Promoting a company’s image – with ST graphics

- Banking on your ST, with Cashlink’s new accounts software
- H & D Base unveiled. Is it really better than Dbase II?
- Games on the ST: We look at the latest releases
### TCL Special Packages

<table>
<thead>
<tr>
<th><strong>Model</strong></th>
<th><strong>Description</strong></th>
<th><strong>Price</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TCL 1</strong></td>
<td>620 STM Computer with 500k Disk Drive and High Res Monochrome Monitor</td>
<td>£757.00</td>
</tr>
<tr>
<td><strong>TCL 2</strong></td>
<td>620 STM Computer with 500k Disk Drive and Medium Resolution Colour Monitor</td>
<td>£776.00</td>
</tr>
<tr>
<td><strong>TCL 3</strong></td>
<td>525 STM Computer with 1MBYTE Disk Drive and High Res Monochrome Monitor</td>
<td>£235.00</td>
</tr>
<tr>
<td><strong>TCL 4</strong></td>
<td>1040 STF with 1MBYTE Disk Drive and High Res Monochrome Monitor</td>
<td>£490.00</td>
</tr>
<tr>
<td><strong>TCL 5</strong></td>
<td>1040 STF with 1MBYTE Disk Drive and Medium Resolution Colour Monitor</td>
<td>£490.00</td>
</tr>
</tbody>
</table>

### Printers

<table>
<thead>
<tr>
<th><strong>Model</strong></th>
<th><strong>Description</strong></th>
<th><strong>Price</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Citizen 120D</td>
<td>New Citizen 120D with 120 CPS and 25 CPS NQL comes with tractor feed as standard</td>
<td>£160.00</td>
</tr>
<tr>
<td>Citizen MSPQ</td>
<td>New Citizen MSPQ with 163 CPS Draft and 40 CPS NQL with two years warranty</td>
<td>£269.00</td>
</tr>
</tbody>
</table>

### New Star NL-10
High-speed printing at 120 cps in draft mode and 35 cpi in letter quality. Offers full compatibility with most Epson printers and accepts standard parallel connection.

### Tractor Adapters
- **FX 86** | £13.00
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- **Brother HR 15** | £85.00
- **LQ 800** | £43.00

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- **Brother HR 15** | £85.00
- **LQ 800** | £43.00

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- Brother EP 44 | £3.45
- Brother M1009 | £3.45
- Brother HR 15/25 | £3.45

### EPSON LX80
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### EPSON LX800
- 24 Pin dot matrix Printer offers a high 200 CPS draft and high resolution graphics and a variety of fonts.

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- Epson FX 105 | £450.00
- Epson FX 120 | £450.00
- Epson FX 230 | £450.00
- Epson GP 20A (Parallel) | £69.00
- Epson GP 30S inc. Printer FY Cartridges | £69.00
- Canon PW 1800A INK | £249.00
- Canon A55 | £79.00

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Sales are hotting up with the sun

MIKE COWLEY reporting

As I write this, the weather would be more appropriate to Marrakech than dear old Manchester. Such is the surfeit of sunshine that we are no longer waking up to the sound of the birds coughing. It is heatwave time in Britain which even during July and August is as rare as seeing Albert Tatlock buying a round in a re-run of Coronation Street.

So what has all this got to do with computers in general and the ST in particular? Well traditionally when people’s thoughts turn to basking on beaches in Margate or Majorca, it is the computer manufacturers who get browned off through lost sales.

However it seems that Atari will be the exception this year with some skillful marketing ploys having dispensed with the annual summer time blues. The company here in the UK reports it has been doing “rather nicely, thank you very much” as a result of some special deals.

By offering the S20STM in various packages with savings of up to £196, sales have in fact more than held their own during the mid year term. However a number of dealers are getting a little concerned about the knock-on effect once the prices rise again.

“Once people discover they’ve just missed out on a good deal, we’ll find ourselves with a lot of unsold STs on our shelves for some time to come,” mumbled one.

Not that the Atari UK people go along with this. For they believe that people have become conditioned to short term promotions. And if they really want an ST they will buy one. Mind you, it will be interesting to see whether or not they do decide to extend that special offer period.

ONE other noticeable effect of the summer is the death of hard news — particularly on the computer front. As a result industry hacks become peculiarly prone to speculative rather than factual articles. “I think some of them sit on the loo looking up at the ceiling and write whatever they imagine they see there,” commented Atari UK boss Max Bambridge.

Currently the computer press is suggesting that Atari has in the pipeline machines capable of everything from tap dancing to untrained combat.

The truth of the situation — according to Max Bambridge — is this: Atari is still well on target for the launch of the 2Mb ST, the 2080 so it will presumably be called. This will be a true 32 bit machine which because of its incredible speed will be multi user, multi tasking.

It will run Unix, thanks to Atari signing a licensing agreement with AT & T in the USA. Existing ST users will almost certainly be offered the option to upgrade their machines to enjoy the same facility.

But what about the all important price? Atari is still hoping to be able to offer the basic 2mb model at less than £1,000. If this proves to be the case, Commodore’s Amiga may as well take its bouncing ball home.

* * *

TECHNOLOGY, like Italian cabinets after the Second World War, tends to change so fast that any attempt at long range planning becomes extremely precarious. Just look at CD ROMs. Atari is just beginning to think very seriously of the implications of the compact disc facility for software for the ST.

Through its links with Warner Communications — the company from which Trimble bought control of Atari – it could soon have a plentiful supply of CD ROMs. For Warners are currently building a plant to manufacture the revolutionary discs.

Now — according to The Sunday Times — compact discs may be about to become obsolete through a breakthrough in audio cassette technology known as digital audio tape.

It is not surprising to discover that it is the Japanese who are behind all this. DAT apparently aims to do for tapes what compact discs have done for records — and threaten to do for software.

The data retrieval concept of the CD ROM is in itself revolutionary. This takes advantage of the sophisticated digital storage and retrieval technology developed for compact audio discs, using it for storing text or statistics.

In the CD interactive version proposed recently by Sony and Philips, the text can be intermingled with diagrams or still or moving photographs. The CD ROM player, very similar in size and appearance to an audio compact disc player, can selectively take material off the disc and present it on the monitor screen.

Researchers suggest there will be a strong demand in the area of reference works, particularly where the CD ROM can provide audio effects and pictures. Currently CD ROM players can cost anywhere from £700 to £2200 but it is expected that prices will soon fall to £500, then slump to around £250.

Meanwhile, back in the DAT camp, its supporters are eagerly pointing out its potential for adaptation as a computer memory. With the advantage of small size, reasonable access time and a vast capacity of three billion characters of text — its storage potential is much greater than compact discs.

Still, the one consolation for compact disc manufacturers — and there are a lot of them about — is that there will be no further major developments in audio thanks to DAT until silicon chips can match its storage capacity and small size.
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To fully exploit the potential of Modula-2/ST, we recommend a minimum configuration of 1Mbyte disk storage and the purchase of any of the recently published books on programming with GEM.

Modula-2/ST is available from the following distributors:

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Silicon Centre, Unit 16, Anderston Centre, Glasgow G2 7PF Tel: 041-220-8346
Software Express, 514-6 Alum Rock Road, Alum Rock, Birmingham B31 4HX, UK Tel: 021-326-8355
New World Computers, Bournemouth 9, 8006 Arusha Capital, Denmark Tel: 4586-3130
Multi-Applications, 13 Rue Sarthe, Lille, 59003 France Tel: 014-770-8244
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Gerhard Krieger GmbH, Burkhardsteig 75, 4600 Dortmund 1, West Germany, Tel: 040-231-52503

For further information please contact: Jane Parkhouse at
Modula-2 Software Ltd, 29 Alma Vale Road, Bristol BS6 2HL
Tel: 0272-742798, Telex: 449273

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August 1986 Atari ST User
ST works out the cheapest

This month I'd thought I'd start by telling you that the ST is really the cheapest computer in the Atari range. Figure I shows a comparison of cost per k in pounds. I've taken the minimum system as the computer and one disc drive, but no monitor, since the 8 bit computers can use a TV while not all of the ST range have this ability.

The Atari 2600ST is likely to be announced and released before Christmas and will have 2mb of memory. I've estimated the cost of the 2600 at around £1,150 without a monitor. The difference in cost between the 2600 and 1040 is likely to be greater than that between the 1040 and 520 because 1mb chips are more expensive than the 26k chips used in the 520 and 1040.

As you can see from Figure I, the ST range is cheapest, and getting cheaper all the time. In comparison, the Commodore 64 would have a price per k value of £6.25. You can work out the value yourself for other home computers.

Coding capers

I have had several letters this last couple of months that suggest that some of you are losing your way among the ever increasing number of code numbers that Atari chooses to attach to their new products. As a help through this jungle, here is a rough and ready guide to the Atari ST range:

520ST: The original ST, now out of production. Dealers are likely to start discounting their remaining stocks.

520STM: The new base machine. Same as the 520ST, but with a modulator that allows the computer to be used with a television rather than a monitor. Both low and medium resolutions are allowed on a TV, but medium is almost unreadable. The original STs might be upgraded to allow use with a TV, but only from third party manufacturers. Its £399 price tag does not include a disc drive, which is essential and therefore will add another £150 to the price.

1040ST: A 1mb ST with a built-in double sided disc drive (hence the F). No modulator means it cannot be used with a TV. See the June issue of Atari ST User for the advantages of 1mb. Other than the larger memory, the 1040 offers nothing that the other models do not have. It will run all software written for the other models, but some software written for the 1040 (and the extra memory) will not run with only 512k. If you have your 512k ST upgraded to 1mb you will be able to run all 1040 software.

SF354: A single sided 360k disc drive (sometimes advertised as 500k, but only 360k is usable).

SF314: A double sided 720k disc drive (sometimes advertised as 1mb or 1000k). Holds double the amount of the SF354, but can still read single sided discs. The SF354 cannot use discs from the SF314.

SM124: The ST high resolution black and white monitor. Only allows the use of high resolution mode.

SC1424: The colour monitor. Allows the use of low and medium modes. Only one monitor may be attached at any one time.

SH204: The soon to be available 20mb hard disc from Atari. To cost around £850.

The range is growing every day, but I'll try to keep you updated. If you see a + sign after the name of a 520ST or 520STM, it means that it has been upgraded to 1mb. You should note that the 1040ST cannot be upgraded beyond 1mb without drastic surgery.

Send your Atari ST queries to: ANDREW BENNETT, Atari ST User, Europa House, 68 Chester Road, Hazel Grove, Stockport SK7 5NY.

I've had several requests for information regarding packages for the ST from people who want to do serious graphics work such as CAD (Computer aided design). Very few such packages are so far available for the ST, although...
its graphics capabilities would seem to ideal for such uses.

The packages cover a vast range in price from Degas at £19.95 to Graphics Arts at £49.95. The only solution is to have a demonstration at your local dealer to see if a particular product will meet your requirements. One new program that may be of use to some of you is the latest from the keyboard of Tom Hudson, the author of Degas. It is called CAD 3D and will be marketed by Antic. It should be available from Slice Shop by the time that you read this.

***

I'm glad to see that so many of you agree with my comments about the BBC's Micro Live programme. From what I can tell, the BBC regards Micro Live as an innovation programme. They seem to have lost their way somewhat by sticking to the BBC Micro over most other micros.

Perhaps we ought to watch Channel 4's 4 Computer Buffs when it returns if we want to find out more about the ST or indeed any other micro than the BBC!

- If you have been using a 520ST and you switch to the 1040 or 1mb of memory, you will notice that programs take very slightly longer to execute and that the 1040 takes longer to boot up than a 620. This is because the 68000 processor inside the ST has to do a little more work when a program loads into 1mb than in to 512k. The delay is nothing to worry about and is only really noticeable if you have been used to using a 512k ST.
- If you are desperate to use low resolution and have only a mono monitor, don't buy a colour monitor just yet. Several companies are working furiously to build modulator attachments for the ST, but they won't be cheap. I've heard mention of prices in the £75 range. Cheaper than a monitor perhaps, but you won't be able to use medium resolution because it is unreadable on a TV.

Useful book despite the padding

Introduction to Sound and Graphics on the Atari ST by Tim Knight (Compute! Books)

The latest offering from Compute! - whose books have long been known to Atari users for their good quality and comprehensiveness - is for the ST.

Sound and Graphics covers Logo, Basic and Forth. In seven chapters and 194 pages it takes each language in turn, examining their use of sound and graphics.

The book begins with the now obligatory section on setting up the ST. This can only be of use to the reader who buys the book at the same time as his machine and finds that he needs more help than is given in the ST's manual to get his machine up and running.

The book then examines programming in Basic, Logo and Forth, giving plenty of clear examples and smoothing over some of the rougher patches in the Atari manuals. The chapter on advanced graphics gives information on various VDI and AES routines for achieving some tasks that aren't possible from ST Basic, such as examining the position of the mouse and the condition of its buttons.

The final chapter gives short reviews of some ST software that has most interested the author. This and the first chapter, can be regarded as nothing but padding, which is the last thing that this helpful book needs. Nevertheless its information is presented in a clear and helpful way, with plenty of examples, and it is heartily recommended. I look forward to other productions for the ST from Compute!
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FREE SOFTWARE
When you buy one of the new Atari ST computers from Silica Shop, you'll receive a large and sophisticated, software package free of charge. This package consists of a number of useful applications, and comprises a total of over 30 titles. All STs now have 1MB or ROM, and the total list of free software is as follows:

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2. TOS: Turbo Operating System (on ROM)
3. SB-WORM: Word Processor for ST4 using the OCP/M and MS-DOS
4. BASIC: Personal Basic for CP/M (with manual)
5. FAQ: File Access for MS-DOS (with manual)
6. NeoChrome: A powerful image processing and graphics tool
7. CP/M Emulator: Allows the use of CP/M software on any ST system

3rd PARTY SUPPORT
The power and potential of the ST range of computers is only enhanced by the availability of new software titles, peripherals and accessories from third manufacture. This range of third party products is growing all the time, and the quality of ST range software is improving steadily. If you are looking for new software titles for your ST range, you can expect to find a wealth of third party software to meet your needs.

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And that includes an
unbeatable price
The show that's worth seeing twice

By Peter Fellows

TAKE one Atari ST, one man with imagination, and add someone with artistic flair. Mix well with Degas and an Atari User Basic listing. Season with a tour round a warehouse — exciting stuff! — and a sense of humour. Cook for a couple of months and garnish with HippoArt. Result — a superb and professional presentation of a company's activities for a minimum outlay.

Clive Savage, ST owner and director of Export Packers, a company dealing in freight forwarding, needed a method of attracting prospective customers to his stand at a forthcoming show. Slide shows can be boring and videos expensive, so when he saw HippoArt he thought: "What about a computerised slide show?"

We put him in touch with Kevin Bulmer, another ST user and an accomplished commercial artist. Kevin's artwork is popping up more and more in the computer press, and after a tour round their warehouse to see what freight forwarding was all about, he designed the pictures you see here.

Drawn with Degas, they were then converted to Neo format using the Basic program from a recent issue of Atari User. They could have been done with Noochrome direct, but Kevin prefers to work in Degas. The slides are then shown with HippoArt.

The crossfades and dissolves of this program make a really eyecatching and professional display, so much so that when the graphics were shown on a 27" Sony television in a Birmingham hi-fi showroom, the place came to a standstill! Experiment has shown that people almost invariably watch the show at least twice before moving on.

There is nothing new about computer presentations, but the ST's power and speed make eyecatching graphics easy. Throw the Habe colour digitiser into the recipe above and stand well back — you ain't seen nothin’ yet!

Pictures drawn by Kevin Bulmer for Export Packers, Birmingham.
ATARI S.T.

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- Use your ST as a professional 68000 hardware development system.
- Locate EPROMs 16 bits wide or 8 bits wide (depending on target system architecture).
- Manipulate data between its 84K of EPROM simulation RAM and the ST’s disk drive(s) and serial port in binary and a variety of hex formats.

Of far higher specification than probably any available dedicated EPROM programmer/simulator, amongst the system’s features are:

- Internal (ST) and external (target system) EPROM simulation with 64K of static RAM. This first ever true 16 bit simulator/programmer, LS and MS EPROMs programmed simultaneously in two ZIP sockets, automatic transparent ‘split and stuff’, intelligent programming of all EPROMs 8k and above, SID style GEM window on simulation RAM or EPROM(s). Including slider, icon manipulation etc. Edit, Locate a Value, Block Move, Fill Clear, Checksums, Bank Check, Program Check, Automatic or Manual Verify, External EPROM Simulation autonomous from ST operation, on-board Vpp generation etc.

In the ever and ever Atari tradition of “Power without the Price” the cost of this remarkable system is £117.50. Included in this price is the highly professional O.S. software and extensive comprehensive manual.

For delivery of your Nexus EPROM Development System by return of post, send cheque to £121.25 to include VAT, P&P to
Nexus Technical Services Limited
38 Melrose Avenue, Reading RG6 2BN
Tel: (0734) 664559

Available at

Gallant ST cartridge bores to take four EPROMs 8k or above (e.g. £121.25 = £14.75 inc. VAT, P&P

August 1986 Atari ST User
# MicroWorld Computer Group

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Please contact us for Printer Options.

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Reviewed by André Willey

IF you've ever played the arcade game Spy Hunter, you'll know what Major Motion is like. You play the part of a secret agent, driving a super powered racing car with all sorts of fantastic gadgets on board.

Imagine a cross between a James Bond car chase and Knight Rider, and you won't be far off. As you drop down the ramp from the supply truck, the battle commences.

You see the road as a plan view from above, rather than the pole position style windscreen view, and your task is to destroy the enemy Draconian vehicles, but not to harm any civilian cars.

To do this your car has built in machine-guns, but then the enemy also have some armoured cars, which are completely bullet proof. To destroy these you must ram them from the side until they crash into the verge.

Luckily for you, your company is busy developing enhancements for your super-car, and as the game progresses you can get more equipment from the supply truck. These items include ground-to-air missiles (to attack enemy helicopters), oil and smoke-screen generators to hamper vehicles chasing you, a sonic boom device to drive other cars off the road, and a turbo thrust to leave the Draconians standing.

Each device is controlled from the keyboard, which you can customise to your own requirements.

Unfortunately if you crash, or are smashed off the road, you've got to re-supply your brand new car. As the game progresses you will have to negotiate icy roads and twisty bends, meet Batman and The Evil Twin - a prototype of your own car, and armed as you are - and even change to speedboats for a fast race up the river. You may even see Rambol.

The colourful graphics (you do need a colour monitor) are spectacular, well up to arcade standards, and really do justice to the machine. The main title screen involves some 3D text rotation which is out of this world. The sound effects are quite good, although a little infrequent, with long periods with no sound at all.

The background music adds the final touch to the game, with the Mission Impossible and Batman themes setting the scene.

My only criticism of this otherwise excellent game is that there is no joystick option. The mouse may be useful for selecting files, but it is not really the best way to drive a car.

Most ST owners have joysticks as well as their mouse, so it seems a shame to spoil an otherwise fantastic game when the extra programming would be so negligible.

Even so, I still found the game very addictive, and recommend it to any ST owner who wants a decent arcade game to while away those midnight hours.

Sound: ............................................. 8
Graphics: ........................................... 7
Playability: ......................................... 10
Value: .................................................. 9
Overall: .............................................. 9
A novel idea for starship experience

IN the magnetic disc that carries Essex there lurks an adventure game with a difference, an electronic novel. To quote Synapse and Broderbund: "An electronic novel picks up where the printed word leaves off... we have discovered a remarkable new entertainment experience".

The program disc is packaged very insecurely inside the back cover of a hardback book. Its first chapters introduce the major characters, set the scene and lead into the adventure proper. Ninety five pages of introduction might put even the hardened adventurer off, but wait, what's this? There are only 35 pages of text, the rest being left blank for your own notes, some hidden instructions on page 89, and advertising for other "novels".

The book is a bit of a rip-off. Apart from setting the scene, which could just as easily have been done in the program, and justifying the title electronic novel, its main purpose seems to be as a security device for the game. Before you can start you are asked to type in a word from a certain page and line, the exact details of which change with each program boot. If you get the word right you can continue. If not, the program stops. It would be a commendable anti-plagiarism device if only photocopying hadn't been invented.

The action in Essex takes place on board a colossal starship of the same name. Hideous Voloshon battle machines once more threaten the galaxy (what, you don't remember the last time?). Professor Klein has to be rescued and only Captain Dee of the Essex can do it in time.

You have to deliver secret papers to the elusive captain which, it is hoped, will convince him to help civilisation. You board a shuttle with various other people, including a midget with an inferiority complex, and a walking, almost talking lobster. These characters wand around the ship on a guided tour, generally getting in your way and saying silly things at inappropriate moments.

The game has a very sophisticated parser, and allows complex multiple word inputs. You can talk to anyone on the ship - crew members, fellow tourists, auto lifts and even your equipment - but little seems to help. Time is short, and you only have a limited amount of it before everything goes up in smoke.

Essex is intriguing, and difficult. I haven't managed to do anything except get thrown into the brig for impersonating an officer, let alone save the universe.

Here gets the feeling that the other characters are wandering around independently, and that you really are on a working ship. Things happen around you, voices scream over the intercom, security guards stop people and search them. On top of all of this, the ship falls to bits.

Usefully, Synapse thought to include a time slow command, which slows the rate at which these disturbing events happen, and a save game option for those of us who need to cheat later on a regular basis.

Essex's screen display is divided into two sections. The upper is the result of your actions and a commentary on events, the lower your input screen. It looks a bit boring at first, but the descriptions and continuous frantic action make up for the lack of imagination in its presentation.

Whether Essex is a remarkable new entertainment experience is doubtful. That it is remarkable is true. The game is a very different adventure, with abstract problem solving played down and interaction with people brought to the forefront. If you hate crowds, forget it.

Reviewed by Jason Kingsley
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</tr>
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THE AS&T Starter System is intended for the business or serious home user. It is based on the Atari 520 STM, 8M 124 mono monitor and standard software bundle, but with twin floppy disc drives and a printer added to form a complete working system.

All units are fitted with mains plugs, and tested before despatch. Even consumables are included, in the shape of a box of 10 discs and 2000 sheets of fanfold paper. The whole package comes at the attractive price of £995, which represents a saving of £265 compared with a similar system using the standard Atari disc drives.

Notable components of the AS&T package are the twin floppy disc drives, each of 1mb capacity unformatted. These very neat one-third height units are made by NEC of Japan, and are compatible with both single and double sided 3.5in discs.

They are whisper-quiet in action, which suggests that they are suitably gentle with your precious discs. AS&T have reduced the desk space required by mounting the disc drives in a bridge-like metal plinth, which stands over the computer keyboard unit and supports the monitor.

Cabling is reduced compared with the standard Atari components by connecting the very low power consumption drives to the external computer power supply. If you wanted to buy the disc drives separately you would send your power supply to AS&T for modification under their exchange scheme, which has a one day turnaround.

Owners of 1040s – which have internal power supplies – would require a separate power supply for these disc drives to avoid the need to open up the keyboard unit.

The printer in the Starter System is the MP-165 from Micro Peripherals, a leading supplier of both branded and own-brand machines. This is a nine needle dot matrix unit, capable of handling paper up to 10in wide, with tractor or friction feed.

It has a rated speed in draft mode of 185 characters per second, and is also capable of printing in near letter quality mode about a quarter as fast. It has a very complete specification, and can print European and Japanese characters at 12 and 17 characters per inch, as well as the standard 10.

It is even capable of proportional spacing when using a suitable word processor and printer driver, and of printing bit image graphics for screen dumps.

The printer is Epson-compatible, although this standard does not extend to the NLO mode. It may be controlled largely via software, which is much more convenient than via hardware switches – whether on top or round the back – though these may also be used. The printer ribbon is also Epson-compatible, and hence widely available.

The system includes the standard Atari software – the word processor First Word, the programming languages Basic and Logo, and a painting program, Neochrome. The first is useful in the home or business, while the others afford opportunities for writing your own applications, and for relaxation.

It offers the serious home and business user a complete system for word processing and more, while occupying a smaller desk area and costing significantly less than one using the standard Atari disc drives. It has ample scope for enhancement with new peripherals and software as user requirements change and grow.

Gordon Taylor reviews the AS&T Starter System.
A helping hand on the way to your first million

Reviewed by Peter Connors

CashLink ST Accounts

Product: Cashlink ST Accounts
Price: £295
Supplier: Cashlink Software, Clogwyn Manor, Rhyd Ddu, Caernarvon, North Wales LL54 7YS

If you're an IBM PC or clone owner Cashlink Accounts for the ST is as welcome as a bad cold. This accounting suite costs less than half the price of the PC or Apricot version, and runs three times quicker than on the IBM. So how much does it cost, and what does it do so fast? The first is a short answer - £295 + VAT - but the second really needs a book all to itself.

Anyone setting up a small business needs to keep accounts. You can get away with the back of envelopes for a bit if you aren't serious about making money, but the taxman catches up with you eventually.

If your turnover - the amount of money that passes through the business - is big enough to qualify for VAT registration then "eventually" becomes just three months, and customs and excise officers have been known to make midnight visits to offenders.

There is also a positive side to keeping the books straight because if you need money to expand then potential backers need to see accounts they can understand.

These figures tell them, and you, in what direction your business is heading - like a map, good accounts avoid commercial dead ends and abrupt falls. These accounts need to be recorded and presented in ways which fit in with standard accounting protocols.

All the transactions you make are entered in ledgers - not those big leather books any more, but disc files. Every transaction can be entered in a general ledger and this can be subdivided into headings like purchase or sales.

Purchases may have different VAT rates to be reclaimed from the VAT on your sales, which in...
turn may have different discount rates for customers, each of whom will need sales printed on an invoice.

Every time you sell something the stock of that item decreases. If your stock of left-handed guzzengers drops then you need to reorder before you lose customers with that traditional saying: “I’m sorry, but we’re right out of them at the moment”. If sales are integrated with stock control than your customers shouldn’t get nasty surprises like that.

Each month, quarter or financial year there will be demands on your accounts. Slow-paying customers may need another statement of what they owe, or even a final demand. The VAT may need to be worked out, or the Inland Revenue might want details of your employees’ wages.

All that paperwork has to be printed out with the correct addresses and details. Even with a word processor, keeping track of all the bureaucracy in the correct formats involves a small business in laborious paperwork, often with only part-time secretarial and accounting assistance. Above all it is profoundly boring.

Cashlink Accounts comes to the rescue by doing all this and more from within one program on the ST – see main menu screen dump in Figure 1. It needs a 520ST and a double sided drive as a minimum configuration. Both program and data can be held on one disc with this hardware line-up, but the bigger your disc storage the more accounts and stock items the system can handle.

If you need the hardware as well Cashlink Software supplies inclusive packages up to the 10mb hard disc level. Cashlink Accounts doesn’t use Gem, but instead uses its own windowing system which makes it possible to examine one section of the accounts while suspending work on another.

This interrupt ability is available from pretty well anywhere within the accounting suite and is one of the most attractive aspects of Cashlink – see screen dump in Figure 1. From the main menu individual selections access sub-menus such as that for the general ledger in Figure III.

For example, from behind your executive desk at the centre of the world’s largest left-handed guzzenger business you may decide you need a profit and loss statement – an instant update on the state of your business – and in the middle of that you might want to check that day’s sales, and in turn you might want to make notes on them before you forget.

The latter is possible because built into all this is a Wordstar-compatible word processing program which makes notes, compiles reports and letters, and even prints labels for your monthly statements to customers. Figure IV shows the WP main menu.

Documentation is every bit as good as you would expect for the price. The sections are divided up in the same way as the screen menus, so it is very easy to find the information relating to a function.

Cashlink Software has also shown awareness of the needs of the small business user by including a step-by-step tutorial section in the handbook, together with sample accounts. Anyone at a loss with accounting terminology will find all the explanations they want here.

Security hasn’t been forgotten, and it is necessary to enter a code related to the serial number before the program can be run. Access to the ledgers is then controlled by different user-selected 13 character passwords for different parts of the accounts. If you really must use a password like 1234 then don’t blame Cashlink if you find a mouse in the works.

So is it worth it? Even if you’re a world expert on left-handed guzzenger marketing and don’t actually sit down at a keyboard or calculator yourself the reductions in secretarial and accounting costs will soon be evident compared with an all-paper system.

If you run a one-man window-cleaning outfit those savings will probably take a long time to appear. However if you expect your business to grow rapidly – and we all dream – a computer-based system such as this is indispensable. After all nobody wants any hiccups on the way to the first million.

Ten million is a problem however, because the largest figure Cashlink Accounts will accept is £9,999,999.99. If that creates a serious difficulty for you there is only one answer – buy another ST.
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The MEGAMAX C is probably the best C development system available for the ATARI 520 ST. Already voted as the best C system for the APPLE Macintosh, the new ATARI package is even better, packed with even more features and now available at a very realistic price tag of just £137 (ex VAT).

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Help for the Boat People

MICROLINK is being used to bring hope to thousands of distressed Vietnam refugees living in the UK. Their plight largely ignored, these former Boat People have become a forgotten multitude of hangers-on, crowded into substandard dwellings. Their families are dispersed, and there are no places for them in social agencies. Some have attempted to escape to the West, but now MicroLink's toll-free and electronic mail services are easing the process of reunification and smoothing their path into Western society. Many former Boat People are suffering because they arrived in Britain the authorities assumed they were Vietnamese. In fact, three-quarters of them were ethically Chinese, speaking only a form of Cantonese and unable to understand the Vietnamese. In fact, the former Boat People faced a bleak future. The Vietnameseユーザ was preferred over their Vietnamese counterparts. But a Chinese Vietnamese Advice Centre staffed by voluntary social services has been opened in London to help them, and it is using MicroLink in its efforts.

CLIFF IS STILL TOPS

DESPITE what some critics may say, the top show in London is the Cliff Richard musical. At least that's the verdict of MicroLink subscribers according to the volume of bookings placed through TheatreLink, which is in association with renowned theatre agency Edwards & Edwards.

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Commonwealth link?

MICROLINK has been chosen as a potential medium of communication between the Commonwealth Secretariat in London and the organisation's 49 member countries. A project is underway to assess various electronic mail and telex options in conjunction with the Secretariat's planned expansion of its computer operations. The aim is to improve the speed and efficiency of links between member countries and also with international organisations like the United Nations' agencies and the World Bank. The Commonwealth's own specialist databases will also be set up as part of the project which is expected to be completed in about two years.

“MicroLink is one of two systems we are experimenting with at the present time”, said Commonwealth computer manager Peter Wrinch. “We have been impressed by its user-friendliness and ease of use.”
H&D Base well worth the effort

HAVING been a Dbase II freak for a long time I awaited the arrival of H&D Base from Chester Holmes and Oliver Duckworth with the anticipation of a pools winner waiting for his cheque. Why the excitement? Ashton-Tate’s Dbase products have become so commonly used that they are virtually industry standards.

The main reason for their popularity is the versatility given by the vast range of commands and the ability to execute these commands from a disc file just like a Basic program. Where an off-the-shelf database is insufficient, or would be cumbersome to use, Dbase II is often the answer. In fact a tremendous amount of applications software has been written in this command language, though often the users are unaware of it.

H&D Base, like Dbase II, is a relational database – that is, it can process information contained in several files which are related. Only two files may be in use at the same time, but these two files may be linked together so that movement within one file will result in a similar movement in the second.

The most efficient method of accessing a record is by means of indexes, and in this respect H&D Base is well-catered for. Dbase is indexed on a single field or a combination of fields. Only one index may be in use at a time, but up to seven indexes may be open – and therefore automatically updated – when data is added, deleted or amended.

Commands are simple English-like words, and beginners should be able to create and use a database in a very short time. Basically you may type CREATE filename and follow the prompts. I created a simple database for appointments, and the command LIST STRUCTURE was then to display the database as in Figure 1. The command APPEND then allows us to enter appointments into the database, and where repetitive data is common SET CARRY ON carries forward the data from the last record into the new. EDIT enables us to alter or delete the data already entered.

One delightful attribute of H&D Base is that deleted records are not actually removed from the database until the PACK command is issued, and this can be a lifesaver.

Having entered the data H&D Base now comes into its own. For example the command:

```
LIST FOR DATE = "25/07/86" . AND. AM = T
```

will list all morning appointments on July 25. The field AM has been set up as a LABEL field where it may only contain Y or T – for true, or N – for false.

Changing data on disc may be done with the REPLACE command:

```
REPLACE 
ALL KEYWORD WITH "Fred"
FOR KEYWORD="Bert" .OR.
KEYWORD="IC1"
```

will change all of the appointments with Bert, or his company, to now be with Fred. These very simple examples give an idea of what may be done.

H&D Base has its own report generator which, while rather unfriendly, works quite well. It saves your report on disc as a text file which may be edited with the command file editor or reused as it is.

There is no limit to the number of reports you may have other than the obvious one of disc space. If you need something special you can always write it yourself and the tutorial will assist. The editor is a definite improvement over the Dbase II offering, which must be the worst I have ever used. H&D Base’s editor, while primitive, is quick and efficient, though very large command files can be a problem.

H&D Base is written in Forth and has the unusual ability of making all of the 200 or more words in the Forth dictionary available to the user. In addition bindings into GEM itself have been supplied with documentation on the disc. The manual is exemplary and better than Dbase’s own.

It says it is compatible with Dbase II command files, and programs ported over from an Octopus computer worked with only minor changes. The technical specifications of H&D Base are given in Table I.

The first version of the program nearly gave me a nervous breakdown. It had a lot of bugs, one of the most infuriating being that all error messages were in colour. I have only a monochrome monitor and thus couldn’t actually see them. A telephone call to the States brought an updated copy four days later curing most of the bugs, but the indexing still wasn’t right and it was still prone to crashing without warning.

Finally the production version arrived at my dealer, and so I set to work in earnest. With each new version there were more examples and documentation. The current version now has a sample Gem application and also a set of

---

**Table I**

```
Structure for APPTS.DAT
INDEX IN USE: NONE
NUMBER OF RECORDS: 0
PRIMARY SELECTED
FID NAME TYPE LENGTH DEC
01 KEYWORD C 016
02 DATE C 008
03 TIME C 008
04 AM L 001
TOTALBYTES 00030
```

---

By SIMON TERRY
programs written as commercial files to assist the beginner in starting to use the program.

Program development, especially if you are using the Forth or Gem extensions, can still result in a crash but mercifully that is now infrequent. Shortcomings of the package are generally minor, but the error trapping could be better. The manual recognises that more error trapping will slow the operation, but a simple display of an errant program line when a program aborts would help debugging a great deal.

In terms of access speeds, fast it isn’t. Use of a hard disc improves matters a great deal, and since hard discs at reasonable prices are imminent — by the grace of Atari — large customised databases running at reasonable speeds are eminently feasible.

The slow speed has a plus side however — the data files are remarkably secure. A power failure in the middle of an editing session is likely not to affect the data. Rather than space is tight, however, the remainder of the file being perfectly intact.

The Forth commands appear to work, as do the Gem extensions, and I used the Gem sample supplied to operate as a shell for some of my own programs without much modification.

However to make the best use of these extensions some knowledge of Forth and preferably a Gem reference book would be necessary. The Forth language gives access to the machine that Diskette II never had; opening a lot of doors to programs, networks, hardware — for example remote desk terminals at the end of course graphics. The use of even the simple shell supplied gives the user the ability to run accessories, an ability not normally available in a non-Gem program.

Despite its idiosyncrasies and the wealth of databases now available I use H&D Base more than anything else. If you are prepared to spend some time learning how to use this product you won’t regret it, and books on Diskette II should help the beginner — your dealer should be able to get them for you. H&D Base costs £89.95.

### Maximum Specifications

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Characters per field</td>
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</tr>
<tr>
<td>Characters per record</td>
<td>2,000</td>
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<td>Fields per record</td>
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</tr>
<tr>
<td>Index key length (chars)</td>
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</tr>
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<td>Records per file</td>
<td>Limited only by disc space</td>
</tr>
<tr>
<td>Numeric accuracy</td>
<td>8 digits</td>
</tr>
<tr>
<td>Character string length</td>
<td>254</td>
</tr>
<tr>
<td>Command line length</td>
<td>254</td>
</tr>
<tr>
<td>Variables in SUM command</td>
<td>5</td>
</tr>
</tbody>
</table>

Table 1

---

### Advertisers’ Index

- ASS ........................................ 4
- AS & T ...................................... 24 & 25
- Atari UK ................................... 8 & 9
- KECM ........................................ 20
- Metacomco ................................ 28
- Modula 2 Software ....................... 4
- Microdeal ................................ 11
- Microworld ................................ 12 & 13
- Nexus ....................................... 11
- Premier Software ......................... 18
- Silica Shop ................................ 7
- Software Express .......................... 16 & 17
- Supertech .................................. 18
- Twillstar .................................. 2

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<table>
<thead>
<tr>
<th>ATARI ST KEYBOARDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atari 320ST</td>
</tr>
<tr>
<td>Atari 320ST PLUS 1900 MB</td>
</tr>
<tr>
<td>Atari 1040ST</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DISK DRIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atari 5.25 HD</td>
</tr>
<tr>
<td>Commodore 1541 HD</td>
</tr>
<tr>
<td>Commodore 1552 HD</td>
</tr>
<tr>
<td>Commodore 1561 HD</td>
</tr>
<tr>
<td>Commodore 1564 HD</td>
</tr>
<tr>
<td>Commodore 1540 HD</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CONNECTING LEADS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atari ST Floppy Leads</td>
</tr>
<tr>
<td>Atari ST Parallel Leads</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MONITOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atari 940 Monitor</td>
</tr>
<tr>
<td>Atari 945 Monitor</td>
</tr>
<tr>
<td>Atari 940 Monitor</td>
</tr>
<tr>
<td>Atari 945 Monitor</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SOFTWARE BOOKS/ETC (Code 10% T/N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speedsound/Genius</td>
</tr>
<tr>
<td>Upgrade, Memory, Case, etc.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MUSIC ACCESSORIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coda CE101 Leads + Disc</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PRINTERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adapte PMB0430 c/d</td>
</tr>
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<td>Adapte PMB0430 c/d</td>
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August 1986

Atari ST User
ONE of the biggest selling points of the Atari range in the US is the plummeting hardware prices.

They have fallen to levels that are attracting a whole new generation of Atari owners who have leap on the Tormil "Power without the Price" bandwagon.

Atari continues to forge ahead with software for the best-selling ST, which is now outselling the Commodore Amiga many times over in the US, thanks to the recent return of the Amiga to its old price of $1,600 (up by $500 after a summer promotional deal).

Not to be outdone, Atari US is giving away a monochrome monitor to buyers of the 520ST and 6354 disc drive - that makes a mono ST system sound the $499 ($380) mark.

And 8 bit Atari owners shouldn't feel left out either, even if the UK Laskys chains has seemingly abandoned such owners, except for the 130XE which is still on display in downtown UK Laskys stores.

For $99 ($56) you can get the 65XE machine, complete with four items of software, Star Raiders, Pecmen, Donkey Kong and Skywriter, worth $54. Not bad value.

The 52X is to be taking over from the Atari VCS games cartridge system in the US, which, despite resuscitation by Atari at recent US computer shows (more of which later), is still being shunned by increasingly mature games computer buyers.

Following the 52XE's tail is a $399 ($260) package featuring the 130XE, disc drive and printer, along with the Atariwriter Plus word processing package and four other software titles - Music Composer, Star Raiders, Defender and Home Filing Manager.

Potential buyers have the option of replacing the 130XE with the 65XE, for a $349 list price. You might think that sounds a little too close for comfort to the above $499 ST package, and you'd be right - some US dealers are shaving off the 8 bit prices by as much as $50.

Ater's leadership of the personal computing front was quite clear with their attitude at the Consumer Electronics Show in Chicago during June where they had the biggest and most prominent stand in the computer section.

The entrance was flanked by two special displays: "See the Power of Atari" featuring video digitizers, and "Hear the Power of Atari," with linked music synthesizers providing the aural sensations.

And, we're not just talking about the ST here - the displays were divided evenly into 8 bit and ST products.

As with the PCW show in London last September, Atari rented a block of 36 stands from the show organisers and sub-let them to US software houses.

Again, half the displays were allocated to the ST and the rest to the 8 bit machines, perhaps representative of Atari's growing realisation that the public are a little worried that the firm may dump the 8 bit machines. Above all else, the message was clear at CES - Atari 8 bit machines are still alive and doing well.

On the ST software front several distributors chose CES as a stand to unveil or announce forthcoming software packages for the 68000 machine.

Betteries Included announced a wide range of ST titles in the home and office category, including Thunder! and its real-time spelling checker and "1S Talk," a terminal program with a whole host of features, including the spelling checker.

Microprose had Silas Warnar, author of many software computer games like Castle Wolfenstein and Robowar, demonstrating Silent Service IV for the ST

Baudville, Eypx, Firebird and Strategic Simulations were some of the software companies who announced expanded support for all Atari products at the show.

Several UK ST owners have complained of late that they are experiencing difficulty in getting compatible software for standard monitors.

One international firm which specialises in mail order for connectors of this type, from DIY plug kits right through to custom connectors made to order, are At Your Service, 2656 Leachburg Road, Lower Burrell, PA 15068, or call 0101 412 336 4477 and ask for Mark Spires.

The latest release available from Atari US this month is DB Master One, an enhanced version of the program given away by US dealers last December.

Also available is DBMan, a DBase II clone with many extra features for the ST.

On the ST front Planetarium and Star Raiders II are beginning to make an appearance in US stores. Both titles were greeted very favourably at the CES and Comdex shows.

Baudville Inc has three new titles of home and entertainment software, Video Vegas (blackjack, poker, fruit machine and so on), and Ted Bear's Rainy Day Games for young people. Contact them on 0101 412 955 9538.

Karate Championship from Eypx will keep the 8 bit machine owners happy with very realistic animation of martial arts, while for the ST Eypx are shipping Rogue and the revamped Temple of Apeal Trilogy.

They also plan to release Winter Games, World Games, Super Cycle and Championship Wrestling for the ST series in good time for in good time for Christmas.

I know many UK Atari owners have bought a monitor for their ST, but are becoming frustrated by the dearth of good software available for downloading on UK systems.

While uneconomic for browsers, two major BBS systems in the US are now open for free downloading of software for the price of an international phone call.

First is the official Atari BBS - Atari Base - which is available 24 hours a day at 300 baud or 1200 baud (full duplex) on 0101 412 745 6308.

Atari Base has more than 200 programs on-line, all of which are available for public domain software, which, if downloaded at 1200 baud via an international phone call, can work out at about £4 to £5 per downloaded program, assuming cheap rate calls.

Another BBS in the US which offers a wealth of free software for the ST is the Haste BBS which is accessible at the same speeds on 0101 713 955 9532.
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