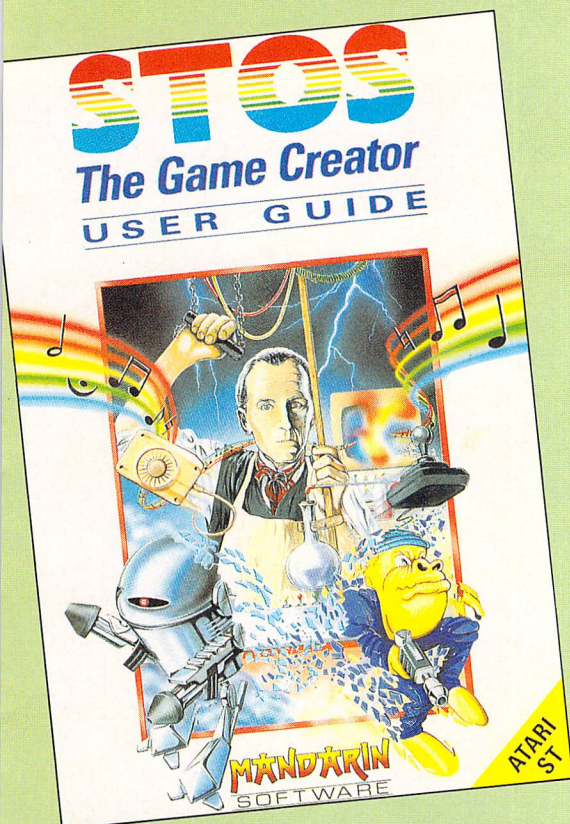




**Andy Richards reports
on the arrival of a new
and powerful package
for games programmers**

Tools of the trade

floating point routines were written by Constantin, a 39-year-old from Athens.

Stos provides all the facilities necessary to create arcade and adventure games. It is made up of several integrated modules – Basic, assembler, music editor, sprites editor and so on.

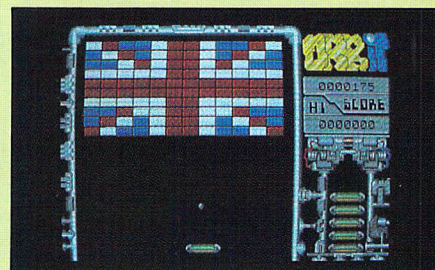
It lets you move and animate sprites, add an interrupt-driven soundtrack, define 16 areas of the screen to scroll in any direction, zoom in or reduce pictures, store screens and create pull-down menus.

Until now, such effects – although quite common in games – required a great deal of time, effort and extremely complex machine code programming.

With the aid of Stos these tasks can now be achieved by ST owners with only a sprinkling of programming knowledge. Clearly, being a machine code programmer, musician and artist would be a



The sprite editor



The demo game – Orbit



Assembler package author Constantin Sotiropoulos (left) and Francois Lionet author of Stos Basic

GAME writing on the Atari ST will never be the same again following this month's launch of Stos – The Games Creator. The breakthrough – culmination of two years work – stems from an Anglo-French joint venture between Mandarin Software and a leading French software company, Jawx.

The Stos concept was developed by Francois Lionet and Constantin Sotiropoulos for Jawx. Francois, a 24-year-old veterinary surgeon, is no stranger to games programming – having written the PC and C64 conversions of Captain Blood and provided hits for Bug Byte and Firebird. The major part of Stos Basic is his work. The built-in line assembler and

great advantage – but the tools are just as easy for the novice to use.

Earlier this year Stos was released in France in a less sophisticated form but sufficiently good enough for a number of French software houses to use for writing commercial games.

Mandarin and Jawx have been working for the last six months to develop the product further – bringing the total number of commands up to 340, re-writing the sprite definer, improving the music editor, adding three sample games and including many example files to create a really powerful games-creating package.

Stos is so comprehensive it comes on

three discs, one archived to squeeze on even more data. For instance, there is the facility to grab sprites and screen data from commercial games software such as Bomb Jack and Alien Syndrome.

These sprites are subject to copyright restrictions, so you couldn't sell your masterpiece – but it's useful and fascinating to be able to look through your favourite games and see all the many sprites hidden on the disc.

The last thing you want to do with Stos is attempt to run the standard benchmark test programs to measure its performance and compare it to its competitors.

It hasn't any rivals as it isn't primarily intended to be a Basic interpreter – there's also a compiler due to arrive in October – it is a games creator!

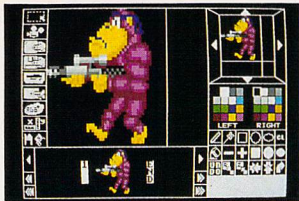
Stos is designed with the typical ST owner in mind, but it is also a powerful development tool for software companies. And, whatever Atari may wish, the ST is perceived as a games machine by the general public.

We should see a major change in magazine listings as it is now possible to write short, compact Basic listings of almost arcade quality, judging from the standard of the demonstrations on the disc.

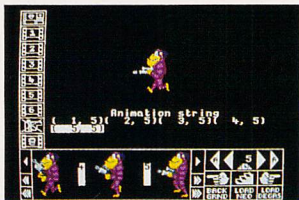
Imagine a type-in listing of an Arkanoid-like game in *Atari ST User*. This is possible – there's one on the Stos disc to prove it – and what's more I'm told it took just two days to write.

UNLEASH YOUR IMAGINATION WITH

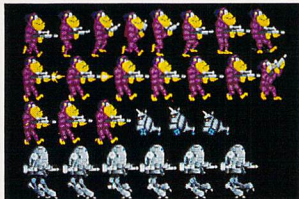
STOS The Game Creator



Design sprites using the powerful sprite editor



Set the sprites in motion with the animator section



Choose from a range of example sprites included with STOS



Produce a layout for each screen with the room designer

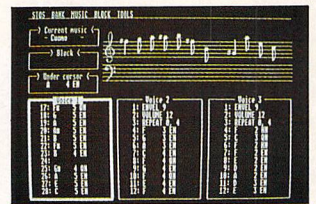
STOS is a revolutionary package which has everything you need to create fast, exciting games quickly and easily. Whether you've never written a game before, or you're a competent programmer, you'll find that STOS is the perfect way for you to design your own entertainment software.

The STOS package comprises:

- A massive manual packed with easy-to-follow examples.
- At-a-glance reference card putting all the commands at your fingertips.
- Three discs containing: STOS Basic, sprite editor, room designer, character set editor, icon editor, music editor, screen compacter ... plus many other utilities and short programs.
- An exciting opportunity to join the STOS Club for expert advice and contact names.

All this for just £29.95?

You'd better believe it!



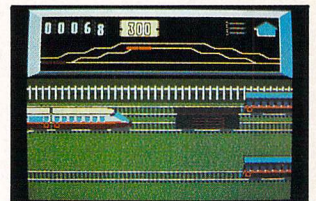
Create dynamic sound effects and compose a suitable score



Construct devious screens in the feature-packed Orbit game



Draw the flight paths of the attacking aliens in Zoltar



Blast the carriages in the horizontal-scrolling Bullet Train

PLUS: Three free fast-action games which show you just what can be achieved with this unique package. There's Zoltar, Bullet Train and Orbit – and each game is written

entirely in easy-to-understand Basic, which means you can modify or customise each one to your heart's content. Change the sprites, music, difficulty level, design new screens and so on. And by examining the programming you'll learn how to create your own games from scratch.

Please send me **STOS – The Game Creator** at £29.95 (incl. VAT and P&P).

- ☐ I enclose a cheque payable to Mandarin Software
☐ Please debit my Access/Visa number:

Expiry date: ____/____/____

Signature

Name

Address

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Adlington, Macclesfield SK10 4NP.

Enquiries: 0625 879940

Order Hotline: 0625 879920

R198

Here's just some of the facilities that will be at your command:

- 340 powerful and versatile commands
- Move and animate up to 15 sprites at once
- Sprites any size up to 64 x 64 pixels
- Full collision detection between each sprite or zone
- Grab sprites from commercial games
- Define up to 16 different types of scrolling areas
- Hold up to four main programs and 12 accessory programs in memory at once
- Create pull-down menus with just one command
- Change modes from within a program
- Overlay up to 13 windows
- Compact Neochrome or Degas screens – or even sections of screens
- Zoom and reduce pictures to produce incredible effects.

It's all go for games

Mick Randle examines a new do-it-yourself game creator designed to provide you with all the tools you need to develop your own games software

THE number of programming languages available for a particular computer provides a useful measure of its popularity, and happily, the Atari ST owner has a proliferation of languages from which to choose.

Whereas professional programmers usually prefer compiled languages such as C, consumer programmers tend to opt for Basic. So any new version is always welcome, particularly when it is as revolutionary as Stos.

The ST is an extremely complex piece of hardware and most programming languages reflect this by requiring complicated routines to perform relatively simple tasks, particularly when calling Tos functions. Even a Basic programmer usually has to buy several books covering Gem and Tos in order to program effectively.

STOS The Game Creator



STOS, from Mandarin Software, adopts a radically different approach to programming. Instead of forcing you to conform to the machine, those complex Tos calls are replaced by sensible Basic commands which eliminate the usual monotony and allow unprecedented control over the computer. For the first time, you can concentrate more on your program and less on the inner workings of the machine.

Stos is primarily intended to be a game creation system, and I would certainly not argue with that, but it is also a competent – if at times, rather slow – general purpose Basic with more than 300 commands.

It possesses the usual structures such as REPEAT and WHILE as well as particularly impressive string handling facilities. It is possible to program the Midi/RS232 ports, and sequential/random access disc files are supported, along with user-defined functions with local variables. I can't help feeling that Mandarin is underestimating its product by concentrating solely on the games aspect.

It is difficult finding any other packages

The Stos package

THE wire bound 283-page manual supplied with this package is a lesson to other software houses. Written in plain English with many programming examples, it also contains a useable index. A second index, devoted solely to Basic commands, helps you to find your way around the book quickly and makes the additional quick-reference card almost redundant.

Also in the packaging is a registration card which entitles you to hotline tele-

with which to compare Stos, as it contains so many unique features. It dispenses with Gem, but this is not as ominous as it sounds, as Gem may be pleasant to use but is infamously slow at times. Stos duplicates and extends many Gem functions and greatly simplifies the code required to control them. Within five minutes of booting the language for the first time I had programmed a fully functional drop-down menu bar featuring multicoloured text and icons.

This Gem substitute is a delight to use, with simple commands to read the mouse and joystick, and a particularly powerful function which returns a filename from a selector box. Strangely, dialogue boxes are ignored, but they are easy to simulate by utilising one of the 13 available windows, each capable of using its own individual character set.

Stos has been cleverly designed as a core module which can be expanded by the inclusion of extension routines. On power-up several standard modules are loaded into memory and then the Stos folder is examined for language extension files which, if present, are incorporated into Basic as ordinary commands. This ensures that Stos will never become obsolete, and enables you to customise your Basic by only using the extensions required by your current program.

At the moment, only one such extension is available – it is provided on the system disc, but additional ones are being developed by the French authors.

Mandarin confirmed that a 3D object animation extension is currently under development, but they were not able to divulge any information concerning other extensions.

Built-in commands

Stos also provides a wide range of graphics commands similar to some of the functions provided by Gem, in addition to the ability to freely switch between low and medium resolution. The screen

Designing and manipulating sprites

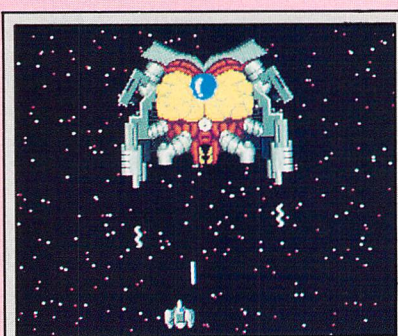
SPRITES – a nightmare to program in other languages – are particularly well supported, and are similarly controlled with the silky smooth movement and animation only possible through the use of interrupts. Again, straightforward commands permit the movement of up to 15 animated sprites. Full collision and boundary checking is provided and any sprite may be assigned to the mouse pointer.

Provided on the accessory disc is a powerful sprite editor – written in Stos of course. This enables you to design

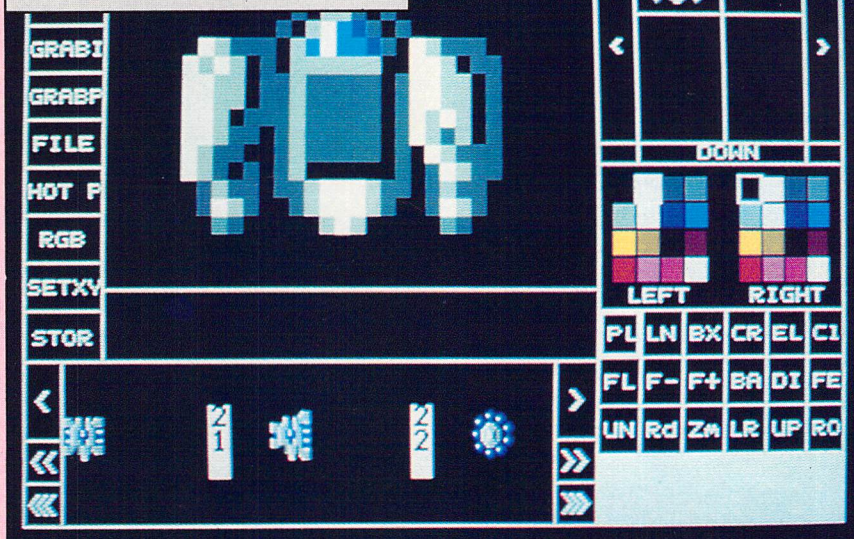
sprites using a whole host of commands like plot, draw, box, circle, ellipse, fill, zoom, reduce, reverse, invert, rotate, cut, paste and so on. You can also grab sprites from Degas and Neochrome pictures, or even commercial games programs – of course, these will be copyright.

Any size sprites can be created ranging from 16 by 2 pixels to 64 by 64, and the default is 32 by 32. Stos stores its sprites in special reserved memory banks which are automatically saved with the Basic program.

There are several useful commands available from Stos Basic to manipulate these, including SPRITE (display a sprite), MOVE (move a sprite in the X and/or Y directions with a given speed and step size), LIMIT SPRITE (limit a sprite to a given area of the screen), ANIM (animate a series of sprite frames), COLLIDE (for detecting collisions), to mention just a few.



Massive sprites are easily manipulated



Some of the functions available in the sprite editor

Turn to Page 50 ►

phone or mail advice and priority information on any future Stos-related products. Mandarin has launched a Stos club, and details are provided.

The software comes on three single-sided unprotected discs which allows you to transfer it to double-sided or hard discs and maintain backup copies. I wish other software houses would follow this example.

The first disc contains Stos itself, while the second is packed with accessories

and example programs. All files on the accessory disc are compacted to squeeze them into the limited space, so make sure you have some spare discs handy before you begin to expand them.

The third disc contains example games written in Stos, and although the gameplay is not particularly inspiring, they certainly give a good indication of what can be achieved.

Bullet Train is a fast horizontally scrolling game in which you have to steer a

train along a maze-like track avoiding various obstacles. Fortunately, it's fitted with a cannon for taking pot shots at anything in the way.

Orbit is an advanced breakout type game complete with exploding bricks, falling cannisters, lasers and so on. Last, but not least, is a space shoot-'em-up called Zoltar. Your laser is based at the bottom of the screen and aliens swirl round in various patterns dropping bombs.

◀ From Page 49

may be segregated into zones, and each zone, or even the entire screen, may be vertically or horizontally scrolled.

There are so many commands that a short review like this cannot hope to include them all. I'm sure Tom Hudson would have found it far easier to write Degas if Stos Basic had been available.

Comprehensive sound commands range from preset noises like BELL, through music, tempo and sound envelope controls, to actually programming the Yamaha sound chip itself. Stos has another feature which sets it apart from any other language: Music is automatically played during the vertical blank interrupt. This leaves your program free to perform its usual tasks while the music continues.

Other functions, such as menu scanning, screen scrolling and picture fading are also executed during interrupts, which gives some indication of this language's speed. In fact, additional commands are provided to actually slow down program execution and there are times when they are definitely needed.

Improvements

Although more than 300 commands are available, some potentially useful ones are conspicuous by their absence.

I would have liked to have seen a disc format command to eliminate the necessity to return to Gem for such a mundane

The program editor

OF course, the program editor environment can make or break an otherwise excellent programming language. There are no problems here – it is superb. It is capable of operating in any screen resolution although medium is preferred, due mainly to the size limitations of the low resolution screen, which looks cluttered in comparison with other modes.

Up to four programs may be edited with word processor-like facilities, each in its own window. In operation, it has an intuitive feel and is reminiscent of the Atari 8 bit Basic editor. It is free from the delays associated with Gem-based ones and many of the default parameters may be customised by running a utility program which alters the editor to suit your requirements.

The Help key calls a menu which

lists accessory programs similar to Gem desktop accessories which can be run from the editor without disturbing the file being edited. The editor itself may be configured to load these accessories on power-up, or you may elect to load them as required to save memory.

Although a selection of accessories are provided, it is possible to write your own as they are all written using Stos. Some of the supplied ones are of higher quality than many commercially available stand-alone programs, and you can load, list, edit and extend them too. The sprite editor in particular is extremely pleasant to use.

Others worthy of special commendation are the music, icon and character set editors. These programs are all written in Stos Basic by the authors of the language.

operation. To be fair, Stos is not the only culprit here, as most Basics ignore this facility, but this would add yet another useful feature to this incredible language.

Finally, although Stos is perfectly capable of producing almost professional quality arcade games, I would like to see multiple colour palettes included. You are restricted to the usual range of colours applicable to the screen resolution used, but as Stos makes such

excellent use of the vertical blank interrupt, perhaps this could be used to offer a different colour palette part way down the screen.

Admittedly, this is far beyond the reach of other Basics, but such an extension would raise Stos to an even higher level of excellence.

Conclusion

I foresee a rosy future for Stos as a game creator. It certainly provides the tools to do the job, and rekindles that sparkle and excitement many of us experienced when we bought our first 16k Atari 400s. It is an excellent package supported by a company that is genuinely enthusiastic about its product. It's an absolute steal at less than £30.

FACT FILE

Product: Stos
Price: £29.95
Supplier: Mandarin Software, Europa House, Adlington Park, Adlington, Macclesfield SK10 4NP.
Tel: 0625 879920

POINTS FOR:

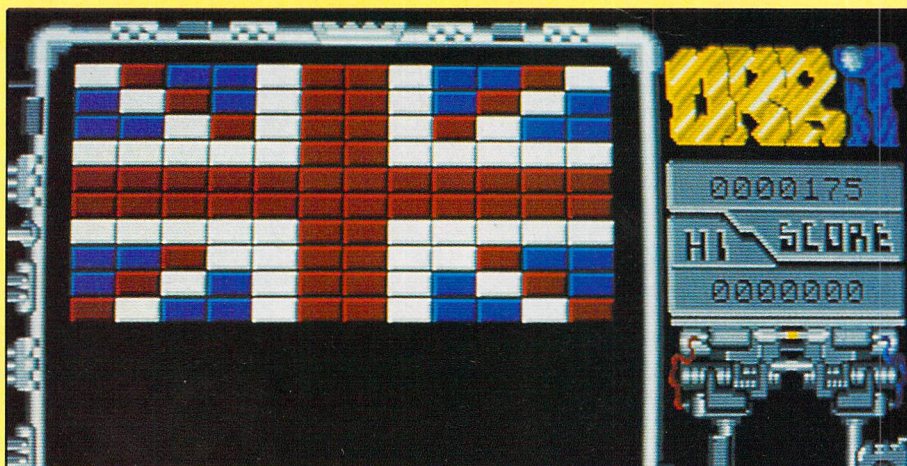
More than 300 commands, including sprites, music and graphics – everything you need to write your own superb home-grown arcade games.

AGAINST:

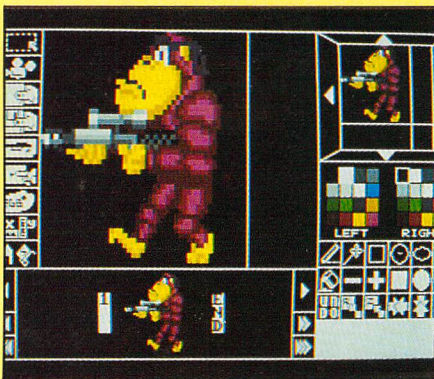
Not a fast number cruncher – don't use it to write a statistical analysis package.

COMPETITORS REVIEWED:

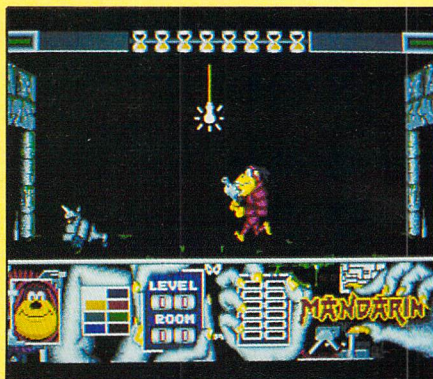
Power Basic, June 1988.
True Basic, April 1988.
HiSoft Basic, September 1987.



Orbit – one of the demonstration games



Designing a sprite



Testing the sprite animation

Data update

GETTING its first public showing was Precision Software's Superbase Personal 2 file management system. Demonstrated in efficient style by Precision's Alison Rutherford, the new package has all the benefits of Superbase Personal plus enhanced data handling facilities including batch entry of data, time fields, multiple response fields within text field definitions, cross file look-up and additional options on menus.

Also out for the show was the database management system Superbase Professional Version 3 which brings enhanced advantages of Superbase 4 to the ST.

New battles

BORODINO, the first of Atari's new Battlescapes series, saw its launch at the show, but it was demonstration only. Packaging problems had held up sales according to marketing services manager Darryl Still.

The "replay" of the battle during Napoleon's invasion of Russia, Borodino was due in the shops before Christmas. It will be followed over the coming months by the rest of the series with the Armada and Trafalgar high on the list.

Also due on sale at the same time were two computer versions of the favourite Japanese black and white counter game Go Moku/Renju and Star Raiders, a re-release of the American arcade game.

Four new products herald Atari's bid to break into the serious software market and two of them were demonstrated at the show – the spreadsheet package LDW Power and Micro software for word processing.

High notes

ON the music front, 23-year-old Andy Hunt caused quite a stir with his Midigrd system. It operates entirely graphically, and ease of use combined with the ability to adjust mouse movements makes it an exciting new development for disabled people.

Atari is certainly showing interest to the extent that when Andy's budget threatened his appearance marketing services manager Darryl Still provided him and his wife Caroline with accommodation at his home.

Andy started developing Midigrd while taking an electronics degree at York University. It showed such potential that he was allowed to stay on to complete it.

Caroline has had a long interest in music therapy and she has now joined Andy, taking the product out to hospitals, centres for the disabled and schools.

"There is great potential for severely disabled people to make music", she said. "Using the mouse there is huge response for very little physical input".

Shedding light in the dark

KEN Browning of Power Computing chose to put people in the dark to shed light on his products. Blacking out part of his stand to make the Power Theatre, he packed in 30 at a time to give presentations on new products Mouse Music, Quantum Paint 2, Campus Draft and others.

Previewed on the Tynesoft stand and on sale shortly after the show were its new offerings, Circus Games and Superman. Selling well was Tynesoft's £24.95 ST Compilation mega pack including Winter Olympiad, Plutos, Mousetrap, Frostbyte, Seconds Out and Blood Fever.

Top of the class

FORMER primary school teacher Robin Kimberley used his classroom experience to launch into educational software that is now outselling its competitors.

Soft Stuff is a gamble that has certainly paid off for Robin who also used his five-year-old son Thomas as in-house market research.

Aimed at 5 to 11-year-olds, Spellbook and Things To Do With Words were destined to go from the show into many Christmas stockings. Robin is now working on Things To Do With Numbers.

Workshop check

A NEW and popular feature of the show was the games workshop where budding authors were invited to bring their programs to be assessed by the UK's leading software houses.

The workshop also included a full programme of talks on games making from John Symes of Microdeal, Jeff Minter of Llamasoft, Chris Payne and Peter Holme of Mandarin, Tony Rossini of Audio Visual Research and Colin Courtney of Tynesoft.

One visitor even travelled from Amsterdam to have his game assessed.

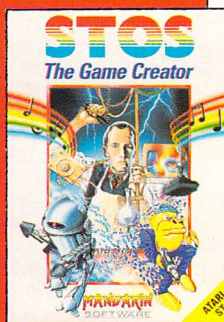
ST games

contest

THE first national award for games writers using an Atari ST was announced at the start of the show with a champagne Press breakfast. Sponsored by Mandarin Software, it offers a cash prize of £5,000 to the winner, making it the most valuable contest of its type in the UK software entertainments industry.

The Atari/STOS Games Writer of the Year Award is open to both professional and amateur authors with the stipulation that entrants must develop their program primarily using STOS, the games creator.

Entries will be accepted up to 10 days before the next Atari Show in the spring.



Queen calls

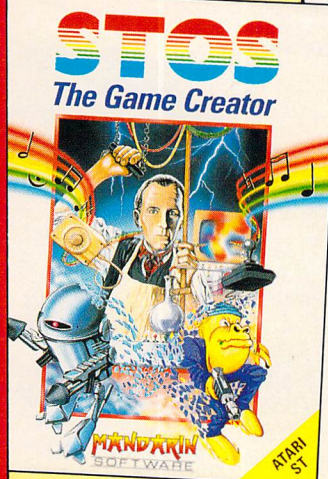
BRIAN May, guitarist with rock band Queen, turned up at the show on Saturday afternoon with his 10 year old son Jimmy who owns an ST.

Jimmy was keen to see the new games on offer but Brian made a beeline straight for the Atari music stand where expert keyboard player Colin Gay was entertaining visitors with an ST acting as his backing group.



EARN £5,000 CASH

... in the STOS
Gameswriter of
the Year Award



ST owners around the world are using STOS to create a galaxy of new games – and now there's a fabulous opportunity to profit from those exciting endeavours.

The writer of the most commercially viable game submitted by Tuesday, June 13, 1989 (10 days before the Atari Computer Show at which the winner will be awarded) 1989 will receive £5,000 in advance royalties and the title will be marketed worldwide by Mandarin Software.

We are looking for an exciting, original idea with an emphasis on gameplay. Graphics are secondary and, if necessary, a professional graphic artist will enhance the visual aspect of the winning title.

Rules of the contest

- The game must be written in STOS Basic but may include new machine-code extensions or routines occupying no more than 30k.
- The game must take up no more than three discs and run on an Atari 520ST, but may include extra parts which require one megabyte of memory.
- Copyright for the winning game will belong to Mandarin who will market the software. A royalty will be paid for every copy sold, and royalties will also be paid if the game is converted to other formats.
- An advance and royalty will be paid for any other top games received which are suitable for release.
- In the unlikely event that no commercially viable game is received the money will be added to the cash prize for the following year's award.
- The award is not open to the staff at Mandarin, Europress or Jawx, or their families.

Please include instructions for loading and playing, and put your name and address on EACH disc as well as on all correspondence.

Your discs will be returned free of charge together with suggestions for further improvement so that the game can be refined and resubmitted before the closing date.

Send your discs to:

STOS Gameswriter of the Year Award,
Mandarin Software,
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Adlington Park,
Adlington,
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STOS Maestro will enable you to add a remarkable level of realism to all your games – making them bristle with atmosphere.

Available in two formats:

STOS Maestro – two discs crammed with software and sounds, 40-page manual and an order form for the cartridge.

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WHAT YOU GET:

- Powerful sampling software jam-packed with features
- STOS extension which adds 13 instructions to STOS Basic. EG: Use SAMMUSIC to create tunes with samples
- Sophisticated drum machine with six different samples for you to record and playback realistic drum patterns
- Example programs to show you how to incorporate sampled sounds into your games
- Additional machine code routine for ambitious programmers
- An illustrated user guide with technical appendices

...and graphics galore

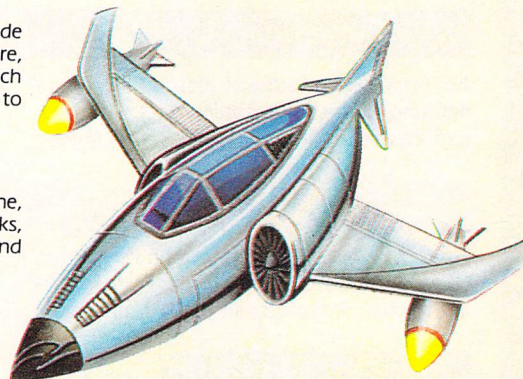


STOS Sprites 600 consists of more than 600 ready-made characters for use in your STOS games. What's more, there's a demonstration program on the disc which shows you how to link the sprite frames together to produce realistic animation.

The disc includes:

Spaceships, explosions, flying saucer, dragon, prop plane, biplane, Spitfire, submarines, hang glider, cars, trucks, motorcycles, skateboarders, wizards, battleships – and much more!

£14.95



TWO FREE DISCS
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Enhanced, compiled
versions of Zoltar +
Orbit using crystal
clear sampled sounds
– all created with
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☐ STOS Maestro Plus (£69.95) (9168)
☐ STOS Sprites 600 (£14.95) (9169)

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SOFTWARE

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☐ Cheque payable to Mandarin Software

☐ Please debit my Access/Visa card no.

Expiry date

Signed _____

Add £2 per program Europe & Eire/£5 Overseas

Name _____

Address _____

Postcode _____

◀ **From Page 17**

characters for animation and the latter, a library of robotic models and component parts for use with CAD 3D 2.

The range is completed by Cyber Sculpt – a 3D sculpting package, and animation program, Cyber Texture.

Also on show from Electric Distribution will be Border Packs, a collection of borders for use in newsletters, flyers and stationery from its Migraph range.

Having its first showing in the UK will be the new That's Write word processor from Holland. The latest in the "That's" series of products, it will be on the Cavendish Distribution stand.

The wysiwyg package adds images that can be

sized to need and its text can be divided into five columns. There are 11 different fonts with the standard program but additional discs provide 1,100 fonts with each available in eight faces.

"This program has become the defacto standard in the Benelux countries in under six months", said its developer Raymond Blaker. "It has taken Germany, Denmark, France and the rest of Europe by storm and looks set to do the same in Britain".

There will also be a continental flavour to the LCL stand which will launch its first ST release, Micro French.

The 24 program course is aimed at beginners up to GCSE level, designed by French teachers and written by French nationals. It includes a graphics adventure game and animated cartoons with real and digitised speech.

Games writers will cash in on STOS

VISITORS to the show will be able to see and vote on the finalists of the STOS Gameswriter of the Year Award. The competition has been running since Christmas and to the winner will go a first prize of £5,000 in advance royalties.

Giving ST users a chance to cash in on their games writing ability helped by STOS games creation packages, the competition has attracted some fascinating entries and first prize will go to the one which is most commercially viable.

Among the entries is Seekers of Fortune by Mike Lovell of Bristol. A role playing adventure similar to Dungeon Master, it's set in a forest with a young adventurer seeking his fortune by searching for the Old Dwarven Kings amid magical ruins. Puzzles, monsters, spiders' webs and other problems are placed in his path.

Pukadu has been written by Darren Ithell of Birkenhead. The idea is to guide your spider around the screen dissolving squares without isolating yourself to a single square.

Cartoon Capers comes from Simon Cook of Manchester. It's a beat-'em-up featuring characters Judo Jake and Karate Kat. With a cartoon feel to the graphics, this game is in true Tom and Jerry style with each character trying to get the better of the other.

"We have been looking for exciting and original ideas with the emphasis on gameplay", said Mandarin Software's marketing manager Chris Payne.

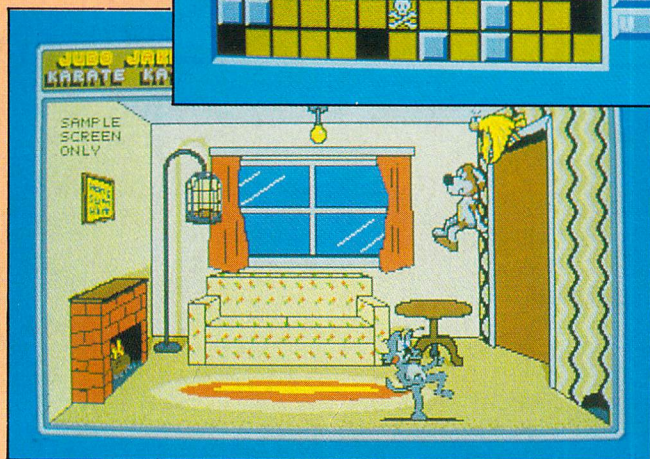
All entries have been written in STOS Basic. They will be displayed at Alexandra Palace on each of the three days of the show with seating so visitors can cast their votes in comfort.



Seekers of Fortune



Pukadu



Cartoon Capers

SINCE its launch last year STOS has become a popular programming language with a growing repertoire of public domain software and a thriving club.

Not content to rest on its laurels Mandarin Software has just released three more STOS related products: STOS Compiler, STOS Sprites 600 and STOS Maestro sound sampler. Here, I examine the first two packages. The sound sampler will be reviewed in next month's *Atari ST User*, in comparison with Software Horizons' Master Sound.

STOS Sprites 600

This package is a collection of over 600 sprites, most of which are animated. A demonstration program utilising many of the sprites gives a good idea of what can be achieved. An instruction card provides additional tips and suggestions for further demonstrations.

Although there are more than 600 images on the disc, many of them form animation sequences and shouldn't really be considered to be individual sprites. This is not made clear on the packaging.

In addition to providing the inspiration to create original sprites, it is of course possible to modify the ones provided or even use them without alteration in your own programs. The wide range of subjects includes various alien spaceships and monsters, aeroplanes and helicopters, submarines and ships, and motor vehicles. My particular

favourites are the animated skateboarder and the old witch in the Fantasy folder.

Many hours have been dedicated to the development of some delightful little sprites and you can gain much from studying them in conjunction with the demonstration program.

Some of the graphics are no less than superb miniature works of art so Sprites 600 is worth adding to your collection. However, it carries a high price tag.

STOS Compiler

Many programmers prefer to use compiled languages such as C and Pascal instead of interpreted ones. Now, with the addition of STOS Compiler to the ever-growing range of STOS products, STOS can be compiled too.

Compiled programs run much faster than their interpreted counterparts because the program source is fully con-

verted into a machine code file prior to execution. Interpreters must take each Basic command and find out what it is supposed to do before executing the relevant code. This, of course, slows things down considerably.

On the other hand, Basic interpreters are generally easier to use and any program alterations can be tested immediately without having to recompile the program – often a lengthy and tedious process.

STOS Basic is unique in that many features like sprite movement and music are performed by machine code routines at high speed during system interrupts. Sometimes this can lead to clashes with the slow interpreted code of the main program resulting in the occasional stuttering movement of otherwise smoothly moving sprites.

Although STOS Basic is no slouch, compilation at least doubles its execution speed to provide a smoother interface with the fast interrupt routines.

STOS Basic Compiler is driven by a Basic accessory which is loaded into the editor and executed in the same manner as other accessories. You can edit a program, compile it, test it, then return to the source program without leaving the STOS editor.

When the compiler accessory is selected it loads the main program from disc and presents you with an attractive icon-driven screen display. You have the option of processing a source file in

Turn to Page 38 ►

STOS gets go-faster stripes

Two new utility additions are put to the test by Mick Randle





Six of the impressive sprites – there are another 594 on the disc!

◀ From Page 37

memory or on disc and a similar option applies to the destination of the compiled code.

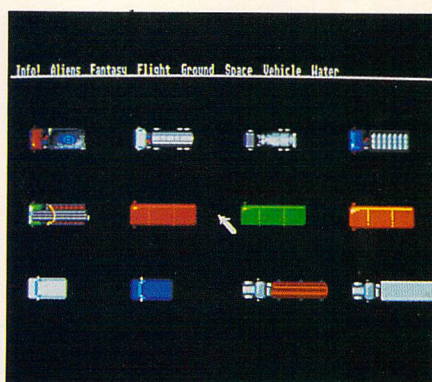
Totally disc-based compilation is the slowest mode of operation with disc access times responsible for a substantial overhead. Memory based compilation is lightning fast, especially if the compiler folder containing the runtime libraries has been stored in a ram disc.

As a bonus a suitable ram disc accessory has been included in the compiler package. Its size can be set and at power up it can also automatically load the contents of a specified folder from the boot disc.

Incidentally the ram disc operates equally well in the Gem desktop environment although the manual doesn't point this out. Neither does it warn that although the ram disc survives a system reset, all data stored in it is lost.

Two types of compiled program may be produced. The Gem option creates a stand-alone program which may be executed directly from the Gem desktop.

The Basic option produces a much shorter program which runs from within



A demonstration program lets you see the sprites in action

STOS. It's shorter because it makes use of the memory-resident routines already installed, whereas the Gem version must include those routines within itself.

A further option allows you to define the Gem system defaults at runtime. Although most of the selections can be overridden by program statements, a more professional appearance can be gained by initialising them from the Option menu.

Before the compiler can be used, a Basic extension must be added to the STOS folder. An installation program handles the chore for you and upgrades your Basic to version 2.4 at the same time. The panel outlines the upgrade.

Although the compiler includes several options, three further Basic commands are provided to enable fine tuning from within the Basic program. These are ignored when the program is run in interpreted mode which avoids the need to prepare different versions of the program.

Quite often, compilers place restrictions on the programmer with many valid interpreted commands being disallowed. This one is remarkably tolerant and will compile almost all statements.

STOS Basic upgrade speeds calculations

One weakness of STOS is the relatively slow execution of the floating point routines. This is perhaps due to the implementation of highly accurate 16-digit precision code, as specified by the IEEE standard.

As this degree of accuracy is rarely required, a replacement floating point package has been provided with STOS Compiler. Although only accurate to seven significant digits, it executes calculations at least twice as quickly, with trigonometric functions improving by a factor of 30.

However, it is a shame that the new Basic cannot handle both single and double precision floating point numbers.

Not only has the floating point problem been attended to, but the lan-

guage has also been updated to version 2.4 while retaining full compatibility with existing programs, provided that they don't rely on the old floating point package.

A utility program is provided which converts your existing version of STOS to the latest specification. A second utility may be used to help modify any programs requiring floating point conversion.

A disc format utility, written as an accessory, enables formatting to be carried out from within STOS rather than having to resort to the Gem desktop.

Written in STOS Basic, the source code may be customised and incorporated into your own programs. A very useful little program.

There are, however, two main restrictions which may involve partial program rewrites or a change in programming style. Array DIM statements must physically appear in the listing before the arrays are used, rather than in an initialisation subroutine at the end of the program. This is not too great a hardship as it only involves the relocation of existing code.

The other restriction is potentially more awkward and may involve the development of new algorithms. Although variable and computed line numbers are allowed in statements like GOTO and RESTORE, they are forbidden with ON ... GOTO and ON ... GOSUB. These restrictions are irritating, but don't significantly detract from the compiler's usefulness.

The slim manual, although containing a few spelling and typesetting errors, maintains the standards expected from STOS. It contains detailed installation, operational and troubleshooting instructions. The tutorial chapter is particularly useful.

Not much to complain about then, but much to praise in this superb product which deserves to be part of every STOS system. Of course, a working program is one of the best demonstrations of a compiler's capabilities and you'll find that the compiler will dramatically speed up all your games.

FACT FILE

Product: STOS Sprites 600

Price: £14.95

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

Tel: 0625 878888

POINTS FOR:

A vast array of superbly drawn sprites ready to use in your own programs.

AGAINST:

A bit expensive for just a collection of sprites.

FACT FILE

Product: STOS Compiler

Price: £19.95

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

Tel: 0625 878888

POINTS FOR:

Easy to use. Improves the performance of your programs. Upgrades STOS Basic to v2.4.

AGAINST:

A couple of commands aren't supported so some rewriting may be necessary.



Sample some sound advice

Roland Waddilove and Mick Randle look at two new samplers aimed at games programmers — one budget, one full price.

MANY commercial games are enhanced by the addition of digitised sound effects. Not only are loading screens frequently accompanied by real music — as opposed to that the computer has generated — but also zaps, bangs, crashes and even real screams heighten the tension and excitement of the action during gameplay.

Sound samplers have been rather thin on the ground in the past, but with the release of Software Horizons' Master Sound and Mandarin's STOS Maestro the market is rapidly expanding. Although both samplers are basically the same, they are aimed at different sectors of the market. STOS Maestro at £69.95 is targeted, as you might guess, at STOS users. On the other hand, Software Horizons' Master Sound at £34.95 is a budget product which has a more general appeal.

Master Sound

Software Horizons provides you with a cartridge to plug into the ST's cartridge port, a single sided disc of software and demonstrations and a 14 page manual. It will work on any ST — the more memory you have the longer the samples you can record — but you must have a colour TV or monitor, as the software runs in low resolution.

After displaying a title screen you are taken to the main edit screen shown in Figure 1. The large window at the top shows the waveform of the sample, an oscilloscope in the bottom right-hand corner displays the recording level and the rest of the screen is taken up by button icons.

Plug a cassette recorder into the cartridge via a lead and standard 3.5mm jack plug, click on REC; and Master Sound the on screen cassette recorder-like whatever is playing. When it has finished the on-screen cassette recorder-like controls under the sample window can be used to replay the sound.

The buttons labelled 05Kh, 7.5Kh, 10Kh, 15Kh and 20Kh set the record and replay sample speed. The faster the record sampling speed the better quality is the sound when replayed. The snag is that the faster speed eats up memory — You'll run out of it in seconds on a 520ST, so you must compromise between quality and quantity.

You can record at one speed and replay at another to create interesting sound effects. A Compress button will squash a sample into half its original space and, as a side effect, half its replay speed. Sampling at 20kHz and compressing down to 5kHz often results in a better sound than a straight 5kHz sample.

A spectrum analyser can be used to monitor the sound level of the signal being input.

Load and Save buttons perform as expected. You can also cut and paste,

copy and overlay one sample on top of another. You can reverse all or part of the sample and fade in or out. The overall volume can be increased too.

You can zoom in on the sample to examine small sections in detail, and scroll the display left or right. Two buttons allow you to jump to either end of the sample without having to search for it.

The most exciting part for me is the sequencer. On clicking on the SEQ button the panels at the bottom of the screen are scrolled out of view and are replaced by a new set of controls. Load several samples into memory and then enter the sequencer. The samples can be cut and then pasted on to the 18 keys on the numeric keypad. Hitting a key will then play the assigned sample.

You can record yourself playing the samples on the keypad and replay them or save to disc. It's great fun to use, and with up to 15 minutes' of recording space, you can create quite a substantial performance.

The disc contains examples showing how to replay the sampled sounds from within a Basic program. HiSoft, GFA, ST and STOS Basics are fully covered and I found it relatively easy to adapt them to my own programs.

STOS Maestro Plus

Maestro adds 19 new commands to STOS by way of a Basic extension and provides a disc containing more than 50 sound samples. Maestro Plus adds this and a plug-in cartridge too. As the Maestro Plus includes a cartridge – a costly item to manufacture – this is the most expensive STOS product to date.

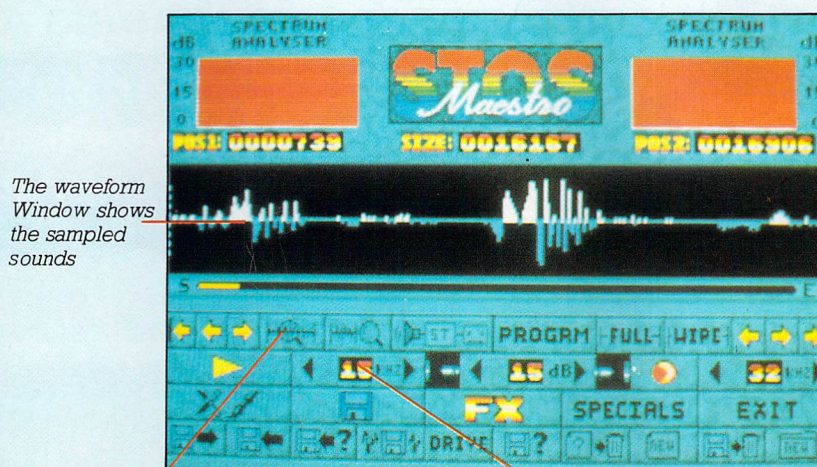
It is important to note that the cartridge is not needed to replay the samples provided using STOS, but it is essential if you wish to create your own. Maestro owners are provided with a card which lets them buy the cartridge later with no financial disadvantage.

The manual is well written and clearly describes the concept of sound sampling and its use from within STOS Basic with many example programs.

The Maestro cartridge plugs into the cartridge port and is fitted with a phono socket into which a sound source is plugged. It is recommended that you use the headphone socket provided on most audio equipment as this allows the volume and tone to be set before sounds are fed into the sampler cartridge.

Maestro's attractive display features icons and scrolling menus with most functions being mouse operated. Some of the icons are initially confusing, but before long everything seems to click and the manual can be left in the drawer.

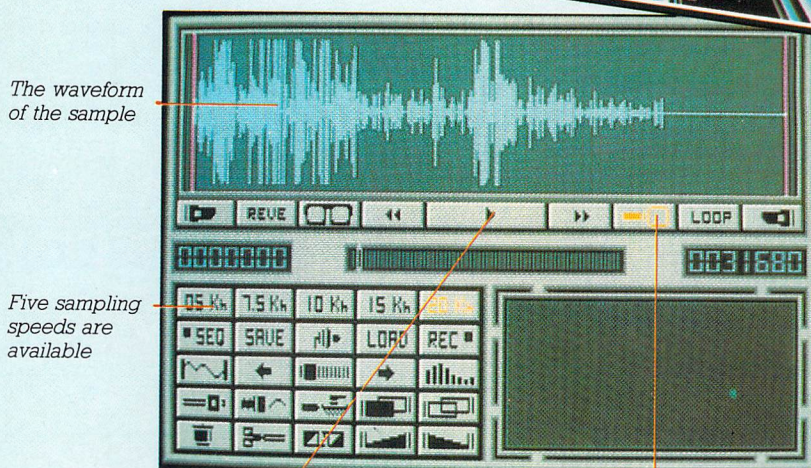
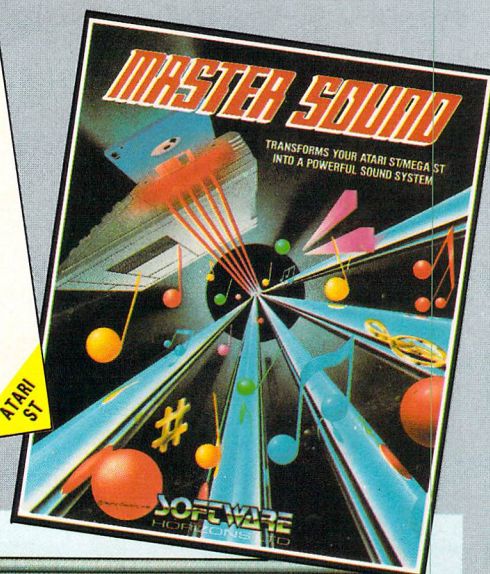
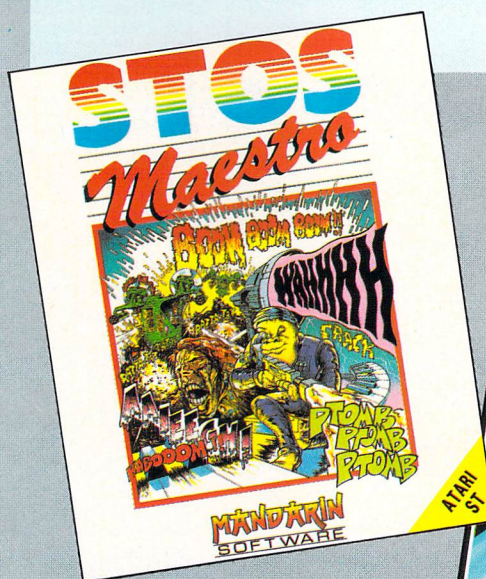
At the top of the screen are a pair of spectrum analysers which act like the recording meters of a tape recorder.



The waveform Window shows the sampled sounds

Clicking here magnifies the waveform

Sampling rates range from 5KHz to 32kHz in 1kHz steps



The waveform of the sample

Five sampling speeds are available

Cassette recorder-like controls are user friendly

Clicking on this button magnifies the waveform

◀ From Page 45

Adjust your audio gear's volume control to achieve maximum sound levels with minimum distortion.

Underneath the analysers is the buffer size indicator which shows the memory available for sample storage. A 1040ST will have about 700k free, but a 520ST will be restricted to about 220k, which offers only seven seconds of sample time at the maximum sample rate of 32kHz. Lower sample rates provide longer running times.

A central window shows the currently stored sample's waveform and it can be made to magnify a small section by moving the left and right boundary markers with the mouse.

A variety of functions are available to customise the sound. You can magnify the window several times for really accurate work and it is possible to add several types of echo, filtering, fades and amplification.

Flexible replay options allow normal, reversed and continuous play, and word processor-like functions offer cut and paste, insert and merge, both from the memory buffer and from disc.

Record and replay sample rates are variable from 5kHz to 32kHz although STOS Basic will only replay at a maximum of 22kHz. A Pack function compresses a sample to about half its original size to save on memory.

An interesting feature is Maestro's oversampling process which automatically operates when using low sample rates. This is a technique employed in CD equipment which helps to produce better quality sound than would normally be possible.

Maestro is pleasantly unconcerned about what it reads from disc. Tell it to load a previously saved sample and it will happily read any file and convert it to sound.

As well as being able to read files produced by other samplers, there is nothing to stop you browsing through commercial games and borrowing their sound effects.

Turning to Maestro's Basic interface, an installation program automatically adds the Basic extension to the STOS folder and the Compiler folder too if you have it. An accessory program is used to create a memory bank containing up to 32 different samples; alternatively, individual samples may be stored in strings.

Not surprisingly, some of the commands are similar to the existing music commands, but additional features include the ability to change the replay rate and play samples backwards, forwards, or in continuous loops.

The manual adopts a tutorial approach to explaining the new Basic commands, and also offers suggestions for writing your own sampler software. Like the music commands, STOS replays samples during interrupts and some impressive

What is a sound sampler?

A sound sampler is a device which records sounds using a computer. By monitoring the ear or headphone output signal of a tape recorder the computer makes many instantaneous recordings each second and stores them in sequence. They are later re-played via the ST's sound chip.

Although these recordings are performed extremely quickly, there are gaps between them which can detract from the quality of the recording. By increasing the recording rate – the sample rate – the computer has more data and smaller gaps, which produces a more accurate replica of the original sound.

The sample rate is described in terms of the number of thousands of samples per second, or kilohertz for short, with 5kHz being slow and 32kHz being quick. Unfortunately, high sample rates produce vast amounts of

data which consumes memory like wildfire. As a compromise, low rates of around 5 to 10kHz are usually used for game sound effects.

Records and tapes are an obvious source of samples, but don't forget the copyright laws. Compact discs offer excellent quality, but their wide dynamic range may encourage hiss, whereas vinyl's more limited dynamics may actually help to produce a better sample.

An often neglected source is VHF/FM radio. Even inexpensive radios use ICs nowadays and though they may have poor loudspeakers, sound quality can be quite good through the headphone socket.

If your cassette recorder has a microphone socket, why not use it? And don't forget the PD Libraries which offer an increasing number of sound samples.

effects can be achieved, as shown by the demonstration programs.

The drum machine is an excellent program which consists of a picture of a drummer sitting at his kit waiting for you to press a key. When you do, he strikes the appropriate instrument and digitised sound comes booming through the monitor speaker.

Samples made with Maestro are of good quality and on a par with other systems. However, many prospective buyers will fail to recognise its qualities solely because it is advertised as a STOS utility.

Although Maestro could be considered to be a luxury, it cannot be denied that it is great fun. Well chosen sound effects can add considerably to the atmosphere and enjoyment of a game and Maestro is tailor-made for the job. Just beware of memory limitations and don't expect to digitise Beethoven's Fifth.

Conclusion

Master Sound is a superb, easy-to-use sampler which produces good quality output. The software has a wide range of features, plus an entertaining sequencer for creating soundtracks. Several examples demonstrate how to replay samples from within your own Basic programs – STOS included.

Maestro has several extra sound manipulation facilities not found in Master Sound, but the software is initially slightly confusing to use. You soon get the hang of it though. Many ready-to-use samples are provided with the package. For ease of use within STOS programs Maestro gains full marks, but no help at all is given to users of other versions of Basic.

To sum up: If you don't use STOS,

Master Sound is the clear winner. It's half the price and you won't miss Maestro's extra features. If you already program with STOS the choice is more difficult. Master Sound is quite easy to use with STOS, but the extra features and the tailor-made commands of Maestro may well tip the balance in its favour.

FACT FILE

Product: Master Sound
Price: £34.95
Supplier: Software Horizons, 5 Oakleigh Mews, London N20 9QH.
Tel: 01-446 9141

POINTS FOR:

Inexpensive. Easy to use. Interesting sequencer. Supports all languages.

AGAINST:

Only four sample rates.

FACT FILE

Product: STOS Maestro Plus
Price: £69.95
Supplier: Mandarin, Europa House, Adlington Park, Adlington, Macclesfield SK10 4NP.
Tel: 0625 878888

POINTS FOR:

Powerful and flexible with many features. Tailor-made for STOS.

AGAINST:

Expensive. No support for other languages.

Design the game of your dreams

STOS – The Game Creator is the number one best-selling package which has enabled thousands of ST owners to create stunning games quickly and easily.

The package comprises three discs containing STOS Basic, sprite editor, room designer, character set editor, icon editor, music editor, screen compacter and three superb games; a 280-page manual packed with examples and a quick reference card.

Whether you've never written a game before, or you're a competent programmer, you'll find that STOS is the perfect way to design your own entertainment or educational software. In addition you are



free to market your masterpiece as you like.

It's no wonder that the top-selling Fun School 2 and Again Again's popular Gilbert game were written in STOS—it's the perfect development package for your Atari ST.

"STOS is amazing" – ST/Amiga Format
"Simply irresistible. It's a must." – Computer Gamesweek

"Outstanding value" – Popular Computing Weekly

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STOS – The Game Creator
£29.95



Turbo charge your STOS programs so they run up to twice as fast as before. Create standalone PRG files which you can select from Gem—and compile the sprite editor so you can create bigger sprite files. There's even a disc format accessory and a powerful ram disc. Comes with a clearly-written 21-page manual.

STOS Compiler
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More than 600 ready-made characters for use in your STOS games: Spaceships, explosions, flying saucer, missile silos, Spitfire, prop plane, biplane, submarines, battleships, wizard, goblin, dragon, hang glider, cars, trucks, motorcycles, Porsche, skateboarder and many more.

STOS Sprites 600
£14.95



Add dramatic sampled sound to your games and make them bristle with atmosphere. Use any of the 50+ sound effects included or record your own (speech, sounds from TV, video, cassette, and so on). Provides 13 new instructions for STOS.

STOS Maestro (two discs)
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A very special disc containing STOS Paint (a feature-packed art package which you can use from within STOS), and a brand new game from a top STOS programmer.

PLUS: A 20-page issue of the STOS Club Newsletter that's crammed with hints and tips, letters, articles and a large selection of public domain games and educational programs and demos written by STOS enthusiasts.

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- ☐ STOS Sprites 600 (£14.95) (9426)
- ☒ STOS Club Newsletter (FREE!)
- ☒ STOS Paint and game (FREE!)

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MANDARIN
SOFTWARE



Level 9 ... going H.U.G.E.

Level 9 is dropping adventure games

AUTHOR of more than 15 top selling adventure games, Level 9 Computing has announced it is to pull out of that market.

Latest release Scapeghost will be the last adventure from Level 9 (0934 814450), which is moving on to produce arcade style games and conversions using its programming system H.U.G.E. (wHolly Universal Games Engine).

"People have been declaring the death of the adventure market for years", said designer Peter Austin. "We feel that Scapeghost is an appropriate final release".

In the game players control

deceased cop In-spectre Alan Chance and use his ghostly powers to clear his name of crimes he didn't commit.

It costs £19.95.

"H.U.G.E. is a good name for the new Level 9 system", said managing director Mike Austin. "It includes 165,000 lines of code and has taken 10 man years to develop.

"It represents a number of major advances for games software and we are confident that the acclaim that Level 9 has received in the past for its high quality adventures will be continue in the more arcade-orientated environment".

Now tune in for teletext

MICROTEXT (0705 595694) has produced a teletext adaptor for the Atari ST. By plugging in a TV aerial, users can access any of the hundreds of pages available on Ceefax or Oracle.

Other facilities include saving pages to disc as a compact 1k file or in Degas format for later reloading into a paint package and printing out pages either in colour, grey scale or as pure text.

The system is also programmable to capture a sequence of pages and save them to disc or print them out automatically. Connection to the computer is via the parallel printer port. A socket is provided on the rear panel for the reconnection of the user's printer, so no ports are lost.

Price £149.

New drives from Cumana

CUMANA has produced two restyled disc drives for Atari users. In new retail packaging, they come in 3.5in and 5.25in formats in slimline casings. Atari 520 and 1040 owners can now choose between the restyled 3.5in CSA 345 and the 5.25in CSA 1000S.

Both have integral power supply and moulded mains plug. Formatted capacity of the 80 track CSA 354 is 720k. The CSA 1000S has 40/80 track switching and 360/720k formatted storage capacity. Cumana drives are available through a national dealer network. For prices ring Cumana on 0483 503121.

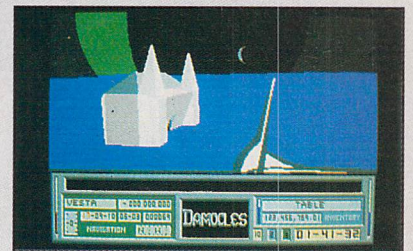
SOFTWARE HOTLINE

LOOKING to the New Year, Domark (01-780 2222) has announced three new games for the ST. Aimed at January release is coin-op conversion Cyberball, a fast and furious American football game where teams of giant Cyborg robots play with a 350lb steel ball packed with high explosive.

Also due in January is Wings of Fury, an airborne shoot-'em-up adventure. Both will cost £19.99.

With no release date yet fixed, Escape from the Planet of the Robot Monsters is the latest Tengen conversion from the new coin-op.

★ ★ ★



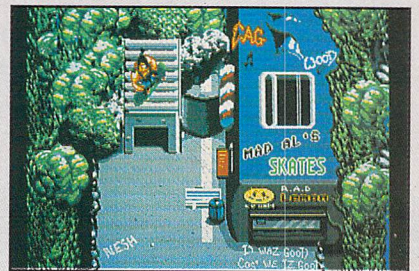
Damocles

PROMISED soon from Novagen (021-449 9516) is Damocles, the sequel to author Paul Woakes' hit Mercenary. Under development for the last two years, the 3D space adventure should be out before Christmas at a price of £24.95.

★ ★ ★

STOS, the games creation package from Mandarin Software (0625 878888) is celebrating two more additions to its growing family.

STOS Musician is a powerful, feature packed music editor which brings Midi input into STOS. Games Galore includes four of the most outstanding entries in the STOS



Skate Tribe

Gameswriter of the Year Awards, Skate Tribe, Sky Strike, Mouthtrap, and Yomo. It costs £19.95.

STOS Musician can be held in memory along with the game being programmed. It incorporates more than 100 tunes and jingles which can be modified and used in games: Price £14.95.

COMPUTER SHOPPER SHOW

SPECIAL

COMPUTER SHOPPER SHOW

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Express (stand A1) will be selling a range of 16 bit computers together with software and peripherals.

A number of new titles will be on sale by Computer Manuals (stand S11) which will also be offering damaged books at knockdown prices. Computer Store (stand L13) will be catering for Atari users with a range of blank discs, disc boxes, joysticks and disc drives.

Discount prices will be offered by Conceita Micro Systems (stand J11) which will feature a range of Deskjet printers and well known discs. From Dabs Press (stand K12) there will be a selection of new books in the Dabhand Guide series.

Diamond Computers (stand S25) will have a full range of hardware, software and peripherals for the ST. The keen competition for business which is one of the watchwords of Computer Shopper Show was underlined by Mike Brown from Diamond who would offer no further information for fear of letting the opposition know what brands he will be selling!

A selection of discs, disc storage boxes and Panasonic printers will feature on the Mediaware stand (S5). Dowling Computers (stand S17) will be offering ST machines, peripherals and a range of games and business software.

Star and Panasonic printers, discs, disc boxes and STs will be sold by Ealing Computers (stand B1b).

Equinox Business Systems (stand K3) will

be offering its recently-launched small business accounts package SBA Plus. Written and developed by Equinox, the package is the next up-grade from SBA Xtra, aimed at the maturing small business.

It features flexible invoicing with a product table or free format mode, an involving link with sales ledger and stock control, integrated purchasing links with bought ledger and stock control, complete sales ledger, multi-period VAT, library charts and accounts and the ability to act for more than one company. SBA Plus costs £199.95.

A new range of discs which have software protection built into the shell will feature strongly on the stand of Escroe (A8). Escroe specialises in volume sales of discs ranging from 2.8in to 8in.

Evesham Micros (H16) will be concentrating mainly on hardware including external disc drives for the ST. In addition to stocking ST machines, it will also be selling memory and internal disc drive upgrades.

A wide range of discs will be the speciality of First Stop Computer Supplies (stand F7).

Forget-Me-Clock II, a new internal clock card for the ST will be launched by Frontier Software (stand H10). It is supplied with special auto-run software which will set the ST system clock's time and date every time the machine is reset or turned on. A new disc duplication device for the ST will be on offer, allowing up to 32 floppy disc drives to be attached to the ST's floppy disc port.

The recently launched version of Frontier's upgradable version of its best selling Xtra-Ram upgrade for the ST will also be offered. Allowing two upgrade options, it will expand any 0.5Mb keyboard based ST to 1Mb and then can be upgraded again to boost the ST to 2.5Mb. It will also expand any 1Mb ST to 2.5Mb and the Mega 2ST to 4Mb.

"The new expandable Xtra-Ram is unique to the UK and we expect it to sell well in the marketplace during the autumn and winter months, particularly at the Computer Shopper Show", said Martin Walsh, Frontier's marketing manager.

Xtra-Ram unpopulated costs £69.95, with ram chips for upgrade to 1Mb £99.95 and with chips for upgrade of keyboard ST to 2.5Mb or Mega 2ST to 4Mb £299.95.

Graduate Computing (stand L9) will be choosing Computer Shopper Show to launch its first education package to cover the new national curriculum. The mathematics program has four key stages covering children from 5 to 16 and aims to coach them through all aspects of the new curriculum. It costs £20.

On the FM Computer Supplies (stand L18) visitors will be treated to what is billed as the largest collection of storage boxes in the country. Stands, copy holders and replacement mice for a wide range of computers will also be on sale at very competitive prices, said FM boss John Taylor.

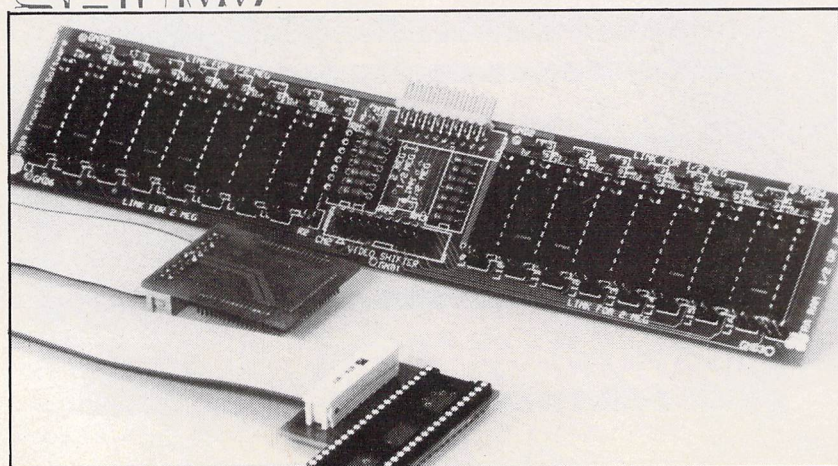
HSV Computer Services (stand S9) will be offering a range of discs, ribbons and accessories and Hewson Consultants (stand M7) will be displaying its wide range of games software.

A selection of software including games from US Gold, Kyx and Gremlin will be on offer from In Store Marketing (stand M15) and Kador (stand M4) will have its range of seal'n'type protective keyboard covers, together with the Keytops series of stick-on labels for converting keyboards to other languages. The company will also be giving details of its courses on re-charging laser cartridges.

Kempston Data (H2/H3) will be selling its Daatascan package for the ST. A hand-held scanner with easy-to-use software, with it



Mandarin Software's STOS game creator



Frontier Software's Xtra-Ram

images can be scanned from newspapers and photographs then imported into DTP and paint packages. Daatascan costs £229.95. Also available from Kempston Data will be Daatafax, the computer-based personal organiser for the ST costing £49.95 and the Kempston disc drive costing £89.95.

Several new products will be available from Kuma Software (stand M6). Polyfyer is an open format relational database for the ST and K-Spread 4 is Kuma's presentation spreadsheet package. Kuma is offering a special VIP deal to owners whereby they can upgrade to K-Spread 3 plus K-Graph 3 for £50 by returning their master disc. It is also extending its Better English at a Better Price promotion on K-Roget until December 31.

K-Roget is a computerised version of Longmans Pocket Roget's Thesaurus and lets users select the most appropriate word from a database of more than 150,000 words and phrases. The special offer reduces its price from £49.95 to £29.95.

Thingi Computer Supplies (stand M11) will debut Thingi 2 at the Computer Shopper Show. The new document holder is a much enhanced version of Thingi, injection moulded with a special gravity clip allowing documents to be positioned. It costs £8.61.

Among the software on sale at the Llamasoft stand (M17) will be a double pack for the ST featuring Andes Attack and Gridrunner for £19.95.

A range of software, peripherals, disc boxes and joysticks to cover all formats will be available from MCD (stand B12) and the peripheral market will also be served by MD Office Supplies (stands A2 and S15). Main Media (stand B2) will be selling discs, disc boxes and accessories.

Database Publications (stand B6) will have current editions of its five computer titles on sale, including *Atari ST User*, plus back copies

for readers to fill in their collections with issues they may have missed.

Several additions to the STOS games creation family of products from Mandarin Software will be unveiled on stand J18. On offer will be STOS Gamespack, a selection of games written in STOS, Cartoon Capers the winning entry in the recent STOS Gameswriter of the Year Award and STOS Music 100, a music package with 100 tunes. All will cost £19.95.

Magnetic media, data buffers, disc drives and uninterruptable power supply systems will be among the range of computer accessories from Manor Court Supplies (stand G18) and Megaland (stand S7) will be doing good deals on Atari computers.

Memory Expansion Systems will be showing its new high-capacity board for the ST on

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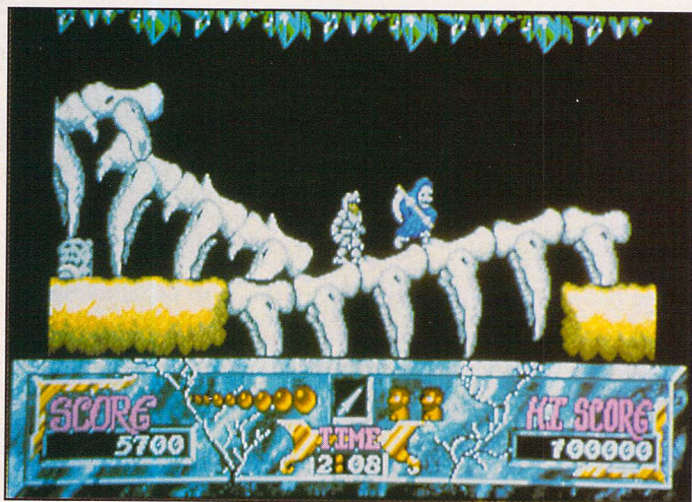
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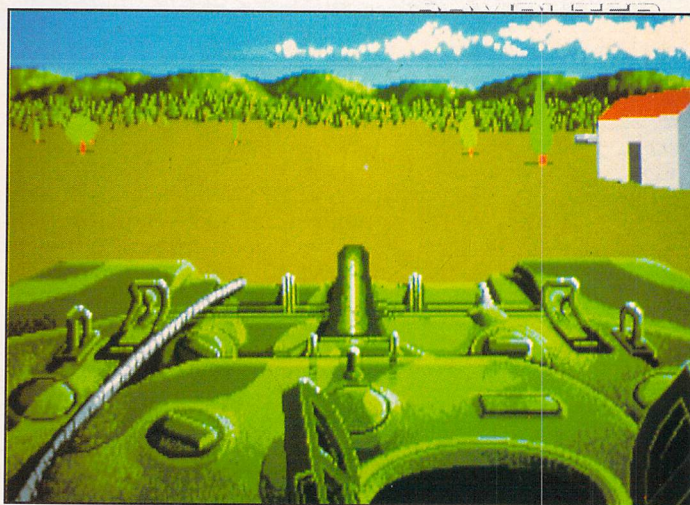
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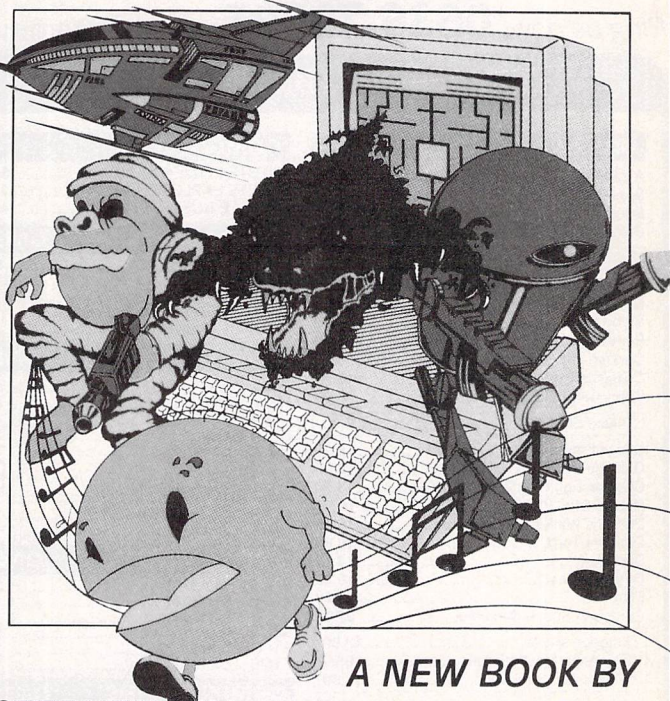


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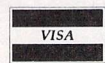
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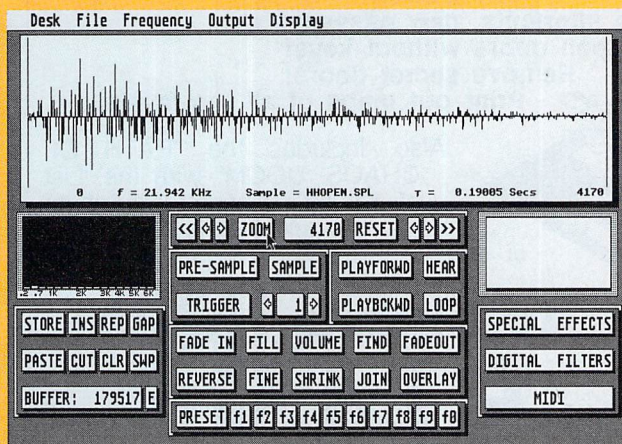
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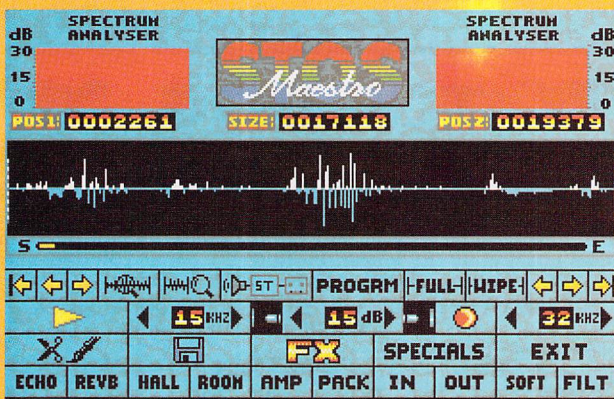
JUKE BOX JARGON

Sampling Rate: Samplers look at the incoming audio signal at regular intervals in order to build up a digital picture. The speed of measurement is known as the sampling rate. ST samplers

can measure at speeds ranging from 4 to 48kHz and the more samples taken in a given period of time, the better the quality. CDs are recorded with a sample rate of 44.1kHz.

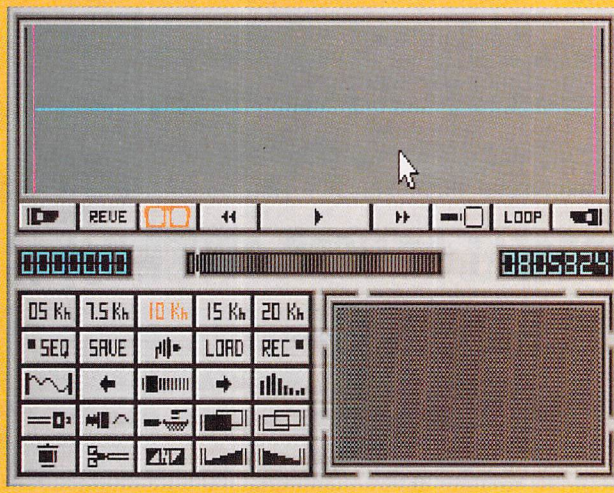


The main edit page in Replay Professional showing sample data in the window at the top of the screen



STOS Maestro is reasonably priced, easy-to-use and has many tools for editing and modifying the sample data

Master Sound's claim to fame is that it's the cheapest sampler on the market



Voice conversion and STE incompatibility, Maestro Waugh takes the floor once again...

Daton Music Services which produces music on disk in Midi format has changed its name to Hands On Midi Software (Tel: 0705 452628) and has added several new titles to its range.

Audio Visual Research (Tel: 0582 457348), developer of ST Replay, has announced a new mega sampler for the ST. Bearing the snappy name of the AVR Pro-Series 12, the device features 12-bit sampling and the ability to read ADAP 16-bit sampler files. The package includes Drumbeat, a MIDI-compatible sampling drum machine program. There's also MIDIPlay, which lets you play up to 128 samples (memory permitting!) from your MIDI keyboard with up to four-note polyphony.

Hybrid Arts UK, the UK distributors of Hybrid Arts music software (which originates in America) is to cease trading. A new distributor is being sought.

If you're one of the fortunate musicians with a new Yamaha SY77 synth and have a pile of DX7 voices lying around gathering dust, you could be interested in a DX7-to-SY77 voice conversion program from German company Geerdes. It costs £39 and is being distributed in the UK by Newtronic (Tel: 081 659 0744). It includes 1000 DX sounds.

Also from Newtronic and by Geerdes, is a new budget-priced sequencer. 1st Track is simple to use, has 24 tracks and comes complete with song files on disk.

Music DTP, the desktop music publishing program from Take Control (Tel: 021 706 6085), is being updated to support MIDI. The new version features real time MIDI input, play-back of scores and can import MIDI files. The program also supports graphic files in bit image (.IMG) and metafile (.GEM) format.

BUDGET SAMPLERS

Craig Hodges of Leigh-on-Sea wants to know about low-cost samplers. The cheapest sampler is free - that's right! It's a demo copy of ST Replay 4 in the public domain. The program's available from Softville on disk MUS34. Check out disks MUS18 and MUS38 which contain lots of sampled sounds and MUS19 which contains sampled pieces of music.

While the software will enable you to load, manipulate and play the samples, to make your own, you'll need some hardware. Each of the following samplers come with their own hardware and software.

Cheapest is Master Sound (£29.95), followed by STOS Maestro Plus (£59.95). Then there's Replay (£69.95) and Replay Professional (£114.95) - remember you get what you pay for.

If you want to incorporate samples in STOS programs, then STOS Maestro is the one to look for. Otherwise buy what your budget will stretch to. If you get hooked, Softville disk MUS47 contains a converter program to convert samples between the various formats.

Most sampler software will read in any file from disk and display it in digital form. Programs and text files probably look - and sound - like garbage, but try a few anyway.

Look at the files on games disks and see if you can spot any samples. You should be able to load those into sampler software and play them back too.

Softville is at Unit 5, Stratfield Park, Elettra Avenue, Waterlooville, Hants, PO7 7XN. Tel: 0705 266509. Cheapest disk can be had for a couple of clams depending upon the number bought. Contact Softville for details and a PD catalogue.

STE BLUES

L. Cowieson of Dunoon is thinking about buying an STE for music, but is a little worried about incompatibility problems. However, most of these are associated with games. Sometimes programmers are tempted to take a few short-cuts or adopt 'illegal' or 'dirty' programming methods in order to get more performance out of a machine. This is fine until Atari changes the hardware or software as with the STE, then the programs won't work.

Most of the major music software programs run on an STE with perhaps only the odd hiccup or two. Programs updated regularly - the major ones - should have had any problems with compatibility sorted out in the latest release.

Product: STOS Master Paint
Supplier: Stallion Software
Telephone: 0752 569781
Price: £14.95
Configuration: All STs, colour only

STOS Master Paint is a new colour-only paint package from Stallion Software, written in STOS Basic. The program is designed to be run either from the Desktop as a normal program, or loaded as an accessory in STOS Basic.

Master Paint provides all the usual features you'd expect from a modern paint program, such as line and freehand drawing tools, and ellipses, circles and boxes which can either be filled or unfilled.

Area fill and paint brush tools are also included, with most of the drawing tools being available from within the three level zoom facility. A variety of nozzle, line shapes and sizes are user selectable, although you cannot create a custom brush or fill pattern.

Pictures can be enlarged or reduced using special tools, and also flipped either horizontally or vertically using the mirror tool. Any area of the screen can be selected for a cut and paste operation.

A separate screen displays all 512

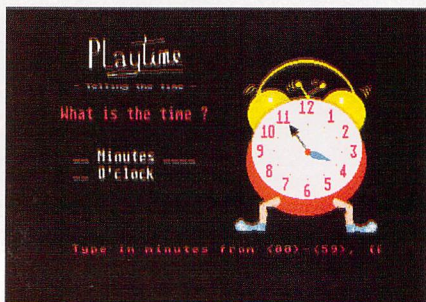


Product: Playtime
Supplier: Top Notch Software
Telephone: We're still trying to find it
Price: £19.95
Configuration: All STs, colour only

Playtime is a new package from Top Notch Software, aimed at teaching children aged between four and eight, to tell the time. The program comes on a single sided disk.

Playtime presents a simple menu of eight choices, mostly to enable an adult to control the type of questions the program asks. These include minutes to and past the hour, as well as half and quarter hours. Playtime however, doesn't teach the difference between AM and PM.

There are two games, both of which use the same picture of a clock. The program runs in low resolution, using six colours which are bright and garish – but the kids will love it. Game one involves telling the time from the hands of the clock. The child



ONE FROM THE 'ART

Proof that STOS isn't limited to games writers, Master Paint is a cheap introduction to electronic art. Simon Lawson puts paintbrush to pixel...

colours from the ST's palette and they can be selected with a single click. Up to 100 user definable palettes of 16 colours each can be created. Master Paint includes a 512 colour drawing facility, but this is cumbersome as it involves drawing your picture first in 16 colours, and then changing the palette of each line individually, using a separate screen.

The manual for Master Paint is a serious disappointment, which lets down an otherwise capable package. It's a poorly produced DTP document containing the bare minimum of information and it looks like it was printed on a 9-pin dot matrix printer. A separate insert contains corrections to the main manual as well as a registration card.

Master Paint doesn't offer anything radically new in the painting arena. The 512 colour mode is more of a gimmick because of the amount of time it takes to create a picture, but it might be useful for occasional work. STOS Paint offers little more than

Neochrome for the average user, but if you have STOS, the ability to load it as an accessory could make it worth the price.

THE BOTTOM LINE

Features: Good range of features, but it's not helped by the awkward 512 colour mode. There's no support for animation or the STE's enhanced colour palette.

Ease of use: The poor instruction manual lets Master Paint down, and some of the keys used are difficult to remember. Icons are bright and clear.

Features
Excellent
Good
Average
Bad
Appalling

Ease of use
Excellent
Good
Average
Bad
Appalling

WORKERS' PLAYTIME

Simon Lawson goes back to school with Top Notch's Playtime...

has three chances to get the answer right.

Game two lets the child set the hands of the clock from a time which is displayed on screen. Cursor keys must be used, and the game is unnecessarily complex and repetitive. Accompanying the program is terrible synthesized speech and a dire tune. Unfortunately the nature of the games gives no incentive for the child to remain interested.

Playtime can store up to 24 sets of records on children and print out progress reports. There's no facility with which to analyse performance or suggest areas in which more work might be needed.

Playtime provides only two simple games that would be hard-pushed to hold a child's interest. Graphics for the program are poor and sound quality is appalling.

THE BOTTOM LINE

Features: Only two games, both use the same screen and each is boring and repetitive.

Ease of use: There's no attempt to use the mouse in order to make the program easier to use.

Features
Excellent
Good
Average
Bad
Appalling

Ease of use
Excellent
Good
Average
Bad
Appalling



GAMES GALORE

Christmas comes but once a year, so why not enjoy yourself while you're away from the stress of work or school? In last month's column the best Space Invader-type games were rounded up, and by now you're most probably blasting 'em to bits.

This month we continue on the theme of games but spread our wings to look at other types of the colourful programs, which you only dare get out of your disk box at this time of year.

VSQUARE

Space Invaders returned for another go, along with Outrun and in fact so did almost all popular games. So why not try a variation on Tetris, probably last year's most addictive game?

The original hit has shapes falling down the screen, to be built in straight lines at the bottom. As each row is completed it falls away from the growing wall and if the shapes ever reach the top of the screen, it's game over.

In Vsquare the shapes come onto the screen from the left, right, top or bottom and gather around a square block in the centre of the play area. The idea behind this version is the same as its older brother – build complete lines.

Like the original, the blocks can be rotated before coming to rest, and the game will be over when no more shapes will fit on the screen. This fun variation of an already popular game comes from Softville and can be found on its game disk 103.



WHERE TO GET IT...

Dark Star Public Domain, 34 Victoria Avenue, Porthcawl, Mid Glamorgan CF36 3HG.

Exmoor Software, Queen Street, Lynton, North Devon EX35 6AQ.

Goodman Enterprises, 16 Conrad Close, Meir Hay Estate, Longton, Stoke-on-Trent ST3 1SW.

Jonathan Lawrence, 76 Sistova Road, London SW12 9QS.

M.T. Software, Greensward House, The Broadway, Totland, Isle of Wight PO39 0BX.

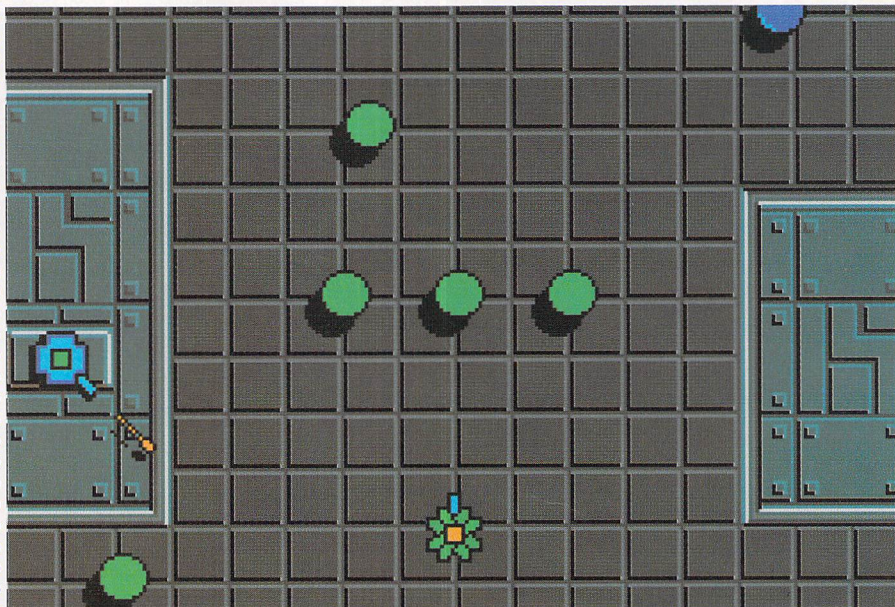
Public Sector, 50 Ripon Road, Stevenage, Hertfordshire SG1 4NA.

Softville, Unit 5, Elettra Avenue, Strafffield Park, Waterlooville, Hampshire PO7 7XN.

The South West Software Library, PO Box 562, Wimbourne, Dorset BH21 2YD.



DIE ALIEN BLOB



Smooth-scrolling shoot-em-up

The Alien Blob from MT Software is a good shoot-em-up to start things rolling. Written in STOS there's nothing new in the play or graphics but even so, it's still addictive and runs smoothly. It's vertically scrolling and colourful. All the aliens are blob-shaped

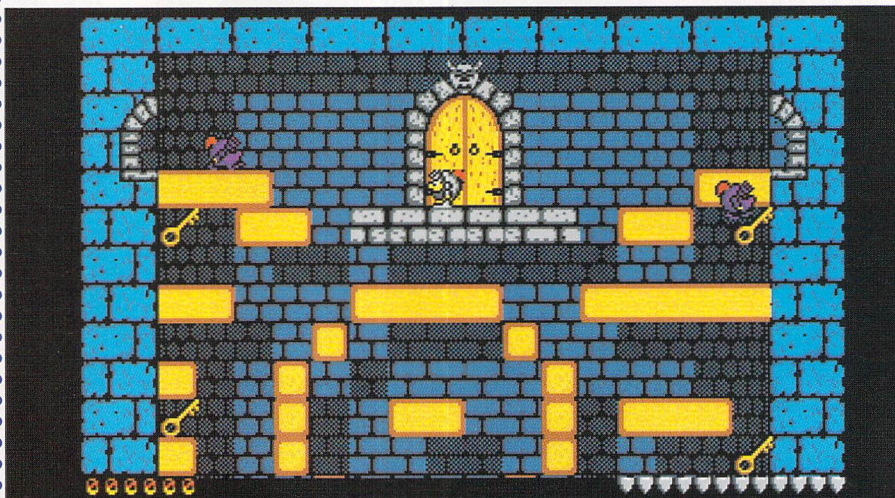
and move down the screen showing bullets in all directions.

As the screen scrolls you'll come across enemy guns along the edges of the play area which should be wiped out before they finish you. Your blob moves left, right, up and down and can be

rotated to fire at various angles.

Other blobs are there just to obstruct you, and some move around the play area. They can't be blown up, but running into them will rid you of a life. Die Alien Blob runs in colour and is played with a joystick.

DRAGON'S TOWER



A good platforms and ladders game

Dragon's Tower is licensed software from Goodman Enterprises. There have been several good commercial platforms and ladders games, and this one is based on the same, but it costs much, much less.

Guiding a knight in armour around the screen you collect

keys hiding in all corners. About 10 keys need to be picked up from the several floors of the castle, and as you go around small nasties hinder your progress.

Once you've killed them all, an axe will be placed near the centre of the play area. Grab it and

keep throwing it like crazy at the red dragons which fly towards you breathing flames.

A final large key will then be put near the door at the top of the screen and once you have it, the doors will open for you to walk through to get to the next screen. Recommended.

Public Sector

Once again John Butters has been keeping his ear to the ground to find out what's been happening in the world of free software

pd

The very best
in free
software

TRY TO TYPE

Nearly everybody uses a computer for some part of their job. Office workers are the most likely to encounter them, but even the least likely of careers demand their use at some time. For example, car mechanics can save a huge amount of time using a small computer to store prices of individual parts and so on.

Typing is taught at most secondary schools, but is often not considered by men, who dismiss it as a subject for the girls – this is utter nonsense! Men are just as likely to need to use a keyboard as women, and there are both commercial and free programs which can assist the improvement of keyboard skills.

Typing Tutor is the best of

the free programs and has been written in STOS. It runs in either colour or glorious black and white.

Although computers and software differ from company to company, one thing which remains constant is the good old QWERTY keyboard, and the first thing Typing Tutor teaches is familiarity with this keyboard layout.

A map of the keyboard is printed in the centre of the screen and three lives are given to the user. Certain keys will be highlighted and it is up to the student to press the corresponding key on their machine. Incorrect entries result in the loss of one life, and points are awarded for speed.

Typing Lessons is the part of the program where a

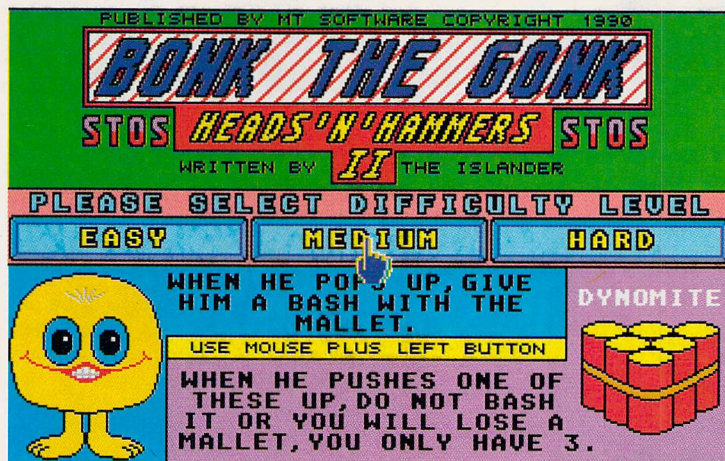
series of characters are printed on-screen. Mainly testing the keys found in a certain area of the keyboard, the letters should be keyed as they appear in the work area. Once the lesson has finished, the student is informed of their typing speed, in words per minute and the number of mistakes made.

A few other options – although less important – turn Typing Tutor into an idea program if you wish to increase your typing speed. Unfortunately, the program doesn't actually teach students which fingers to use for the individual keys – it just helps with practising.

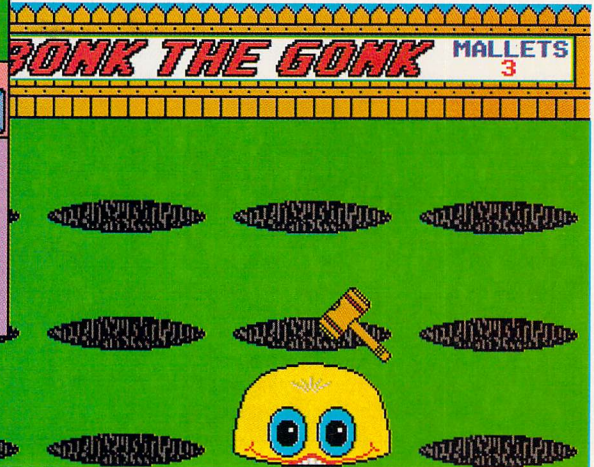
Sounds interesting? Goodman Enterprises can supply the program on disk GD523.



One of the better typing tutors available for the ST. To begin with just learn the keyboard



Bonk the Gonk was written in STOS and is very colourful. There are three difficulty levels to the game: easy, medium or hard



Up to 50 Gonks have to be hit. Miss them and they'll laugh at you

Land of the rising Gonks

A couple of years ago a television programme was screened showing Clive James exploring Tokyo and the habits of the Japanese. One of his discoveries was a ridiculous game, where animals popped up out of holes in a flat surface and had to be hit on the head with a mallet.

The game's no longer confined to the Far East, thanks to programmers at MT Software who have transferred the fun to STs

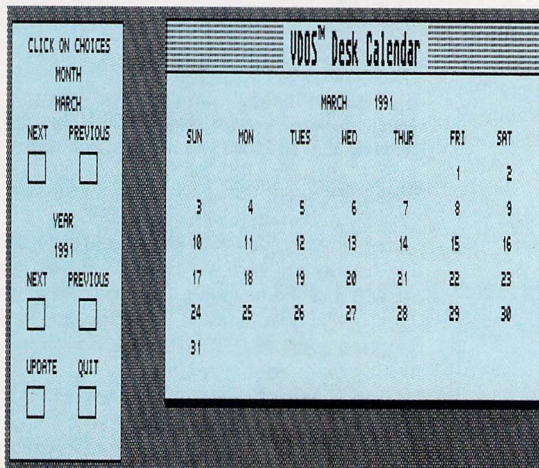
using the STOS programming language.

Bonk the Gonk has three levels of difficulty and even though the game seems stupid, it's still amusing. Small creatures, known as Gonks, pop up out of random holes and using the mouse to guide the mallet, you have to hit the animals on the head as they appear.

You have to be quick, they soon disappear, heading back where they came from.

Sometimes the Gonks send explosives up through the holes instead. If this is hit by accident, one of three mallets is destroyed.

The game runs in low resolution on a colour monitor and is made much more interesting by the sound effects. They laugh at you when you miss them and cry out when they are hit. At the moment this one is exclusive to MT Software, and you should ask for disk number G146.



VDOS menus rise from the bottom of the screen in a GEM-like fashion

Virtual Disk Operating System is a graphical interface for storing up to 53 of your Auto execute programs. The applications are then brought into action with a single mouse click or keyboard combination.

On-screen VDOS looks similar to a GEM-based program, but menus rise from the bottom of the monitor instead of falling from the top and the options aren't highlighted as the mouse passes over them.

The program is said to be compatible with most ST software and only eats 10K

EDIT (WP) *E
DATABASE *D
TERMINAL *T
FINANCIAL *F
GRAPHICS *G
COMPILER *C
LINKER *L
SHELL (CL) *S
MEMFREE ^M
DISKFREE ^D
MORE (VIEW) ^M
PRINT ^P
PIN/SHEET ^P
CHECK PRINT ^C
VDOS™ HELP

One of the 45 utilities available is the calculator, which is brought into use with a single mouse click

VDOS

of the computer's valuable memory. In addition to giving easier access to your programs, a collection of 45 general utilities is included with VDOS.

VDOS works on all STs and can be used in monochrome or colour. This one came from MT Software, and if you're interested, ask for disk number U69.

WHERE TO GET IT...

- Caledonia PDL, 250 Oldtown Road, Hilton, Inverness IV2 4PT.
- Elmsoft, PO Box 17, Loughton, Essex IG10 2EE.
- Floppyshop, 45 Provost Graham Avenue, Hazlehead, Aberdeen AB1 8HB.
- Goodman Enterprises, 16 Conrad Close, Meir Hay Estate, Longton, Stoke-on-Trent, Staffordshire ST3 1SW.
- MT Software, Greensward House, The Broadway, Totland, Isle of Wight PO39 0BX.
- Page 6, PO Box 54, Staffordshire ST16 1DR.
- Public Dominator, PO Box 801, Bishop's Stortford, Hertfordshire CM23 3TZ.
- SoftVille, Unit 5, Elettra Avenue, Stratfield Park, Waterlooville, Hampshire PO7 7XN.
- South West Software Library, PO Box 562, Wimbourne, Dorset BH21 2YD.
- TRuST PD, 18 The Park, Southowram, Halifax HX3 9QY.

SPEAKING YOUR LANGUAGE



Programming your ST can be immensely rewarding. Edward Dennis is here to point you in the right direction

Computers are dumb, useless beasts without programs to make them spring into life and perform meaningful tasks. So how can you make your ST do exactly what you want? There's always something you need your ST to do that is not covered by any existing commercial or PD software — time to roll out the programming language and code it up yourself.

Most new STs are supplied with a version of Basic on disk, either an original Metacomco-produced ST Basic or the rather more useful FirST Basic.

The original ST Basic was very poor indeed: excruciatingly slow and bugged, with an appalling program editor and little or no access to the ST's sound and graphics. Despite a revamp, this hastily hacked together program was bad enough to encourage a flourishing market in alternative Basics.

There are dozens of options open to you if you want to start programming the ST. The two main Basics from GFA and HiSoft are excellent and you can even program Cobol on the ST if you really want to. C and Assembler are very strong in the ST scene and other mainstream languages include Modula-2, Pascal, Fortran, Forth, and APL68000.

If you're thinking about buying a programming language for your ST, you must ask yourself some simple questions before taking the plunge and parting with the cash. First,

what do you intend to do with the language? Will you need to use programs from other computers, or use your new programs elsewhere? Are you starting from scratch or do you have some knowledge of a specific language?

And then, what are the factors you need to consider when choosing a language? First, performance. When speed is of the essence it has to be machine code (assembly language), particularly where graphics are involved.

Most video games are written in assembly language and it's the best way of pushing your ST to its limits. The biggest disadvantage with assembler programming is that it's difficult for beginners to grasp and quite a time-consuming process to get a result from.

Without going into too much detail, the difference between the main varieties of programming language is more or less down to the commands and instructions they use. The more "low-level" the language, the faster it is. The "higher-level" languages run slower but have a more readable and friendly command syntax which does a lot of the dirty work for the programmer.

There's nothing you can't do in assembly language, but you more or less have to build subroutines and libraries that almost mimic the structured Basic commands. You could, for example, define an assembler "macro"

that consists of a few machine code instructions to display text on the screen. To make this easier to use, call the macro "print" and you've instantly turned some tricky machine code into one nice simple command.

Other languages like C, which is popular on the ST because much of Tos has been written in it, improve on the readability of machine code but keep the language trim and efficient so that programs written in it are reasonably fast. Further up the "level" scale, Pascal and Modula 2 employ stricter rules but make the code even more structured and readable with a greater set of commands at your disposal.

If you don't fancy getting bogged down by boring industry standards and stuffy, cramped coding structures, you could consider something like Stos.

LEARN BY EXAMPLE

This fast Basic-type language is designed specifically for creating programs with a graphics and sound bias. It protects you from some of the more baffling technicalities of program development, cutting out the middleman with its super-high level commands. Many people have used Stos to great effect for writing games and educational software.

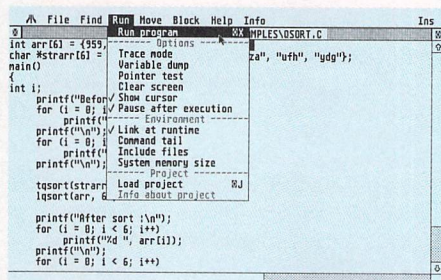
Once you've chosen the language of your dreams you might find yourself in the position of having to teach yourself how to program with it. If you've migrated from a lesser computer to the ST you've probably come into contact with another language, Basic perhaps, so the transition should be less painful.

Either way, there's going to be little in the way of tutorial-style instruction in the manuals

for your new ST language. It's at this point you'll have to consider extending your investment and buying a book – they're reviewed regularly in *Atari ST User* so flip through the back issues and watch out for the useful sounding titles.

One final snippet of advice: look at plenty of ready-written program code – you can learn bucketloads simply by studying programs written by other people and which actually work.

Now go to it. You'll find the ability to write your own programs will bring great satisfaction, and the results can be mighty useful too!



HiSoft C represents the friendly face of the language. Excellent for beginners as you can instantly run your C code between edits

Contacts

GFA Data Media, phone 0734 794941
 HiSoft, phone 0525 718181
 Prospero, phone 081-741 8531
 Electric Distribution, phone 0480 496666
 Micro APL, phone 071-922 8866
 Computer Concepts, phone 0442 63937

Language jargon

Assembly language – the source code taken by assemblers and compiled into machine code.

Basic – an acronym for Beginners All-purpose Symbolic Instruction Code. Originally designed for beginners, but now a fully matured and structured language.

Compiler – a program which turns complete source code texts into "runnable" program code, often via a linking and assembly language stage.

Debugger – a utility specifically designed to help programmers iron out bugs and remove problems in their programs.

High-level – languages which use English-like commands and powerful structures to make programs easier to write and understand.

Interpreter – a program which examines program source code line-by-line and executes the instructions from the source code.

Library – chunks of pre-written code which can be used to gain easy access to the ST's special facilities.

Linker – a program used in conjunction with a compiler to join compiled code and library code into a "runnable" form.

Macro – a user-defined collection of program instructions which can be invoked by using one simple command name.

Machine code – the very instructions which the ST's 68000 CPU processes in order to make the computer function.

Syntax – most program commands are followed by parameters which must follow in a pre-defined order. This is called syntax.

The freebies

Depending upon when you bought your ST and which pack or bundle deal it came with, you will almost certainly have one of the two give-away Basics: the original ST Basic or FirST Basic.

If your freebie was FirST Basic then congratulations, you've got something worth having! If you intend to have a bash at programming Basic in your ST then don't waste too much time struggling with the old version of ST Basic, it's terribly unfriendly and might even put you off programming for life.

FirST Basic, on the other hand, is a slightly cut-down version of Power Basic (now absorbed into HiSoft Basic 2) and rather good, so once you get the hang of it you can upgrade to the full version. If you're happy to stick with the bundled version, HiSoft can supply you with a comprehensive manual for a very reasonable fee.

The Atari ST User programming language guide

Basic

HiSoft Basic 2, £79.95: the successful UK-developed interactive Basic compiler. A highly structured Basic in the form of an integrated program editor and compiler. Programs generated are fast, compilation is fast and documentation is good. Full access to all of the ST's graphics, sound and Gem facilities.

GFA Basic 3.5, £49.95: a very comprehensive Basic which is incredibly fast for an interpreter. Checks command syntax as programs are typed in. A GFA Compiler and numerous third party utilities and tools are available.

GFA Basic System 2, £20: a special deal on an old version of GFA Basic 2. Includes interpreter, compiler and a 300-page manual. Still a very capable programming system and an ideal springboard for upgrading to version 3.

Fast Basic (Computer Concepts), £44.95: a Basic interpreter from the early days of the ST. Initially available on a rom cartridge, then on disk. Slow but has a very nice multi-window editing environment and in-line assembler.

Omicron Basic: an obscure German-derived Basic. Fast and powerful, very much in the GFA style. Not active in the UK and unlikely to challenge the established two.

True Basic: a sluggish US implementation of what is claimed to be an industry-standard Basic. Available from some sources but has been a non-starter in the UK market.

C

HiSoft C, £49.95: a slow but near-ANSI C interpreter. Good programming environment and absolutely ideal as a starting point for C learners.

Lattice C 5, £149: a complete rewrite of the old Lattice C development system. Fast ANSI compiler, versatile multi-window environment and a whole host of libraries and programming tools; excellent documentation. A market leader from HiSoft.

Prospero C, £99.95: by no means out-gunned by Lattice 5. This is another solid ANSI C implementation with good documentation and support.

Mark Williams C (Electric), £112.17: another good C system supplied with plenty of tools and utilities. Has a rather convoluted programming environment.

GST C (Electric), £17.35: a complete C system at a budget price. Rather old, a little slow and has an outdated programming environment. At the price it's still a bargain, though.

Assembler

Devpac ST, £69.95: HiSoft's all-conquering assembly language development system. Based around a fast macro assembler built into a pleasant integrated environment. Comprehensive set of tools and utilities are included. V3 ready about now.

GFA Assembler, £50: a brave challenge to the dominant Devpac. GFA's macro assembler is good enough to mount a challenge with its fast assembly and automatic syntax checking.

Pascal

High Speed Pascal, £99.95: a new addition from HiSoft, this should stimulate interest in Pascal among ST programmers. Compatible with industry standard Turbo Pascal 5, this version has a fast single-pass compiler in HiSoft's familiar integrated environment.

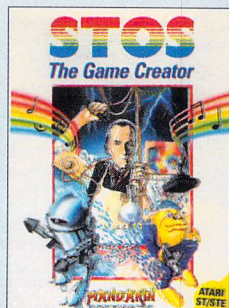
Prospero Pascal, £99.95: an established and well respected implementation of the language. Fully ISO standard with some extensions.

Stos (Mandarin), £29.95: almost out on its own, this super-Basic makes graphics and sound burst forth from your ST with the minimum of hassle. A compiler is available too.

Others:

HiSoft Forth, **MPE GEM Forth**, **HiSoft FTL Modula-2**, **Prospero Fortran**, **APL68000**, **Nevada Cobol (HiSoft)**.

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**STOS Products are also available separately.
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form on page 151.**

ATARI ST SUPER



STOS - THE GAME CREATOR

STOS - The Game Creator

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CODE	PRICE
9182	£19.95

50% off STOS and all three add-ons only
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STOS - MAESTRO, SPRITES & COMPILER

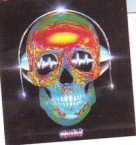
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CODE	DESCRIPTION	PRICE
9183	STOS Compiler	£14.95
9184	STOS Sprite	£11.95
9186	STOS Maestro	£19.95
9188	Bundle of all 3 products	£45.98

stereo **MASTER**



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Stereo Master comes complete with powerful editing and special effects software which allows samples to be loaded in 8, 12 or even 16-bit resolutions.

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STEREO REPLAY

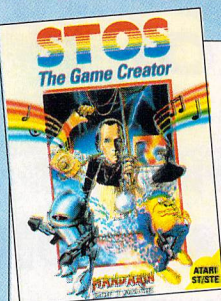
Turn your ST into a powerful musical machine with Stereo Replay from Microdeal.

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ATARI ST SUPER



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STOS is the best environment for creating your own great games, and **The Game Makers Manual** is the definitive guide to STOS covering all aspects of game creation, including tested working illustrations.

CODE	PRODUCT	PRICE
9182	STOS Creator	£19.95
9476	Game Makers Manual	£11.95



STOS - MAESTRO, SPRITES & COMPILER, plus bundle of all 4 STOS products

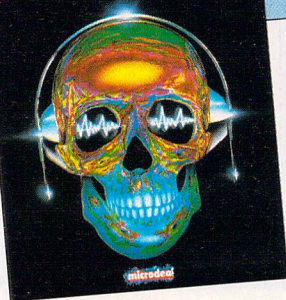
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AMIGA
stereo MASTER



STEREO MASTER

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THE ATARI ST EXPLORED

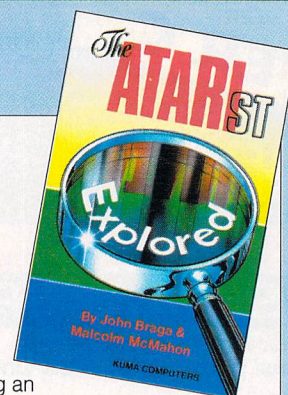
This is probably the most comprehensive guide available to Atari GEM operating system and main ST/STE languages. It is designed for:-

- ★ Anyone considering purchasing an Atari ST or STE and wishing to know something of the capabilities of the system.
- ★ The intelligent user who wishes to explore the remarkable GEM operating system and to appreciate its power and versatility.

The text is liberally illustrated with diagrams and examples making it easy to follow and understand.

This book is essential reading for anyone using or considering using an Atari ST/STE.

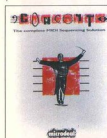
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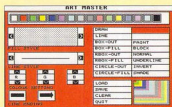
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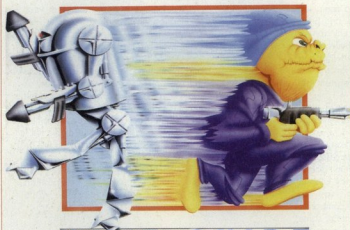
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The public domain is a funny old place for games. Some are really good, high quality and well presented pieces of software, whereas others are the worst you will ever lay your sweaty mitts on.

Brilliant original PD products are harder to find than the proverbial needle in the haystack, but every so often you'll prick your finger on one – if you look hard enough...

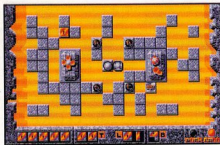
Rush 2

Programmed by: Mikael Lundberg
Available From: LAPD • Disk No 6.300

Leisurely wading through this month's selection I found a delightful gem of a game entitled Rush 2. The concept is a strange one, but once you've played it more than a couple of times it starts to get very addictive.

There aren't any instructions included in the package, so I'm going to tell you myself. Rush 2 uses the bat and ball system, but for all intents and purposes takes it to a different level and twists it a bit.

Start the game and you'll be presented with the main screen. On it there are several squares, of which some are linked whereas



A bat and ball game with a difference. Rush 2 is a happening and interesting PD product with oodles of playability and is well worth spending a few bob on

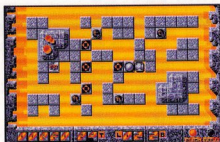
some are not.

You control a ball which can move about these squares and also a bat, or pusher. The pusher "pushes" the squares about the screen, thus enabling you to get around the level.

I know this sounds slightly complicated, but take a gander at the screenshot and you'll get a rough idea of how it all works. The objective of all this ball/bat/square tomfoolery is to collect discs with letters on.

You must collect them in alphabetical order, and this is where the puzzle element rears its head because the discs are liberally strewn all over the place. As you progress the levels get more hectic and need a fair bit of brainpower to work them out.

Rush 2 has great playability, is strangely addictive and has brilliant graphics to boot. Well recommended.



The second level of Rush and things are starting to get a bit complicated!

PUBLIC

**Jonathan Maddock casts his eyes
over some high quality PD stuff that
won't break the bank...**

MovieLog

Programmed by: Brendan Dawes
Available From: Warpzone • Disk by name

Nowadays videos are big business. Due to the amount of unadulterated rubbish on television, people are quite happy to run down to the shops for a decent video.

Of course there are two kinds of buyer. The first buys videos occasionally when they can't be bothered going out, and the second can't stop buying them!

Yes, the film buff is in their element. You can now happily watch your favourite films over and over again until you go bleary-eyed and fall asleep.

When you have a video collection, it's not very easy to keep track of all your tapes. Whether you have lent one to a misguided friend or just plain mislaid one there is no way of telling... that is until now.

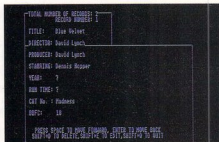
If you've got an ST or running then all your problems are saved thanks to Brendan Dawes and his brilliant PD program, MovieLog. This, as you might expect from the title, keeps a log of all your movies for you to gaze and ponder over at your leisure.

Like many programs of this genre, it is just a modified database. There are fields for you to enter the film's name, director, producer, stars, year, running time, catalogue number and classification.

Once you've entered all your film details, MovieLog will let you add more records, search for a film and print out your records.

MovieLog includes the ability to store up to 1,000 films and alphabetically search through titles, as well as the ever so handy option to print VHS video labels.

It may not be packed with features, but it's got everything that most self-respecting video buffs will need.



Enter all your favourite films and then go and hassle all your friends who have kept your video for months on end

STOS Graphic Adventure Creator

Programmed by: Dean Sharples
Available From: LAPD • Disk No L.46

I don't know about you, but I yearn to go back to my youth [oh about three months ago then? – Ed] and play on my dear old delightful rubber-keyed Spectrum.

Yes, it was rubbish, but I, like many others, liked it in a strange kind way. The graphics were as a rule blocky and abysmal, but as for as playability went it could not be beaten.

I remember desperately trying to complete the Hobbit and, err, not being very successful at all. "Type-in" adventures weren't exactly my strong point, so I wasn't awfully

Polyfilm

Last month we incorrectly printed H Tilley as the programmer of Polyfilm. The real programmer's name is Martin Brownlow. We promise never to let this happen again and if it does Jonathan will throw himself off the nearest railway bridge...

Operation Garfield

Programmed by: David Brankin
Available From: Flappypop • Disk No GAM.3738C

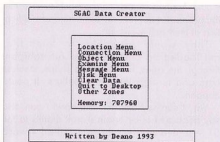
Think back a couple of years and try to remember a really massive game that from that time. There are plenty to choose from, but one which pops up in the old memory banks larger than most is Operation Wolf.

This incredibly violent shoot-'em-up was a huge hit in the arcades and on the home computer format. The sequel, Operation Thunderbolt, was just as popular if not more so thanks to its improved graphics.

Killing, maiming and blowing things up were ideal factors for a brilliant piece of computer software the kids loved every second of it and I'm sure a few adults out there were just as taken by the series of Operation games.

If only there were a product out on the market where you could blow up your worst enemy or better still celebrities. Operation Jeremy Beadle/Bobby Davro/Terry Christian/Les Dennis (delete as applicable) would sell by the bucketload. You can't have everything

sector



The state of adventure games is now in your hands thanks to the STOS Graphic Adventure Creator

fond of them, but I knew plenty of people who were.

One incredibly boring day, a chum and I decided to make our very own adventure, but we didn't get very far—in fact to put it bluntly we didn't get anywhere at all.

The author of the STOS Adventure Creator has returned with the STOS Graphic Adventure Creator, helping current-day souls like my friend and I to get further than we did.

The SGAC enables you to use the mouse rather than enduring the long-winded task of typing all the text in. The program is really simple to use and you'll soon get into the swing of things.

You can't really create a decent adventure without planning on paper beforehand, so it's always good to get some ideas down before you start.

Your adventure can only look as good as your artistic skills, so if you're not too hot at drawing then your game is going to suffer.

This problem can be solved in two ways. Firstly, get a chum who is reasonably talented with the mouse and thus get a polished product.

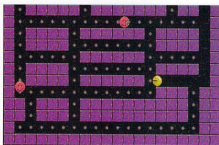
Secondly, do all the drawings yourself no matter how bad they are. The second option is much more fun obviously and personally speaking I like it because it makes your game look so much more cheesy.

The STOS Graphic Adventure Creator is one of those programs that you can sit down with on a rainy day and while away the hours quite satisfactorily.

though—or can you? Operation Garfield is a spoof on the famous shoot-'em-up extravaganza and features the orange and black striped cat. I don't have anything against Garfield, in fact I thought he was quite funny, but obviously the creator of this game didn't think so.

The graphics are well drawn, the sound generally isn't too bad, and the sampled Terminator background music is a nice touch. The gameplay is a bit ratty a times, but you'll ignore it in your blood-crazed psychopathic rage, err probably.

If you hate Jim Davis' creation then you might want to buy this well-presented piece of software. Even if you don't hate him you can buy it anyway because it's quite a good blast and well worth playing if you've got a couple of quid spare.



A brilliant Pacman clone that is superior in many aspects to the original. No powerpills in this version!

H-Mec

Programmed by: Jon Garry

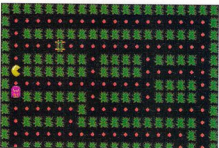
Available From: LAPD • Disk No G.293

I can't ever remember a decent Pacman-type game for the ST in the world of public domain. I mean, how hard can it be to write one? Err, probably very hard indeed, but hey, what would I know?

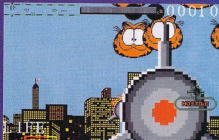
H-Mec is a Pacman clone and a really rather brilliant one at that. For those of you who've missed out on the last 20 years and haven't heard of Pac and his maze-type games on, I'll explain.

Pacman is a yellow circle with a mouth whose job is to run around a maze collecting pills. Once the pills have been collected you progress onto the next level.

It would be easy if it wasn't for the middle-some ghosts who chase you trying to make you lose one of your lives. In the original game



Yet another level in H-Mec and the ghosts are still on your tail. Yikes!



Take out your pent-up frustration and anger on Jim Davis' creation.

there was the opportunity to get your own back on the ghosts by eating one of the four powerpills and chasing and eating the pesky little blighters.

H-Mec differs from the original in a variety of ways. Firstly, all the levels are a lot bigger. To make your life even harder there isn't the ability to turn on the ghosts and kill them.

This means you have to just simply avoid them which does make it a lot harder than the original counterpart.

The graphics are a lot more fancy than you'd expect and it all looks very professional. It's as playable as bits you shouldn't be playing with and as addictive as things you shouldn't be addicted to. H-Mec is a damn fine example of a good piece of PD software and is heartily recommended.

Ponds and Watergardens

Programmed by: George Butler

Available From: Floppyshop • Disk No UTL 3765C

Sometimes I have to scratch my head and wonder just what is going on in this world of ours. The PD world can be as confusing as the real world!

I can live with PD products like games, databases and wordprocessors, but now and again you get a disk which just throws you completely off the track.

Ponds and Watergardens is just such a disk. It is a mix of text and pictures that describe how to build a pond or watergarden. What you've basically got is a DIY pond manual!

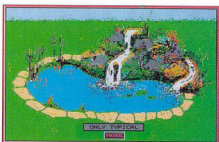
I have a couple of queries and questions. The first is why? Who on this earth would want such a piece of software? Err, someone who wanted to build a pond or water garden is the answer, but that isn't the point.

What was the programmer thinking of? It's not exactly going to appeal to everyone and I feel that the program's creator is going for a niche market...

The software doesn't just tell you how to build your pond, it also says how you can save yourself considerable expense while doing it.

The good thing about it is that it is strangely interesting. You might not think so, but at least it's different! The actual software is a series of picture and text files. It's all laid out very comprehensively, easy to understand and well presented.

OK, this is only going to appeal to a certain section of ST owners. Which section I haven't a clue! If ponds and watergardens are your thing then I guess this is the ideal PD program for you.



If you've ever wanted to build a pond then this is the perfect program for you. If you ever do build one then send me a photo of it!