available from which to choose. This entails many problems for many people concerned and therefore they see it as unpracticable. Perhaps the bundle should have more variety, although the emphasis should still be on entertainment.

Do the retailers really believe there will be no future big name attractions? Most of those titles are six months old. It is only giving the best taste of what is to come. That is where you will make your future fast bucks, especially at Christmas. All the bundle does is delay the initial buying spree until the punter is fed up with all those games.

I believe the companies which release such titles do so because sales are falling and that rather than boring the socks off us with re-re-released and combined budget releases they give it away with the machines. They only get £1 or so from Atari and are surely cutting their own throats, if what the retailers say is true. We do not hear them complain; they believe in the future machine sales. Good for Atari and the software houses which have joined in full co-operation; they see the future in such a ploy. Retailers should get wise to what is really happening.

On another matter, a brief comment on the rallying popularity and belief in consoles. Are we really expected to believe that people will buy them? Cartridge games are bound to be at the £20 plus mark and a short time ago people were complaining about prices on the ST and Amiga being as high as they are. Will the companies involved in selling consoles be able to throw in 20 cartridges? I think not.

The conventional computer manufacturers' best challenge against console introduction is the policy already present. Profit margins for retailers on cartridges will be strict and some restrictions on licenses, sound like a giant monopolising move to stop prices being reduced. I see consoles failing from the start in the U.K., and buyers should wait and see. I hope retailers persuade customers to buy more conventional machines.

Simon Rush,
Fast ST Users Group,
Rayleigh,
Essex.

STAR LETTER

Sunburnt

My thanks to Kenn Garroch for his answers to my questions.

As regards erasing an EPROM in the sun, it appears that it is not, after all, possible. Despite open skies and our local ozone depletion, several hours of irradiation would not do it.

I tried wiping the EPROM with a 300-watt ultra-violet light – a real zinger, 30 minutes at 5cm. I enclose the molten remnants of the EPROM cartridge for your interest.

It was something of a surprise to find that the EPROM chip was still working. Further, it had retained all its files. I gave it another hour at 30cm but the files remained intact. Thus I can say with a measure of confidence that the only way to wipe a Z-88 EPROM is with the Cambridge Computers EPROM Eraser.

Is it possible to give the Z88 password protection from Basic? I imagine it would be possible by first disabling the ESC, INDEX, and SQUARE keys. Disabling ESC would be straightforward – ON ERROR IF ERR=17 THEN but how would one go about disabling the other two?

Rev. Thomas Scarborough,
Port Elizabeth,
South Africa.

User group launch

For many years it has been commonplace for there to be user groups for computers. My effort, ZX Broadsheet, was one of the early groups for the ZX 80 and ZX 81 and during its four years of existence I made many friends all over the world.

As the founder of the first U.K. printer ribbon re-inking service, which I started three years ago, I have become very conscious of many of the problems and pitfalls involved with using computer printers. I think there is now a real need for a user group to be concerned not so much with computers but with that important peripheral the printer. I hope to start such a group and that by publishing this letter you will help make this ambition a reality.

I have provisionally selected the name 'Write-on-Line' as a title, but it can still be changed if it does not prove popular. The aims would be to promote the interests of members and to share information about printer-related products and expertise on how to make the best use of printers.

Activities I envisage would include some form of regular communication between members, probably by means of a newsletter, meetings, and perhaps such things as chain-letters – not the financial kind – an advice hotline and skills exchange, a printer swap-shop, and doubtless other facilities and ventures as required by the membership.

Interested printer users should write to: Write-On-Line, c/o Nick Godwin, 4 Hurkur Crescent, Eyemouth, Berwickshire TD14 5AP, enclosing an A4 SAE, and tell me the printer they have.

Nick Godwin,
Berwickshire.

Sheer artistry

Judging from the discussion about the relative merits of the new Acorn 3000 and the Amiga 500, together with your excellent run-down of the hugh bundle of tricks you get with the cheaper Amiga, I am glad I own one. It continues to provide a great deal of interest and scope for artistic expression.

It might interest other readers who bought the first issue of *GFA Basic v.3.0* to know that an upgrade is now available from one of the best agents for GFA products, *GFA User Magazine*, 186 Holland Street, Crewe, Cheshire.

It is necessary to send only the original disc with your enquiry or at least some proof that you are a registered user of GFA Basic. It is also good to have a specialist magazine like this being produced by its editor, Barrie Capel, and sub editor John Peters. The range of GFA products deserves it. The current rest of year subscription is only £8 and for anyone who needs full support for this very full basic and other products it can be highly recommended.

One pleasant surprise in the latest GFA V3.04E is the Paint program. I would love to know what some of the drop-down menu words really mean in English. Under Spezial we get "Zeichenfarbe, Hintergrundfarbe, and Muster". Under Polyline, "Einlesen, Abspeichern, Loschen".

All the same I agree with Kenn Garroch – I would like an Acorn 3000, too.

John Gray,
Eastbourne.

"Once upon a time there was an advertisement for a home computer."

NEEDFORWARD LTD

Tel: 0242 227745/519312

Shareware... Maintenance/Repair... Programming... Technical Writing...
...Hardware... ...Software... Components... Office Supplies/Furniture....

HIGH QUALITY BLANK DISKS
5¼" = 10–£5. 20–£9. 50–£20. 100–£37. 500–£165.
3½" = 10–£10. 20–£17. 50–£40. 100–£78. 500–£380.
All disks have been tested, and checked virus free.
5¼" disks £2.00. 3½" disks £3.00

BUSINESS
Freeway Payroll • Freeway Cashbook
Lightyear – a business optimiser system
PC Mail
Bibliography of Business Ethics and Morals
Front Office • Mass Appeal
Form Generator plus label print programme

LANGUAGES
Small C
Modular 2 Compiler V2 OA
Modular 2 tutor • Pascal tutor
Lisp-Xlisp • PD Prolog
Mystic Pascal
A86/D86 8080 macro assembler plus debugger

COMMERCIAL PACKAGE SUPPORT UTILITIES
Wordstar – aids to improve usage
DBase III – screen generator, utilities, fact copy
Printmaster – includes > 100 pictures
Printmaster Icons, 2 disks of 2000 PM icons
1–2–3 – 23 financial works files with macrons

EDUCATIONAL
Fastype typing tutor
French tutor • German tutor
Flash Cards
Secondary School – range of subjects

GAMES
Dungeon/Dragons • PC Chess
Scrabble • Arcade
Pinball • Startrek

INTERESTS
Yale star catalogue – 3 disk technical database incl. bright stars
Family History – 2 disk on genealogy
NEC database – 2 disk elect. ref. for design eng.
Astrology/Horoscope • Planets
Electronics – filter design, multivibrators etc.

PLUS HUNDREDS MORE
Our own package, ForePack is now on sale, it includes:
Foreword – Menu driven Wordprocessor
Calc – Spreadsheet • Talk – Comms
User – Information Organiser/Calendar
Base – Database • Disk – Disk Management.
ForePack – features individual and system macros, virus recognition, mouse/kbrd driven, pull down menus, complete on screen help.
You don't need any other package. Sold individually, in sets, or as Pack.
£30 (ea), £49 (2), £89 (4), £129 (6).
BORLAND Turbo Lightning, Spell checker (80,000 wd) £60.
Sold with any of ForePack at £43

HAVE YOU GOT YOUR SUMS RIGHT?
Break the price barrier
PB1–Commodore Amiga 500, Disk Drive and Modulator
RRP £399.99 – Our price **£360**
PB2–Four Games, Photon Paint and Joystick
RRP £179.80 – Our price **£44.50**
PB3–Ten Games, Photon Paint and Joystick
RRP £304.40 – Our price **£82.50**
PB4–PB1 + PB2, total RRP £579.79
Our price **£385.50. You Save £229.04**
PB5–PB1 + PB3, total RRP £704.39
Our price **£399. You Save £305.39**

All cheques/P.O's made payable to:

NEEDFORWARD LTD (Dept CE)
52 Pensylvania Avenue, Hesters Way, Cheltenham OL51 7JP

Please add £1.50 P&P to all orders

Subscription to ForeGroup, a user group which entitles you large discounts on all disks and providers a bi-monthly magazine which gives news and reviews on Shareware, Public Domain, Hardware, Technical Problems, plus a competition on every issue. Annual membership £13.50.

ONCE BYTTEN®

"THE TRADE-IN POST"

59 Swanley Road, Welling, Kent DA16 1LL
Tel: 01-304 2631 Telex: 94070538-ONCE G

HARD TIMES!
New low price Hard Drives for Amiga and PC

AMIGA A500

Commodore A590 20Mb +2Mb RAM (Unpopulated)	£399.00
Amdrive 30Mb 28ms	£399.00
Amdrive 50Mb	£475.00
Vortex 40Mb (Interchangeable Interface) Amiga	£550.00
Impact Autoboot 30Mb + 2Mb RAM (Unpopulated)	£525.00

AMIGA A2000

GVP Hard Cards (Autobooting with 1.3) SCSI Controller and Hard Drive on one slot-in card	
30Mb Impact 40ms	£499.00
40Mb Impact 28ms	£549.00
40Mb Quantum 19ms	£629.00
80Mb Quantum 19ms	£899.00
Removable Hard Disc	
GVP/Syquest 44Mb removable Hard Disc (Autobooting)	£750.00
44Mb Cartridges	£89.00
SCSI Controller/RAM cards from	£219.00

SOFTWARE

B.A.D. Disc Optimiser – for Hard or Floppy Discs	£32.50
Superback – Backup Utility for Hard Drives	£39.95
DeLuxe Paint III	£59.95
X-Cad Designer	£82.50
X-Copy	£19.95

DISCS

Unbranded MAXELL 3½" DSDD 135 TPI Bulk Packed Discs. Made in Japan. With labels. Fully guaranteed for life. Why buy unknown makes? Buy quality.
10 boxed...£10.95. 10...£9.90. 25...£22.95.
50...£43.50. 100...£84.50. 200...£160. 400...£310.
Unbranded ATHANA 5¼" DSDD 96 TPI Bulk Packed Discs. Made in U.S.A. with sleeves and labels. Fully Guaranteed for life.
25...£9.95. 50...£18.50. 100...£32. 250...£75.
500...£144. 1000...£275.

IBM PC AND COMPATIBLES

Western Digital File Cards	
20Mb	£225.00
30Mb	£249.00
Seagate Hard Drives (SCSI versions also available)	
5¼" Half Height	
ST238RP 20Mb 70ms RLL (Inc. Controller)	£199.95
ST225 20Mb 65ms MFM	£169.00
ST251 40Mb 40ms MFM	£290.00
ST277R 65Mb 40ms RLL	£385.00
5¼" Full Height	
ST4096 80Mb 28ms MFM	£520.00
ST144R 122Mb 28ms RLL	£635.00
3½" Half Height	
ST125–1 20Mb 28ms MFM	£235.00
ST138R–0 30Mb 40ms RLL	£220.00
ST157R–0 49Mb 40ms RLL	£350.00

WESTERN DIGITAL CONTROLLERS

WX1 MFM for XT ST506	£45.00
MM1 MFM for AT ST506 2:1 Interleave	£79.00
MM12 MFM for AT ST506 1:1 Interleave	£95.00
27X RLL for XT ST506	£47.50
SR1 RLL for AT ST506 2:1 Interleave	£95.00
SR12 RLL for AT ST506 1:1 Interleave	£109.00

SECONDHAND

Commodore 128 boxed with manuals	£129.00
Opus Discovery D/Drive boxed	£79.00
Apricot F1 + Monitor and Software	£199.00
Atari 520ST–FM boxed. As new	£175.00
Atari Mega ST 4Mb boxed. Superb	£799.00
Zenith Supersport 184 2XFDD and case	£695.00
Amstrad PCW 9512 boxed. As new	£350.00
Borland Turbo C 5¼" PC	£50.00
Ventura 5¼" PC	£195.00
Professional Page – Amiga	£95.00
Spectrum +3 boxed. As new	£99.00

We are always interested in purchasing quality equipment for cash
All the prices in this advert include VAT at 15%

Please Note: Many of these offers are in limited quantity so please ring first.

Part Exchange - We are part exchange specialists. For a realistic quote please ring or write. We also buy equipment for cash.

Pease note – All the above prices include VAT. Carriage is free on discs/disc drives and small accessories. Carriage for printers and computers is £5. Carriage for monitors (with or without computer) is £10.

We welcome - Official orders from schools, universities, hospitals, medical schools and government departments. Quantity discounts always available and export enquiries are dealt with speedily.

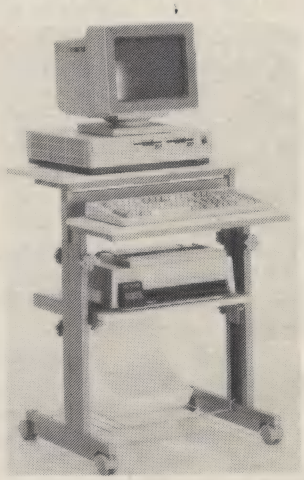
Write to: **59 SWANLEY RD, WELLING, KENT DA16 1LL or tel: 01-304 2631**
Cheques to AMTEN Limited. Callers welcome but please phone first. We are open Mon-Sat 9am to 10pm

DESKING Three

our NEW compact and ergonomic PC Workstation

Organising a PC is not easy. Either it takes over your desk or you just don't have enough space for everything. DESKING Three will take your PC Printer & Paper in one mobile compact unit packed with ergonomic and safety features.

- Keyboard VDU & Printer all independently height adjustable
- Roll-out keyboard for comfort
- Printer slides out for easy access
- Paper tray & catcher
- Cable tidy system
- Lockable castors



DESKING Three is finished in dual-tone satin grey to match your PC and will usually be delivered directly to you within 48hrs at our special price of just

£129 + VAT (£148.35 inclusive)

Delivery applies to mainland UK, other locations by agreement.

ORDERING: CALL OUR 24 hour HOTLINE NOW
0993-883277

PLC GOV'T EDUCATIONAL & DEALER ORDERS WELCOME OR SEND PAYMENT TO:
Fax 0993-883333
State make and model of hardware

COMPUTING Plus
Rookery Court Church Hanborough
Oxford OX7 2AB 0993-881912

A FULL RANGE OF COMPUTER FURNITURE & ACCESSORIES IS SHOWN IN OUR CATALOGUE WHICH IS AVAILABLE FREE UPON REQUEST

The beat goes on

Malcolm Arnold defends Heartbeat, the bulletin board for the deaf

As reported in *Popular's* News pages last week, *Heartbeat* – Reading's bulletin board for the deaf – has been attacked in the July issue of *BBC Acorn User.*

The board has been set up with the intention of supporting disabled members of the Online Community. It also works to break down communication barriers between the deaf (at whom it was most specifically aimed) and hearing users – an area to which Comms is particularly suited.

Yet this community service-minded BB has been slammed as a pornographic board by Christina Neal, in the July '89 issue of *BBC Acorn User.*

The article quotes sysops from both Microview (highlighted in the March 16, 1989 issue of *Popular Computing Weekly*) and CCL4 – the other two BBs cited – but no opportunity for defence was given to Heartbeat's sysops. It is my intention to attempt to redress the balance . . .

At around one this morning, I had a long on-line chat whith the board's sysop, Susan Wearing. 'Voice' would have been quicker, true, but she is deaf. Chat Mode is as close as she will ever get to telephone contact. And from this position of insight, she feels well qualified to design and run a service which tries to help deaf users stay in touch. Heartbeat is called an "erotic bulletin board," in the AU article, but, as co-sysop Ian Baldock told me, "The article does not give a true picture of what Heartbeat is for. The Adult area is a very small part." Other areas include news for the disabled, and an interface with agencies such as the Police and Social Services. It also provides an equal-terms medium for deaf and hearing users.

At the time of my log-on, the Adult CUG had been suspended pending legal advice from Heartbeat's solicitor. However, in my capacity as Comms Columnist, I was granted temporary access. The area – as far as I could see – had no textfile storage. This was not some on-line erotic treasure trove – some database of titillating downloadables. Instead it was merely a message area where *registered*, adult users could openly discuss sexual matters. As Wearing underlined throughout our conversation, "It is no more explicit than adult material openly on sale in newsagents. It has been said that they are always kept on the top shelf, but there are some pretty tall sixteen year olds!" According to Wearing and Baldock, Heartbeat is as careful as possible over checking the details submitted by applicants for access to the Adult CUG. Access is only granted after written application confirming the applicant to be over eighteen. Yet the AU article states: "erotic bulletin boards like . . . Heartbeat make little or no effort to check out ages of potential new members."

I asked Christina Neal why she had presented Heartbeat in this light. She told me she felt her article was justified in revealing to readers, "that erotic bulletin boards can be accessed by young children." She emphasised that she had purposely left out the fact that Susan Wearing was deaf so that the article could not be misinterpreted. "It was not an attack on the deaf people's right to communicate." It was true that she had 'voice' contact with Heartbeat representatives between the article being written, and its appearance in the July issue of AU; but she could not have given right of reply at that point as one article was already past the layout stage. It was too late to alter it to include comment from Heartbeat.

How had she gained access to the CUG? "I played around with the system," she said. "Do you mean you hacked it?" I asked. "Yes," was her reply.

Until this point it had appeared to me that Ms. Neal has been allowed to see the CUG on Comms journalist, David Janda's password. This had been granted without written application because both Baldock and Wearing knew Janda from conversations on Prestel. Indeed the screen shot accompanying Ms. Neal's article gives the prompt, "What next David?" There is no record of access by a Christina Neal in the board's activity log, which shows all remote entries to the BB via the modem. Other attempts to hack the sysop's account had been recorded as having failed, suggesting an 'invisible' remote hack to be impossible.

I talked to Iqbal Sadiq: who is co-sysop of the Bradford BBS with Sarfaraz Hussain, the writer of Heartbeat's software, SAFBBS. In his opinion such an illicit entry was inconceivable. "In the four years of the Bradford BBS, I have never heard of anyone getting down to system level," he said. "Even if a hacker *did* get into Basic, it would be in the activity log."

The question of the purported hack is important on two scores. (1) How can the allegation be levelled that children have easy access to the CUG – and that Heartbeat does not attempt to verify age – if Ms. Neal's access negated the board's normal security, and no opportunity was given to the sysops to verify details? (2) If the hack did not actually take place, how can the same allegation be levelled when access has been granted to a *known adult.*

The article cites such luminaries as the Comms user's favourite MP, Emma Nicholson, and Superintendent Les Bennett of New Scotland Yard's Obscene Publications Unit. The latter was quoted to have said that he would, "discourage anyone from trying to get into these kind of bulletin boards from both a moral and legal point of view." Since then he has said that he was making a generalised statement, and did not even know of the existence of Heartbeat – or indeed the other two boards – let alone anything about their content!

Ms. Neal stands by her definition of Heartbeat as an "erotic bulletin board". Conversely I would define it as a BB with a *closed* adult area. Because – for example – Channel 4 may have explicit scenes in some of the films it runs, does that mean it can be defined as an erotic television channel?

The article also states that, "To join Heartbeat potential members must complte an on-line application form giving . . . sexual preferences." This is untrue. One registers for the BB in the normal way with details like address and telephone number.

Robin, a disabled user of the CUG, called me to defend Heartbeat. He suffers from severe Muscular Dystrophy, and told me how surprised and pleased he had been to discover the CUG. He explained that many disabled people have been conditioned to expect little or nothing in terms of emotional involvement and sexual relationships. The result is a deep sense of isolation. Who could they talk to about something so personal? Who would understand their special situation? The CUG meant a great deal to him, and he was sad to see it so misunderstood and maligned.

After taking legal advice, Wearing and Baldock have set up a fund to cover legal costs and intend to sue *Acorn User.* Their solicitor has already made representation to the Press Council, and there has been interest from advisers active in the field of Civil Liberties. In the meantime the BB will continue to provide its service as normally as possible – and even the Adult CUG has been reinstated.

It is always possible that I have got it all wrong. It is possible that Heartbeat is an irresponsible corrupter of children and exploiter of the disabled. But it appears AU got it wrong, and the board deserves to be seen in its wider context: as one of those BB gems where the medium is not the main message. The message is something much more important.

Log onto Heartbeat on 0734 352032 – Viewdata and V21/23 and reverse V23 scrolling – 24hrs.

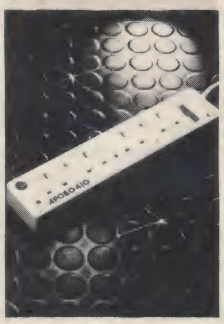
Contact me on The Owl Service – 0532 605876 – V21/23 – 24hrs, or via Prestel MBX: 011112661.

Malcolm Arnold

POPULAR COMPUTING WEEKLY

THE POWER TO PROTECT

The effect of a major electrical event, such as a lightning strike, on sensitive computer equipment is commonly known, however, even relatively small surges or 'spikes' caused by a wide variety of commonplace electrical appliances can corrupt data or even damage hardware.
Bowthorpe EMP Ltd are leading specialists in the field of clean power and, in conjunction with their experts, we have selected three of their products which will give you the fullest possible protection for your equipment and data — at home or work.
For inexpensive protection against surges and spikes we are offering the single plug at £11.95, ideal for combination units or the four-socket strip at only £16.95.
Apart from the problems of other electrical equipment interfering with your computer — you also have the problem of your computer interfering with other electrical equipment!
For example, emergency services radio transmissions of the VHF/FM waves bands.
EEC regulations, now in the pipeline, will insist on high standards of suppression and the Bowthorpe Filter adapter at £29.95 has been chosen by us to get you ahead of the game.
Like all our offers to readers, its price is INCLUSIVE of delivery to the U.K. Mainland and V.A.T. at the current rate.
To take advantage of this special offer of three very useful and potentially valuable devices please fill in the attached coupon and return it to us.



To: 'Popular Computing Weekly' Electrical Protection Offer,
Focus Magazines, Greencoat House,
Francis Street, London, SW1 1DG.
Please send me ..... Surge Protector Plug(s) @ £11.95 each.
Please send me ..... Four Socket Strip(s) @ £16.95 each.
Please send me ..... Filter Adapter(s) @ £29.95 each.
Total paid: .....
Name: .....
Address: .....
Payment: Credit Card — Visa/Access/Mastercard/Eurocard Expires: ___/___
Card No.: □□□□ □□□□ □□□□ □□□□
Cheques: Payable to Avralite Ltd.
Please allow 28 days for delivery. Offer closes 30th. September, 1989. Offer applies to U.K. only, cost of delivery Overseas on application.

POPULAR COMPUTING WEEKLY

GIVE IT A PLUG

State of the Art technology is everywhere these days — at home, in the office and, more than anywhere, at your computer work-station. Usually it all works fine until somebody pulls the plug! The more you rely on these devices, the more devastating such a simple mistake can be.

The best solution is the simple one and the INDENTIPLUG is just that.

An ingenious, neat way of avoiding an office or domestic crisis! — the loss of patiently-keyed data that has taken all day to input, or the agony of having to reprogramme the video recorder.

The Identiplug fits neatly over the standard three-pin plug, clearly identifying the device to which power is being supplied.

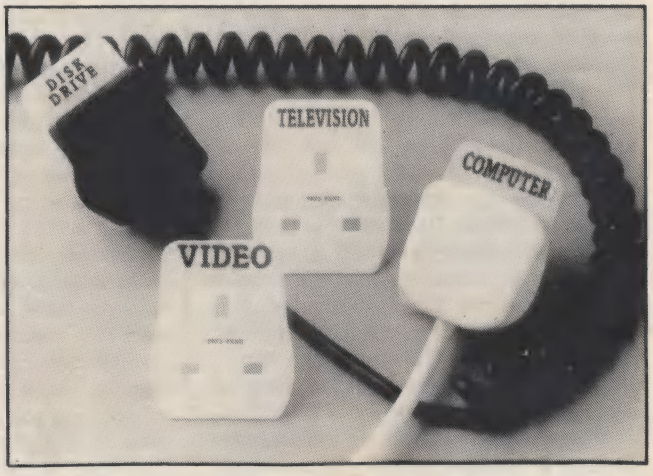
Available in three versions:

★ PACK A — Standard white label with red text.

★ PACK B — Yellow label with black text for extra readability in those dark corners, or for users with poor eyesight.

★ PACK C — Yellow label with black text and braille imprint.

Our offer to readers, priced at only £4.95 is a carefully selected pack of 15 labels comprising COMPUTER, PRINTER, DISK DRIVE, VIDEO, TV, RADIO, CLOCK RADIO, LAMP, KETTLE, FRIDGE-FREEZER, TOASTER and IRON. In addition we supply three blank labels for use with the appliances that you need to protect most.



To: Avralite Reader Offers, Focus Magazines, Greencoat House, Francis Street, London SW1P 1DG.

Please supply:

..... pack(s) of standard IDENTIPLUG labels at £4.95 each

..... pack(s) of yellow IDENTIPLUG labels at £4.95 each

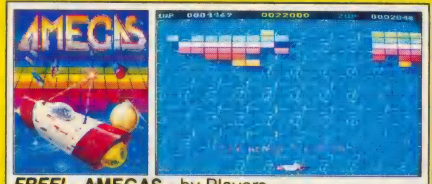
..... pack(s) of braille IDENTIPLUG labels at £4.95 each

For overseas orders please add £2

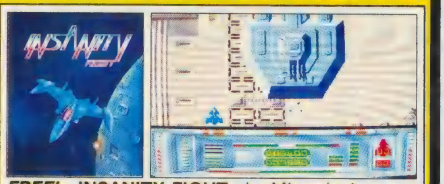
Total paid: .....

Name: .....
Address: .....
.....
Payment: Credit Card – Visa/Access/Mastercard/Eurocard
Expires: / /
Card No: □□□□ □□□□ □□□□ □□□□
Signature: .....
Cheques: Payable to Avralite Ltd
Please allow 28 days for delivery.
Offer closes 30th September, 1989.

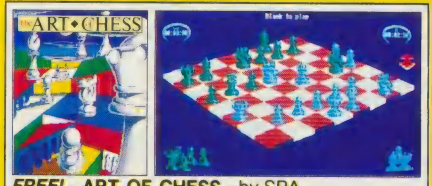
FREE! TENSTAR PACK WORTH OVER £229!



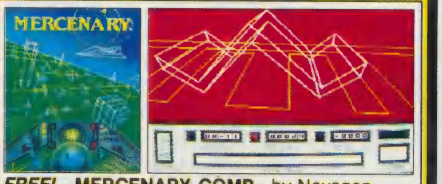
FREE! - AMEGAS - by Players



FREE! - INSANITY FIGHT - by Microdeal



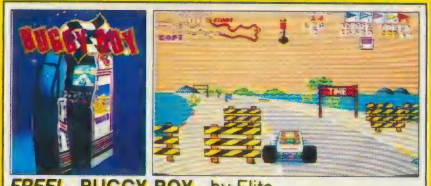
FREE! - ART OF CHESS - by SPA



FREE! - MERCENARY COMP - by Novagen

FREE! - BARBARIAN, ULT WARRIOR - by Palace

FREE! - TERRORPODS - by Psygnosis



FREE! - BUGGY BOY - by Elite

FREE! - THUNDERCATS - by Elite

FREE! - IKARI WARRIORS - by Elite

FREE! - WIZBALL - by Ocean

Commodore AMIGA

£346.95 +VAT= **£399** INCLUDES FREE UK DELIVERY

The Amiga 500 is one of a new breed of technologically advanced computers, which are now emerging as the new standard for home computing, based around the new Motorola 68000 chip. The A500 has 512K RAM and a 1Mbyte double sided disk drive built-in. It can be connected directly to a wide range of monitors, or to a domestic TV set through a TV modulator. Designed with the user in mind, the A500 features a user friendly WIMP environment and comes supplied with a free mouse. And, when you buy your Amiga from Silica Shop, the UK's No1 Amiga specialists, you will experience an after sales service that is second to none, including a technical support helpline and free newsletters and price lists. Return the coupon below for our current information pack, which will give details of the Silica service and the very latest Silica Amiga offers. E&OE.

WHY SILICA SHOP?

Before you decide when to buy your new Commodore Amiga computer, we suggest you consider very carefully WHERE you buy it. There are MANY companies who can offer you a computer, a few peripherals and the top ten selling titles. There are FEWER companies who can offer a wide range of products for your computer as well as expert advice and help when you need it. There is ONLY ONE company who can provide the largest range of Amiga related products in the UK, a full time Amiga specialist technical helpline and in-depth after sales support, including free newsletters and brochures delivered to your door for as long as you require after you purchase your computer. That one company is Silica Shop. We have been established in the home computer field for ten years and can now claim to meet our customers' requirements with an accuracy and understanding which is second to none. Here are just some of the things we can offer you:

THE FULL STOCK RANGE: The largest range of Amiga related peripherals, accessories, books and software in the UK.

AFTER SALES SUPPORT: The staff at Silica Shop are dedicated to help you to get the best from your Amiga.

FREE NEWSLETTERS: Mailed direct to your home as soon as we print them, featuring offers and latest releases.

FREE OVERNIGHT DELIVERY: On all hardware orders shipped to Silica Shop customers within the UK mainland.

PRICE MATCH PROMISE: We will normally match our competitors offers on a 'same product same price' basis.

FREE TECHNICAL HELPLINE: Full time team of Amiga technical experts to help you with your technical queries.

But don't just take our word for it. Complete and return the coupon below for our latest Amiga literature and begin to experience the Silica Shop specialist Amiga service.

PHOTON PAINT PACK

A500 Computer	£399.99
TV Modulator	£24.99
Photon Paint	£69.95
TenStar Pack	£229.50
TOTAL RRP:	£724.43
LESS DISCOUNT:	£325.43
PACK PRICE INC VAT:	**£399**

1084S MONITOR PACK

A500 Computer	£399.99
1084S Colour Monitor	£299.99
Photon Paint	£69.95
TenStar Pack	£229.50
TOTAL RRP:	£999.43
LESS DISCOUNT:	£350.43
PACK PRICE INC VAT:	**£649**

FREE FROM SILICA

When you buy the Amiga 500 from Silica Shop, you will not only get a high power, value for money computer, we will also give you some spectacular free gifts. First of all, we are now including a TV modulator with every A500 stand alone keyboard, so you can plug your Amiga straight into your TV at home (the modulator is not included with the A500+A1084S pack as it is not required for use with monitors). Secondly, we have added a free copy of Photon Paint, an advanced graphics package with an RRP of £69.95. Last (and by no means least!), so that you can be up and running straight away, we are giving away the sensational TENSTAR GAMES PACK with every A500 purchased at Silica Shop. This pack features ten top Amiga titles which have a combined RRP of nearly £230! Return the coupon for details.

FREE TENSTAR PACK

When you buy your Amiga 500 from Silica Shop, we want to make sure you get the best deal possible. That is why we are giving away the TENSTAR GAMES PACK worth nearly £230, absolutely FREE with every A500 purchased from us. The TenStar Games Pack includes ten titles for the A500, each individually packaged in its own casing with instructions.

Amegas	£14.95
Art Of Chess	£24.95
Barbarian, Ult Warrior	£19.95
Buggy Boy	£24.95
Ikari Warriors	£24.95
Insanity Fight	£24.95
Mercenary Comp	£19.95
Terrorpods	£24.95
Thundercats	£24.95
Wizball	£24.95
	£229.50

TOTAL RRP: £229.50 INC VAT

DO YOU OWN AN AMIGA?

If you already own an Amiga computer and would like to be registered on our mailing list as an Amiga user, let us know. We will be pleased to send you copies of our price lists and newsletters FREE OF CHARGE as they become available. Complete the coupon and return it to our Sidcup branch and begin experiencing a specialist Amiga service that is second to none.

SILICA SHOP:

SIDCUP (& Mail Order) 01-309 1111
1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX
OPEN: MON-SAT 9am - 5.30pm **LATE NIGHT:** FRIDAY 9am - 7pm

LONDON 01-580 4000
52 Tottenham Court Road, London, W1P 0BA
OPEN: MON-SAT 9.30am - 6.00pm **LATE NIGHT:** NONE

LONDON 01-629 1234 ext 3914
Selfridges (1st floor), Oxford Street, London, W1A 1AB
OPEN: MON-SAT 9am - 6.00pm **LATE NIGHT:** THURSDAY 9am - 8pm

To: Silica Shop Ltd, Dept CCWK 05/89, 1-4 The Mews, Hatherley Road, Sidcup, Kent DA14 4DX

PLEASE SEND ME FREE LITERATURE ON THE AMIGA

Mr/Mrs/Ms: ..... Initials: ..... Surname: .....

Address: .....

.....

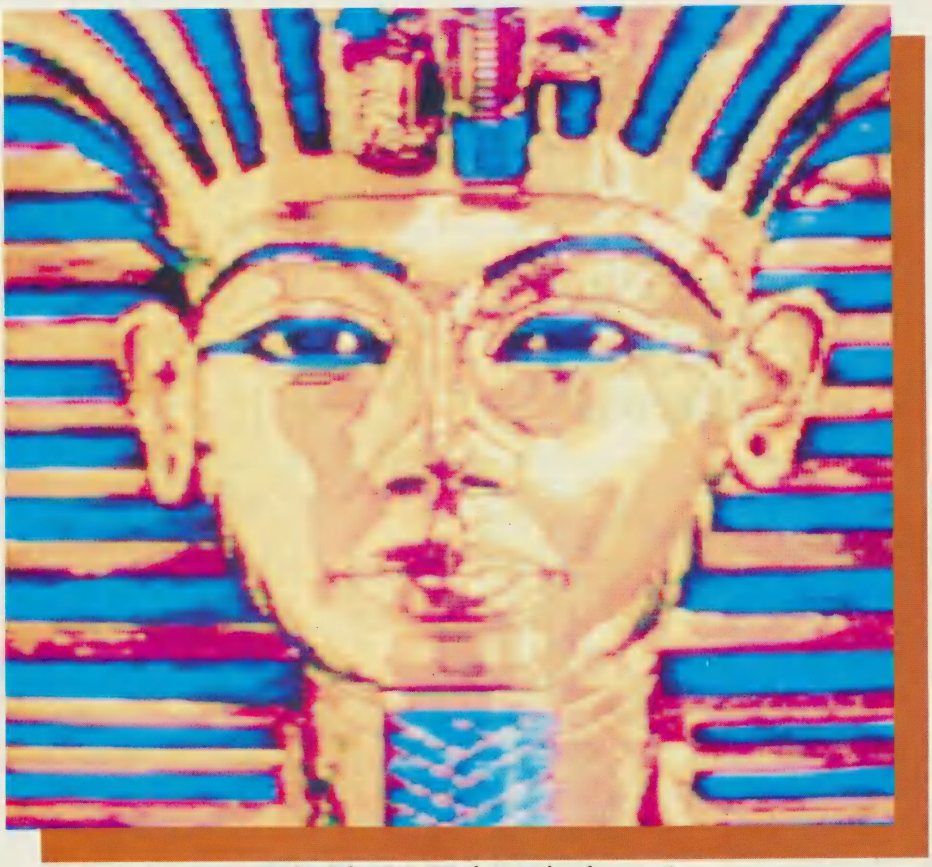
.....

Postcode: .....

Do you already own a computer
If so, which one do you own? .....

State of the Art
16-bit graphics

There is no need to suffer for your art with Graphics packages which give a new dimension to painting by numbers. Tony Hetherington has compiled a buyers guide for paint without pain.



● King Tutankhamen resurrected in *Deluxe Paint III's* glorious colour demonstration.

The advent of 16-bit computing produced machines with more memory, faster processors and built-in disc drives and also generated computers with higher screen resolutions and a greater palette of colours. Compare the C64 16 colours to the Amiga palette of 4,096. Naturally, there is a price to pay for the improvement and that is called video RAM. It still remains limited even in these micros, so there is a direct pay-off between the number of pixels you can have on a screen and the number of colours used to colour them. Consequently the machines operate in various modes, as do the paint packages to accommodate them.

Sixteen-bit art is blossoming as more and more packages are becoming available, largely through imports, so to keep this article within magazine boundaries I decided to concentrate on the major players for each machine. This also reflects the current mood in Amiga art which is turning into a head-to-head battle between the EA *Deluxe Paint III* and *Photon Paint* from Microillusions, imported by Activision.

Deluxe Paint, now in its third version, is better than ever and is widely-regarded as the best and easiest to use art package. Its famous demonstration where a superb image of Tutankhamen's burial mask becomes a brush and paints it all over the screen lives on as a dramatic image of the power of these programs. It is packed with all the features including the best magnify option you will find and has become the standard against which other art packages are measured.

Now the latest version, Deluxe Paint III, fights back against its growing competition with the inclusion of more features such as an extra-halfbrite 64-colour mode and animation. Extra halfbrite offers digital artists two versions of each selected colour and one is half as bright as the other. Multiply them by 32 and you have the claimed 64 on-screen colours. This brings back memories of the days when the Spectrum claimed to have 16 colours.

Animation

AnimPaint is the big difference as DPaint III aims to take the hard work out of animation by allowing you to create multiple animated images simultaneously through a system EA calls animpainting which flips through the screens of your animation automatically while you draw. You can even draw with an animated brush such as a flying bird, selected from an earlier animation which is transferred quickly to the new frames through Animpainting.

One thing even Deluxe Paint III cannot do is in the Amiga 4,096-colour mode which, by coincidence, is exactly what Photon paint does well.

The Hold and Modify mode allows the Amiga to display 4,096 colours on the screen at any time. That is ideal for users of a digitiser as a source of graphic material. With Photon Paint such images can be touched up and tweaked and you can also take advantage of other Photon features, including the ability to wrap a brush into a 3D shape such as a cube, cone, ball and

piten, roll, yaw and distance your creations to produce some stunning effects.

Deluxe Paint has also made inroads into the PC market, as the machine has yet to be taken seriously as art system. Although DPaint II-PC can run on a CGA system it is meant for the 16-colour EGA graphics boards or the 256-colour VGA PS/2 environment, hence the inclusion of the PC in the 16-bit section.

Once again King Tut appears as an example of what can be achieved using effects such as zoom to make slight adjustments to your drawing and smooth allows colours to be blurred into each other, avoiding sharp edges.

PC graphics are used mainly to display company figures through bar charts, pie charts and line graphs but even they can be boosted by adding colour, a third dimension and interesting backdrops.

It is an area yet to be fully explored as I am sure varying the backdrop will have psychological effects on the viewer of the figures. Stark black and white charts are often ignored but if the graph of the latest sales figures is displayed over a satellite picture of the Earth even the most cynical investor would be impressed.

Business

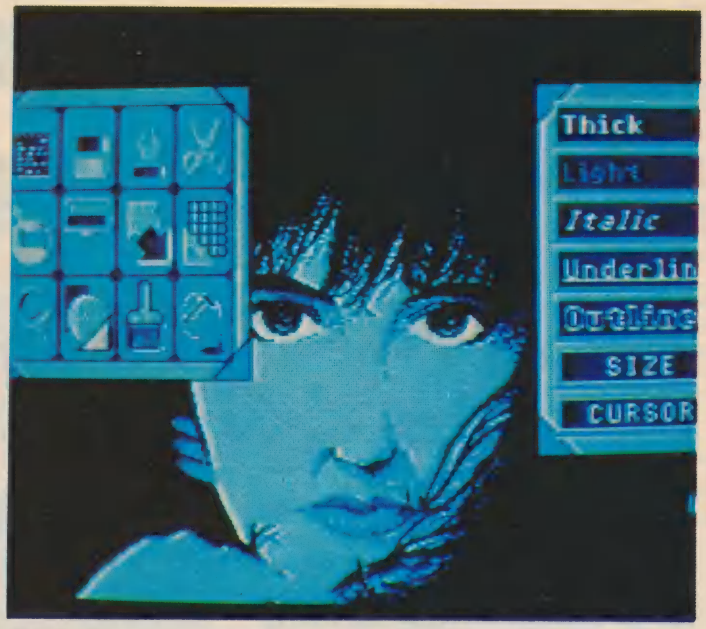
Ashton-Tate *Draw Applause* is such a business graphics package which includes a Picture Window for creating backgrounds, a Word Chart window for adding text and a Chart window for converting data to line, pie, bar, area, mixed or table charts. Creating graphics is only half the story and so Ashton-Tate offers a graphics service in which it will turn your work into printouts, slides or transparencies for overhead projectors.

The Atari ST has been awash with paint programs since its launch and early ST520s were bundled with the Atari *Neochrome* which quickly set basic standards for the others to follow. Now Atari has released *Hyper Paint* and so it is best described as a typical official version. Whether it be a disc drive or paint package the "official version" inevitably works well but is not exactly over-burdened with advanced or innovative features, which is exactly true of Hyper Paint.

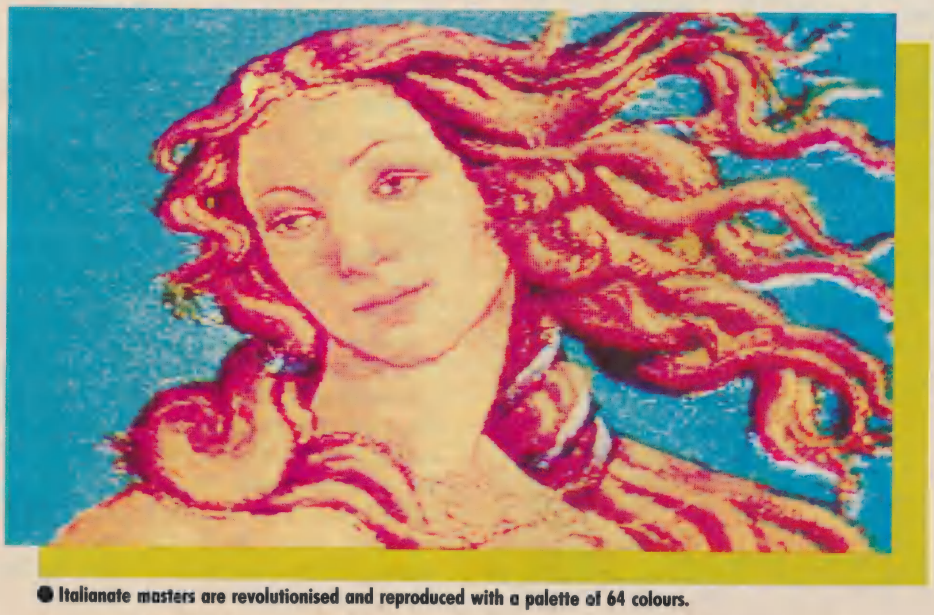
You can draw and create impressive images freehand or using some of the 18 pre-defined shapes, including arcs, ellipses and rectangles, and can zoom in and magnify part of the screen up to 16 times to edit a small part of the screen.

A package which literally has a little more flair is the AMS – new Database – *Flair Paint* designed with DTP in mind. It uses the usual 16 colours selected by adjusting RGB sliders and has a number of useful drawing tools, including definable brushes and fill patterns. Flair Paint departs from the usual screen display which has a series of icons surrounding a graphics window and puts the icons inside windows on a full screen canvas.

It calls these windows tablets and selecting an icon invariably produces another tablet full of icons. They disappear while you are working on the screen but can be called back with a click of a mouse button. Flair Paint is also supplied with a number of desk-top accessories, including a calendar, notepad and clock which appears complete with cuckoo on IMB machines.



● On canvas icons can be readily called to assist the *Flair Paint* artist.



● Italianate masters are revolutionised and reproduced with a palette of 64 colours.

COLOUR PRINTERS

One of the most satisfying ways of preserving your graphics masterpieces is to print them out on a colour printer. At the upper end of the scale the £680 Integrex Colourjet fires spots of ink from its yellow, red, blue and black reservoirs to produce a smoother image than any dot matrix could match. Because of the ink-jet mechanism it is also quieter but as yet lacks many of the drivers necessary for use with the majority of paint programs.

By comparison the Star LC10C costs £250 and is ideal for general home use. The colour version uses a special ribbon split into red, yellow, blue and black sections which moves so that the required colour is under the head at the proper time.

If you have a mono printer and cannot afford or justify an upgrade, make use of any grey scaling options your paint package has as this prints-out a shaded version of your picture, substituting shades of grey for your on-screen colours.

DESK-TOP PUBLISHING

More and more paint packages are being used to provide illustrations for use in DTP documents and can range from clip-art sketches to full-blown paintings. When you buy a paint package, ask what format is used to save the files and check whether it is compatible with your DTP package.

Perhaps, the ultimate use of DTP graphics is provided by the Amiga program *Professional Page* which can incorporate IFF files into its pages and then separate them into printer colours – cyan, yellow, magenta – from screen colours – red, green, blue – for use by professional printers.

CONTACTS

Deluxe Panit II, Electronic Arts £79.95. Tel: 0753 49442.
Photon Paint, Activision £89.95. Tel: 0734 311666.
DPaint II-PC, Electronic Arts £99. Tel: 0753 49442.
Draw Applause, Ashton Tate £495. Tel: 0628 33123.
Flair Paint, Database £??. Tel: 0625 878888.
Hyper Paint, Atari £30. Tel: 0753 33344.

State of the Art 8-bit graphics

Create some fun sketches on your C64, Spectrum, Amstrad CPC or Amstrad PCW or try new ways with DTP.

Graphics on 8-bit home computers will always be restricted to fun applications as the machines have severe restrictions for screen resolution and selection of colours. The extreme case is the Spectrum with only 320 by 200-pixel screen resolution with the further restriction that colour can be defined only for each 8 by 8 block. By far the most common uses of such packages are for the creation of background screens for games or for showpiece galleries such as Compunet. Now many users are using graphics packages as input for DTP programs.

The market leader across 8-bit formats is *Advanced Art Studio* which has a story to match its amazing range of features. It was written by Oxford Computer Press which then signed a marketing deal with Rainbird. OCP, dismayed by the lack of promotion just prior to the sale of Rainbird and the rest of Telecomsoft to Microprose bought back its package and, after clarifying talks with Microprose, has now signed with Datel Electronics, which plans to bundle all versions with a mouse.

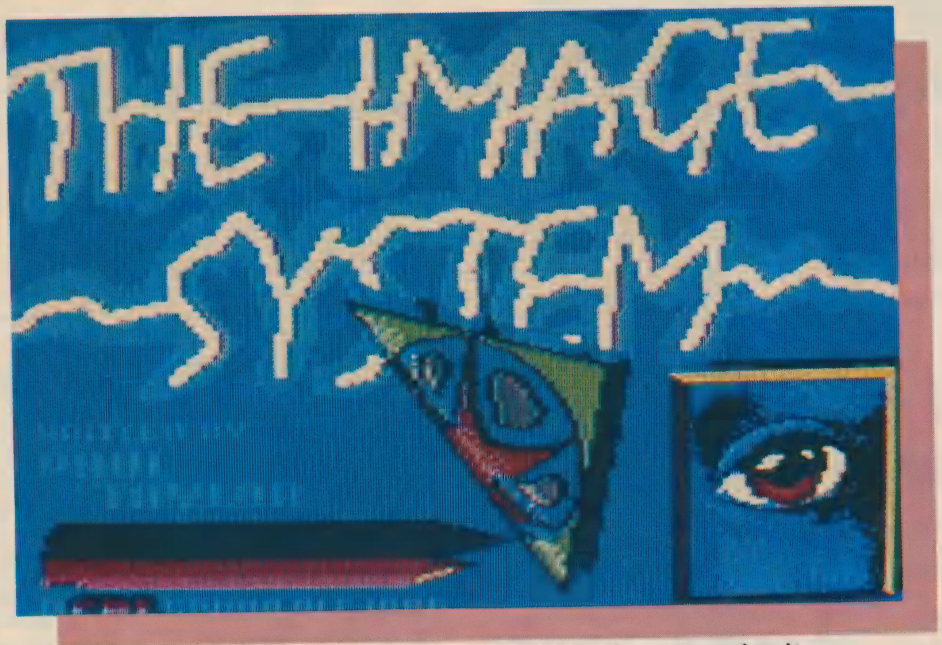
It is available for the C64, Spectrum 128 and Amstrad CPC series and offers a

● *The Advanced Art Studio* allows you to immortalize your ▼ pet gibbon.

▲ ● *Image System* – 8-bit graphics can produce stylised images too.

16-bit-style pull-down menus and dialogue box environment, plus a host of unrivalled features such as 16 pens, eight sprays and 16 brush patterns and the option to define your own. You can also define up to 32 fill patterns and are free to use the full selection of colour of your machine. The pull-down menus can appear at the top or bottom of the screen, so you can reach your full canvas, and are stacked in rows of two so you have to be sure you are over the menu you want.

Shapes, colour, undo, fill, magnify and print menus are self-explanatory, although it is worth mentioning that the C64 version offers five sizes of print dump and full grey scaling. Perhaps the most powerful menu is the windows option which allows you to define any part of the screen as a window and then clear, invert, cut and paste, enlarge, reduce, squash, stretch and flip its contents.



● Somebody call the Tate. The screen image can be twisted and distorted to create surreal graphics.

Datel plans are only just becoming clear and will result in some stunning offers. The C64 version will be bundled with a Commodore 1351 mouse, mouse mat and mouse holder for £29.99. That is £5 more than the original Rainbird price for the software on its own. The Spectrum and CPC versions cost £49.99 but they include a Datel mouse, mouse mat, mouse holder and mouse/joystick interface.

Blazing Paddles is the other Datel C64 bundle as it bundles the Blazing Paddles graphics package with a lightpen or – separately for half the cost – for use with a joystick, mouse, graphics tablet or trackball. Blazing Paddles offers a comparable range of brushes, shapes, zoom mode and printer dumps but its real claim to fame is that it offers more than 200 hues through an advanced colour mixing process and allows you to save not only whole pictures to disc but also windows and shapes which can be used later to create new images.

Artist II is the Spectrum equivalent of Blazing Paddles and is the original Softek paint package rebundled by Datel with a two-button mouse. The package, which will lose prominence now the Art Studio bundle is available, has some predigree as it was written by Bo Janeberg, best-known for his amazing arcade adventures *Fairlight* and *Fairlight II* which featured stunning 3D graphics.

This showed that if you kept the colours under control the Spectrum was capable of some stunning effects. Now, through a system of windows, icons and pull-down menus, you can reproduce these graphics and take advantage of features such as an extensive zoom mode and a font and sprite designer.

The CRL *Image System* is a C64 and Amstrad CPC graphics package which literally has a twist. Through joystick control and the usual array of menus you can draw, fill and colour shapes. Through the extremely unusual image menu not only allows you to save, magnify and print part of the screen but also enables you to twist and distort a screen image. This gives computerised Salvador Dalis a field day, as all manner of objects can be twisted into new interesting forms which will impress bystanders, particularly those of the "what can you do with a computer?" brigade. The Image System also includes a Basic listing and details of how to include "Folded 3D" images in your programs.

Speed

The Amstrad PCW has occupied an exceptional niche in the market and specialises in word processing and now DTP applications. Consequently, while there are a few art packages for the PCW, including one which is complete with a scanner which fits on the PCW printer, most are collections of fonts and clip-art to be used in the plethora of DTP packages.

One of the best is from the team which created *Stop Press. Get Set* from Tecnation is a collection of fonts, clip-art and utilities for use with Stop Press, although they can be used by others with little or no alteration and usually via one of the included utilities.

Another very useful utility on the discs is a ASCII-to-LocoScript converter which speeds the process required to use non-LocoScript word processor files in Stop Press documents and there is even one which reveals an unrevealed feature of the 512K PCW which can hold up to five Stop Press pages in memory at any time.

The clip-art collection is extensive and ranges from animals and means of housing and transport to bathroom and kitchen fittings. The latter are included as both front and side elevations.

BRUSH STROKES

A traditional artist is restricted to using a brush or charcoal to create masterpieces but a computer artist has an array of devices to help him. As a basic control device, 8-bitters tend to use a joystick whereas 16-bitters use a mouse but both have other options. With a lightpen you can draw on to the screen and the program will detect where the pen is by when it scans the screen refresh.

Unfortunately, the lightpens are usually too thick for precise placing of pixels but it is a good way to create a framework. Graphics tablets are favoured by professionals and cut-down versions are available for many micros. They are particularly good if you want to trace a printed image. Finally, there is a range of scanners and digitisers for serious users but more about them in a forthcoming buyers' guide.

SCREENSHOTS

Taking screenshots of your masterpieces is a cheap and easy way of collating a hard copy of your artwork but you will need to follow a few tried and tested rules if your results are to be worth displaying. Use an SLR 35mm camera and set the shutter speed to around 1/8th. I find ASA 100 print film produces reasonable results but before you take a single picture ensure that the room you are in is dark or you will have reflections spoiling your image.

Also slightly – and I mean slightly – increase the brightness and colour on your monitor above their usual levels. Bracket your pictures by taking three or four at different apertures – approximately four and ensure all the image is within the viewfinder and it is focused.

If you can, try to use a tripod to ensure that the camera is steady but make sure that it is in line with the screen and not looking up or down at it. If you want to reduce the curve of most monitors and television sets you could try using a telephoto lens as far away as your room will permit and then zooming in. Prints produce reasonable results even when developed in one-hour shops but, for better colour, opt for transparencies such as an Ektachrome 400 film.

JARGON BOX

IF YOU thought computer jargon was difficult to fathom, try some of these examples.

PAL – The European and Australian TV standard.

NTSC – The American TV standard which uses fewer lines than PAL and so some imported graphics packages may have blank areas at the bottom of the screen.

OVERSCAN – A technique which increases the number of pixels on the screen by using the normally blank border.

INTERLACE – Doubles the vertical resolution of the screen by displaying it in two parts. This causes the infamous Amiga screen flicker.

ANTI-ALIASING – Hides jagged edges caused by shapes drawn with pixels by using different colour shades to fool the eye.

RUBBER BANDING – Used in drawing shapes such as rectangles, circles and ellipses which are stretched like a rubber band until the required shape and size is found.

CONTACTS

Advanced Art Studio, Datel Electronics. Tel: 0782 744707. C64 bundle £29.99. CPC, Spectrum bundles £49.99.

Image System, CRL £24.95. Tel: 01-533 2918.

Artist II, Datel Electronics £49.95. Tel. 0782 744707.

Blazing Paddles, Datel Electronics £24.99. Tel: 0782 744707.

Get Typeset, Tecnation £29.99.

Octrim Software Limited

Carriage free U.K. Mainland. Please add 15% VAT.

Phone
01-688 0246
Fax: 01-760 1966
T/Gold 81: REX054
Telex: 9312102242 OS G

COMPUTERS

Amstrad
PC1512/PC1640/PC2086

Epson
PCe/PCAX/PCAX2
& portables

Akhter
PC100/AT1000/AT2000

Zenith
Supersport portables

PSION ORGANISER

Model XP	97.00
Datapak 16K	16.00
32K	28.00
64K	50.00
Oxford Dictionary	25.00
Mains adaptor	10.50
Formatter	38.00
Spreadsheet	32.00
Maths	25.00
Finance	25.00

CAMBRIDGE Z88

Z88 Computer	226.00
Mains adaptor	8.65
PC Link 2	32.45
128K Ram	39.95
128K Eprom	39.95
Parallel printer cable	24.45
Eprom Eraser	32.25

COMMUNICATIONS

SM2400 Modem	199.95
MC2400 Modem	149.00
Stradcom V21/22	99.00
WS4000 V21/23	98.00
WS4000 V22	187.00
Linkmaster	17.95
CStam	31.95
Laplink Plus	63.95
Chit Chat	69.00
Datatalk	99.00

TAPE DRIVE

Cipher 1525 for Amstrad	265.00

CO-PROCESSORS

8087-2 (for PC1512/1640)	99.00
80287-8	175.00
80287-10	195.00

NETWORK

Sage Mainlan

Starter Kit	319.95
Add-on Kit	165.00

Amstrad AMS Net

Starter Kit	329.95
Add-on Kit	112.50

HARDCARD

Western Digital 32meg File card	209.00

DUST COVERS

PPC	5.75
PC1512/PC1640 2pcs	7.75
PC2086 & 12" mon. 2pcs	7.75
PC2086 & 14" mon. 2pcs	7.75
PCW8256/8512 3pcs	8.60
PCW9512 3pcs	8.90
DMP3000/3160/3250	5.25
DMP4000	5.75
LQ3500	5.25
LQ5000	5.75
P1081	5.25
LC10/Colour	5.25
LC2410	5.25
LQ500	5.25

RIBBONS

Minimum order 2 ribbons	2+	5+
P1081/1082/1090	4.00	3.60
PCW8256/LQ3500	3.75	3.40
DMP3000/3160/3250	2.80	2.50
DMP 4000	4.50	4.20
LX800/FX/RX80	3.15	2.70
FX1000/RX/FX100	4.40	4.10
LQ500/800/850	4.40	4.10
NL10	4.40	4.10
LC10 Black	4.40	4.10
LC2410	4.75	4.40
LC10 Colour	5.50	5.10
NEC P2200	5.75	5.35

FLOPPY DISKS

	1 box	5+	10+
5.25" DS DD			
3M	9.95	8.75	6.95
Precision	6.95	6.40	5.40
3.5" DS DD			
Sony	14.00	13.00	12.00

STATIONERY – SAGE

Statements (1000/1 part)	20.95
Payslips (1000/2 part)	20.95

PRINTERS

Amstrad

DMP3250 9 pin narrow	163.00
DMP4000 9 pin wide	260.00
LQ3500 24 pin narrow	260.00
LQ5000 24 pin wide	355.00

Epson

LX800 9 pin narrow	195.00
FX1050 9 pin wide	420.00
LQ500 24 pin narrow	280.00
LQ850 24 pin narrow	461.00
LQ1050 24 pin wide	595.00
LQ2500+ 24 pin wide	734.00
CQ3500 Laser	Phone
DFX5000	Phone

NEC

P2200 24 pin narrow	275.00
P6 Plus 24 pin narrow	450.00
P7 Plus 24 pin wide	575.00

Panasonic

KXP1540 24 pin wide	452.00
KXP4450 Laser	1395.00
KXP1124 24 pin narrow	275.00
KXP1180 9 pin narrow	170.00

Star

LC10	162.00
LC10 Colour	209.00
LC2410	275.00

Cables

IBM 2 metre	7.00
3 metre	12.00
5 metre	16.00
2m cable with printer	3.00
Centronics 2 metre m/m	12.00

Switch Box

Parallel 2x1	26.00

WORDPROCESSING

WordPerfect V5	*215.00
Junior	60.00
Wordstar Pro 5	†199.00
Wordstar Express	* 54.00
Protext 4	† 55.00
Tasword	† 29.95
Tasspell	† 24.00
Tasprint	† 24.00
Multiwriter	† 66.00
Sprint	*135.00
Topcopy Plus	* 67.00

DATABASE

dBase III +	†299.00
dBase IV	†345.00
Paradox V3	399.00
Retrieve III	*109.00
Retrieve IV	*199.00
Rapidfile	167.00
Masterfile	† 43.00
Cornerstone	66.00
Data Perfect	*255.00
Smart Data Manager	†275.00

SPREADSHEET

Supercalc 3.21	* 54.00
Supercalc 4	99.00
Supercalc 5	*215.00
Lotus 123	†260.00
Hal	82.00
Metro	52.00
VP Planner Plus	† 91.00
Quattro	†129.00
Logistix	64.00
Plan Perfect	†195.00

PRODUCTIVITY

Big Plan	Phone
Autoroute	† 99.00
Autoroute Plus	†199.00
Stock Market	† 24.00
Microsoft Project	*232.00
Lotus Agenda	*205.00

GRAPHICS

VP Graphics	† 66.00
Harvard Graphics	*270.00
Graphwriter II	†270.00
Freelance Plus	†250.00

PRINTING

Easylabeller	21.95
Superlabeller	29.95
with bar codes	59.95

LEISURE

Bridge Player 2000	†13.75
Crazy Cars	†13.75
Cyrus II Chess	13.75
Driller	13.75
Elite	16.50
F16 Falcon	*20.95
Falcon AT	*29.95
F19 Stealth Fighter	†26.95
Flight Simulator	†33.00
Football Manager II	13.75
Guild of Thieves	16.50
Mean 18 Golf	13.75
PC Gold Hits	†16.50
Psion Chess	17.95
Scrabble de Luxe	16.50
Silent Service	†16.50
UMS	16.50
Worlds Greatest II	16.50

DESKTOP PUBLISHING

Timeworks	† 75.00
Timeworks Lite	32.00
Tascopy PC	† 24.00
Tassign PC	† 24.00
Finesse	65.00
Scanner	149.00
Logitech Scanman	169.00
Mouse	52.00
Finesse II	99.95

ACCOUNTING

Sage Bookkeeper	* 68.00
Accountant	*104.00
Accountant Plus	*163.00
Financial Controller	*245.00
Job Costing	*149.00
Payroll II	* 99.00
Utilities (each)	* 29.95
MAP Complete	*245.00
Job Costing	* 68.00
Payroll 3	*135.00
Cashbook	*105.00
ABC Version 2	*119.00
Account Ability	Phone
Money Manager PC	† 29.95

MENU SYSTEMS

WordPerfect Library	* 78.00
WordPerfect Office	*275.00
Direct Access	24.95
Disco	† 29.95

UTILITY

Top DOS	† 42.00
File Rescue Plus	* 16.95
Xtree	* 32.95
Xtree Pro	* 75.00
Norton Advanced	* 72.00
PC Tools de Luxe	* 31.95

TUTORIAL

Sage Touch Type	19.95
PC Starter	19.95
PC Accounting	19.95
Iansyst 2 Finger Type	19.50
Crash Type	19.50

DEVELOPMENT

Turbo C V2	* 69.95
Turbo Pascal V5	* 69.95
Turbo Prolog V2	† 69.95
Toolboxes (each)	† 42.00
Quick C	† 59.00
Quick Basic	† 59.00
M/soft Macro Assemb.	† 82.00
M/soft Pascal	†165.00

CAD

Turbo CAD	† 62.00
Autosketch	52.00
Generic CAD No. 1	39.95
No. 2	* 75.00
No. 3	*149.95

INTEGRATED

Ability Plus	*115.00
Symphony	365.00
Microsoft Works	*105.00
Logotron 8 in 1	* 29.95
Mini Office Personal	† 19.95
Mini Office Pro	† 24.95
Smart System	†385.00

*Supplied on 5¼" and 3½" in same package. †Available on 3½" or 5¼" disk. Prices subject to change without notice. All items offered subject to availability.

Visit our Computer Centre at 30 Croham Road, South Croydon CR2 7BA

Computer GAMESWEEK

ANGEL OF DEATH

HOTLINES

Having seen England's dismal performance in the First Test against the Aussies, I am going back to my ancient copy of CRL *Test Match* to rectify things, as no-one has yet promised a new cricket game.

I have heard though, that a software house is negotiating for the rights to pixelise *Neighbours*. I cannot reveal yet which it is, or I'll be down the Old Bailey.

Another snippet of gossip is that a big American firm is working on a game based on the Spanish Armada. It seems to be strategy with arcade sequences. Who produces games like that then?

I told you about *Storm Warrior* last week and promised to reveal whether it is a good game. It is released on an Elite label and is immediately reminiscent of *Beyond the Ice Palace*. The music on the C64 does not sound new but is good all the same, while the moving and chopping actions of your warrior are all well-animated. On the CPC the graphics are sub-savage but very good anyway and the real treat on the C64 is the shadowy figure of death making his way across a landscape to represent failing health.

While not a full-price game, Storm Warrior is a little gem in the budget market, so CPC and C64 owners should treat themselves.

Also returning to last week, I mentioned Impressions/Cognito, which are labels of Zeppelin games if you did not know. After protracted negotiations a representative agreed to visit our office to show us *Chariots of Wrath* to see whether it was like *Xenon II*. Alas, he cancelled four hours before he was due to arrive.

A press release from Micropose boasts of *F-19 Stealth Fighter* being named Best Simulation by the Software Publishers' Association. Stewart Bell commented, "I am very honoured. This is a moment I will never forget. "So what? What does an award from an American panel mean to the man in the street in the U.K. To think that trees died for the paper on which it was written and with Microprose producing a Greenpeace game as well.

A new publishing house, new concept, new game. But is it? Empire is another label for an existing software house, *Sleeping Gods Lie* is a 3D pixie quest and the programmers, Oxford Digital Enterprises, have been programming it for almost, two years now. Look at the pictures and see what you think. Release is meant to be any day now, with the price £24.95 for ST and Amiga formats.

A final snippet. *Castle Warrior* is the follow-up to *Bio Challenge* which I hated, from Delphine Software, marketed in the U.K. by one of the few original software houses remaining, Palace Software.

Duncan Evans

● Spare a gold piece for a cup of tea mate.

● Heady stuff this.

● Just when you thought it was safe.

This Week

ASTAROTH, p.23
Search out the lager of Lamot. Or something like that. Hewson goes into a time warp and takes you back to a time before Ultimate's 3-D arcade adventures, a time when platforms and ladders was a new concept. All at todays prices.

NAVY MOVES, p.24
A life on the ocean wave, a life on the ocean wave. Ha har Jim Laddie, there be gold in them there waters. Or to be more precise, an enemy nuclear submarine, and it's your job to race through mine filled waters, fight off octopuses, and storm through the sub blowing Ruskies away.

PHOBIA, p.26
Fear. Pure undadulterated fear. Actually here at Gamesweek we fear nothing, except a boring game. Thankfully Mirrorsoft's big wobbly blaster measures up and proves you should never be afraid of scrolling in the dark.

SKWEEK, p.27
No not the noise when you step on a mouse, but rather the hero of a Pac-man variant, with terribly cute graphics.

ADVENTURE BRIDGE, p.28
Pixie king Tony Bridge muses on Might & Magic then goes running around the mazes of Prophecy. Gauntletesque or action based RPG? Our Tony gives you the dirt.

Gilbert is back at Drill and feeling very pleased with himself.

Unfortunately, the rest of his fellow Drillians are not quite so happy. In fact they are green (and slimy) with envy.

Gilbert is invited back to Earth to do a new TV series, but to avoid more of his bragging the Drillians remove parts of the Millenium Dustbin and spread them about the planet.

You are in control of Gilbert (most unusual) and to get him back to Earth within 24 hours you have to beat the Drillians at their favourite arcade games and in turn, they will give you clues to find the missing parts on your craft.

Gilbert

ESCAPE FROM DRILL ?

Computer Program © 1989 Tiger developments (Ent.) Ltd.
Gilbert character © Tyne Tees TV Plc.

Super Slimey Software

BIGGER than the biggest thing. Gilbert

FANTASTIC, BRILLIANT, ABSOLUTELY MEGA, HOT STUFF, THE BEST GAME EVER

Gilberts Mum

Units 3-7 Baileygate Industrial Estate, Pontefract, West Yorkshire WF8 2LN.
Telex: 557994
ATR DIST G
Fax: (0977) 790243

Gilbert—Escape from Drill.
Published by Enigma Variations Ltd.
Produced by Again Again.

This programme and its packaging are protected by National and International copyright law.
All rights reserved.
Again Again, and the Again Again logo are trademarks of Tiger developments (Ent.) Ltd. Made in UK.

AGAIN AGAIN

ENIGMA VARIATIONS

This super slimy game will be available on ATARI ST (£19.99), AMIGA (£19.99), SPECTRUM (£9.99), SPECTRUM DISC (£14.99), C64 (£9.99), C64 DISC (£14.99), AMSTRAD (£9.99), AMSTRAD DISC (£14.99) and MSX (£9.99).

You can order direct by sending the order form along with a cheque or postal order made payable to TIGER DEVELOPMENTS (ENT.) LTD. to the address below. All orders will be despatched on day of release.

Tiger developments, Units 3-7, Baileygate Industrial Estate, Pontefract, West Yorkshire WF8 2LN.

GILBERT ESCAPE FROM DRILL ORDER FORM

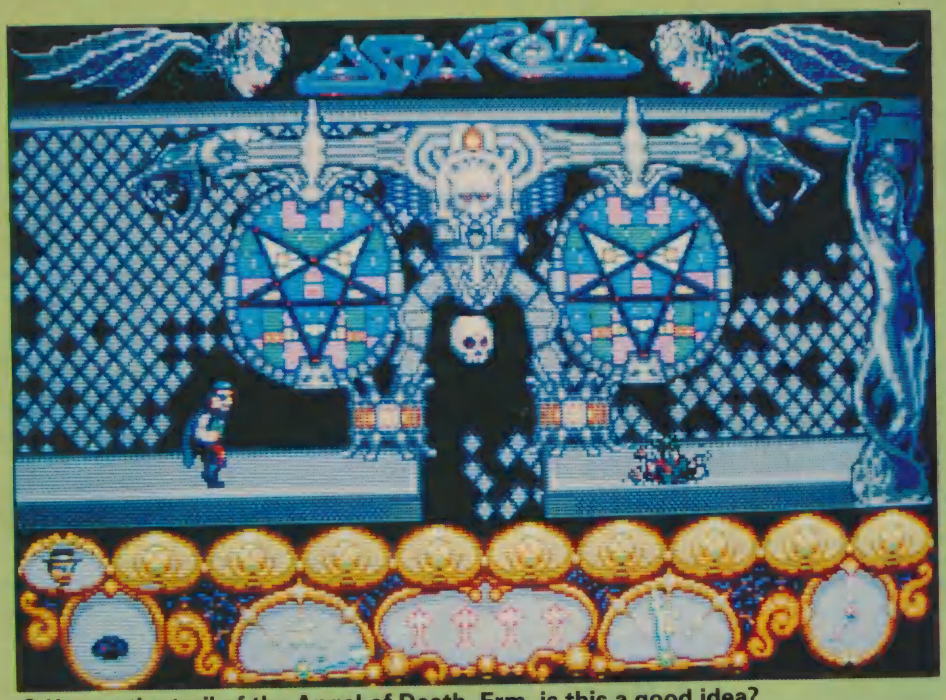
PLEASE FILL IN YOUR NAME AND ADDRESS DETAILS ALONG WITH THE FORMAT YOU REQUIRE.

NAME _____

ADDRESS _____

_____

FORMAT _____



● Hot on the trail of the Angel of Death. Erm, is this a good idea?

FAX BOX

Program: Astaroth
Version: ST
Price: £24.95
Supplier: Hewson
Reviewer: Duncan Evans

RELEASE DATES

ST: June
Amiga: June

Some games are born great. Others acquire greatness, while some have it thrust upon them. *Astaroth: the Angel of Death* falls into none of these categories.

The premise of this stroll through 8-bit arcade adventure land is that you are a fearless brigand, tramping through a labyrinthine crypt, in search of Astaroth, the Angel of Death, who you are there to kill. Why? Obviously you were bored. And if you weren't to start with, you soon will be.

Taking the part of the dashing (he's adorned with shades/mask and cape) midget, Ozymandais, you are searching for the nine mind powers which will give you a chance of defeating Astaroth herself in a final showdown.

To this end you leap and scurry about the rooms of the labyrinth, dropping through floors, and avoiding the indiginous deathforms. Obviously this is a game with an environmental message, because acid rain regularly drips from the ceiling.

Added to that you have bats, skulls and what I presume are pumpkins all trying to stain your new outfit. Each contact with something unpleasant reduces the size of an icon representing your brain. One more hit and that's one life over and a new one beginning.

There are more horrible guardians to contend with, such as the three headed Hydra, the Marilith Demon and the Sphinx. These three are Astaroth's guardians of the soul and must be defeated before taking on her deathliness.

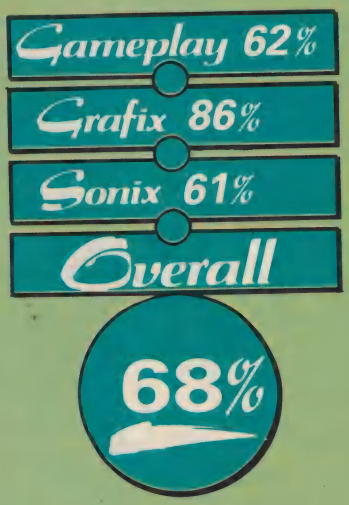
To do that you'll need to be armed with those mind powers, which endow the abililty to perform telekinetics, pyrokinetics, telepathy, shape shifting, levitation, transmigration, cryokinetics, night vision, and meditation. Otherwise you'll get crisped.

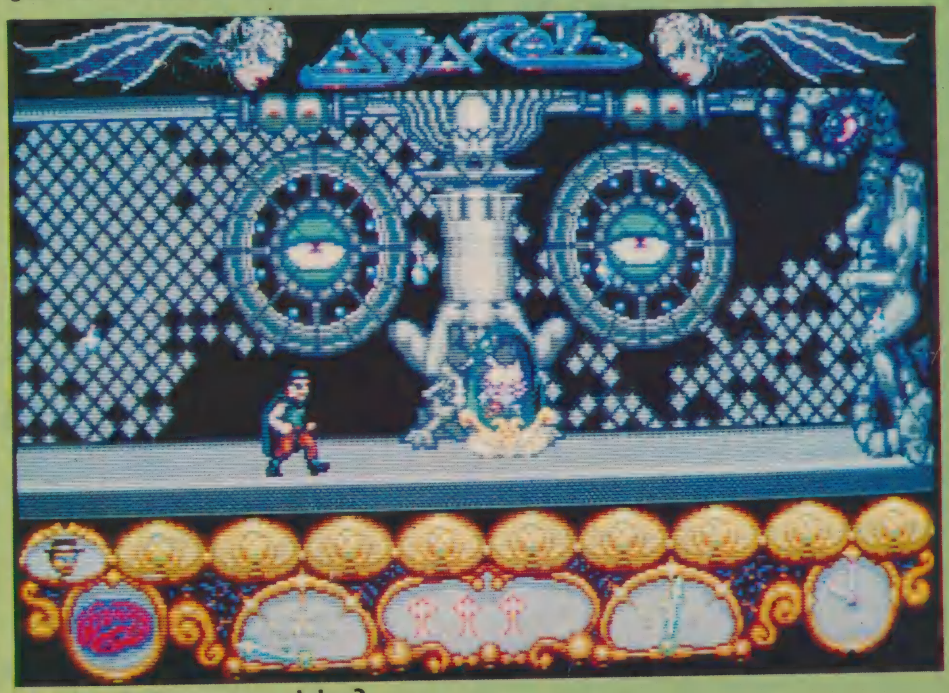
One thing you'll notice as Mr Midget waggles around, besides the plink plonk sonics, is the abundance of plumpy bits on Astaroth's minions, guardians, sculptures, archways and even all over the score screens. Pete Lyon's graphics seem to be getting progressively more sexual as he goes along. What he started with *Airball*, he continued in *Fright Night* and has reached some sort of climax with *Astaroth*.

The final confrontation with the lady of death, strangely enough, does not involve shooting or zapping, but joystick waggling. All you sports games players will be well prepared for the intense waggling required to force the mind power of Astaroth down to zero.

Astaroth is really a typical 8-bit game with some decent 16-bit graphics. It's room based with no scrolling, has small player characters, you collect the objects and leap the holes. The game offers little that wasn't around in 1985, save some pretty effects.

Thankfully there's the option to save the game, but even so *Astaroth* is laborious. Only the dedicated mapper and arcade adventurer could find comfort in this tired format and ordinary game.





● What is that woman doing?

FAX BOX

Program: Navy Moves
Version: Amiga
Price: £19.99
Supplier: Electronic Arts
Reviewer: Andrew Ramsey

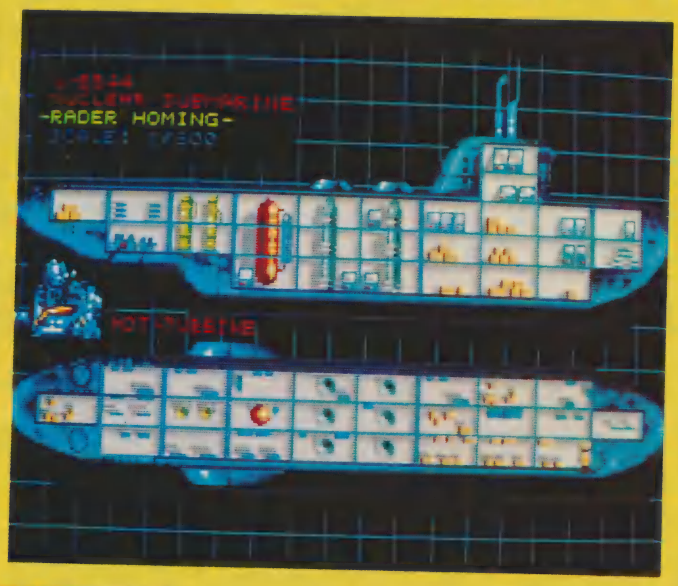
RELEASE DATES

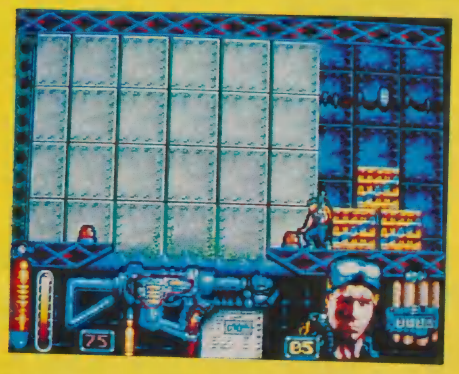
ST: Out now
Amiga: Out now
C64: Soon
Spectrum: Soon
CPC: Soon

When the good guys, because they are on your side, discover that the enemy has an all-powerful nuclear submarine with radar homing missiles, they call for the nearest available arnie look-a-like superhero and all-round tough guy – you.

Approaching the submarine is not easy. Not only do you have to penetrate the enemy defences but you also contend with some rather hostile denizens of the deep. The first game is split into sections.

You start by jumping over the floating mines in your rubber dinghy. Once in the air you can move the boat left and right to land between the closely-packed mines. On the second leg the mines are so close that the slightest error earns you a one-way ticket to Davy Jones locker. The starting section is far too difficult. It requires too much practice and prevents the player getting to or seeing some of the challenges which lay in wait.





Once past the mines you meet the men on the Aquatic Suziki. You must render them harmless before either they ram you or blow off your head with their cannons. Thank heavens for the limitless supply of harpoons and fast ducking reflexes. The water surface may cause a few problems as its continuous motion has a strange effect on the eyes.

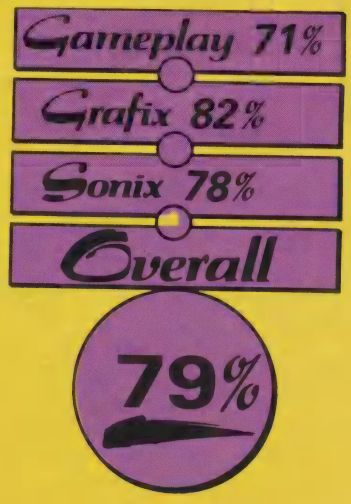
From there things go under water as you blast away at the marauding sharks with your harpoon. Halfway through the shark-infested waters you encounter a tiger shark which requires some serious blasting. These scenes are bloody as the red globules can be seen rising from the sharks' wounds – and your shoulder when the shark bites you. Next there is a short tunnel, infested with human cannon fodder, which leads to the lair of the bathyscaphe.

Once again it is blasting time as you go head to head with the giant octopi. They are tough; anything less than a constant stream of missiles impacting on their heads and you are dead. Blast the equally tough serpent to oblivion and you are through to the second section.

Section two takes place in the submarine and requires a password which is given when you complete level one successfully. You run round the submarine blasting the occupants with your combination machine gun and flamethrower. Shooting the various officers enables you to gain the passwords needed to shut down the submarine and render it harmless.

The gameplay is much better in the second half as it contains octopi and the animated machinery adds real atmosphere.

The Amiga version is much cleaner than the ST, not only in terms of better-digitised sound effects and sharper graphics, which are still on the small side, but the controls are much more responsive and the game plays slightly faster.



NEW ORGANISER LZ AND LZ64

NOW AVAILABLE

	RRP	OUR PRICE
PRINTER	£225.00	£175.00
32K DATAPAK	£34.95	£28.00
COMMSLINK (RS 232) with IBM PC/XT PLUG	£59.00	£48.00
FINANCE PACK	£29.95	£25.00
LEATHER POUCHES	£17.00	£12.50

We give further discounts to institutions such as colleges and hospitals and special prices to companies buying in bulk. We also have a selection of third party products available.
We offer prompt delivery on all orders, or you may collect, by arrangement from our West End Office.

Phone or write NOW for details and full price list!

0836 790159
01-539 9353
01-734 2603
Fax. 01-734 2603

PREMIER HOUSE
SUITE 116, 77 OXFORD ST
LONDON W1

PSION and ORGANISER II are registered trademarks of Psion PLC, London.

FAX BOX

Program: Phobia
Version: C64
Price: £9.99
Supplier: Mirrorsoft
Reviewer: Duncan Evans

RELEASE DATES

C64: Out now
Amiga: July
ST: July

Deep in the vastness of space, something nauseating lurks. A heaving, writhing, putrescent evil, a horror beyond comprehension, a nightmare from another dimension.

Phobos.

He has captured the galactic emperor. Held near a sun, surrounded by worlds of fear, defended by loathsome beast and hideous creation, rescue impossible. Or is it? Grit your teeth, and get ready to face your worst nightmares on the 15 planets of *Phobia*.

One or two players simultaneously can take to the skies and caverns of the Phobia planets and scroll from right to left, in true shoot-em-up tradition. Each world represents a particular phobia, such as water, spiders, dentists, small places, the poll tax, and even death, which you get in every level anyway since this is a particularly tough game. Probably too tough for anything less than a real hotshot.

There are extra weapons and goodies along the way; none of them is particularly exciting, but they help the cause. Also in your quest to free the emperor from captivity on the sun, you will need a piece of heat shield and you will need to plan your way through the network of planets by grabbing sacrificial pods from the moon. As you progress towards the sun, the forces of Phobos will seek to cut you off, thus introducing a small strategic level to an otherwise enjoyably mindless game.

The music halfway through loading – why was not it on the high score table or main menu, lads? – is atmospheric and doom-laden but then you get to hear it only once per load which is silly.

Phobia, besides being just another shooter, offers more colours than ever seen before heaving around, and the backdrop does heave behind the scenery. The scenery is excellently drawn, and perfectly suits the phobia it represents. It is animated as well, so full marks to Tony Crowther for achieving all that and making it scroll smoothly.

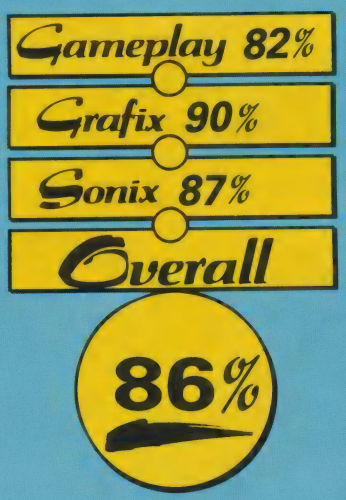
The end of level confrontations vary from satisfactory to very impressive but offer little that's overly new. *Phobia* strives very hard to look and feel different from most scrolling blasts but invariably offers just the same kind of experience, so if you are bored by the genre you will not be rushing to boot it up again every evening.

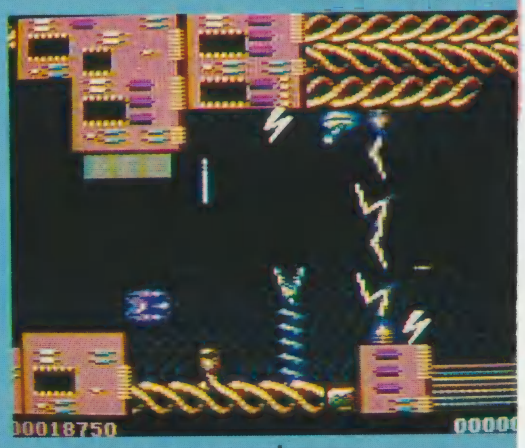
If you are a shoot-and-kill gamer, though, then *Phobia* is an attractive, well designed, graphically impressive sonically succulent, blasting experience.

● No jelly and custard for me tonight.

● Be afraid.

● Be very afraid.





● And change your underwear.

● Small and fluffy. How cute! I feel sick.

FAX BOX

Program: Squeek
Version: Atari ST
Price: £19.95
Supplier: U.S. Gold
Reviewer: Steve Brazier

RELEASE DATES

All formats now

Imagine yourself a long way away, on a distant planet, a long time ago, so far from our green little planet that even the existence of time itself is questioned.

The tranquillity of Skweezland was destroyed by an invasion from the infamous Pitark and his Skarks. As an ultimate humiliation Pitark contaminated the whole planet with a blue sweeticide, forcing all the Skweezettes to claim exit visas and flee to Refuznoid.

After Pitark's death the Skweez decided to reclaim their land, disinfect the 99 continents, and return them to their rightful colour – shocking pink.

Furry, cute little *Skweek* was selected to try and conquer, against all odds, the Pitarks and make Skweezland free and prosperous again.

● Wallowing around in a maze of his own making.

This game, a *Pacman* lookalike, has plenty of hazards and bonuses to keep you interested. Numerous colourful monsters, ghouls and ghosts have to be avoided; only blue or grey squares can be passed over – otherwise there is a drop into oblivion with one of the five lives gone.

Traps open and close unpredictably and special squares are blasted away on contact with Skweek. He needs to travel at top speed to escape. Skweek has some help – a single shooter shot gun. Collecting the correct bonuses lets the gun produce a spray of bullets, it can even turn into a laser which bounces ammunition all round the continent. With this high power equipment the enemy can easily be destroyed.

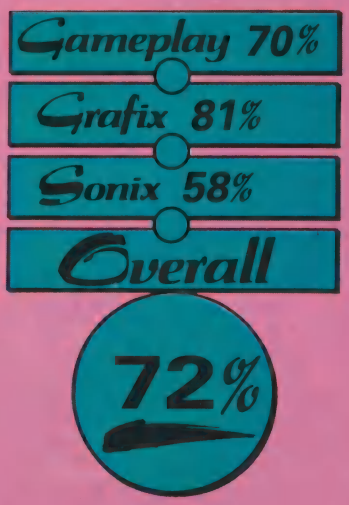
Other specials include a monster freeze gun, freezing six at once allowing Skweek to jump to the next level. Finding an exit square has the same effect.

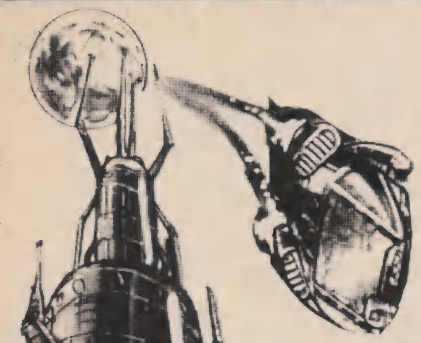
This game is more about levels than points but your points score can be increased by finding the delicious ice creams and hamburgers. Occasionally Skweek, who never fails to smile, can even become invincible so that the monsters are zapped if they get too close.

A special treat for our hero is to collect teddy bears along the journey to keep him company. If he manages to find four he is rewarded with five new lives and a new start at the next level.

Avoiding the monsters is not too difficult – running too fast and falling into traps is the biggest hazard. In addition, there are squares which will allow you to travel only in one direction; far worse are the grey squares. Once on a grey square you slip along, as if on ice, unable to stop or change direction. Often you are taken straight into a trap lying in wait at the other end.

This fun game has great graphics, is not ruined by tedious sound and is not easy to play. Let us just say that I did not make it through the 99 continents – with me in charge the Pitarks would continue to rule.





Adventure Bridge

As I said some weeks ago, the American market appears to have an almost insatiable desire for RPGs – I found **Might and Magic** somewhat wanting in originality, although it is not a bad introduction to this form of game. After a little investigation, I found that the program is two years old and is being hyped at present to pave the way for **M&M 2**. I have not yet seen this sequel, but I imagine and hope that two years will have seen some advances in the author's technique.

Meanwhile, Activision has yet another RPG to offer the PC. This is **Prophecy**, written by the American team of Richard L. Seaborne and Alan Murphy.

You don't really need me to go into detail about the story, do you? As usual, it boils down to you having to fulfill the Ancient Prophecy and save the world from the evil Empire.

Initially, the game looks very much like a **Gauntlet**-style arcade bash, with your well-drawn character being moved around the screen with the joystick. As he bumps into chests, cupboards and so on, you can examine what is inside and any discovered objects are added to the inventory.

Actually, it is very similar to **Times of Lore**, as your single character – no party of adventurers here! – wanders the countryside – and like **TOL**, there are buildings along the way which offer sanctuary to your hero, so that he can rest from his labours.

These labours consist largely of combat with the various creatures you will meet along the way. One scene flips to the next as you reach the edge of the screen, and each screen has its own particular puzzle, which must be solved if you are to stay alive very long – but the puzzles appear to consist largely of how to deal with the threatening monsters.

The status of your character can be seen on-screen in the list of vital statistics such as Strength, Charm, Agility and Speed. Some unusual ones are also included, such as Will (reflects your strength of mind and affects the number of Spell Points you get when you go up a Level) and Vision (shows your mental power and also affects the number of Spell Points) among others.

It is a pity that there is no character-creation as is usual in RPGs. This means your character has no real depth beyond the wide range of armour, weapons and spells available.

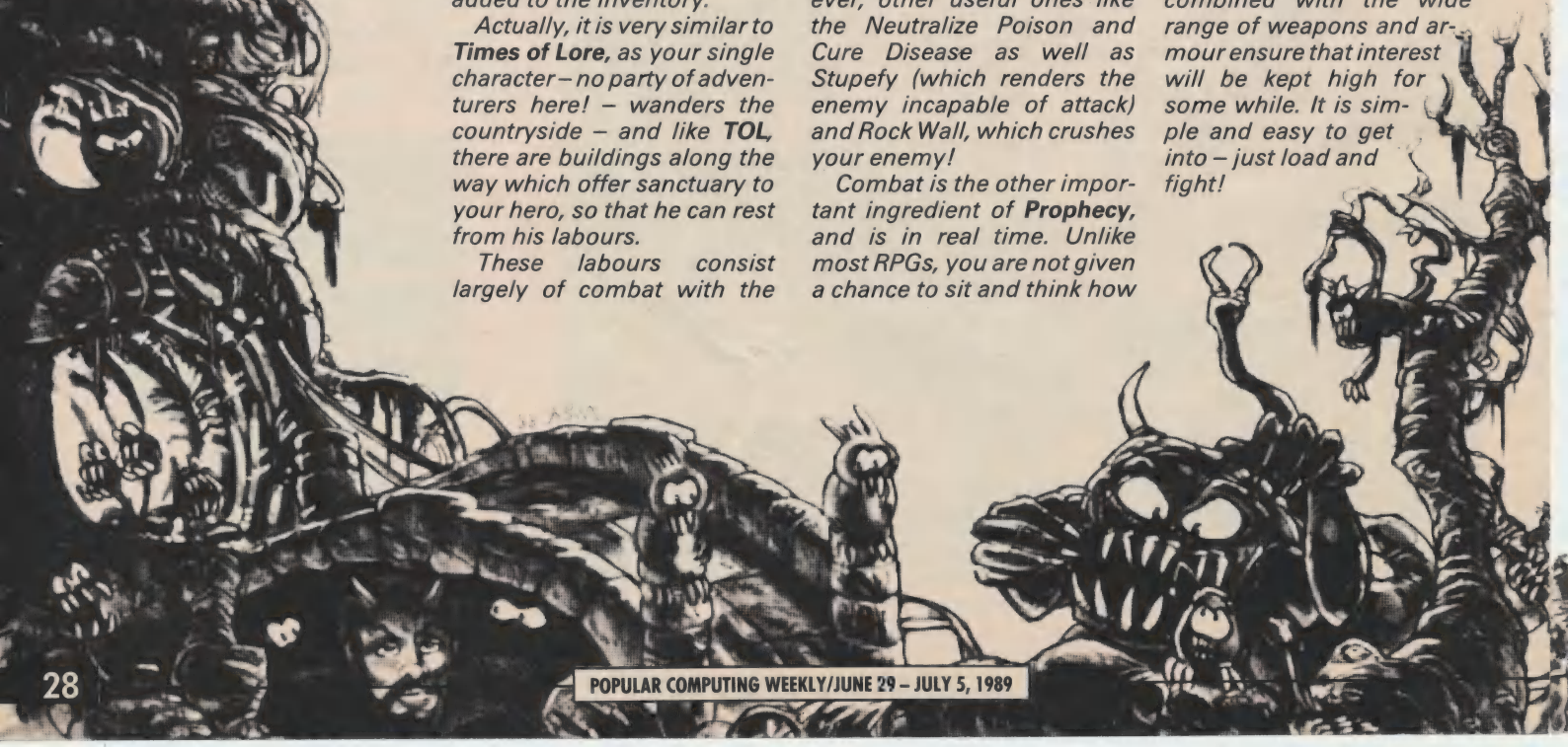
As for Spells, and as in other games of this type, Spells and Magic form an important part of the gameplay. There are not as many as in some RPGs, just thirty, and most add a number of points to your attack or defence rating. There are, however, other useful ones like the Neutralize Poison and Cure Disease as well as Stupefy (which renders the enemy incapable of attack) and Rock Wall, which crushes your enemy!

Combat is the other important ingredient of **Prophecy**, and is in real time. Unlike most RPGs, you are not given a chance to sit and think how best to deal with the current monster – it is a case of be prepared before danger is met, although until you get the various monsters with experience, a rough guide of their potency is displayed on-screen for your information. In your two hands, you may hold two small weapons or one two-handed weapon, such as the Tower Shield. You may also wear a helmet, a pair of gauntlets and armour – but although it may not be selected and ready for use, any amount of equipment can be carried by your character.

Weapons are numerous; each new monster requires a different approach, and some weapons work better than others in certain situations – some of the larger weapons hinder your agility, too, so thought must be given to how fast you may need to move around the screen. **Prophecy** is not all bashing and spell-chucking, however – you may also find it profitable to talk to some of the monsters, and vital information can be gleaned in this way.

Having said that, I do not think that **Prophecy** is going to turn out to be a great brain-numbing puzzle-solving adventure. Although I had fun trying to work out the best way to negotiate the opening few screens, my character perished quite regularly, so I have not seen a great deal yet.

But is is only a matter of practice, as always with this type of game – the spells combined with the wide range of weapons and armour ensure that interest will be kept high for some while. It is simple and easy to get into – just load and fight!



520ST-FM SUPER PACK

1Mb DISK DRIVE
£450 OF SOFTWARE

ARCADE GAMES

Arkanoid II	Imagine	£19.95
Beyond The Ice Palace	Elite	£19.95
Black Lamp	Firebird	£19.95
Buggy Boy	Elite	£19.95
Chopper X	Mastertronic	£9.99
Ikari Warriors	Elite	£14.95
Marble Madness	Electronic Arts	£24.95
Quadralien	Logotron	£19.95
Ranarama	Hewson Consultants	£19.95
Return To Genesis	Firebird	£19.95
Roadwars	Melbourne House	£19.95
Starquake	Mandarin	£19.95
Test Drive	Electronic Arts	£24.95
Thrust	Firebird	£9.95
Thundercats	Elite	£19.95
Wizball	Ocean	£19.95
Xenon	Melbourne House	£19.95
Zynaps	Hewson Consultants	£19.99

SPORTS SIMULATIONS

Eddie Edwards Super Ski	Elite	£19.95
Seconds Out	Tynesoft	£19.95
Summer Olympiad '88	Tynesoft	£19.95

PRODUCTIVITY SOFTWARE

Organiser	Triangle Publishing	£49.95

JOYSTICK

Atari CX40 Joystick	Atari Corp	£4.99

FREE ATARI BUNDLE VALUE: £458.97

The Atari Super Pack is ideal for you if you want to get off to a flying start with the best in entertainment software. The Pack includes a 520ST-FM with ½Mb RAM, a built-in 1Mb disk drive, over £450 of top games and a joystick. If you buy the Super Pack at Silica Shop, we will add our own ST Starter Kit (worth over £200), Free Of Charge. Return the coupon for details.

£399
INCLUDING VAT

With SM124 mono monitor: £498 INC VAT With SC1224 colour monitor: £698 INC VAT

ATARI ST
ST COMPUTERS

The range of Atari ST computers offers something for everyone. From the games enthusiast who wants the challenge of the very best in arcade action, to the businessman who wants to make financial forecasts or faultless presentations. The ST offers high quality graphics, sound and speed for the gamer, whilst providing a fast, user friendly and affordable solution to business. The ST is now firmly established in the home environment and boasts a wealth of users in education, local government, television, and a variety of different businesses. Software for the range stretches to cover applications as diverse as ENTERTAINMENT, ACCOUNTS, ART, COMMUNICATIONS, COMPUTER AIDED DESIGN, DATABASES, DESKTOP PUBLISHING, EDUCATION, MUSIC, PROGRAMMING, SPREADSHEETS, WORD PROCESSING and more. For a full list of the software available, as well as details of the ST range, complete and return the coupon below.

All prices correct at the time of going to press. E&OE

520ST-FM EXPLORER PACK
WITH BUILT-IN 1Mb DISK DRIVE

The value for money offered by the Atari ST range is reflected in the Explorer Pack featuring the 520ST-FM computer with 512K RAM. The 520ST-FM computer now comes with a built-in 1 Mb double sided disk drive as well as a free mouse controller and a built-in TV modulator. The new 520ST-FM Explorer Pack includes the 520ST-FM computer, the arcade game Ranarama, a tutorial program and some useful desktop accessories. In addition, if you buy the Explorer Pack from Silica, we will give you the Silica ST Starter Kit worth over £200, FREE OF CHARGE. Return the coupon for details of our Starter Kit and of the full ST range.

£260
ONLY £2.51 PER WEEK
RETURN COUPON FOR DETAILS

+VAT= £299

+ SM124 mono monitor: £398 INC VAT + SC1224 colour monitor: £598 INC VAT

1040ST-FM PROFESSIONAL PACK

NOW WITH TV MODULATOR

For the serious home user and the small business, we are pleased to announce a new package based around the 1040ST-FM. The 1040ST-FM has 1Mbyte RAM and a 1Mbyte built-in disk drive. In addition, the 1040ST-FM now comes with a TV modulator built-in. (The previously available 1040ST-F was designed for use with a monitor only and did not come with a modulator.) This modulator allows the 1040ST-F to be plugged directly into any domestic TV set, and comes complete with a lead to allow you to do so. The new 'Professional Pack' from Silica includes the new 1040ST-FM with modulator plus four high quality software packages including a spreadsheet, database, word processor and programming language. This 'Professional Pack' software will enable you to get straight down to business with your new computer. In addition to this software (worth £384.84), if you buy the Professional Pack from Silica Shop, you will also receive the Silica ST Starter Kit (worth over £200), Free Of Charge. Return the coupon for further information.

£499
INCLUDING VAT

With SM124 mono monitor: £598 INC VAT
With SC1224 colour monitor: £798 INC VAT

ATARI 1040ST-FM	(Computer)	£499.99
VIP PROFESSIONAL	(Spreadsheet)	£149.95
MICROSOFT WRITE	(Word Processor)	£149.95
SUPERBASE PERSONAL	(Database)	£59.95
BASIC DISK & MANUAL	(Language)	£24.98

NORMAL RRP: £884.82
LESS DISCOUNT: -£385.82
PROFESSIONAL PACK PRICE: £499.00

2Mb & 4Mb MEGA ST

The MEGA ST computers are styled as as lightweight keyboard with a separate CPU, connected by a coiled telephone style cable. There are two versions of the MEGA ST, one with 2Mbytes of RAM and the other with 4Mbytes. Each version has a 1Mbyte double sided disk drive built-in to the CPU unit. The MEGA ST's do not come with modulator built-in and must therefore be used with a monitor. With every MEGA ST purchased, we will add the 'Professional Pack' software (worth £384.83) detailed above, plus the Silica ST Starter Kit (worth over £200) both Free Of Charge. Return the coupon for further details.

2Mb MEGA ST	4Mb MEGA ST
£899 INC VAT	£1199 INC VAT
+mono monitor=£998	+mono monitor=£1298
+colour monitor=£1198	+colour monitor=£1498

DTP PageStream £149 +VAT =£171.35

Desktop Publishing (DTP) is one of the fastest growing applications for personal computers. We are pleased to announce a powerful low cost package for the Atari ST called PageStream. PageStream costs only £149 (+VAT=£171.35) and, because it works with an Atari 1040ST and a Seikosha SP-180AI printer, you can be up and running with a complete system for less than £1000. Some of the features of PageStream are listed to the right. If you would like further information on this program, complete and return the coupon below, ticking the 'DTP' box in the corner.

- TEXT-FLOW AROUND GRAPHICS
- ROTATION OF TEXT & GRAPHICS
- SLANT OR TWIST ANY OBJECT
- POSTSCRIPT COMPATIBLE
- TAG FUNCTION
- AUTO/MANUAL KERNING & HYPHENATION
- GROUPING OF OBJECTS

WHY SILICA SHOP?

Before you decide when to buy your new Atari ST computer, we suggest you consider very carefully WHERE you buy it. There are MANY companies who can offer you a computer, a few peripherals and the top ten selling titles. There are FEWER companies who can offer a wide range of products for your computer and expert advice and help when you need it. There is ONLY ONE company who can provide the largest range of Atari ST related products in the UK, a full time Atari ST specialist technical helpline and in-depth after sales support, including free newsletters and brochures delivered to your door for as long as you require after you purchase your computer. That one company is Silica Shop. We have been established in the home computer field for ten years with an annual turnover in excess of £8 million and can now claim to meet our customers requirements with an accuracy and understanding which is second to none. But don't just take our word for it. Complete and return the coupon below for our latest literature and begin to experience the Silica Shop specialist Atari service.

- **SILICA STARTER KIT:** Worth over £200, FREE with every Atari ST computer bought from Silica.
- **PROFESSIONAL PACK:** Free business software with 1040ST-FM and MEGA ST's bought from Silica.
- **DEDICATED SERVICING:** 7 full-time Atari trained staff with years of experience on Atari servicing.
- **THE FULL STOCK RANGE:** All of your Atari requirements from one place.
- **AFTER SALES SUPPORT:** The staff at Silica are dedicated to help you get the best from your ST.
- **FREE CATALOGUES:** Mailed direct to your home as soon as we print them, featuring offers as well as all of the new releases.
- **FREE OVERNIGHT DELIVERY:** On all hardware orders shipped within the UK mainland.
- **PRICE MATCH PROMISE:** We will match competitors on a 'same product same price' basis.
- **FREE TECHNICAL HELPLINE:** Full time team of Atari technical experts always at your service.

FREE SILICA STARTER KIT WORTH OVER £200
WITH EVERY ST - RETURN COUPON FOR DETAILS
ALL PRICES QUOTED INCLUDE FREE UK DELIVERY

DO YOU OWN AN ATARI ST?

If you already own an Atari ST computer and would like to be registered on our mailing list as an ST user, let us know. We will be pleased to send you copies of our price lists and newsletters FREE OF CHARGE as they become available. Complete the coupon and return it to our Sidcup branch and begin experiencing a specialist ST service that is second to none.

SILICA SHOP:

SIDCUP (& Mail Order) **01-309 1111**
1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX
OPEN: MON-SAT 9am - 5.30pm **LATE NIGHT:** FRIDAY 9am - 7pm

LONDON **01-580 4000**
52 Tottenham Court Road, London, W1P 0BA
OPEN: MON-SAT 9.30am - 6.00pm **LATE NIGHT:** NONE

LONDON ..... **01-629 1234 ext 3914**
Selfridges (1st floor), Oxford Street, London, W1A 1AB
OPEN: MON-SAT 9am - 6.00pm **LATE NIGHT:** THURSDAY 9am - 8pm

To: Silica Shop Ltd, Dept CCWK 05/89, 1-4 The Mews, Hatherley Road, Sidcup, Kent DA14 4DX

PLEASE SEND FREE LITERATURE ON THE ATARI ST

Mr/Mrs/Ms: ..... Initials: ..... Surname: .....

Address: .....

.....

.....

Postcode: .....

Do you already own a computer
If so, which one do you own? ..... DTP ☐

The speed of sound

With a click of the mouse, update your Midi equipment, Tony Sacks explains.

As your Midi set-up grows you start to accumulate a variety of Midi files containing synthesiser voice patches, drum patterns, sequences, programmable effects set-ups and so on. Although librarian programs can help you organise and store those files, most of them are dedicated to a single synthesiser or other item of Midi hardware.

Pixel Publishing, a Canadian software producer, has set out to tackle the problem with its Super Librarian program for the Atari ST. The program stores Midi data from and sends it to more than 60 synthesisers, sequencers, drum machines and effects devices. Most of the popular instruments are supported. With a single click of the mouse button you can send sets of data to every item in your set-up. What is more, because Super Librarian can operate as a desk accessory, it can be done while you are running your GEM-based sequencer.

Visually, the program is not particularly exciting. Most of the main screen is devoted to a panel listing the files stored in one of eight folders which you select according to your particular set-up. The folders may contain banks of synthesiser patches, individual voices, micro-tuning data, files for hardware sequencers and so on.

Once you have received the data the program allows you to organise the files by copying, swapping and re-naming them. You can even give names to synthesiser patches which were originally anonymous.

To hear how a patch sounds the program lets you store 10 mini-sequences, each about five seconds long, which are triggered by the function keys. Alternatively you can play a Midi instrument connected to the ST Midi In port and the program will send the data to the appropriate synthesiser.

Midi data can be despatched to one instrument or device at a time or to a series of devices one after the other. You can store a sequence of commands as a "performance file" so that, in future, by choosing that file, the program will send the same data in the same order as you did originally.

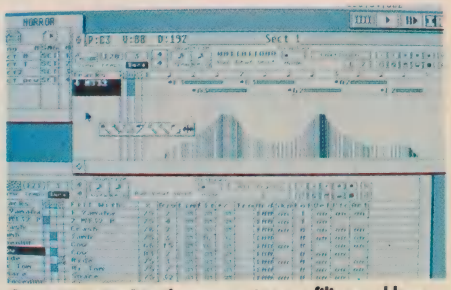
You may have realised that there could be a problem because, without repatching or using a Midi merge device, the ST can accept Midi signals only from one device at a time. Super Librarian has an answer – before sending data to each new device it can send a command to a programmable Midi patch bay to reconfigure itself so that the ST can communicate with the next device.

Another potential problem is that your set-up might include a device which the program does not support. Pixel Publishing promises regular updates to provide "profiles" for new instruments.

The more Midi instruments you have and the more often you change patches the more Super Librarian is likely to appeal to you.

A demonstration disc of Super Librarian should be available from your local supplier. For details contact the U.K. distributor, MCM. In the next few months, Pixel Publishing is promising to release versions of the program for the Amiga, PC and Macintosh.

MCM Distribution, 9 Hatton Street, London NW8. Tel: 01-724 4104 □



Super Librarian has the answer to your filing problems.

The mega Amiga

Ken Garroch reviews essential tips for Amiga enthusiasts.

The Amiga computer is one of the most complex home computers available at the moment, especially with regard to the operating system. There are many facilities available and although they are reasonably well documented, there are usually possibilities that you have never considered or thought impossible.

More Tricks and Tips for the Amiga contains a selection of useful ideas, as well as a few completely useless ones. For instance, the author starts by introducing a few ideas to help you use the CLI more efficiently. Some of these, such as pausing the output by using space and then backspace to restart it, are reasonably well known. Others such as making the CLI window borderless may not be.

The first section of the book is about accessing the operating system from AmigaBasic via bmap files. The two main subjects covered are Intuition – the system routines which provide the WIMP (Windows Icons Mouse Processes) environment for the workbench – and AmigaDOS – system routines for disc access. There are two complete program listings given which are also available on the Disc of the Book. One is for looking at files and one for setting up an intuition window. They are not particularly long and could easily be typed-in unless you are feeling lazy enough to pay out the £14 or so for the disc.

Hints and techniques for all Amiga users.

Many people are of the opinion that using machine code on the Amiga is rather complex. Some difficulties are removed in the chapter which gives details on running machine code programs from Basic – you still need to assemble them with an assembler to get the code numbers. There is even a brief section on altering the hardware with advice on how to disable memory expansions, disable disc drives, install a 68010, and quieten the fan in the A2000.

Though the new *Workbench (1.3)* and *Kickstart* are mentioned throughout the book, a chapter is devoted to the new commands available and the new options to old commands. With additional information on the printer device and preferences plus various tools, there is plenty of reference material for anyone upgrading from 1.2 to 1.3.

Much of the information in the book may be well known to any complete Amiga nut, but if you are new to the machine or are just getting to grips with it, chatty style and varied contents make it a good buy. □

CONTACTS

Title: More Tricks & Tips for the Amiga
Authors: Bleek, Maelger, Weltner
Publisher: Abacus
Available from: Computer Bookshops Ltd. Tel: 021 706-1188.
ISBN: 1-55755-051-4
Price: £18.45 for the book and £14 (approx) for the disc

MICRO-FILE

Cygnus Trading Company

Atari 520 STFM Super Pack; 1 Mb disc drive, 21 quality games, Wordprocessor and Spreadsheet, free joystick $349
520 STFM with 1Mb disk drive $279
Atari 1040ST-FM V.I.P., MS Write, Superbase, BASIC $435
Atari 1040ST-FM + mono monitor, V.I.P., MS Write, Superbase, BASIC $520
Atari SM124 monochrome monitor including cable $135
Atari SC1224 colour monitor including cable $265
Triangle 1Mbyte ST compatible disc drive with built-in power supply $109
Atari MEGA ST and DTP packages please enquire ..... POA
Amiga A500; 1Mb drive, 1/2Mb RAM, mouse, + free modulator $370
Amiga A500; mouse, A1084 colour monitor $599
Amiga A501 RAM expansion board with clock $132
Amiga A1084s colour monitor including cable $321
Amiga A1900 monochrome monitor including cable $119
Triangle 1Mbyte Amiga compatible disc drive $99
Philips CM8833 14' med-resolution colour monitor, two speakers $270
Philips CM8852 14' hi-resolution colour monitor, one speaker $295
Leads for these monitors; free for ST and $6 extra for Amiga

SOFTWARE: see our other advertisements or phone to discuss your requirements.

Amiga 2000 Archemedes and PC/XT/AT systems and expansions; please enquire ..... POA

MODEMS Other makes, models and PC card based modems please enquire

Miracle WS2000, V21, V23, manual $115
Miracle WS4000, V21, V23, V22 optional, Hayes compatible, multispeed $169
Pace 'Linnet', V21, V23, Hayes compatible, multispeed $134
Pace series four 2123S, V21, V23, Hayes compatible, multispeed $253
Pace series four 1200S, V21, V22, V23, Hayes compatible, multispeed $371
Pace series four 2400S, V21, V22, V22bis, V23, Hayes compatible, multispeed $469
RS232 Modem cable $13.80

PRINTERS Other makes and models please enquire

Citizen 120D	£159	Printer cable Centronics parallel	£13.80	NEC P6 + (P660)	£595
MP135+	£159			Star LC-10 colour	£253
Epson LX800	£265	NEC P2200	£359	Star LC-10 mono	£230
Star LC-24-10	£357	MP165+	£217	NEC P7 + (P760)	£764

Discs – Discs – Discs–
ALL DOUBLE SIDED AND ALL WITH WARRANTY new lower prices per 10
3.5' 135tpi £9.99 Unbranded
5.25' 48tpi £6.40 5.25' 96tpi £7.50 Goldstar branded

On Site Service Contracts - Full After Sales Support - Consultancy and Software Development

NOTE: Prices include courier delivery on computers, printers and monitors.
Callers welcome, by appointment only please. All prices fully inclusive of VAT and first class delivery anywhere in UK. E&OE. Overseas orders welcome; please remit in sterling. Europe; no extra delivery charge, outside Europe at cost. Cheques/POs should be made payable to "Cygnus Trading Company" and sent to:

Cygnus Trading Company
Dept PCW, 77 Mayes Road,
London N22 6TN
Tel: (+44-1) 01-889 4233

(H61)

RIBBON REFRESH

RE-NEW YOUR OLD RIBBONS FOR **35P** EACH
1 TIN RE-NEWS UP TO 30 RIBBONS **8.95**

POWER SUPPLIES
Commodore 64..... 17.99
Spectrum 8.99

STORAGE BOXES
40 cap..... 3½ 4.10
80 cap..... 3½ 6.00
50 cap..... 5¼ 4.10
100 cap ..... 5¼..... 6.00

DISK LABELS
3½ or 5¼..... 99p (100)

BULK DISKS
Lifetime guarantee
3½" DSDD 85p each (min 10)
5¼" DSDD 25p each (min 25)

Sony Brand 3½" DSDD (box of 10) 10.99

AMSOFT CF2
2.25 each

ALL PRICES INCLUDE VAT

WE SUPPLY TO
DEALERS, LOCAL AUTHORITIES, EDUCATIONAL ESTABLISHMENTS, PLC'S
(OFFICIAL PURCHASE ORDERS WELCOME)
VOLUME DISCOUNT ON ALL ITEMS

Access **ACCESS HOTLINE 091-5160065**

H.C.L.
10A SOUTHWICK INDUSTRIAL ESTATE
SOUTHWICK
SUNDERLAND
SR5 3TX

MICRO-TECH

COMPUTER TECHNOLOGY

19 NORTH AVE, EASTBOURNE, SUSSEX
TEL: 0323 411391

COMPUTERS BOUGHT, SOLD AND EXCHANGED

PC's, XT's, AT's, 286's and 386's SOLD

NETWORK SYSTEMS INSTALLED

FAST COMPUTER REPAIRS

BY EXPERTS

COMMODORE – ATARI – AMSTRAD

(Over 25 years experience)

For further details phone:

0600 – 4611

quoting this advert

MILLS ASSOCIATES LTD

Volume Repair Centre
Unit 5, Wonaston Road Ind. Est.
Wonaston Road
Monmouth, Gwent

ADVERTISING RATES FOR MICRO-FILE

Semi Display — £10 per single column centimetre (+VAT)
Lineage — 50p per word (+ VAT)

CALL ELIZABETH SOLANKE or NICHOLAS CARR on
01-834 1717 FOR SEMI DISPLAY ADVERTISING

PORTSMOUTH'S LEADING SOFTWARE/MAIL ORDER CLUB

★ SUPER SOFTWARE SALE ★

AMSTRAD BARGAINS

Monopoly	50p	3D Chess	50p
Trivial Pursuit	50p	3D Boxing	50p
Scrabble	50p	PACK 1	Daley Thompson Day 1 75p
Scalectrix	50p		Daley Thompson Day 2
Cluedo	50p		*Plus Many Others at 50p*

SPECIAL OFFER PACKS

PACK 1
£2

PACK 2
15 GAMES
£5

PACK 3
17 GAMES
£6.50
Includes
1 FREE JOY STICK

JYZ
JOYSTICKS
£3 EACH

Prices include VAT. Please add £1.50 Post & Packing. Cheques/PO/Cash to

G&R DEVELOPMENTS

Dept M, 272 Grafton Street, Buckland, Portsmouth. Tel: 0705 831538

Baytree Bookshop & Computer Centre

Baytree Bookshop Ltd,
13 The Precinct,
Waterlooville,
Hants. PO7 7DT

Tel 0705 263084
Fax 0705 259069

T Gold - MAG 35689
Telex: 265871 MONREF G
Quoting 72:MAG 35689

Charter Group Book Seller

We welcome :
Official Orders
Export Orders
Access/Visa Orders

AMSTRAD

Advanced Basic 2	12.95
Amstrad PC Owners HB	19.95
Amstrad PC Prog Ref Gde	15.95
Business Computing PC 1640	12.95
Buyers Gde Amstrad PC	12.50
Comms with Amstrad PC	12.95
DOS Plus Manual	17.50
DOS Plus on PC1512	8.95
Enhancing Your PC1512	14.95
Gem Paint on Amstrad PC	5.95
Get 90% More PC1512/1640	8.95
Intro to Amstrad PCs	5.95
Introducing Amstrad PC	7.95
Locomotive BASIC2	11.95
Modula2 PC1512	12.95
PC 1512 User Gde	12.95
PC Compendium	12.95
PC Hard Disc Gde	12.95
PC Users Omnibus	13.95
PC1512 Tech Ref man	19.95
PC1512/1640 BASIC2	9.95
PC1640 Tech ref Man	19.95
Program Your Amstrad PC	7.95
Simple BASIC2	9.95
Using Accountancy Software	12.95
Using Data Comms	9.95
Using DOS Plus	9.95
Using Gem Paint	9.95
Using MSDOS	9.95
Using Printers	9.95
Using SuperCalc	9.95
Using the Amstrad PC	9.95
Using Wordstar	9.95
WordStar on the Amstrad	10.95

ASSEMBLY

8086 Assembly Lang Prog	12.95
8086 Book	23.95
8086/8088 Arch & Prog	10.50
8086/8088 Assembly Lang Prog	12.45
8086/8088 Primer 2nd Ed	17.95
8087 Applic Prog	19.10
Adv Assembly Lang IBM PC	19.95
Ass Lang Techs IBM PC	21.95
Ass Lang Prog IBM PC	15.95
Ass Lang Routines IBM PC	15.60
IBM PC & XT Ass Lang	19.10
Mem Res Prog IBM PC	21.60
Norton Ass Lang Bk IBM PC	19.10
Programming 80868/8088	15.95
Using Ass Lang	19.95

BASIC

Adv QuickBASIC	19.95
Adv TurboBASIC	20.95
BASIC Handbook	22.95
BASIC Progs Sci/Eng	18.95
BASIC Step by Step	14.95
BASIC to C Conv Manual	19.10
Intro to TurboBASIC	18.95
Microsoft BASIC 3rd Ed	16.45
Microsoft QuickBASIC	19.95
Power of TurboBASIC	14.00
Programmers Toolbox	18.45
True-BASIC Primer	20.95
TurboBASIC Prog Sci/Eng	18.95
TurboBASIC Instant Ref	9.95
Using QuickBASIC	17.95
Using TurboBASIC	19.95

DATABASE

Adv Clipper dBase Compiler	14.00
Adv Prog Gde dBase 2/3/3+	25.95
Adv Techs dBase III+	21.95
Analysis with Reflex	13.20
Clipper Connection dBase III+	22.95
Create perf DB use DBMaster	16.45
Database Principles for PCs	21.70
dBase Compilers Prog Resource	14.75
dBase III+ Power Users Gde	19.95
dBase III+ for Finance	25.00
dBase III+ for Marketing	25.00
dBase III+ Handbook	19.95
dBase III+ Adv Prog	21.45
dBase III+ Appl Library	18.45
dBase III+ Complete Ref Gde	19.95
dBase III+ Tips T & Traps	18.45
dBase III+ L A N	21.95
dBase III+ Networking	20.95
Expert dBase III+	21.95
Guide to Ingres	32.95
Illustrated Paradox vol 1	18.45
Illustrated Paradox vol 2	18.45
Intro Database Systs 1	18.95
Intro Database Systs 2	19.95
Mastering dBase III+	19.95
Mastering Reflex	18.95
Paradox Companion	22.95
Quick Ref Guide dBase III+	4.95
R:Base Sys V Users Gde	18.45
R:Base Sys V Tech App	18.45
Salvaging Damaged dBase Files	18.45
Simply Reflex	18.45
SQL Standard	25.95
SQL Structured Query Lang	13.20
Understanding Dataease	19.95
Understanding dBase III+	19.95
Using Reflex Database Mgr	19.95
Working With Reflex	18.45

MSDOS

Advanced MSDOS	19.95
DOS Complete Reference	21.95
DOS Users Desktop Companion	24.95
MSDOS Bible	18.95
MSDOS Power Users	18.95
MSDOS Users Guide	12.95
Peter Nortons DOS Gde	17.35
Running MSDOS	21.95
Supercharging MSDOS	17.95
Writing DOS Device Drivers	21.60

PASCAL

Adv TurboPASCAL Prog Techs	16.95
Adv TurboPASCAL 4	21.95
Adv TurboPASCAL	21.95
Ass Lang I/F TurboPASCAL	20.95
Intro to PASCAL	17.95
PASCAL Handbook	18.95
PASCAL Prog Sci/Eng	16.95
Screen I/O TurboPASCAL	24.95
Stats Toolbox TurboPASCAL	36.95
TurboPASCAL Complete Ref	21.95
TurboPASCAL 4 Dev Library	20.50
TurboPASCAL Qk Prog Ref gde	8.95
TurboPASCAL Solutions	20.45
TurboPASCAL for BASIC Prog	15.45

SPREADSHEET

123 Business Decision making	17.95
123 Business Graphics Analysis	18.45
123 Business Problem Solving	18.45
123 Command Language	18.45
123 Complete Ref	19.95
123 Controlling Financial Perf	15.95
123 Financial & Accs	25.00
123 For Business	18.45
123 Formula Handbook	18.45
123 Macro Library	18.45
123 Marketing & Sales	25.00
123 Planning & Budgeting	15.95
123 Scientists & Engs	23.95
123 Tips T & Traps	18.45
123 Business Apps in	25.00
Quattro Complete Ref	24.95
Quattro Made Easy	19.95
Using 123 Special Ed	21.95

WORD PROCESS

DispalyWrite Complete Ref	24.95
DisplayWrite 3 Made Easy	17.95
DisplayWrite 4 Made Easy	16.95
Getting Started WordStar	10.95
Intro to WordStar	17.95
Intro to WordStar 2000	16.95
New Wordstar Customizing R4	22.95
Using DisplayWrite 4	18.45
Using WordPerfect	18.45
Using WordStar 4.0	17.45
WordPerfect Complete Ref	24.95
WordPerfect Adv Apps	22.95
WordPerfect Adv Techs	17.95
WordPerfect Made Easy	15.95
WordPerfect Tips T & Traps	16.95
WordStar Users Ref manual	12.50

This is a small slice of available books. If you do not see what you want, ask and we will get it for you.

LONDON MAIL ORDER

	Spectrum Cass	Spectrum Disk	Commodore Cass	Commodore Disk	Amstrad Cass	Amstrad Disk	MSX Cass	Atari ST Disk	Amiga Disk
1943 Bat for Mid	6.45	–	6.99	10.95	6.99	10.95	–	13.90	–
4x4 Off Road Race	6.50	8.99	6.99	10.49	6.99	10.49	6.99	–	13.90
Airborne Ranger	7.20	10.49	10.49	13.99	10.49	13.99	–	17.45	17.45
Arkanoid II	5.99	10.49	6.90	–	6.90	10.49	–	13.90	16.99
Archipelagos	–	–	–	–	–	–	–	17.45	17.45
Barbarian II	7.50	–	7.50	9.45	7.50	10.49	–	13.90	13.90
Battlechess	–	–	–	–	–	–	–	16.99	16.99
Blasteroids	6.99	–	6.99	10.49	6.99	10.49	6.99	13.90	16.99
Butcher Hill	5.90	9.30	6.99	10.49	6.99	10.49	–	13.90	13.90
Chicago 30's	6.99	8.99	6.99	10.49	6.99	10.49	6.99	13.90	–
Crazy Cars II	6.50	–	6.99	10.49	6.99	10.49	–	13.90	16.99
Com Maniac Diary	4.99	–	–	7.99	4.99	8.99	–	7.99	–
Colos Chess 4.0	6.99	10.49	6.99	10.49	6.99	10.49	–	17.45	17.45
Dark Fusion	4.75	8.99	6.99	10.49	6.99	10.49	–	13.90	13.90
Dynamic Duo	5.99	–	6.99	9.99	6.75	10.49	–	–	–
Espionage	6.45	9.30	6.99	–	6.75	10.49	–	13.90	13.85
E. Hughes Int Soc	6.99	10.49	6.99	9.99	7.30	10.80	–	–	–
Four Soccer Sims	6.45	8.99	6.99	10.49	6.99	–	–	–	–
Lineker Hot Shots	5.99	8.99	6.99	10.49	6.99	10.49	–	13.90	13.90
H.A.T.E.	7.30	10.49	7.30	10.49	7.30	10.49	–	13.90	13.90
Jaws	7.30	10.49	7.30	10.49	7.30	10.49	–	13.90	13.90
Kennedy Approach	–	–	7.49	–	–	–	–	17.45	16.99
Lancelot	10.49	–	10.49	10.49	–	13.95	–	13.90	13.85
Laser Squad	6.99	–	6.99	–	6.99	10.49	–	–	–
Lords of Rise Sun	–	–	–	–	–	–	–	–	22.95
Microprose Soccer	6.99	10.49	10.49	13.99	10.49	13.99	–	17.45	17.45
MadMix Pepsi Chal	5.99	8.50	5.99	8.50	5.99	8.50	6.45	10.95	–
Millenium 2.2	–	–	–	–	–	–	–	17.45	17.45
Night Raider	6.00	8.99	6.99	10.49	6.99	10.49	–	13.90	–
Operation Neptune	–	–	6.99	10.49	6.99	10.49	–	17.45	17.45
Beardsley's Soccer	6.45	–	6.99	10.99	6.99	10.99	–	13.90	13.85
Proj Stealth Fighter	7.50	10.49	10.49	13.99	10.49	13.99	–	–	–
Renegade III	6.45	–	6.99	–	6.99	–	–	–	–
Realm of the Trolls	6.45	8.99	6.99	10.49	6.99	9.99	–	13.90	16.99
Red Heat	6.45	–	6.99	–	6.99	–	–	13.90	16.99
Risk	6.99	10.49	8.99	–	6.99	10.49	–	13.90	13.90
Star Ate Hamster	6.99	8.99	6.99	10.49	6.99	10.49	–	–	–
Run the Gauntlet	6.45	–	6.99	–	6.99	–	–	13.90	16.99
Running Man	6.45	10.49	–	10.49	6.99	10.49	–	17.45	17.45
Roy of Rovers	5.99	8.99	6.99	–	6.99	–	–	13.90	–
Space Quest III	–	–	–	–	–	–	–	17.45	17.45
Speedball	–	–	–	–	–	–	–	17.45	17.45
Supertrux	–	8.99	7.39	–	6.99	10.49	–	–	–
Technocop	5.99	8.99	6.99	10.49	6.99	10.49	–	13.90	13.90
The Deep	6.45	9.50	6.99	10.49	6.99	10.49	–	13.90	13.90
Thunderbirds	6.99	10.49	6.99	10.49	6.99	10.49	–	17.45	17.45
Times C/word 3.5	–	–	–	–	–	12.99	–	–	–
Vindicators	6.99	10.49	6.99	9.50	6.99	10.49	–	13.90	13.90
Voyager	–	–	–	–	–	–	–	13.90	17.95
Wanderer	5.99	8.99	6.99	8.50	6.99	10.49	–	13.90	17.20
War in Mid Earth	6.99	–	6.99	10.49	6.99	10.49	–	13.90	13.90
Whirligig	5.99	8.99	–	–	6.45	–	–	–	–
3-D Pool	7.30	10.95	7.30	10.95	–	–	7.30	13.95	–
Breech	–	–	–	–	–	–	–	13.95	13.95
Bombjack 2	7.30	–	7.30	–	7.30	–	–	–	–
Bobs Full House	7.30	–	7.30	–	7.30	–	–	–	–
Captain Fizz	7.30	–	–	–	–	–	–	10.95	10.95
Danger Freak	–	–	7.30	10.95	–	–	–	–	13.95
Postman Pat	1.80	–	1.80	–	1.80	–	–	–	–
Stormlord	7.30	10.95	7.30	10.95	7.30	10.95	–	–	–
Sauage	–	–	–	–	–	–	–	17.45	17.45
Star Trek	–	–	7.30	10.95	–	–	–	–	–
Super Scramble	7.30	10.95	7.30	10.95	7.30	10.95	–	–	–
Test Drive II	–	–	–	11.99	–	–	–	–	–

IBM PC	DISK
19	13.90
4th & Inches 3.5"	13.95
Aaargh	13.95
Acrojet	17.45
Action Service	13.95
Ancient Battles	17.45
Archipelago (EGA)	16.99
Archipelago	16.99
Arab Israeli Wars	17.50
Bad Cat 3.5/5.25"	13.95
Brix II	7.45
Carrier Command	17.50
Chronoquest	20.99
Dakar '89	13.95
Deskwrite	13.95
Destroyer 3.5"	13.95
Emanuelle	13.90
Enjoy Maths	11.95
Eye of Horus	17.45
F-19 Stealth Fgt	27.95
Flight Deck	13.95
Football Manager 2	13.95
Jungle Book	17.45
Jump Jet	10.95
Joan of Arc	13.95
Kings Quest 4	24.95
L/S Larry 2	21.50
Millenium 2.2	17.45
Money manager PC	35.95
Printer Magic	17.45
Risk	17.45
Microprose Soccer	17.45
Sun Crossword	11.95
Typist	11.70
War in M. Earth	13.95
Warship	21.50

ATARI 8 BIT	CASS	DISK
180	2.50	—
Ace of Aces	2.50	—
Annals of Rome	—	10.99
BMX simulator	2.50	—
Colos Chess 4.0	7.40	—
Cycle Knight	6.99	10.49
Draconus	6.99	10.49
F15 Strike Eagle	6.95	—
F/ball Manager	2.50	—
Grand Prix Sim	2.50	—
Gauntlet	2.50	—
Kennedy Appro.	7.30	—
Las Vegas Casino	2.50	—
Leaderboard	2.50	—
Print Shop Gphs	—	14.20
Pro. Golf	2.50	—
Revenge II	2.50	—
Sky Runner	6.99	10.49
Speed Run	5.95	7.95
Star Wars	6.99	—
Transmuter	2.50	—
Winter Events	5.95	7.95
Winter Olymp	7.40	10.40

BBC	CASS	DISK
Bolo	—	10.49
Bolderdash	—	10.49
Citadel	2.50	—
Codename Droid	2.50	—
Commando	2.50	—
Criminal Pursuit	—	20.95
Deathstar	2.50	—
Dunjunz	2.50	—
Extra Extra v10	—	16.80
Fleet Street Ed	27.99	—
F/ball Manager	2.50	—
Krackout	2.50	—
Lancelot	—	10.49
Mega Play v1	7.40	10.49
Mini Office	2.50	—
Monopoly	—	10.45
Pro. Golf	2.50	—
Power Pack II	6.99	8.99
Repton II	2.50	—
Stop Press v1.9	—	34.99
The Alien	5.99	—
Thrust	2.50	—
Trivial Pursuit	—	13.90

UTILITY CORNER

DISK BOXES
5.25" x 140 .... 8.50
3.5" x 120 ..... 8.50

DUST COVERS
Amiga A1000 .. 3.99
Amiga A500 ... 3.99
DMP 4000 ..... 3.99
PC 1512/1640 . 9.99
Atari ST FM 3.99
CPC 6128 col .. 6.99

JOYSTICS
Cruiser 7.50
Challenger 4.25
Cheet 125+ ... 5.85
Cobra 10.50
CompPro 500 11.50
CompPro Ex 11.95
Economy 3.95
J/Stick(IBM) 15.50
J/SAdap(IBM) 4.95
JV2 AMS J/S 11.95
Quickjoy II 6.95
Quickjoy III 8.50
Star Probe 10.95
Starfighter 6.99
TAC1+J/C/IBM 26.95
Turbo III 9.95

All above prices include VAT and P&P. UK Mail Order only
How to Pay: Make Cheque/Postal Order payable to LONDON MAIL ORDER
How to Order: Put your name, address, computer type and goods required on a plain piece of paper and send with payment to:

LONDON MAIL ORDER
47 MARRIOTT'S CLOSE, LONDON NW9 7QB
Enquiry Line Open 8.00 am till 8.00 pm Mon-Fri
Telephone: 01 202 1792

Software SUPERSTORE

YOUR ONE STOP SHOP

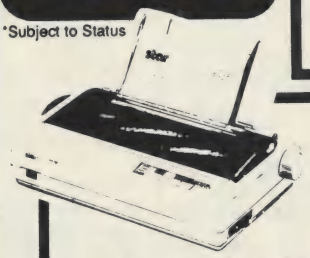
MORE SOFTWARE THAN YOU CAN HANDLE!
MORE HARDWARE THAN YOU CAN USE!

AMIGA A500

inc. FREE Modulator
PLUS:-WORKBENCH 1.3 AMIGA EXTRAS 1.3
AMIGA BASIC 1.2 AMIGA "THE VERY FIRST" MOUSE CONTROLLER AMEGAS ART OF CHESS BUGGY BOY WIZBALL TERROR PODS INSANITY FLIGHT IKARI WARRIORS BARBARIAN THUNDERCATS MERCENARY COMPENDIUM INDIVIDUALLY WORTH £643.49

ONLY £399.00 OR £17* MONTHLY

Philips 8833
Colour Monitor with Stereo Sound & High Resolution
Only £269.00
*Subject to Status



FREE
Paint Program
(Photon Paint or Sprite)
when you buy an AMIGA 2nd Drive with switch & through-port
OUR PRICE
ONLY £99.99

STAR LC10
PRINTER + **FREE** CABLE
SUPERB VALUE
ONLY £219.99

Commodore 1230 Printer. (NLQ)
Centronics & C64 Interface as standard
inc FREE cable **ONLY £169.99**

OCEANIC DISK DRIVE
C64 Compatible
Plus FREE
First World
Logo
intro to Basic II
Spirit of the Stones
Assembler/Monitor 64
Programmers Utilities
Zork III
Dragonworld
ONLY £129

WHY PAY MORE?
We may not be the very cheapest. But when it is down to service, selection and advice...
WE CAN'T BE BEATEN
Visit us soon and find out why so many wouldn't go elsewhere

MAIL ORDER:-
ADVICE HOTLINE
(0782) 268620
for FAST & FRIENDLY SERVICE

VISA | Licensed Credit Broker

SEND S.A.E. FOR CATALOGUE

STOKE-ON-TRENT
17 Market Square Arcade, Hanley, Stoke-on-Trent
Manager Dave Tel: (0782) 268620
Open 6 Days

SHEFFIELD
6 Waingate, Sheffield
Manager Tony
Tel: 0742 721906
Closed Thursday

ST HELENS
27 Baldwin Street, St Helens
Manager Adrian
Tel: (0744) 27431
Closed Thursday

STOCKPORT
6 Mealhouse Brow, (Off Little Underbank) Stockport
Manager Ray
Tel: 061 480 2693
Closed Thursday

★ SUMMER SPECIALS ★

5¼" DISKS AND BOX OFFER

25 5¼" DS/DD + 100 CAP BOX £11.62
50 5¼" DS/DD + 100 CAP BOX £16.50
75 5¼" DS/DD + 100 CAP BOX £22.50
100 5¼" DS/DD + 100 CAP BOX £28.50
ALL DISKS 100% CERTIFIED AND GUARANTEED
ALL BOXES INC. LOCK AND DIVIDERS

DATA SWITCHES

2 WAY 36 PIN CENT £14.50
2 WAY 25 PIN D TYPE £12.50
X-OVER 36 PIN CENT £19.22
X-OVER 25 PIN D TYPE £18.22
ALL METAL CASE WITH ROTARY SWITCH

DISK DRIVES

3½" DS/DD 72K CHINNON £59.00
3½" DS/DD 1.2 MEG CHINNON £64.00
3½" DS/DD 1.44 MEG CHINNON £72.00
3½" x 5¼" CONVERTOR BRACKET £13.75
ALL DRIVES UNCASED

MICE AND ACCESSORIES

GENIUS MOUSE GM–6+ £35.00
GENIUS MOUSE GM–6000 .....£49.99
(BOTH INC. DR HALO III MENU MAKER AND DR PARY MOUSE PAD AND POCKET)
RIGID MOUSE MAT Double Sided £4.50
MOUSE POCKET £2.50

CABLE ACCESSORIES

25F–25F GENDER £7.00
9F–25M AT GENDER.....£7.00
25 WAY MINI TESTER.....£8.50
25 WAY MINI JUMPER.....£8.50
25 WAY MINI MOSLEM.....£7.00
25 WAY 4 PORT GENDER £7.90

3½" DISKS AND BOX OFFER

20 3½" DS/DD + 80 CAP BOX £20.00
40 3½" DS/DD + 80 CAP BOX £34.50
50 3½" DS/DD + 80 CAP BOX £40.00
70 3½" DS/DD + 80 CAP BOX £54.00
ALL DISKS 100% CERTIFIED AND GUARANTEED
ALL BOXES INC. LOCK AND DIVIDERS

DATA SWITCHES/AUTO

5 TO 1 PARALLEL £75.00
5 TO 1 SERIAL.....£75.00
8 TO 1 PARALLEL £95.00
8 TO 1 SERIAL.....£95.00
ALL WITH MANUAL OVERRIDE

UNINTERRUPTIBLE POWER SUPPLIES

350 VA SLIMLINE 10–23 £287.00
400 VA 5–15 .....£298.00
500 VA* SLIMINE 7/10.....£350.00
800 VA*5/15.....£556.00
1000 VA* 5/12 .....625.00

Transfer Time 4 milliseconds
Overload Protection
Line Surge Protection
Noise Attention
British Standard Output Sockets
6 Feet Power Cord with Plug
*Load times 4/half load

Protects your Computer system from Power Problems, no more Loss of Data due to Power Failure

PRINTER STANDS

2 PIECE UNIVERSAL.....£7.95
1 PIECE 80 Col.....£9.95

DISK BOX SPECIAL

INC. LOCKS AND DIVIDERS
3½" 50 CAPACITY £5.25
3½" 80 CAPACITY £6.50
3½" 100 CAPACITY £6.95
5¼" 50 CAPACITY £4.95
5¼" 100 CAPACITY £6.50

DATA CABLES

IBM 25M–36M 2MR £7.25
CENT 36M–36M 2MR £8.25
RS232 25M–25M 2MR 7.25
RS232 25F–25M 2MR £7.25
BBC 26IDC–36M 2MR.....£4.50

PRINTER BUFFERS

54K 1 UP TO 1 O/P £70.00
64K 2 UP TO 2 O/P £120.00
256K 1 UP TO 1 O/P £140
256K 2 UP TO 2 O/P £190.00
256K 4 UP TO 2 O/P £256.00
ALL BUFFERS ARE PARALLEL ONLY

ACCESSORIES

A4 ANGLE POISE COPY HOLDER.....£13.50
A4 DESK TOP COPY HOLDER.....£8.50
12" TILT & TURN MONSTER STAND ...£10.50
14" TILT & TURN MONITOR STAND £12.50
5¼" HEAD CLEANER & FLUID.....£2.50
3½" HEAD CLEANER & FLUID.....£3.50
CPU FLOOR STAND £10.00
3½" & 5¼" LIBRARY CASES PER 5 .....£4.75

ALL PRICES INCLUDE VAT & P&P UK AND BFPO ORDERS ONLY

Cheques and Postal Orders to:

24 Hours Orderline: 0597 87 784

MANOR COURT SUPPLIES LTD.

M C S

Tel: 0597 87 784

DEPT. POP, GLENCELYN HOUSE, PENYBONT, LLANDRINDOD WELLS, POWYS LD1 5SY

EDUCATION AND GOVERNMENT ORDERS WELCOME

commodore

FROM £349! AMIGA

Prices include 15% VAT, FREE delivery to your door, and 1 year manufacturer's warranty. Add £15 for overnight delivery. All systems are tested before despatch. On-site maintenance option available.

Amiga A500 complete, now only	£349
Amiga A500 with 1900M high-res mono monitor	£429
Amiga A500 with A1084S hi-res stereo colour monitor	£585
Amiga B2000 with 1.3 Roms and WorkBench 1.3 Software	£895
Amiga B2000 As above, plus A1084S stereo colour monitor	£1125
Amiga B2000 As above, plus XT bridge board + 20MB hard disk	£1595

PERIPHERALS AMIGA

A2621 Unix Card	Phone
A2620 68020 Accelerator Card	£1395
A2058 8MB Card, 2MB installed	£595
A2286 PC-AT board & 5¼" drive	£895
A2088 PC-XT board & 5¼" drive	£349
NEC 3½" internal drive (A2000)	£79
A2092PC 20MB MS-DOS hd disk	£239
A2092A 20MB AmigaDos hd disk	£395
A2092PC 30MB MS-DOS hd disk	£399
A2094A 20MB/40MB autoboot	Phone
Scicom 40MB removable hd disk	£995
Supra Modem 300-2400 bps	£189
3½" d/s d/d diskettes per 10	£10
Trackball Marconi RB2	£59
A501 plug-in RAM/clock 512K	£125
NEC 3½" twin-port slimline drive	£89
A1010 3½" external disk drive	£99
Cumana 5¼" external drive + PSU	£145
A590 20MB hd disk 2MB RAM 0K	£395
Vortex 40MB autoboot hard disk	£549
A1084S stereo colour monitor	£239
Quadram Multiscan 14" Monitor	£425
NEC Multisync II 14" Monitor	£525
Flicker Fixer Multiscan Adaptor	£375
MPS 1230 120 cps draft, 30 NLQ	£149
Star LC10C colour 120 cps, NLQ	£259
HP DeskJet 300 dpi inkjet, B/W	£675
HP PaintJet colour inkjet 180 dpi	£889
Xerox 4020 colour inkjet 240 dpi	£1075

TELETEXT AMIGA

Why not enjoy the free **Teletext** databases with the **MicroText** Teletext adaptor... Fully programmable, with **Fastext** facility, instant access to last 16 pages, double page view, **telesoftware** loader, auto-start/background operation... Pages can spoken, printed as ASCII or graphics, saved as ASCII or DIF files... With digital tuning for crystal clear **colour TV**/sound reception on any A1081/1084/CM8833 monitor! Uses Parallel port with throughport for printer. Available from stock for only **£139!**

PRODUCTIVITY AMIGA

Workbench v1.3 Enhancer		£15.95
C64 Emulator v2		39.95
BBC Emulator v1.2		44.95
PC Emulator v1.1		24.95
Lattice C v5		159.95
The Works		69.95
SuperBase Personal	Relational database power, without programming!	39.95
SuperBase Personal 2	As above, plus text, mail merge, batch entry etc.	62.95
" " Professional v3	With Forms Editor and DML programming language	154.95
SuperPlan	Pro Spreadsheet with business graphics, time planner	67.95
Acquisition v1.3	Relational database with programming language	139.95
KindWords v2	Graphics & text, high-res multiple fonts, speller	44.95
ProText v4	New fast WP with English dictionary	79.95
VizaWrite Desktop v2	High performance desktop WP, now with HQ fonts	69.95
Works Platinum Edition	Integrated Wordpro/Database/Spreadsheet/Comms	159.95
Publisher's Choice	Kindwords 2 +PageSetter 2 +LazerScript +fonts +clip art	89.95
Businessware Accts 1	Invoicing, Sales Ledger, Stock Control, by Panmead	129.95
Professional Page v1.2	Includes WP, Desktop, colour separations, CAD	174.95
Businessware Accts 2	General Ledger, Purchase Ledger, by Panmead	129.95
Personal Tax Planner	UK Income Tax computation program, from Digita	39.95
DGCalc	All the spreadsheet essentials, easy to use	24.95
A/C Fortran	Mainframe quality ANSI 77 Fortran by Absoft	179.95
A/C Basic v1.3	By Absoft. Compiles Amiga Basic... FAST!	124.95
Dos-2-Dos	Reads & writes MS-DOS on 5¼" & 3½" Amiga drives	34.95

BOOKS AMIGA

Amiga Basic Inside & Out	£18.95
AmigaDos Inside & Out	18.95
Amiga Tricks & Tips	14.95
Amiga C for Beginners	18.95
System Programmer's Guide	32.95
Amiga 3D Graphic Programming	18.95

CREATIVITY AMIGA

Photon Paint II		£99.95
De Luxe Paint III		69.95
PageFlipper + FX		79.95
Movie Setter		59.95
Fantavision		34.95
Photon Video Cell Animator		89.95
Aegis Sonix v2.0	Score, edit, synthesise, improvise. Midi compatible	39.95
De Luxe Productions	Definitive high-res graphics animation package	129.95
De Luxe PhotoLab	Print & manipulate photo quality images	59.95
Sculpt-Animate 4D	3D graphics and animation for the professional user	319.95
Pro-Video PAL Plus	Professional video titler with fonts, extra fonts available	169.95
Professional Draw	The ultimate drawing tool. Uses vectored graphics	129.95
Aegis Draw 2000	Pro CAD pack with autodimension, unlimited zoom etc	179.95
X-Cad Designer	Entry-level CAD system	89.95
X-Cad Professional	Professional CAD system (needs 2MB)	449.95
SummaSketch Plus	12x12 Graphics Tablet with fast driver software	425.95
DigiView Gold	Digitises in all resolutions, displays 4096 colours	120.95
DigiPic	FAST frame grabber & digitiser... only a few left!	150.95
SuperPic	Real-time colour digitiser/frame grabber & genlock!	475.95
PAL Rendale Pro	Broadcast quality genlock for the professional user	625.95
MiniGen	Inexpensive and straightforward PAL genlock	105.95
Handy Scanner	Cameron Type IV 400 dpi, with OCR & paint software	295.95

■■■ IF YOU WANT IT TOMORROW... CALL US TODAY! ON 01-546-7256 ■■■

Prices are POST FREE & include VAT. Order by phone with your credit card, or send cheque/PO or your credit card number. Official orders welcome. We despatch same day by FIRST CLASS post. Please allow 5 days for delivery of hardware orders. Prices are quoted subject to availability. Ref. A64

ACCESS VISA

Calco Software

LAKESIDE HOUSE, KINGSTON HILL, SURREY, KT2 7QT. TEL 01-546-7256

EALING COMPUTER CENTRE

No.1 Place for ATARI ST/AMIGA in West London - All prices inc. VAT

This Months Special Promotions

MEGA ST 1	PANASONIC KXP 1124 PRINTER	PROFESSIONAL PACK OF SOFTWARE
£499.00 ONLY	£299.00 ONLY	ST, "MS-WRITE", "VIP PROF", "SUPER-BASE", "PERS.", "BASIC" £85.00 ONLY

ATARI ST/MEGA

All with Starter Pack - Metacomco, ST Basic, Mouse Mat, Disk Box.

ATARI 520 STFM "EXPLORER" PACK" 1 Mb Drive	£269.00
ATARI 520 STFM "SUPER PACK" 21 Games + Organiser + Joystick	£345.00
ATARI 520 STFM "POWER PACK", NEW - 23 Titles incl. ORGANISES & MUSIC SOFTWARE	£359.00
ATARI 1040 STFM - 1Mb Memory, 1Mb Drive, TV Modulator	£399.00
MEGA ST 1 - with Blitter, Clock, Calendar	£499.00
MEGA ST 2 - NEW LOW PRICE!!!	£749.00
MEGA ST 4 - Most Powerful	£1,049.00
Mono Monitor SM124 ONLY (with or without ST)	£100.00
Professional Pack - "VIP Professional", Microsoft Write", "Superbase Personal", Metacomco Basic Rev. B" ..... with any ST EXTRA	£50.00
SLM804 LASER PRINTER, Best Value, 90 days on site maintenance	£1,095.00
Hard Disk 20 Mb ..... £349.00 ..... Hard Disk 40 Mb	£449.00
Mega ST2 Package incl. Mega ST2, SM124, SLM804, Professional Pack as above, 90 days on site maintenance	£1,699.00
Drive "Cumana" 1Mb, 3.5" Drive, with PSU switch	£89.00
Drive "Cumana" 40/80 Track 5.25"	£129.00
Atari SC1224 Colour Monitor	£269.00
Philips 8833 Colour Monitor inc. Cable	£249.00

AMIGA (with AMIGADOS 1.3, Workbench 1.3 etc)

Amiga 500+ TV Modulator + "Tenstar" - Amegas, Art of Chess, Barbarian, Buggy Boy, Ikari Warriors, Insanity Fight, Mercenary Comp, Terrorpods, Thundercats, Wizball + Mouse Mat, + Disk Box	£389.00
Amiga 500 + TV Modulator + Mouse Mat + Disk Box	£359.00
Disk Drive 3.5", Throughport, Switch	£80.00
RAM Expansion A501 + Clock Card	£130.00
BBC Emulator - Run BBC Software	£40.00
Philips 8833 Colour Monitor, Stereo, inc. Lead	£249.00

ATARI ST/MEGA SOFTWARE (in stock)

TIMEWORKS (30% off RRP)		ANTIC (up to 30% off RRP)	
Data Manager	£29	Spectrum 512	£42
Swift Calc	£29	Cyber Studio	£56
Data Manager Prof	£49	Cyber Control	£42
Desktop Publisher	£69	Cyber Paint	£49
Word Writer	£35	Cyber Sculpt	£56
Partner ST	£35	Cartoon Designs	£25
1st Word Plus vers. 3 (new)	£59	Video Titling Designs	£25
VIP Professional	£49	3D Developers disk	£25
Microsoft Write	£39	Cyber Texture	£36

Over 1,000 Titles ST/AMIGA Software. Discount up to 33%. Mail Order only

PRINTERS

FREE Printer Cable on presentation of this AD

STAR LC-10 Best-Selling 144/36 Printer, 4NLQ Fonts	£195.00
STAR LC-10 Colour Version of above	£245.00
STAR LC24-10 24 pin, 170/56 CPS Printer, 8LQ Fonts	£319.00
PANASONIC KXP 1081, Reliable Printer, 120/24 CPS	£165.00
PANASONIC KXP 1180, Super New, 192/38 CPS, 3400 Type Styles	£199.00
PANASONIC KXP 1124 - Exceptional, 24 pin, 192/63 CPS, 6LQ Fonts	£299.00
(KXP 1180, KXP 1124 - Paper Parking, Original + 3 copies, A4 landscape)	
Citizen 120D - Best Value, 120/24 CPS	£139.00

ACCESSORIES ST/AMIGA

"INTEGRATER" - 20Mb HD, 3.5 Floppy, Power Station, Real Time Clock, Metal Case, and many more	£745.00
Scanner - Cameron, 64mm, inc. Paint OCR Software	£199.00

Prices include Delivery for Software and small items. For Next Day Courier Add £6 (within M25) or £10 Mainland. - Above prices for Mail Order, Shop Prices may vary.
All offers subject to availability. - E. & O.E.

ACCESS VISA

We are at the corner of Hanger Lane (North Circular) Queens Drive - Easy Parking

10 DISKS 3.5" DSDD ONLY £6.99 with any purchase at £100 or more. Lowest Price in UK?

CONDOR COMPUTER LTD

31 PALACE STREET, LONDON SW1E 5HW
Tel: (01) 828 9755 • Fax: (01) 630 7343

CONDOR
COMPUTER LTD

SUPERCHARGE YOUR AMIGA 500

WITH THE INTEGRATER II

Revolutionise your working environment with this all-in-one peripheral for your Amiga 500, packed with the following features:

- 20 MB hard disk (SCSI) autoboot with kickstart 1.3
- 3.5" floppy drive (880k)
- 2 MB fast RAM expansion board (unpopulated)
- Slot for 8088 Bridgeboard
- Slot for 5.25" floppy disk
- Battery backed real time clock
- AC power station
- Surge protector
- Cooling fan
- SCSI through port
- Sturdy metal case and cables
- Excellent hard disk utilities software

ALL FOR ONLY £649.00 PLUS VAT

OPTIONAL EXTRAS

30, 40 or 60 MB hard disk upgrade, fully installed 2MB RAM, 2400 Baud Modem, 8088 Bridgeboard, 5.25" floppy drive

AVAILABLE FROM THE FOLLOWING AUTHORISED DEALERS

LONDON

Micro Anvika Computers
220A Tottenham Court Road, London W1P 9AF. Tel: (01) 636 2547
251 Tottenham Court Road, London W1P 9AD.
Tel: (01) 636 2547 ext 129
13 Chenies Street, London WC1E 7ET.
Tel: (01) 636 2547

Ealing Computer Centre
19 Queens Parade, London W5
Tel: (01) 991 0928

PETERBOROUGH

Daval Electronics
The Old School House, Main Street, Farcet, Peterborough PC7 3OB.
Tel: (0733) 241718

ESSEX

LAN Computer Systems
1063 High Rd, Chadwell Heath, Romford, Essex RM6 4AU.
Tel: (01) 597 8851

Harlow Computer Centre
17 Staple Tye, Harlow
Tel: (0279) 22846

OFFER — SPECIAL OFFER — SPECIAL OFFER — SPECIAL OFFER — SPECIAL OFFER — SPECIAL OFFER — SPECIAL OFFER — SPECIAL

PUBLIC APOLOGY

We at M.D. Office Supplies would like to take this opportunity to apologise to all its competitors.
We shall, with immediate effect supply
COMPUTER DISCS AND STORAGE BOXES ETC,
AT BELOW WHOLESALE PRICES
JUST LOOK AT THESE AMAZING OFFERS

5¼ 5.25" DISCS & BOXES 5¼"

25 5.25" DS DD 96 TPI with 50 Capacity Lockable Storage Box £12.49
50 25" DS DD 98 TPI with 100 Capacity Lockable Storage Box £18.49
75 5.25" DS DD 96 TPI with 100 Capacity Lockable Storage Box £23.49
100 5.25" DS DD 96 TPI with 100 Capacity Lockable Storage Box £29.49
200 5.25" DS DD 96 TPI with 2,100 Capacity Lockable Storage Boxes ... £54.99

ALL DISCS ARE CERTIFIED 100% ERROR FREE
AND ARE SUPPLIED WITH FULL USER SETS
AT M.D. OFFICE THE BEST COST LESS

3½ 3.5" DISCS & BOXES 3½"

25 3.5" DS DD 135 TPI with 40 Capacity Lockable Storage Box £22.95
33 3.5" DS DD 135 TPI with 80 Capacity Lockable Storage Box £31.95
45 3.5" DS DD 135 TPI with 80 Capacity Lockable Storage Box £37.95
55 3.5" DS DD 135 TPI with 80 Capacity Lockable Storage Box £44.95
65 3.5" DS DD 135 TPI with 80 Capacity Lockable Storage Box £49.95
75 3.5" DS DD 135 TPI with 80 Capacity Lockable Storage Box £59.95

ALL DISCS ARE CERTIFIED 100% ERROR FREE
AND ARE SUPPLIED WITH LABELS

ACCESSORIES

3.5" 40 Capacity Lockable Box £4.95
3.5" 80 Capacity Lockable Box £6.95
5.25" 50 Capacity Lockable Box £5.95
5.25" 100 Capacity Lockable Box £6.95
3.5 or 5.25 Head Cleaner £2.95 only if ordered with other goods
Mouse Mats £2.95 only if ordered with other goods

BULK BUYERS

250 DS DD 5.25" £64.99
500 DS DD 5.25" £119.99
1000 DS DD 5.25" £219.99
150 DS DD 3.5" £110.00
250 DS DD 3.5" £169.99
500 DS DS 3.5" £316.99

PRICE AND QUALITY GUARANTEE

All our Discs are top quality products and are certified 100% error free. Should you ever see a comparable product advertised in this magazine at a lower price we will not match it we will
BEAT IT GUARANTEED

VISA Access

M.D. OFFICE SUPPLIES

18 CRESCENT WAY, FARNBOROUGH, KENT BR6 9LS
TELESALES HOTLINES: 0689 61400

All prices include VAT and Delivery UK only
Supplied subject to availability. E&OE

SPECIAL OFFER — SPECIAL OFFER — SPECIAL OFFER — SPECIAL OFFER — SPECIAL OFFER — SPECIAL OFFER — SPECIAL OFFER — SPECIAL

MICROBYTE

Now Open in Birmingham and Nottingham

To claim your **FREE** Microbyte Club membership, just complete the form below and take it to your nearest Microbyte
As a member of the Microbyte Software Club you will receive:
A Personal Membership Card
A **FREE** copy of the "CLUB MICROBYTE" Magazine
Preferential Discounts on selected software
Plus many other benefits

Call in today, you won't regret it – and don't forget the form!

NOW OPEN!!
424 Grand Parade, The Bull Ring Centre, **Birmingham**

Upper Broadwalk, The Broadmarsh Centre, **Nottingham**

46/47 Greenmarket, **Newcastle**

56 Garden Walk, The Metro Centre, **Gateshead**

Unit 176 Halle Mall, The Arndale Centre, **Manchester**

29 Queen Victoria Street, **Leeds**

1 Kirkgate Mall, The Kirkgate Centre, **Bradford**

27 Goosegate, Hockley, **Nottingham**

33 Kirkgate, **Wakefield**

Name .....
Address .....
..... Postcode .....
Computer Owned .....

DISCOUNT COMPUTER SUPPLIES LTD

0494 711436-715696

National ☎ High Wycombe

Order Line 0494-711436 • 0494-715696 • Fax: 0494-713230

YOUR PROBLEMS SOLVED!

AMSTRAD PCW RANGE

PCW 8256	£318.00
PCW 8512	£395.00
PCW 9512	£458.00

AMSTRAD PC 1512 RANGE

Included with each PC 1512: Migent ability software package 4
US Gold games

PC 1512 SDMM – Single Floppy, Mono Monitor	★ PHONE FOR NEW LOWER PRICES ★
PC 1512 SDCM – Single Floppy, Colour Monitor	
PC 1512 DDMM – Twin Floppy, Mono Monitor	
PC 1512 DDCM – Twin Floppy, Colour Monitor	

AMSTRAD PC 1640 RANGE

PC 1640 SDMD – Single Floppy, Mono Display	★ PHONE FOR NEW LOWER PRICES ★
PC 1640 DDMD – Dual Floppy, Mono Display	
PC 1640 SDCD – Single Floppy, Colour Display	
PC 1640 DDCD – Dual Floppy, Colour Display	
PC 1640 HDMD – 20Mb, Mono Display	
PC 1640 PDCM – 20Mb, Colour Display	

The following models feature the high resolution enhanced colour display:

PC 1640 SD ECD – Single Floppy, Enhanced Colour Display	
PC 1640 DD ECD – Dual Floppy, Enhanced Colour Display	
PC 1640 HD ECD – 20 Mb, Enhanced Colour Display	

AMSTRAD PORTABLE RANGE

PPC 512S – Single 720K 3½" Disc Drive	£385.00
PPC 512D – Double 720K 3½" Disc Drive	£485.00
PPC 640S – Single 720K 3½" Drive + built-in modem	£475.00
PPC 640D – Double 720K 3½" Drive + built-in modem	£575.00

PRINTERS

DMP 4000
LQ 3500

PHONE US FOR YOUR REQUIREMENTS

PRINTER PAPER

Plain white with micro-perf edges

Sizes	CSM	Qty	1 Box	2 Boxes
11 x 9.5"	60	2000	£11.45	£10.75
11 x 9.5"	70	2000	£12.65	£11.85
A4	70	2000	£15.50	£14.50

LOCKABLE DISC BOX

Takes 100 x 5.25 Discs £8.50

RIBBONS • HIGH QUALITY SUPPLIES FROM D.C.S.

This is only a small extract from our range of ribbons, please phone us with your ribbon requirement.

		Qty 2–9	10+
AMSTRAD	DMP1	£3.36	£3.00
	DMP2000/3000	£2.30	£2.10
	DMP 4000	£3.25	£2.90
BROTHER	HR15/25/35 FAB	£3.25	£2.50
	HR15/25/35	£2.75	£2.30
CITIZEN	120D	£4.80	£4.10
	MPS15/25	£3.65	£3.15
DIABLO	HYTYPE 2 FAB	£3.50	£3.15
EPSON	LX80/86	£2.50	£1.90
	FX80/85/800, MX80, LX800	£3.05	£2.50
	MX100	£3.65	£3.30
	EX800	£4.00	£3.30
OKI	80/82	£1.20	£1.10
	84	£3.00	£2.70
QUME	SPRINT 7/9 M/S	£2.60	£2.35
	SPRINT 7/9 FAB	£3.10	£2.80
SHINWA	CP80	£3.35	£2.55
M/TALLY	MT80	£3.35	£2.55

PARALLEL PRINTER CABLES

PHONE US WITH YOUR REQUIREMENTS

TILT 'N' SWIVEL

Holds 12" Monitor £6.50

DELIVERY CHARGES

Orders for 1 Box of Paper or Printer Stands please add £4.00 + VAT
2+ Boxes of Paper add £2.50 + VAT per box
All other supplies: Orders under £25.00 ex VAT add £1.75 + VAT
Orders over £25.00 add £2.50 + VAT. Hardware £10.00

ALL PRICES EXCLUDE VAT

Orders: Please allow 5-7 days to receive your order.

Please post your order and cheque to:

Discount Computer Supplies Ltd (Dept. POP)
26 Chiltern Trading Estate, Earl Hows Road,
Holmer Green, High Wycombe, Bucks HP15 6Q

CAPITAL COMPUTERS EDINBURGH

Tel: 031-228 4410

Tired of the large, impersonal high street stores?

Yes? Then try us!

GLASGOW COMPUTER CENTRE Tel. 041-332 8246

GARNER DESIGNS SOFTWARE

SPECTRUM SOFTWARE

Title	Model	Release Date	Price
DESKTOP	+3	OUT NOW	£12.00
WIMPY	+3	OUT NOW	£10.00
WIMPY	+2A	OUT NOW	£8.00
WIMPY	128K/+2	OUT NOW	£8.00
EASY LOAD	+3	OUT NOW	£7.50
DISK COPIER	+3	JULY 1989	£12.00
HARMONY	+3	JULY 1989	£12.00
HARMONY	+2A	JULY 1989	£9.00
HARMONY	128K/+2	JULY 1989	£9.00
HARMONY	48K	AUG 1989	£6.00
VIEWBASE	+3	JAN 1990	£18.00

GARNER DESIGNS, 57 LOVERS WALK, DUNSTABLE
BEDS LU5 4BG. Telephone: (0582) 472067

ALL COMPUTERS WANTED FOR CASH OR EXCHANGE

Tel: 01-727 0424

(867)

COMPUTER REPAIRS

ELC, 63 Plashet Grove, East Ham, London E6 1AD

20% DISCOUNT

ST, Amiga and 8 Bit software

We stock a wide range of Computer IC's and Electronic Components

Tel: 01-472 4871

E.M.P.D.L.
Amiga Public Domain Library
Open 7 Days, 9am – 9pm

Over 500 Disks in Stock!
Immediate Despatch on all orders.
£5 per year subscription includes 2 Catalogue Disks (regularly updated FREE). Range of accessories etc.
Write now for Details

Cheques and P.O.s payable to
E.M.P.D.L., 54 WATNALL ROAD
HUCKNALL, NOTTS. Tel: (0602) 630071

SINCLAIR SPARES, LEADS, PSU's

Original Manufacturers Spares.

Send 1st class stamp for price list

ACE REPAIRS, Outways Fm, Pelynt, Looe, Cornwall PL13 2NW.
Tel. (0503) 20282

MEDUSA

01-803 0893 Computers

55 Harrow Drive, Edmonton, London N9 9EQ

"SOFTWARE PACK" Workbench 1.3 Free Modulator £230 worth Software £364.95	**"EXPANSION PACK"** FREE Modulator 1/2 meg RAM Dragon's Lair £474.95	**"EXPLORER PACK"** 1 meg disk drive mouse Ranarama game £264.95	**"POWER PACK"** £550 Software inc. Afterburner R-Type, Pacmania £338.95
PHOTON PAINT £9.00 EXTRA THE AMAZING MUSIC X PACK A500 + MODULATOR + MIDI INTERFACE ★ MUSIC ★ £539		**ATARI 1040 5TFM PROFESSIONAL PACK £360 SOFTWARE £424.95**	**NB. ALL OUT ST's COME SUPPLIED WITH BASIC (unlike OTHERS)**

4" MEG RAM EXPANSION	£99.95	5M124 MONITOR WITH ST	£99.99
10 3½" DD/DS DISKS	£8.99	PHILIPS CM8833	£229.99
50 3½" DD/DS DISKS	£36.99	SOFTWARE E.G. 8833	RRP / OUR PRICE
CRUISER JOYSTICK	£6.99		£24.95 / £16.75
PRO 5000 JOYSTICK	£10.99		£9.95 / £13.50
SPEAKING (AUTO) JOYSTICK	£9.50		£9.95 / £69.99
NAVIGATOR JOYSTICK	£10.99		

MAIL ORDER ONLY. COLLECTIONS BY US. CHEQUES PAYABLE: MEDUSA COMPUTERS

Hobbyte

COMPUTING
INCORPORATING
Hobbyte
BUSINESSCOMPUTINGSERVICES

AMIGA ACCESSORIES

BBC EMULATOR	£39.95
C64 EMULATOR	£69.95
A500 MODULATOR	£23.95
MINIGEN	£99.95
DIGITISING PACK with Camera, Digiview Gold 3.0, cables	£329.95
PRO SOUND DESIGNER GOLD	£69.95
MIDI INTERFACE MM 3000	£24.95
CASIO MT 240 KEYBOARD	£119.95
MODEM PACK, AD/AA HAYES V21/23 inc. Ruby Prestel/Turm Em S/W, cables	£249.99 Price inc. VAT.

DISCOUNTS FOR EVERYONE

Hobbyte Business Computer Services, is proud to announce that from June 22, our trade special discounts will be available to YOU THE GENERAL PUBLIC Phone us.

AMIGA 2000, Mouse, Wkbench, Basic, Utilities, Manuals	£799
AMIGA 2000, 1084S MONITOR, 3.5" AND 5.25" DRIVES AND BRIDGE BOARD (giving PC compatability)	£1099
AS ABOVE, PLUS AMIGA/PC DOS 20 MB HARD DRIVE	£1369
AS ANY ABOVE, BUT ALSO WITH THE WORKS	ADD £50

Note that special prices are available for CBM PCs and other Amiga configurations also – please ring for details. All 2000s have 1.3 Kickstart and latest version motherboard.

A2058 S MB RAM EXPANSION, POPULATED TO 2 MB	£449
A2088 XT BRIDGEBOARD WITH 5.25" 360 KB DRIVE	£389
A2286 AT BRIDGEBOARD WITH 5.25" 1.2 MB DRIVE	£359
SPECIAL A5060/2092 20 MB PC/AMIGA DOS HARD DISC *NOW AVAILABLE* A2090A/2092 20 MB AUTO BOOT HARD DISC	£299
A2090A/2094 40 MB AUTO BOOT HARD DISC	£479
A2300 INTERNAL GENLOCK	£750
A2350 BROADCAST QUALITY GENLOCK/FRAMELOCK/ FRAMEGRABBER	£187
A2032 PAL COMPOSITE VIDEO CARD	£545
A2010 INTERNAL 3.5" DRIVE	£69
A2620 68020 CO PROCESSOR	£105
14" HIGH RES COLOUR MONITOR (Needs video Card & Cables)	£1045
CABLES FOR HRCM	£579
VIDEO CARD FOR HRCM (FLICKER FIXER)	£29
CHERRY DIGITISING PAD AND DRIVER	£299
Prices inc. VAT.	£499

AMSTRAD 1640 AND CBM SUMMER PACKS

1640 with Wordstar, Supercalc and Accounts Master Software, PLUS DMP 4000 NLQ Printer

Mono Dual Drive	£799
Mono, Single Drive with 30MB Hard Card	£999
ECD	ADD £200
COMMODORE PC20 MONO WITH 1230 NLQ PRINTER	£749.00

All prices inc. VAT.

AMIGA 500 PACKS:

GAMES PACK

Inc. Modulator, 24 games on 4 discs; Arcade, Adventure, Board and Shoot-em-up games, joystick, plus:
8 additional individually packaged games from the following list: Return of the Jedi, Eliminator, Custodian, Power Play, Mercenary, Znapse, Hell Bent, Warlock Quest, Harrier Command, Demolition, Grid Start, Spitting Image, Art of Chess, Amegas £385 inc. VAT.
Also with 1084S monitor or LC10 colour printer £610 inc. VAT.

AMIGA 500 EDUCATION PACKS, KIND WORDS + TRANSFORMER PC EMULATION, £319 + VAT

AIR MILES PACK

Inc. Modulator, 24 games on four discs; Arcade, Adventure, Board and Shoot-em-up games, joystick, plus:
3 additional individually boxed games, Spritz Art package
AND 500 AIR MILES (Paris or Amsterdam is 450) £409 inc. VAT
Also with 1084S monitor or LC10 colour printer £635 inc. VAT.

PROFESSIONAL PACK

Inc. Modulator, 24 games on 4 discs; Arcade, Adventure, Board and Shoot-em-up games, plus;
The Works Spreadsheet, Database, Spreadsheet £435 inc. VAT
OR Publishers Choice £450 inc. VAT.
Also with 1084S monitor or LC10 colour printer ADD £225

EXPANDED PACK

Inc. Modulator, 24 games on 4 discs; Arcade, Adventure, Board and Shoot-em-up games, plus;
A501 RAM Expansion and Dragons Lair £539 inc. VAT.
Also with 1084S monitor or LC10 colour printer £764 inc. VAT.

AMIGA SOFTWARE SPECIALS

Photon Paint II	£62.95	Dragons Lair	£29.95
Deluxe Paint III	£62.95	All books 10% off	
Transformer	£19.95	BEST PRICES ON ALL	
X CAD Designer	£82.99	SOFTWARE – WE CAN	
X CAD Professional	£329.95	NORMALLY MATCH OR	
Publishers Choice	£73.95	BEAT ANY GENUINE	
Critics Choice	£109.95	ADVERTISED PRICE.	
		Sotware prices inc.	
		VAT & PP.	

* ORDERING

To place your order, send cheque, postal order or official order, plus £8 per box (software free) for next day courier delivery and VAT to **Dept. POP, Hobbyte Computers Ltd, 10 Market Place, St Albans, Herts AL3 5DG,** or call with a copy of this ad at our branches in St Albans and Luton. You may also phone your order to our sales desk on **St Albans (0727) 56005.**

1G THE ARNDALE CENTRE
LUTON, BEDS, LU1 2PG
TEL: (0582) 457195/411281

10 MARKET PLACE
ST ALBANS, HERTS, AL3 5DG
TEL: (0727) 41396/56005

NO DEPOSIT INSTANT CREDIT AVAILABLE – WRITTEN DETAILS ON REQUEST, TYPICAL APR 29.9%

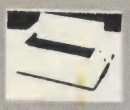
All prices are ex-VAT except where stated
Prices: correct at time of going to press, but subject to change without notice. E & OE.

ACE COMPUTERS LTD

Panasonic Printers

KX–P1081
- 120 CPS DRAFT
- 24 CPS NLQ
- IBM/EPSON COMPATIBLE
- FRICTION AND TRACTOR FEED
- CENTRONICS

£129 + VAT = **£148.35**



KX–P1180
- 192 CPS DRAFT
- 38 CPS NLQ
- 4 BUILT IN FONTS
- IBM/EPSON

£160 + VAT = **£184.00**

KX–P1124
- 24 PIN PRINTER
- 192 CPS DRAFT
- 38 NLQ
- EPSON LQ + IBM EMULATION MODE

£273 + VAT = **£314.00**

LASER KX–P4450
- 300 DPI
- 512 MEMORY
- SERIAL PAR
- 1 YEAR ON SITE WARRANTY

£1400 + VAT = **£1610**

HARD CARDS & HARD DISKS

	EX VAT	INC VAT
21 MBYTE	190	219
32 MBYTE	225	259
42 MBYTE	286	329

ALL HARD DISKS ARE FORMATTED PLUS FREE SOFTWARE

Archimedes

310	EX VAT	INC VAT
BASE	£759	872.85
MONO	£799	918.85
COLOUR	£949	1091.35
PC EMULATOR	£68	78.20
410		
BASE	£2147	2469.00
MONO	£2187	2515.00
COLOUR	£2300	2645.00

NEC MULTISYNC MONITORS

GRAY	£160	184.00
COLOUR MULTI II	£460	529.00

REMEMBER OUR PRICES INCL VAT & FREE NEXT DAY DELIVERY

CITIZEN 120D

- 120 CPS DRAFT
- 24 CPS NLQ
- FRICTION AND TRACTOR FEED
- 4K BUFFER

£120 + VAT = **£138**

HQ–P45 24 PIN WIDE CARRIAGE
£340 + VAT = **£391**

EPSON PRINTERS

LX800
£160 + VAT = **£184**

LQ5000
£280 + VAT = **£322**

MANNESMANN TALLY

The *NEW*
- DRAFT 130 CPS
- NLQ 24 CPS
- CENTRONICS

£120 + VAT = **£138**

ATARI

★ **520 STFM incl 22 SOFTWARE PACK**
£310 + VAT = **£356.50**

★ **1040 STFM**
£340 + VAT = **£391**

AMIGA 2000

- 20 MBYT HARD DISK
- 5.25" DISK DRIVE
- 3.25" DISK DRIVE
- XT BRITDGE BOAR
- 1084 OR 8833 COLOUR MONITOR

£1380 + VAT = £1587

OKIMATE 20
- COLOUR PRINTER
- NEAR LETTER QUALITY
- 80 CPS
- A4 SIZE
- IBM, ST & AMIGA

£120 + VAT = **£138**

DAISY WHEELS JUKI 6000

£120 + VAT = **£138**

TRIUMPH ADLER

£160 + VAT = **£184**

JUKI 6200

£290 + VAT = **£333.50**

AMIGA

AMIGA 500 incl MOUSE, JOYSTICK + 23 SOFTWARE PUBLIC DOMIN
- KARATI KIT II
- SPITTING IMAGE
- BACKLASH
- ICON PAINT
- STAR GOOSE
- QUADRALIEN

£340 + VAT = **£391**

SERVICING

WE REPAIR MOST KINDS OF COMPUTERS AND PRINTERS.

FOR BUSINESS WE CAN GIVE 24 HOURS ON SITE WARRANTY.

PLEASE PHONE FOR DETAILS

AMS ADVANCE BUSINESS CENTRE

star Printers

	EX VAT	INC VAT
LC–10 & LC–10c ★ 6 BUILT IN FONTS ★ 120 CPS ★ 30 CPS NLQ ★ 4K BUFFER	£170	195.50
LC–10 COLOUR ★ FULL COLOUR PRINTER ★ PLUS ALL THE ABOVE FACILITY	£212	243.80
LC–24 ★ EXCELLENT 24 PIN ★ NLQ–BUILT IN FONTS	£276	317.40
NB24 ★ INCL FREE CP	£420	483.00
NX–15 ★ WIDE CARRIAGE	£286	328.90
NB24–15 ★ 24 PIN W/DE/C	£550	623.50

PHILIPS MONITOR

	EX VAT	INC VAT
MONO 7502	£68	78.20
COLOUR 8833	£225	258.75
COLOUR 8852	£260	299.00

PACKARD BELL

- PB900 NEW ENHANCE AT/286 WITH 101 PROFESSIONAL KEYBOARD.
- HIGHLY INTEGRATE MOTHERBOARD FOR GREAT PERFORMANCE AND RELIABILITY.
- UPWARD COMPATIBLE TO OS/2.
- MOTHERBOARD MEMORY EXPANSION INCLUDES LIMEMS 4.0 COMPATIBILITY.

CPU	8/12 SWITCHABLE
CO.PR	80287–8 (OPTIONAL)
OP.SYSTEM	MS.DOS 3.3 INC. MANUALS
RAM	IMB EXPANDABLE TO 8
RAM	64KB
INTERFACE	PARALLEL, SERIAL
POWER	200 WATTS PS

★ 40 Mbyt Hard Disk. ★ 1.2 Mono Monitor
★ 6 month on-site warranty. ★ 1 year guarantee

£999 + VAT = £1,148.85

SCOOP OF THE MONTH

40Mb PC286AT with DOS 3.3 plus – Full manual
On site warranty
Monochrome monitor
£939 + VAT
286 Running at 8 and 12Mhz. 7 Full Flops.
101 AT Keyboard
1.2 Megabytes Floppy Disk
1 Serial. 2 Parallel. Interface
Optional Mono Monitor 14" paper width (or amber). £60 + VAT.
EGA Colour Monitor £180 + VAT
EGA Monitor + EGA Card £399 + VAT
EGA Monitor + VGA Card £449 + VAT
Free next day delivery

ACE COMPUTERS

MAIL ORDER FROM BRISTOL ADDRESS ONLY

VISA

BRISTOL: 42 Cannon Street, Bedminster	Tel: 0272 637981
BRISTOL: 3 North Street	Tel: 0272 666341
CARDIFF	
WESTON-SUPER-MARE: 16 West Street	Tel: 0934 491040
NEWPORT: 54 Commerical Road	Tel: 0633 212176
SWINDON: 31 Faringdon Road	Tel: 0793 512074/3

If you would like to run your own Franchise please write to: 42 CANNON STREET, BEDMINSTER, BRISTOL BS3 1BN.

ST screen access

John Ferris of Mold, Clwyd writes:

Q I use HiSoft Basic on my ST and I would like you to tell me how I can peek and poke the screen. I want to transfer blocks of memory from one place to another.

A The first thing to find is the address of the screen in memory. This is not guaranteed to be in the same place in every version of the ST, so the following system call should be used to locate it exactly:

```
library "XBIOS"
scrn&=FNlogbase&
```

This makes use of the library functions supplied by HiSoft and allows direct access to the XBIOS routines. The first command makes sure that the program realises that the XBIOS library is to be used. The second uses the library function FNlogbase& to return the screen address. You could use the function every time you needed the address but it is generally quicker to place the address value in a variable such as scrn& for faster access.

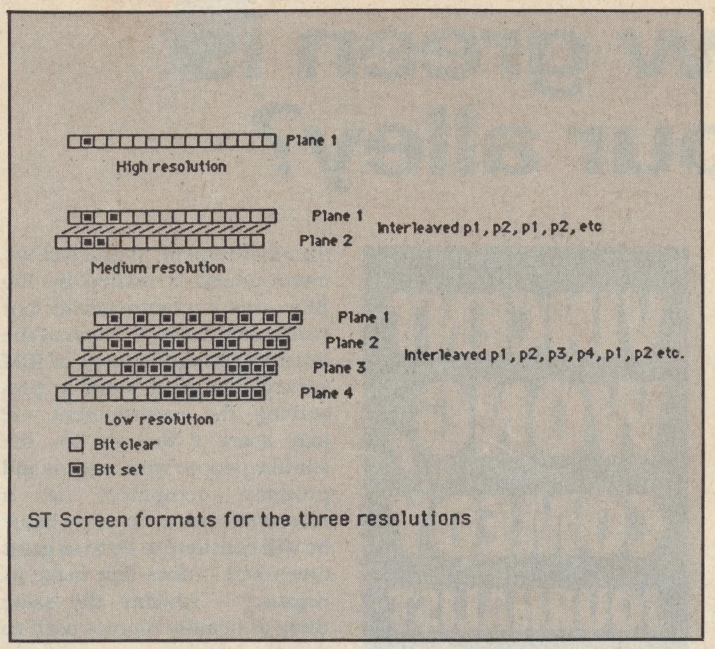
Placing data directly on to the screen is done with the POKE statements. There are two basic forms of this command. The first is similar to that of Atari Basic in that it uses DEF SEG. This is needlessly complicated and it is much faster, and more logical, to use the second form which has the three commands POKEB, POKEW and POKEL – store bytes, words and long words. The only disadvantages are that they cannot be used to put values into supervisor protected memory and the word and long word versions cannot put data at an odd address – 2 bombs (bus error) and 3 bombs (address error) respectively. They can, however, be used with the screen memory. Reading the screen is performed with the converse PEEKB, PEEKW and PEEKL functions; they have the same disadvantages.

To access the screen intelligently you will need to know how it is set out in memory. The three modes are shown in the diagrams. The simplest is high resolution which is mapped directly from the memory. So POKEing the first byte at scrn& with 255 sets the first eight pixels at the top left-hand corner of the screen to black. POKEing the next byte – scrn&+1 – sets the next eight and so on for 80 bytes – 640 pixels. The next line down the screen starts at scrn&+80 and there are 400 lines. Within each set of eight, the most significant bit of the byte (bit 7) is the left-most pixel – try POKE scrn&,128

For medium resolution there are only 200 lines down the screen and instead of 80 bytes across a screen line there are 160; the screen memory area is always 32,000 bytes long, whatever mode. To get four colours the 160 bytes are split into pairs of words. The first two words are used to define the colours of the first 16 pixels – see diagram.

Low resolution has only 320 pixels across but uses 16 colours. To do this words are grouped into fours, each set of four defining the 16 colours for 16 pixels; again, see the diagram.

With that information you will be able to perform direct screen accesses and transfer data quickly from data arrays to and from the screen.



ST Screen formats for the three resolutions

BBC assembly

W Ainsley of Ormskirk, Lancs writes:

Q How do I assemble 6502 machine code on a BBC micro? What about a book on the subject? I have some experience of 6502 from using a Commodore 64 but it did not have a built-in assembler which the BBC does.

A First, set aside some space for the program with DIM, e.g.:

```
DIM C 100
```

sets aside 100 bytes in memory with the address in C; try PRINT C.

You need a FOR NEXT loop for the assembling options – OPT T. When assembling machine code the first pass through it should ignore errors and set up the label table. The OPT directive – the difference between a command and a directive is that the latter instructs the assembler to do something, the former executes something – takes up to three bits depending on the version of Basic you are using. Bit 0, if set, enables assembly listing. Bit 1, if set, enables the error reporting. If you have level 2 Basic bit 3 assembles at 0%.

Normally code is assembled at P% and this must be set up at the beginning of each pass – see the demonstration listing. Here line 10 sets aside the space in memory for the assembled code to be run. Line 20 starts the two-pass assembly loop with PASS starting at 0 (no list, no errors) and then 3 (list and errors). Line 30 sets the assemble address for the code in P%. Like A%, X%, Y% and @%, this is a system variable integer.

Line 40 starts the assembly using the [] brackets to enclose the code. OPT sets the assembly options for errors and listing. Following this is the code. These are standard 6502 mnemonics and can be mixed on a line using as with Basic, e.g., LDA #10:STA&70 and so on.

All machine code routines usually end with RTS to return to Basic and the ending bracket] should go on the next line. The NEXT terminates the loop and the code can be executed with CALL C.

The best book on the subject is the *Advanced User Guide For The BBC Micro* by Bray, Dickens and Holmes, published by the Cambridge Microcomputer Centre. You should be able to obtain it from any computer book dealer.

```
10 DIM C 100
20 FOR PASS=0 TO 3 STEP 3
30 P%=C
40 [ OPT PASS
50 LDA #65
60 JSR&FFEE
70 / any other code
100 RTS
110 ]
120 NEXT
```

Example BBC Micro assembly.

Colour printer

J Heeney of Ladywood, Birmingham writes:

Q I am in the process of starting a new business venture and need of a printer to print leaflets, sales letters, invoices, order forms. It must be capable of printing in colour, multi-sized characters, line drawings, on to A5 and A4 sized paper.

Since I already own an Amstrad CPC464 and do not want to add to expensive setting-up costs and limited resources, I intend to use it for my printing. The problem is that I know nothing of computers or printers and the handbook mentions only the DMP–1 which I have already found to be difficult to locate and do not know if it is suitable.

Inkjets are out of the question due to cost and this leaves only daisy-wheel or dot matrix.

Which would fulfil my needs?

A As far as I know, there is no such thing as a cheap colour printer – the cheapest I can find is the Star LC10 colour at £252. There are only a few of the dot-matrix type available and unless you want to pay money, the quality is not very good. Another problem, you may not have considered is that even if you manage to obtain a suitable printer, you will need software to drive it. I suspect that there is none for the CPC464 – I may be wrong – does anybody know?. Yet another problem is with the CPC464; it cannot print dot matrix graphics properly because of its limited parallel interface.

All in all, I think you should reconsider your decision to print your stationary in colour. You should be able to manage everything else in black and white but you will almost certainly need to upgrade to a better machine such as the ST or Amiga or PC compatible and obtain a desk top publishing package to allow you to print graphics, different sized text, alternative type faces and such.

How green is your alley?

VINCENT WONG, COMEDY JOURNALIST

Vincent Wong goes green – exclusive, as if you care. Well I do care and I refuse to play the usual columnist's game of starting an article with "Let's be sensible now" and proceeding to write a few columns about the benefits of black pudding or dwarf throwing. It is reactionary rubbish disguised as plain speaking and I blame Julie Burchill and graffiti artists everywhere.

Let us be sensible now. As I type this week the results of the Eurosnooze elections are out and boy we sure whupped 'em good. I cannot help feeling a trifle guilty, though, when I look around my little den and see all the plastic, hardware and paper magazines piled up. So wasteful! So damaging! So what am I going to do? I will buy some of that trendy new recycled printer paper and I will stop buying all those achingly dull computer magazines – the stuff for which recycled paper was invented.

Allergy

I know I can count on your support as I lobby the commanding heights of industry in search of ecologically sound executives. Watch this space, as I will pedal off on my *Muddy Fox* to conduct some investigative reporting. In a few weeks, courtesy of Wong, you will know the colour of the politics of everyone in the industry. My guess is that it will be half blue, a bit red with a dash of green – imagine the colour of mould.

Remember, the very hippies who are catatonic about and totally allergic to the breakdown of our ecological system are the men and women who built the first personal computers in the garages of California. No wonder they feel guilty. While they are in rude health – no sweaty feet (sandals) no heart attacks (vegetarian) and no fitness problems (all dead skinny) – they have been responsible for heart-rendingly bad cases of acne among young computer boffins worldwide. Switch off that ST, Eugene, and get some sun.

Organic

Sources inform me that IBM has a commitment to protecting the environment. As much of the environment is owned by Big Blue, this is commendable but hardly surprising. Perhaps as the President/King/Emperor of IBM surveys his great work in preserving the environment, he may spare a thought for the ant-like people who enjoy it and produce computers at a reasonable price. Or more likely he will continue to do to us great unwashed – does that make us organic? – roughly the same thing as healthy hippies used to do at love-ins.

Emotional

One more thing: a competitor is printing on non-bleached paper. This is supposed to show a commitment to green politics; my guess is that it shows a commitment to saving money especially as it took a week to come up with a reason. In my experience the greenest that most journalists get is after one-too-many at some press launch, when callow young writers demonstrate an inability to hold their drink. If you wish to know about these "press conferences" do let me know. I am the only one who is sober going in, let alone coming out, and I *ache* to blow the gaff. If the report never appears, then you know I have been nobbled and that the establishment has something to hide. The truth will out, comrades.

NEXT WEEK

On sale Thursday, July 6th
Just 55p!

New input devices

John Cook saw some pretty wierd I/O devices at the CES: the Power Glove and U-Force. Will they replace joysticks? Find out . . .

Broadcast micros

Nick Masters explains how TV stations use popular micros and digitisers to achieve spectacular special effects in computer graphics.

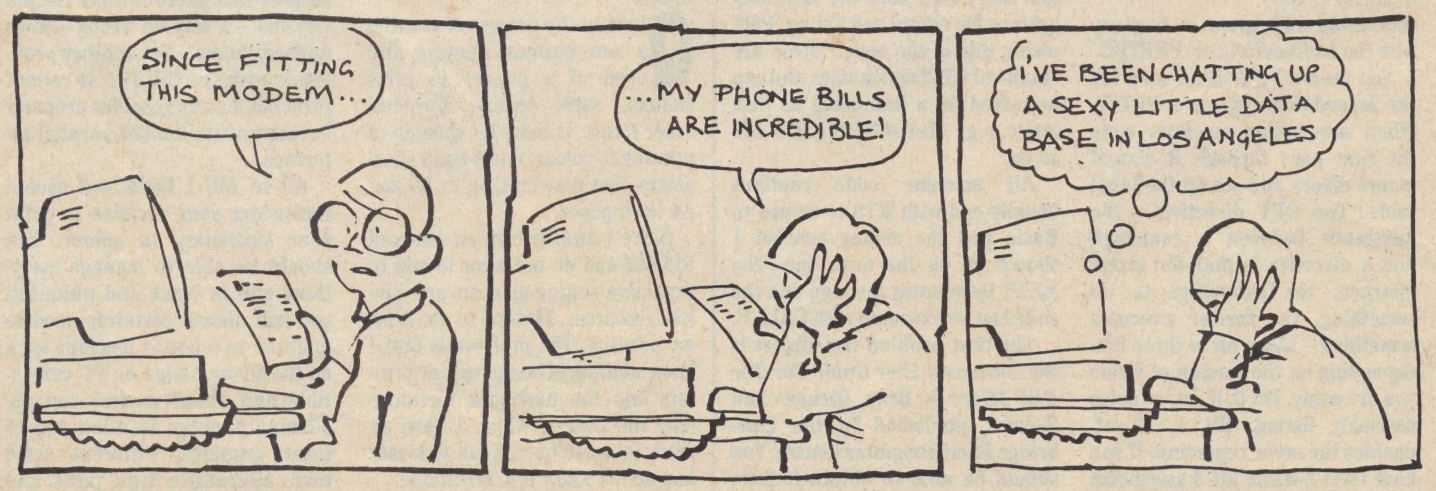
Hard drive review

We test run a freshly imported Amiga hard drive with a massive 40MByte capacity . . .

And . . .

Nosebiting news, your letters and problems, Kenn Garroch's technical solutions, more fun comment . . . plus LIFE AND DEATH!

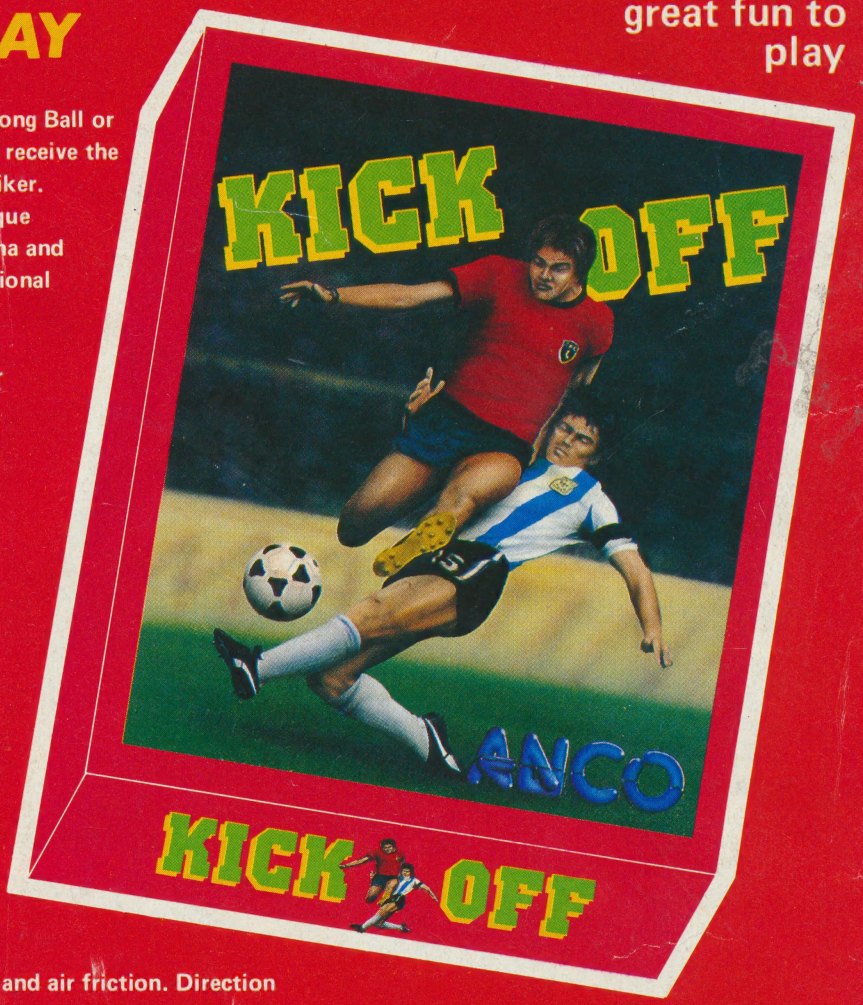
INTERFACE BY BRIAN COOKMAN



KICK OFF

BLISTERING PACE
PIXEL PERFECT PASSING
SUPERB TACTICAL PLAY

A Soccer Simulator which is not only accurate and realistic but is also great fun to play



Whatever your style of play may be, be it playing the Long Ball or playing the Sweeper, your players will be in position to receive the passes, control the midfield and tackle an advancing striker. Each player on the field is an individual with a unique combination of four attributes - Pace, Accuracy, Stamina and Aggression. Watch out for the Brazilians at the International level, they are dynamite.

* Full size multi-directional scrolling pitch with scanner showing all the players on the field.

* Option to practice and learn ball control, take corners and practice penalties.

* 5 Skill levels, International to Sunday League. The levels of both teams set separately. The ultimate challenge is the defeat of the star studded team of Internationals by the Sunday League of no hopers. A super human test of skill and concentration.

* One or two players option. * 4 distinct tactics.

* League competition for 1 to 8 players. Load and Save League facilities.

* Simple controls to dribble, shoot, pass, chip or head the ball or do a sliding tackle.

* Amazing ball simulation takes account of the ground and air friction. Direction changing breeze at the higher skill levels

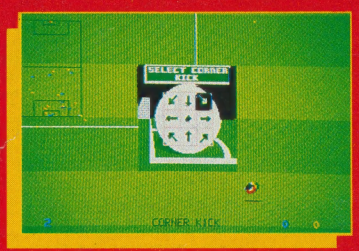
* 9 types of Corner kicks, Penalties, Yellow and Red cards and a host of other features like players getting tired by the end of the game, time wasting, injury time, etc.

AVAILABLE ON	
AMIGA	£19.95
ATARI ST	£19.95
CBM 64 Cassette	£9.95
CBM 64 Disk	£14.95
IBM PC Comp.	£24.95

PLAYING IT IS EASY
MASTERING IT WILL TAKE TIME - A LOT OF TIME

AMIGA

AMIGA



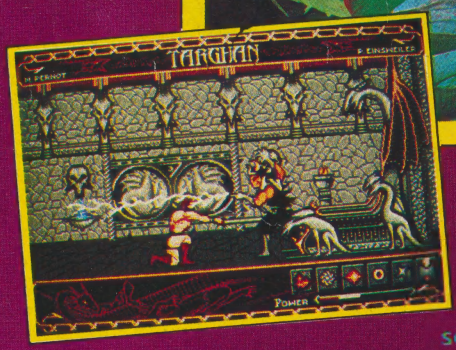
ATARI ST

ANCO

ANCO SOFTWARE LTD., UNIT 10, BURNHAM TRADING ESTATE, LAWSON ROAD, DARTFORD, KENT.
Mail Order by Cheque, Postal Order, ACCESS or VISA.
Telephone No.: 0322 92513/92518.
FAX No.: 0322 93422.

WIN Second Drive and a year's supply of New Titles published by Gainstar NOW!!! LOOK BELOW FOR MORE INFORMATION

TARGHAN



DEALER ENQUIRIES WELCOME – SPECIAL DISCOUNTS Distributor enquiries welcome

Targhan

Far from Edengarhn is the castle of the evil one.

Far from your village, a lord keeps the secret, such a powerful lord that he cannot be human, a creature floating a world that dies and grows again . . .

Targhan is probably the most stunning game you'll ever play.

Targhan is an adventure-action game with more than 120 landscapes and 40 different characters. The game is playable on either keyboard or joystick.

The game offers digitised sound and outstanding graphics. It will be released on Amiga, Atari and PC (EGA, VGA and CGA) by the end of May. The game will run on both colour and mono screens.

Look for reviews in *Commodore User, Popular, The One, C&VG, Ace, ZAP, The Games Machine and Amiga User International* soon!

Silmarils

To enter our competition please send your warranty cards of TARGHAN and complete the following:

I like the game Targhan because .....

.....

Send your entries to: **UNIT 1 (Rear of 7), WELLINGTON ROAD, SANDHURST, SURREY GU17 8AW ☎ (0252) 877431-879718 • Fax: (0252) 877431**

Closing date September 1, 1989.

GAINSTAR