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Atari ST
magazine

Volume 3
Number 6
August 1988
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Supra's 10Mb floppy
disc drive on test

GAMES

*Knightmare, Masters
of the Universe, Stir
Crazy, Thundercats
Uninvited, Time and
Magik, Obliterator,
The Flintstones*

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*Share Master, Data
Manager, Star LC10,
Spectrum, Digicalc*

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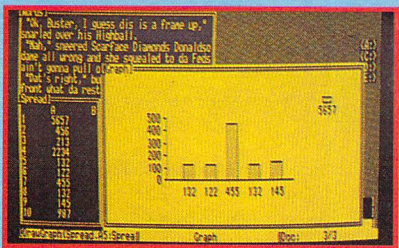
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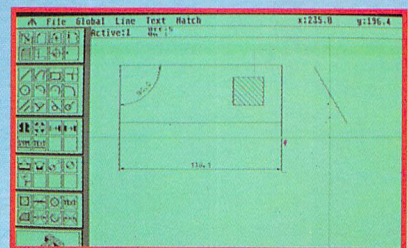
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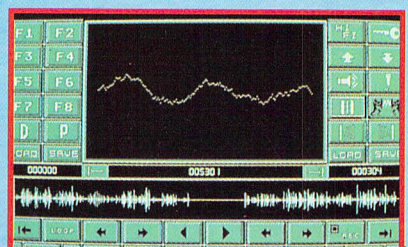
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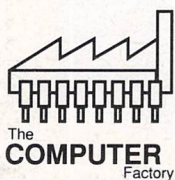
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Advertisement Sales
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Promotions Editor
Christopher Payne

News Editor
Mike Cowley

Tel: 0625 878888 (All depts)
0625 879940 (Subs)

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Prestel Mailbox: 614568383

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Ashley Ingram

Brillig

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Telecomsoft has recently restructured not only its product range but the entire company. Robin Nixon reports on the many new changes.

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Mailbag

Here's a further round-up of the brightest and most informative letters from our ever-bulging mailbag.

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It's here!

Part 1 of *The Complete Atari ST*. In future months this illustrated pull-out, which comes free with *Atari ST User*, will build up into the definitive guide to the workings and uses of this powerful micro - starting with beginners' basics and eventually progressing to cover the most advanced concepts and applications.

We kick off this month with:

- Exploring the 520STFM.
- First steps in ST Basic.
- Computer art - the basic skills.
- Beginner's guide to adventures.
- Harnessing Gem.

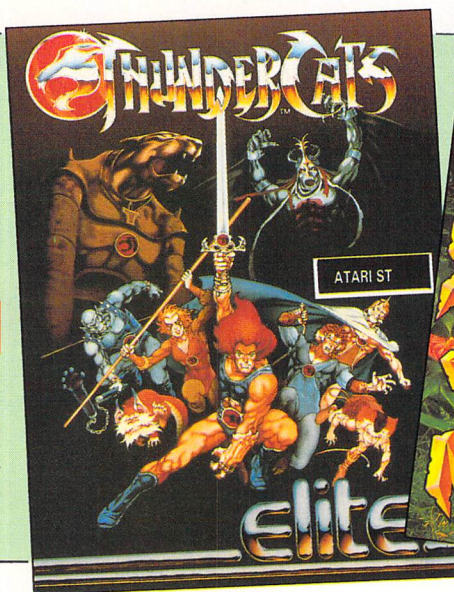


ATARI STAR USER GAMES

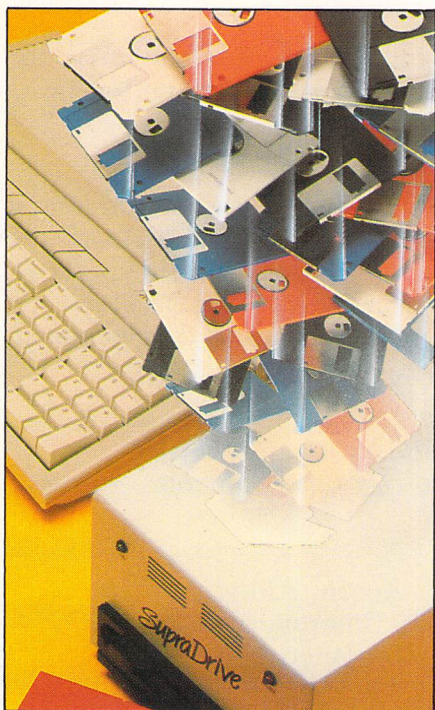
Thundercats vs Vixen

Two very similar horizontally scrolling bash-'em-up arcade games are given Star Game status in this detailed, comparative hands-on review.

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REVIEWS



Supra Drive

A 10 Mb floppy disc drive? That's right, and so competitively priced it could make hard discs a thing of the past, as Roland Waddilove explains.

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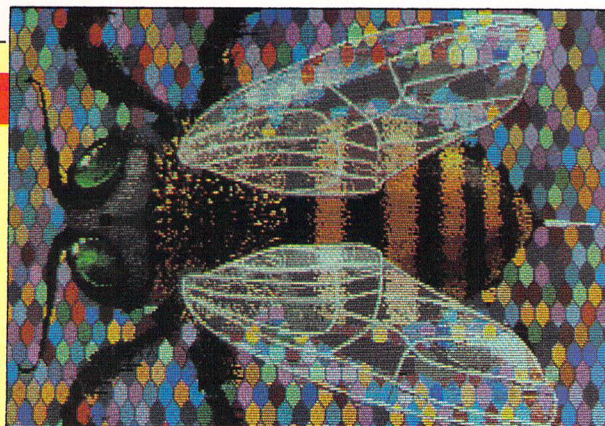
A comparison of the relative merits of two powerful low-level assembly language development systems.

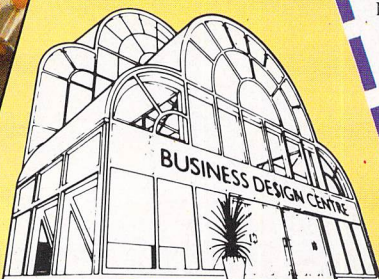
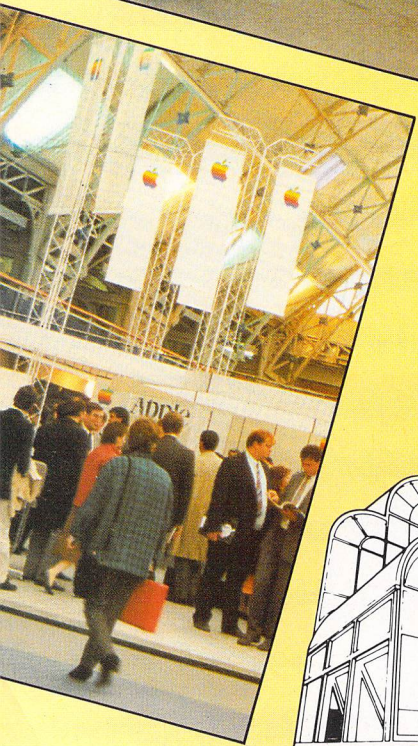
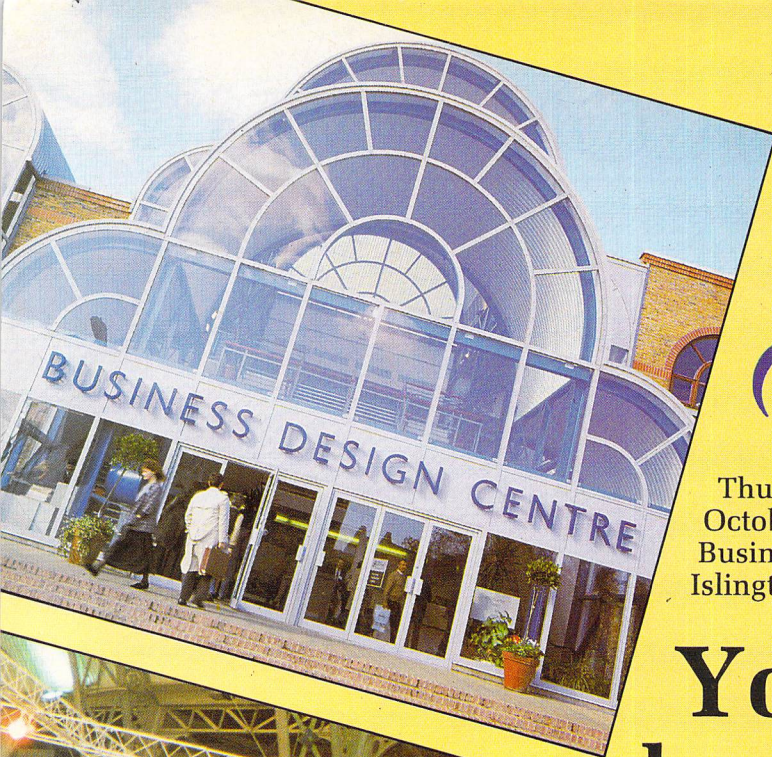
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Spectrum 512

A powerful new art package that provides you with a complete range of 512 colours on screen plus a whole host of other features.

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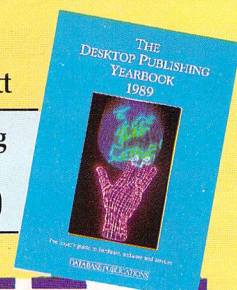
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Atari plans mega games machines

ATARI has started work on an ambitious plan to establish the ST as the ultimate entertainment machine.

Bob Gleadow, managing director of Atari UK, broke the news during a visit to the offices of *Atari ST User*.

He also revealed his long term strategy of using the company's business systems division to spearhead the research necessary to achieve this objective.

The Atari boss went on to provide a glimpse of what the ST of the "not too distant" future might offer:

- 32-bit, Risc or even transputer technology
- 100 Mb disc drives as standard.
- CD roms offering everything from autoroute planning through mega games to instant expert information for gardeners
- Startling video graphics.

"The developments we are undertaking today in our professional products will provide the key to our success in the

entertainments market of the future", said Bob Gleadow.

"For this technology will eventually come down to the price level where it will be cost effective for home machines".

So confident is Atari in its continuing success story that it sees no real threat in the activities of its market rivals – including Commodore's recent decision to slash £100 off the Amiga.

In fact, Bob Gleadow insists he wants the competition to intensify.

And the reason for this surprising attitude? He claims to be fed up with "picking up the industry bill" for promotion.

"You really need an advertising spend of £5 million to fully exploit market potential", he said. "And that's just too big a tab for one company.

"So I welcome any competition that will help ease this burden. We could all benefit from this – it would get the message over that the computer market is truly alive again".



More DTP accessories

AMERICAN developer Timeworks has launched a new line of accessories for use with its Atari Desktop Publisher ST package.

People, Places & Things is an art portfolio with more than 240 ready-to-use graphics for a multitude of applications.

Symbols & Slogans contains 450 camera-ready graphics designed specially for commercial and business applications.

Education Graphics is designed for all kinds of educational applications from nursery school to university level.

Design Ideas contains more than 85 innovative layouts and designs for home, school and business.

A spokesman for Electric Distribution (0954 61258), the firm which markets Timeworks products in Britain, says a decision on whether to carry the new line here will be made shortly.

Electric Distribution currently sells Atari Desktop Publisher ST for £99.

TRY TAMPERING WITH TIME

IT'S said that everyone remembers what he was doing when the news of President Kennedy's assassination broke. Paragon Software has taken that notion one stage further with *Guardians of Infinity* – players have the chance to travel back in time and change history.

The game is set in 2087, with time travel a matter of routine. The text adventure boasts 125 characters, including the Kennedy clan, Lyndon B Johnson and Lee Harvey Oswald, and pains have been taken to ensure historical accuracy.

Whether it's a particularly savoury way to mark the 25th anniversary of Kennedy's death is another matter.



Steve Brown, *Barbarian II* designer, and friends

Maria gets booted out

BARBARIAN is coming back, and this time publisher Palace Software is taking no chances with its controversial packaging.

The original game was banned from the shelves at Boots because of its raunchy sleeve design. But Palace (01-278 0751) anticipates no problems with *Barbarian II* which is due for release later this month.

There will be two different versions of the packaging. One features the muscled menace of Mike Van Wyjk and his voluptuous sidekick Maria

Whittaker, the other – for *Boots* only – dispenses with the scantily-clad Maria. Managing director Pete Stone told *ST User*: "Only *Boots* objected to the original *Barbarian* package and we got round that by blowing up the picture so Maria wasn't in it any more.

"This time we've short-circuited any repeat of the problem by taking two different shots at the photo session.

"But it's sad that *ST* users who shop at *Boots* won't have the bonus of Maria in full colour – she's really just the sort of girl to take home and meet mother".

Time and magik

The trilogy



Interactive fiction from **Level 9**

Three of Level 9's most acclaimed adventures – Lords of Time, Red Moon and The Price of Magik – come together in one package. Each has been enhanced and enlarged with more text than ever before – 60,000 mind-expanding words creating magik and mystery round every corner. There's a powerful new parser, and most disc versions include stunning digitised pictures that help to dramatically heighten the atmosphere.

What the press have said:

LORDS OF TIME: *"Destined to become a classic" – Computing with the Amstrad.*

RED MOON: *Best Graphical Adventure or Best Adventure of the Year – Zzap 64, Crash, Amix, C&VG, CCI, and Amstrad Computer User.*

THE PRICE OF MAGIK: *"Another superb adventure... their best yet" – Commodore User. Also a Crash Smash.*

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Atari push on TV

ADVERTISING pays – or at least Atari believes it does. The company's 1987 campaign for the 520 ST paid dividends – sales of computers exceeded 80,000.

Now Atari is hoping for a repeat performance, committing a massive £2 million to nationwide press and television advertising in the run up to Christmas.

The six-month push will again concentrate on the 520 ST, but the XE games system and the 2600 games console will also feature.

The spend – and the accompanying

promise to have 45 new titles on dealers' shelves by Christmas – reflects Atari's commitment to the home entertainment market.

This is already worth an estimated \$1 billion and expected to double over the next 12 months.

The revival of interest in the games arena also reflects the short supply and increased cost of dram and sram chips, factors which have combined to give Atari pause for thought in its hardware development plans.



THE latest project at Gremlin Graphics has been strictly a Mickey Mouse affair – but everyone's quite pleased about it.

The outcome is a colourful ST game set in Disney Castle where four evil witches under the power of the Ogre King have stolen Merlin's wand in order to perform evil deeds.

The player has to help Mickey Mouse in his quest to recover the wand and defeat the Ogre King in a race against the clock. Price £19.99 from Gremlin (0742 753423).

ST game tops chart

ATARI ST titles have been making games chart history. For the first time the Gallup "Chartalk 50" has been topped by an ST product – Out Run from Sega-US Gold. And Captain Blood from Infogrames has become the first ST title to head a weekly sales report at W H Smiths.

Gallup researchers believe Out Run is not only the first ST game to reach number one, but marks the first time that the top spot has not been occupied by a Commodore or Spectrum game.

Infogrames sales manager Pauline Garsden told *ST User*: "Captain Blood will become the biggest selling ST game in the UK.

"It is also doing very well in France and Germany and we expect to pass the 10,000 sales mark very soon".

W H Smith computer buyer Ian Laurie said Captain Blood was "an excellent game that is putting the flag out for ST software in general".

Staff at W H Smith report that ST program sales are increasing significantly every week and 16 bit titles now account for 10 per cent of the company's software turnover.

Evil bites the dust

THERE'S no lack of opportunity for ST users to act out their aggression in the latest clutch of releases from US Gold (021-356 3388).

Coin-op conversion Desolator, price £19.99, is described as "a fury of havoc and destruction" while Questron II – a £24.99 sequel to the Atari 8 bit hit Questron – is yet another blood-and-thunder battle against evil.

Away from the realm of fantasy, Shiloh offers scenarios from one of the turning points of the American civil war. Price £24.99.

And US Gold's Jerry Howells said the company is planning to release an ST version of Warship, which he describes as "the most comprehensive game of surface naval warfare ever". It includes practically every warship that fought in the Pacific from 1941-45.

THE Christine Erskine COLUMN

THIS time next year we could all be debating whether to splash out on a portable version of the ST family. Atari has let it be known that it has a laptop ST in development in the US, which it hopes to launch worldwide at the beginning of next year.

So far, information about the new micro – codenamed Stacey – is fairly sketchy, since Atari is still working on solutions to some of the technological refinements required by portable machines.

That Stacey will be ST compatible is definite. That it will not include a mouse is pretty obvious, and Atari reckons that the best bet here is to substitute a trackball – in effect a fixed, upside-down mouse – built into the keyboard.

Things are less clear in the vital areas of storage and display. While the installation of a 3.5in disc drive would be the most compatible form of storage, Atari is also toying with the idea of a hard disc.

And, concerned about draining the on-board memory, Atari is also considering using ram cards or cartridges in the machine. The amount of ram looks set to be either 512k or 1Mb. Which of these is taken on depends on which other storage devices are eventually included, and on the still-looming problems of dram chip prices and supply.

The display will very likely be a "portable standard" 80 columns by 25 lines, with some form of LCD presentation. Again, the possibilities of variations on supertwist technology and backlighting are still being researched.

Atari UK's MD Bob Gleadow says that

we shouldn't expect to see "even a cosmetic mock-up of Stacey" for some months yet. "The development work on it is complex because we are trying to reduce the chip count in the machine as much as possible", he said.

"This could ease some of our problems with dram chips, and hopefully we could then use the reduced chip set in the ST range proper.

"If we can get that side of things sorted out over the summer, we would hope to have prototypes made up by September, but we won't be releasing the portable until the first quarter of 1989".

It would appear that Atari will move into the portable market just as it finally establishes itself in this country. While surveys, analysts and general entrail sifters have consistently predicted great sales for portables "next year", high prices have prevented individuals from buying them in any quantity.

And a significant number that have been sold to companies en masse have been of the badged or customised variety. Now market research company Romtec has reported that with the launch of the low-cost Z88 and Amstrad PPC there is a definite upsurge in the sales of portable micros.

It will also be interesting to see what the company intends to package with Stacey. Portables without modems and PC compatibility or emulation have not been taken too seriously in the past. Stacey certainly could do with the first. And the second, now that Atari has its own PC range, would enhance its appeal.

Survey prize draw

THERE was a massive response to the reader survey in April's *Atari ST User*, and it has taken some time to read through all the comments and suggestions – many of which will be incorporated in future issues of the magazine.

All readers who supplied their names and addresses were entered for a free draw, with prizes offered by Psygnosis. The first winner – Paul Greenwood from Orpington – will be receiving copies of *Obliterator*, *Terrorpods*, *Barbarian*, *Deep Space*, *Arena* and *Brataccas*, as well as signed limited edition posters by artist Roger Dean.

The next five surveys pulled from the sack will each be receiving copies of *Obliterator* and *Terrorpods*: C. Barker, Lumsden; C. Wade, Westgate-on-Sea; L.P. Sundavist, Sweden; M. Vinsa, Geneva; and N. Henderson, Newport.

Ten readers will each receive a year's subscription to *Atari ST User*: A.I. Ferguson, Carlisle; S. Amos, Ilkley; T. Schenker, Zurich; J. Leplat, London; C. Bradshaw, Madeley Heath; R. Collier, Leominster; K. Cheund, Hendon; H.M. Walker, Hazel Grove; I. Vincent, Blyth; and V.R. Hamilton, Mevagissey.

And binders will be finding their way to: N. Laudat, Liverpool; B. Mansfield, Capel-le-Ferne; A. Bates, Rufford; I. Green, Hornchurch; M. Vitikainen, Ormattila; J.O. Eden, Linköping; A. Judge, Boreham Wood; D.R. Ross, Birmingham; S.P. Corcoran, Macclesfield; E.J. Kowalski, Erlensee; S.J. McWilliam, Runcorn; Eric McMillan, Leeds; G. Holman, Knaresborough; D.A. Rutland, Sheffield; and P. Saul, Dearham.

Bushnell is back

WORD from the US has it that original Atari founder Nolan Bushnell is to become involved with the firm again.

Regarded by many as the father of the games industry, Bushnell has apparently agreed to develop software for Atari computers through his own company, Axlon.

Sources say Bushnell is keen to design coin-op games again and has come across some three-dimensional programs he feels will be hits in the dedicated games market.

There are proposals for Axlon to create as many as 10 products for Atari in the next three years.

DTP goes on show again

THE scene is once more set for the desktop publishing industry's premier showcase event – the International Desktop Publishing Show at London's Business Design Centre from October 13 to 15.

Sponsored by PIRA – the UK technology centre for the printing and publishing industries – the show will reflect all the latest developments in the rapidly changing DTP environment.

And sharing space with industry leaders such as IBM, Rank Xerox and Kodak will be Mirrorsoft, demonstrating the versatility of its ST-specific Fleet Street Publisher package.

The program was developed and programmed by the Mirror Group's own typesetting consultants.

BIRTHDAY WINNERS

MARCH saw the second birthday of the *Atari ST User*, with Yamaha, Steinberg and Tynesoft joining in the celebrations to provide more than £1,400 worth of prizes.

It was hardly surprising that there was a large response, and hundreds of correct entries.

However, first out of the sack was Ken Ward from Monton, who will soon be receiving Pro-24 and MasterScore software from Steinberg Research/Evenlode, together with Yamaha's TX81Z 8-note polyphonic multi-timbral tone generator.

The next 20 correct entries will each

be receiving a copy of Tynesoft's highly acclaimed *Winter Olympiad*: D. Horne, Benfleet; S.L. Gilbey, Benson; M. van Ments, Islington; R.D. Jenkins, Finsbury Park; D. Hook, Crawley; T. Beaton, Acton; A.P. Harwood, Stockport; H. Howells, Ystradgynlais; T. Flynn, Tunbridge Wells; P.S. Walker, Rawmarsh; P. Dobbins, Maiden Newton; M. Keegan, Beverley; N. Thomas, Southampton; J.E. Day, West Bromwich; K.J. Ellwood, Burnley; F. Johansen, Svinndal; R. Miller, Oakham; P. O'Leary, Worksop; H. Wilson, Egremont; J. Alexander, Cardiff.

PC4 STAR OF FORUM

ATARI's first annual Forum, aimed at dealers, distributors and developers, drew a mixed response from those attending.

The entire Atari ST, PC, XE and VCS product ranges were on display, and the new Abaq was given its first official airing. But despite industry-wide speculation, this was no sign of the rumoured "ST plus".

Star of the event, in Atari's eyes at least, was the new AT-compatible, the PC4. With 512k ram – expandable to 1Mb – VGA compatibility and 60Mb integral hard disc, the PC4 is competitively priced at just under £1,300.

This was complemented in the business area by displays of PC compatible products, including Timeslips from Mirrorsoft, the Emerald Bay collection from Migent and other products hitherto seen

only on IBM compatibles. And there were ST specific applications there too, from Signa and from MacFarlane Systems who showed Arkey, a 3D CAD modelling package aimed at architects.

At the other end of the market, Atari announced that it will be releasing an STFM version of the 1040 ST in September. This will include a TV modulator as standard, but a real monitor will still be required for 80 column text work.

Some interest was aroused by Atari's 500Mb CD rom – with audio capability – but rather less by an Abaq demo. Slow loading time and limited displays drew unfavourable comparisons with Acorn's Archimedes.

Tucked away in the development section, however, were some interesting displays using robotics, notably from Personal Robots.

Enter Superman

A DIFFERENT concept in game design is promised by Tynesoft for its new arcade adventure – *Superman* – due for release in October.

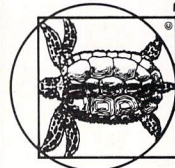
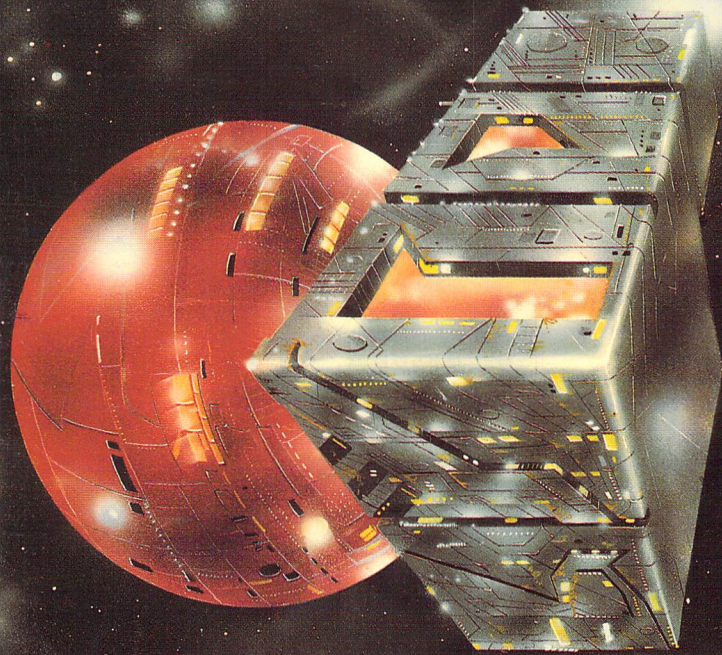
Tynesoft (091 414 4611) has signed a licence with DC Comics and First Star Software to publish the game. And the company is taking pains to ensure it catches the spirit of the original adventures – one of the team working on the game used to work for DC Comics.

The scenario is still under construction but the Krypton factor will certainly be in evidence, with all the familiar characters making an appearance.

Tynesoft has also released *Summer Olympiad* featuring five events – skeet shooting, fencing, high diving, triple jump and high hurdles.

It also boasts an elaborate opening ceremony and supports up to six players. Price £19.95.

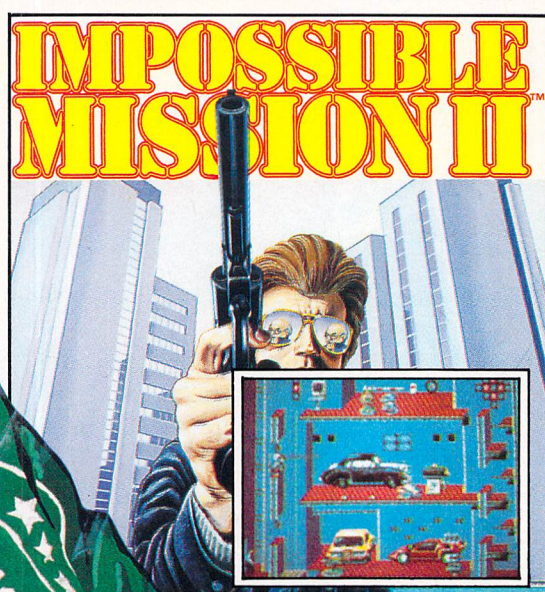
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Screenshots taken from various 16 bit versions.

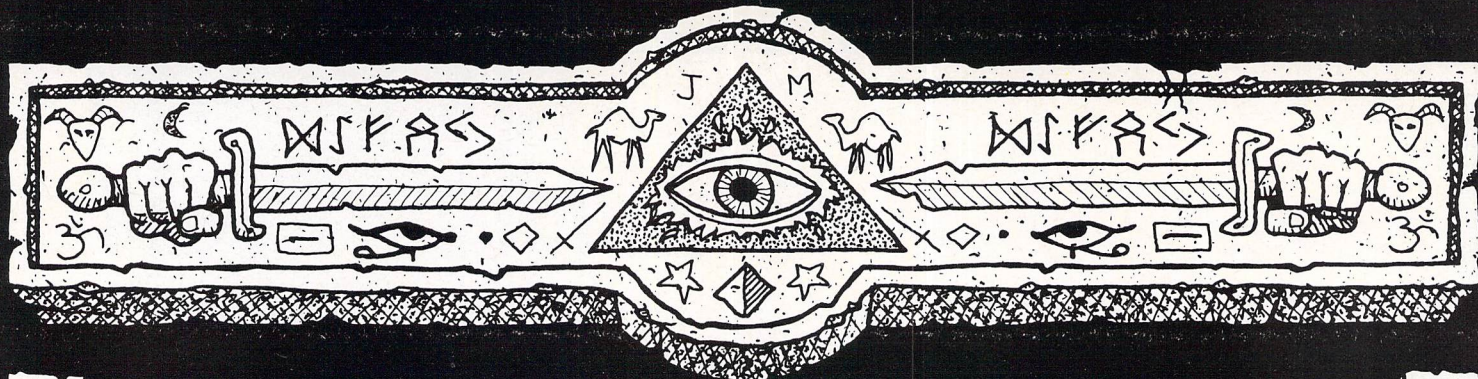
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Gallup Software Chart



This month	Last month	Title (Software House)	Price	Month reviewed in Atari ST User	Comments	Marks from 10
1	•	OUT RUN <i>US Gold</i>	19.99	July	After nine months wait here is one of the best car simulations for the ST, and a great improvement on the versions released for other home micros.	9
2	7	CAPTAIN BLOOD <i>Infogrames</i>	24.95	April	An excellent game in its original French form. The English conversion has been significantly improved, and is now even better.	10
3	•	GAUNTLET 2 <i>US Gold</i>	19.99		With the original Gauntlet available on compilation, the sequel hits the streets. Advance orders guarantee its place in the charts.	*
4	2	DUNGEON MASTER <i>Mirrorsoft</i>	24.99	May	The animated graphics and spot sampling effects make this quest worth dusting off your codpiece for. A superb role-playing adventure.	9
5	1	CARRIER COMMAND <i>Rainbird</i>	24.95	June	The action is brilliantly executed using solid 3D graphics. Combine this with the complex strategy, and you've got a real winner.	10
6	•	BUGGY BOY <i>Elite</i>	14.95	July	Delivers in the enjoyment stakes and has enough to stimulate that "one more go" feeling. Concentrates more on entertainment than realism.	8
7	5	IKARI WARRIORS <i>Elite</i>	14.95	June	If you're the type of guy or gal who thrives on danger and surmounts insurmountable odds this is for you. The ultimate combat game.	9
8	•	FOUNDATIONS WASTE <i>Exocet</i>	24.95	July	Has all you could want in an arcade game – superb graphics, lots of action, and sufficient variety to keep you playing for weeks.	9
9	3	OBLITERATOR <i>Psygnosis</i>	24.99	August	Just didn't spark any great excitement, partly because the alien spaceship scenario has just about been done to death.	5
10	6	XENON <i>Melbourne House</i>	19.99	May	An absolute must and deserves a place in every arcade game collection for anyone looking for the ultimate fast action shoot-'em-up.	10
11	4	GUNSHIP <i>Microprose</i>	24.95	May	Gird your loins for the ultimate flying combat experience. There is only one word for the ST version of Gunship: Awesome.	9
12	8	ARCADE FORCE FOUR <i>US Gold</i>	24.99	August	US Gold's first compilation – Gauntlet, Temple of Doom, Road Runner and Metrocross. Not a bad collection of arcade conversions.	7
13	•	IMPOSSIBLE MISSION 2 <i>Epyx</i>	19.99	July	Takes the mind-bending puzzles of the original game and combines them superbly with immaculate sound and graphics.	8
14	16	REVENGE II <i>Mastertronic</i>	9.99	August	Mastertronic has built up a hard-earned reputation for producing top quality budget games. Revenge II is one of them.	4
15	12	INTERNATIONAL SOCCER <i>Microdeal</i>	19.95	June	Sets out to provide a football game as entertaining and skilful as the real thing – it comes close to achieving these goals.	8
16	•	VIXEN <i>Martech</i>	19.95	August	The animation of Vixen herself is very realistic, so with whip in hand and the ability to change into a fox, you set off across the planet.	8
17	9	OIDS <i>Mirrorsoft</i>	19.95	June	At first sight a simple budget-quality offering, but it grows on you the more you play this update on the older lunar lander type game.	8
18	•	STAC <i>Incentive</i>	39.95	June	It is a superb accomplishment, and unquestionably the adventure of the year. Easy to get to grips with and enjoyable to use	10
19	•	SHADOWGATE <i>Mirrorsoft</i>	24.99		From Icom Simulations of Deja Vu fame this is an interactive graphic adventure. Nicely packaged and very atmospheric and engrossing.	*
20	18	LEATHERNECK <i>Microdeal</i>	19.99	August	Competently programmed, but it may have limited lasting appeal. Get together with friends for a jolly good blast.	7



TRIP-A-TRON, A LIGHT SYNTHESISER

IMAGINE that your *ST* is an instrument, a musical instrument which you can play like a piano, producing at will flowing light and iridescent colour instead of sound.

IMAGINE too that you match this display to any music you choose.

THE RESULT is a fascinating and almost hypnotic experience, its pleasure enhanced by the knowledge that the combination is uniquely your creation. And that the light and pattern sequences you have made need not be lost but can be saved and enjoyed whenever you wish.

THIS IS TRIP-A-TRON. It will run on any version of the *ST* from 512K up. It comes in a form which is instantly useable but behind that facade is a comprehensive and fascinating range of controls and variables which allows the adventurous user to experiment creatively, producing unique and amazing effects. On *ST*'s of 1 Meg and up, or combinations of several machines linked via the MIDI interface, *TRIP-A-TRON* becomes a professional's tool, enabling the artist/composer to lay down graphics and music tracks on video tape, for performance purposes.

TRIP-A-TRON offers a new art-form to those with the imagination and inspiration to tame it.

TRIP-A-TRON is on two discs and the package includes a comprehensive manual

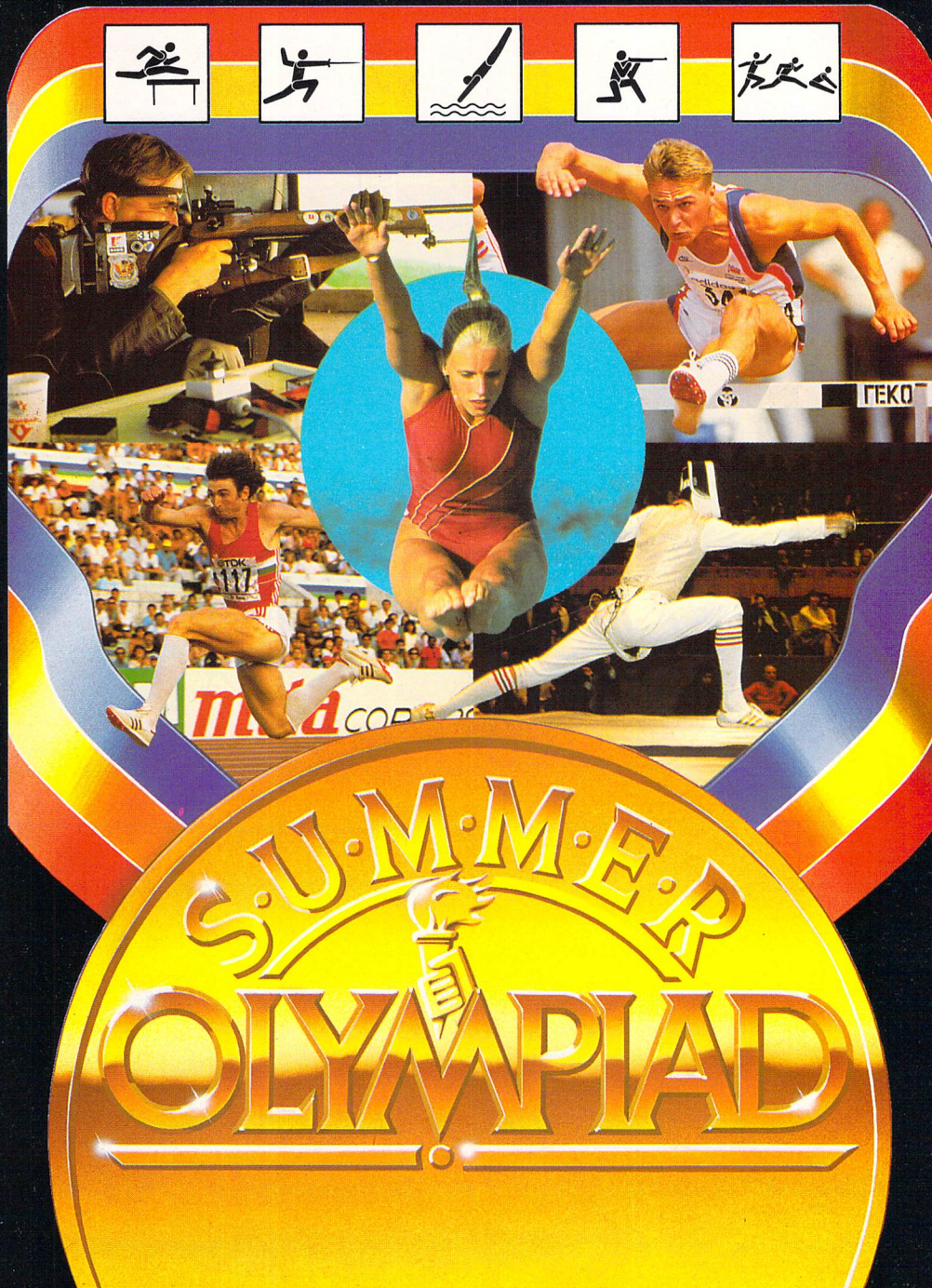
Its price is £34.95.

NOTE. If you have the *ST* version of *COLOURSPACE* you can obtain a discount of £10 on *TRIP-A-TRON*, by returning your *COLOURSPACE* disc to LLAMASOFT with a remittance for £24.95.

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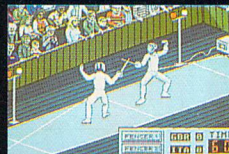


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Using the ST with Imagination

An interview with ST aficionado and song writer, Ashley Ingram

ASHLEY Ingram – singer, songwriter, keyboard and guitar player and member of Imagination – is a devoted Atari ST user. I caught up with him earlier this year at the Frankfurt Music Fair. He was very excited when we met on the Hybrid Arts stand and he immediately

SOME of the goodies on show at the Frankfurt Music Fair in May – see our June issue – are starting to filter through to distributors. In particular, there is a blossoming interest in scorewriters – programs which can print out your music. Some can even convert sequencer files into traditional notation.

One such program is Sonus' Super-Score (£220) which has just been upgraded to version 2.1. It has only just arrived in the UK and I've only just managed to snaffle a copy. A full review will appear soon.

I've also just received a copy of Passport Design's Master Tracks Jr from distributor MCM. It boasts 64-track recording, real and step-time input, graphic edit screens and it supports the standard Midi file format. And all for the princely sum of £99.

Talking of work in hand, also on my desk is another new program, this time from a new company – new to us in the UK, that is. Musigraph (£150) is produced by French software house SARO Informatique Musicale.

It, too, is a scorewriter, but one with a difference. It is basically a CAD program with a full complement of music symbols. It doesn't make any pretence at converting sequencer files – not an easy thing to do – and consequently it is very simple to use and the results are impressive. A review is coming up soon.

Evenlode Soundworks

Musigraph is being distributed by Evenlode Soundworks, the Steinberg people. Evenlode has just been appointed exclusive UK agent for American company Digidesign which specialises in sample manipulation and sound creation programs.

Although most of its output is geared



began to talk about his Atari ST and his music.

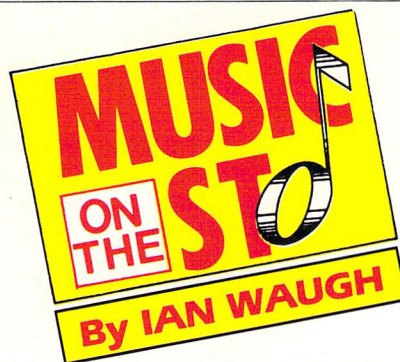
"I use Hybrid Arts software with the Atari 1040ST, SMPTETrack, EZ Score, GENPatch, DX Droid and basically everything Hybrid Arts cares to throw at me. HybriSwitch is brilliant. It impressed the hell out of me. Now, without dumping down to your disc you can switch between pieces of software.

"I'm in the throes of going to hard disc. I have to because I have about 300 discs of various things – songs, samples... all sorts.

"My cousin who services STs in the London region, tells me the model I have is wonderful, totally reliable. I've had it for 18 months and it has never let me down. He says hold on to this one, this is a nice one, it wasn't made on a Thursday.

"I'm going to install a second computer because I'm using my ST so much for sequencing I need a second one to do all the other things. It'll probably be another ST, or a Mega.

"You get very friendly towards your



computer – if it works, don't fix it. My computer hasn't given me a day's bother. I've taken it across to New York and recorded two tracks with top New York producer Arthur Baker.

"I took it from there to Philadelphia in a trunk, not a flight case, bunged in with an S900, other rack-mounted synthesisers and pieces of sponge. I worked with a guy called Nick Martinelli who produced all the old Philadelphia artists.

"From there we flew to San Francisco with my trunk, much battered and kicked

around, and we recorded with Preston Glass, who did the Whitney Houston albums.

"We found the more places we used it, the more it left the word: Man, that sure is good!

"I took it across from San Francisco to L.A where we finished off the album. We worked with a guy called Robert Kraft who was responsible for the Bruce Willis album. We also worked with a guy called Ron Kersey.

"This may sound like a name-dropping extravaganza, but it was fantastic for me. I've never worked with so many people of this ilk before and they respected what people were doing.

"We had our software, we had our computer, we had our songs and we said we want to work on this and they said OK. We were working with people who had done everything on all levels.

"The last track we did was with a guy

Turn to Page 18 ►

Scorewriters on the increase

News and developments on the ST Music scene

towards the Apple Mac, it has two programs for the ST, and the range is growing.

The Universal Sound Designer (£315) will work with most makes of sampler and allows sound to be ported between machines, a facility many musicians have wanted for ages.

Softsynth (£235) lets you create sounds for your sampler by additive synthesis, a very powerful, but often complex method of synthesis. The Smartsynth function however, lets you choose the characteristics of the sound you want and will produce variations on it. Clever, eh?

There seems to be a lot of sampling software around at the moment. Dr.T, distributed by MCM, has just released Sample Maker (£199) which, as well as offering 60-operator FM synthesis, lets you swap sounds between samplers.

Hybrid Arts distributors Syndromic Music has exclusive distribution of Drumware, which specialises in sampler software. Its SoundFiler series supports the

Akai S612, S700/X7000 and S900 samplers. Features include on-screen manipulation of the waveforms, auto crossfade looping, digital EQ and lots of other sampler jargon facilities.

New from Drumware is the GenWave range. GenWave 12 supports all 12-bit samplers and there'll soon be a Genwave 16 to support 16-bit samplers.

GenPatch

Hybrid Arts is releasing a series of hard disc drives, optimised to work with its new ADAP 2 sampling system, although they will be compatible with the Atari ST and Apple Mac.

GenPatch (£129.95), standing for Generic Patch Librarian, again from Hybrid Arts, allows the transfer and manipulation of System Exclusive and sample dump data. It currently supports more than 70 types of Midi equipment.

A new company, Stiletto Sound Systems, has been quick to latch on to the possibilities of such a system, and offers voices in GenPatch format for instruments such as Ensoniq's ESQ1, Casio's CZ synths and Yamaha's DX range. SSS will soon be

releasing sounds for a wide range of other instruments.

Do you have a DX7 and would you like a DX librarian program for £4? No, I didn't believe it either, but the program in question is called DXorganiser and it's on offer from Five Pin Din Software.

It hopes that having got its DXorganiser for almost nothing you will then want to buy its DXpert program at a nominal £32. DXpert offers mouse-controlled numeric editing of the DX's parameters, plus random patch generation.

Finally, news just in from MCM reports of work on an M-type (reviewed in the May issue of *Atari ST User*) sequencer called Real Time. Described as a combination of M and Jam Factory, it lets you alter parameters in real-time – what else. More news and information when we hear it.

FACT FILE

Sonus International Limited, P.O. Box 18,
Wokingham, Berkshire RG11 4BP.
Tel: 0734 92699.

Evenlode Soundworks, The Studio, Church
Street, Stonesfield, Oxford OX7 2PS.
Tel: 099-389 8484.

MCMXCIX, 9 Hatton Street, London NW8.
Tel: 01-258 3454.

Syndromic Music, 24-26 Avenue Mews
London N10 3NP.
Tel: 01-444 9126.

Stiletto Sound Systems, 14 Nelson Street,
Dumfries DG2 9AY. Tel: 0387 65276.

Five Pin Din Software, 27 Acacia Avenue,
Owlsmoor, Camberley, Surrey GU15
4YH.

MUSIC ON THE ST

By IAN WAUGH

◀ From Page 17

called Randy Goodrum, who is probably best known from the GRP days of Dave Grusin. He's recorded Bob James and Martha Mason. He's a fabulous musician".

The recording itinerary for the new album over, we fell back to discussing software.

"I was looking for a word processor that lends itself to lyric writing and Hybrid Arts brought out EZ Score Plus. It's very useful when Imagination are together writing songs.

"Leee is the main writer. He'll scribble, and I'll take his scribbles and put chords to them. I can sketch my ideas, print them out lyrically and music-wise, take them to another guy and say, 'Listen, Lee and I can't seem to get any further, take it from here'. And that's all through computers".

When you record, do you use quantisation very often?

"No, not often at all, although I use it sometimes on certain phrases. There are certain jazz things on which I hate the idea of quantisation – it's just too right".

Do you think sequencing facilities such as quantise, looping, copying tracks, transposition, ghost tracks and so on are too sophisticated?

"There's too much looping going on. There's also too much nicking off other people's records – it's killing the industry".

You don't?

"No, I definitely don't. I made all the drum samples myself. I didn't steal from anybody. Some keyboard samples I bought from libraries or exchanged with friends. That way there's a circulation of ideas. But just buying a record, hearing a snare and stealing it, there's no future in it. It's too easy to make a computer do all the work.

"Sometimes it doesn't hurt just to hit the spacebar, and with all your mistakes, just record from the start of a piece to the finish".

There can't be many people who actually work like that. The software has so many features that it makes you want to work in a different way. It makes you want to put a note or a bar in at a time.

"But check this – get to the other end and you've got the whole song. Say I love the chorus. You take it out and use it somewhere else.

"You start playing around now. I love

the tambourine part. I wonder what it'll sound like if I take the tambourine sound out and replace it with two cabasas. There is so much creativity when you have the song first".

Do you use the computer to write?

"I use the computer to get what's inside my head out as quickly as possible. When you jump out of bed at 3:30 you're not in the mood for setting up how many bars you want it to run or answering questions about velocity changes. By that time the song has gone so far you have to book a ticket to Jamaica to catch it.

"I run straight out, hit the spacebar and I'm playing. I never switch anything off. It's always on".

What equipment do you use?

"I use an S900, Elka EM44, DX7, Akai AX80, Oscar Bass synth and Oberheim Matrix. Odds and sods. I pick my things. Each synth has its own qualities.

"Personally I'm not into Roland or Ensoniq equipment because both try to cover too many areas. They tend to be a jack of all trades and master of none. Great synthesisers, they can do so many things, but if you say OK, home in on something ... not so easy".

Do you use any voice editing software?

"DX Droid. It's a very clever piece of software, frighteningly clever. You can ask the computer to select a bank of 32 bass sounds, and in its own way you can tell it why you don't like them. It thinks

about it and creates 32 new sounds for you, as if to say, 'How's that!'"

Do you think programs with automatic patch generation are encouraging people to be lazy about creating their own sounds or do you think it's a good idea?

"I think it's a good idea. I think the world will agree with me, the DX7 is not the easiest instrument to program so the more help you get the better.

"You can pick out the presets on records in the charts. I'm sure I'm not the only person who can do that. I'm more interested in instruments which have the facility to allow you to create something you feel belongs to you. That's the most important thing in music – originality".

Do you use any presets?

"Yes, I do on the Elka EM44 because they are such warm sounds and they're not that popular. It's warmer than a DX7 and brighter than a lot of analogue synthesisers so it has a nice little niche.

"You have to put together a package of different instruments. I pick the best of everyone's equipment. If you stick to one company you sound like some Japanese music – the musicians are very very clever, but they're so incestuous it sounds like elevator music. It all sounds the same. It's Roland this, Roland that, Yamaha this, Yamaha that. You need to mix and match".

When you're writing a song, do the sounds automatically come with the arrangement?

"Sometimes they do. I hear brass, or I hear strings. You see pictures when you hear the whole arrangement".

Are you looking for new sounds here at the Fair?

"I'll be looking at the new Oberheim stuff and a few other pieces, synthesisers based upon computer technology which actually uses a visual display to help create sounds.

"I think that's the way the industry is moving because people are getting tired of looking through a half-inch window for six hours when they're editing a sound. It drives you crazy and leaves you resembling a mole.

"I'm building a new recording studio. It'll be finished by the summer and it'll be totally computerised. Computers for sampling and mastering, playing and recording sequences".

Just before our allotted span petered out, Ashley summed up his attitude to music very nicely.

"You can be a computer person first and a musician second. All I know is, at the end of the day, people like to hear music".

And Ashley Ingram's music certainly stems from the musician in him.

The most recent results of his song-writing and programming can be heard on the album Closer by Imagination, RCA 71508.



Ashley Ingram: "you get very friendly towards your computer".

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5	ARTIST 1	Neochrome V 1.0 Doodle, Megaroids, Logo Pictureshow
6	WORD 1	Firstword. Plus Printer installation & Tutorial Document
7	CB4UBUY	Working Demo's of Flexifile, Professional, Midi, Sound etc
8	MONO 1	Mono versions of Chess, Krabat, Colossal Cave Adventure etc
9	MUSIC 1	Colourful Pictures & Music Played through T.V. or Synth.
10	MUSIC 2	Synth samples 36 Tunes and Graphics
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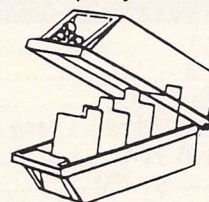
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A hard decision

This new 10Mb floppy disc drive may put hard disc suppliers out of business says Julie Boswell as she tries Supra's FD-10

UP until now it would have been quite true to say that there are two types of disc drive: Those that use ordinary removable floppy discs, and those that have built-in non-removable hard discs.

However, this has all been turned on its head by the release of a new type of drive that bridges the gap between hard and floppy discs – Supra's FD-10, the floppy that performs like a hard disc, giving the best of both worlds.

The floppy disc, drive – like the one built into a 520STFM and 1040ST – is relatively slow to access, and has a small storage capacity. The ST's 1Mb double sided drives may seem quite a lot at first, but it is surprising how quickly floppies fill up with programs and data.

On the other hand, hard discs have a very fast access time and a large storage capacity too. This makes them almost mandatory for handling large amounts of data, such as in a business where mail shot, word processing, spreadsheet and database files may take up large amounts of disc space.

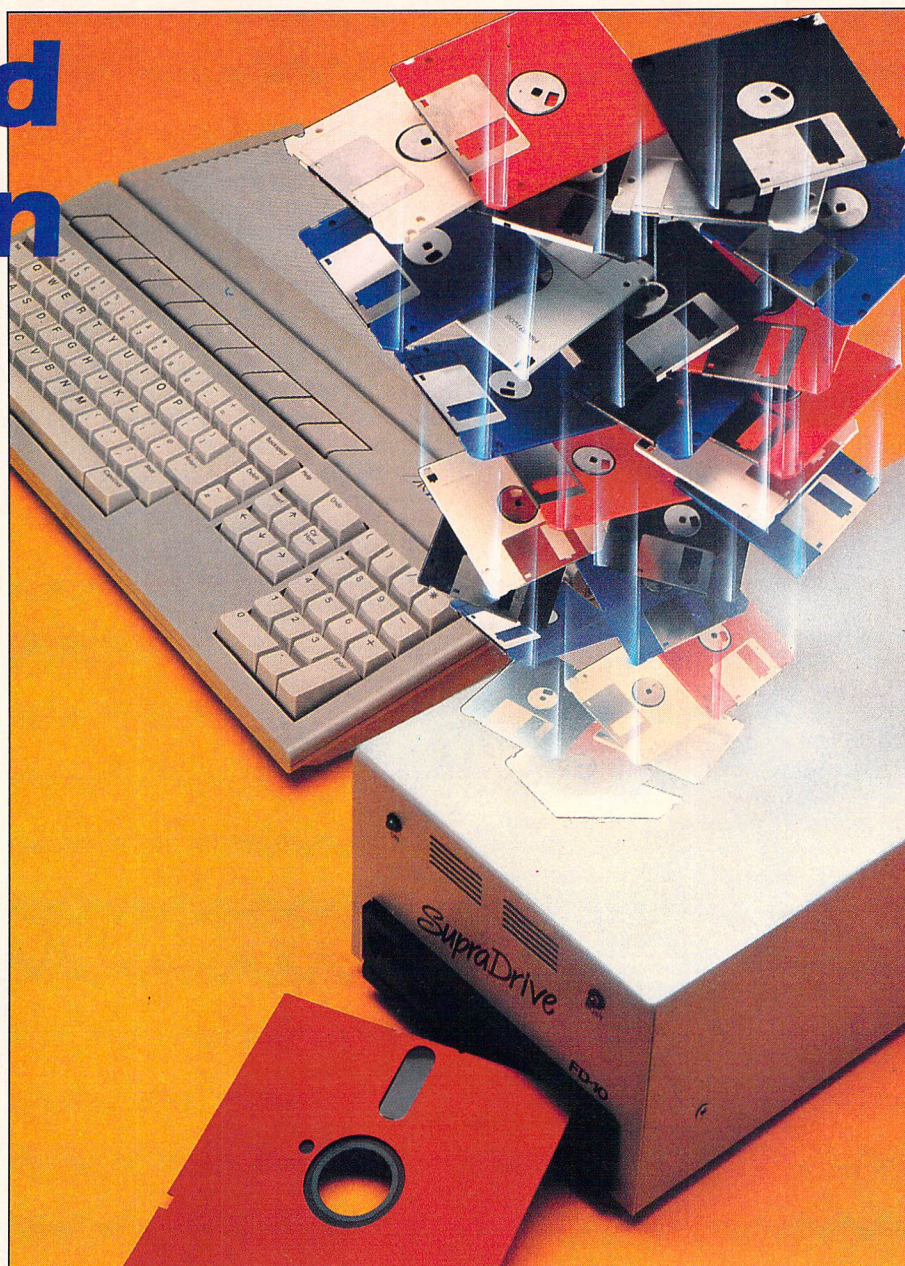
And this isn't the only consideration. Programmers don't want to be sitting around twiddling their thumbs waiting for source files to be assembled. Compiling a large C program can easily take 10 or more minutes with a floppy disc, but considerably less with a hard disc.

So why aren't hard discs more common? The answer lies in their price – they start at around £600 and go up to £1,500 or more, putting them beyond most people's pocket. Conversely, floppy drives are relatively inexpensive at just over £100.

The FD-10 10Mb floppy

This clear-cut distinction between hard and floppy discs has been blurred somewhat by the release of a new type of floppy disc drive with the speed and capacity of a small hard disc drive unit. Supra's FD-10 is a 10Mb drive that uses 5.25in floppy discs.

The unit is quite bulky – approximately the size of a large shoe box, and strongly



constructed too. There is so much empty space inside the case that it's possible to install a hard drive unit, though I'm not too sure why you'd need one. It is also supplied with an internally fitted clock card.

The FD-10 plugs into the ST's DMA port like a hard drive, which means it can access the ST's memory extremely quickly. It can also be daisy-chained with other hard drive units.

After formatting, the Show Info menu item reports that there are 10,688,512 bytes free. That is equivalent to almost 15

double sided discs, or 30 single sided ones. Forgetting the initial cost of the drive, day-to-day running costs will be less with the FD-10.

It is noticeably faster to access than an ordinary floppy disc so I performed some simple tests to see just how fast it was. Table I shows the results, indicating that the FD-10 is around three times faster than the ST's built-in drive.

The manual and 3.5in disc I received with the unit are the ones supplied with Supra's hard drive units. The disc contains several utilities such as a hard disc editor, a Neochrome or Degas picture display program and a utility to set the time and date on the clock card.

The drive tested – the first in the country, so there may be minor changes to later production models – will not boot on its own, requiring a small boot program placed in the Auto folder of a normal floppy. Desk accessories are loaded from

	FD-10	Floppy disc
Load Protext	7s	29s
Compile GST Cprog.	1m 27s	2m 57s
Boot up 1st word	9s	29s
Load Degas Elite	7s	23s
Save 80k Protext file	6s	18s

Table I: Speed test results

Turn to Page 22 ►

◀ From Page 21

the FD-10's disc. There is a slight drawback with this drive, and that is cost. The drive is priced at a shade under £850, and you can't simply cram 10Mb of data on to an ordinary 5.25in disc that you buy for 50p or so in the shops. You need special high density 480TPI ones – which in plain language means they will accept an exceptionally high quantity of data.

Unfortunately, they are also expensive, costing just under £18 each. This makes the FD-10 more expensive than a hard disc of comparable size. For instance, Supra's own 20Mb hard disc is only £600 – some £250 cheaper, and twice the size.

So what are the advantages of the FD-10? Well, let's look a little further. A 30Mb hard disc retails at £850, while 30Mb with the FD-10 will cost £850 for the drive, plus three floppy discs at £18 each, making a total of £904 – some £54 dearer.

Now comes the interesting part: A 60Mb drive costs £1,500, while a FD-10 plus six discs comes to £958 – that's a saving of £542. So the more storage space you require, the more you'll save with the FD-10.

Would you ever fill over 30Mb of hard disc space? I suspect that few people will answer yes to this. So the average ST user would probably be better off with a hard disc.

However, there are situations where

the FD-10 is a distinct advantage. Consider for instance, an ST and FD-10 in use in an educational establishment. Each student could have his own 10Mb floppy disc containing his own programs and data.

The discs can easily be stored in a disc box or carried by the student. A particular student isn't tied down to a specific ST and hard disc – the floppy can be placed in any drive and used in the same way as a 10Mb hard drive.

This flexibility isn't possible with hard discs. They are a fixed size and don't like being moved – you couldn't pop a 10Mb hard disc in an envelope and post it, like you can with the FD-10. Nor can you swap hard discs with a friend quite as easily when you want to access his programs or data.

One other important feature is the FD-10's ability to read standard 360k and 1.2Mb format IBM discs. The unit is intelligent enough to recognise that the disc in the drive is from a PC and automatically adapts its mode of operation. This is a welcome bonus in business and educational environments.

Conclusion

The FD-10 won't suit everyone, but to some it will be invaluable. Its main strong points are its unlimited storage capacity

and portability of data between other machines.

How reliable is it? This is impossible to say as at the time of writing I've only had the drive a couple of days, but so far it has worked perfectly. How does it cope with dust? How robust are the special floppies? Is it safe to cram 10Mb on to a floppy? I'll let you know after more extensive tests.

Looking to the future, if Supra can bring the price down to the same level as a 20Mb hard disc it could drastically cut hard disc sales. After all, why restrict yourself to 20Mb when you could have unlimited capacity?

FACT FILE

Product: Supra Drive FD-10

Price: £849.95

Supplier: Frontier Software, PO Box 113, Harrogate, North Yorkshire HG2 0BE.

Tel: 0423 67140

POINTS FOR:

Unlimited capacity. Fast access time. Portability of data. Very cheap compared to a 60Mb hard disc. Reads IBM PC discs.

AGAINST:

More expensive than a 20Mb hard disc. Very large case. Reliability of drive and discs not yet known.

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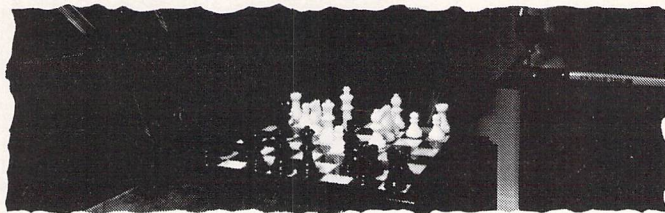
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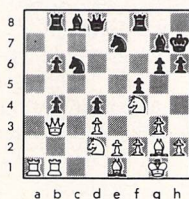
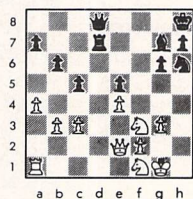
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IN the early eighties Star Micronics emerged to confront Epson, which by then had established itself as the market leader in printer manufacturing.

Blundering in the dark, Star first produced a fairly sketchy range of dot matrix printers which were not built to very high standards, nor fully Epson-compatible. After this initial setback Star went on to produce a new complete range of dot matrix printers, nine in all, making up the N series.

The most popular was the NL-10, the machine that can be credited with Star's success. It was sturdy, well built, had Star's revolutionary control panel, and for a nine-pin printer had excellent near letter quality print.

Then almost without warning Star withdrew the NL-10 from the market and replaced it with the LC-10. I was sceptical that Star had made the right decision. Could it really improve on the NL-10, reduce the price and still keep up the high quality of construction?

The LC-10 is much smaller and lighter than its predecessor, but seems to be just as well built. On the front of the machine is the control panel, which at first sight may look quite complicated, but is in fact quite easy to use and extremely useful.

It allows control of the main functions such as type style and paper feed and enables you to carry out the ingenious function of paper parking, of which more later.

An interesting feature of the front control panel is that it allows you to move the paper backwards as well as forwards without resorting to the platen knob.

Even though a printer is usually not the most aesthetic of objects the LC-10 has well-sculptured lines and does look quite attractive. It comes with a well-written manual that takes you step by step through all the functions.

It is very clearly illustrated with plenty of line drawings and screen dumps. Chapter three is particularly useful as it gives many tips on using the printer with

Rising Star

Grahame Cohen tries out Star Micronics' new LC-10 colour printer

commercial software such as word processors and the like.

At the back of the manual is a pull-out reference card, giving details on DIP switch and control code selection. The index situated next to the reference card is fairly comprehensive and should suffice for most purposes.

The NL-10 achieved compatibility with virtually all computers through its plug-in interface. Four cartridges are available: Parallel, IBM, Commodore and serial.

The LC-10 does not offer such complete flexibility. Two versions are available: The standard LC-10 is provided with a parallel interface for full Epson and IBM compatibility, while the LC-10C has an interface for use with Commodore computers. But being proud Atari ST owners, as I am sure you all are, we will forget that I ever mentioned that.

An external serial to parallel converter will be available in the near future. I am told that it will be quite compact and cost in the region of £40 to £50.

Unlike the NL-10, the LC-10 is available in a colour version, allowing you to print in seven colours including black. This requires a special colour ribbon costing £6.90. The standard black ribbon costing £4.60 can also be used when only normal text output is required.

The colour LC-10 only costs £34.50 more than the standard model, which

makes it very attractive indeed. Installing the ribbons into it is a pleasure as they slip in without so much as an inky finger.

This is probably because the ribbon cartridge is so small – much smaller than that of the NL-10. The decrease in size also means a decrease in life span; an LC-10 ribbon can print up to one million characters while an NL-10 ribbon which only costs 90p more can print three million.

This all points to higher running costs. Star however, assures me it will soon release a high density ribbon for the LC-10 capable of printing two million characters.

The LC-10 has a nine pin matrix, and the printing speeds are 120 characters per second (cps) for draft quality and 30 cps for NLQ. If however you print in NLQ Elite, printing speeds will be increased to 36 cps.

A 4k text buffer is supplied on all models apart from those with Commodore interfaces, where only a one line buffer is included. Both friction and tractor feeds are supplied as standard. It has push tractor feed with short form tear off.

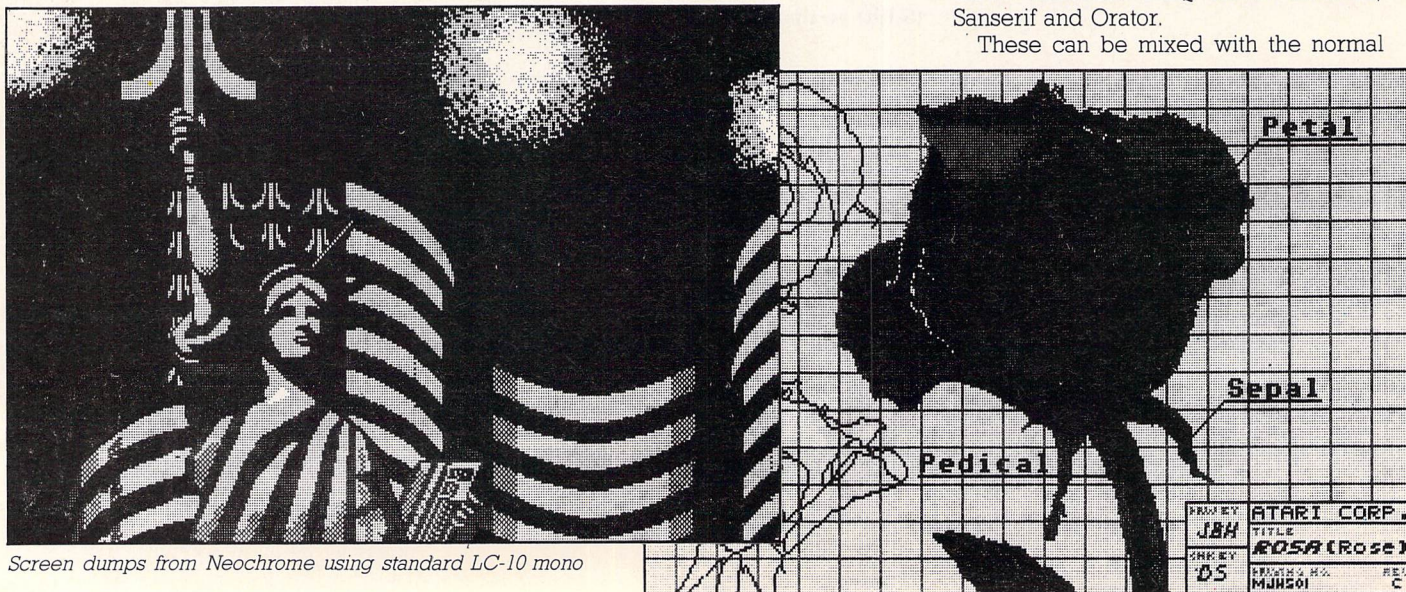
The LC-10 also has the latest feature in paper handling – paper parking. Until now, you had to re-align the tractor feed sprockets – or even remove them altogether – each time you changed between fanfold paper and single sheets.

Not any more. With paper parking you can use single sheets without removing the fanfold paper. By simply pressing the appropriate buttons on the control panel the fanfold paper is reverse fed and "parked" and you can then insert your single sheets.

When you want to re-load the fanfold paper you simply pull the bail lever forward and it is re-fed back into its original position.

A printer's function is to print, and in this field the LC-10 excels. For a nine-pin the NLQ typefaces are remarkable, putting most other nine-pin machines in the shade. And unlike its predecessor, it has three different NLQ fonts: Courier, Sanserif and Orator.

These can be mixed with the normal



Screen dumps from Neochrome using standard LC-10 mono

This is draft now Underlined and now Italic and underlined
 This is BOLD now Underlined and now Italic and underlined
 This is draft Superscript and draft subscript
 This is bold Superscript and Bold Subscript
 This is elite Draft underlined and Italic
 This is Elite NLQ which prints at 36 cps now underlined Italic

123456789:;<=>@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~

LC-10 self-test printout

print styles pica, Elite and condensed giving you quite a selection of NLQ type-styles to choose from. I found the sanserif to be the best NLQ font as it had the least dotted appearance.

The nine-pin head prints bi-directionally. In NLQ mode it makes two passes, which slows things down considerably. When printing a screen of graphics I found that unlike most dot matrix printers the LC-10 does not leave very noticeable horizontal lines across the page.

I have been hard pressed to levy any serious criticisms against the LC-10. One niggle however, is the length of the cable - it would not reach my plug. I suppose I will just have to put up with that.

Conclusions

It appears the LC-10 has been very carefully designed. It has more functions than any other printer in its price range without compromising on quality of construction.

Printer prices have been steadily dropping over the past few years, but colour printing has never been available at such a low cost. Star has targeted the LC-10 at home users as well as small businesses, but with a top speed of only 36 cps in NLQ combined with a short ribbon life, the LC-10 is better suited for the home.

Not many home printers can boast a paper parking facility, excellent NLQ print and colour printing. For these reasons the LC-10 comes highly recommended.

FACT FILE

Product: LC-10 Mono

Price: £263.35

Product: LC-10 Colour

Price: £297.85

Product: Automatic Single Sheet Feeder

Price: £74.75

Supplier: Star Micronics, Craven House, 40

Uxbridge Road, Ealing, London W5 2BS.

Tel: 01-840 1800

POINTS FOR:

Good range of features. Three fonts. Clever paper parking facility.

AGAINST:

Short power cable. Printer ribbon doesn't last as long as it used to.



(Draft Elite)

Introducing the new multi-font LC-10 from Star which has a realistic 144 characters per second in draft Elite mode. The LC-10 can handle single sheets as well as continuous paper using the standard push tractor which, with the second set of benefits of low form tear-off.

(NLQ Courier Elite)

The multi-font LC-10 prints in near letter quality at 36 cps in NLQ Elite mode and produces excellent results than some of the 24-pin printers around today.

(Draft Pica)

The LC-10 also comes with the revolutionary paper parking facility which means you can use single sheets of paper to remove the tractor paper. There will also be a cost cut sheet feeder available.

(NLQ Courier)

The multi-font LC-10 has eight resident fonts selectable from the front panel, all of which are available in both normal and condensed modes (10 and 12 cpi), all of these fonts are selectable from the front control panel.

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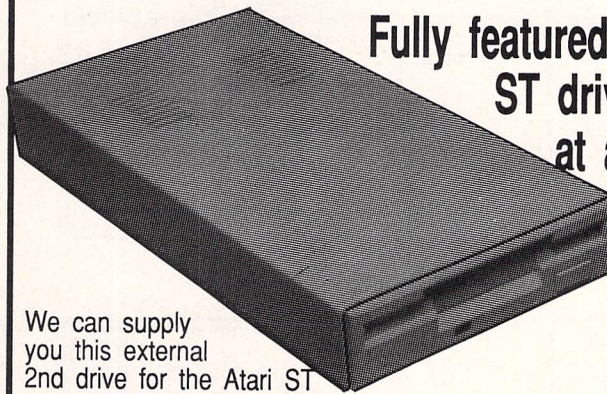
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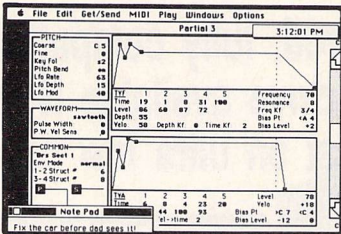
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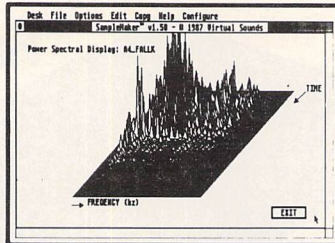
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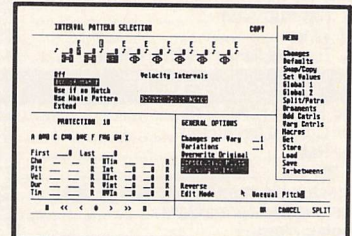
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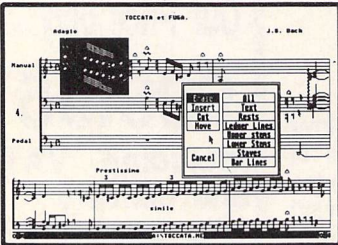
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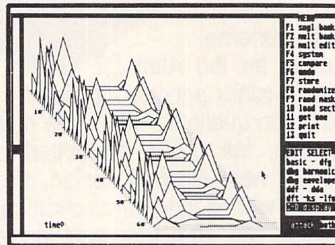
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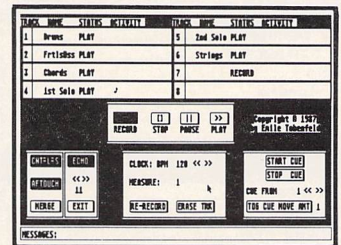
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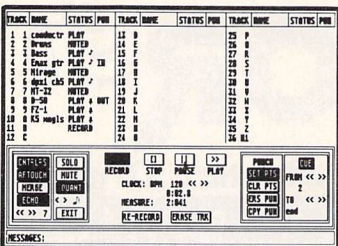
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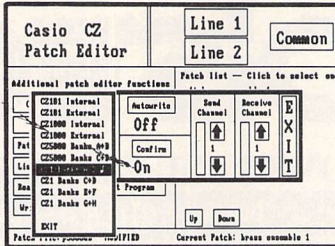
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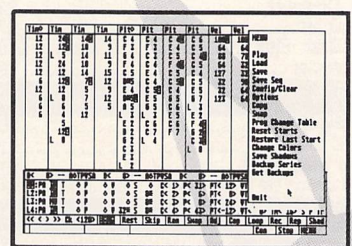
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L O O K I N G A F T E R Y O U R F U T U R E

Steve Mansfield tries out a new spreadsheet aimed at the budget end of the market

IT is hard to imagine that there is room for another spreadsheet. As the first personal productivity software to appear on a micro, the venerable spreadsheet has been around a long time, in many guises, with varying degrees of success.

The ST is already well catered for in this department, with sophisticated packages such as VIP Professional and Logistix, and simple, easy-to-use programs like Graphic Sheet. So any new spreadsheet coming on to the market needs a new angle – something which marks it out from the crowd.

Digita International thinks it has achieved just that, through the undeniably bold step of producing a program with absolutely no frills. The attraction, of course, is that the price is equally stripped down – in this case to £39.95.

At first you might think Digita is being unnaturally modest. In bold letters on the box and promotional literature is the legend 9 out of 10. But what appears to be a not quite-perfect score turns out to be a reference to what the company thinks people are looking for in a spreadsheet.

Simplicity

According to Digita, 90 per cent of spreadsheet applications are simple tasks that don't require the more complex and advanced features of the top professional packages.

In other words, a simple program, without mind-bogglingly versatile but hard-to-master features like programming languages, time planning, infinitely variable data formatting and so on, will still be capable of performing nine out of ten jobs asked of it.

There's probably a lot of truth in that. The spreadsheet, like many other application programs, is capable of being applied across such a wide range of problems most people could find a use for one, if only they could afford to take the risk of being wrong.

And that's where the real problem lies. With the top programs costing anything from £100 upwards, they are not trivial purchases. That's more than enough to put off many people.

Digicalc, on the other hand, sells for just £39.95. That makes it a reasonable gamble. And there's the bonus that its simplicity means you will not have to spend hours grappling with arcane commands before putting it to use. In the end

though, you might well discover the program is just too simple.

Once you start using a spreadsheet, you soon find yourself wanting to do increasingly complex things with it. You begin to discover what all those strange and exotic functions are for, and how to make use of them.

For the time being however, let's assume your needs are simple, or that you just want to taste what spreadsheets are about. What does Digicalc have to offer?

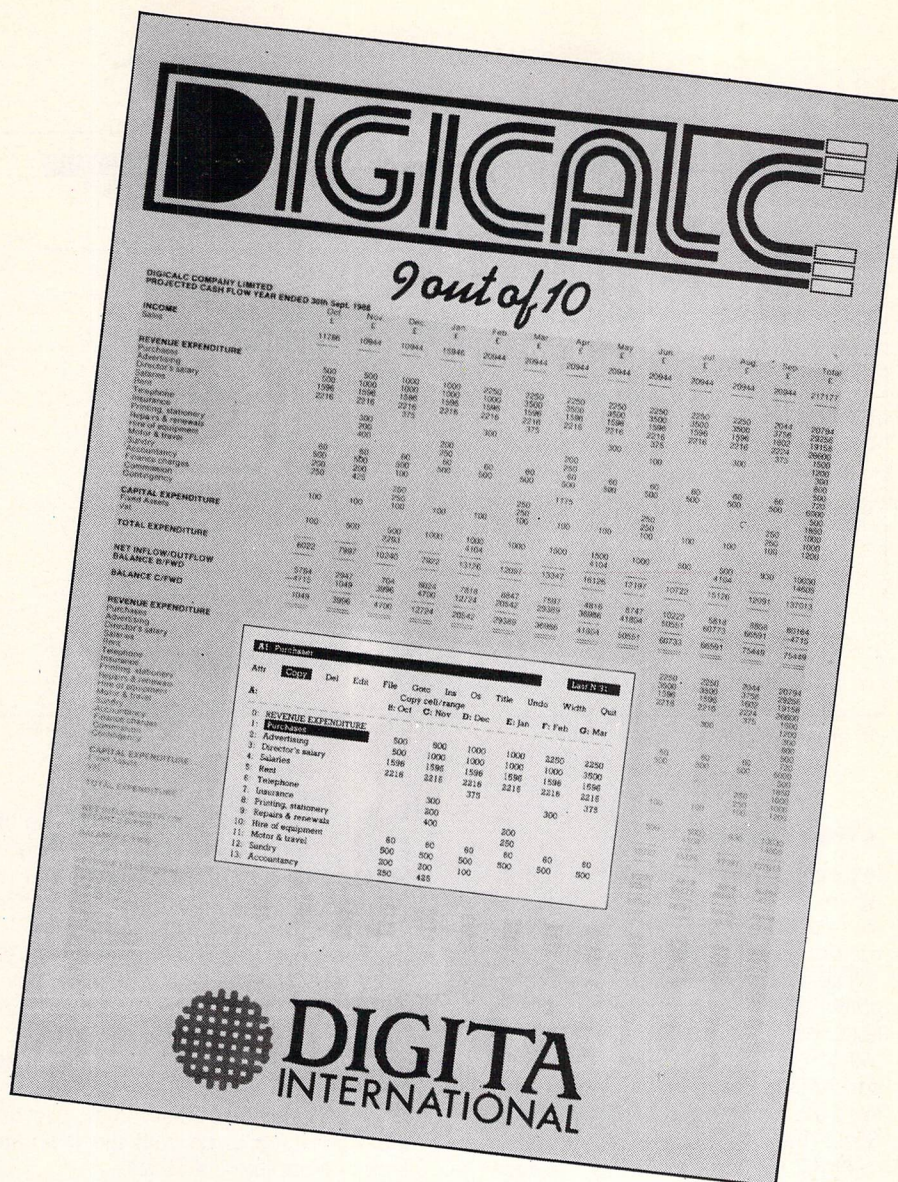
It has all the standard spreadsheet functions: The ability to copy, or replicate, cell contents and formulae; variable size columns; column headings; the facility to jump directly to a cell; and all the usual arithmetic functions, including

averaging, maximum and minimum values, and so on.

Added to that are a couple of unusual, if fairly minor, features. You can, for instance, have each spreadsheet protected by an individual password. This makes sense in a corporate or network environment, but is fairly meaningless for a package that is likely to be used mostly in the home.

There's also a very useful Undo feature, which takes you back one step if you've made a mistake. However, one of the major strengths of Digicalc is the ease with which you can move around. This is especially true of the direction option.

Each time you type a value or some



Entry level spreadsheet

A1 : "Gloves" Last: 67												
Attr	Copy	Del	File	Goto	Hold	Ins	Misc	Os	Title	Undo	Width	Quit
A:PRODUCT B:PRICE C:20% D:30% E:40% F:50% G:60% H: I:												

1	Gloves											
		20.00	16.00	14.00	12.00	10.00	8.00					
2	Hat											
		25.00	20.00	17.50	15.00	12.50	10.00					
3	Coat											
		64.00	51.20	44.80	38.40	32.00	25.60					
4	Socks											
		5.99	4.79	4.19	3.59	2.99	2.40					
5	Tie											
		12.95	10.36	9.06	7.77	6.47	5.18					
6												
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An example spreadsheet in action

◀ From Page 29

text into a cell you can have the cursor move automatically to the next one, or stay put. The direction of the movement – up, down, left or right – you decide.

The screen display is very simple. The contents of the current cell – whether it's text, a number or a formula – is shown in the top left-hand corner. The other top corner is taken up with the number of the last cell in use by the spreadsheet – the one in the bottom right-hand corner.

This innocent-looking feature is actually very useful, as it gives you a reference point should you want to jump to the end of the sheet. The next line down is the main menu, covering things like cell formatting, file operations and so on.

When you select an option, a short piece of descriptive text appears letting you know what the sub-options are. That makes it a piece of cake to find the function you need, even when you don't know the package inside out.

Mouse menu

Although Digicalc makes no use of Gem – there are no dialogue boxes or pull-down menus – you can still use the mouse to move the cursor and make selections from the menu line. There's a separate mouse cursor which you move to select the cell or menu option you want.

Clicking the mouse button moves the cursor or selects the menu choice. Otherwise it's back to the keyboard. Indeed, you could put the mouse away altogether once the program is running. The cursor can be moved around almost as fast with the arrow keys.

Selecting something from the menu is done with the time-honoured method of

hitting the slash key followed by the first letter of the option you want. Alternatively, having hit the slash key, you can move a highlight bar to the required option.

Even if you use the mouse, you still have to hit the Escape or Return key to cancel or finish a menu selection – something I found a little irritating.

Moving around the spreadsheet itself is quick and easy too. The screen scrolls smoothly, and fast. That almost certainly has something to do with the program's lack of complexity and size.

Easy viewing

You can have a maximum of 512 rows, which is quite healthy, but only 52 columns. That will be plenty for most applications, which is, after all, what this package is about, but some people might find it a tight squeeze.

If you don't want the whole screen to scroll when you move, up to three rows and columns can be put on hold. They stay put while the rest of the cells scroll as normal. Most spreadsheets have a windowing system like this, but Digicalc's is particularly easy to use.

It's also good to see macros available on such an inexpensive product. An option from the main menu allows you to program nine function keys with a series of keystrokes, which can considerably ease the pain of repeated data entry.

As well as normal text or values, the macros can contain cell references, menu commands and even cursor movements. Alas, there is no facility to learn a series of keystrokes.

Cell formatting is pretty basic. You can define the number of decimal places, justification and whether zero will be displayed as a numeral or a blank cell. But

what you don't get are options for floating currency symbols, commas in thousands, suffix and prefix symbols such as £% and so on.

Fortunately, text overflow is allowed. That's where text typed in to a cell will spill out across empty cells to the right if the line is longer than the column width.

Printer control

The output options are consistent with the rest of the package – basic. The spreadsheet data can be saved as a formatted file or as plain Ascii text. The latter option means you can load it into a word processor for tidying up and adding any special printer effects you might want. To some extent that makes up for the poor printer handling.

The program doesn't use printer drivers as such, though it does allow you to type in a string of control codes, which is handy as you often want condensed fonts when printing wide sheets. However, this is a pretty crude method, and using a word processor is by far the better option.

The documentation is as basic as the rest of the package. A slim manual runs through simple spreadsheet terminology, gives some advice on making backups of your data discs and quickly describes the features of the software.

Beginners may feel a little lost for a while, but given the modest nature of the software this shouldn't last long. And there is some additional help in the form of a prompt card, which shows the menu choices and special keystrokes.

There's not much else to the package. It's a basic product for people who want to try out spreadsheets or who have simple needs.

Anyone with serious spreadsheet applications in mind would probably outgrow it very quickly, but for the price it does its job well.

FACT FILE

Product: Digicalc
Price: £39.95
Supplier: Digita International, Kelsey House, Barns Road, Budleigh, Salterton, Devon EX9 6HJ.
Tel: 0395 45059

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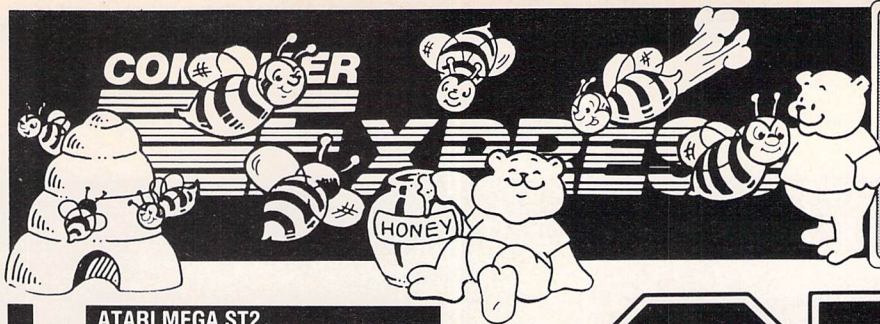
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AGAINST:

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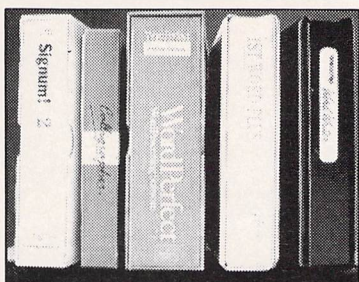


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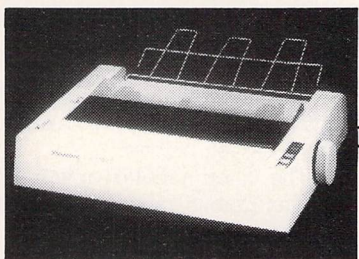
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MANY artists, conversant with more conventional materials, have yet to become aware of the vast potential of using computer graphics to provide them with a new vibrant medium of expression.

Equally important, computer images, although often art forms in their own right, can also serve as prototypes for artwork destined to be produced in other mediums.

The new generation of ST art programs provide facilities for creating and manipulating images quickly and easily. Most include flexible advanced features previously unobtainable by any means other than conventional artwork.

Antic's Spectrum 512 is one of the new generation of programs dedicated to sophisticated computer graphics, and provides a large range of colour editing facilities as its major feature.

As its name implies, Spectrum allows you to have 512 colours in a single drawing instead of the ST's usual range of 16. Specifically, you can have up to 48 colours in each video scan line and the full range of 512 flicker-free colours can be placed anywhere on the screen.

Among applications suggested by Antic, Spectrum can be used to enhance pictures originated in Degas or Neo-chrome by making 28 shades of each colour, instead of the usual selection available to the artist.

Purporting to push the ST's hardware to the limit, Spectrum 512 is provided with a startup routine used to indicate hardware synchronisation. When booting up Spectrum, you will normally see several red lines on the screen before desktop appears. If these lines do not appear, you are advised to switch off your ST and wait 15 seconds or so before switching it on again, repeating the process.

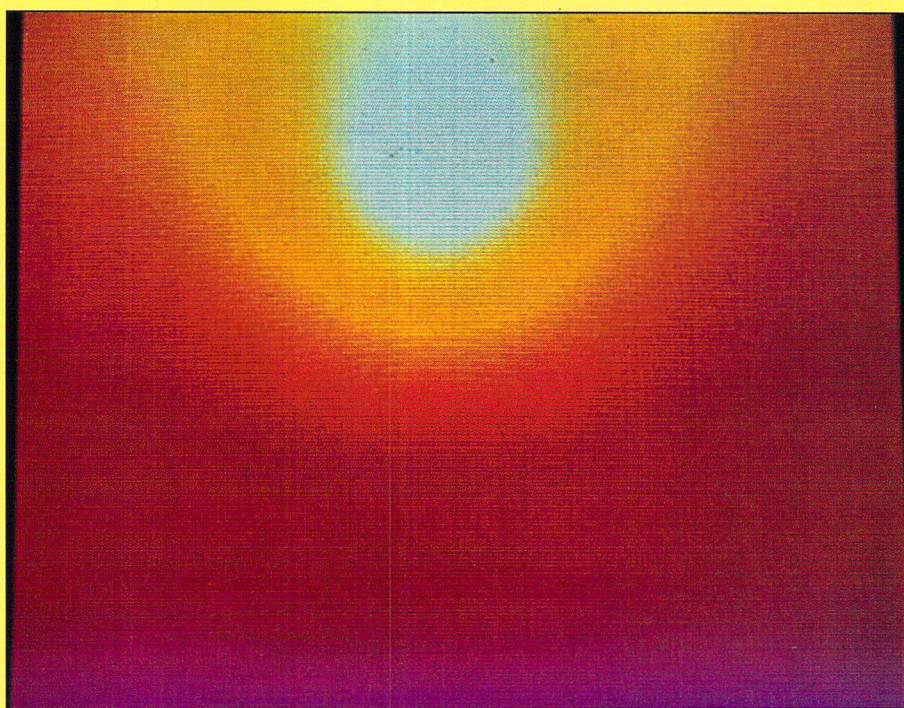
The menus

Accessing Spectrum's controls depends on the position of the cursor in the areas of the screen when right-clicking the mouse: Upper half for the main menu, lower half for the colour matrix, top and bottom (when in some of the drawing options), right and left sides of the drawing area for the colour selection.

The main menu consists of 20 icons and labels. Although you can select options by right-clicking the mouse on one of the icon/labels, you can also enter many of the system directives in conjunction with the keyboard.

If you wish to select a colour already available in your drawing, you can position the cursor over the one of your choice, press Control and right-click the mouse. Moving the cursor over the screen will display colour changes in the palettes until you right-click again.

Selecting the Erase option from the main menu, you will be able to rub out portions of your drawing. Pressing



Using the colour matrix to produce professional shading

Multicolour

Alternate and selecting Erase will clear the screen.

The current palette is usually displayed at the sides of the drawing area, along with the active colour at the top and bottom of the screen, provided one of the three palette controls is active. Deselect the current palette control to switch the palette display off.

If the cursor is in the lower half of the screen but more than 10 pixels from either side, you are offered the option of changing colour to one of the wedges from Spectrum's colour matrix, or alternatively, selecting a colour from within the current drawing.

By moving the cursor into the drawing area and holding the left mouse button down, you can alter the position of the drawing window in relation to the colour matrix.

Palette modes

The screen presentation of the floating – the startup default – or fixed palette options is identical, but their respective functions differ considerably and are created in mutually exclusive ways.

The most complex of the colour options, the floating palette mode, offers the option of automatically blending a range of colours from the active colour. Moving the pointer to within 10 pixels of the left margin, adjacent to the colour you

want and right-clicking the mouse, sets your choice as the active colour.

The entire palette is changed to a computed range of shades of this. If, after proceeding with drawing in the active colour, you decide that it isn't quite right, you can select one of the wedges on the right side of the screen and anything drawn in the active colour will be modified to your new choice.

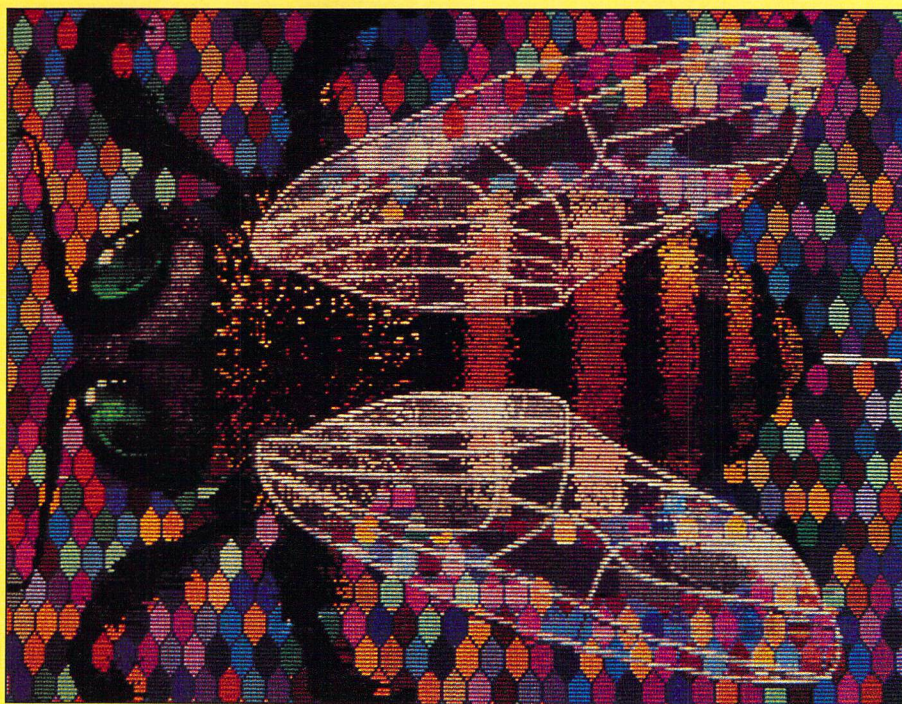
Colour adjustment for the active colour may be made until you select a new one from the left palette.

The fixed palette option provides a similar colour selection function, but the palette range does not offer computed shades related to the active colour.

A third method of organising your palette, custom palettes, is a versatile colour editor. You can select a range of colours directly from the colour matrix, or pairs of main colours, and produce a blend of six shades between them.

Developing a custom palette may be done in several ways. You can pick any, or all of your colours directly from the colour matrix, enter specific RGB values from the keyboard, produce a range of colours from any pair, or select and modify specific colours already available in the palette.

In order to differentiate between colours of similar tone, pressing the spacebar inserts a black line between two adjacent ones. As more colours are added to the range, the individual bars



The results can be quite spectacular

magic

Spectrum 512 is an art package which is said to push the Atari ST right to its limits. Here Ron Massey investigates

become thinner and up to 196 can be displayed in any one palette – the height of a single scan line.

A mixture of palette options may be used within a single drawing, and selection may be made in any of the palette modes from the colour matrix. Any number of custom palettes may be saved as separate files for future use.

After completing a picture, you may decide to produce other versions of it in which the colour representation is altered. By selecting Edit Colour from the main menu you can change single or multiple colours globally or locally by selectively changing their hues.

Unique options

In addition to the usual drawing tools, such as predefined geometric shapes, polygons, brushes – in 37 sizes and shapes, airbrushes – with four nozzle sizes and nine flow-rates, and solid and patterned flood fills, Spectrum includes a number of powerful features for fine-tuning effects on the drawn shape.

Among its range of user-defined block options, Spectrum is provided with facilities for saving whole or parts of a picture in a buffer for later use, and for producing gradient flood fills. With a part of a picture defined as a block, you can enter its contents into your main drawing. You can modify this by moving the mouse while

pressing: Shift to alter the size of the block proportionately; Alternate to independently change its height and width, and the arrow keys to mirror and invert the block.

Other block options allow you to duplicate parts of a drawing elsewhere, with the additional option of having the background function as either transparent or opaque over the area you are copying to.

Two options are provided to process lines normally produced with a staircase effect. The No Zag option enables you to draw virtually stepless lines, polygons and circles.

When the lines or polygon elements of a drawing are completed, the program redraws them as stepless curves. In order to do this, a white line may be redrawn as white with up to eight different shades of grey.

Filling around a line produced while in the No Zag option is done by holding the right mouse button down and moving the cursor towards the area you are going to flood fill – either outside or inside an enclosed shape.

Spectrum's second tool for reducing a staircase effect is its anti-aliasing option. This has three different functions: Anti aliaser smooths staircase effects, Blurrer softens all lines and boundaries, and Contraster increases definition between colour areas. You have the option of adjusting the width of the affected area

around a boundary.

Further enhancing the anti-alias option, you can select one of three modes: Local which processes selected pixels; Box which processes pixels within a defined area and Global which processes an entire picture.

Conclusions

Two of the conventional tools available in most other drawing programs are not included in Spectrum 512: There is no facility for directly adding text to the screen, nor is there a font editor.

Although a feature called Cycle is provided, this is not the usual colour cycling common with most other ST graphic programs.

Since the value of either of these two options for serious artistic applications is questionable, this shouldn't prove to be a hardship.

One of the curious aspects of the copy of Spectrum 512 received for review was that it was not immediately compatible with UK monitor scan frequency. To produce a coherent image, I had to run a utility supplied called FIXIT in order to set the scan rate to 60Hz, and boot Spectrum afterwards.

Aside from this one peculiarity, Spectrum 512 is a powerful artist's tool. The comprehensive colour controls are fairly easy to master, but do require practice and experimenting in order to get the most from them.

The software's strongest feature is that the screen always provides you with optional complete colour information without becoming intrusive.

I particularly liked the presentation of the manual. Initial chapters are organised as eight tutorials, each covering related aspects of the special features. Subsequent sections detail use of the traditional drawing tools and special techniques for getting the most from Spectrum 512.

FACT FILE

Product: *Antic's Spectrum 512*

Price: £59.95

Supplier: Electric Distribution, 8 Green Street, Willingham, Cambridge CB4 5JA.

Tel: 0954 61258

POINTS FOR:

Good range of colours available. Well written manual.

AGAINST:

Quite expensive. Can't add text. No colour cycling.

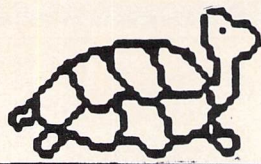
COMPETITORS REVIEWED:

GFA Artist, July 1988.

Quantum Paint, July 1988

Cyber Paint, April 1988.

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ADVENTURES

Brillig lends a hand in solving problems for fantasy fans

Guaranteed to get the adrenalin flowing ...

WITH bloodshot eyes and weary brain, I turn to this month's column. The reason for my pitiful state is not that I have been on a 24 hour Old Moose Bolter beer binge – no, that was a fortnight ago – but because I have been playing Mirrorsoft's fabulous Dungeon Master into the small hours almost every night.

It is the most gripping game I have played since I don't know when. The adventure grabs you from the moment you set fearful foot inside the main entrance and doesn't lose its hold until you power off your ST – and even then you find the thing still lodged in your mind.

Apart from the undiluted quality of the entire product – has there ever been such a flawless game? – Dungeon Master has something all too rare in computer entertainment and, that is the power to stir and excite.

I honestly never thought that a fantasy game would ever make this tired old blood course like a torrent through the ancient, fast-hardening veins, but Dungeon Master does.

Strolling jauntily along a corridor and

catching the barest glimpse of monster kneecaps peeping out from around the corner of the junction ahead, just when my band has run particularly low on mana and weapons, is enough to set the adrenalin pumping out like the Severn bore.

If I ever wondered what a demented steamhammer must sound like, I know now – it's my heartbeat on encountering half a dozen grunting mummies when armed with only a third rate fireball and a

puny staff.

For a full review of this adventure see the games software pages in the May issue of *Atari ST User*.

M Huggett from Norwich is stuck in Space Quest II and Police Quest. He needs some telephone numbers in Police Quest and doesn't know how to get across the fallen log beside the fissure in SQ2. For him and other puzzled Questers, the answers to these and one other problem are given below.

HINTS AND TIPS

SPACE QUEST II

Can't cross the log?

- Once on the fallen tree, press the cursor keys to inch along it.

Found nothing of value in the swamp?

- Walk about a bit. You should find that you almost slip down a hole. When you're at this spot, hold your breath and dive down.

POLICE QUEST

Need some phone numbers?

- Dial 0 and you'll be told that the number for directory enquiries is 411.

Fighting phantasy

Program: *Legend of the Sword*

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"WITH their awesome broadswords, hundreds of mutant humanoids jump down from the huge shimmering void hovering just above the ground. As their swords slice through the powerless warriors of Anar, the evil wizard Suzar grins with perverse pleasure while chanting the ancient words of the dark ones.

"In a shriek of immense fulfilment, Suzar releases powerful lightning bolts

from his aged palms, slowly turning his visitors into more of the bloodthirsty humanoids".

So begins Rainbird's latest fantasy release, a swords and sorcery adventure programmed by Silicon Software. The game is presented in a novel and pleasing fashion, providing the best integration of text and graphics that I can recall seeing in an adventure.

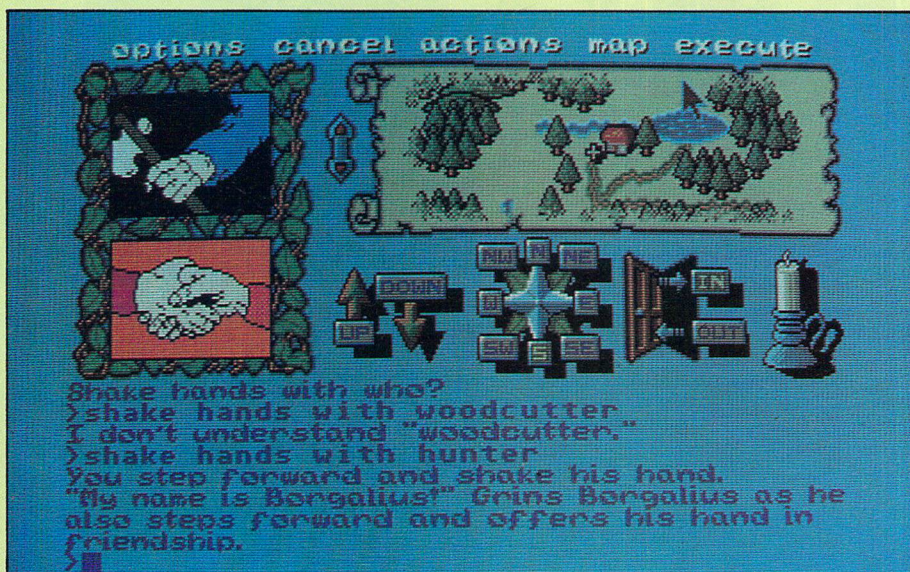
Legend of the Sword tells of the chronicles of the land of Anar where a mystical sword and shield need to be recovered to defeat the evil sorcerer Suzar and his dreadful armies of mutated humanoids. Commissioned by King

Darius, you and five other hardened adventurers set off to find the legendary sword and shield.

The screen is divided into a number of discrete areas. Along the top are displayed Options, Cancel, Actions, Map and Execute. Positioning the mouse pointer on Options or Actions causes a menu of words to be displayed in the large scroll-shaped window. Selection from the list is by pointing and clicking using the mouse.

Some of the commands available under the Options menu are Recap – synopsis of

Turn to Page 36 ►



You always know where you are using the Map option

◀ From Page 35

description of current location – Look – any special items of importance are drawn to your attention, Inventory, Wait, Save, Load, Vocabulary, Help – a clue at certain points, Quit, and Colours which calls up a sub-menu allowing you to change the paper and ink colours.

The Actions menu first displays a list of verbs which can be scrolled through when there are too many to fit in the window at one time – simply point at the arrow to the left. Once a verb is selected the scroll displays a list of relevant nouns.

Occasionally a subsequent list of appropriate nouns is shown. For instance, you may be trying to attack someone with something. It is possible you may want to attack more than one person at a time and with more than one object, such as a sword and a dagger.

In this case, more than one noun in a list can be clicked on and the action will not be carried out until the Execute title bar is selected. The Cancel title can be selected to abandon an incomplete command.

Whenever you move to a new location or select the Map option the scroll window displays a map giving your current position. The map scrolls and updates as you move from one place to another and can be magnified to fill the whole screen.

Over to the left are two windows, the top one containing a cameo picture of the current location supplemented by the lower one showing a still picture of any action taking place.

The central section of the screen displays icons for climbing up and down – stairs, ladders, paths, and so on – moving in any of the eight compass directions, and going in and out (of rooms).

To the far right is a candle, the height of which depicts the current strength of your band.

The lowest area on the screen holds

the large, scrolling text window in which are displayed descriptions of locations, objects, characters and actions, as well as your own input.

Much of the adventure can be played using just the mouse, but the keyboard is essential since not all the features, vocabulary and command structures are available from the menus. For instance, there is a ram save and load facility, but this command has to be typed in – it does not appear in the menus.

Other features directly accessible only from the keyboard include being able to converse with characters, GO TO or FIND a location or object – takes the shortest route to the desired destination or item and so avoids the drudgery of continually entering directions, score, editing of commands, use of function keys F1-F3 to unlock a door with keys, open it and enter.

An OOPS verb takes back your last entry rather than replace an unrecognisable word, and a TEXT command changes the size of the font.

The interpreter seemed capable of

accepting fairly complex commands, although it did seem to get in a minor muddle with its output here and there. And no matter how hard I tried I was never able to attack several characters at once, despite what the manual said.

The vocabulary is quite comprehensive and the text is impressive – narrative, descriptions and actions are substantial, and most inputs meet with a relevant and fulsome response.

There is plenty to see and do and the action is fast-paced. The adventure uses humour quite liberally, but this struck me as being of a rather juvenile type at times – the employment of the words bum, scumbag, sweetie, poof and ha-ha-ha should give you some idea of the level of wit – and detracts from the atmosphere.

The script could have been raised to a more adult level, though having said that, much of the writing is of a high standard and a lot of thought has put into the plot.

The unanimated cameo graphics are attractive and plentiful – more than 350 – and the map is especially pleasing. There is no sound although the style and presentation leads you to expect sound effects.

The plot itself is pretty much the standard good versus evil, seek, find and overcome, but there are plenty of characters, puzzles and locations to enjoy.

As usual with Rainbird products, the game is handsomely boxed and comes with a poster, ST-specific guide, play instructions and a 32 page novella, Tales of Moments Lost, by Andy Storer. This booklet also serves as the copy protection device.

In summary, Legend of the Sword is a first-rate and innovative product, entertainingly written, superbly programmed and presented, and pleasurable to play. Definitely a mandatory purchase for adventurers young and old.

Presentation	9
Atmosphere	7
Puzzlement	8
Value for money	8
Overall	8



Dangers are paramount

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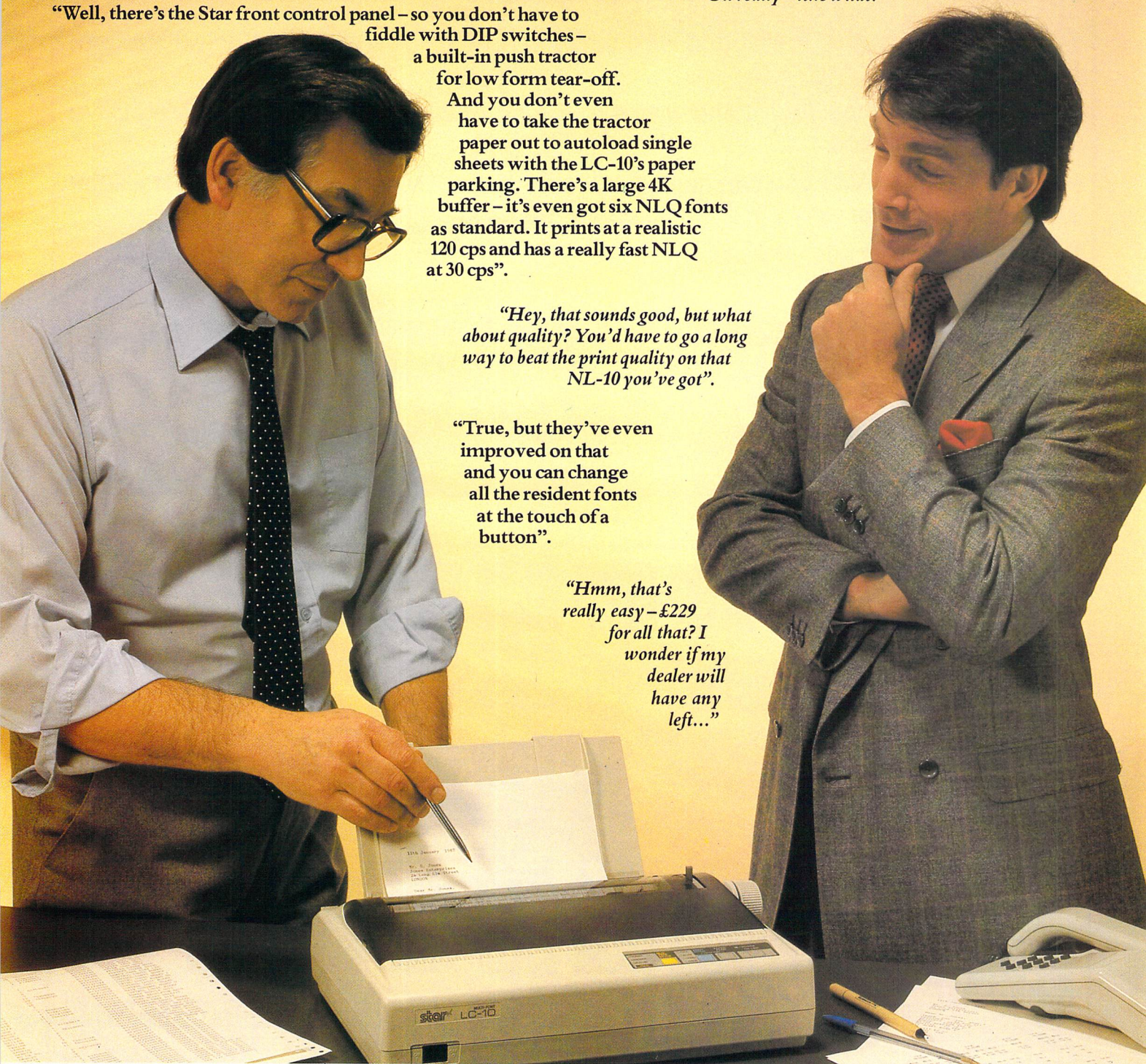
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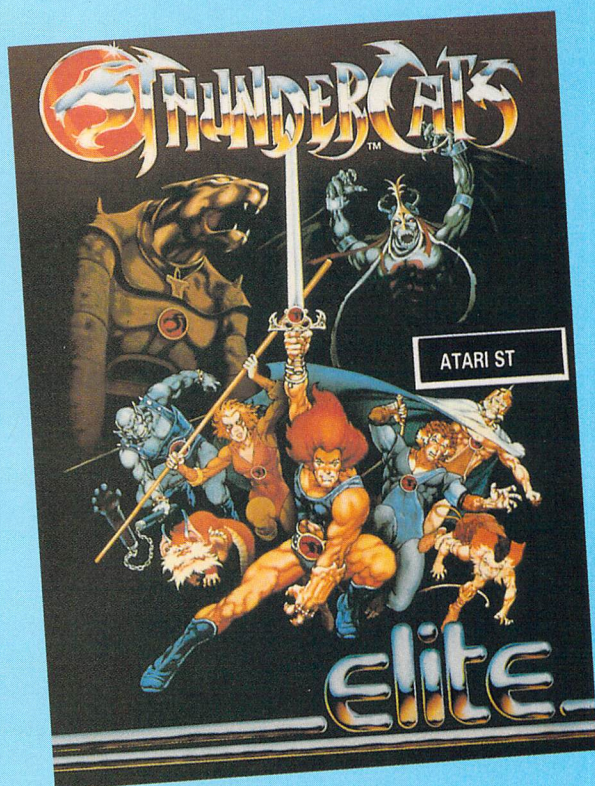
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Vixen: It is up to you to save the planet

Program: Thundercats

Price: £19.99

Supplier: Elite Systems, Eastern Avenue,
Lichfield, Staffordshire WS13 6RX.

Tel: 0543 414188

Program: Vixen

Price: £19.99

Supplier: Martech Games, Martech House,
Bay Terrace, Pevensey Bay, East Sussex.
BN24 6EE.

Tel: 0323 768456

WHEN these two games arrived it soon became apparent there was little difference between them. It seems that Vixen is simply a variation of Thundercats. Although new to the ST, Thundercats first appeared on other home computers nearly a year ago.

The scenario goes like this: Many years ago the Molemen, agents of the Mumm-Ra, raided the Cats-Lair and kidnapped many of the Thundercats, as well as stealing the eye of Thundera, a magical jewel which holds the mystical power of the Sword Of Omens.

Lion-O was away on a mission at the time of this raid but has promised that because the eye was left for his safekeeping he will go to Castle Plundar to rescue both Thundercats and the eye.

You play the part of Lion-O as he battles through Mumm-Ra's territories, encountering many types of enemy in forests and underground caverns while

SOFTWARE REVIEWS

~~~~~Z~~~~



*Thundercats: Lion-O encounters one of his many adversaries*

trying to repossess the eye.

As you fight your way through the different levels your aim should be to do away with as many of the enemy as you can while collecting as many icons as possible. You start off fighting with a sword, but sometimes a shield-shaped icon appears and if it is destroyed you will gain an alternative weapon.

You start with five lives. Extra ones can be found behind stones, and lives are lost by falling into water or running into the enemy. You score by killing nasties and gain bonus points at the end of each level for time remaining and enemies killed.

The graphics are clear and colourful, and the smooth scrolling is particularly impressive. The screen is split into three sections, and as you move along the scenery furthest away scrolls at a slower speed as it would in reality.

The scene for Vixen is the planet Granath. Dinosaurs, roaming there for millions of years, have wiped out nearly all other mammals, and to the best of their knowledge all humans. But they reckoned without Vixen.

She is a powerful huntress who was found abandoned as a child and later raised by foxes who passed magical powers on to her. You play her, and as usual it's up to you to save the planet.

With a whip in hand and the ability to change into a fox, you set off on your journey across this dangerous planet. At the start of each level you will be given a time limit, and if you don't manage to

complete a stage within this period you'll lose a life, but the time will be replenished.

Scattered along the way you will find a number of objects hidden behind stones. As in Thundercats, you hit them to reveal the object. Gems provide you with extra points, extra lives, time, mystery objects or time you can spend as a fox.

Near the top of the screen is a display panel showing fox time. If you collect the fox heads hidden around the planet you will see the fox head on this display move. When it reaches the end of the panel you will change into a fox and enter an underground tunnel.

Basically the fox level is for collecting bonus points. As fox time reduces you rush around the tunnel looking for gems and mega gems. Down here somewhere you will find a mega whip with which you can kill any creature with a single blow.

Scoring is very similar to that of Thundercats, with bonus points awarded at the end of each stage. You start with 10 lives and lose one whenever Vixen runs out of time, falls in a hole or if a creature touches her.

On the whole the graphics are not quite as good as those of Thundercats, although I thought the animation of Vixen herself was very realistically done.

An added bonus of Vixen for the male games players is a free poster of Page Three model Corinne Russell dressed – or rather undressed – as the heroine.

Both games have enough variety of

## SECOND sight

*There's not much to choose between these two games as they are so similar. I particularly like the 3D scrolling effect on Thundercats, but the animated graphics of Vixen are slightly smoother and more realistic. On the whole I think I prefer Vixen.*

**Andy Richards**

action and gameplay to keep you occupied for a fair amount of time, though if I was forced to choose, I would have to say Thundercats has got that little bit extra going for it.

**John Butters**

### THUNDERCATS

|                      |   |
|----------------------|---|
| Sound .....          | 7 |
| Graphics.....        | 9 |
| Playability .....    | 8 |
| Value for money..... | 9 |
| Overall .....        | 9 |

### VIXEN

|                      |   |
|----------------------|---|
| Sound .....          | 8 |
| Graphics.....        | 7 |
| Playability .....    | 8 |
| Value for money..... | 8 |
| Overall .....        | 8 |

Program: Obliterator

Price: £24.95

Supplier: Psygnosis, 1st Floor, Port of Liverpool Building, Pier Head, Liverpool L3 1BY.

Tel: 051-236 7757

EARTH is under threat of destruction by an alien warship of ferocious power. As Drak, the last of the Obliterators and the ultimate warrior, you must penetrate every corner of the alien battle cruiser to cripple the vessel and so save the world.

Obliterator is very much in the mould of its predecessor, Barbarian. The mixture is thus very much as before, but while Barbarian at least had a good atmosphere and digitised sound effects, this latest release from Psygnosis fails to improve on the formula and turns out to be rather disappointing.

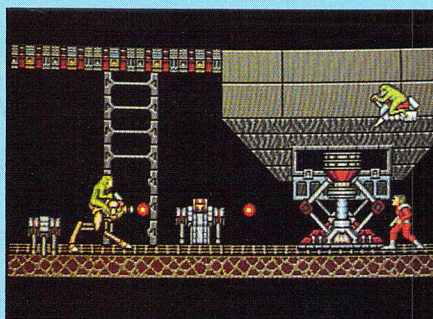
Drak's task is to seek out and collect a number of objects. Once he has accomplished this the clock starts to count down, and it's a race against time to activate a shuttle and escape. Rather like fleeing from the erupting volcano in Barbarian, in fact.

The greater part of the display is taken up with a cutaway view of the interior of the alien spacecraft. At the bottom of the screen is a single row of large icons, used to control the movement of Drak, a human

clad in a red spacesuit.

Each icon is activated by pointing and clicking with the mouse. They allow Drak to run left and right, jump, go up and down at the next opportunity – lifts, mostly – enter a doorway, fire his weapon, take defensive action – say a rolling dive – and pick up, drop and use objects.

Pressing the spacebar brings up an alternate row of icons which show Drak's current weapons, the amount of ammo left, his shield power and the score. The



# Operation sabotage

Help key calls up a brief menu of options – restart, turn the music on or off and reload a saved game. The latter is extremely useful and an improvement on Barbarian.

To save a game, Drak has to enter one of a number of regenerators scattered around the spaceship and you will be given the option of saving the game at that point.

Animation tends to be rather jerky and inconsistent in speed, although the hero's movements do have the added innovation that they are context sensitive – he may carry out a different movement depending on the situation.

Moving from one location to another is shown by the flick-screen method, with the whole screen sliding away when Drak reaches the edge. Continuous scrolling would have made the action flow so much smoother.

The various interiors of the ship and the range of alien objects and creatures are on the whole unexciting, and apart from the theme music, which is quite good,

# A tale of three

Program: Time and Magik

Price: £14.95

Supplier: Mandarin Software, Europa House, Adlington Park, Adlington, Macclesfield, SK10 4NP.

Tel: 0625 878888

LEVEL 9 has long held sway as one of the finest producers of adventures in the UK. Now a new company, Mandarin Software, has released three of Level 9's most popular earlier adventures, Red Moon, Lords of Time and The Price of Magik in a single package.

Each has been considerably enhanced by the incorporation of Level 9's most recently developed command interpreter.

You can save your games to disc and the program will format a disc for you. The new interpreter undoubtedly makes the trilogy far more accessible to new and experienced adventurers alike.

Not only that, but the original text has been considerably extended, providing a larger vocabulary and far more detail in the descriptions of locations and events, thus making gameplay even more atmospheric.

Although on the surface this is a linked

trilogy, in practice you can play the adventures in any order. The games are independent of each other, and there is no real connection other than in the background to the stories given in the accompanying booklet.

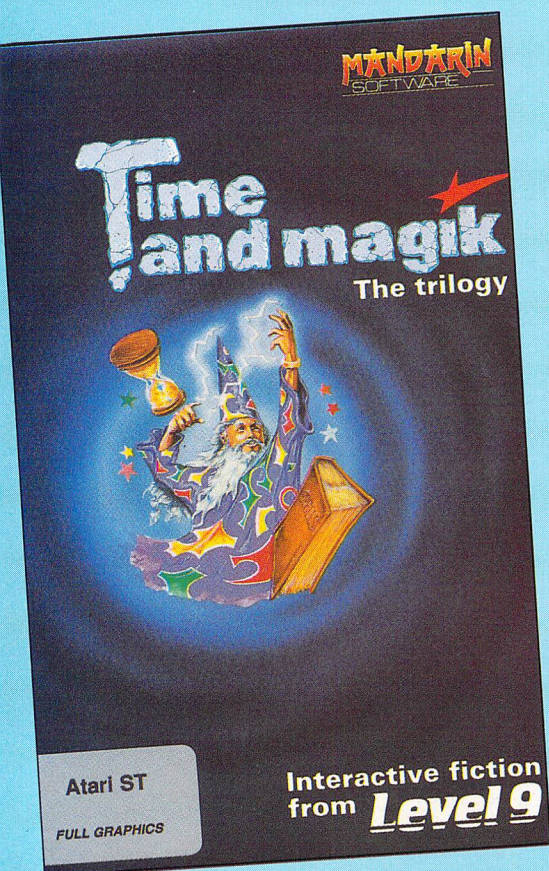
Red Moon was Level 9's first magical adventure and concerns the whereabouts of a stolen magical moon crystal which you must recover.

In addition, you must collect nine special treasures from the hazard-ridden castle where the crystal is believed to have been hidden. Magic is therefore much in evidence and you will need to do a fair bit of spell casting to complete your quest successfully.

The Price of Magik pitches you in a long-term battle to conquer an evil sorcerer called Mylgar. Again, magic is much to the fore. You have to learn how to use 18 spells and it won't be easy.

Each one only works when directed by a certain object, so not only do you have to find the right one, you then have to experiment to find out precisely what the spell does. The adventure also features a combat system and independent characters.

Lords of Time is one of my favourite



there are few sound effects.

When it comes down to it, Obliterator is really a large-sized character version of yet another platforms and ladders game. While I enjoyed Barbarian, Obliterator didn't spark any excitement in me, partly because the alien spaceship scenario has just about been done to death. This one offers little new.

**Bob Chappell**

|                              |          |
|------------------------------|----------|
| <b>Sound</b> .....           | <b>4</b> |
| <b>Graphics</b> .....        | <b>7</b> |
| <b>Playability</b> .....     | <b>5</b> |
| <b>Value for money</b> ..... | <b>5</b> |
| <b>Overall</b> .....         | <b>5</b> |

## SECOND sight

*If you enjoyed Psygnosis' Barbarian you'll love this game, as it's very much in the same sort of vein. The superb graphics are different, but the gameplay is very similar indeed, and this is probably the game's only failing. Some may find it just too much the same, but I loved it.*

**Andy Richards**

**Product:** Stir Crazy

**Price:** £19.95

**Supplier:** Infogrames, Mitre House, Abbey Road, Enfield, Middlesex EN1 2RQ.

**Tel:** 01-364 0123

STIR Crazy is the humorous tale of Bobo, long-term resident of Inzeeslammer Prison. In an effort to relieve the boredom of prison life the inmates have turned their routine chores into a series of games.

When the game loaded I knew I was in for a treat as floodlights pierced the darkness searching for a lone escapee. As they frame their target in a blaze of light, he stops, the music starts, and Bobo pirouettes his way with balletic grace across the title screen. Similar superb graphics and humour are used to good effect throughout.

The first game is set in the canteen, where one by one the inmates appear, each clutching an empty dish. It is Bobo's task to run to and fro with a large pan of soup serving each convict in turn. The slightest delay can have messy consequences.

A spud-bashing session is the theme of the next event, as Bobo fights a hopeless

# Causing a stir

battle against an ever-increasing mountain of potatoes. Spuds are peeled using a joystick waggle and then tossed into the kitchen with the fire button. Any partially peeled spuds are thrown back with uncanny accuracy.

Chore number three on the prison rota is scrubbing the floors. Looking down from above you see the room, six doors and Bobo with a mop. As the doors begin to open at random Bobo must run and close them before someone enters.

Once inside the room the inmate, warden or dog leaves a trail of muddy footprints across the floor and these have to be washed away.

Game number four involves the inventive use of recreational equipment for escape purposes. Leaping from first and second storey windows the prisoners plummet earthwards. In the prison yard

**Turn to Page 44 ►**

# classics

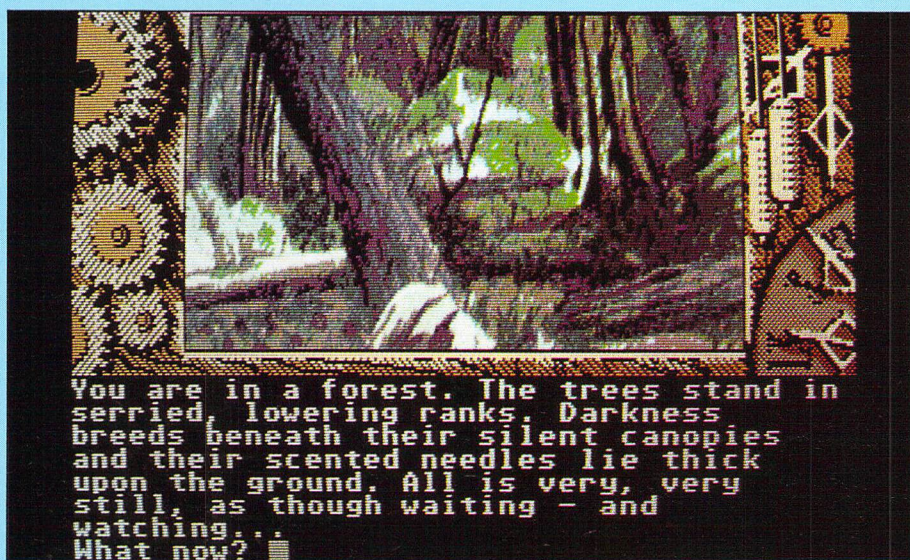
Level 9 adventures. It is a nicely executed time travel tale which involves searching through the past, present and future for a number of strange objects such as a dragon's wing and a teardrop.

Your time travelling machine is a grandfather clock – nice idea, that – the cogs of which have to be set to a certain number in order for you to be transported to a specific time. The periods you can visit – you will have to jump backwards and forwards to solve all the puzzles – are the Ice and Stone Ages, Roman, Vikings, Mediaeval and Tudor times, the present, the future and far future.

Time and Magik is a welcome addition to any adventurer's collection. The sheer quantity of quality text, locations, objects, characters and puzzles will keep you happily transported for many weeks to come.

**Bob Chappell**

|                              |          |
|------------------------------|----------|
| <b>Presentation</b> .....    | <b>8</b> |
| <b>Atmosphere</b> .....      | <b>7</b> |
| <b>Puzzlement</b> .....      | <b>9</b> |
| <b>Value for money</b> ..... | <b>9</b> |
| <b>Overall</b> .....         | <b>9</b> |



*Lost in the forest*



*In the hallway*

## SECOND sight

*Level 9 is a well-respected adventure software house, and you can bet that any of its releases is bound to be a hit. This trio of top-quality games, working out at just under a fiver each, has got to be good value for money by anyone's standards.*

**Andy Richards**



#### ◀ From Page 43

below is Bobo and a trampoline, and by correctly positioning this device he can achieve a variety of trajectories. He must bounce as many cons as possible over the wall before the time limit expires.

With all the expertise of a tightrope walker, Bobo escapes from prison by balancing on one of three electrical cables. However, if he is to stay alive he must continually leap from one cable to another to avoid the approaching sparks.

Bedtime in prison is no fun at all – especially when you're sharing a cell with five snoring convicts. Arranged in two triple-decker bunk beds, Bobo has to nudge each con in turn to stop him snoring. Only when everyone is quiet can Bobo climb into bed.

Stir Crazy's six games may be played sequentially or individually by up to six players. The multi-player aspect, combined with the non-violent nature of the games, makes this an ideal program for the whole family.

James Riddell

|                       |   |
|-----------------------|---|
| Sound .....           | 7 |
| Graphics.....         | 9 |
| Playability .....     | 8 |
| Value for money ..... | 8 |
| Overall .....         | 8 |

## SECOND sight

Stir Crazy is quite an entertaining piece of software, and the scenario makes a welcome change to zapping, shooting or bashing the living daylight out of all and sundry.

The graphics are good and the gameplay quite addictive – try it and see.

Andy Richards

# Clash of the superpowers

Product: *Masters of the Universe*

Price: £19.95

Supplier: Gremlin Graphics, Alpha House,  
10 Carver Street, Sheffield S1 4FS. Tel:  
0742 753423

THE cartoon version of He-man and the Masters of the Universe is a particular favourite of mine. The movie was great fun, and now here's the computer game.

As a result of a vortex in the space/time continuum, the cosmic key to time travel has materialised in present-day America. This key has strange musical qualities and every note it emits brings Skeletor one step closer to finding it.

Your task as He-man is to locate the eight chords that will lead you to the key and ultimately defeat the evil forces of Skeletor.

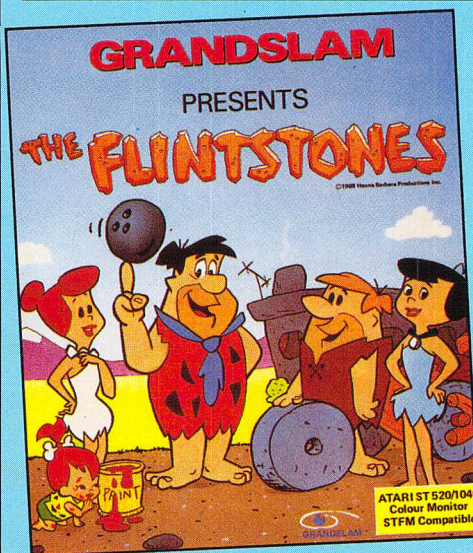
Much of your time is spent looking down on He-man as he runs through the city. Evil troopers materialise continually



in an effort to slow your progress. They can be dealt with using either a laser or brute strength.

Pressing the spacebar conjures up a comprehensive map of the city with your current position indicated by a cursor. Use of the map is not as simple as it first appears.

If you run up a street in a northerly direction and then take a side road to the west, the screen will be re-drawn as you reach the edge. However, don't continue



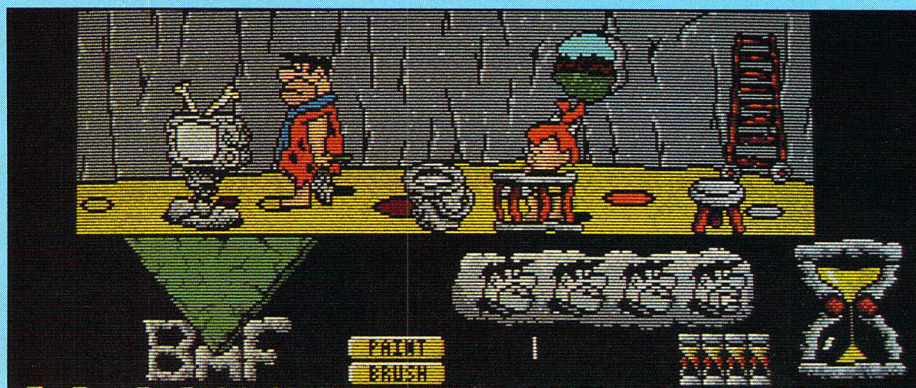
Product: *The Flintstones*

Price: £19.95

Supplier: Grandslam Entertainments, Vic-  
tory House, Leicester Place, London  
WC2H 7NB.  
Tel: 01-247 6434

# Yabba

FRED and Barney are looking forward to the finals of the Bedrock SuperBowl competition to be held the next day. Wilma, however, has other ideas for the





running left on the new screen as this direction is now north and not west. Confused? I certainly was.

After a few minutes' blasting, a message comes through on your communicator – Gwildor, a friend, reports the presence of several of Skeletor's henchmen at the scrapyard. You must race to the yard as quickly as possible – arrive too late and they will have gone, along with an opportunity to obtain a chord.

The scrapyard action is a kung fu routine accompanied by some pretty

decent sound effects. I had already pulped the two baddies that the instructions mentioned when on walked a third adversary. Not only that, this one was armed. Only a friend of Skeletor would engage in hand-to-hand combat with a laser strapped to his wrist.

Teela now warns you that Charlie's music store has been overrun by troopers. Hiding outside the shop you see the troops appearing at the doors and windows.

Laser rifle in hand you pick them off

## dabba doo!

weekend, and reminds Fred – played by you – of his long-standing promise to paint the living room before her mother comes to stay.

Wilma goes out leaving you with strict instructions to paint the room before she returns while you are acting as babysitter for Pebbles, your young daughter.

Although you may have a certain amount of difficulty painting, Pebbles definitely does not, and to make your job harder she will paint pictures all over your work whenever your back is turned.

Pebbles does have a playpen though, and if you manage to keep her within it she won't be able to cause any damage.

If you can ever get this mammoth job completed, Wilma will allow you to go bowling. You set off with Barney but soon get into trouble when a wheel on your car becomes loose and keeps falling off. You must try to find and fit a suitable replacement as quickly as possible – otherwise no bowling.

Once you finally make it to the bowling alley, you can have some fun going into full battle against your best mate Barney in a contest to knock down most skittles.

However, on returning home you find Wilma very upset. She tells you that Pebbles has broken out of her playpen and disappeared.

She is eventually found sitting on a stone girder above a new building site, unaware of the surrounding dangers. Your main task now is to race against an egg-timer and save your daughter's life.

My favourite part of this game is the beginning, where Fred slides down a dinosaur tail shouting his (digitised) world-famous catch phrase. The Flintstones' theme tune then continues throughout the gameplay. The sound has been very well done and the music is close to the original. The graphics are also immaculate – a faithful reproduction of the animated cartoon characters so many know and love.

Fred can be controlled using either joystick or keys, and unlike most games I could not find much difference in the handling when I used the keyboard option.

The only special feature available is a practice mode which will allow you to test out each part of the game.

## SECOND sight

Kids will love this computer version of one of their favourite cartoon characters – He-man. The action is reasonably good, the graphics OK and the gameplay fine.

However, apart from being the computer game of the film of the cartoon there's nothing to make it stand out from the crowd.

**Andy Richards**

one by one. Your shooting must be quick and accurate as they soon begin to fire back. Then before you can face Skeletor himself you must take to the skies in an exciting airborne laser battle with even more troopers.

I wouldn't describe Masters of the Universe as a program which pushed back the frontiers of programming, but it is very entertaining.

**Jon Revis**

|                       |   |
|-----------------------|---|
| Sound .....           | 7 |
| Graphics .....        | 7 |
| Playability .....     | 7 |
| Value for money ..... | 7 |
| Overall .....         | 7 |

## SECOND sight

The graphics are superbly drawn, just like the real cartoon characters, and everyone is instantly recognisable. The animation is reasonably good and the sound is quite enjoyable, but not obtrusive.

I quite liked the gameplay, but it didn't appeal to everyone. However, there could have been a little more to it – perhaps a few more screens.

**Andy Richards**

Unfortunately I found that The Flintstones soon became frustrating rather than addictive, so at the end of the day I can't really recommend it other than on the basis of its superb sound, graphics, and for real fans a free Flintstones badge.

**John Butters**

|                       |    |
|-----------------------|----|
| Sound .....           | 10 |
| Graphics .....        | 10 |
| Playability .....     | 8  |
| Value for money ..... | 7  |
| Overall .....         | 6  |

# Why not drop in?

Program: *Uninvited*

Price: £24.99

Supplier: Mirrorsoft, Athene House, 66-73 Shoe Lane, London EC4P 4AB.

Tel: 01-377 4645

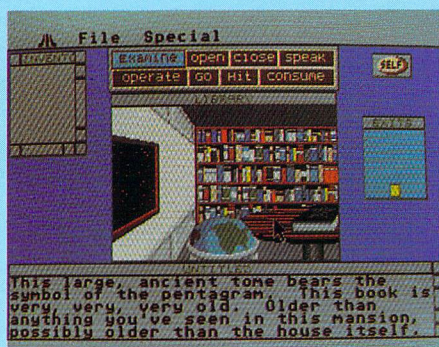
UNINVITED is the latest text and graphics creepy from Icom Simulations courtesy of Mirrorsoft. Like its predecessors, the award-winning *Deja Vu* and *Shadowgate*, *Uninvited* features its own special blend of windows and icons that allows you to control all the on-screen action with the mouse.

The plot draws its inspiration from gothic horror movies – Hammer films spring to mind – in which the hero or heroine wanders up to a spooky mansion and naively enters, despite the raging thunderstorm, howling dogs, full moon, the fact that the front door opens by itself and the brass plate inscribed J.T. Ripper.

The story begins as you crash your car on a lonely stretch of road. Your brother was with you immediately before the accident, but where is he now that you have regained consciousness? With the flames beginning to lick round the dashboard, you don't have much time for daydreaming if you are not to be turned into a kebab.

Leaving the car, you notice that you have crashed outside an ancient mansion. Can it be that your brother has gone inside to seek help? Nothing for it but to go and see. Might as well have a better look at the twin statues and the mailbox on the lawn before you go any further – you never know what you might find in an Icom adventure.

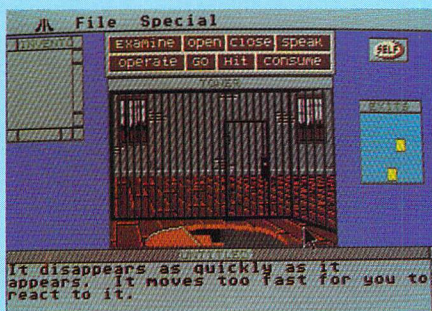
With the sound of your car exploding behind you and the blood-curdling barking of what sound like great danes nearby, you gingerly push the front door, which creakingly opens. Inside, it slams



behind you – there is no going back.

Exploring the rooms may give you a few shocks. A headless ghost and a rampant demon are the first of many surprises. A special book in the library looks as if it may come in handy, and some use may yet be found for the bottle of cyanide and an iron star hidden in two of the bedrooms.

But what is the secret of the old lady



wandering down the hallway, her back toward you? You'll find out soon enough when she turns round.

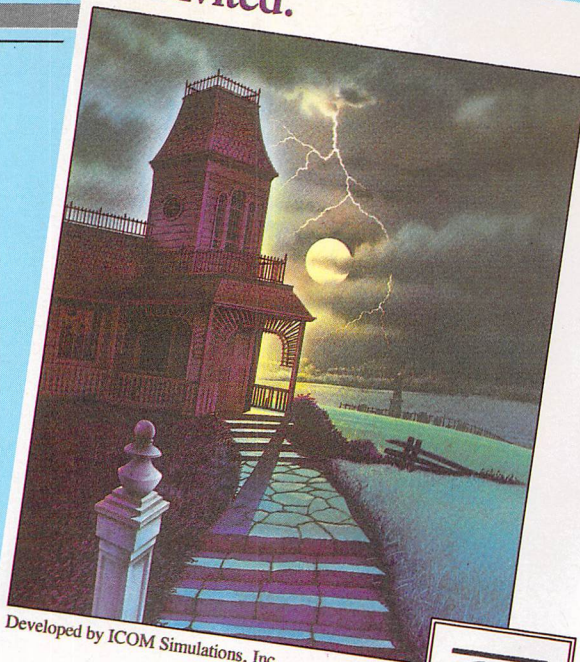
Like the other Icom adventures, *Uninvited* lets you manipulate windows and icons to control the play. A panel containing just eight commands – open, operate, examine, close, go, hit, speak and consume – is used in conjunction with icons that appear in the main picture or your inventory window to direct the action.

Many objects pop up in windows of their own when examined and can be moved, opened and otherwise operated. It is vital for success that you inspect everything in sight, no matter how insignificant it may at first appear.

Some objects can look like nothing more than tiny decorative shapes, but don't be deceived – they may turn out to be something special.

Movement is by use of the Exits window or by pointing at say, a doorway

## Uninvited.



in the main display. A separate Self icon lets you perform actions on your own person – like hitting yourself if you're feeling masochistic. Pull-down menus provide the usual facilities such as save and load, quit, the credits and so on.

Digitised sound is used to great atmospheric effect and the graphics work well enough, though the occasional animated sequence tends to be jerky.

The text, displayed in a scrolling window at the bottom of the screen, is never less than interesting and is frequently pithy and witty – in fact one of the best features of the adventure.

The interface between player and program is easy to use; its main drawback is that the number of possible commands is limited.

Although the plot may be a little jaded, *Uninvited* milks it for all it's worth. It is great fun to play and is a welcome addition to this excellent series of adventures.

**Bob Chappell**

|                      |   |
|----------------------|---|
| Presentation .....   | 9 |
| Atmosphere .....     | 8 |
| Puzzlement .....     | 9 |
| Value for money..... | 8 |
| Overall .....        | 8 |

## SECOND sight

*The storyline may not be original, but nevertheless it is quite an entertaining adventure. The icon and window system is clear and easy to use, and the response is fairly rapid.*

*I still prefer the old-fashioned text-only adventures to this graphic type, but that's merely a matter of taste.*

**Andy Richards**

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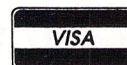
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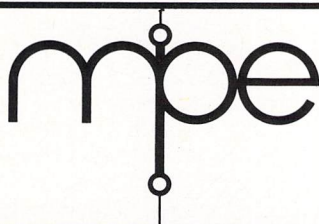
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Program: *Knightmare*

Price: £14.99

Supplier: Activision, 23 Pond Street,  
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KNIGHTMARE was an Anglia television series on ITV a few months back which brought adventure role playing to the small screen. It involved a team of children, one of whom was lumbered with wearing a full-facial helmet so that he or she couldn't see where he was. And it was up to the other team members to guide the brave knight.

The adventurers would run into friends and foes – more often than not the latter – find objects, solve clues and answer some confusing puzzles.

The knight only had so long in each room, his or her health displayed by a collapsing head, with layers of flesh flying off to signify death.

What made the game appeal to most people were the great backdrops, originally painstakingly hand-painted, then digitised on to a very large computer system.

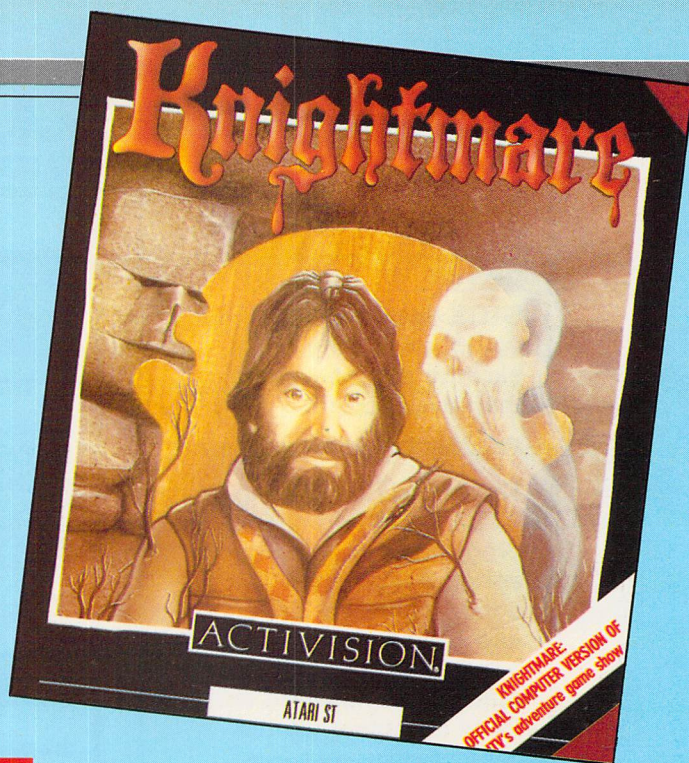
The host of this adventure show was the Dungeon Master, Treguard. His task was to watch over the adventurers, and in moments of dire need offer the occasional mysterious clue which would usually baffle all and sundry.

Sometimes the knight would walk into a room containing a very large bomb, and would only have so long as the bomb's fuse permitted to flee the room.

Well, that's Knightmare the TV game all but covered, so how does the computer variant stand up? You start off in a dungeon with a rapidly-melting candle

showing your health, and Treguard offering a few words of encouragement. There is also an old man wandering about, a chicken leg and a rock.

I tried talking to the old man, but he only complained of getting weak and wasting away. So the tried and trusted OPEN DOOR came into play. Success! The game has a rather impressive way of changing screens – an on-screen Knightmare book flips over to reveal the next



## From TV to ST

page. Then I got stuck, not knowing what to do next.

Treguard advised consulting the Oracles – two wise men, one good and one bad both of whom offer advice. Sometimes it is best to ignore the bad one, but don't take this to be the case all the time.

I found them to be of little help to start off with, but eventually managed to get off the blocks with some assistance. Here's a hint to get you started: Help the old man and he will help you.

There are guards all over the place, some humanoid, some spiritual, like the disembodied hand with the sabre which chases you, and the small red goblin-like demon, both of which drain your health.

Nice graphics convey a sense of atmosphere, but there is little or no sound. Sometimes frenzied arcade-style action combined with absolutely mind-bending puzzles drives you halfway up the wall.

Knightmare is a strange animal. If you want adventure mixed with a little action, then get it by all means – it certainly won't cost you a fortune at £14.99.

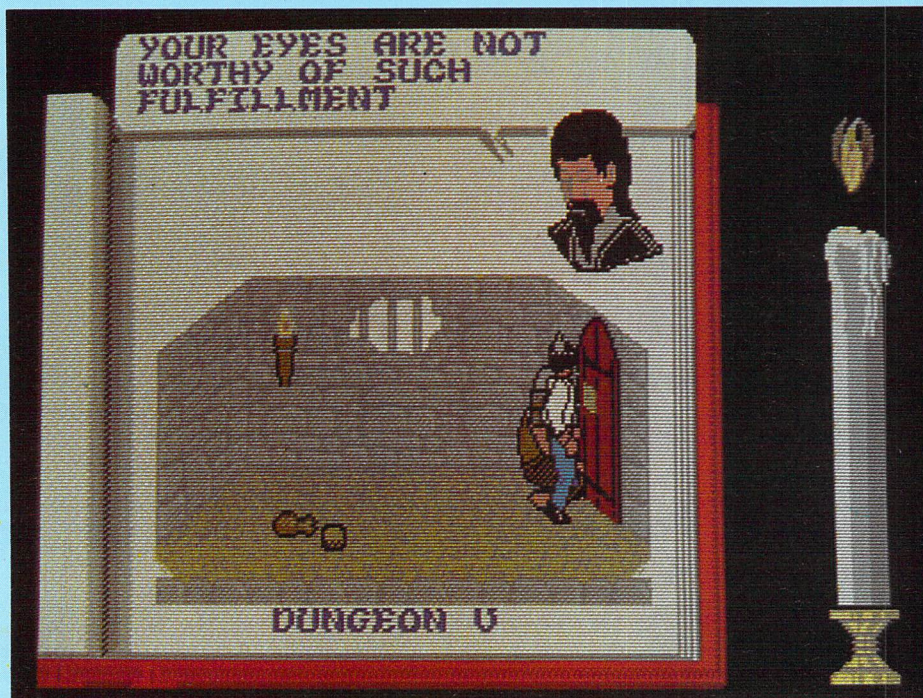
**Robert Swan**

|                       |   |
|-----------------------|---|
| Graphics.....         | 8 |
| Puzzlement .....      | 9 |
| Playability .....     | 7 |
| Value for Money ..... | 9 |
| Overall .....         | 8 |

## SECOND sight

The mind-bending puzzles in this conversion from the TV series will have you scratching your head within minutes. The graphics are OK and the gameplay quite interesting, so if you are a fan of the series you may like to have a bash at this ST version.

**Andy Richards**



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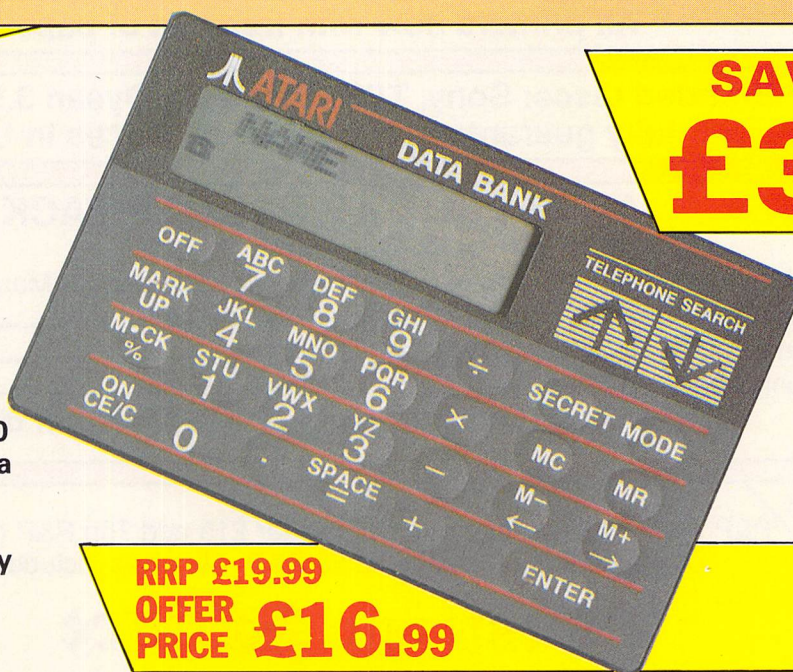
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# Multi-user mayhem

Program: Leatherneck

Price: £19.95

Supplier: Microdeal, PO Box 68, St. Austell,  
Cornwall PL25 4YB.

Tel: 0726 68020.

ANOTHER game from the talented Bak and Lyon programming team, this one's an out-and-out apple-pie-American, gung-ho blast-the-nasty-vietwhatsits game.

The object is simply to survive. You travel up a vertically scrolling screen and shoot the baddies as they appear. And they appear in force – often in a line stretching from one side of the screen to the other, firing sub-machine guns or lobbing grenades.

The only good thing about them is they don't make a bee-line for you and if you get past them they don't turn around and shoot you in the back.

Up to four people can play – joysticks one and two plug into the joystick ports and three and four plug into the Microdeal dual joysticks adapter. This is optional, and not supplied.

Non-active players die within a few seconds. Yes, you can shoot your own men – I have the bruises to prove it – and you get 1,000 points for it. If more than one is playing you can't move up the screen unless your mates are with you. It's difficult enough as it is without treachery however, and you'll have a much better

game if you cooperate.

You change weapons by pressing a key – a different one for each player. Changing weapons in a shoot-em-up is always difficult – if you use the joystick for direction and the fire button to fire how do you do it? – but in Leatherneck it's doubly difficult because the action's so fast and furious, especially if several of you are playing.

You only have a certain amount of ammo for each weapon, but you can pick up more by moving over ammo boxes.

The first thing you learn is that you can't shoot a man on the extreme edge of the screen – you have to throw a grenade to blow him up. They are also useful for

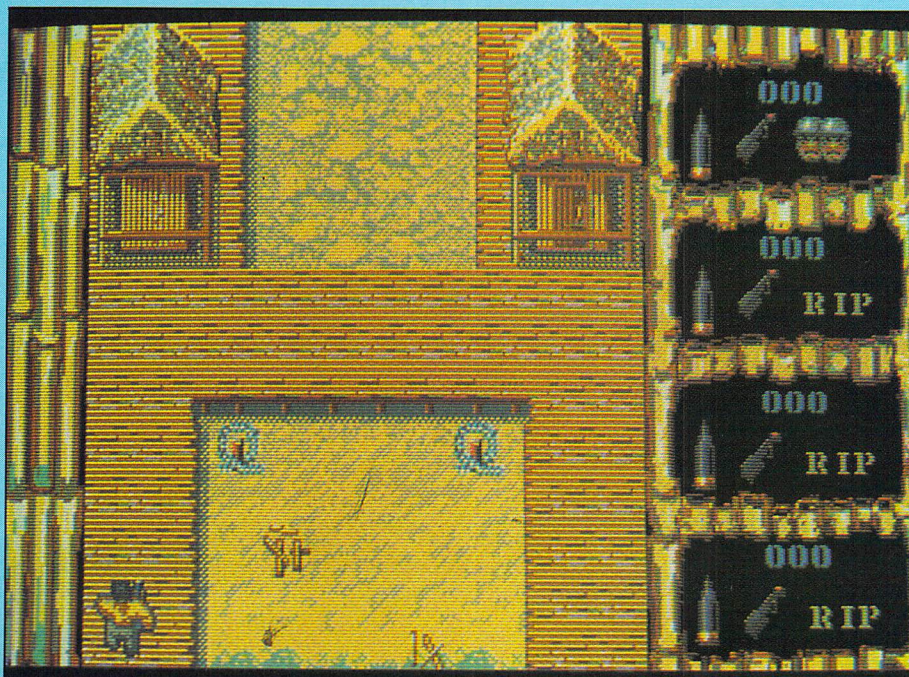
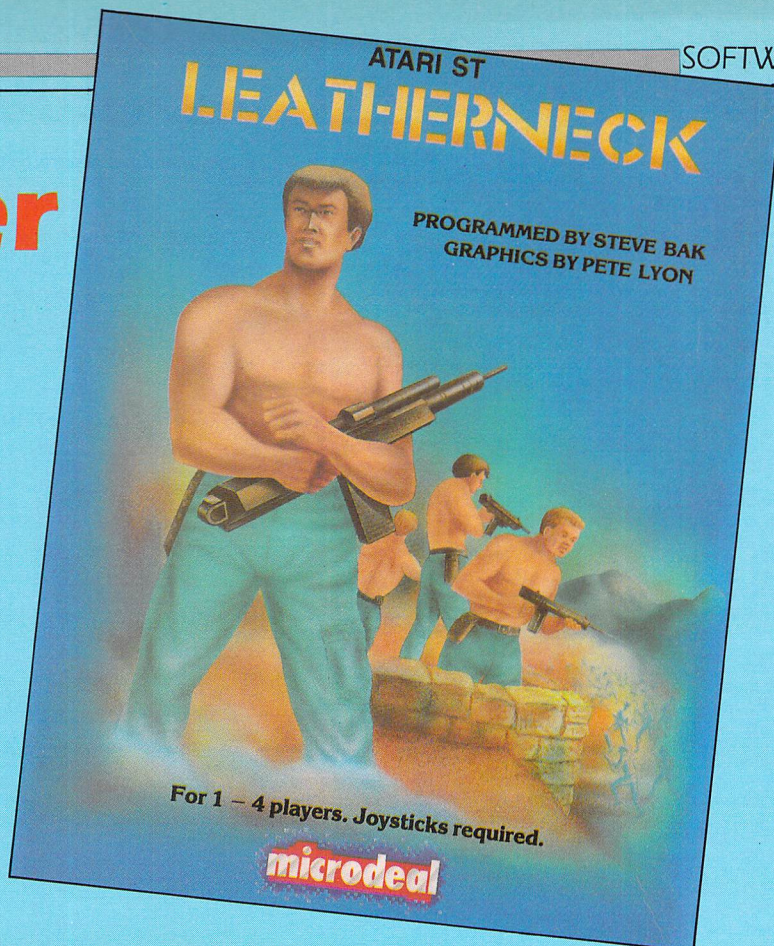
destroying gun emplacements and grenade spreaders. Heavy machine guns have a long range but the light ones fire faster.

The most annoying aspect of the game is not being able to shoot diagonally across the screen. The graphics are excellent as you would expect, and the sound is sampled. Listen for the grunts and groans as the men bite the dust.

The disc is protected, but if you leave the write-protect tab off it will automatically save the high score.

Leatherneck is a competently programmed game, but I suspect it will have limited lasting appeal. However, if you can get together with two or three friends you'll be guaranteed a jolly good blast.

**Ian Waugh**



|                      |   |
|----------------------|---|
| Sound .....          | 8 |
| Graphics.....        | 9 |
| Playability.....     | 6 |
| Value for money..... | 7 |
| Overall .....        | 7 |

## SECOND sight

Leatherneck is yet another macho Rambo jungle warfare vertical scroller. If you haven't already got one it's well worth considering, but for me it's just too similar to Predator and Ikari Warriors.

Once you've played one, you've played them all. Still, I think I'll have just one more go ...

**Andy Richards**

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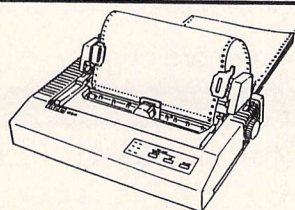
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# To illustrate a case in point

**D**ATA Manager from Timeworks is a powerful Gem-based database aimed squarely at the business user. It provides all the standard database functions, but places particular emphasis on facilities for calculation and the orderly and attractive output of data in the form of customised reports and the graphical representation of database statistics.

The program can generally be categorised by two modes of operation – column mode and form mode, both of which are supported by pull-down menus and dialogue boxes.

The majority of operations can also be carried out by key sequences though once you become accustomed to the way the program works, and for quick reference those most frequently used are displayed along the bottom of the screen.

Column mode is used to set up a database structure, produce reports, and subsequently view data. Form mode comes into play for data entry and modifying the contents of records.

Figure I shows column mode being used to browse the contents of a database. The rows across the screen are entire records within the database, and the columns down are fields. Figure II illustrates form mode prompting for data entry to the same database.

## Field types

When setting up a new database Data Manager provides nine possible field types: Alphabetic, alphanumeric, numeric, calculation, Boolean, time (00:00 format), date (MM/DD/YY format), form title fields and format fields.

Most speak for themselves, but a few may require further explanation. Boolean fields, for the uninitiated, are used to store simple binary data which can only have one of two predefined values to represent a true or false setting.

In this case binary fields are referred to as Yes/No fields, and can hold either Y or N. Wherever an indication is needed within a record that a particular set of circumstances is either true or false this type of field is extremely useful, and is particularly economical on storage space in that it only requires one binary bit of information to be set to 1 or 0.

Form title fields appear as titles in your database. They cannot be used to store data, and will only show themselves in form mode, where they increase visual clarity.

Format fields are a flexible means whereby you can more or less design your own type of field. In them you could, for instance, decide whether you will display all capital letters, all lower case, numbers and letters, or any combination of these.

Calculation fields are particularly power-

**A new database manager with a flair for reports and graphics is assessed by David Davenport**

ful and are closely tied in with the program's columnar tabulation of data in a very spreadsheet-like fashion. Setting up calculation fields brings up the box dialogue shown in Figure III.

Calculations are based around an expression of the type:

IF x THEN y ELSE z

where x, y and z are all mathematical or logical expressions, or a mixture of both.

Within any part of this clause Data Manager allows you to make reference to any column number as well as fields from the previous record for a calculation in the current record.

Mathematical calculations can use addition, subtraction, multiplication, division, powers and roots, plus all the standard equality and inequality operators, and for logical testing AND and OR, for instance:

IF c5 < 1000 && c4 <= 2  
THEN c5\*0.5  
ELSE c5\*.03

Roughly paraphrased this means "if the number in column 5 is less than 1000 and the one in column 4 is less than or equal to 2, then make this field the result of column 5 multiplied by 0.5, otherwise make it the result of column 5 multiplied by 0.3".

As you can imagine, the ability to cope with this sort of construction means Data Manager can handle some fairly powerful calculation and decision functions.

Within column view mode columns can be moved around, resized, and even hidden. I found resizing a little awkward though, in that the mouse must be pos-



itioned in exactly the right position in what is often quite a small heading bar, and I frequently finished up accidentally moving a column.

## Sorting facilities

Sorting facilities are very versatile, too. Highlight a heading and you can sort a particular column into either ascending or descending alphabetical or numerical order, as well as sort chronologically on appropriate fields.

You're not limited to single fields either, as you can carry out multiple-column sorts, allowing you to perform sub-sorts within a main sort. And there's a Resort option that you can activate to quickly reorganise data after making changes.

Whole records can be moved and deleted just as easily as columns, and there is a very powerful case-sensitive Find/Search and replace function that allows bulk changes to be made across the whole database on any one record field. Searches can be done by range or by specification.

Searching by range allows you to select a subset of all the database records for which the value of a particular

numerical field falls within specified boundaries. For instance, within a mail order database you could find all customers owing between £100 and £200 by searching by range for all records whose AMOUNT DUE field held amounts between these figures.

Searching by specification allows you to select a set of records that all contain one piece of data specified by you – like all those people in our hypothetical mail order database whose address contains the word England in the COUNTRY field.

This is a very powerful and versatile kind of search, and provides you with the operators *equal to*, *less than*, *less than or equal to* and *containing certain characters*. There is also an UNMATCH option, which provides the opposite effects to each of these operators by selecting all records which do NOT conform to your specified criteria.

You can use the Status option to check how your database is shaping up at any point. It shows you its ID, the date of the last revision, the amount of data held in bytes, the total number of records, the average length of these in bytes, the number of columns (fields), and the amount of memory left. This could be useful once a database starts to get very large.

Data Manager allows you to password protect a database, and the Status option also shows the current password and lets you set or reset it.

If the product has one particular strength, it is its ability to present information in an orderly and professional manner. It has a special business graphics module for designing attractive graphs, which I'll discuss shortly, and a built-in report writer for generating nicely formatted column output.

## Writing reports

The report writer allows you to give your reports titles, and position these where you want on the printed page, and the same with page numbers. The data in each column can be justified to the left, right, or centre-justified. Through the Column report group control panel you can select to place sub-totals and/or running totals after each set of matching data in a report.

You can insert page breaks between sets of matching data too, or just leave blank lines. Particularly useful is the Print Once option. If you turn this on for any one column, any data which is identical in that column will only be printed once, avoiding needless duplication, and cutting down the wear on your printer ribbon.

There is also fine control over the starting page number, the paper height and width settings, left and right margins, the

Figure I:  
Browsing  
a database in  
column view  
mode

| SALES PERSON    | ITEM | ORDER AMOUNT | DATE OF SALE | REGION | DELIVERY DATE | STATUS |
|-----------------|------|--------------|--------------|--------|---------------|--------|
| JOHNSON, TOM    | 0015 | £15,223.36   | 16/11/85     | 0229   | 14/02/86      | 2      |
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| SMITH, JOHN     | 1478 | £10,256.88   | 22/03/86     | 0711   | 30/06/86      | 0      |

Figure I: Entering  
data in form mode

Figure III: The functions available to set up calculation fields

amount of space at the top and bottom of each page, and you can select form feeding if your printer requires it.

It's also possible to print out in different typefaces and type sizes, if your printer supports them, by sending the necessary control codes to the printer.

Once you've designed the exact format of report required you can save it to be used again. If you want to add even fancier effects it's always possible to print a report off to an Ascii disc file rather than to the printer, load this into your favourite word processor or text editor and make further finer adjustments to it there.

Timeworks also produces a word

processor – Word Writer – and a spreadsheet – SwiftCalc – and there are two further options which allow you to print your reports to files suitable for use with either of these programs, so the three can be used together with no fuss.

Data Manager will also produce report printouts in form mode with all the power and flexibility offered for column reports, and this makes it very simple to set up form report formats that are ideal for printing mailing labels, price tags, inventory labels and so on.

The other way Data Manager allows

Turn to Page 79 ►

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## ◀ From Page 77

you to present information in an easily-readable format is through graphs, and the database comes with a separate program specially designed to do this.

To create a graph you must first design a report format within the database program including just the information you wish to illustrate, then make a special graph file through an option in the pull-down File menu. You then run the graph generator program and import this graph file from disc.

The data will appear in columned format, and using the mouse and various options presented in a dialogue box you work on this data to choose the labels to be used in the graph and a data set to be graphed.

Through the print menu you can print the graph of your data to the ST's screen then output it to the printer, and you can swap from one graph type to another in a flash once a data set is loaded.

A wide range of graph types is supported – vertical and horizontal bar charts, line graphs, scientific graphs and pie charts, which should easily meet the requirements of the majority of business users.

All types of graph except pie charts can be overlaid on one another to provide a comparative view of several sets of data.

Vertical bar charts have a special option to display data based on a hi-low range, and to show stock market type information in a hi-low-close format using special symbols.

Both vertical and horizontal bar charts can be arranged to display sets of related information stacked on top of one another. You can control the width of the bars if you wish, and an extra option with horizontal bar charting effectively provides a sixth type of graph called a Gantt chart – very useful for producing schedules for project planning.

Line graphs can be summed so the values are added up and displayed as they are plotted, and scientific charts plot the data as a line graph but on a grid. Figure IV shows a selection of the effects you can achieve.

A variety of line styles is available, and a wide range of special symbols which you can incorporate into charts for specialised purposes. With all axis-based charts you have control over the X and Y axes as regards titles, scales and pips (the calibrations on an axis).

You can have logarithmic scales on vertical axes, and you can easily draw a box around a graph just by picking this as an option. You can choose whether to place the title for a graph at the top or bottom of a diagram, and footnotes are possible too. And if your monitor will support it, there's also a limited range of colours available.

On the whole I'm pretty impressed with

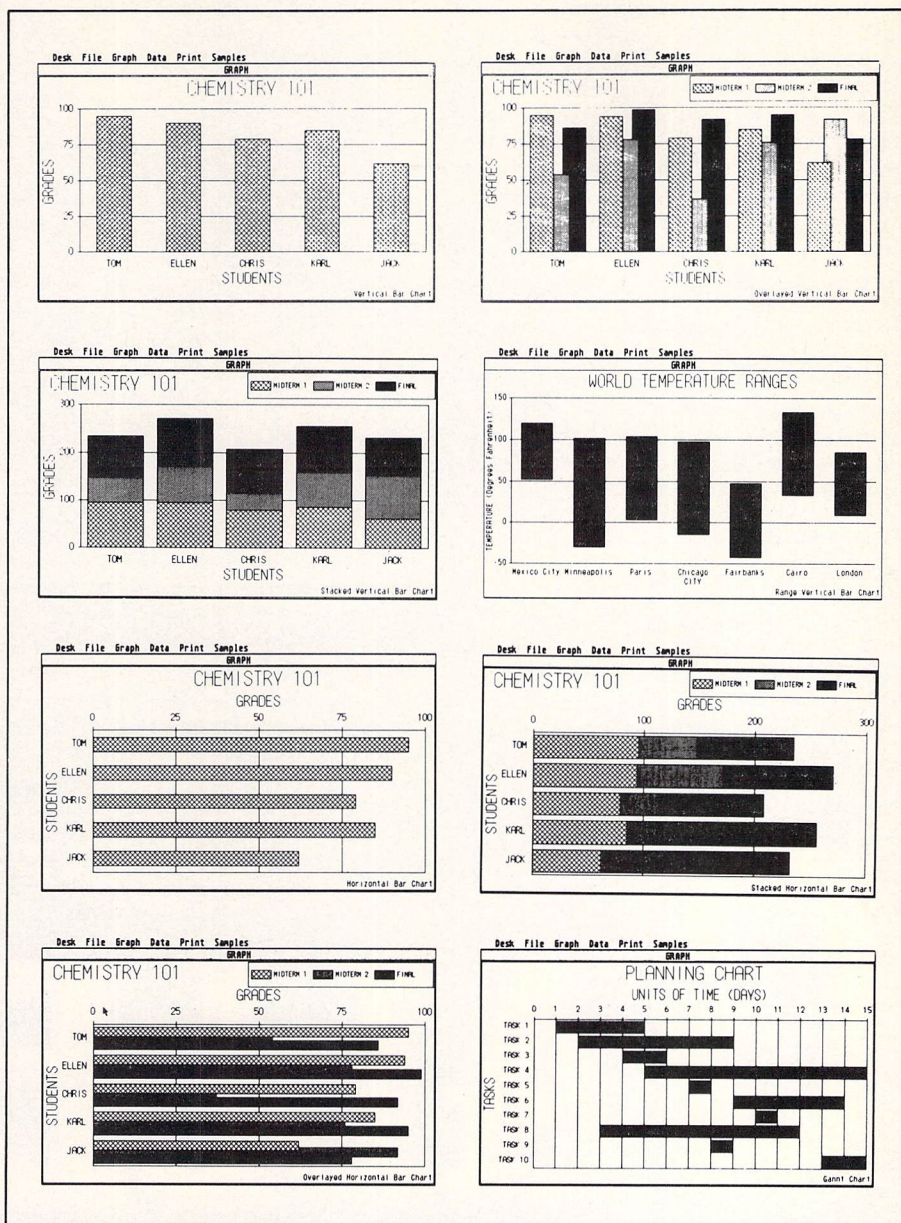


Figure IV: A selection of the graphical effects you can achieve through Data Manager

Data Manager. It's fast, and the program's mode of operation is easy to learn and simple to use, a difficult thing to achieve in a piece of software without losing out on power.

I do have a few small niggles. For instance, there's a very frustrating error message in data entry or edit mode which appears every time the cursor reaches the end of a field line, and needs to be removed by clicking an OK box every time.

The system does lack relational multiple file handling power, but unless a database sets out to achieve this it can't really be criticised on that count. As I said, it's also rather difficult to resize fields on the screen in column mode due to the precision with which the pointer must be positioned, but these are really only trivial points.

The program interfaces well with the other business software in the Timeworks range, which is always a plus point. The report generator is very versatile and

well suited to business needs, and the graphics module is elegant and produces superb output ideal for incorporating into financial reports. All in all it's a well-rounded package and well worth the money.

## FACT FILE

Product: Data Manager ST

Price: £79.95

Supplier: Timeworks Inc./Electric Distribution, 8 Green Street, Willingham, Cambridge CB4 5JA.

Tel: 0954 61258

### POINTS FOR:

Excellent report writer and graphs module.  
Good calculation facilities, and very easy to use. Clear manual with full tutorial.

### AGAINST:

Lacks relational power, but otherwise nothing worth mentioning.

**GALLERY** goes international this month. There is a pretty mixed bunch of pictures, and they are supplied by top graphic artists from all over the world.

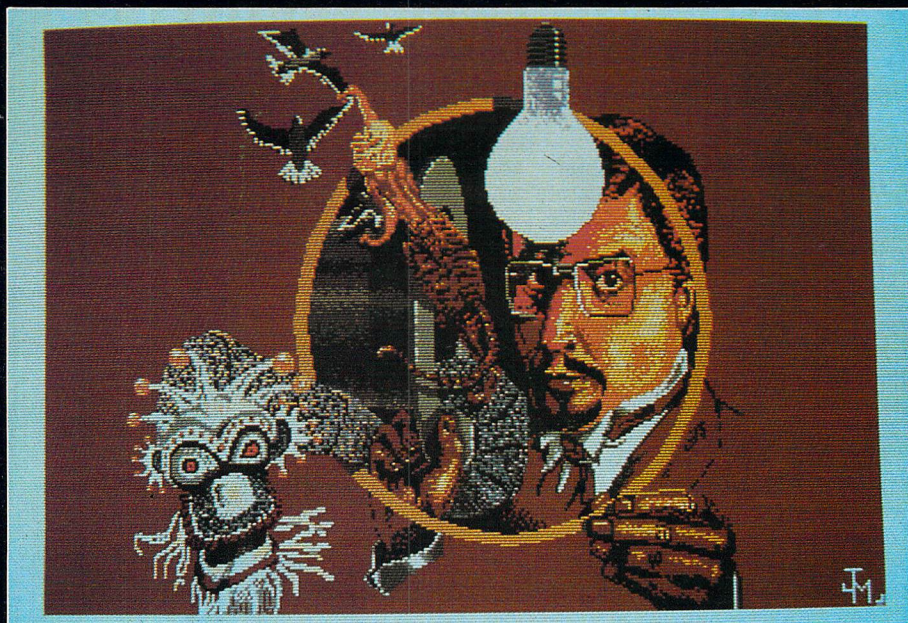
The picture of Harry Blackstone junior, an American magician was created by Jeffrey McDermont from Cleveland on a 520ST using Batteries Included's Degas Elite in low resolution mode. It took around a week to complete, working just a few hours a night.

Pirate's cove was also drawn using Degas Elite running in low resolution, and is by Magnus Tjarnstrom from across the North Sea in Sweden.

The geometric abstract art is yet another picture from the powerful Degas Elite package, and was supplied by Craig Ellis of Manchester.

Buttercup Cottage is an impressive work of art by P. Ridley from Wokingham in Berkshire, who created it using Rainbird's Advanced Art Studio, and saved in Neochrome format.

The Crab robot was painted by Christopher Dack from Norwich, who also uses Advanced Art Studio plus Eidersoft's Quantum Paint for his com-



Harry Blackstone junior

*Jeffrey McDermont*

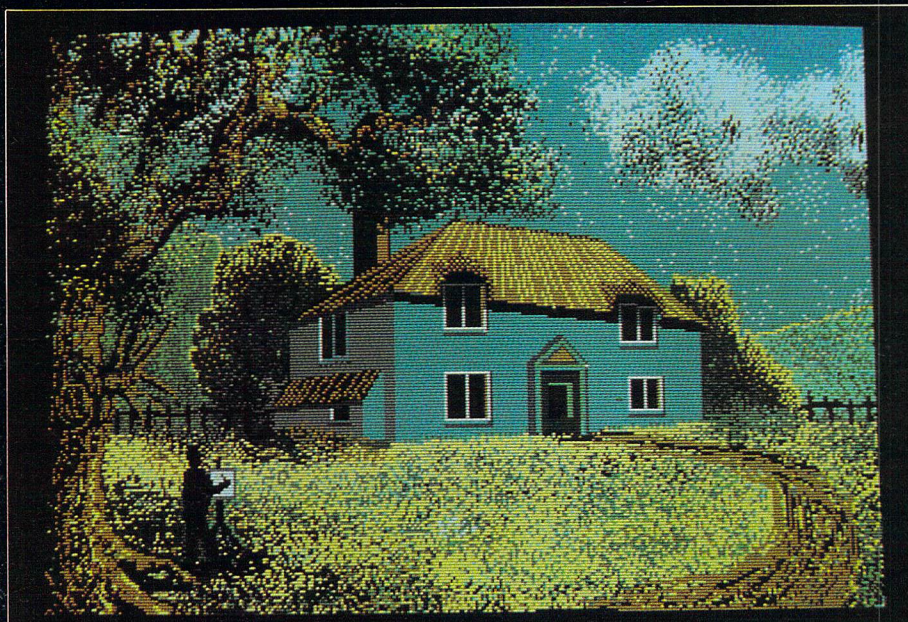
puter graphic art. However, by far the most popular art package is Degas Elite, and this was also used by Henrik Schroder from Germany to produce his impressive picture of the space shuttle blasting off from Cape Canaveral.

If you have a work of art you would like to see exhibited on our world wide stage, why not send it to Gallery?

Also, tell us how you went about creating your masterpiece – what package you used...what inspired you...how long it took.

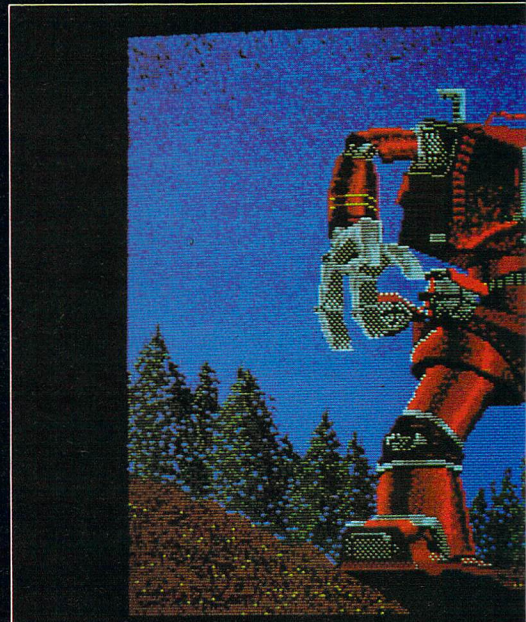
Remember though, anything you submit must be all your own work, you must own the copyright, and you must provide us with written permission to publish it.

# GALLERY



Buttercup cottage

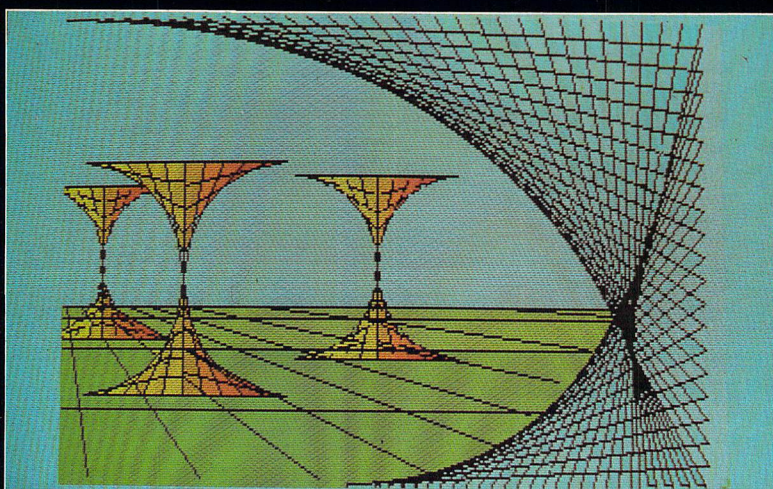
*P. Ridley*



Crab robot



Pirate's cove

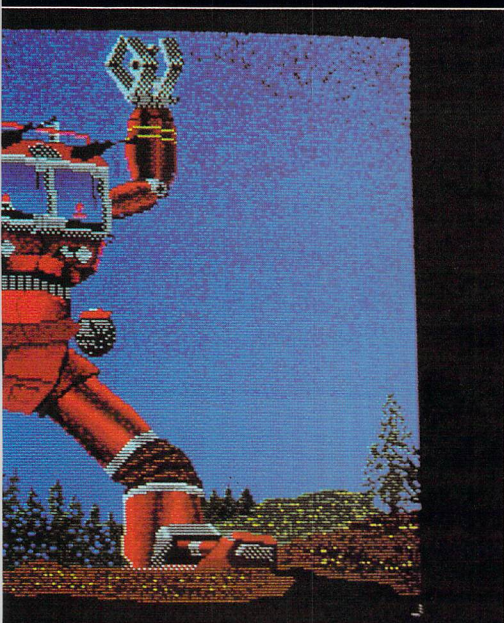
*Magnus Tjarnstrom*

Abstract art

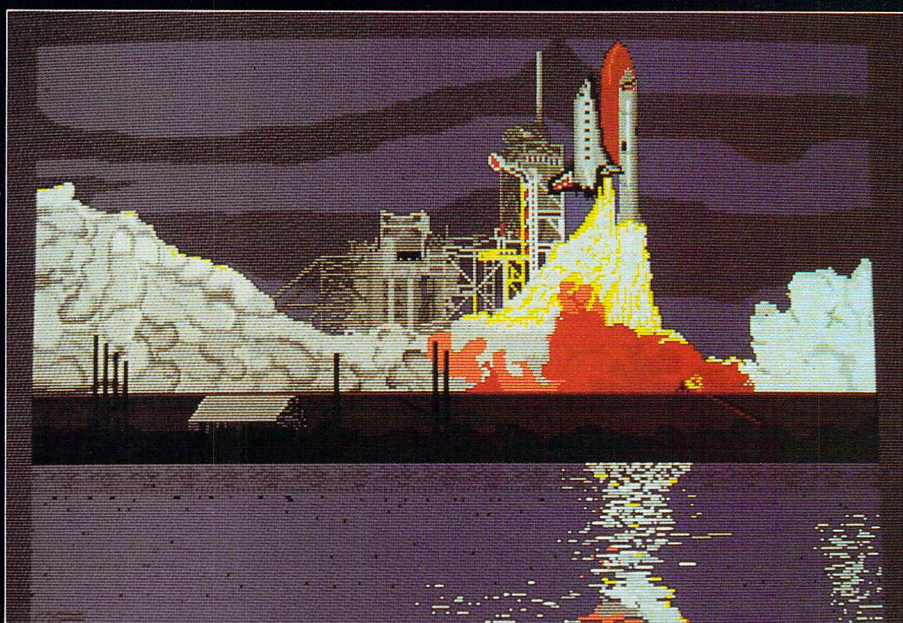
*Craig Ellis*

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Christopher Dack



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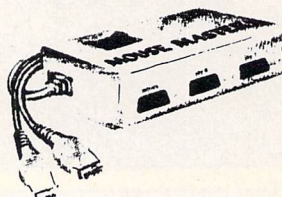
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# Battle of words

**The relative merits of three word processors Protext, Word Writer ST and Wordup – assessed by David Davenport**

**I**F your work involves you in lots of writing or text processing generally, it's essential to choose just the right word processor for your needs. Since you'll be spending a lot of time with it, it must provide the appropriate combination of features for your requirements, and make the manipulation of text easy and comfortable.

But perhaps equally important is the general feel of the package – and that's a very personal thing. If you don't like the way a program operates in the broadest sense, there's no way you'll ever become truly proficient with it, especially if you're having to convert from another package you know and love.

Intangible factors like these are what distinguish a classic WP package from a run-of-the-mill text editor, and it's with them in mind that I'm going to compare three fairly new ST word processors – Timeworks' Word Writer, Neocept's WordUp and Arnor's Protext.

Word Writer is what could be termed a typical ST word processor, and is very similar in operation to 1st Word. It's Gem-based and wysiwyg, and has a powerful spelling checker, easy-to-use mail merger, a built-in outliner program and a very impressive online thesaurus.

Prottext, only recently released for the ST, is very much the typical ST word processor. It's a faithful and in many respects boosted conversion of the original that won such praise on the Amstrad machines. It doesn't use Gem and there's not a drop-down menu as such in sight.

The program is command based in both a Wordstar-like fashion when in edit mode and through powerful direct instructions to a command line interpreter in what's known as command mode.

The package includes a spelling checker and mail merger, plus a host of utilities. It's wysiwyg in the traditional sense that page layout on screen is the same as you'll get on paper, and it will also show italics and underlining in the flesh on screen when you request to see

them, and bold typeface in inverse video mode.

All the mail merging facilities are based around running executable files in command mode, and to accomplish this Prottext provides a powerful and flexible command language known as Promerge.

WordUp is again a typical Gem-based word processor complete with mail merger. It also offers a fair slice of the power of a desktop publishing package, in that there is a wide range of fonts and character point sizes which you can see on screen, and you can merge fancy graphics with your text and crop them to size.

The program will accept both Neochrome and Degas pictures, as well as any standard .IMG file. Documents can be printed out in full graphics mode with all the fancy effects, or as normal Ascii text.

## Mode of operation

Both Word Writer and WordUp work in typical Gem fashion within a resizeable main text window with sliding horizontal and vertical scroll bars. They both have a menu bar along the top of the screen for major operations such as file handling, printing, block operations and so on.

For ease of use they both display a panel of quick keystroke references along the bottom of the screen, which you can overlay with the main edit window once you feel you know what you're doing.

So you can either use keystrokes or pull-down menus for most text manipulating functions such as block copies, deletes, pastes and the like. WordUp should please mouse lovers in that it

allows you to define blocks for copying, pasting and deleting by dragging the mouse across a specified block of text.

Prottext's edit mode consists of a full-screen display with an editable ruler in the text area, and all major editing functions are achieved by key sequences or direct commands from command mode.

It has detailed online help in both edit and command modes, but in the latter only provided the help file is present on the disc.

All three packages permit either ragged or automatically justified text, and make use of the ST's pre-defined keyboard keys for such basic functions as deleting a letter, backspacing and so on.

The ruler in Word Writer and WordUp runs along the top of the main editing windows only, and can be altered with respect to margins and tabs using the mouse. Prottext's ruler, on the other hand, is actually part of the text area, and you can have as many as you like within a document, text always behaving in relation to the ruler directly above it.

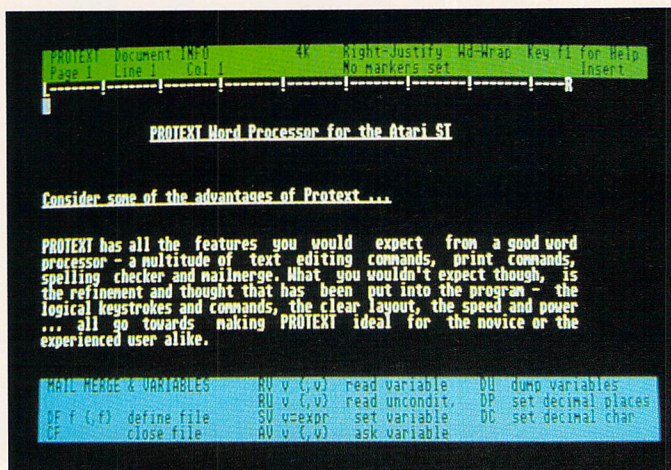
Particularly helpful in Prottext is the ability to copy the last ruler but one to the current cursor position by pressing Control+R. This allows rapid layout changes as you work your way through a piece of text.

You can use the facility to bring slightly different rulers into play by copying the previous one with Control+R then making necessary minor amendments to it.

Search and replace facilities are good in all the packages, via either menus and dialogue boxes or quick keys in Word Writer and WordUp, and as a keyword instruction in command mode in Prottext.

Prottext's search and replace facilities





*Protext's main editing screen*

are particularly flexible and powerful, in that you can use it to swap typesyles, bold for italic or bold for underlined for instance.

All three programs provide fairly precise control over page header and footer zones, but in different ways:

- WordUp allows you to set up what the manual terms a master page, and whatever appears on this one will appear on all subsequent pages printed. It also allows you to store footnotes and credits which can then be inserted into your pages in seconds by typing a single word.

- Word Writer allows you to specify headers and footers through a dialogue box. Here you would type the contents of the header or footer into one or more of three boxes, for either centre, left or middle positioning on the page. The page breaks are nice and clear too, running as a line right across the screen.

- Protext uses short commands inserted within your text to specify headers and footers, and within any one page you can use another command to either turn a given predefined header or footer on or off for a specific page. Protext also uses commands in the body of documents to indent blocks of text or whole documents by specifiable amounts at any point.

One thing I really don't like about WordUp, and to some extent Word Writer, is the keyboard response and scrolling speed. With both packages you're never quite sure whether a key press has registered properly.

Speed of response is always a problem when characters typed at the keyboard are of a graphic nature, as is required to show things in true wysiwyg. WordUp is particularly bad in that it redraws the whole screen to accommodate only minor amendments.

## File functions

Where file functions and disc management are concerned, WordUp and Word Writer provide all of the basics you'll require for effective word processing,

such as loading, saving and merging files, and the ability to save in Ascii format.

You can have more than one file open at a time too, and copy text between them. They both allow you to use the ST's tree directory structure, and Word Writer has a special option to pre-define a working path for all disc accesses.

But Protext has all these and much more, in that from its command mode you effectively have all the power and flexibility afforded by a traditional operating system prompt as in, for example, MSdos or CPM.

## On-board utilities

The same wealth of commands is also available for file and disc management as you would find in a full command-based operating system, nearly all of them resident within the program itself rather than as external utility programs.

Particularly useful for professional writers is a really fast word counting routine that you can run at any point on the file in memory.

There are some extra external utilities too, such as a multi-format file converter for tackling text prepared in other word processors. Perhaps the most powerful aspect of Protext's command mode is the

facility it provides to automate virtually any Protext text manipulation or disc or file handling process.

This is as simple as putting the commands for the actions you wish to perform in a file, saving it, then executing it with the EXEC command. In a sense it's a programmable word processor, but as with anything powerful it requires an investment of time to get to know and use it well.

## Spelling checkers

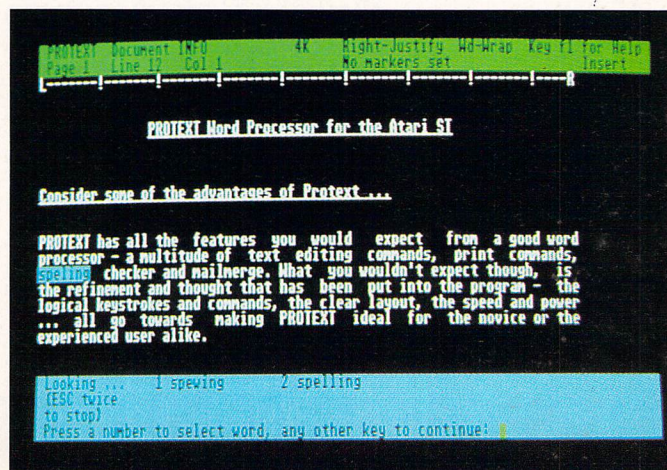
Only Word Writer and Protext have spelling checkers – in both cases good ones – and again the main difference lies in mode of operation, menus versus commands. From Word Writer spellchecking is invoked from the Words menu, which allows you to check the spelling of your text continuously as you type it in, or check the whole document in one go when it's finished.

In continuous mode, pressing the up or down cursor keys or the spacebar causes the last word you typed to be checked against the dictionary. In both modes a bleep indicates a misspelled word and the word in question highlighted. At this point you can either make a correction manually or using the View Words option browse through the dictionary for the correct spelling.

In View Words mode the program will automatically place you at the word nearest in spelling to the one you've misspelled. If you're a fairly good speller and only need to consult the dictionary occasionally, the other alternative is to go for the Check On Key option. In this mode the word under the cursor is checked against the dictionary, but only when you press Alternate+W.

It should be noted that continuous spellchecking mode slows down the operation of the program considerably. Also 520ST owners will be limited, in that with the dictionary in memory the maximum size of document you can work with is around 10 pages. To spell check a

**Turn to Page 87 ►**



*Spell-checking a document*




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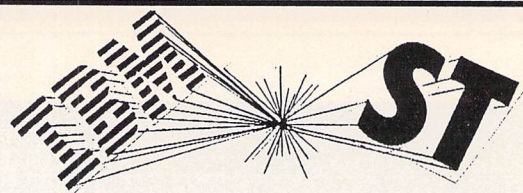
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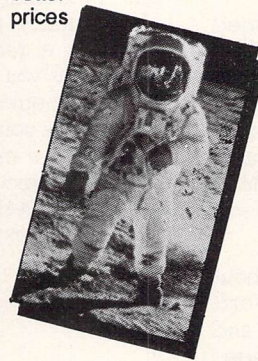
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longer one you would have to break it up into smaller parts and check them individually.

Protext's spelling checker is called from command mode to check either the document in memory or one saved on disc. As with Word Writer you can check a document so far, check an individual word, or check a whole document.

On finding errors you have the options to change the spelling of a word, store a new word in the dictionary, ignore it, or look up the correct spelling. At the end of a spell check you are presented with statistics on the number of words checked, unrecognised, changed, and stored.

Protext uses quite a clever strategy in that a small "quick" dictionary of very common words, is loaded into memory for speed and checked first. This is quite smart, because funnily enough the words you misspell most often are the easy ones, which you type at great speed from habit and so really miskey rather than misspell. You can add to this quick dictionary to cater for most commonly used words.

Protext will also allow you your own

user dictionaries for specialised subject areas – up to five can be used. There is also a range of commands for general dictionary maintenance and the merging and manipulation of dictionary files.

Quite a nice touch for crossword freaks is the inclusion of an anagram facility that will give you all the valid and meaningful permutations of a group of characters from the dictionary.

Although WordUp has no spelling checker as such, it does have a Glossary facility. This allows you to link blocks of text to a single word or phrase and then substitute those blocks for the word or phrase, and you can build up a library of glossaries.

The stored blocks can include justification, tab stops and margins, and so some quite complex and specialised formatting can be stored as glossary entries and incorporated into your files at the press of a few keys.

Word Writer also boasts two special features that neither WordUp nor Protext offer – an online thesaurus and a built-in outline.

The thesaurus is excellent – I put it to the test with a few of the most obscure descriptive terms I could find and it always managed to provide me with at least five or six synonyms.

The thesaurus is available from the Words menu, and can be used to find alternative words for the one directly under the cursor in the text you're editing, or to provide synonyms for words you throw at it directly.

The outline is a tool rather like a word processor that allows you to organise and juggle the points in your notes for an essay or report say, into hierarchical patterns that express their relationship to each other and importance.

The Word Writer outline offers five levels of indexing reference: I to XXVII, A to Z, 1 to 99, a to z, and 1) to 99). Used within an outline these indexes would correspond, respectively, to main topics, subtopics, subheadings, breakdowns of

subheadings and further breakdowns of subheadings – which should be sufficient for even the most complex work plans.

This is an extremely useful add-on to a word processor, and should really be a feature of many more. After all, everything you write starts off as a set of rough notes, even if it's only in your head.

### Mail merging

WordUp, Word Writer and Protext all have mail merge facilities of some kind, but here the differences between the first two and Protext are the most profound.

The technique employed by WordUp and Word Writer is the standard one of setting up a form letter containing variable information for which words, phrases and figures are substituted into the body of the text from a data file when you do the actual merge.

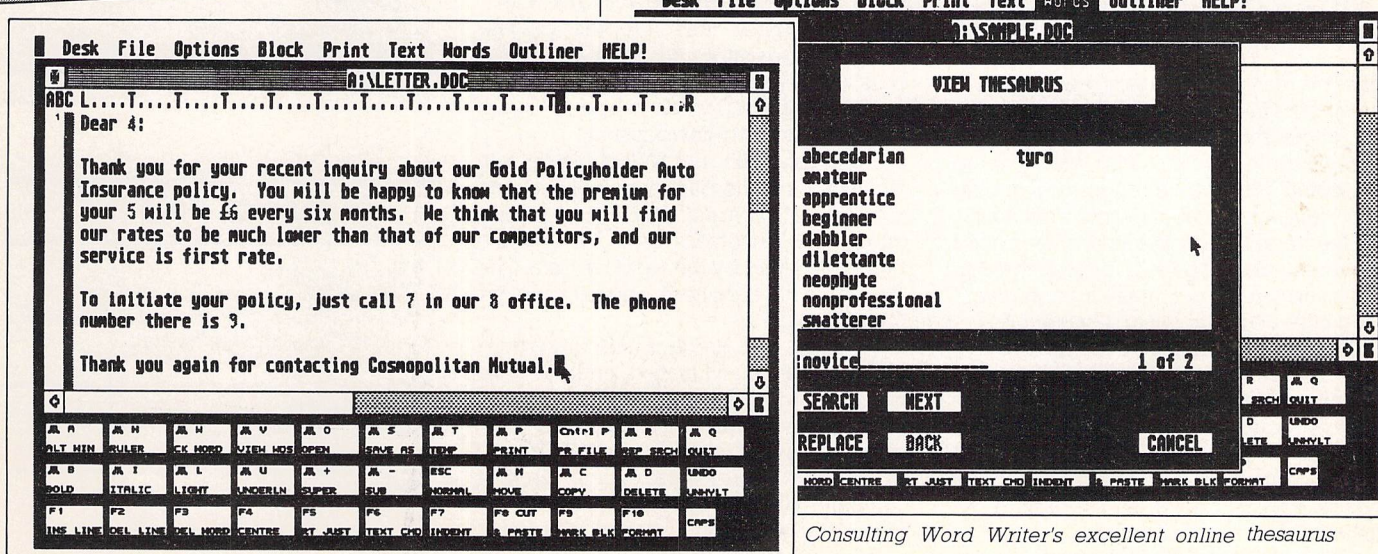
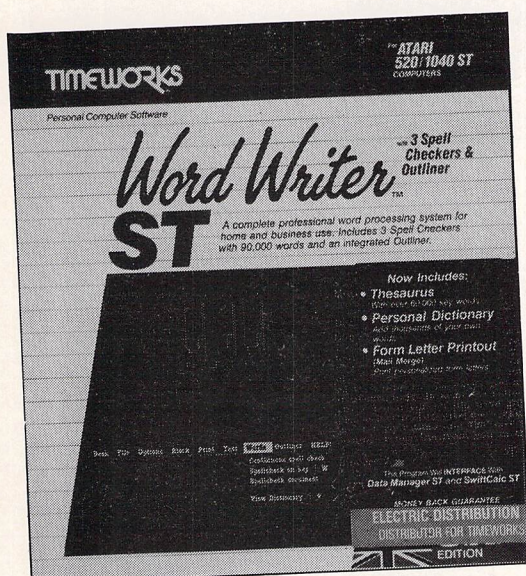
In WordUp variable data names are indicated by surrounding them with a special double-chevron type character, and in Word Writer simply by half-tone numbers corresponding to numbered fields in the data file.

In both cases the layout of the mail merged document is specified in the form letter template in the normal way, and merging simply substitutes actual data for the variables and prints out the merged text.

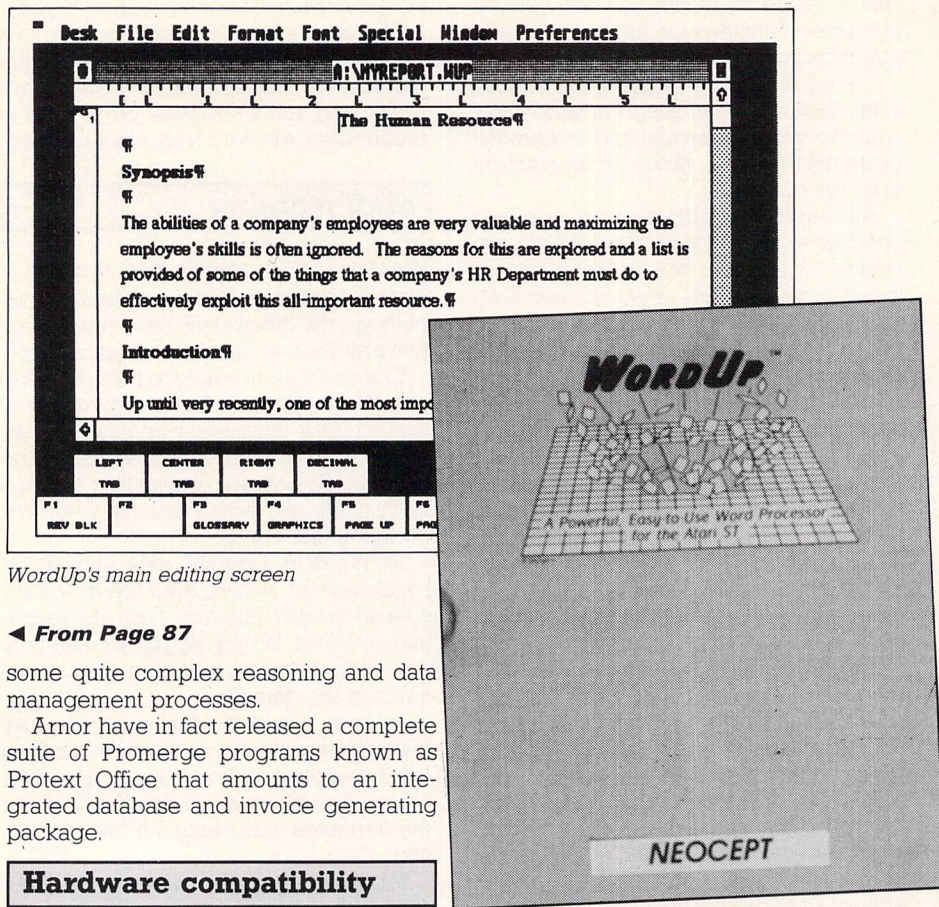
Protext adopts a completely different approach, whereby the form letter itself is executed like a program. This means you must do some work yourself by writing the "program", but the Promerge procedural command language is a very versatile one, and in the long run this approach offers far more power and flexibility.

Promerge has facilities for opening and closing files, searching for data, comparing strings and numbers, making calculations, and can be used to carry out

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Consulting Word Writer's excellent online thesaurus



WordUp's main editing screen

#### ◀ From Page 87

some quite complex reasoning and data management processes.

Armor have in fact released a complete suite of Promerge programs known as Protext Office that amounts to an integrated database and invoice generating package.

### Hardware compatibility

All three packages work with a variety of printers. WordUp comes ready to work with an Epson-compatible printer, but there is a large range of others you can obtain from Neocept by returning your system discs to them for an alternative driver.

Word Writer and Protext are more helpful in that they provide a range of alternatives on the original system discs, as well as installation programs. None of the packages will have any problem making use of a hard disc, and all provide sufficient instructions on how to configure your system.

As to documentation, I'm not overly impressed by that accompanying Word Writer and WordUp. Both boast comprehensive manuals, but that's very little use if you can't find your way around them. All the information you'll need is there, but the indexing is weak and you end up thumbing your way through to find what you want by the hit-and-miss method.

The beginners' tutorials are very good however, taking you step by step through the main functions in easy-to-understand language and with lots of illustrations.

The Protext manual, on the other hand, is both comprehensive and intensive, and sensibly indexed so you can find any specialised detail in a minute or less. It is a bit weak on complete beginners' material though, but four large and very clear tutorial files on one of the supplied discs make up for this omission.

The main body of the manual takes the form of a work of reference. It is backed

up by friendly explanation, and so takes a little investment of time but is well worth the trouble.

### Conclusions

There are no prizes for guessing which of these three packages I prefer, but I must stress that I would make my choice in relation to the sort of task I would use a word processor for. Protext is extremely fast and good for manipulating and merging large text files – as is required when working with lengthy articles in computer-based editorial work.

Word Writer falls into the middle ground, in that it could be used for this bulk text work, but with the inconvenience of a reduction in speed due to the menu and windows system.

It is a good all round WP package with facilities for some quite fancy effects and nice letter layouts, and is versatile enough for most tasks provided you like being led along by the hand by Gem. The thesaurus is excellent and a must for creative writing.

WordUp, with its bent for full wysiwyg and graphics manipulation, and the wide range of fonts and different character point sizes, is most suitable for the tasks you would usually associate with DTP, such as drawing up attractive headed letters, company reports, training materials, fly posters, ads, CVs and so on.

Wherever the emphasis is on visual effect this package shines, but I certainly

wouldn't recommend it for heavy duty word crunching.

An important point to be aware of with Word Writer and with WordUp in particular is that the text can be very difficult to read on a TV.

None of the programs is outrageously expensive, and which you choose depends mainly on what you require of WP. For my money Protext wins hands down as the all round package, providing all the basic text editing functions anyone could need, impressive speed, powerful disc and file handling, as good a spelling checker as you'll come across and above all else the power and versatility of Promerge.

### FACT FILE

Product: Word Writer ST

Price: £79.95

Supplier: Electric Distribution, 8 Green Street, Willingham, Cambridge CB4 5JA.  
Tel: 0954 61258

#### POINTS FOR:

Good general purpose tool, with outliner and thesaurus.

#### AGAINST:

Scrolling and keyboard response is slow.

### FACT FILE

Product: WordUp

Price: £59.95

Supplier: H.B. Marketing, Brooklyn House, 22 The Green, West Drayton, Middlesex, UB7 7PQ.  
Tel: 0895 444433

#### POINTS FOR:

Range of fonts and point sizes. Can import graphics.

#### AGAINST:

Slow scrolling. Not suited to heavy duty text processing.

### FACT FILE

Product: Protext

Price: £79.95

Supplier: Armor, Protext House, Wainman Road, Peterborough PE2 0BU.  
Tel: 0733 239011

#### POINTS FOR:

Fast and powerful with excellent mail merge.

#### AGAINST:

Takes some time to get to know the command system.

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**Tony Evans gambles to assess the investment potential offered by Synergy Software's Share Master package**

# Keep tabs on that nice little earner

**D**ESCRIBED as "the professional investment analyst", it is obvious from the outset that Share Master is not designed for the casual dabbler in the stock market, but rather aimed at the large portfolio owner, investment manager or financial adviser.

The program comes on two discs with a ring-bound manual, and can be run on an unexpanded 520ST with either a monochrome or medium resolution colour monitor, and single 360k floppy disc drive. However, as will become apparent, it would be of great benefit to have a hard disc.

Share Master is capable of storing a portfolio containing as many as 500 companies, and can hold historical share data of up to 1,000 entries per company – daily or weekly prices. However, to store this amount of data requires no less than 17 single-sided floppy discs, and data for up to 30 companies is stored on each disc.

It would in fact, be possible for two or more portfolios to be maintained, but each would require the appropriate number of discs, and it is most important that each set be carefully labelled and kept separate. The program allows for files of historical company price data to be transferred or copied between the portfolios.

The two discs supplied are labelled Boot and Program, and are not copy-protected. As the initial configuration process and system closedown oper-

ations actually write back to these, backups are essential.

Before the program can be run for the first time a fairly complicated routine must be followed. After formatting as many data discs as will be required, the boot disc should be placed in the drive, and SM.TOS selected. This removes Gem, and a series of prompts follow to configure the program to your disc drives and printer – only Epson-compatible or IBM printers are supported.

After eight disc changes, plus initialising as many of the 17 possible data discs as you will use, the main menu appears. On subsequent uses, the boot and program discs need only be run once each to get to this point.

The menu offers the options shown in Figure 1, and choice is made by specifying a number.

## Realistic examples

The program comes with data for four companies and the FT 30 Index, covering 341 weeks, and this may be copied to your data disc. This is sufficient to take a look round the presentation of data and graphical analysis, and I would certainly recommend the first-time user to do this.

These files may be easily deleted later if you need the disc space.

Wanting to test insertion of live data for myself, I spent a couple of hours in the reference library with three months' back issues of the Financial Times, and returned home armed with some up-to-date information of my own.

As someone who is always wise after the event – I invariably buy my holiday currency the week before the country I am visiting devalues! – I chose Rowntrees 50p shares for my portfolio, as these were the subject of a take-over bid at the time of writing.

This meant I was assured of a fairly level series of prices initially, followed by a sudden rise, as the market reacted. In order to have a comparison covering the same period, I took the FT-A All Share Index figure.

After selecting the Share Price Editor option, I was offered a choice of 500 slots, the first five of which contained data copied from the boot disc. I chose one of those shown as Not in Use, and was asked for the filename, which may consist of up to 20 characters, although only the first 10 are shown on screen in the selection panel. I then proceeded to enter the prices.

## Entering prices

Data entry is straightforward, the option is given of weekly or daily prices. After opting for daily and entering the desired start date, the program self-generated all the dates (getting February 29 correct incidentally) leaving me to key in the prices in pence.

The position for data entry is clearly indicated by surrounding square brackets. Pressing Return simultaneously enters the price and moves you to the next data entry position.

Where no share price information is available – like weekends and Bank Holidays – the dates may be skipped, using the down arrow key to leave zeroes. The program automatically compensates for this when analysis takes place.

Apart from data entry, this module permits three other active options: Print

### MAIN MENU

1. Share Price Editor
2. Deal Database
3. Graphical Analysis
4. Profits & Valuation
5. Price Analysis
6. File/Printer Manager
7. System Closedown

ShareMaster © Synergy Software 1987/8

Figure 1: Share Master's main menu

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## ◀ From Page 91

allows either an entire range of prices, or a marked range selected by the Mark option to be printed.

Write to File enables a similar facility, but in this case the data is written to a .PRN disc file, which may then be subsequently loaded into a spreadsheet for further processing. Mark is used to identify a range for printing, deletion or adjustment for scrip issues.

After keying in the data, Escape is used to return to the main menu, and option two selected, Deal Database. This module allows information relating to acquisitions, disposals and dividends to be entered into a file for each of a possible 60 owners – a list of whom is kept as Ownercodes.

The file will accept up to 120 transactions, and requires details of date, owner, price, quantity, stamp duty (on purchases only) and VAT/tax to be entered automatically producing a value and total for each transaction.

The facility exists to enter these details in a preferred order – all deals, followed by all dividends, for instance – to allow for existing individual practices.

An additional Text option allows up to 30 lines of text, each containing a maximum of 30 characters to be entered, perhaps with a profile or history of the company concerned. (The manual states 30 characters, but I found I could not get more than 29 accepted).

Share Master enables a print-out of all transactions, or the text file, to be obtained simply by pressing P. Alternatively, the transaction information may be transferred in Ascii format to a separate data disc, using the Write to File option.

I entered a number of mythical deals and dividends into the database, and subsequently printed them out. All operations were simple, and faultless in execution.

### Plotting your plot

Moving on to the Graphical Analysis module by using Escape and selecting option three from the main menu, brought the choice of 1 to 500 companies, and I chose to view my data on Rowntrees.

In order for this part of the program to operate at all, it is essential that the first two share price slots contain data. If they do not, the choice of file will be rejected, and no graph will be drawn.

Assuming the two initial values are present, the file will be scanned, and blank slots will either have the previous price carried into them, or zero prices will be stripped out, according to the adjustment configuration selected in the File/Printer Manager module.

In my case all was well, and once I had chosen my file, the graphical representation of my data appeared almost

immediately. Scaling is automatic, and an almost bewildering choice of options is offered on a command line beneath the graph.

A further option from the Graphical Analysis module offers the chance to change the number of divisions shown on either the X or Y axes. The manual states that a maximum of 10 may be selected for both X and Y, but in fact the offer of up to 15 on the Y axis is made, and supported by the program.

A grid may be switched on or off at will, and either linear or logarithmic scaling may be selected for the Y axis. You can also exercise a choice of three different formats for the date, shown along the X axis.

You may also opt to manually select the scale on either axis. In the case of the X axis, this is done by choosing a range of dates between which it is wished to display data, so an enlarged view of a section of the data may be seen.

### Adding text

It's also possible to write text on to your graph by selecting Write followed by Text. A cursor then appears, which can be moved to the desired starting position using the arrow keys.

If text is entered when the cursor is moved into the area below the graph – which seems the obvious place to put a title – much of it is lost when the command line re-appears on pressing Enter, and it doesn't print out correctly.

In addition to text entry, the Write option may be used to accurately position a small dot on the chart. This allows the precise X and Y coordinate factors of date and share price corresponding to that position to be read off from a number

printed on the screen. Also the pointer dot may be placed at a position from which a trend line is to be drawn.

A special overlay option permits a number of graphs to be shown on screen simultaneously, and using this I produced a combined plot of the Rowntree and FT-A data. After adjusting the scaling to give room for both traces, changing the divisions on the X axis, switching on the grid and adding a title, Figure II was created.

Having dealt with the mechanical details of graph drawing, we now come to the heart of the Share Master program – the graphical analysis itself.

This is extremely complex, and I can do little more here than briefly describe the available facilities, many of which are of a specialist nature and require detailed knowledge of technical analysis.

A linear regression and correlation index for the selected base chart may be calculated and shown on screen, while the regression line will be drawn through the graph. An exponentially weighted smoothing curve for predictive purposes may also be plotted.

Centred or lagged moving averages can be drawn through the graph once the desired period has been entered, and a high or low curve drawn for any desired moving period.

The other choices in Graphical Analysis mode are all concerned with different methods of examining possible future movements, and include a Rate of Change Oscillator, plotting moving growth and showing the resultant figure as a percentage to reproduce or construct your own momentum measure.

You can also produce point and figure charts, plot stochastic curves with single

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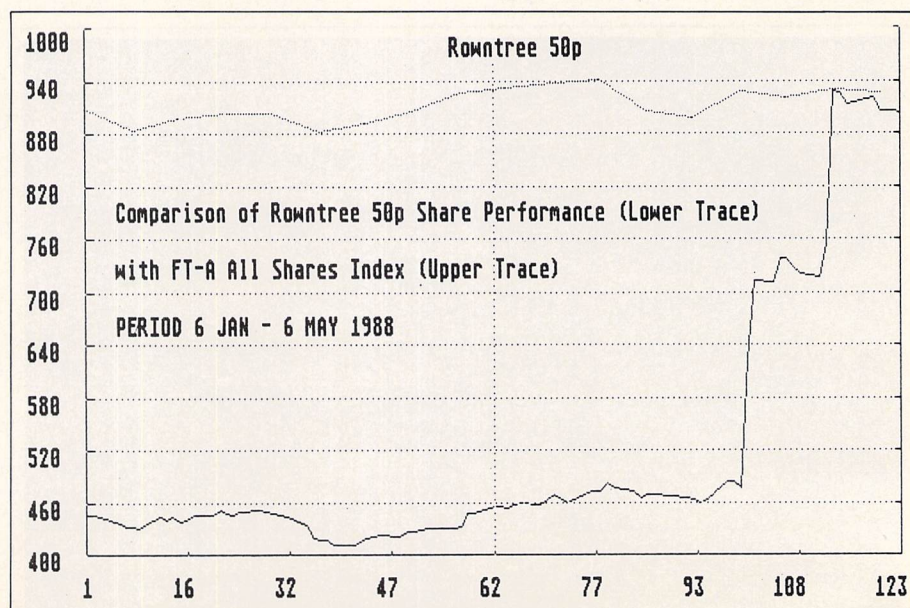


Figure II: Rowntree's share performance compared graphically with the FT-A All Shares Index

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ATARI ST

## ◀ From Page 92

or double smoothing, and show these either with or without the raw curve – the so called K and D curves. The manual contains some guidance as to the use and interpretation of these, and also recommends further reading.

Selecting the Profits and Valuation module enables analysis of transaction information for each portfolio, and a history of dealings for each company to show notional profit for each owner, or for the whole portfolio. Some guidance as to Capital Gains Tax is provided, and reports may also be printed out.

The Price Analysis module complements the Graphical Analysis by producing tabular analyses and statistics of share price information. These may be shown on screen or printed out in a report.

The File/Printer Manager module provides facilities for changing the defaults entered when the system is first configured, and also enables various housekeeping activities to be carried out, including file copying, altering names and dates, deleting/restoring files, and relocating a floppy disc portfolio on to a hard disc. A file utilities subsection enables extra data discs to be initialised,

and provides for hard disc users to back up their data on floppies.

The final module, System Closedown, closes all files and transfers updated file directory and configuration information back to the first data and system discs. When complete, you can return to the desktop by pressing any key.

### Minor niggles

Quibbles? I have very few. I would however have preferred to have the package running under Gem – having to use a command line seems like going back into the Dark Ages. Having said that I assume the decision not to use Gem was taken in order to free as much ram as possible for the program's workspace. I would have liked the option to use double-sided data discs both from the cost viewpoint, and imagining the difficulties involved in trying to find the right one out of 17.

Finally, although the manual fulfilled its purpose, I found it a little forbidding. There were 93 sides of unrelieved reduced typescript, totally devoid of humour, followed by five sides of graphs, without an index, and having a rather idiosyncratic layout, some sections

having numbered paragraphs, others not.

All in all though, I found Share Master to be a very carefully thought out and well constructed program. It did everything I asked of it smoothly and without problems, and although I do not have the expertise to use its predictive analyses to the full, I'm quite sure it would prove invaluable in keeping track of a large professional investment portfolio.

### FACT FILE

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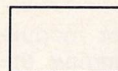
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**N**OWADAYS it's easy for ST users to sneer at the old and underpowered Sinclair QL, a machine of which I have rather fond memories, as it gave me my first real taste of 68000 assembly language.

Furthermore, the legacy of the QL for the Atari ST has been considerable – a great number of well known ST development systems from companies such as Metacomco, Talent and HiSoft made their first appearances on this humble micro.

This month I have the pleasure of reviewing two such packages – HiSoft's new improved Devpac and Talent's Workbench assembler.

### Workbench

I'll kick off with Talent's Workbench, which comes on a single-sided disc complete with an editor, assembler and a GST-compatible linker. There's also a useful installation utility capable of combining all these separate programs into a single integrated system.

The editor Talent supplies with the package allows you to call all parts of the Workbench either from a menu or by pressing one of the ST's function keys. Providing these segments have been

representing a tab character, and this means files produced on some of its competitors will often appear to be full of strange Control+I characters. This forces you laboriously to edit your program into the correct format before it can be assembled.

Talent's assembler can be used either directly from the editor or as a separate program in its own right. It supports all the important assembler options you would expect, including conditional assembly, macros and local labels.

It compares well in terms of power with most of the competition, including HiSoft's Devpac. Sadly however, it is unable to access a program straight from the editor's memory, and in practice this slows the program development cycle down considerably.

Another slight worry is the lack of facilities to include BSS and DATA sections in your routines. These can be very useful,

**Stephen Hill compares the power and range of features of two major assembly language development packages**

debugging environment it supports. In many respects Talent's system is a very good example of the breed. Not only is it extremely powerful, with conditional breakpoints and in-line assembly, but it is also refreshingly easy to use.

Instead of employing complex sequences of key presses, most commands are entered with simple three-letter codes. And if you ever get really stuck, you can always see a full list of them by pressing the Help key.

In my opinion the debugger is let down slightly by the disassembler. It is really rather crude by modern standards, and has no option to let you scroll up and down through a program a line at a time. As with most systems, a separate screen is used for all the program's output, which can be displayed when required using the Tab key.

Conditional breakpoints are extremely useful. These allow any breakpoint to have a test associated with it. If you now run your program, control will be returned to the debugger only when both the breakpoint is reached and the test conditions are satisfied. This enables you to check the program precisely at the point when an error actually occurs, thus removing a great deal of the tedium from

# Tools of the trade

incorporated into the editor using the installation routine, they can be accessed from the ST's memory practically instantaneously.

Unlike the case with many of its competitors, every part of Workbench works equally well in all three graphics modes. This is an important consideration if you wish to use the package with a normal TV set.

As with Metacomco's editor, there is a special set of extended commands capable of performing a range of complex procedures directly from the keyboard. Menu freaks like me can also achieve the same effects using the mouse.

Unfortunately in order to remove some of the clutter from the screen the mouse pointer disappears when it isn't being used. Although the manual implies that it can be reactivated with a single movement of the mouse, I repeatedly found myself trying to select a menu item with an invisible pointer.

A particularly welcome feature is the inclusion of a small but useful batch processor which makes it possible to largely automate the development cycle.

The most serious problem I encountered with the editor cropped up when I tried to load some files written using a different package. Talent appears to use a slightly non-standard method of rep-

especially during the development of large programs, and are used extensively in the examples contained in some of the Abacus books.

The facilities of the linker are more than adequate, with a rather clever UND\_XREF command which automatically specifies that any labels undefined in your program are to be found in a separate module.

One of the most important parts of any assembler package is the quality of the

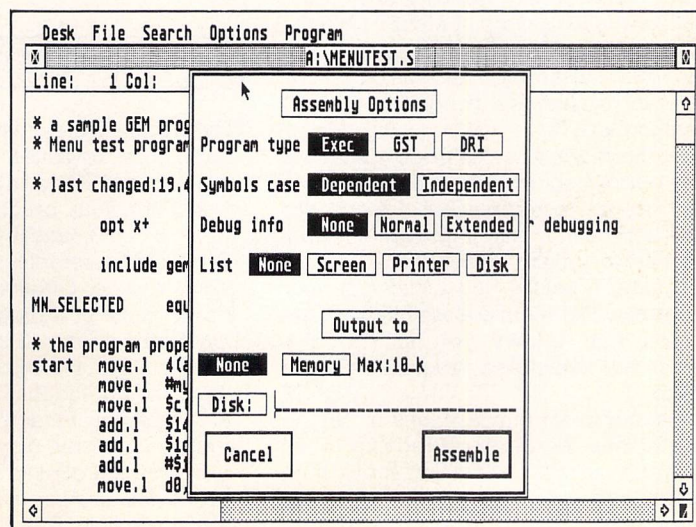
the debugging process.

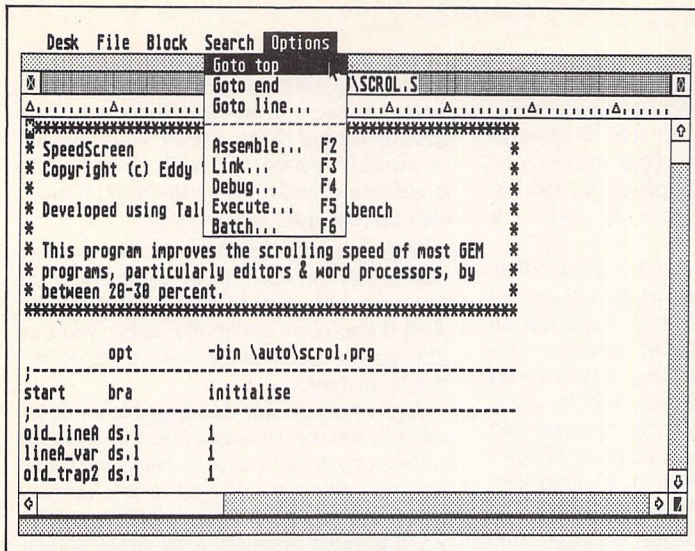
There's also a useful single step command. Unlike most such trace routines, it is fairly intelligent, and avoids having to trace through any calls to the ST's operating system.

The documentation included with Workbench is supplied in a flimsy A4 folder, which would probably fall apart after a few weeks' intensive use. But

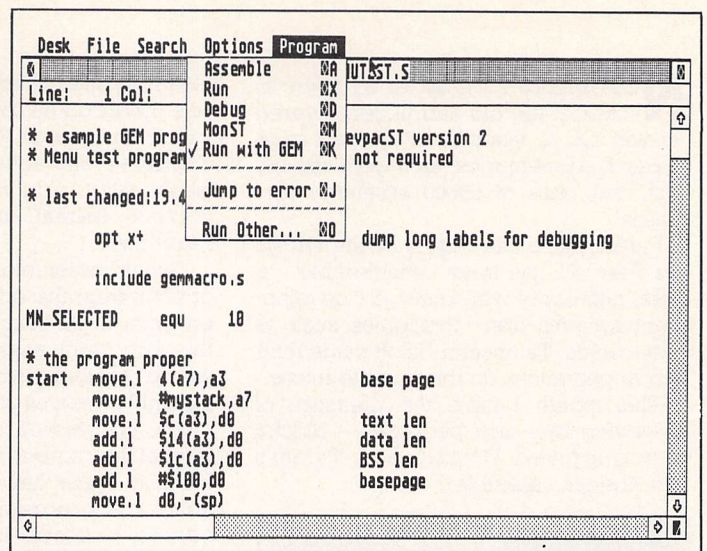
**Turn to Page 98 ►**

*Devpac 2's assembler option*





The workbench editor



Devpac 2's editor

### ◀ From Page 97

although it's certainly not as exhaustive as the Devpac manual, it still provides most of the information you need to know, and is written in a friendly and relaxed style.

Talent has departed from tradition by providing a set of genuinely useful examples on the disc. They comprise a powerful demonstration of the ST's line A routines, a nice example of the Gem windowing abilities, and a screen scroller which can be used to improve the speed of all scrolling operations by between 20 and 30 per cent.

## Devpac 2

HiSoft's new Devpac 2 is packaged almost identically to the old Devpac, and the only real difference is that the earlier installation program has been replaced by a useful little menu creator routine.

Changes to the auto-resident debugger have made a special Gem version unnecessary, and this has saved enough space on the disc for a couple of extra example programs, including the source code for a simple desk accessory.

As before, the editor and assembler have been incorporated into one program. In addition GenST2 now automatically loads a copy of MonST from the disc whenever it is run. This means you can edit, assemble, and debug your assembly language programs without leaving GenST2.

Furthermore, since all these operations are performed straight from memory, they are all incredibly fast. I found this new approach a vast improvement from the earlier system, which forced you to exit GenST before you could run your programs. There's also a useful Run Other option that allows you to run any previously assembled program from the editor.

Another major enhancement is that the editor has been speeded up considerably, so screen scrolling is now both faster and smoother. Like Talent's Workbench, GenST2 is now capable of

executing in low resolution, although the display looks rather messy.

The editor's greatest limitation is that you're restricted to editing a single file at a time, which makes it slightly inconvenient to write programs which use a lot of separately compiled modules.

The assembler itself has been expanded to use both the GST and DRI linker formats. This makes it possible to combine routines written using GenST2 with programs coded in practically every currently available high-level language, including OSS Personal Pascal distributed by HiSoft.

A particularly useful addition is the INCBIN command, which merges a previously created binary file, such as a title screen, directly into your program during assembly. But my favourite new feature has to be REPT, which gives you the ability to generate repetitive sequences of 68000 instructions in just a few short lines.

HiSoft claim that GenST2 is capable of assembling programs at the rate of 75000 lines a minute. I wasn't able to test this claimfully, but certainly the package appeared to run between two and three times faster than my copy of the original Devpac (version 1.22).

## The power of MonST2

The manual states that MonST has been completely rewritten for this package, and it shows. If you call MonST2 from the assembler your program is loaded into memory automatically and the screen shows a disassembly of the first few lines of the routine. Otherwise you are asked for the name of a program to be loaded. Any labels produced by GenST are input along with your program.

On startup, the display now consists of four separate windows. One is used to hold the register display, another for a disassembled copy of your program, and a third for an Ascii dump of the current area of memory. The final window is used

for any messages generated by the program.

There is also an option to display two further windows. The most interesting of these is window number five, which can be used to hold a copy of your program's source code – a godsend for anyone wishing to use MonST to debug programs written in a high-level language such as C.

The disassembly window lets you scroll through your program instruction by instruction using the up and down arrow keys. This is a major advance on the system used by version one, which only allowed you to move around in units of individual words.

The old function has however, been retained, and is now accessed through the left and right arrows. Since backward disassembly is never totally reliable, you can readily use this facility to set the start of the disassembly to the correct value when required.

Testing your routine is made easier by a complex and incredibly powerful set of debugging features. These range from simple single-stepping to conditional breakpoints. If anything, MonST2's implementation of conditional breakpoints is better than that provided by Talent.

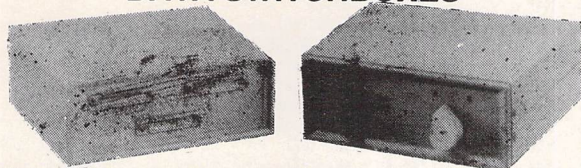
As if that wasn't enough, MonST2 also lets you run your program in a number of different ways. These include Run Slow, Run Instruction – which executes a specified number of instructions and then stops – and the immensely useful Run Until.

This last mode is very similar to using a conditional breakpoint, except that the test is performed after each instruction. Inevitably this has the side effect of slowing your program down to a crawl, but despite this it could prove a lifesaver in certain circumstances.

All the commands allow you to display the action of the program, instruction by instruction. Again this is extremely helpful – providing you remember to turn off the screen switching, otherwise you will

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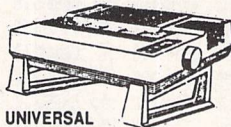


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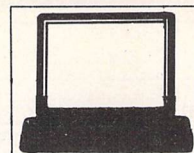
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| D0:00000000                   | 601E 0100 00FC 0020          | A0:00000000 | 601E 0100 00FC 0020 0002 42A4 |
| D1:00000000                   | 601E 0100 00FC 0020          | A1:00000000 | 601E 0100 00FC 0020 0002 42A4 |
| D2:00000000                   | 601E 0100 00FC 0020          | A2:00000000 | 601E 0100 00FC 0020 0002 42A4 |
| D3:00000000                   | 601E 0100 00FC 0020          | A3:00000000 | 601E 0100 00FC 0020 0002 42A4 |
| D4:00000000                   | 601E 0100 00FC 0020          | A4:00000000 | 601E 0100 00FC 0020 0002 42A4 |
| D5:00000000                   | 601E 0100 00FC 0020          | A5:00000000 | 601E 0100 00FC 0020 0002 42A4 |
| D6:00000000                   | 601E 0100 00FC 0020          | A6:00000000 | 601E 0100 00FC 0020 0002 42A4 |
| D7:00000000                   | 601E 0100 00FC 0020          | A7:00000000 | 601E 0100 00FC 0020 0002 42A4 |
| PC:0000                       | U                            | A7:00000000 | 601E 0100 00FC 0020 0002 42A4 |
| SR:00FC0020 MOVE.W #\$2700,SR |                              |             |                               |
| Memory                        |                              |             |                               |
| 00FC0020                      | MOVE.W #\$2700,SR            | 00000000    | 601E 0100                     |
| 00FC0024                      | RESET                        | 00000004    | 00FC 0020                     |
| 00FC0026                      | CMPI.L #\$FA52235F,\$FA0000  | 00000008    | 0002 42A4                     |
| 00FC0028                      | BNE.S \$FC003C               | 0000000C    | 0002 42A4                     |
| 00FC0032                      | LEA \$FC003C(PC),A6          | 00000010    | 0002 4312                     |
| 00FC0036                      | JMP \$FA0004                 | 00000014    | 0002 4318                     |
| 00FC003C                      | LEA \$FC0044(PC),A6          | 00000018    | 0002 431E                     |
| 00FC0040                      | BRA \$FC05D8                 | 0000001C    | 0002 4324                     |
| 00FC0044                      | BNE.S \$FC0050               | 00000020    | 0002 432A                     |
| 00FC0046                      | MOVE.B \$424,\$FFFF8001      | 00000024    | 0002 4330                     |
| 00FC0050                      | SUBA.L A5,A5                 | 00000028    | 00FC 9C48                     |
| 00FC0052                      | CMPI.L #\$31415926,\$426(A5) | 0000002C    | 0000 A30E                     |

Devpac 2's MonST2 monitor screen

|          |              |         |                  |       |
|----------|--------------|---------|------------------|-------|
| 00032000 | 2CAF         | movea.l | a7,a6            | ,0    |
| 00032002 | 2C6E0004     | movea.l | \$0004(a6),a6    | ,n... |
| 00032006 | 2B3C00000100 | move.l  | #\$00000100,d0   | <.... |
| 0003200C | 00AE000C     | add.l   | \$000C(a6),d0    | ....  |
| 00032010 | 00AE0014     | add.l   | \$0014(a6),d0    | ....  |
| 00032014 | 00AE001C     | add.l   | \$001C(a6),d0    | ....  |
| 00032018 | 4FF60000     | lea     | \$00(a6,d0.1),a7 | 0...  |
| 0003201C | 2F00         | move.l  | d0,-(a7)         | /.    |
| 0003201E | 2F0E         | move.l  | a6,-(a7)         | /.    |
| 00032020 | 4267         | clr.w   | -(a7)            | Bg    |

|    |                   |     |          |                             |
|----|-------------------|-----|----------|-----------------------------|
| D0 | 00001450          | A0  | 00000000 | REG <reg><expr>             |
| D1 | 00000000          | A1  | 00000000 | SEArch <string><start><end> |
| D2 | 00000000          | A2  | 00000000 | MOVE <start><end><dest>     |
| D3 | 00000000          | A3  | 00000000 | FILL <string><start><end>   |
| D4 | 00000000          | A4  | 00000000 | MALloc <bytes>              |
| D5 | 00000000          | A5  | 00000000 | MRRee <address>             |
| D6 | 00000000          | A6  | 00000000 | FRRee                       |
| D7 | 00000000          | A7  | 00031E68 | PAPer <colour>              |
| PC | 00000000          | USP | 00000000 | INK <colour>                |
| SR | T.S.I.I.I...XNZVC | SSP | 00000000 | QUIT                        |

|                         |
|-------------------------|
| Command ... bpa         |
| Base page at \$00031E68 |
| Command ...             |

Workbench monitor

### ◀ From Page 98

almost certainly suffer from a severe headache, as each instruction swaps the screens as it executes.

Finally we come to what I regard as the most useful feature of all. At any time during the running of your program, you can exit to MonST2 simply by pressing the key combination Shift+Alternate+Help.

HiSoft has also supplied an auto-resident version of the new MonST which lies in wait for any errors, then activates to tell you precisely what has gone wrong. This remains an incredibly valuable option unique to Devpac.

In practice MonST2 performed faultlessly, with the sole exception of a large program which used multiple screens. This crashed the system completely due to a conflict with MonST's screen switcher. Fortunately, it's easy enough to turn this function off using the Set preference command, and once this was done the program worked perfectly.

It's worth noting that all this power comes at a price. The new MonST is even harder to use than its predecessor, with dozens of features activated using a vast range of complex key sequences. In my opinion, the program would have been improved considerably if a list of these commands had been available from within MonST2, perhaps through the Help key.

Despite this difficulty though, MonST2 had me literally aching to use it, and I look forward to utilising it in the solution of some of my more intractable 68000 programs.

The linker appears to be very similar to the one supplied with Devpac, and since it only supports the GST linker format, you would have to use an external program if you wanted to link modules created by Devpac with routines generated using the DRI system.

The overall quality of the documentation is even better than that enclosed with the original program. The emphasis is firmly on using the system for practical 68000 assembly language programs, with

dozens of examples to underline any salient points.

It's obvious from the style of the manual that the author is a committed enthusiast with a genuine feel for the problems encountered by the assembly language programmer, and this gives a depth to the manual which is lacking in many of its competitors.

A good example of this sort of approach is in the section about GST and DRI linker formats, which concentrates on when and how the two would be used in your own programs.

There was also an excellent discussion of the various debugging techniques which would be genuinely useful to a great many people. Even the best debugging package does take practice to use effectively.

## Conclusions

Both Talent's and HiSoft's packages can be considered excellent examples of 68000 assembly language systems. Of the two, Devpac remains supreme for the serious developer, but Workbench is on the whole slightly easier to use.

Novice programmers could be con-

fused by the sheer variety of different options HiSoft provide, especially in MonST2. So for casual users, Talent's offering may well be the better choice, especially as it is cheaper.

If you're a really serious developer however, HiSoft is producing an expanded development system which includes support for GDOS and cross-compilation facilities to speed up the process of converting programs produced on an ST to the Amiga. Pricing for this product hasn't been set, but is likely to be in the region of about £200.

Talent is to be congratulated for producing a package which in many respects is superior to the original Devpac. Unfortunately, HiSoft effectively moved the goalposts just as Talent was about to score!

HiSoft is offering special upgrade terms for existing Devpac users, and these are priced on a sliding scale ranging from £10 to £30 depending on the version number of your copy of the program.

Anyone who has just bought Devpac version one will be able to get the new package at what is effectively cost price. Since MonST2 alone is easily worth £30, this has to be a very good deal indeed.

## FACT FILE

Product: *Assembler Workbench*  
 Price: £39.95  
 Supplier: Talent Computer Systems,  
 Curran Building, 101 St. James Road,  
 Glasgow, GL1 0NS.  
 Tel: 041-552 2128

### POINTS FOR:

Supports all three graphics modes. Batch processor to automate development cycle. Good conditional breakpoints. Easy to use for a beginner.

### AGAINST:

Non-standard source file format. Unable to access programs straight from memory. Crude disassembler. Documentation somewhat flimsy.

## FACT FILE

Product: *Devpac 2*  
 Price: £49.95  
 Supplier: HiSoft, The Old Barn, Greenfield,  
 Bedford MK45 5DE.  
 Tel: 0525 718181

### POINTS FOR:

Edit, assemble and debug without leaving the editor. Extremely fast - all works from memory. Superb multi-window debugging features. Both GST and DRI linker formats. Auto-resident monitor. Good documentation with examples.

### AGAINST:

Can only edit single files. The monitor is complex to use.

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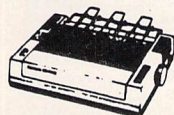
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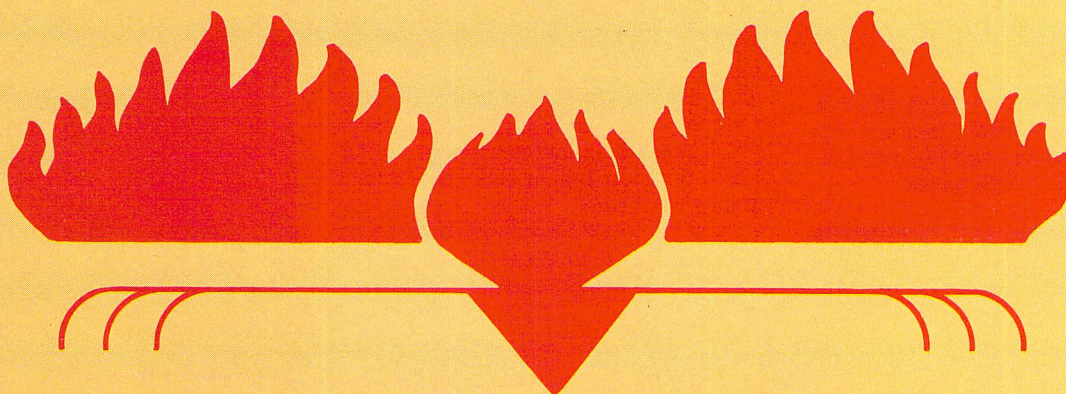
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# BT spreads its wings

**S**INCE British Telecom's first foray into the software market with its premier title Rainbird – created by the original director Tony Rainbird – Telecomsoft has become a major force in the industry.

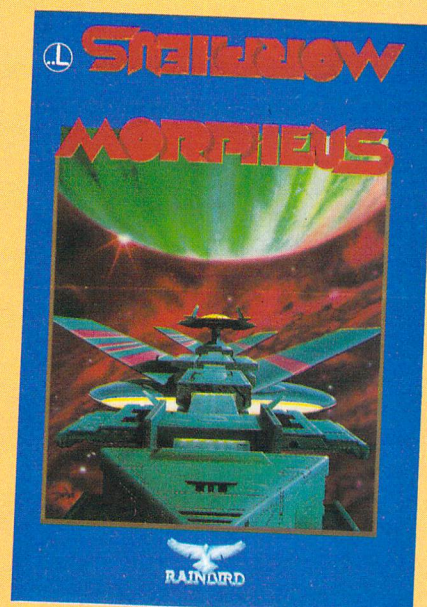
Recently it has radically restructured its range of three labels: Rainbird, Firebird and Firebird Silver. The changes have been far-reaching, extending from the corporate image used in advertising through to internal organisation and even down to product packaging. I visited the company to find out why.

Telecomsoft has about 50 employees with a 50/50 split between men and women. According to director Paula Byrne, the company was initially somewhat fragmented, each of the labels having its own development department and sales force, which inevitably led to

**Telecomsoft is changing the look of its software. Robin Nixon dropped in for a friendly chat with its director Paula Byrne**

ation, but I was still curious about the cosmetic changes made to the labels. Claire Edgeley, press and promotions manager, told me that since the release of the Firebird Silver range, although it has been highly successful, people had been confusing it with the standard Silverbird range.

It was also felt that the packaging was a little large, and since other companies were now imitating their style, it was time for a revamp. First of all the casing was streamlined with distinctive designs to help with product recognition. Then they were reduced in size so that more would



*Legend of The Sword*

higher overheads and increased project development time. However since the restructuring this has all changed, so that now everyone works in the same team and resources are pooled.

## Scope for creativity

Paula feels that the staff had been pigeon holed, but now there's a lot more scope for creativity and imagination. She puts much of the company's success down to team effort, and confided that she's now got exactly the team she wants.

That explained the internal reorganis-

*Telecomsoft's policy is to produce as many new and original games as it can*

fit on a shelf and produce more eye-catching displays.

Most of the software development is subcontracted, but a number of in-house designers work with outside programmers. Each project has its own manager who is fully familiar with the micro involved, and oversees the entire job from start to finish.

Telecomsoft's policy is to produce as many new and original games as it can, tackling conversions only when novel ideas are not forthcoming. One example is the smash hit Carrier Command which



jumped straight into the number two position in the Atari ST charts and was given 10 out of 10 by *Atari ST User*.

The development team had decided

**Turn to Page 104 ►**

## ◀ From Page 103

that it wanted a sea-based game which it intended to be an active Rainbird top seller. It was to be fast and use state-of-the-art programming techniques.

## Brainstorming

The team came up with the idea of an interactive game involving tanks, planes and islands with aircraft carriers as the main focus. To cap it all, it was decided that the game should have real-time 3D solid graphics. Well, there was only one thing for it, they took the scenario to the

experts, Real Time, who accepted the challenge. Towards the end of production came the time when they had to think up a name. Often there is a working name which catches on and is used for the finished product, but in this case it was simply The Game.

They got together round a blackboard and proceeded to come up with ideas which were written down. After remov-

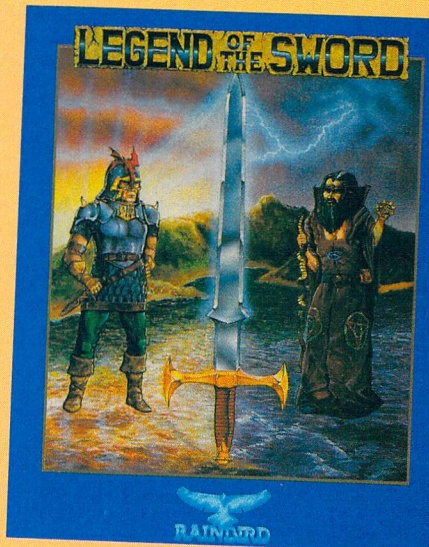
*We're all fallible – that's why creating new software is more exciting than selling Mars Bars or Persil.*

– Paula Byrne

ing the ones they didn't like, the name that stood out from the rest was, of course, Carrier Command.

Apparently, from conception to completion, Carrier Command took over a year. That I can well believe having seen the ST version. The brainstorming sessions they hold are part of the on-going process followed for all new software.

One particularly interesting field Telecomsoft is entering is that of coin-ops.



This conversion is different from the usual though, since the plan is to actually produce the arcade machines and convert home micro smashes such as Starglider to run on them.

It should be interesting to see how well Telecomsoft fares against companies like Nintendo, Taito and Konami. Certainly it's a brave move, taking home micro titles into the arcades, but with excellent games such as Starglider Telecomsoft stands every chance of succeeding.

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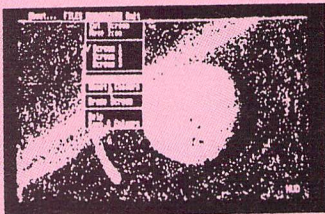
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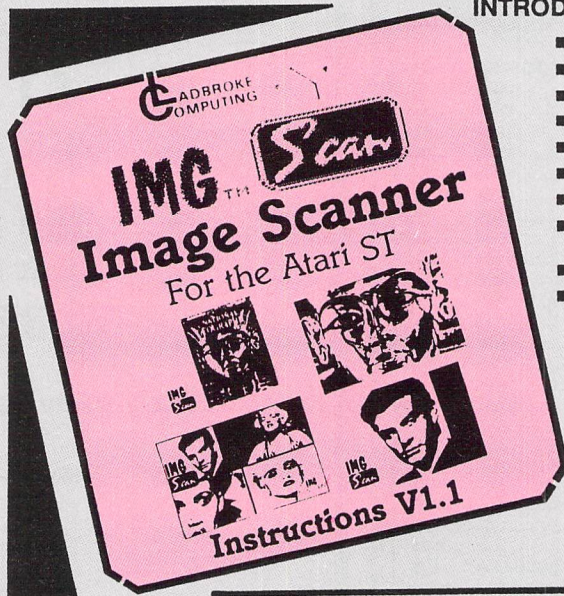
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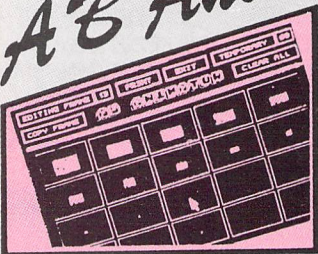
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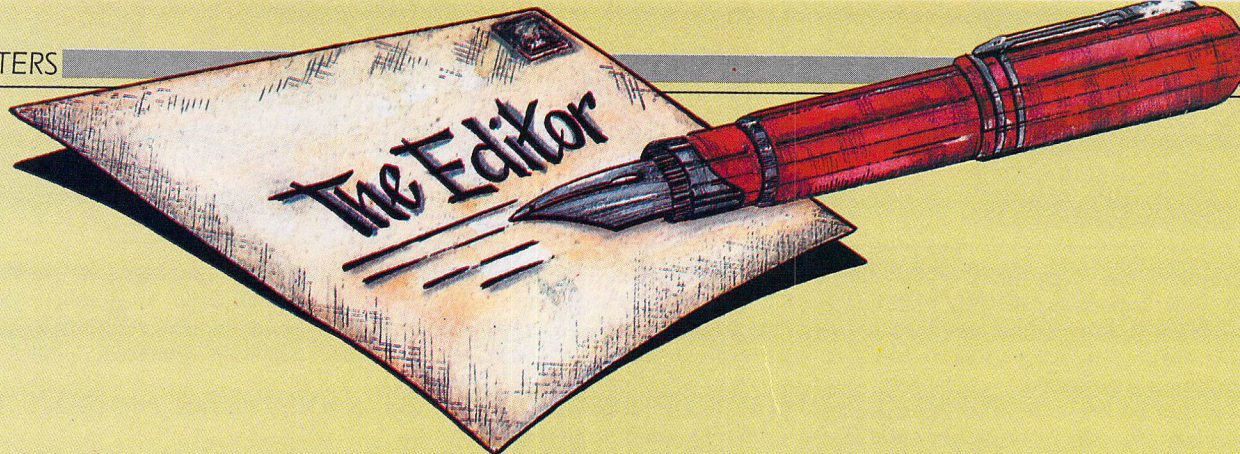
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## Extra memory mislaid

CONGRATULATIONS on a great magazine – one of the best on the stands. Keep up the good work.

Can anyone help me? In March I bought a memory upgrade kit for my 520STFM and fitted it myself. All went well with the fitting, so I put the machine back together and switched on. I found that the micro was just using the standard memory it was fitted with: It's as if it does not know the extra memory is there.

I gave the ST to someone with more experience to see if I had fitted the upgrade properly. I had various people look at the micro and not one of them can tell me what the problem is. My machine is the version where the memory sits under the power supply.

Can anyone help me or give me suggestions on what the fault may be? Or have any other Atari owners had the same problem? – **Kevin Sanderson, Scarborough, Yorkshire.**

● We have heard of a similar problem with another ST that was upgraded – the fitting was perfect, yet the micro ignored the extra ram.

The only suggestions we can make is to check that all the components are working. Ram chips are particularly easy to damage with static electricity when handling them. Also check for hairline cracks in the tracks on the main circuit board.

## Software for football fixtures

I AM the secretary of a local football league looking after 48 clubs. I am trying to put the league on to my computer – that is, the fixtures, results and tables. I want to be able to use each team either by name or number.

In the first division the clubs will have numbers from 1 to 16, and the league fixture list will be something like: 1 v 16, 2 v 15, 3 v 14 and so on. When I know the results I can either type them in as numbers or their names like: Aberdeen 2

goals v Crumlin 3 goals, or 1 2 goals v 16 3 goals and so on.

I want to be able to type in the results and enter them into the league table, and so always have an up-to-date list.

I want the league table to have the club's name, games played, won, drawn, lost, goals for and against, and finally, points. The table must always appear on the screen showing the team with the most number of points on top, then in decreasing order. If clubs have the same number of points, then a descending order of goal difference should be used. – **A. Watkins, Aberbeeg, Gwent.**

● We don't know of any software designed specifically for this task, but there are several databases that could probably handle it. Superbase for instance, allows text and numeric fields, and it will sort on either, plus multi-field sorts, like the one required for goal difference.

## Driven to frustration

AFTER reading Mailbag in the June 1988 issue of Atari ST User I feel I may be able to help Bernard Melling with his form feed problem when using 1st Word.

I had this frustrating problem when attempting to use the Epson printer driver with an Epson LX800 printer. After many hours of editing, saving, running, re-editing, re-saving and so on, in desperation I altered the Layout option under the File menu. Guess what? It worked!

All I did was change the BOF margin at the bottom of the Layout option menu from the default value of five to seven by clicking the left mouse button on the right-hand arrow.

This works fine for A4 paper with the default value of 66 lines for the paper length setting. For the shorter length of listing paper I use I alter the paper length to 62, but leave the BOF margin set at 5.

I hope this is of use to him. I am sure there is a more elegant method, but this works and I'm sticking to it.

Finally, I must take objection to the IMG Scanner review by Roland Waddilove in the June issue. He seems to have found great difficulty attaching the scanner's cable to the printer head. Try

Blue-tac, it works brilliantly if a reasonably sized blob is used, allows subtle changes to the cable's positioning easily, and can be repositioned accurately once removed by using the marks made in the Blue-tac by the printer head.

It seems that Mr Waddilove scanned in high resolution mode, which is nowhere near the quality achievable in low resolution. He also mentions the poor results when enlarging images. I have found that this is when the best results are gained. – **Mark Rogers, Pinner, Middlesex.**

● The scanner was tested in all modes, and Blue-tac was tried too. Roland sticks by his review.

## Alternative to Elite

I HAVE recently upgraded from the CBM 64 to the Atari ST, and also started buying your magazine. Although I intend to use the computer mainly for programming – I have bought Computer Concepts' Fast Basic – can you tell me if Firebird is planning to release an ST version of Elite, a game I greatly enjoyed on the Commodore 64? – **Jonathon Denne, Farnham, Surrey.**

● There aren't any plans to convert Elite to the ST, but there is a similar game called Starglider – released well over a year ago, but still a great blast. It will shortly be superseded by Starglider II featuring solid 3D graphics.

## Mandelbrot conversion

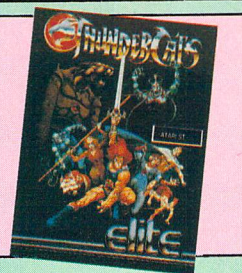
IT'S great to see an ST version of my favourite magazine for the BBC Micro (The Micro User).

I'm very interested in the Mandelbrot set program in the April 1988 issue of Atari ST User. However, I have only had an ST for three weeks, and I haven't got round to buying Fast Basic, the language required by the program.

Determined to see my new machine in action, I managed to write a very simple conversion to the Basic language

## Star Game for a Star Letter

Each month we'll select a letter of the month – and the sender will receive the program which our reviewers have rated Atari ST User Star game. This month, reader K. Hills will receive *Thundercats*, which is reviewed on Page 40. Letters on every subject of interest to Atari ST users are welcome. Send them to: The Editor, Atari ST User, Europa House, Adlington Park, Adlington, Macclesfield SK10 4NP.



### Better late than never

I AM writing to express my views on software companies. Take US Gold for instance – though I could choose any number of others, they are all as bad – with its ST conversion of the arcade classic *Out Run*.

The original release date of this game was late December/early January. It has just been released in May – a four month

delay. I understand that US Gold must be writing several other games at the same time, but to take four months extra to release a game you would expect it to be the best thing since sliced bread.

The game certainly isn't that. It takes almost as long as a cassette to boot up, and each stage has to be loaded separately. The graphics on screen are excellent, and so is the accompanying music, which is a faithful reproduction of the arcade version (subject to home micro limitations).

The game actually plays well and has the feel of the arcade game, apart from using a joystick instead of a steering

wheel and pedals. The main disappointment though is that the car is not nearly as well defined as on the title page, and some of the graphics around the edge of the screen are scruffy looking.

*Out Run* is quite easy to complete, even with the Many Cars option. Apart from these minor quibbles the game is good, but certainly not worth the extra four month delay.

These complaints are not directed at US Gold in particular, it is just a prime example of a software company not sticking to its release date. This is not only frustrating, but also annoying. – **K. Hills, Sturry, Canterbury, Kent.**

supplied with my ST. It lacks all the facilities of the original program, but at least it will create the Mandelbrot set.

```
10 REM Mandelbrot Conversion
20 REM
30 FULLW 2
40 CLEARW 2
50 COLOR 5,5,5
60 GOTOXY 1,1
70 ?"Please enter the"
80 INPUT "x, y, & scale:- ",J
90 INPUT K
100 INPUT Q
110 CLEARW 2
120 H=Q/165
130 FOR X%=0 TO 300
140 FOR Y%=0 TO 165
150 G=0
160 U=J+H*X%:V=K+H*Y%
170 N%=-1:X=0:Y=0
180 WHILE G=0
190 Y2=Y*Y:X2=X*X
200 Y=2*X*Y+V
210 X=X2-Y2+U
220 N%=N%+1
225 IF N%=50 THEN G=1
230 IF X2+Y2>=4 THEN G=1
240 WEND
250 WHILE N%>15
260 N%=N%-16
270 WEND
280 COLOR 1,1,N%
290 LINEF X%,Y%,X%+1,Y%
300 NEXT
310 NEXT
```

It is written in the current version of ST Basic, but it should be fine with the original. Enter -2, -1.2 and 2.8 at the prompts to display the full set.

Can you tell me if you have reviewed any books on 68000 machine code, and in which issues? I am looking for the equivalent of the *Advanced User Guide* for the BBC Micro. – **Charles Peirce, Wirral, Merseyside.**

● Atari ST Machine Language, published

by Abacus, is a reasonably good beginner's book. It was reviewed in the January 1988 issue of *Atari ST User*.

There are two main advanced texts for the ST: *The Concise Atari ST 68000 Programmer's Reference Guide* from Glentop, and *Atari ST Internals* from Abacus. Much of the information in both books is similar, but they are different enough to make it worth getting both.

*Internals* was reviewed in November 1987.

### Seeking a clear sound

I HAVE been a proud ST owner since Christmas 1987. So far I have been very pleased with it, especially when using software such as *Quantum Paint*, *Xenon* and *Out Run*.

All these titles are around £20, which I class as expensive, but I am willing to pay that because the products are of such high quality.

Unfortunately nothing is perfect, and I have found with the ST that sampled sounds have fuzzy quality, as in *Star Trek* and *Impact*. The Amiga doesn't seem to have this problem, so is there a sampling package that produces Amiga quality sound on an ST?

The reason I am asking this is because I would be very interested in buying a sampler, but I don't want to spend £100 or so on something that produces poor quality results.

Can you advise me on what packages are available, and of course, quality? – **M. Tomlinson, Edenbridge, Kent.**

● First of all, the Amiga is equipped with slightly better sound hardware than the

ST, so is capable of producing slightly better quality sound. However, the ST's system is excellent, and good results can be obtained quite easily.

There are several sound samplers on the market, all reasonably good value for money, and offering an acceptable output. You'll find reviews of *Pro Sound Designer* and *Replay* in the July 1987 issue of *Atari ST User*, and the *IS Sampler* in the December 1987 issue.

With all samplers you'll have to make a compromise between the amount of memory used by the sample and the quality of reproduction required. Vast amounts of ram are consumed by digitised sounds, and the better the quality, the more memory they require.

This is why some digitised sounds in games aren't as good as they could be – there simply isn't enough memory left for high quality sound after the game has been written.

Another point worth bearing in mind is the fact that high quality samples may tie up the processor for quite long periods, and this is unacceptable in fast-action arcade games.

### Random problems with C

AS a long-time Basic programmer I decided to try my hand at the C language. After reading some of your excellent reviews I knew that some compilers would not fit on to a half megabyte drive, so I decided not to risk too much cash on a compiler.

I bought GST C at less than £16, and found that it is a good beginner's

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## ◀ From Page 109

compiler, in spite of being integer only. The manual is a bit sparse, and a book on the C language will be needed. GST C can be used on a half megabyte drive by moving the linker and its files on to a data disc, along with the library files.

One feature lacking, however, is a random number function. Could you give me some guidance on this subject so that I can simulate it? – **G.A. Cox, Sparkhill, Birmingham.**

● There are many different types of random number generators. The one in this listing is a short, simple one which takes one parameter – the maximum size for the random number. So, for instance, `rnd(50)` will produce a random number no bigger than 50.

```
/* Random numbers */
#include <stdio.h>

long seed;

main()
{
    int i, j;
    seed = 11;
    for (i=0; i<10; ++i) {
        for (j=0; j<10; ++j)
            printf("%d ",rnd(100));
        printf("\n");
    }
    getchar();

    rnd(n)
    int n;
    {
        seed = seed * 259 + 3;
        seed = seed & 32767;
        return( seed % n );
    }
}
```

## Getting what you want...

I HAVE recently upgraded from a Spectrum 128 to an Atari 520, but so far have not seen a word processor for it that has the same facilities as The Last Word on the Spectrum. I see that there are a number of wysiwyg processors, but what I need is a wysiwyw – what you get is what you want.

What I need is a word processor which will allow me to produce double-height print, double-width (enlarged), and condensed characters, variable line spacing (six or eight lines per inch), and the ability to change from Epson to IBM mode in order to use some of the IBM line and block graphics, and then back to Epson under software control.

Reverse print (white on black) would be useful, but not essential.

All these facilities are needed to produce the copy for my photolithographed parish magazine. If there is no such package I may have to retain the

Spectrum for parish work, using the Atari only for personal correspondence. – **Roy Harrison, Woodseaves, Stafford.**

● The best package to go for would be a desktop publishing system such as Timeworks DTP (reviewed in the May 1988 issue of Atari ST User). This has all the features you require plus many more besides, and is ideally suited to the task you have in mind.

## An eye for Talent

Could you tell me the best assembler and disassembler software available for the ST as I have a reasonable knowledge of 6510 assembly language, but am completely new to the Atari?

The new package from Talent looks good in the advertisements. – **Terry Mould, Cwmbran, Gwent.**

● You'll find a comparative review of Talent's Assembler Workbench and HiSoft's Devpac2 on Page 97. Both are excellent products.

## Problems with DBasic

IN the July 1988 issue of Atari ST User A. Russell wanted to know where he could get hold of a DBasic manual. I have the manual and the language disc, but there is a problem with it.

The Basic occupies zero page, the same as Tos, so it won't work. To run it you need an early version of the ST with Tos on disc.

The manual says that DBasic is a fast interactive 68000 Basic. Floating point maths is double precision, including the trigonometric and transcendental functions.

True integer arithmetic is used, which means integer calculations are very fast. For instance, DBasic runs the Byte sieve benchmark nearly 100 times faster than ST Basic.

The company which produces the package is: DTACK Grounded, 1570 Pacheco B-7, Santa Fe, New Mexico 87504. – **G. V. Jones, Wrexham, Clwyd.**

## Which assembler?

I HAVE recently upgraded from a Spectrum to an Atari 520STFM and hope to learn 68000 machine code to a sufficient level to be able to write my own games in it.

However, I seem to have a dilemma on my hands. I had originally intended to

buy HiSoft's Devpac assembler because this package seemed to offer a wide range of facilities which would be of direct use to me writing especially long programs. And it seemed a reasonable price too (by current 16 bit standards).

But after a little thinking I began to wonder whether I should risk getting Fast Basic instead, as I found out that ST Basic is not too hot. This would give me a good speedy Basic language to mess about in, and also a built-in 68000 assembler so I could get to grips with machine code at my own pace.

Also an important factor, Fast Basic can be supplied on rom cartridge taking up none, or very little, of the available ram during operation.

This would save me from having to worry about where I place my routines in memory. But as can be expected, it does not have all the extra little goodies that Devpac offers.

Should I buy Fast Basic so I would have a good Basic and an assembler, or a devoted assembler only with lots of facilities for creating machine code programs? I can't afford to make too many mistakes as my pocket is getting a little exhausted.

– **Peter Dackombe, Littleham, Exmouth, Devon.**

● Fast Basic is a good implementation of the language, and the built-in assembler is quite powerful, allowing you to mix Basic and machine code quite easily. This makes it ideal for beginners. However, it isn't that fast, though it will seem to run like the wind after using a Spectrum.

Unlike the Spectrum, there's no need to worry about where to store machine code on the ST as it is easy, and quite normal, to write fully relocatable programs that can be loaded and run at any address in memory.

In fact Gem can load a program to any old address, so you're never sure quite where the program is located.

Dvpac is far better for developing long complex programs, and it isn't too difficult to use. Your choice will depend on how much machine code programming you expect to do, and how much value you place on Fast Basic.

## Spreadsheet for 8 bit convert

I HAVE recently converted from an Atari XL800 to a 520ST and have found that there is a distinct shortage of low priced spreadsheets for the ST. Mini Office II was a most successful set of programs. Is there any intention to release an ST version? – **Robert Spencer, Maidstone.**

● Digicalc – reviewed on Page 29 – is a fairly good budget-priced spreadsheet. Mini Office is in the process of being converted, but won't be ready until the autumn.



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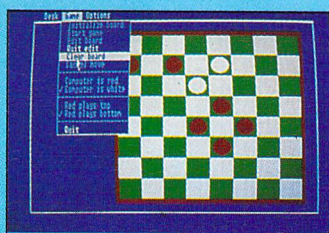
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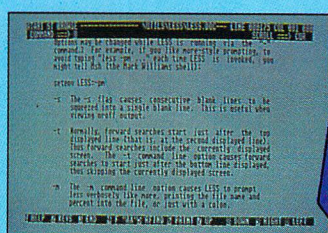
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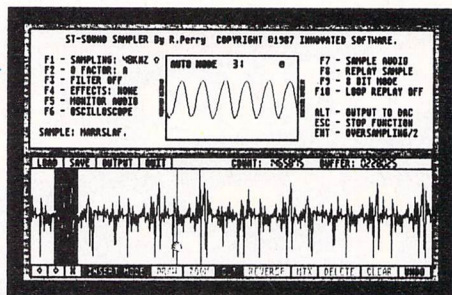
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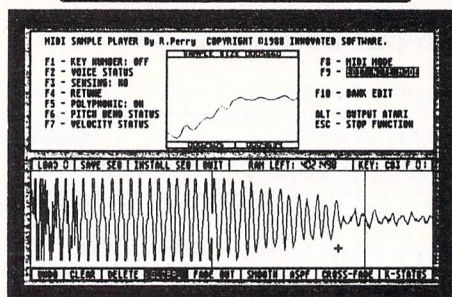
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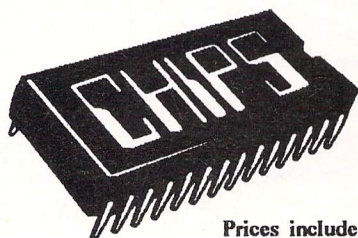
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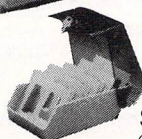
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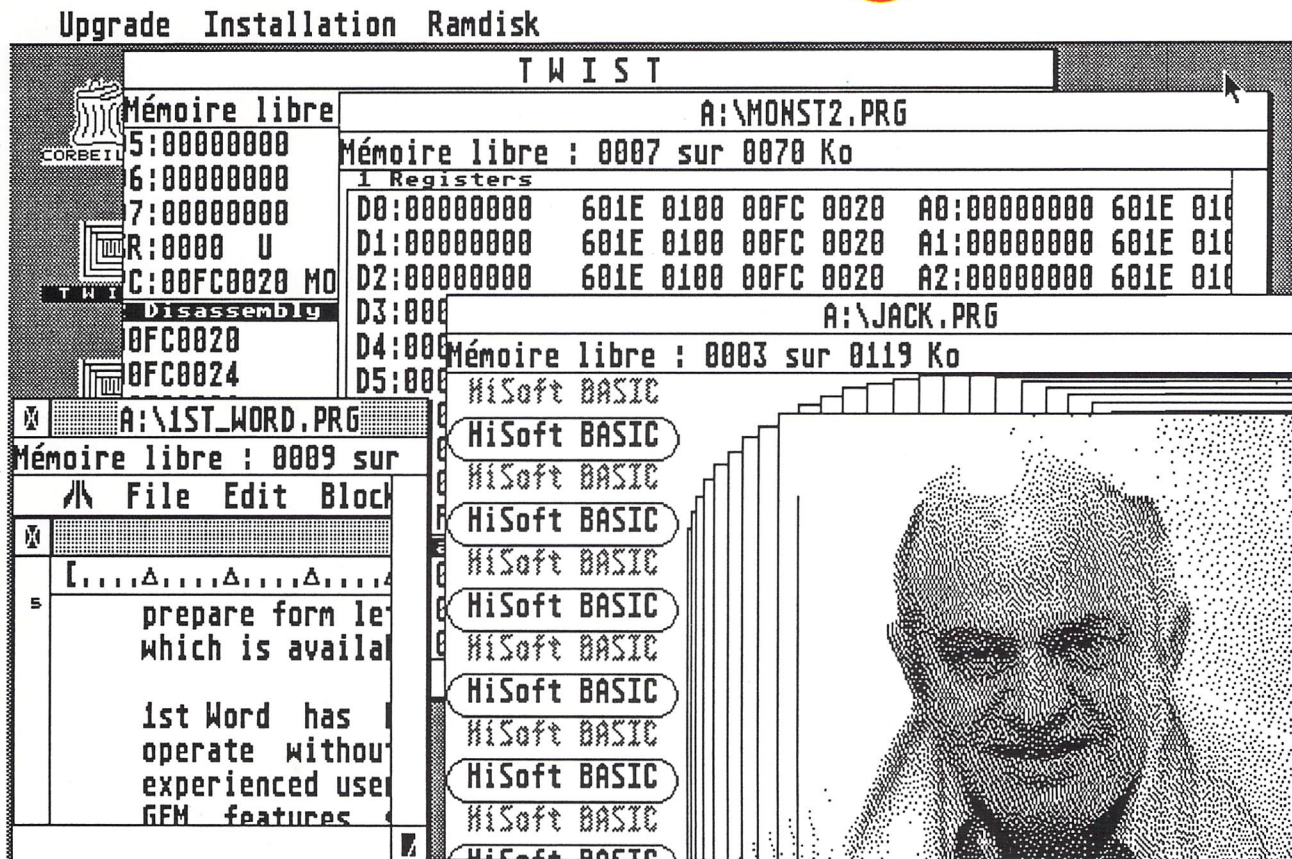
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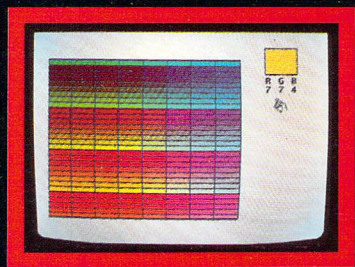
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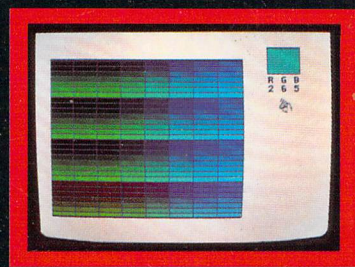
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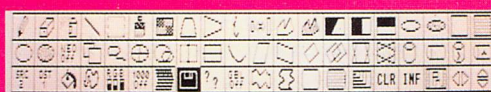
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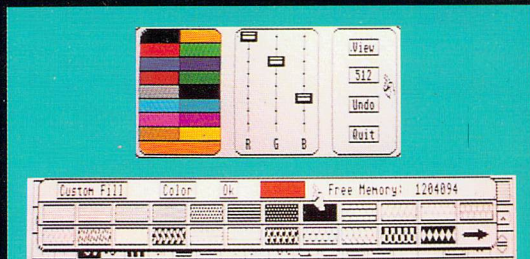


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