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Hewlett Packard has come up with another first. The HP Laserjet 4 features a resolution of 600 dpi and a range of improvements over its predecessors. We give you the lowdown on page 46.

ST REVIEW ISSUE 9 JANUARY 1993



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Atari ST Review, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU

Cover Disk Returns: Page 17

Advertising and Editorial Tel: 071 972 6700 Fax: 071 972 6701

Distribution BBC Frontline Ltd, Park House, Park Road, Peterborough PE1 2TR Tel: 0733 555161

Subscriptions: PO Box 500, Leicester LE99 OAA. Tel: 0858 410510

Back issues: PO Box 500 Leicester LE99 OAA. Tel: 0858 410510





Combat is the name of the game in Screen Scene this month, as we preview this year's biggest coin -op conversion – US Gold's Streetfighter 2 (left). Meanwhile, Sabre Team from Krisalis takes you into the secret world of a crack SAS team (right).



ON THIS MONTH'S COVERDISKS

CYBER PAINT

Part two of the great Cyber Series giveaway is a full painting package for your animations. Use it in conjunction with Cyber Studio or on its own.

KID GP

Another complete game by Dave Munsie from the USA. This time it's an addictive platform game.

ALSO ON THIS MONTH'S DISK

Lots to play with and 'pep up' your ST

MORECLIP ART – Another selection of clip art for your DTP documents, this time with a Christmas flavour.

PLOP – An exclusive puzzle game. If you can't play the game, read the book!
TERADESK – A complete PD alternative desktop to rival **Neodesk** or even TOS 2.06.
RDE – A useful RAMdisk utility that even allows you to save the comlete configuration, including contents, for future use.
HANDS-ON MIDI – More MIDI music for

FASTCOPY 3 – The best copying and formatting program in the public domain. This will back up *Timeworks* from issue seven and other non-standard format disks. PICSWITCH - Convert Degas .PI? format pictures between different resolutions and

THREE UTILITIES - Identify your setup quicky, easily and accurately.



FEATURES

30 THAT WAS THE YEAR THAT WAS

Another year is over, and what a great one it was! Not convinced? Take a look at our review of the year and you'll see what we mean!

36 GET ORGANISED

Part two of our round-up of personal organisers looks at the Atari Portfolio, Amstrad Notebook and a selection of the best from Casio and Sharp.

WIN A LYNX!!!

YOU COULD BE IN WITH A CHANCE OF WINNING ONE OF FIVE ATARI LYNX GAMES PACKAGES IN OUR PHONE-IN COMPETITION TURN TO PAGE 60



The Falcon was one of the highlights of last year. See our feature starting on page 30.

42 FAST FORWARD

Getting frustrated waiting for your screen to redraw? Is your system too slow? We compare and contrast two of the best software accelerators on the market and give you our verdict.

44 FANTASTIC FONTS

Fontkit Plus has always been regarded as the best bitmap font editor. So has the best got better? We take a look at the latest version and let you know what we think.

46 DAWNING OF A NEW ERA

The HP Laserjet 4 looks set to break the mould of laser printers. With its superior print quality and extended range of fonts, it's definitely one of the classiest printers that we've seen in a while. Find out exactly why and just where all this futuristic machine is likely to lead us.

50 A LOAD OF NEW TOS

TOS 2.06 is available as an upgrade for your ST. It's an awkward process to install, so we visited a professional to see how it is fitted into an STFM and show you how, step by step.

54 PIN MONEY

Seikosha's new entry-level 24-pin dot matrix printer, the SL-90, enters the market this month and seems to be a bargain at under £200. So what exactly do you get for your money?

59 IMAGE CONSCIOUS

Having problems taking a snapshot of your screen? The ST Club's latest gem, *Imagecopy*, could be the answer.

REGULARS

6 NEWS

Games producer Ocean moves into the charity arena with its latest game, Epson announces new laser printers, and we take a behind-the-scenes look at **Space Junk** for the Falcon.

15 COVERDISKS

We continue our Cyber Series on this month's disks with *Cyber Paint*. This flexible package can be used with *Cyber Studio* which we gave you last month or independently. Full tutorials begin on page 16. There are a couple of great games for you to play, *Plop* and *Kid GP*, and a host of utilities to help pep up your ST. If you want a taste of what an alternative desktop can do for you, we have *Teradesk*, a complete PD desktop with many of the features found in TOS 2.06 and *Neodesk*. As ever, full instructions for loading and using our disks are provided.

62 SCREEN SCENE

It's been eagerly awaited and it's finally here. Is **Archer Maclean's Pool** just a poor imitation of **Jimmy White's Snooker**? We think not! We saw it, liked it and gave it an essential buy award. If **Pool**'s not your thing, try out such combatting masterpieces as **Sabre Team** and our preview of **Streetfighter 2**. Or maybe you're feeling more than a little crazy after the euphoria of the Christmas season? US Gold's **Raving Mad** compilation could be

just what you need.

88 PD ZONE

If you've enjoyed this month's cover disk, we've got reviews of the best PD animation packages currently available, as well as our usual round-up of the latest utilities and game releases and coupons to make buying easier.

PUNTER POWER!

CHECK OUT OUR
READER OFFERS ON
PAGE 56

SCREEN SCENE

Action, strategy and sport all feature in our games round-up this month

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ST BUYER

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Get to grips with desk accessories on page 100.

NEWS



Hello and welcome to the latest issue of ST Review.

I suppose I shouldn't break with conventions at this time of the year and wish you all a Merry

Christmas and the best of luck for the coming New Year. Whilst this may be a (slightly) premature time to be looking at 1993, it is a time for great expectations for better, brighter and perhaps even cheaper technology to hit the streets.

Hopefully, we should also see some proper ST magazines hit the streets too. Our main rivals don't seem to be able to keep an editor on a magazine for any great length of time lately – a testament to the fast-paced world of publishing or not? You can draw your own conclusions, but mine is coloured by the fact that in just nine issues of ST Review, I've seen no less than five different editors for just two of our main rivals – and I thought that ST editors could become an endangered species.

Commitment to an ideal is found within individuals and within companies. ST Review has this, (with a degree of continuity so far unmatched by our rivals), to provide ST owners everywhere with the most informed, user friendly and best value guide to the ST. In the New Year we will continue to provide this with unparalleled editorial, reader offers and cover disks.

There's everything to look forward to in 1993 and I await with anticipation. I also hope to be seeing some familiar faces out there too – amongst you, the readers...

FALCON HATCHES VIDEO NASTIES

The power of the Falcon as a muti-media machine will give rise to completely new techniques in game production – Space Junk from Mirage breaks the mould

Much has been said of the power of Atari's latest machine, the Falcon 030, but very little has been seen of the games currently in development that will take full advantage of its multi-media technology.

Enter Mirage and the eagerly awaited **Space Junk**. This game could well be the first classic game written for the Falcon – whilst many software producers have stated that their current games will be converted to the Falcon, few of them are actually developing new games on the machine and taking full advantage of its superior technology.

Space Junk, however, is different. The game is quite some way from completion at the moment, but already it has shown completely new aspects of game design in its use of digitised video for sequences. The extensive use of video also means that methods used elsewhere within the entertainment industry are now being employed.

Space Junk follows the fortunes of one Randolf Grrr Zion, who has crash landed on a planet in the desert and must now survive, battling against the hostile desert and some of the natives who appear in video form in the game. Not a new plot by any means but its the way in which the aliens are presented which has added something really special to the game.

Most encounters with aliens have been shot to video, with human actors in alien masks and suits providing the action. Each alien's face has been painstakingly made as part of Imagetek's new, in-house system of puppet animation. The technique called IMAGIMATION, involves making masks using a process well known in the film and theatre industries.

PUTTING ON A FACE

Making the latex masks for the Space Junk video sequences is not an easy task...



This man is about to become immobilised for hours as he is fitted up for his mask. First, cover the hair with cling film...



stage cannot be easy...



Once the alginate is in place, a plaster must be added to give rigidity to the finished mould.

A pink alginate (as used by dentists) is painted directly onto the subject. This will mould to the face without sticking and sets like wet rubber.



Once dry, the plaster mould is split in two and removed before removing the alginate.



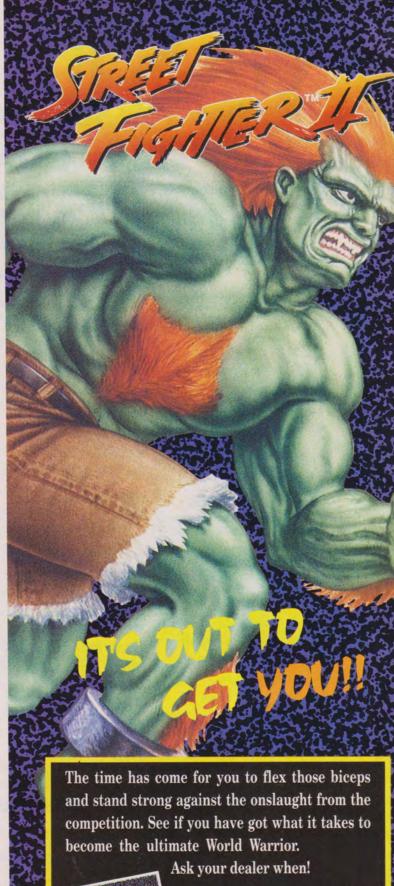
Several hours later, our subject finally emerges blinking into the light.



It's twins Mrs Thompson!



The finished cast is then made up using oil-based clay into some horrific, alien face and then a second plaster cast is made. This is then removed and the clay scraped off the first mould. The second cast will now fit over the first cast and there will be a void which once injected with a latex rubber, will become a mask that will fit our original model perfectly!









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NEWS

UNDER STARTERS'



The Epson EPL-4300 laser printer has scalable fonts and costs £999.

A new laser and two dot matrix printers are now available from Epson. The EPL-4300 laser boasts a print speed of six pages per minute, scalable fonts and two slots for Epson and HP compatible font cards. It retails at £999.

The LX-100 is a 9-pin and the LQ-100 is a 24-pin dot matrix printer. Both

come complete with a cut sheet feeder. Epson believes that owners of 24-pin printers are more likely to use cut sheets than continuous paper, so to keep the price down, the tractor feeder is a £29.95 option on the LQ model. Prices are £245 for the LQ-100 and £189 for the LX-100. Both prices include VAT.



GASTEINER GETS TO THE POINT

New pointing devices from Gasteiner include two optical devices, a track ball and a mouse.

The track ball comes with an attachment to fix it to the side of your ST. The ball itself is operated with the thumb, is extremely comfortable to use and takes up a minimum of desk space. It retails at £29.95

The two new optical devices take the form of a conventionally styled mouse, whilst another is shaped like a pen. Both offer 300 dots per inch (dpi) and come complete with a hard mouse mat and interface lead. The mouse costs £29.95 and the pen is £34.95.

A high-quality conventional mouse is the final addition to the Gasteiner range. The Golden Image Mk II mouse is made in Japan and has a resolution of 400 dpi, making it one of the most sensitive and smooth mice on the market. Priced at £19.95, it is slightly more expensive than most, but the quality is good.

All of the new products carry a two-year warranty. Gasteiner can be reached on 081 365 1151 or write to Gasteiner, Unit 2, Millmead Business Centre, Millmead Road, London N17 9QU.

COMIC RELIEF GAME NOSES AHEAD

Top games producer, Ocean, has hit a new first in its bid to raise money for Red Nose Day 4, taking place on Friday 12th March.

The company is releasing a new game, called **Sleepwalker**, at the end of January, and hopes to raise £500,000 for Comic Relief from the sale of the game. Described by Ocean as "wickedly funny", the game features various Comic Relief celebrities, flying Red Noses in bonus levels and sound effects and voice-overs from Lenny Henry.

Anyone who buys a copy of *Sleepwalker* will be encouraged to pit their wits against other players in aid of Comic Relief. The Red Nose Challenge will be taking place in major retail chains all over the country, and the national final will be held in Central London on Red Nose Day itself.

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The Power House BBS can be reached by calling 0234 841503.

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Hewlett Packard has unveiled the next generation of laser printers with the launch of the Laserjet 4 and 4M. Both machines boast RISC based 600 DPI printing and superior paper handling.

The HP4 is a direct replacement for the HP Laserjet III and has several advantages over its predecessor. All HP III printer drivers are compatible and, apart from a smaller footprint and a weight reduction of six Kg, it has faster data transfer ports and two 350 sheet paper trays as standard. Options include a third tray that holds 500 sheets and a power envelope feeder that holds 75 envelopes.

Prices are £1649 for the Laserjet 4 and £2249 for the 4M (Postscript) For more information see our review on page 48 or contact the Customer Information Centre, Hewlett Packard Limited, Cain Road, Bracknell, Berks, RG12 1HN, phone 0344 369222.







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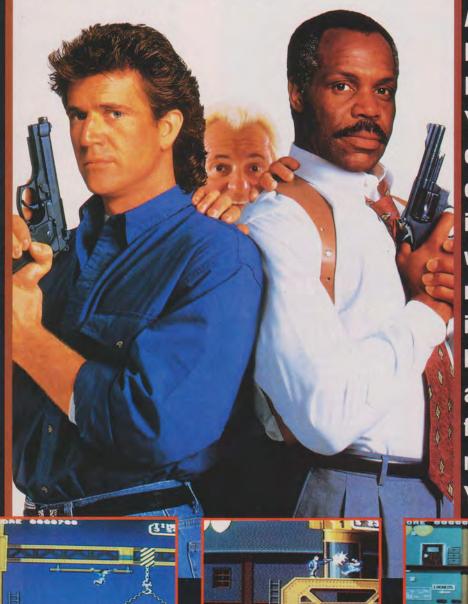
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AT'S MEAN FAST AND...LETHAL!

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COVER DISKS WORKING WITH YOUR CYBER PAINT **COVER DISKS**

The second part of our Cyber series is Cyber Paint. There's another game from Dave Munsie and the usual host of useful utilities

e have plenty to suit all tastes this month. The main program is Cyber Paint, part two of the Cyber Series. It can be used in conjunction with last month's programs or independently. The final part will be on next month's disks.

On top of that, we've got more clip art for your Timeworks documents and there are plenty of useful utilities including a very versatile RAMdisk, and probably the best PD backup utility available anywhere. If all that isn't enough, there are some great exclusive games including Kid GP, another brilliant piece of programming from Dave Munsie, and Plop, an intriguing puzzle game. There's even a complete replacement desktop.

Those of you who couldn't back up your Timeworks disks from Issue seven can now do so using Fastcopy III. Please note that this doesn't copy protected software.

COMPRESSED FILES

We are using a new method of compression on our files. As with Timeworks last month, the program files are compressed using a special program that reduces the size of the file without altering it significantly.

WHAT TO DO IF YOU **HAVE PROBLEMS WITH** YOUR COVER DISKS

In the unlikely event that your cover disk won't load or gives you any other problems at all, remove all cartridges and peripherals and try again. Please note that to restart the computer, you must SWITCH IT OFF for at least five to 10 seconds to clear all traces of resident programs before continuing.

If this doesn't solve your problem, return your disk, with a brief note of the problem and a stamped

addressed envelope to P.C. Wise Ltd., Dowlais Top **Business Park, Dowlais,** Merthyr Tydfil, Mid Glamorgan, CF48 2YY. They will test the disk and send a replacement as soon as possible. You can contact the P.C. Wise Helpline with any urgent problems. Please note that they will deal with faulty disks only and not general enquiries. They can be contacted by telephone on 0685 350505 between 10.30 and 12.30 on weekdays.

STEP BY STEP



This guide is based on a single disk system. If you have two floppy disks, place a blank formatted disk in floppy disk B and proceed as shown. For a single disk system, follow the instructions. You will be told when to swap the disks. In both cases, make sure you have a blank formatted disk ready before you begin

Format a double sided disk by placing a new disk in the floppy disk drive. Click on floppy drive A and go to the File option at the top of the screen. Click on Format and then click on OK for both of the next two dialogue boxes. Write protect the cover disk (but not the blank disk) so that the disk cannot be written to by the ST, moving the small black notch on the back of the disk so that you can see

through it. This will save mistakes later on. Place the cover disk in the drive.

- Click on Floppy Disk A to highlight it and hold the left mouse button down.
- Use the mouse to drag the 3 floppy disk icon towards Floppy Disk B until that is also highlighted. The computer will treat the floppy disk drive sym-



bol as being A for the source drive (the cover disk you are copying) and B for the destination floppy disk drive (the blank disk you are copying to). Don't worry, the ST's not going to expect you to have another disk drive connected.

Release the mouse button. You should then be presented with a dialogue box telling you that the computer is



copying disk A to disk B. It will also tell you that all of the info on floppy disk B will be erased. As you have just formatted disk B there is nothing to erase.

Click on OK and another dialogue box will appear with the word Copy highlighted. Click on OK again. The computer will read as much as it can from disk A and hold it in memory before it asks you to insert disk B. Swap the cover



disk for your blank formatted disk and then click on OK. You must remember that disk A is always the cover disk and disk B is your blank formatted disk.

Swap the disks as requested and you will end up with a copy of the disk on your blank formatted disk.

Make sure that you put the original disk somewhere safe and work with the copy.

In the unlikely event of anything subsequently going wrong with your coverdisks, you'll have the original to refer to whenever you need it.

ARTFORA

This month's cover disk continues our Cyber Series with Cyber Paint. Use it with last month's Cyber Studio program or on its own – either way, you can expect some superb results. Paul Keller shows you how

elcome to Cyber Paint, a powerful animation and paint program for your ST. This package is the second major program in the Cyber series, which we started last month with Cyber Studio. It can be used with or independently of that series. As a standalone paint programme, Cyber Paint offers the same kind of features that you'd find on any other commercial paint programme. However, its major strength is its ability to be used as an animation tool.

Animation can be created within *Cyber Paint* and the package is excellent if you want to create 2D cell animation such as cartoons or animated story boards.

The package is by no means limited to that, however – it also offers an extremely varied range of special effects such as resize, distort, move, and superimpose.

Cyber Paint can be used to touch up any 3D pictures that you created with Cyber Studio. How about some stars in place of that black background or a wallpapered wall, or maybe a wooden grain look to that table!

This ability to touch up **CAD3D2** frames is just one of **Cyber Paint**'s many assets. You could place a title screen in front of your sequence or add a 2D bitmapped picture created with **Cyber Paint** or any other art package to help create your own movies.



From the 'Modes' menu, de-select 'Filled', and repeat steps three and four. Now any filled shapes you draw with, such as boxes, become outlines only.



Return to the menu selection (right mouse button), choose 'colour' and highlight 'cycle'. Draw with various brush and drawing tools to obtain multi-coloured effects!



Still in the 'Modes' menu select 'Connected' and draw some circles, then choosing 'Concentric' draw some boxes. Re-select 'Distinct' to return to default mode.



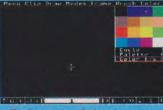
In the 'Palette' selector, a white dot can be seen over one of your 16 available colours. This colour is the one currently selected. Move the RGB sliders to change this.

STEP BY STEP





Click on the right mouse button for your tools selection screen. Clicking this button again returns you to the work area.



From the 'Colour' menu, select the coloured boxes. A white dot centred over a colour box represents the shade currently in use.



Experiment with tools under 'Draw' menu, (except 'Text'). Select assorted colours for each, pressing UNDO to erase any mistakes.



To erase your screen picture go to the 'Frame' menu and select 'Clear Pic'. Pressing 'UNDO' will change it back.



Select your different brushes from the 'Brush' menu or create your own with 'Get brush'. A red highlight shows your currently selected brush.



8 Choose your 'Palette'
selector from the 'Colour'
menu. Move the small
connected cross and diamond
bar, found directly under the 16
colour palette.



Use cut and paste with the cycle line, 'copy' for individual colours, 'range' for colours between two values (cross, diamond), 'Restore' cancels changes. 'HLS' is an optional colour selection method.



Under 'Menu' click on 'Set Pont', and selecting 'Custom' load a font. Set the size of your text with the slider bar (bottom left) and experiment with the various styles available.

RT'S SAKE

Caligr36 Courie20
Windy22 Hitech26
Supbole2 Compss [6
Wow! Wow! Wo]

From the 'Draw' menu select 'Text', position 'L' shape with the mouse.

Press the left mouse button to enter text and start from position 'L'. Press the right mouse button to finish.



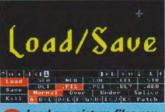
Selecting 'Invert', click outside one of the four sides of your block to mirror your image in that direction. Try 'Stretch' and 'Rotate' by dragging the frame edge.



Click on 'Menu', and selecting 'Air Speed' change the 'Speed' and 'Spread' with the slider bars. Custom design the size of your brush nozzle and spray speed, selecting 'Airbrush' to use.



'Clear pic' and load 'FORE-MAN.SEQ' – this loads a sequence file created from CAD3D2. Top right of the 'playback bar' is the number of frames in the sequence, in this case '12'.



Load any picture files you have created from 'Menu'. Choosing 'Load/Save', load any PI? or Neo file by highlighting the file extension and load.



'Mask', also found under the 'Clip' menu, can be used to create complex shadow effects. Use with 'Paste Below' for best effect. 'Move' allows positioning of a block without pasting it down.



'Separate', from the
'Frame' menu, is used for
changing one screen
colour to another. Choose the
new colour from 'Colour' menu
and click on 'Separate', then
the colour to be changed.



Select 'Pixel f/x' from 'Menu' and 'defocus'. Now try the other special effects on the remaining frames by selecting each frame individually, using single frame advance (F6) key, or back (F5).



de-select 'Xray Copy', and from the 'Clip' menu choose 'Cut'. Place the crosshair in one corner of the block you wish to cut and then frame this area.



From the 'Modes' menu select 'Zoom'. When presented with a frame, place it around the area you wish to zoom. All the drawing tool functions can be used from within the zoom window.



ALL the old colour in your picture is changed to the newly selected one. 'Separate Many' uses colours within the colour cycle range, changing them all to your selected colour.



Go to 'Menu' and click on 'Status', to show current memory usage. 'Total in Frames' is useful to check that your sequence will fit on one disk, the sequence here being about 63K.



The cut block is now saved in a buffer. Selecting 'paste' you can drag this block and place it on the screen by releasing the mouse button. Use with or without 'Xray Copy'.



Go to the 'Clip' menu,
then 'Clip' tool, select 'Use
Clip' from 'Brush' menu.
Go to 'Draw' menu and then
click on 'Streak'. When you now
draw you will be using your
clipped brush.



Go to the 'Load/Save'
menu, load a picture as
'Normal', then load a different picture 'Under' it. The
background colour becomes
transparent. Test 'Over', and
use 'Splice' for 'Seq' merging.



Click 'Menu' and 'Kill Seq', 'yes' to clear. For interruption free work tools can be called with a key (shown beside functions).

yber Paint uses what is called 'Cel Animation', which is best suited to frame-by-frame work. For 3D animation you will need to have first created the frames from within CAD3D2; the 'Foreman' on these pages is an excellent example. Here the creator has made up the computer man from within CAD3D2 and saved it. The 'SEQ' file can then be loaded into Cyber Paint.

Cyber Paint can now act as a special effects studio, into which you can add backgrounds, mix 'SEQ's', and create eye-catching displays.

PLAYBACK BAR

The first step in the tutorial shows you the Playback Bar. Listed below are its icons and the function keys that can be used to access them.

F1 - FIRST FRAME (A)

This goes to the first frame in the Sequence.

F2 - FAST REVERSE (B)

Plays the animation backwards fast.

F3 - REVERSE PLAY (C)

Plays the animation backwards using set time speed.

F4 – CREATE FRAME/ PREVIOUS (D)

Copies current frame, pushing others to the right.

F5 – MOVE FRAME BACKWARDS (E)

Holds down mouse to scroll.

FRAME COUNTER BAR (F)

Shows selected frame.

F6 – MOVE FRAME FORWARD (G)

Holds down mouse to scroll.

F7 - CREATE FRAME NEXT (H)

Places copy after your current frame, pushing the others to the right.

F8 – FORWARD PLAY (I)

Plays the animation forward using set time speed.

F9 - FAST FORWARD (J)

This plays the animation forward fast.

F10 - LAST FRAME (K)

Goes to last frame.

TOTAL FRAMES (L)

Number of frames in sequence.

FRAME MODE (M)

'f' - Single frame.

's' - Segment of frames.

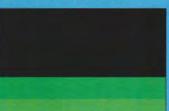
'a' - All frames.

MINITHE

STEP BY STEP



The Playback Bar. A = F1, B = F2, C = F3, D = F4, E = F5, F = Currently displayed frame, G = F6, H = F7, I = F8, J = F9, K = F10, NO = Number of frames, M = Frame mode.



2 Select 'box' and draw some ground as shown above.

Press 'return' to obtain 10

your currently selected one.

Press F10 for last frame (11).

Draw a circle (in frame mode

Click on play (F8), stop

F10. Now, pressing the Delete

current frame. Press 'insert' to

key, select 'yes' to erase the

add one frame.

with the mouse, and push

4).

additional screen frames of

FF 15 1- 5 55 4- 11 1



FIG

picture similar to the one

shown above. Press F7 10 times,

then F6. Change FRAME MODE

Push F1, then create a

↑ (c e a e l

to 's' (segment).

19 H 9 9 U 21 F

Go to 'Menu', select 'Time', change the bottom left number to 11 and bottom right number to 21. Exit, and from the 'Frame' menu select 'Delete' and then yes.



From 'Menu' select
'Load/Save' and save as
'grass.seq'. In frame one create
another circle (as shown), then
from the 'Frame' menu select
'Next blue'.



Frame 2 has a traced circle from frame 1. Create more circles as if moving, using each 'Next blue' as a guide for each frame.



Pic', press F8, try 'Ping
Pong' from the 'modes' menu.
Use 'Bluepic' to blue the screen.
'Scratch' allows movement of
frames with the mouse.



'Get changes' puts changes in 'clip buffer'. 'Next changes' copies them to next frame. Now select 'Kill seq' and reload 'grass.seq' file, adding two more frames (12 total).



Select 'Load/Save' then 'over', load 'FOREMAN.SEQ'. Merge by clicking 'Yes'. The 'FOREMAN.SEQ' frames mix with your background frames. Press F8 to animate. Save sequence.



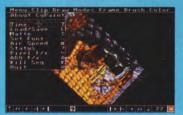
Go to frame 1, select 'Pixel f/x', change frame mode 'f' to 'a', move second number on second line to 12. Select 'Defocus' and ALL the frames will be rendered.

FRAME

Continuing his look at Cyber Paint, Paul Keller explains how to use this month's Cyber Paint program to produce professional looking animation sequences



'Kill seq.', reload new 'grass.seq', press F4 then F1, go to 'Frame' menu and 'Clear Pic'. Load text and type something. Click on 'Clip' in 'Clip' menu. Save.



Click on 'Full turns', select '1' then 'Size' and 'reduce' to '1'. 'Preview' (to check) and 'Render' (to execute). F8 then F3. Try changing speed by selecting 'Time', and change '4' to '2'.



The 'Shift' function is for colour cycling techniques 'FPsh' (Frames Per Shift) and 'Shot' (Shift Over Time). They are used over a range of frames, between the cross and diamond.



From the 'Load/Save' menu can be found 'Patch', this is used to cut out segments of your animations 'Start' = begin at frame number, 'Frames' = end at frame number.



Go to 'Ado f/x' (Antic Digital Omni-Mover). Select FRAME MODE 'a', stretch diamond to 13 (next to 't'), make full turns = 1, and click on 'Axis' and 'X', then click on preview.



'Kill sequence' and load any picture file. Hit 'return' twice. Go to 'Colour' menu, select 'Colour f/x' then frame 10, select frame mode 's' move cross to '10', diamond to '21'.



Load the four-frame 'Fish.seq' as 'Normal', select 'Splice' and load as before. This will give you an eight-frame sequence; repeat the above until you have 12.



For special effects, load 'Cartoon.seq'. Select 'Matte' and load 'Foreman.seq'. Selecting 'Mask' again load 'Cartoon.seq', press F8 to view. 'Matte' only works with 'SEQ' files.



Click 'Render', leaving your ST to work. Erase frame one and play the sequence (hit F8). You can't undo a sequence once rendered, so make a sequence copy before you experiment!



Next pick 'Fade', select and 'Tint' to '100', click on 'preview' (to check), then select 'Render'. Click on 'yes' and exit, change frame mode to 'f' and press F8 for fade.



Save the 'Fish2.seq', press F1 then F4, 'Clear Pic', draw a seaweed in this screen and 'Clip'. Go to 'ADO f/x' and select frame mode 'a', stretch diamond to '13'.



As well as sequences from CAD3D2 you can also load in PI1 files saved from within it. Select your favourite CAD3D2 picture angle and touch it up with Cyber Paint.



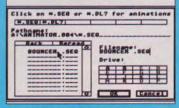
'Delete seq.' and load in a picture, press F7, then 'Clear Pic'. Copy the blank frame 20 times ('return' key twice), 'clip' picture frame one and enter 'ADO f/x'. Select FRAME MODE 'a'.



Only colours which are enclosed by 'cross' and 'Diamond' (which can be found under the 16 colour bar) are affected. Try 'Red' and some other colours.



Select 'Turns', set 'Full Turns' to '1', click on 'Centre' and 'Default', click on 'Axis' and 'X', click 'Path' and then 'Sampled Path', drawing one. 'Preview' and 'Render'.



Finally, there is the 'ANIMATOR.004'. This is used to display standalone finished SEQ or DLT files.

One of the best features of Cyber Paint is its ability to import files from last month's CAD 3D2 package.

IMPORT EXPORT

t's now time to import your designer models into **Cyber Paint** and bring them to a shipshape fashion by adding more atmosphere.

To help you do this, we've put together a quick and easy-to-follow step-by-step guide for the transferring of your sequence files from CAD 3D2 to Cyber Paint. As well as being able to load your sequence files from last month's CAD3D2 program you can also load DLT files created from within Cyber Mate.

Select the DLT extension in place of SEQ when following our step-by-step guide for importing sequences.

LOADING AND SAVING FILES

- Always keep some spare formatted disks handy, as you can't format a disk from within Cyber Paint.
- As a guide, 24 frames a second helps give smooth looking animation.
- Save each additional animation sequence you create as a different file name eg Cyber Paint 1, Cyber Paint 2, etc.
- Use the 'Status' box to keep a check on the memory being used for each of your object movements created within a sequence. It is very easy to run out of memory when allocating more frames than your computer can cope with.
- When in Cyber Paint save your animations as sequence files. These are more flexible than the DLT formats and take up less memory storage.
- If you wish to save just one frame from your animation, select the PC1 extension, as this will also help save on memory storage space.

STEP BY STEP





OWhen you have loaded Cyber Paint, click on the right mouse button for the tool selection screen. Now, from the 'Menu' section, choose 'Load/Save', or press 'L' on the keyboard.



The above file selector box is presented. From this box, check that 'Normal' and '.SEQ' are highlighted, or 'DLT' if you wish to load that file format instead. When you are happy with this, select 'Load'.



3 Having loaded your '.SEQ' or '.DLT' file into Cyber Paint, you can now play with it using the 'Playback bar' or by pressing the function keys. F8 is used to play forwards and F3 to play backwards.



1 Let's add a background to our animation. Pressing F1 for the first frame, then F7 to insert a copy of frame 1. From the 'Frame' menu select 'Clear Pic'. Now draw an appropriate backdrop picture in this frame.



5 From 'Menu' choose 'Time', click on 'To Segment' and make the bottom left-hand side number read '2'. On the same line you should make the right-hand side number the same as your frame total.



G Select the 'Frame' menu and choose 'Delete', then yes.

Now make your background scene contain the same amount of frames as your animation by clicking the 'Insert' key (one copy) or 'Return' (10 copies).



Pressing the F1 key for first frame and saving your background as 'backgrnd.seq', proceed to merge your original CAD3D2 animation by selecting 'Overlay' and 'Load' your original file over this.



The new animation created can be saved as a sequence file, but when saving call it a different name from your original CAD3D2 sequence in case you need to make more changes later.

GET READY 4 THE INVASION

PLAY THE GAME FOR...

GRASPED THE FACT THAT ALL
THE PEOPLE WORTH
COMMUNICATING WITH THESE
DAYS BUY COMPUTER GAMES AND IT'S A REVELATION WHICH
THEY HOPE IS GOING TO MAKE
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As well as Cyber Paint, we have another great exclusive game from Dave Munsie on our cover disks this month. Add to that a host of games and utilities and you've got the best value-for-money cover disks anywhere

ON

MORE TIMEWORKS CLIP ART

MORECLIPART AND XMASCLIPART FOLDERS • USE WITH TIMEWORKS • DISKS 1 & 2

We're in seasonal mood with our clip art folders this month



This folder contains a collection of headings for your DTP documents.

We've got eight more pages of clip art for you to use with *Timeworks* this month. These are .PI2 files so they are medium resolution Degas pages. There are some classy pictures to enhance whatever you're creating, together with some special Christmas drawings.

For instructions on how to use these pictures within *Timeworks*, see issue eight, pages 106 to 109.

ACCESSORY ACC.PRG • AUTO FOLDER UTILITY • DISK 1

The first of three utilities on disk one is a small accessory loader that tidies up your boot disk

In a folder called 3_UTILS on disk one, you'll find a very small (768 bytes) program called ACC.PRG. This is a great way to tidy up your bootup disk by allowing you to put all of your accessories into a folder called ACCS instead of having them in the root directory of your disk. This is an ideal utility for hard disk owners, but floppy disk users will find it handy too.

The program is used by placing it in a folder called AUTO on the disk that is in your computer when you switch on.

QWIK DISKRAMDISK.ACC • ACCESSORY • DISK 1

The second of the trio of useful utilities on disk one this month is a configurable RAMdisk that can be easily removed without rebooting

The problem with RAMdisks is that you need to reboot the computer to get rid of them when you require the extra memory. This accessory will allow you to

DISK



Set the size of your RAMdisk and install it. Use this to remove it too.

create a RAMdisk and remove it without having the problem of resetting.

Simply copy the file RAMDISK.ACC to the root directory of your boot disk and reset the computer. Drop the Desk menu and you will find a program entitled QwikDisk. Click on this and a dialogue box will appear offering a range of sizes from 64k to 512k. Simply select the size of RAMdisk you require and click on install. Using the options menu, create a disk drive called drive M and it will have all the characteristics of a fast disk drive. To remove the RAMdisk, just click on Remove. Don't forget that any programs you run may need the memory taken up by the RAMdisk, especially on smaller systems, so remember to remove it before trying to run anything.

RESET RESET.ACC • ACCESSORY • DISK 1

The third in our trio of utilities in the 3_UTILS folder is a simple resetting facility

Just 704 bytes make up this simple utility that is especially useful to TOS 1 owners. By selecting this from the Desk menu, the option to reset the computer is presented. You can choose between a warm reset, which will just restart the system without clearing all of the memory, or a cold reset that resets all of the pointers to zero and gives you a completely fresh start. Place the file RESET.ACC in the root directory of your boot disk to use this program.



Select a warm or a cold boot from within the RESET accessory.

THIS MONTH

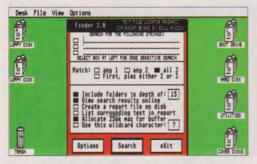
CYBER ST ST.3D2 • FILE FOR CAD3D • DISK 2

A complete CAD picture of an ST for CAD 3D

Load up **CAD3D** from last month's cover disk and load in this file. Wonder at the workmanship of a complete ST created for you to show you what can be done with the package.

FINDER FINDER 2.0 • DESK ACCESSORY • DISK 2

Can't remember what you called that file? Looking for a particular file in several folders or on several disks? Finder will help you



Up to three strings and various options to search on in Finder.

To use this handy desk accessory, simply place the program FINDER.ACC in the root directory of your boot disk and call it up from the Desk menu whenever required. You have a range of search criteria which will help to narrow down the search specifications.

You can select dates, file sizes and up to three search strings along with a combination of other details. An extensive manual is provided on the disk to help you get to grips with Finder.

MAGROCK MIDI • MIDI MUSIC FILE • REQUIRES MIDI PROGRAM TO RUN • DISK 2

Another MIDI music file for your sequencer

Continuing in our bid to bring you the latest and the very best in cover disk programs and MIDI coverage, we've got an original piece of music for all you MIDI fans.

Hands On MIDI Software of Cosham has produced this piece to show you how to program your sequencer for maximum effect.

To run it, simply load the file into your sequencer and hit play. Put on those dark glasses, black suits and hats and enjoy the music!

KID GP KID GP • EXCLUSIVE GAME BY DAVE MUNSIE • LOW RESOLUTION • DISK 2

This platform game will challenge your playing skills



Collect all the fruits on this level of Kid GP.



Mind the step! Another level could be more challenging.

Kid GP gives you 15 levels of fun to keep you occupied as you chase around the screen collecting diamonds. Various nasties will get in your way, though, so watch out for objects to help you. There are hammers that knock the beasts down to size and mushrooms that will speed you up or make you invisible to them.

The game is joystick controlled and there are three game speeds available by pressing F1 to F3. Have fun!

Copy the complete folder to a blank formatted disk and switch to low resolution. The game is then run by double-clicking on the KID_GP.TOS file found in the folder.

PICSWITCH PICSWITCH 0.7 • PICTURE UTILITY • DISK 2

This handy utility enables you to view and change picture formats for use with any package

Picswitch will allow you to view various format pictures and convert them from one to another. It will also let you change the resolution of the picture should you need to.

To use the program, simply run it and you will be presented with the file selector. Select the picture that you want to view and it will be displayed on the



The Save screen from Picswitch gives you the different formats and all three resolutions.

screen. Press the Help key and all of the functions will appear in a dialogue box.

To save the picture in another format, simply press the S key and a box will appear giving you the options available to you. The ability to convert from one resolution to another is particularly useful for clip art so you can use it in whatever resolution you are working in.

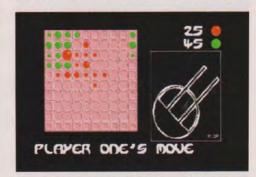
PLOP! PLOP • EXCLUSIVE GAME BY S.M. HALL • DISK 2

A great game to play and a novella to read too. How's that for value?

Debbypharq (the Third) has lost his staff in a rather foolish bet. He failed in his attempt to beat Madame Champigfarm, the local **Plop** champion. Read all about this in the novella on the disk.

The game board consists of a grid. Within this grid you play the game by placing your marker on a square. Each square expands with further clicking and will eventually 'plop', adding some of its contents to surrounding squares. This continues in turn until there is only one colour left on the grid. The owner of that colour is the winner. You can play one of four different computer opponents or another human player.

You can change the shape of the blobs from balls to diamonds and even change the colours. Choose between normal play (practice) and tournament. Clicking with the right mouse button brings up an options menu that allows you to save



Prepare yourself for Plop! An addictive game with great graphics.

1ST TRACK **FOR 24 TRACK**

All of you who made the most of the 1st Track demo on issue 5 can now buy the full product at a special price!

Gerdees 1st Track is a powerful 24 track sequencer as featured on the cover disk of issue 5. It includes and event editor and a multi toolbox allowing a range of operations. It's also fully MIDIfile compatible and can record sys-ex data and can be synchronised via MIDI clock.

Please send me a complete copy of 1st Track at the special ST Review reader all-inclusive price of £19.50 (rrp £29.50) for the program and three MIDIfiles sequences from the Geerdes MIDImusic Collection.

Address:
Daytime Phone:
Please send your cheque/PO, made payable to Newtronic Ltd, to: Newtronic Sound Design and MIDI
Software Ltd, 62b, Manor Avenue, London SE4 1TE and allow up to 28

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1 MEG CYBER PAINT OFFER ONLY! Reap the full

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Please send me a complete copy of Cyber Paint for £24 (fully inclusive of VAT and P&P)

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Daytime Phone:	
Visa/Access No	ė
Expires:	
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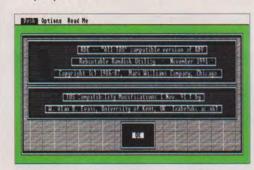
Please send your cheque or postal order, made payable to GST software Products, to: Softline, GST Software Products, Meadow Lane, St Ives, Cambs, PE17 4LG and allow up to 28 days for delivery.

or load a game, restart, return to the game, change sprites or players or quit. Complex, isn't it? For full details, there is a text file following the story on disk.

PROGRAMMABLE

RAMDISK

RDE • UTILITY PROGRAM • DISK 2 An advanced RAMdisk with some very useful features



Title screen for RDE, the configurable RAMdisk that can be saved as well.

RDE is a programmable RAMdisk that will allow you to create various different RAMdisks and save them on a disk for use whenever they are needed. A simple menu system makes this program easy to use and configure to your own individual requirements.

You can save all of the details of a RAMdisk including its contents and recall it simply by selecting the option to load it from the menu within the program. You can also easily remove it by reversing the procedure.

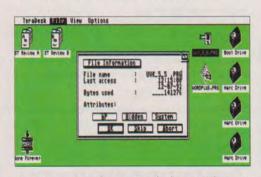
Follow the instructions on the screen using the drop-down menus that appear. There is a help option within the program as well as a full read me file which is supplied on the disk.

TERADESK TERADESK • REPLACEMENT DESKTOP PROGRAM • DISK 2

Fed up with the GEM desktop? Want some more features? Don't want to spend out on Neodesk or a TOS 2.06 upgrade? Then this is the program for уои...

Teradesk is a complete replacement desktop and contains a lot of the features that you wish Atari had built in to its

Create a folder on your boot disk called



An impressive alternative desktop with many desirable features. Teradesk is an ideal replacement for GEM.

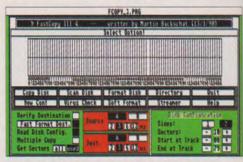
Desktop and copy the files into it. The program can then be run by double clicking on DESKTOP.PRG. You can also make it run automatically using the Install Applications option on TOS 1.04 or higher, or using Startgem or Headstart on earlier versions.

Teradesk takes up about 120K of disk space, so don't use it when you need memory to run other programs. 520 users may find it useful for file handling and general system management, but a program like this really comes into its own if you have plenty of memory and a hard disk drive available.

A manual for this program is supplied on disk - you are advised to read it before you start.

FASTCOPY 3 **FASTCOPY 3 • FILE BACKUP UTILITY •**

In a folder called TWKS BAK you will find a program called FCOPY 3.PRG, a utility which will back up your Timeworks disks and help with disk management



A visual display shows you exactly what Fastcopy 3 is doing.

Copying files takes time and a lot of disk swapping, as you're probably well aware We gave you Timeworks on the November cover disk, which you couldn't back up in the normal way because we used an extended format to get all of the information on it!

If you've been struggling with it, the answer to all your problems is contained in this backup utility. The best PD backup program that you'll get anywhere is FASTCOPY 3.

The program can be run as it is or, by renaming it FCOPY_3.ACC and placing it in your root directory of your boot drive and resetting, as an accessory.

To copy a disk, simply click on Copy Disk. The program will then read the disk configuration and adjust itself accordingly. Then all you need to do is swap disks when prompted. You don't even need to format the new disk - talk about making life easy for you!

The program will also check for viruses, format a disk and 'soft format' a disk. This latter option is very quick to carry out. Instead of formatting the whole disk, the program just writes the information that tells the computer that the disk is blank and writes over whatever is there when necessary.

• Please note that this program will not copy commercial software, so all you budding pirates out there had better think again!

Tonight you could become a Railroad Tycoon, shape a Civilization or indulge in a little Piracy in the Caribbean



Alternatively, you could grab an early night

With such voyages of fantasy at your fingertips, there's no reason to have a 'quiet night in' ever again. Devised by the guru of games design, Sid Meier, each adventure involves strategic role playing to stretch your imagination and sharpen your wits.

So you could be playing with the train set you always wanted,

surviving and thriving in the company of Genghis Khan or navigating a galleon around the Spanish main.

Are you really prepared to settle for anything less?



Railroad Tycoon, Civilization, Pirates! all Classic games from Europe's Number One Software Publisher

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- Average access time 65ms, Data transfer rate 200K per second (6 times faster than Floppy disk).
- Available as a stand alone unit, an upgrade to Data-Pulse(Plus) or as a combination unit with Hard drives. 21Mb Floptical diskette included with every drive.

21Mb Floptical Drive £ 399.99 Datapulse upgrade £ 299.99 21Mb 3.5" Floptical Disk £ 24.99

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£	580
£	224
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3	69
3	19
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Philips 8833MKII £ 189.99 Includes 12 months on site warranty and free Lotus Turbo challenge II.

£ 219.99 Philips 15" FST Tv Philips 15" Cube Teletext £ 259.99

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- Fastext teletext

8833 MKII-Amiga cable £ 9.99 Philips SCART to Amiga £ 9.99

exhomised TE

Datanet Network Hardware

- Cartridge based high speed network solution.
- Compatible with ST(F)(M), Mega ST, STE, Mega STE.
- Connects via Coax and BNC connectors.

Powernet Network Software

- MultiTasking Network software allows applications to run on the server while drive and printer accesses take place in the background
- Allows the mixing of Network types. ie DataNet, LanNet and MidiNet devices.
- Full Falcon compatibility using LanNet device.
- Ethernet compatibility and E-Mail coming soon.

DataNet with PowerNet £ 99.99 LanNet with PowerNet £ 89.99 MidiNet with PowerNet € 59.99

Aries Upprades

- Will fit any ST(F)(M) or Mega ST. Solder in design for higher reliability.
- Extremely compact in house designed Multi-Layer circuit board, smaller than a credit card. Upgradeable in stages from the base 512K to 2Mb then 4Mb.
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512K Board	£	39.99
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4Mb Board	£	129.99
512K SIMM's STE	£	7.99
2Mb SIMM's STE	£	57.99
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Our Service department can repair ST's in minimum time at competetive rates. We can arrange for fully insured, courier pickup and return delivery of your machine to ensure it's safety. We even have a same day service which will ensure your machine is given priority and subject to fault, completed the same day. We can fit memory upgrades, PC Emulators, Security upgrades, devices, ROM upgrades, hard drives to Mega STE's etc.

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Please note: The minimum charge covers labour, any extra parts are chargeable.

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The Golden Image Optical Mouse is a high quality, 3 button, replacement mouse. The fully Optical mechanism means no moving parts offering far higher reliability. Includes Mat.

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- 720K formatted capacity.
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- Attractive case design.

GI External drive € 54.99 ST Internal drive £ 39.99

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- Includes the excellent MIGRAPH TOUCH UP 1.8. This is the full package with manual.
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Golden Image Scanner £ 119.99

Silhouelife

- Autotraces bit image graphics to resolution independant vector graphics.
- Produces Beziers, B-Splines, High resolution grey scales.
- Imports IMG, DEGAS. TINY. MacPaint, GEM, SGF files.
- Exports IMG, GEM(1,3), SGF, DXF, EPS(Postscript) files.
- Requires 1Mb ST, Hi-res monitor.

Silhouette £ 60 Calamus CVG support coming soon.

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Exciting and new products from the company that gave you The BEST Add-On of the Year.

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If you're in to Desk Top Publishing, you know the need for speed! The TURBO 25 is the very best accelerator available today, based on a 68000 processor running at a blinding speed of 25 MHz. Close to TT speed, maintains 100% compatibility.

NEW! Plus Cache ST. A budget 16MHz 68000 Accelerator for the ST(FM) and STe.

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Available Soon - TINY TURBO - 030/40Mhz 6-8 times TT speed!! For All ST computers.

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Accelerate your screen, too! **NVDI** optimises TOS Display routines using Assembler Code. Up to 10x faster!! Includes a very fast replacement GDOS system which can be switched off. 1000's of copies have sold in Germany. Indispensable for DTP, Graphics and Animation programs. **New Price 49.95**

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Select resolutions from 640x200 to 1664x1200.
Use 256 colours from a 16 million colour palette.
Essential for Colour DTP.

New Price £449.00

NEW! High Colour Option (32768 colours) **NEW!** NVDI for Crazy Dots.

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Yes, you too can use those IBM 1.44Mb floppy disks with our EICo High density module and drive kit. The kit comes with fitting instructions, software (HD formatter) and high quality 1.44 megabyte floppy disk drive. It is fully compatible with your old double density disks. Works with PC Emulators. A perfect replacement for those troublesome single-sided A drives! Special Offer £89.95 The module is also available separately.

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Special Limited Edition ST(FM/e) Tower Unrepeatable Offer £179.95 Save £20.00

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NEW! We supply only the Official Atari UK TOS 2.06 upgrade with manual. A Switch Board allows you to keep your old TOS.

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We would like to take this opportunity to thank you for your support and wish you all a Merry Xmas and a Happy New Year.

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Depending on the success or failure of your management skills, your team will either find itself leaping up the Divisions on route to the

One to four player option Match highlights with six game speeds Manager & club histories
Complete results service Weekly fax data on

match reports transfer news & player information 5 full divisions Cup competitions Comprehensive transfer market Complete interaction with other team managers Full player training with up to five dedicated coaching staff.

top or languishing with the Part Timers!

NEXT MONTH

THE THIRD AND FINAL PART OF THE CYBER ANIMATION AND GRAPHICS SERIES – CYBER CONTROL!!

DID YOU COLLECT THE WHOLE SERIES?

CYBER STUDIO – ISSUE 8 DECEMBER

A fully blown 3D design package worth almost £50, this is the ideal starter program for anyone interested in either design or animation and supplied in both 1 MB and 0.5 MB format.

CYBER PAINT

Free with this issue, Cyber Paint is the graphics package for Cyber Studio complete with animation, examples, and a full step-by-step guide which shows how to use the package and how to get the very best out of it! It requires 1MB to run.

CYBER CONTROL - NEXT ISSUE!

The final part of the series, *Cyber Control* is a fully operational commercial package that completes the Cyber animation and graphics series. It's a full animation language that is easy to use and will make your animations live. Needs 1MB.



IF YOU MISSED LAST MONTH'S CYBER PAINT AND WANT TO COLLECT THE WHOLE CYBER SERIES THEN DON'T FRET. JUST PHONE OUR BACK ISSUES DEPARTMENT ON 0858 410510 AND PLACE YOUR ORDER. Cyber Paint is the second program in the Cyber Series trio. Each program can be used alone but using all three, you have the hottest graphics and animation package ever seen on the ST! Last month's Cyber Studio contained two versions – 1 MB and 0.5 MB.

This month we're giving you the second program Cyber Paint to colour your 3D designs. Next month's offering, Cyber Control, is a professional animation language that will animate your designs quickly and easily with devastating results! Collect all three for the most comprehensive design and animation package ever!

TURN OVER A NEW LEAF WITH ST REVIEW!

Next Month's 100 pages plus of editorial will include...

HARD DRIVES In next month's issue we present the ins and outs of hard disk drives – including all the benefits and how to use them to their full potential.

VIRUSES On the disk and in the mag we'll be giving you the full lowdown on those nasty little beasts, viruses in our Virus Special.

NEWS, REVIEWS AND BLUES! All of your favourite regular features are here. All of the latest news, the best reviews including new printers from Epson and, of course, the ST Buyer section with information, Ask The Experts, Letters and much, much more. Screen Scene is here, too, with the latest game reviews.

ST REVIEW IS NOW ESTABLISHED AS THE UK'S BEST ST MAGAZINE
THE BEST EDITORIAL, THE BEST COVERDISKS AND THE
BEST COVERAGE FOR ANYONE WITH AN ST!
ON SALE 14TH JANUARY – ORDER IT NOW ON PAGE 130

THAT WAS THE Y

As yet another year passes us by, Tony Dillon takes a look back along the most recent track of memory lane. Where were you when...?

ell, here we are in January again. As the tinsel and mistletoe are cleared away for another 12 months, let's take a moment to look back at the last year. 1992 will probably go down in most people's minds as the year that things got bigger and better. The Mega STE, the Falcon 030, the ST Book - Atari's newfound dedication to progress has never been so apparent. 1992 will also be remembered - hopefully - as the year that ST Review took the ST world by storm. But what else has happened in the last four seasons that's worth commenting on?

JANUARY Bigger and better

tari's year couldn't have got off to a better start. After months of speculation followed by months of waiting, the Mega STE finally started filling the shelves. A mid-step between a basic STE and the top-end TT machines, the Mega STE gave owners

the perfect upgrade path, with low-end compatibility and enough new tricks to merit the purchase. With TOS 2.05 on board, along with a new chip set, its comparatively low price (less than £830 for the basic one Megabyte machine) made it all the more attractive.

For standard ST owners who fancied boosting their machines in other directions, Silica systems introduced the first 386 emulator for the ST. The ATonce-386 PC board was previously only for TT owners, but finally the immense processing power was available to anyone who wanted it, and for only £299! If you wanted even more power, you could opt for a maths co-processor on top, for an additional £130, boosting the processor speed to around 18 Mhz!

If sounds are your thing, then January saw Microdeal launch a sub-£40 stereo sampling package. Stereo Master was a cut-down version of the more expensive Stereo Replay, and received mass acclaim and some tidy sales figures!

FEBRUARY

Small, but finely detailed

ot one to rest on its laurels for long, Atari continued its onslaught on the business market with the ST Book.

Launched at the 16-Bit show, the only ST Books to be found prior to the exhibition were in the safe hands of Sam Tramiel and Bill Rehbock, executives at Atari US. Retailing at £1300, the light unit – a mini-computer and personal organiser all in one, formed the conclusion to the ill-fated STacy project.

Good news for coders and developers this month came in the form of the official ST manuals.

Finally, Atari had seen the light and decided to let its previously top-secret documention go public, giving Joe Public access to information about the machine that only top-level developers had had access to.

Released in five packages,

SEQUELMANIA!

In the games playing world, who could forget the release of two of the most impressive sequels ever, *Populous 2* and *Lotus 2*. If *Populous* was good (and you'll find very few people to tell you otherwise, then *Populous 2* must be even better.

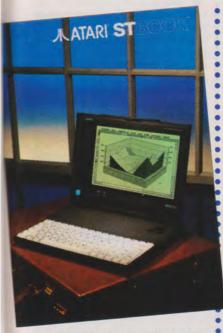
The ultimate in God-games, this one gave you more options than ever before, which was just what you needed when you consider the improved

intelligence of the opposition. As for Lotus **Turbo Challenge** 2, well, need we say more? The ultimate in racing, it's faster, smoother, more playable and more challenging than anything else. Except, perhaps Lotus 3, of course!



January saw the release of two classic sequels: Lotus 2 (left) and Populous 2 (above).

EAR THAT WAS



The ST Book – launched at the 16-Bit show.

the books cover all aspects of the ST and STE machines, from chip specification to GDOS and GEM Virtual Display Interface protocol. It certainly made for heavy latenight reading.

SMELLS FISHY!

ST owners were treated to one of the hottest platform games ever this month as the illustrious *James Pond* returned in another fishy tale – *Robocod*. Armed with an extendable waist and size 14 feet, our hero battled to save Santa from the evil clutches of Dr Maybe, and took the ST fraternity as close to *Super Mario World* as it is likely to get.

Interestingly, as we go to print, *Robocod* has just undergone a rebirth with its inclusion on US Gold's Raving Mad compilation – see our review on page 82 for more information.



James Pond 2 – Robocod saw the fishy hero turn into Santa's little helper.

MARCH Taking things easy

fter the buzz of the initial months, the first quarter of the year ended on a calmer note. Biggest news this month was that Gremlin was going to enter the educational market with Shoe People, a series aimed at younger gamers and designed to help them with reading, spelling and general co-ordination. Similar in style to the Fun School series from Europress (Fun School 4 had just been released), Shoe People was awarded praise from all sides, with quotes like 'the best ever' appearing left, right and centre.

Ocean Software came through with the license of

the year this month – Robocop
3. Oddly enough, the entire
game was designed, coded
and released just as the film,
which has yet to be released,
went into production. Featuring a first person perspective,
the game was the most atmospheric Robo game to date.

Also released this month was *Mercenary 3*, which failed to stir the public as much as previous titles had. Could it be that we're all getting a little bored with huge polygon adventures? Surely not. One title that did wake up the public was *More Lemmings*, an extension to the classic game that spawned a million illegitimate offspring.

A hundred new levels for you to torture yourself with proved to be just the thing to welcome the spring.







LOOKS AMAZING!

Graphic revelations came from both Delphine and Teque, in Another World and Shadowlands respectively. Another World took polygons to a new dimension, giving some of the most realistic and stylistic animation seen anywhere, whereas Shadowlands, the great isometric adventure, used a remarkable system called Photoscape to light the way, with real-time light source calculations. This was possibly the first game to appear on the scene that used torches in a realistic way!

APRIL Dropping Like Flies

hey tried and tried, but they still couldn't crack it. The STylus, an intriguing peripheral that was allegedly going to be able to read your handwriting, thereby eliminating the need for a keyboard, was finally dropped this month, joining the other ghosts in Atari's airware graveyard. However, a new phoenix was rising from the ashes in the form of the Falcon 030. Little was known, other than that you were going to get TT screen modes and a 16Mhz processor for under £600. We waited with bated breath.

While we waited, we could console ourselves with the fact that hints weren't the only things being dropped. The price of the STE Discovery pack dropped to below £300, which meant that for mere pocket money you could get your hands on your very own virtual reality workstation, thanks to the latest in the STOS range - **STOS 3D**, which allowed you to build any shape you wanted and move it any way you wanted.

STOS 3D proved a worthy rival to 3D Construction Kit.



MAY

Let's Get Started

ho can forget the marvellous month of May? Possibly the most significant month in the ST's history since someone at Atari said "Why don't we make a 16-bit computer?", May saw the first issue of Atari ST Review hitting the shelves hard! Crammed from cover to cover with everything you needed to know, the big news that month was the first solid details on the Falcon 030. Atari's favourite son was paraded in front of some very select eyes at the CeBit show in Hannover, and was described by our own Garth Sumpter as a "graphically blistering machine that should put the (Commodore) A600 in second place"

Accolade for most unusual piece of software this month went to the Fractal Music Composer from Fractal Music Company. This interesting little music utility allows you to create pieces of music from fractal seeds, giving you infinite recursions on the same tonal themes.

Wow, cosmic, or at least Chris Jenkins thought so, giving it a whacking 90% and slapping an essential buy sticker on it to boot!

Hot titles this month included **Space Crusade**, Gremlin's computer version of the classic space strategy boardgame, and Knights Of The Sky, a World War 1 bi-plane simulation from Microprose that featured no guided missiles, no long-range radar and absolutely no stealth tactics. What a great game.

Knights Of The Sky saw a return to traditional air warfare.

JUNE

Zoo Closes For The Summer

s the recession really started to bite in the software industry, Electronic Zoo, a leading software house with an impressively large catalogue, went under this month.

The company, which was responsible for handling **Sub-buteo** and the odd **Eco Phantoms** were all geared up for a series of major launches when...nothing.

Still, if you were really desperate to get hold of a copy of *Magic Garden*, then fret not. Stewart Bell has recently resurfaced in the guise of ICE, and is releasing all those titles that the Zoo never got to put out.

Protar extended its range of hard drives this month to include the 19" rack mounted ProGate II series, designed for use in recording studios in direct to disk applications. Its high specification and low cost should make it a standard in recording studios across the country, starting at £280 for a 20 Meg version going up to customised models with over a Gigabyte of memory.

The big game this month was Microprose's Formula One Grand Prix, the latest and greatest from racing fanatic Geoff Crammond. Geoff's previous titles included Stunt Car Racer and the classic Revs, so who better to come out with the most realistic motor racing simulation ever. "An instant classic", said the review, giving an almighty 94%. Hands up anyone who hasn't bought a copy yet.

JULY

On Show Once More...

he 6th International Computer Show opened its doors to the public on 10th July, and featured one or two exciting new additions to the ST software range.

Microdeal, always there with their hands in the music pot, came out with first glimpses of two new titles, *Concerto*, a budget 24-track sequencer and Replay 16, a mono 16-bit



sampler with full editing. HiSoft stepped forward with
Diamondback II, the ultimate
back-up system for hard
drives, along with Hi-Soft
BASIC 2 and High Speed
Pascal, for all you budding
programmers.

Silica came out with yet another enticing ST bundle this month – the *Music Master* package, containing one of the best selling music programs of all time – *Steinberg Pro 24 v3.0*.

Generally regarded as one of the best of its kind, you could get it bundled along with all the other goodies Silica throws in for under £350.

Once you had your cracking new machine, you could try your hand at two of the hottest graphic adventure games ever, both released this month. *Ishar*, from Rage Software, was a MASSIVE title, viewed from a first person perspective and featuring no less than 160,000 bitmapped views!

If that isn't enough for you, then how about Virgin's stunning *Lure Of The Temptress*. The key selling point of this 90% essential buy was its Virtual Theatre game system, meaning that life in the game world went on regardless of what you did. People had their own lives, held conversations with each other and generally acted as you would expect them to in real life.



Silica Systems' Music Master package included one of the best-selling music packages ever.



The ProGate II extended Protar's range of hard drives.

APE (4 x 10 2) 25 10 5 20 10 6 2 14 2 10 86 - 500

BYE BYE USA

US supremo Electronic Arts finally admitted that it was no longer developing for the ST, sparking a trend throughout the industry. At the time, the big title in development was a conversion of the SEGA Megadrive classic John Madden's American Football, but then EA pulled the plug. The reason? "We as a publisher have decided not to release the title because we believe that it will not produce a high enough return compared to other formats the game has been made available on." However, EA still holds all plans to continue distributing ST product developed by third parties, such as Millennium.

1992 Remembered

AUGUST

Music Maestro, If You Please

he APRS (Association of Professional Recording Studios) music show came and went, and the ST was to be found on every stall and stand. One of the most important items was the ADAS direct-to-disk system from Plasmec Systems.

Retailing for under £600, the board uses a few hardware tricks to get around the basic ST speed problem, and comes up with a recording and editing system to match the best. Connect it up to a decent hard drive and you've got yourself a digital studio!

Atari came through this month with a new operating system, Multi-TOS, that is

partly intelligent, partly userconfigurable, and all common sense. Using a combination of hardware and software, Mega ST and TT owners were now able to completely multi-task their machines, and thanks to some handy trapping software, the new system could isolate software that had crashed and still allow any other currently operating software to run. Unfortunately, this new system isn't available for ST/FM/E owners.

Piracy is a crime! This was the message that was sent out loud and clear this month as one Derek Kennedy was sentenced to 180 hours community service and fined £200 . after being convicted of over 3000 cases of illegal copying and distribution. Let that be a lesson to any of you who might be considering piracy as a sideline!

SEPTEMBER

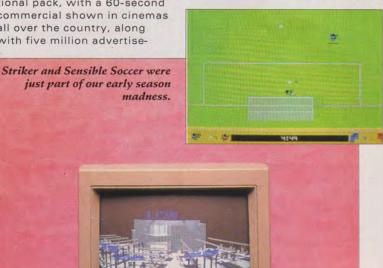
The Falcon Has Landed

inally, after months of guesswork, rumours, private viewings, alterations and changed deadlines, the Falcon 030 dream machine is here. Well, at least in a finalised form, if not actually available to the public. The price? £399, not £600 as previously guessed at. It's got more bits built in than anyone could have hoped for. All that remains to be finalised is a release date.

In the meantime, Atari went all out to promote the new Lynx/Batman Returns promotional pack, with a 60-second commercial shown in cinemas all over the country, along with five million advertisements placed in cinema magazines and the same number of leaflets sent to theatres everywhere.

In the games department, we were all football crazy, as Sensible Soccer received 93%. Rage's Striker got 90% and Graham Taylor's Soccer Challenge from Domark got 84%! There must be something in the water!







The arrival of the dream machine, the Falcon 030, moved a step near-

This month presented us with the first glimpse of Incentive biggest project to date - 3D Construction Kit 2, featuring masses of improvements over the original software, including transparent objects, a complete new menu-driven control system and a radically overhauled programming language. If you didn't want to wait to create your own polygon masterpieces, then you could try out Virgin's Shuttle simulation. It's a monster of a game that'll see you stuck to your screens and strapped in your seats for days. Authenticity is the name of the game, and with a control panel that scrolls over dozens of screens (we're not kidding!), this one could take months to conquer.



Virgin's Shuttle took simulations to heights.

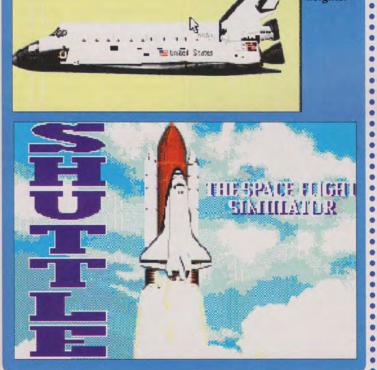
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ON A LITE(R) NOTE

This month's major essential buy is the piece of music software that absolutely no-one should be without - Cubase Lite. As its name suggests, it's a budget version of Cubase, although some would disagree with its categorisation due to a £99 pricepoint. But, as Vic Lennard pointed out shortly before slapping a massive 92% rating on to the review, equivalently capable packages, such as those that allow you to edit with score notation, as well as print out scores, cost up to and over £450!

OCTOBER

Going down, again! Closing For

nce again the price of the STE fell. Due to the recent drop in price of the A600, from £400 to a more reasonable £300, the STE prices were expected to fall as low as £225, meaning that in discount shops you could be able to buy a brand new, 520STE for under £200! Sadly, the Mega STE, which looked like being a real winner, was discontinued this month, with no plans to start a similar project.

The reason? Well, nobody can say for sure, but you can bet your boots it has something to do with people hanging on for the machine of 93 - the Falcon.

Big games news this month was the fact that Streetfighter 2, the game to buy a S-NES for, is coming to the ST. US Gold is handling the honours, and with any luck that should put paid to all the smug Super . Nintendo owners, who were happy to buy grey imported copies at up to £100 each!

Piracy worries hit an all-time high this month, as Mindscape voiced its concern over pirated copies of games that had begun to turn up at car boot sales. Discussions began with FAST (Federation Against Software Theft) and other major software houses, to find . a solution to this ever-present problem.

Just too late to join the previous month's batch of football titles comes Domark's Championship Manager - a statistic-heavy management affair that Steve 'Donkey' Merrett just couldn't keep his hands off. For more hands-on experience, you might want to try out Coktel Vision's Fascination, a graphic adventure classified 16 and over, due to its light smattering of smut and filth.

: NOVEMBER

Christmas

his month, both Domark and Mindscape announced that they were dropping the ST from their development lists. This isn't to say that both companies won't support the Falcon when it comes along, but could this be another nail in the ST's gamesplaying coffin?

Another company closing its doors was Palace Software, but theirs was a little more terminal. Palace, the company behind Shoot-Em-Up-Construction Kit and the classic Barbarian games, went into

voluntary liquidation this month, leaving the Titus distribution deal up for grabs.

HMV finally gave into the demand and began stocking computer software this month, following on the lead that computer games are a bigger source of youth entertainment than singles.

Cheetah, a company that has always enjoyed releasing more unusual joysticks, such as the Bug, came out with some interesting character licenses this month in the form of joysticks shaped like your fave star, such as Bart Simpson or Batman, Perhaps not the most comfortable joystick to use, but it does make a very nice ornament.

DECEMBER

Going Live!

his month saw the computer event of the year -Gamesmaster Live at the Birmingham NEC between the 4th and the 6th. Not only do you get to see all the top new games, and play as many free arcade machines as you can find the time for, there are two Crystal Maze sets for you to run around on, a complete Gamesmaster set with regular challenges, Quaser light-gun arena and the odd bit of Virtual Reality!

L.A.P.D. (the public domain library, not the police force) have come under fire of the legal kind. Apparently Waddington's Games are none too happy about two PD titles currently available namely Risky and Napoleon, due to their uncanny similarity to Risk and Campaign.

Hewlett Packard, the giants of laser printing, unveiled the future of desktop publishing the HP Laserjet IV. At a press conference, spokesperson Cathy Lyons didn't rule out the possibility of old Laserjet III units being recalled and reconditioned to Li IV standard, and then released at a knockdown price. "After all," she joked, "This equipment doesn't wear out!'

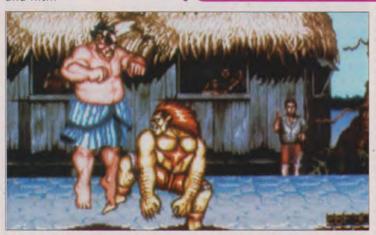
After months of speculation. exclusive pictures, exclusive specification lists and guesswork, the first Falcon 030s found their way ito the UK this month. Only a limited supply were released into specialist shops (such as music hardware stockists)

Two models were released to the public. At entry level was the basic 1 Meg version without a hard drive for £499 inclusive. For the more dedicated user was the flashier 4 Meg model complete with 64 Meg hard drive for only £899 inclusive. Roll on 1993!

MORE BALLS FROM ARCHER

Archer Maclean returned to our (computer) screens this month with the successor to the massive hit Jimmy White's Whirlwind Snooker, namely Archer Maclean's 3D Pool. Using the same graphic engine as before, with the same control panel and identical gameplay, you might be forgiven for thinking that Archer had in fact released the same game twice. But, with improved computer intelligence, three different types of Pool (US and UK), along with a smattering of different tournament styles, he's managed to create the ultimate pool simulation





This arcade shot of Streetfighter 2 gives a feel for what we can expect shortly on the ST.

BACK IN THE DRIVING SEAT

Ending the year in the same way they started it, Gremlin released the final title in the Lotus series - Lotus 3, The Ultimate Challenge. Featuring three billion different tracks, and a few new twists in the form of backgrounds, driving conditions and cars to drive, along with RECS, a revolutionary course construction system, the game is everything an arcade racer could want.

The game is definitely Shaun Southern's last driving escapade - he's sick of doing them - but as, the package was designed utilising the feedback received after the launches of Lotus 1 and 2, it should be the best ever. For example, one included option is the choice between tracks against the clock or racing in a championship. You may not be able to please all of the people all of the time, but it looks like Gremlin are going to have a bloody good try. But is it really ultimate? We'll have to wait and see.

WHO CAN SAVE CIVILIZATION FROM THE MOST DESTRUCTIVE FORCE ON EARTH?

A few thousand years ago, Atlantis sank to the ocean floor. With it sank the secret of the most destructive force on earth. But the Nazis have rediscovered the lost Kingdom, and they'll soon have a bomb which can end World War II in fifteen minutes. Unless Indiana Jones gets in their way...

- Control two characters - Indy himself and his capable sidekick Sophia.
- Whips, weapons, fistfights, gambling and puzzles.
- Dazzling 3D isometric world click from one camera angle to the next.
 - Awesome animation, music and sound effects.
 - 9 lavishly detailed action-packed locations.

Available on: Amstrad, C64 Cassette & Disk, Spectrum Cassette, Atari ST, Amiga & PC and Compatibles.



HINTS TIPS 'N' CALL THE GOLD PHONE: SPELLJAMMER - PROPHECY OF THE SHADOW - THE SUMMONING - DARK SHN' - EYE OF THE BEHOLDER - LEGEND OF DARKMOON (EYE OF THE BEHOLDER II) - DRAGONSOOF FLAME - HEROES OF THE LANCE YEL; 0839 654 139 OFFRATION STEALTH - ANOTHER WORLD - FLASHBACK - CRUISE FOR A CORPSE YEL: 0839 654 284 LUCASFILM HELPLINE - LECHUCK'S REVENGE (MONKEY ISLAND 2) - INDIANA JONES (LAST CRUSADE & FATE OF ATLANTIS) - ZAK MCKRACKEN - MANIAC MANSION - LOOM - SECRET OF MONKEY ISLAND - BATTLE OF BRITAIN TEL: 0839 654 129 INFORMATION LINE: 0839 654 124 - LEGENDS OF VALOUR TEL0839 993 366 - ACCESS RELPLINE: AMAZON. TEL: 0839 654 394 - SIR TECH HELPLINE: CRUSADERS OF THE DARK SAVANT TEL: 0839 994 477

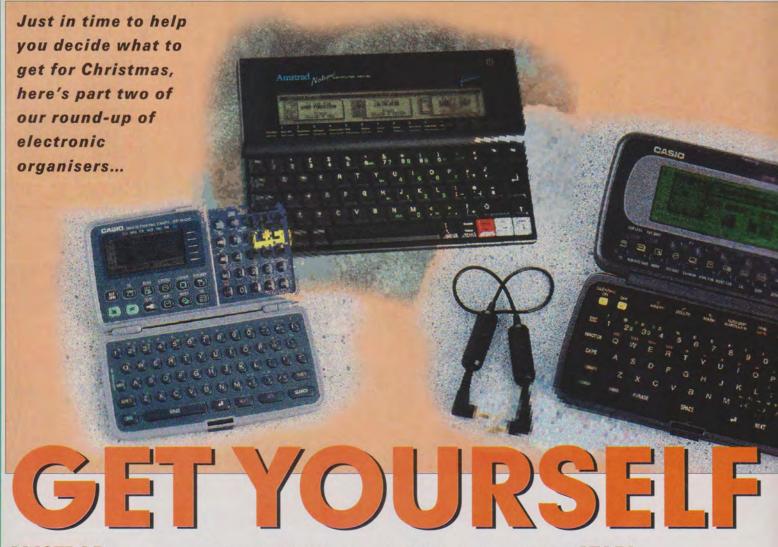
STRIES STRINGER DE LEGEND OF THE DARK SAVANT TEL: 0839 994 477

PHONE

LucasArts

Lucasfilm Games

The ACTION game with much, much, more



AMSTRAD NC100 NOTEPAD

AMSTRAD • £199 • 64K

IN BRIEF: In the strictest sense, this is not really a personal organiser but a small laptop computer. Functionally, it compares favourably with the other organisers, but it is considerably larger.

This unit is ideal for the business traveller who has a lot of notes or letters to write. The keyboard is large enough to use comfortably and it is described as being 'user friendly'.

It's certainly easy to use the main functions, but if you want to program it, it's a little more complex. It comes with a fully

functioning word processor, diary/calendar, calculator, clock, address book and time manager built-in and has a standard memory of 64K, expandable to 1024K by using industry standard PCMIA 2.0 cards.

With BBC BASIC built in, you can even program the computer yourself and sample programs are provided in the manual. The cal-

> culator lets it down in that the numeric keys are part of the main keyboard. This has resulted in some of the keys having green numbers printed on them, making them cluttered. It would have been better to have a separate numeric keypad or just the normal numbers along the top row.

ST REVIEW COMMENT:

"The general feeling from all who see the Notepad is that it's suffering from an identity crisis. It doesn't seem to know whether it is an organiser or a laptop computer and fails to be either."

ATARI PORTFOLIO

ATARI • £249 • 128K

IN BRIEF: Another pocket computer that doesn't quite fit into the organiser category, but this one has much more success than the Amstrad! The Portfolio is actually classified as a hand-held computer and is PC compatible. All of the commands are basic DOS commands, so a knowledge of the PC is a definite advantage.

Standard features include a spreadsheet, text editor, address book, diary and calculator. From the keyboard, you can also access a setup menu and a menu listing all of the functions.

This one is larger than most of the other organisers that we have reviewed over the past two months, but not big enough to reduce its portability. It will take memory expansion and program cards via a slot in the side.

Provided with the machine that we received for review was a file manager and tutorial card that gives an idea of how to use everything and enables you to easily find things in the files.

To alter the programming, a knowledge of DOS is required. You need to know how to config-



The Amstrad Notepad - it's big, looks like a typewriter, has diary functions but suffers from an alarming identity crisis. Just what is it?





Billed as a hand-held computer, the Portfolio offers a good range of functions.

AUTOEXEC.BAT batch files and CON-FIG.SYS files to actually use the Portfolio for anything other than just the functions listed above, but if you take the time to learn this, or if you are already conversant with the quirks of DOS, then it's a very powerful little tool.

ST REVIEW COMMENT: "A
useful little
gadget, provided that you are
prepared to
invest the time
and effort in learning
how to use it.

This is a lot more than just another organiser and, compared to the Sharp or the Casio, it doesn't really measure up, but add the PC compatibility and the programming functions and you have a valuable package."

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SF-5100 DIGITAL DIARY

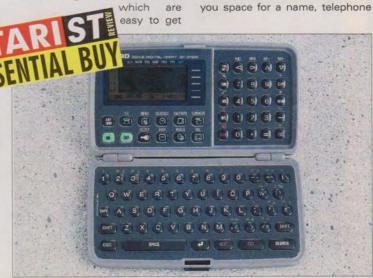
CASIO • £64.99 • 32 K

IN BRIEF: Without wanting to be sexist about such inanimate objects, there is a distinctly feminine feel to this organiser. Its grey case and pastel shades certainly give it an attractive appearance that would appeal to the ladies. It's not just a pretty face, though. It has a range of features, all of

to grips with, and an excellent user manual which is misleading in its size, since instructions are in three languages.

The icons featured on the keypad, which are cross-referenced in the manual, make for easy access to the required functions, and the procedure for entering, editing and searching for data in the telephone directory, memo, schedule and reminder follows the same pattern.

The telephone directory gives you space for a name, telephone



Stylish and compact, Casio's SF-5100 is designed to please.

number, address and up to six 'free' entries, meaning that you can include such details as birth-days and anniversaries.

The memo function gives you a maximum of 384 characters, which is plenty for most messages that you're likely to write. The world time function features the current time in any one of 29 time zones around the world. When you enter the function, you are presented with a map of the world (which is just about recognisable and is actually a reasonable achievement, given the digital display).

To change the time zone, all you need to do is to simply scroll across the screen, whizzing through the world as you do so.

The SF-5100 can be linked to another SF unit or a PC for data transfer, and data can also be stored on a floppy disk.

Of course, to do this you will need additional cables and software – and according to the manual, the latter isn't available 'in certain geographic areas'.

This isn't, however, a major problem – such abilities are a bonus in an organiser of this size, rather than an absolute essential.

ST REVIEW COMMENT: "This is an extremely attractive and user-friendly device. If you're looking for an organiser capable of various functions, but don't want to spend a week trying to work out how to use it, buy this one - now!"

00000

SF-4300 DIGITAL DIARY

CASIO • £59.99 • 32 K

IN BRIEF: This model is very similar to the SF-5100 and most of the differences between the two are cosmetic. Its appearance is much more rough and ready than its cousin - it is slightly lighter than the 5100 at 110 grams, as opposed to the former's 130 g and it certainly feels flimsier. The case isn't sprung as with the 5100, and upon opening you get the impression that it could easily break.

The keys on this model are rubber, as opposed to the plastic ones on the 5100 and are therefore less comfortable to use.

All of the functions are carried out in exactly the

same way as the 5100 and the data transfer facilities are the same, as is the use of icons. Indeed, the two machines are so similar that if you put the two manuals side by side, and you'll have trouble working out which one is which.

One point that it does score over its cousin is the inclusion on the inside of the lid of instructions for the main data functions, meaning that you don't have to refer to the



The SF-4300 may not look as dashing at its big brother, but in true Casio style, it offers similar functions and a familar feel.

manual so often. However, this sacrifices the handy separate calculator keypad that is one of the major advantages of the 5100. I suppose it's a case of "you can't have your cake and eat it, but I for one prefer the arrangement on the SF-5100.

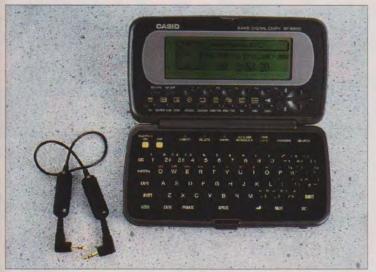
Whereas the 5100 makes full use of the inside of the lid for the screen, function keys and a separate calculator keypad, all of these features are crammed onto the

keypad on this model, giving it a more cluttered look.

ST REVIEW COMMENT: "This may come across in some respects as a poor relation to the 5100, but if money's a bit tight or you're not greatly influenced by appearances, this is still an easy-to-use device that will take next to no time to become familiar with."

BUYERS GUIDE

	ATARI PORTFOLIO	AMSTRAD NC 100	CASIO DATA CAL DC-830	CASIO SF 9300	CASIO SF 830
PRICE	£249.00	£199.00	£19.99	£169	£119.00
MEMORY	128K	64K	150 ITEMS	64K	64K
KEYBOARD	K	K	Ī	K	K
FUNCTION KEYS	10	4	4	10+5	9
CALCULATOR	0	0	0	0	0
WORLD TIME	0	0	NO	0	0
HOME TIME	0	0	0	0	0
SCHEDULE	0	0	0	0	0
CALENDAR	0	NO	NO	0	0
PASSWORD	NO	0	0	0	0
COMMUNICATIONS	0	0	NO	0	0
PHONE DIRECTORY	0	0	0	0	0
ADDRESS BOOK	0	NO	NO	0	0
MEMO	NO	NO	NO	0	0
BUSINESS ADDRESS	NO	0	NO	0	0
GAME/MEMORY CARDS	0	0	NO	NO	0
SPREADSHEETS	0	0	NO	NO	ON CARD
WORD PROCESSOR	0	0	NO	NO	NO





Virtually identical, the only differences between these two lie in the IC card system and the extra £50 price tag.

SF-9300 DIGITAL DIARY

CASIO . £169.95 inc . 64K

IN BRIEF: The SF-9300 is virtually identical in specification to its smaller brother the 8300 but the extra £50 it costs gives you the advantage of being able to use the Casio IC system.

These are cards which slot into the machine and enable the user to extend either the size of the machine's memory or to add a new software function like a game, a spreadsheet or a specialist application like a scientific calculator.

In terms of its more basic functions the diary is virtually identical to the 8300 but has the addition of five function keys which are utilised by the slot-in cards. There is also a four button cusor pad which replaces the four arrow keys for cursor movement.

Small, light and nicely shaped, the 9300 slips easily into a pocket or handbag and can hold many times more information than any similarly sized filofax. and recall of any data is fast as all entries are automatcally sorted into alphabetical order. With the inclusion of a selectable alarm function to cover

ST REVIEW COMMENT: "I used one of the earlier, non-card versions of this machine and found it invaluable. As a casual organiser for phone numbers,

addresses, memos and birthdays they are excellent, although the plug-in cards seem very pricey."

DATA CAL DC-830 BK

CASIO • £19.99 • 150 ITEMS

IN BRIEF: This is really the smallest organiser that you can get. The size of a credit card and only slightly thicker, the DC-830 can hardly match up to any of the other machines we've looked at. However, it's included here as it has to score the highest of any of them in at least two areas – portability and price.

The DC-830 really is small enough to fit in with your credit cards and any other bits of plastic and so should be the sort of thing that you can carry around with you everywhere.

A touch sensitive keyboard allows you to enter information – this will consist predominantly of telephone numbers, but there is space for names although this is limited to eight letters. You will find, however, that the space provided for telephone numbers is not sufficient to enter some international numbers.

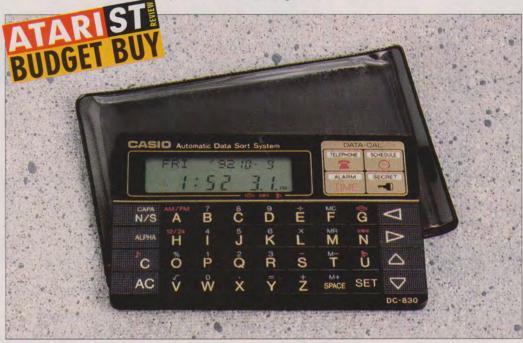
The schedule is very basic, but it will prove useful for providing simple reminders using the inbuilt alarm.

A password key is included but it's difficult to see any reason for denying access to phone numbers that rarely contain any full name entries.

ST REVIEW COMMENT: "The DC-830 does nothing well. Its alarm is weak, lack of space for input make surname and initial entry for telephone numbers compulsory and the alarm is quiet. However, for storing telephone numbers whilst you are on the move its great! This one is completely portable and surprisingly robust for its size!"

0000

CASIO SF 5100	CASIO SF 4800
£64.99	£59.99
32K	32K
K	K
8	8
0	0
0	0
0	0
0	0
0	0
0	0
0	0
0	0
0	0
0	0
NO	NO



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PARASOL STARS **POPULOUS** POPOLOUS 2 PREMIER MANAGER PRO TENNIS TOUR PUSH OVER PUZZNIC RAMPART REACH FOR THE SKIES

ROBOCOD ROBOCOP 3 SABRE TEAM SECRET OF MONKEY ISLAND SENSIBLE SOCCER SHADOW WORLDS SHOOT EM UP CONS KIT SHUTTLE SILENT SERVICE 2 SPECIAL FORCES

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Hardware accelerators are a good way of speeding up the performance of your ST, but they need fitting and can be expensive. The alternative could be a software accelerator. Tony Kaye looks at two packages that have recently been improved

"Slightly slower than NVDI, but fully featured and easy to use"

NAME: WARP 9 **COMPANY: ST CLUB**

CONTACT: 0602 410241

PRICE: £24.95

RELEASE DATE: OUT NOW MIN MEMORY: 0.5 MB

SPEED

00000

DOCUMENTATION

00000

ADDITIONAL FACILITIES 😡 😡 😡 😂 **VALUE FOR MONEY**

00000

OVERALL

oth Warp 9 and NVDI have undergone new updates recently. To understand their purpose, we need to be aware of what they do and the advantages of installing them.

Accelerators speed up the process of placing information on the screen. One immediate advantage is that the time taken to open a window is greatly reduced. Most accelerators work on the VDI Visual Display Interface) section of the display.

The VDI is, in simple terms, the process of displaying information on the screen. So the faster this is handled the faster the screen can be updated.

GROWING PAINS

One of the features of the GEM desktop is that when you open a box, a growing outline appears. This is visually effective, but it slows the process down.

By eliminating the growing box, the action of opening a box speeds up dramatically. Add to this other speed-enhancing tricks and an accelerator is born.

WARP 9

Warp 9 from Codehead Software in the USA is a no-nonsense accelerator that does its job well. The program comes with a host of util-



From the Warp 9 Accessory the option screen allows you to adjust the speed settings.

suit your own requirements.

These are all accessed through a desk accessory which offers two screens. The first is for the options such as mouse speed and scrolling, using the F1 to F3 keys as alternatives to the mouse for alert boxes, zooming boxes and a fast loading feature.

The second of these screens deals with the screen options. From here, you can change the

display font, turn the screen save on or off or have a patterned fill or picture on the desktop instead of the normal green background.



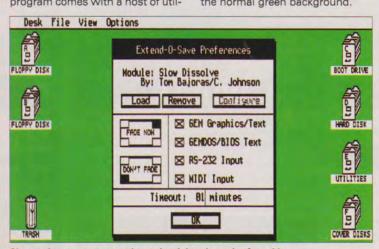
Change the screen saver and font as well as a background picture or pattern here.

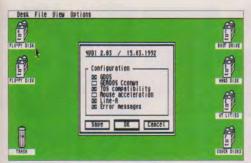
NVDI

NVDI hails from Germany and includes such features as GDOS and mouse acceleration. The control panel for this program can be loaded as an accessory or as a CPX extension for the Atari Xcontrol panel (which was given away on the cover disk of Issue five). This gives you control over the main functions.

NVDI is practical and functional, but it does have one drawback for the casual user. If you try to run Timeworks or another program that requires the use of GDOS fonts, then you can't easily run NVDI. The answer is to go into some nifty adjustments at code level or, much more simply, disable the accelerator.

Unfortunately, the latest version was stuck at customs at the time of reviewing, so this test uses the current version, 2.03.





Pictured above is the accessory for changing the settings in NVDI.

THE TESTS

Both NVDI and Warp 9 were put through the same series of tests. There are other tests available, but these give a representative sample and a fair view of each program's capabilities. The benchmarks used were: The Benchmark by Ofir Gal; NBM (the Ness Benchmark) by Jim Ness; GEM Test from NVDI; and Quick Index V2.2

THE RESULTS

Both programs do the job quite well. You certainly notice when an accelerator is not loaded when you've been working with one for a while.

For the impatient, some kind of acceleration is a must on the ST. My personal preference? Well, I liked them both and can see very definite advantages to each. NVDI is certainly the faster and most expensive of the two, but it can be used for most applications. However, as screen redraws are

"A good sturdy product that speeds the ST up considerably, but expensive"

NAME: NVDI V2.03 (NEW VERSION IMMINENT) **COMPANY: ATARI**

WORKSHOP CONTACT: 081 693 1919

PRICE: £49.95

RELEASE DATE: OUT NOW MIN MEMORY: 0.5 MB

SPEED **DOCUMENTATION**

00000 ADDITIONAL FACILITIES 😊 😊 😂 😂

00000

VALUE FOR MONEY 00000

OVERALL

the main speed advantage, Warp 9 is certainly easier to use when you are running GDOS programs such as Timeworks.

Both packages have particular advantages of being able to use both programs, but if I had to part with my money for only one, I think I'd take a slight reduction in speed and go for the cheaper

Warp 9 which is half the price of NVDI. Having said that, a new version of NVDI is due to arrive in this country at the time of writing, and we'll be looking at it next issue for any of you who'd like to reserve judgement until you've seen the latest version of NVDI.



Using XControl, the NVDI setting program is available as a CPX.



Situated at the bottom of the control panel selector is a module for NVDI Config.

CONCLUSIONS

Both programs and are well worth considering. Although they both have disadvantages. In operation, they do their job need to look at what is offered in the package. NVDI is great for speed, but I don't like having to play around to use GDOS programs. Warp 9 offers a range of utilities but it is slightly slower. If price is important, unless you have a specific reason for wanting NVDI, then it has to be Warp 9 I'd still like to reserve final judgment until we've reviewed need to be special. Both of these programs offer an ideal alternative to fitting hardware like a Turbo 25 board.

TEST RESULTS

Here are the final screens from all of the tests. They show the high and low points of both programs in terms of speed.

1 1



MBM.PRG

Test Print Compare Exit

in TT/ST ram

2

BENCHMARK



NESS BENCHMARK



BINDER22.PRG E: (# (#) HD 110 PM PD I.O.L.C.SIE III

NVDI GEM TEST



Attribute functions: 369 Z
Inquire functions: 365 Z
SCAPES

QUICK INDEX

MVDI GEN Test

TOS 1.00 TOS 1.02

TOS 1.04 11-105

Test Time Ratio

0.4982 1886X

GEM Dialog Box: 2.5352 365X

FANTASTIC

Andrew Wright looks
at an
essential
Timeworks add-on,
the bitmap font
editor and
converter, Fontkit
Plus, now at version 4

Superb interface
Scores of usable fonts
Can convert from
various sources
Excellent Calamus
conversion option
Good global editing functions
and special effects

PROS AND CONS

Fonts limited to 54 points in size No conversion from PostScript or Pagestream font formats

"Better than ever – the best bitmap font editor around"

NAME: FONTKITPLUS v4 COMPANY: ST CLUB CONTACT: 0602 410241

PRICE: £24.99
RELEASE DATE: OUT NOW
MIN MEMORY: 0.5 MB

OVERALL

94%

he best just got better" is a pretty h a c k n e y e d phrase, but in the case of Fontkit Plus, it's actually true. Fontkit Plus has always been THE essential utility for users of Timeworks and other GDOS applications and with the release of version 4, it offers more features, an improved interface and even more ready-to-use fonts.

Fontkit Plus is essentially a bitmap font editor, but there is a lot more to it than that. Its main purpose is to import outline and bitmapped fonts in several different formats and convert them quickly and easily into fonts that are suitable for use in GDOS applications such as Timeworks, Wordflair and Easydraw.

The program has a powerful set of editing facilities which lets you create new fonts from scratch or tidy up those you have converted. You can also scale the fonts up or down to increase the range of point sizes that are available to your application.

It doesn't stop at GDOS fonts. You can edit ST screen fonts, downloadable printer fonts for various dot matrix printers, Canon and Star Bubblejets and Hewlett-Packard Deskjet and LaserJet printers, and fonts for *That's Write*, *Write On* and the *Signum* and *Script* word processors.

ONE PROBLEM SOLVED

If your printer can't actually download fonts into its own memory (and most don't), Fontkit provides a combination of utilities, Fontprint and Fontswitch, which let you emulate this facility using the ST's memory to store printer fonts. You can convert, create or edit printer fonts (or use one or more of the 38 existing ones supplied with Fontkit) and use them to print from text-only applications such as First Word Plus.

Fontkit Plus also includes Trimfont, a very useful utility for compressing GDOS fonts (often to under 10 per cent of their original size) and stripping out unwanted characters to conserve disk space. For floppy drive users, the benefits are incalculable, especially when used with another program, Fontxpander, which lets applications like Timeworks use the fonts in their compressed format.

Fontswitch 4 changes screen fonts and manages downloading to your printer.

INSTRUCTIONS

If all this sounds a bit complicated, you can rely on the manual to help you out. Version 4 includes a completely rewritten manual which goes to great lengths to explain the differences in font formats, how to use the various programs in the package and how

to convert and edit fonts.

Version 4 is a major upgrade of Fontkit Plus. You can now have up to seven windows open at any one time, letting you edit and compare fonts more accurately. The maximum point size has increased, enabling users to create and edit fonts of up to 54 points at 300 dots per inch.

Other features of the program include an HP font export module, memory-resident import/export modules, a much improved user interface (including keyboard shortcuts for virtually every command), a larger paste buffer, a 10-level undo facility (very useful when working with fonts) and a dedicated file selector.

IN CONTROL

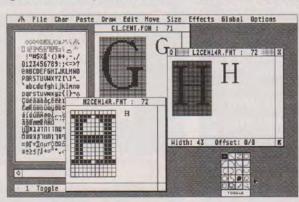
The editing tools are excellent and give the user very fine control over

individual characters and their placement within the character cell. Clicking the right mouse button brings up a small toolbox with drawing tools such as circle, square, bezier curve, magnify and fill. There are also a number of options for producing special effects to all the characters in a font at once.

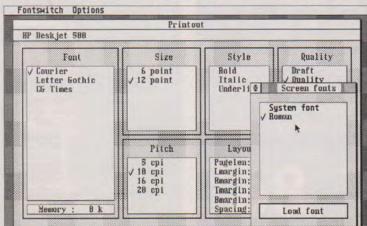
Options include outlining (much more flexible than doing it from within **Timeworks**), inlining, shade, shadow, 3D and contour.

SPECIFICATIONS

Fontkit Plus is supplied on four double-sided disks with an A5 manual in a sturdy ring binder. Two of the disks are given over to nearly 150, including two professionally designed Calamus fonts from Gate Seven Computers and three sets of GDOS fonts in a range of different point sizes. The Century and Century Italic fonts are particularly good and can be incorporated straight into your Timeworks setup. Also included are several Hewlett-Packard printer fonts, some Apple Mac screen fonts and 17 screen fonts. Fontkit Plus 4 represents excellent value for money - if you're enjoying using Timeworks, you'll enjoy it a lot more with Fontkit Plus.



Fontkit Plus – multiple windows, good drawing tools, plenty of addon utilities and extra fonts make it a very good value package.



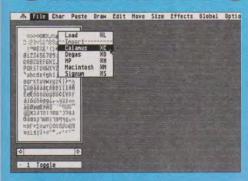
FOR SESSENTIAL BUY

STEP BY STEP



To demonstrate how easy it is to use Fontkit Plus, here's a walk-through sequence, showing you how to convert a Calamus font into GDOS format and save it for Timeworks

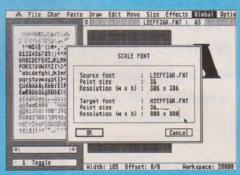
CREATING TIMEWORKS FONTS



Selecting 'New...' from the menu produces a detached, drop-down menu under the mouse pointer's present location. You can now load an existing font or import any of the formats listed. In this case we'll choose a Calamus format font.



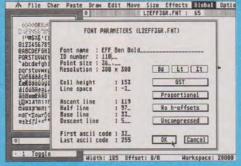
Fontkit imports the Calamus font, character by character, converting it into a GDOS format font. It even names it according to the standard convention devised by the author.



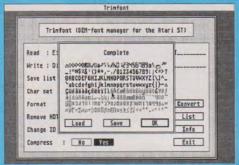
The font can be saved and used as a template for a matching screen font. Fontkit will let you scale the font either by resolution or point size – for Timeworks an 80 dpi screen font will do nicely. Press OK. At low resolution it doesn't look quite as good and it can be tidied up, but this isn't vital.



We'll choose the Ben font included in the package. This is a high-quality conversion done by Gate Seven Computers and supplied in two weights. Note the customised file selector built into Fontkit Plus with the more common font file extenders laid out conveniently on the right.



The Parameters dialogue box in Fontkit provides some useful info. For Timeworks (not version 2) the ID number has to be below 127 so we can change it here. We can also select the desired format. GST format is recommended. The horizontal offsets should be removed.



Nearly there now. The only problem is that our 36 point printer font is around 350K in size! Trimfont allows you to cut out the unwanted characters using either a predefined file or by hand, clicking on the characters to remove them. You can also compress or uncompress the font.

000000000000000000000000000000000000000			
8123456789:;<=	IMPORT	CALAMUS FONT	
PORSTUVAXYZENI	Point size !	36L	100
abcdefghijkle	Resolution :	300 * 300	90
pgrstuvmxyz{I}	Proportion :	1 / 1_	La California
CUESS SACEERY IT	Horiz offsets :	Neg Pos	
aldunkagi - 4% i adagetano '96			East 1
ארי מאולאפולמה לכינותו והדגבאון	Quality :	High Hed Low	1033
פורותשרקצפנס	Char table :	Mone	
ΕΒΓ ΤΣΟμΤΟΘΩδ90			100
B#7761972	OK	Cancel	

The next dialogue box lets you choose the point size and resolution. You can also choose whether you want a high-quality conversion that takes longer. You can specify negative or positive offsets and load a character table information file that will tell Fontkit Plus which of the 255 or so characters to import.



oft's a good idea to look through the characters to ensure they are all sufficiently well converted. At large point sizes the fonts shouldn't require much attention at all, but for point sizes under 14 points or so, a little editing is often necessary, if only to remove the odd stray pixel.

A file	Edit Options Page Style Text Graphics Help D:\PUBLISH\UMTITLED.DTP
EDOV SERVE BULLEY HEROLINE SUBJECTO	EFF Ben Bold 36 point
0	EFF Ben , Bold 72
	BOIG 72

Here is the converted GDOS font in all its glory. As you can see, the procedure really isn't all that complicated.

ATARI STE ESSENTIAL BUY

DAWNING

The new generation of laser printers has begun to arrive in the shops, and once again Hewlett-Packard has got there first. John Mallinson takes a look at the current apple of HP's eye

Hewlett-Packard's 1989 model, the LaserJet III (below)...

...and now, the LJ4 (right), neater, better specified, and (a bit) cheaper.



he LJ4 is the start of a new family for Hewlett-Packard. lt's mid-range model which replaces the LaserJet III (note that for reasons best known to HP the new model is the '4' rather than the 'IV'). Expect slower and cheaper (LJIIIP-like), and faster and more expensive models from HP to appear over the next year. In fact, two versions have just been released the plain LJ4, and the 4M with more internal memory (six Megabytes) and built-in PostScript emulation: we tested the first of these here.

COMPLETELY DOTTY

The most striking and exciting change is that the 'normal' laser printer resolution of 300 dots per

inch (dpi) has been upped to 600. This means that where there would have been one dot on the page there are now four, and the clarity and delicacy of the print is increased accordingly. Laser printers have always been known for clear print, but the LJ4 gives results which are noticeably cleaner and sharper. Its normal print is very difficult to distinguish from proper typeset material, and graphics come out with an almost (but not quite)

this the LJ4 has a new printing mechanism from Canon (the EX engine), and also uses special 'microfine' toner.

If a page has four times as many dots then up to four times as

much information may need to be

photographic quality. To achieve

sent to the printer, and more memory will be needed to store each page in the printer before it's actually put down on paper.

This could have resulted in slower printing, but Hewlett-Packard has improved the efficiency of the parallel port (the connection to your computer), as well as providing more memory (two Megabytes standard), a faster internal processor (an i960 20MHz RISC chip), and improving data handling.

IN GREAT SHAPE

The LJ4 looks quite different from its predecessor. It takes up less desk space, being two inches narrower and four inches less deep, although it is two inches taller. These proportions will make it much easier to fit into a crowded office. It's also made neater by

having the main paper tray underneath, rather than sticking out at the front, and it's eight kilograms lighter than the LJIII.

600 dpi has arrive And HP makes it even sharper

There are several minor changes which make it a pleasure to use: the on/off switch is at the front rather than lurking round the back, and the control panel is on top, rather than on the front. These are minor points, but save a lot of stooping and groping.

PLAIN AND SIMPLE

The control panel itself is a model of clarity: there are eight clearly labelled buttons and a very readable display to show you what's happening. Instead of the usual dim and scarcely legible LCD strip, HP uses a vacuum-fluorescent panel which is bright enough to be read from the other side of the room (if necessary). Fiddling with

OF ANEWEST-PACKARD LASERJET4



paper and envelopes. The LJ4 has a straighter paper path so it doesn't have this alternative; paper comes out pretty flat.

The other main features on the outside of the printer are the liftup lid on top for putting in the toner/drum unit, a flap at the back through which you deal with paper jams, a panel on the righthand side to get at the slots for adding extra memory chips, and a recessed door on the front, where you plug in extra font cartridges. Construction is reasonably solid.

The standard printer connections are parallel and serial ports; the 4M has a LocalTalk connector for connection to an Apple Macintosh. The parallel port is said to allow faster transfer of data than normal, and is also two-way, so that printer status messages can be flashed up on your computer screen (this feature works on a PC, but don't expect to see them on your ST). If you have several computers they can be connected to different ports on the machine and the printer will automatically switch between them as their print jobs finish.

DRIVING IT

Getting going with the LJ4 is very simple. Remove the packing, put in the drum/toner unit, load some paper, plug in your ST and you're off. Although this is different in many respects from the LJIII

FONTS

If you fancy a printer with a large collection of internal fonts, then the LJ4 is for you. The LJIII was fairly typical of its price and time in having four (Courier, Line Printer, Times, Univers). The LJ4 has 15. There are the usual Courier and Line Printer, and then there is a collection of serif fonts (Clarendon, Garamond, Omega, Times, Times New), four sanserifs (Albertus, Antique Olive, Arial, Univers), two scripts (Coronet and Marigold), a Symbols font and Dingbats. Most are also available in bold, italic and bold-italic versions, and most can be scaled to any size between 0.25 (!) and 999.25 points. They look good and the extra resolution of the printer makes the more complicated faces such as the scripts very clear indeed.

models, it is entirely compatible with them, so any LaserJet printer driver will work.

One of the problems with getting such a new machine for review is that the software writers haven't yet had time to produce printer drivers which will use its features to the full. From a printer's viewpoint there are two sorts of software program: those such as word-processors that use the printer's internal fonts (e.g. Protext or First Word Plus), and those such as DTP programs (Timeworks, Calamus), graphics software, or some other word processors (Calligrapher instance), which don't use the printer fonts but send the image of the page dot by dot.

In the first case the amount of data to be sent to the printer is fairly small and printing is correspondingly fast - however, the software still needs an appropriate printer driver so that it can use all the new fonts in the machine. In the second case, where dot-bydot information is being sent, the situation is even more complicated. For a full A4 page a very large amount of information (one to two Megabytes) is being processed and transferred, and printing is usually much slower. With a properly written graphics printer driver, things can be speeded up tremendously by using data compression. This is a clever technique, a little like reducing the size of your disk files by archiving them with an ARC or LZH utility - but done 'on the fly'. The LJ4 has a new form of 'adaptive' data compression, but special printer drivers need to be written to take advantage of this.

Since dedicated drivers aren't available it isn't really possible to say how fast the LJ4 is compared to the LJIII or other printers. Straight text pages are turned out at more or less the mechanical maximum of eight per minute, but this is the same as on the LJIII. For graphics data it should be faster, but time will tell. Various software companies that we have spoken to are producing LJ4 drivers for the ST, so by the time you read this the situation should have changed.

PICTURE THIS

With text you'll see increased clarity, especially for small type sizes. In fact, even using 300dpi Courier

CG Times

CG Times Bold

CG Times Italic

CG Times Bold Italic

CG Omega

CG Omega Bold

CC Omega Italic

CG Omega Bold Italic

Clarendon Condensed

Univers Medium

Univers Bold

Univers Medium Italic

Univers Bold Italic

Univers Medium Condensed

Univers Bold Condensed

Univers Medium Condensed Italic

Univers Bold Condensed Italic

Antique Olive

Antique Olive Bold

Antique Olive Italic

Garamond Antiqua

Garamond Halbfett

Garamond Kursiv

Garamond Kursiv Halbfett

Marigold

Albertus Medium

Albertus Extra Bold

Arial

Arial Bold

Arial Italic

Arial Bold Italic

Times New

Times New Bold

Times New Italic

Times New Rold Italic

ΑΒΧΔΕφγηιφΥ'≥×∂+≠≈ 3#3

おあちゃっえりの出来の〇〇

Courier Bold

Courier Italic

Courier Bold Italic

Letter Gothic

Letter Gothic Bold

Letter Gothic Italic

Feel the quality - 15 fonts for all seasons built into the LJ4.

the various printer settings from the control panel is much easier than on other machines I've used, largely because you can actually see what you are doing.

The paper tray holds 250 sheets, and there is a gauge to show you roughly how full it is; another 500 sheet tray is available as an extra. Less convenient is the second paper/envelope feeder which flops down at the front (rather like that on the IIIP). This is only for occasional use (though it can hold 100 sheets) and there's a rather awkward pull-out extension to the flap which always jammed when I tried to slide it back in again. A black mark here.

Paper comes out face-down on top of the machine. Many laser printers have a second straightthrough paper exit because of their tendency to buckle thicker

drivers the results from the LJ4





are quite superior - this is because of the new finer toner powder and the fact that even at 300dpi the dots are smaller. But the biggest difference becomes visible when printing graphics.

Consider a photo which has a range of tones from white to black with lots of different greys in between. Can a laser printer produce anything similar? The problem is that a laser printer can't print grey - only black dots of varying sizes (or none). When a laser tries to print a grey area a process of 'dithering' is used.

This means that different patterns of black and white dots are used to simulate grey - the closer the dots in the pattern, the darker will it appear.

If you've looked at graphics printouts from 300dpi lasers (or inkjets or dot matrix printers) you will have seen this effect: instead of uniform shades of grey, you have different patterns - scarcely photo-realism. At 600dpi these dither patterns are finer and the whole appearance is very much more life-like.

The print resolution of the LJ4 is effectively 600 x 1200dpi because of the Resolution Enhancement technique that is used. This is a way of smoothing the edges of characters or images by varying the dot size: HP first introduced it in the LJIII. The LJ4 is an impressive graphics printer but we are still a long way from having true photographic quality on our desktops - for that you need something which prints at more like 2400dpi!

KINDER TO THE NOSE

Last but not least amongst all these new features is that the LJ4 doesn't smell. Lasers smell? Certainly. Very high voltages are used to produce the electrical charges which stick the toner onto the drum, and then onto the paper. Oxygen gets split to ozone, and the LJIII (and many other lasers) certainly emits a whiff of this nasty pungent stuff every so often. The new Canon EX engine uses a different system and is

THE COMPETITION

What are the alternatives to this superb machine? At the moment none, as there is nothing comparable at the price. Canon has just announced the LBP-8 IV which will cost about the same and have a similar range of features, and this should be available shortly.

In our October laser printer round-up the Ricoh LP1200 came out as a best buy and was the only reasonably-priced printer then capable of more than 300dpi. It will cost you £350 less than the LJ4, but has 400dpi as opposed to 600dpi, fewer fonts and is generally less sophisticated - having said that, though, it's still excellent value for money.

With the LaserJet 4 HP has again shown that it leads and the others follow - though why the others are happy to do so remains a mystery. This is an evolutionary rather than a revolutionary machine, but it is obviously going to give a standard for other manufacturers to compete against until, that is, the LaserJet 5 comes along in three years or so.

Far left: Obvious coarse dithering at 300dpi. Left: Nearly photographic quality from the LJ4 at 600dpi. © Hewlett-Packard

THE FUTURE

The new 600dpi standard (and it will inevitably become standard for midprice laser printers) will have a lot of effects on the printer market generally in the next year or so. The most significant of these are likely to be:

Lots of new 600dpi lasers will appear, some cheaper than the LJ4.

300dpi four pages-a-minute lasers won't disappear but will drop in price probably to £3-400. There will then be two laser standards (as in the dot matrix printer market with 9 and 24 pin printers).

You should see a lot of cheap, good, second-hand lasers in the columns of computer mags, Loot, and Exchange & Mart as people upgrade (anyone want to buy mine?).

As laser prices fall, inkjets (the next down the price scale) will become still cheaper.

Dot matrix printers will all but disappear, apart from a few very cheap ones, and some very expensive specialised ones.

Affordable colours lasers? That will be the day.

"Superb range of fonts, excellent print, good price"

NAME: HP LASERJET 4 **COMPANY: HEWLETT** PACKARD

CONTACT: 0344 369369

PRICE: STANDARD VERSION £1,649 **POSTSCRIPT VERSION** £2.249

RELEASE DATE: OUT NOW MIN MEMORY: 0.5 MB

EASE OF USE DOCUMENTATION CONSTRUCTION

00000 00000

00000 **PRINT QUALITY** 00000 **OVERALL**

almost entirely ozone-free. You can breathe freely at last. BUYERS GUIDE

LASERJET 4

RRP £1,649

STREET PRICE £1,174

SIZE 30x42x40 CM

WEIGHT 16.8 KG

MEMORY 2 MB

PROCESSOR INTEL 20 MHz 80960 KA

SPEED 8 PPM

FONT FAMILIES 15

SCALABLE 14

RESOLUTION 600 dpi

RESOLUTION ENHANCEMENT *

PAPER CAPACITY 250 + 100 SHEETS

LASERJET III

£1.700

£1,210

25x46x50 CM

25

1MB

MOTOROLA 16MHz 68000

8 PPM

4

2

300 dpi

150 SHEETS



ORY UPGRA

HCS STE and MEGA STE UPGRADES

HCS STE memory upgrade kits come complete with full instructions designed for the novice. The complete job should take no longer than 15 minutes. 2 and 4 megabyte kits come with free utilities disk and multitasking software.

Upgrade from 520 to 1040	£13.99
Upgrade from 520 to 1040	£49.99
To 4 Megabytes	£94.99

STF (M) and Mega ST upgrade kits

Xtraram Deluxe plug in upgrading system fits inside the computer. It can upgrade your computer in stages to 1Mb, 2.5Mb* and 4Mb. The kit comes with comprehensive instructions designed for novices. The kit uses SIMMS, so is easily upgradeable.

Marpet Xtraram DELUXE Quality SIMM upgrading Formerly Frontier	IG SYSTEM
Upgrade from 520 to 1040 To 2.5 Megabytes	£44.99
To 4 MegabytesTo 4 Megabytes	£119.99

Solder in Kit

The solder in kit will upgrade the 520ST to 1Mb. Electronics experience is required as much soldering is needed. Check your RAM chip configuration before ordering: 4 or 16 chips, SMD or DIL.

Solder in kit (all versions)

REPLACEMENTS

The HCS power supply and disk drive upgrades come complete with fitting instructions and plug straight into the ST without soldering. The Power supply produces less heat than the original so is more reliable.

Replacement	power supply	£39.95
		£47.00

ACCELERATORS

The AD speed made by ICD fits in place of your microprocessor. It uses a 68000 chip running at a switch able 16Mhz with cache or standard 8Mhz to give virtually 100% compatibility. The 68030 SST for the Mega ST gives phenomenal speed with a 68030 running at 50Mhz! The SST has space for 8Mb on board RAM, TOS2 included.

AD Speed ST	£145.00
AD Speed STE	£165.00
68030 SST - 50	£550.00
Fitting for above	£35.00
The state of the s	

INTERFACES

The "AdSCSI" ICD host adapter gives SCSI output from the STs DMA port, complete with software and full documentation, DMA cable and hard drive formatting software. Multirez allows the ST to display all 3 ST resolutions on the multisync monitor. The forget me clock sets your STs time and date, with cartridge-

Keyboard interface allows the use of external PC compatible keyboards on the ST.

AD SCSI	£69.99
AD SCSI Plus (with clock)	
Keyboard Interface	£55.00
Multirez	£44.99
Forget Me Clock	£16.99

SAME DAY REPAIRS IN LONDON

SAME DAY FITTING AND REPAIRS TO COMPUTERS AND MONITORS. REPAIRS FROM £29.99

* We offer a discount fitting service when your upgrade is purchased from usl
* Most repairs have same day turnaround on a booking system
* Repair charge includes labour and smaller items of repair
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for only £25.00

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GEARED TOWARDS MUSICIANS

ATARI MEMORY UPGRADE SPECIALISTS

14" Super high resolution 0.28mm dot pitch monitor is compatible with TT, PC, Falcon and Multirez. The new HCS MM140 Monochrome monitor has tilt/swivel base and 14" tube. Fully compatible with all monochrome

Multisync colou	r monitor	£280.00
SM144 14" FST	Monochrome	£115.00

HCS Smart Modem 9600 has full FAX capability for send and receive. Auto-answer, pulse or tone dial, automatically determines incoming calls as fax or modem, industry standard command set with support for V22bis, V22, V21. Fully Hayes compatible. All types c/w PC software. ST fax software option supports most ST graphics formats including Pagestream and Calamus for immediate composition and send. Modem 2400 has all above features but without fax. Smart One14400 comes with MNP level 1-5 and Fax capability. Using V42 bis gives a maximum effective thruput of 58000hps!!! All types come complete with cables 58000bps!!! All types come complete with cables.

The state of the s	
Smart One ™ 2400	£59.99
Straight Fax software	
Smart One ™ Fax with ST FAX software	£139.99
Smart One ™ Fax with only PC software	
Smart One ™ 14400 Fax MNP V32,V32bis,	
V42,V42bis etc	£249.99

PROTAR HARD DRIVES

Progate II	40£288.88
Progate II	40DC£349.99
Progate II	50DC£349.00
Progate II	120DC£469.00

The Vortex 386 emulator runs at 16Mhz and allows true multitasking in PC mode on the ST. Space on board is provided for a 387 CO Processor and 512K of FASTRAM. Norton factor 15!

VORTEX 386 SX-16	£330.00
387 CO-PROCESSOR	
FASTRAM CACHE	£30.00

SPECTRE GCR MAC EMULATOR

Spectre GCR cartridge gives 20% more speed and 30% bigger screen area on the standard ST. Compatible with the TT.

SPECTRE	GCR (I	nc. 128K	Roms)	£300.00
---------	--------	----------	-------	---------

Atari TT2£1050.00

HOW TO ORDER

Enquiries and credit card orders please Fax/Call on (071) 252 3113 Please phone with enquiries between

Mon - Fri 9.30am to 5.30pm. Sat 10.30am to 2.00pm

Enquiries cannot be taken by post.

For mail order please send description of goods and cheque/PO to:



Dept 10, 144 Tanner Street **London SE1**



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A LOAD OF

Upgrading TOS is a matter of changing chips in the STE, but in an STFM, it's a little more complicated. Tony Kaye visited Analogic Computers to have one fitted. Here's how it's done...

ince Atari improved the early desktops with TOS 1.04, people have been buying sets of chips so that they can take advantage of the new features. For the first time, Atari has recognised this need and, with the first really new version of TOS, 2.06, has authorised the upgrade itself.

TOS 2.06 is the operating system found in the Mega STEs and has many desirable features. The ability to drag items onto the desktop is one bonus that **Neodesk** users have had for years.

It's useful, especially for hard disk owners to do this, as it saves searching through partitions and numerous folders to run a program. Other features include new icons, key alternatives to major commands, a No Sort file option, a search option, high-density disk formatting, making this the most extensive upgrade for a long time.

We went to Analogic Computers in Kingston to see how the upgrade is fitted. In the hands of a professional, the job looks easy, but it does involve soldering on to the 68000 CPU (the main processor chip in the ST), the GLUE chip and other places on the motherboard, so if you are not totally convinced of your own ability with a soldering iron, it's advisable you to have the upgrade fitted by someone who is.

FITTING THE UPGRADE

We took a 520 STFM that was destined to be upgraded with four Megabytes of memory and a Blitter chip as well as the TOS upgrade. The step-by-step guide takes you through all of the stages to fit the decoder to the mother-

board. As you will see here, it's not a job for the faint-hearted: it involves stripping the ST down to the main board and removing it from the casing.

Once the casing is off, turn the ST over and locate the required pins. It is recommended that you put a small piece of insulating tape on the board before placing the decoder. This will reduce any possibilities of the board shorting out. Locating the pins, solder the decoder in place under the main 68000 chip. The pin numbers have been shown in the guide. Once the decoder is in place, the next step is to solder the new TOS ROM sockets in place. Early STs have the TOS on six ROMS and the later ones have two.

This leaves space to solder the new sockets. Select one marked high and its opposite number and insert the sockets into the board. Note that a blue substance comes off the board, which must be brushed off before attempting to solder the sockets.

Once these have been put in place, the remaining wires can be soldered and the chips placed in their respective sockets, then the computer can be reassembled.

Thanks to Analogic Computers for their help in compiling this guide. They can be contacted on 081 546 9575.

ST Review can accept no responsibility for any damage caused to STs by individuals carrying out this upgrade.

STEP BY STEP



1. 68000 Main processor chip. ● 2. Existing TOS1.02 chips. ● 3. Spare slots used for new TOS. ● 4. MMU chip. ● 5. Glue chip.



Remove the case, disk drive and power supply to reveal the motherboard as in the top picture. Then identify the 68000 processor, the GLUE chip, the existing TOS and the slots to be used for the upgrade.

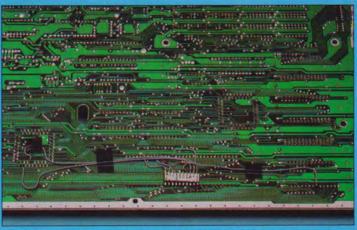


Carefully remove the motherboard from the base screen. Hold the board at the corners and push up with your fingers whilst holding the screen with your thumb.

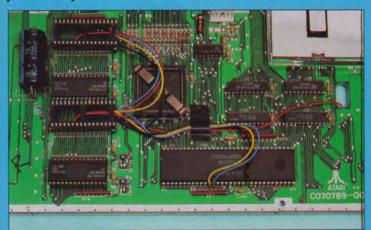
NEW TOS!



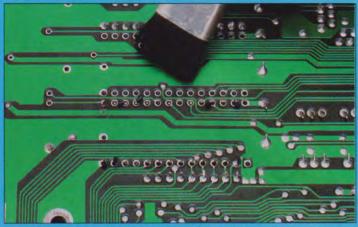
Turn the board over and identify the 68000 from the back. Place a piece of insulating tape directly on the board under where the upgrade will go. This will reduce prevent it shorting out against any existing solder joints.



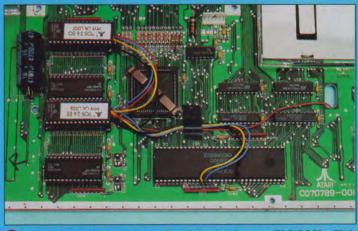
Marry up the correct pin numbers and solder the upgrade board to the pins under the 68000. Run the leads carefully so that there is no chance of them becoming frayed or pierced by the solder joints already there.



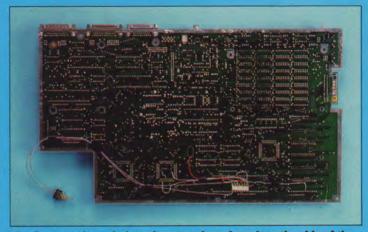
Place the new sockets in position. The sockets are in matched pairs and are marked high and low, so make sure that you use a matching pair.



When you push the sockets into the board, small blue deposits appear on the back of the board. It is vital that you use a soft brush and remove all traces of this before soldering the sockets in place. The blue is just a residue from the board manufacture.



Once the soldering is completed, insert the new TOS ROMs. Make sure that they are the right way around.



Onnect the switch to the upgrade and run it to the side of the ST. Again, you need to make sure that the leads run clear of any obstructions.

STEP BY STEP

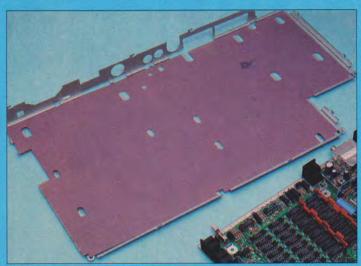




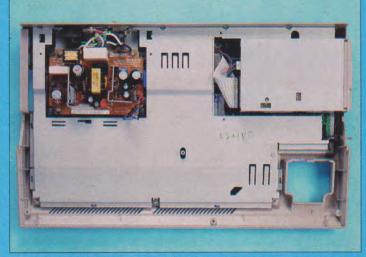
Drill a hole in the case of the ST for the switch. The diameter for this should be six millimetres.



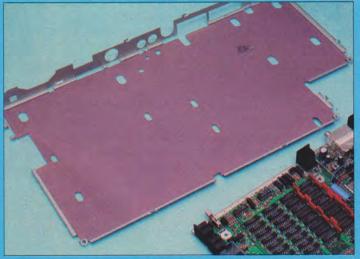
Replace the motherboard and run the switch to the hole you drilled previously. Tighten the nut around the switch with pliers.



When you replace the board, make sure that the card in the base is seated correctly, otherwise the holes will not match up. This is wrong...



Using tin snips, remove some of the screen around the switch position. By thinking it through, you can see the easiest places to cut and you will remove about five or six inches of screen.



...and this is correct. Note the difference. It may seem obvious, but it's an easy mistake to make. As it's at the bottom, it's a lot to take apart to correct!



When the power supply, drive and keyboard are replaced, it looks just like any other ST, but it has a secret. Connect all of the leads, place the switching software in the drive and switch on. You now have the choice of TOS 1.02 or 2.06.



Seikosha has released a new entry-level 24-pin dot matrix printer, the SL-90. It has a price tag of under £200, but does a low price mean less quality? Tony Kaye investigates...

PINMO

ecently, our cover disks have included word processors, desktop publishing and art packages. To take full advantage of these programs, you need a printer. DTP and word processing are a lost art if you can't have a hard copy of your work. So, you've decided to buy a printer, but which one?

You've bought all the magazines with printer reviews, bothered the guy in your local High Street dealer and even made a few 'phone calls to get advice. The jar that you have saved all of those 10 pence pieces has to be used

The new SL-90 from Seikosha: 24-pin printing at a 9-pin price.

because they've brought a new coin out and they won't accept yours soon. Still you can't decide what to spend your hard-earned money on. You'd love a laser, but the jar's not big enough. Anyway, you really couldn't quite justify buying one, so you've settled for a 9-pin at around £200.

But wait! What's this? A 24-pin printer for the same money? The print quality will be better and the machine will be faster. Hold on, where's the catch?

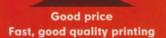
There isn't one. The new Seikosha SL-90 24-pin dot matrix printer has a retail price of £199. It slots right in at entry level and should steal quite a lot of business from the 9-pin brigade.

SPECIFICATIONS

The SL-90 boasts a print speed of up to 240 characters per second, two resident fonts plus seven more as an option, Epson LQ emulation and tractor feed and a single sheet feeder as standard.

One thing that is nice to see is the power switch on the front of the printer. For some reason, manufacturers of hardware seem to think that we all have elastic arms and don't mind reaching round the back and wading through all of the wiring and paper feeds just to switch the darn thing on or off! Full marks to Seikosha for locating the power switch on the front of the unit, making this task simple.

Paper feeding is fairly easy too, although the clips that hold the



PROS AND CONS

Awkward single sheet feed Flimsy tractor feed clips

"A good entry level printer that should take some sales away from the 9pin models"

NAME: SEIKOSHA SL- 90 COMPANY: SEIKOSHA CONTACT: 0753 685873

PRICE: £199

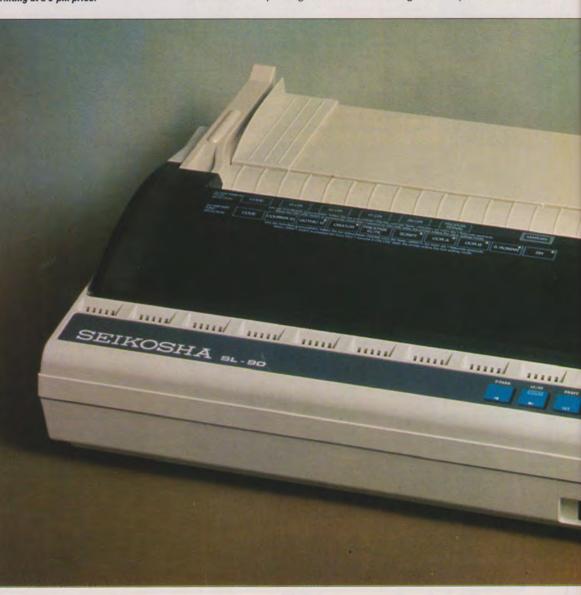
CUT SHEET FEEDER: £75 BLACK FABRIC RIBBON : £5.90

FONT ROM £22

DESIGN 00000 CONSTRUCTION 00000 **EASE OF USE** 00000 00000 **PRINT QUALITY SPEED** 00000 **FEATURES** 00000 **INSTRUCTIONS** 00000 **VALUE FOR MONEY** 00000

OVERALL

82%



NEY

paper in place on the tractor feed are a little flimsy. The printer will take single cut sheets for those special letters and the rack supplied is really of little use in its upright position. It can be fitted horizontally for the tractor feed, so nothing is lost. A single sheet can be fed in and automatically taken to the top-of-form position ready for printing and the printer has a micro adjustment mode to ensure exact vertical positioning. This means that if the paper is not exactly where you want it, you can move it in very small steps to position it correctly.

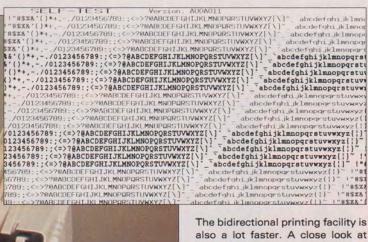
Dip switches are in the space under the print head. It is accessed by pushing the head to one side and removing the cover to reveal the switches underneath. There are eight switches, the last three of which cover character set selection. Most of the setup functions, such as pitch, margin, font and print quality are available from the front panel.

The manual lets the printer down somewhat, being just 24 pages of user information and 28 technical pages. Having said that, for normal operation, you don't really need to wade through pages of text to find out how to switch the unit on.

PRINT QUALITY

Print quality is quite good, certainly better than a 9-pin printer.

Running the built in self-test shows the print quality in draft and letter quality modes.



The bidirectional printing facility is also a lot faster. A close look at the letter-quality print will reveal that it is almost as good as you get on a typewriter.

A 9-pin printer in NLQ (Near Letter Quality) mode will make two passes of the print head in one direction for each line to give the resolution.

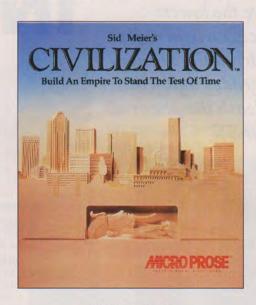
With the SL-90, only one pass is needed, and the next line is started from the other end, making it a lot faster than the alternative.

VERDICT

This is a great alternative to a 9pin printer and well worth considering if you're on a limited budget. Prices should be very reasonable indeed if you take the time to shop around.

If you only print the occasional letter to ST Review or Auntie Flo in Brighton, then you could do a lot worse than invest in the SL-90. Beware of the tractor clips, though. They are likely to break if you're not careful.

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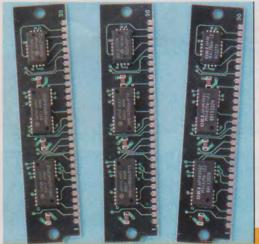
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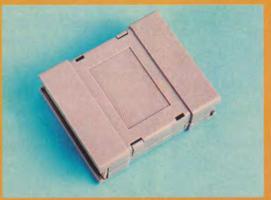
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IMAGE CONSCIOUS

Having problems taking snapshots of the screen. Ofir Gal takes a look at the ST Club's solution and discovers how easy it can be to put yourself in the picture



Imagecopy can display up to four images at any time in a friendly GEM window environment. Windows can be moved, resized. scrolled and closed.

here are plenty of programs available in the public domain which enable you to take snapshots of the screen and save them to disk.

Some, such as Megasnap, are placed in the auto folder and respond when you press the Alternate+Help key combination. Others are desk accessories which allow you to 'rubber-band' the required portion of the screen. Each program may only support one or two of the many picture file formats and you may need to convert the files before they can be used in your favourite DTP or word processing package.

From the ST Club comes yet another low-cost and useful utility to help you get around all these problems. Imagecopy can be run as a desk accessory or as a standard program and it can load, save, print and convert between almost any known picture format in any resolution.

DOCUMENTATION

Imagecopy comes in a plastic holder which contains one floppy disk and a slim manual. If you're one of those many people who don't like reading long manuals (and who does?), you'll be

pleased to know that the manual is only 19 pages long and is illustrated with screen shots to help you get to grips with the pro-

gram. The disk contains both accessory and program versions of Imagecopy as well as FreeMem, a program that gives a better than usual report about RAM usage and fragmentation. Also on disk is a collection of picture files in various formats

VERSIONS

and resolutions.

The accessory and program versions of Imagecopy are identical in operation, except that the accessory version can be used while another program is running. When you run Imagecopy or select it from the desk menu, you are presented with a menu displaying the various options.

Imagecopy offers several ways of taking a snapshot of the screen. You may select Copy Image from the drop-down menu or press C which displays a pointing finger, enabling you to select the portion to be saved. A unique feature is the ability to make fine adjustments to the frame by pressing the cursor and shift keys. Once the correct part of the screen is in

the frame, pressing Return displays the file selector where you can name the file and save it.

It is also possible to take a snapshot of the screen in the same way by pressing Alternate+Help, useful if you cannot access the accessory menu.

FORMATS

Imagecopy can save images in several formats. Degas compressed and non-compressed formats are supported as well as Atari's own IMG and Resource file format. The latter of these can be used by programmers to import icons and images into their own programs. In addition, Imagecopy will enable you to convert any IMG, Degas (PI? and PC?), Neochrome, Art Director and Tiny format picture files into IMG, Degas and RSC formats.

VIEWING

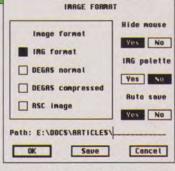
You can also view up to four pictures, crop them if needed, then re-save them before importing the files into a DTP program.

The program will also let you print images and it offers support for most popular printers, including both bubblejets and laserjets. You also have the choice of portrait or landscape orientation and paper sizes.

Using Imagecopy is straightforward and easy. It is stable and reliable and enables you to get exactly the part of the screen you are interested in.

The screen shots in this review were taken using Imagecopy which demonstrates the accuracy that can be achieved.

Written by Jeremy Hughes who also gave us such excellent programs as Font Kit Plus, Imagecopy



Imagecopy can save files in various formats. Other options allow you to hide the mouse from the screen shot and select the path Imagecopy will use to

is a comprehensive and versatile utility. Whilst it is easy to use, it provides features that you won't find on similar programs. All this, coupled with a very low price, makes Imagecopy a winner.

"The ultimate image utility' NAME: IMAGECOPY V1.2

COMPANY: ST CLUB CONTACT: 0602 410 2411

PRICE: £9.95 RELEASE DATE: OUT NOW MIN MEMORY: 0.5 MB

EASE OF USE DOCUMENTATION **EFFECTIVENESS VALUE FOR MONEY**

00000

OVERALL

Desk File View Options Imagecopy Information It-help keys mage format mage colours Printer type

The pull-down menu displays the main features of the program. Here you can select file format and printer type or invoke any of the available functions. Any options can also be saved to disk. We've got five fabulous Atari Lynx hand-held computer games systems to give away this month, and all you have to do is answer a few simple questions

FIVE LYNX COLOUR FOR GRABS!!

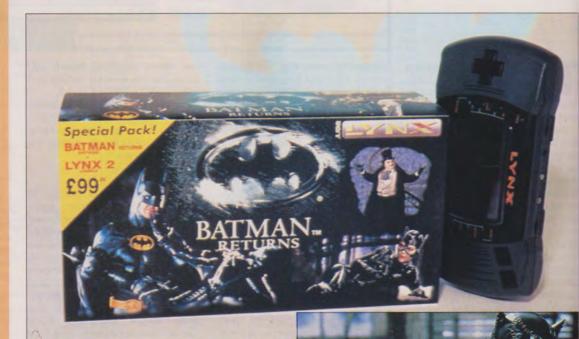
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Zalor Mercenary

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e've teamed up with Atari UK to offer you the chance to own one of five Lynx hand-held computer games packs.

Prizewinners will receive a **Batman Returns** Lynx pack, which would otherwise set you back £99.99. The pack contains the great **Batman Returns** game as well as the Lynx itself.

Boasting 4096 colours, 64 Kilobytes of RAM, a 16 Mhz processor and eight Megabyte game capacity, we can guarantee that this amazing games machine will keep you amused for a long time to come. There are hundreds of games available for you to choose from (see box, left). All you have to do to be in with a chance is ring the

Michelle Pfeiffer plays Catwoman in the film.



Superb makeup for Danny De Vito as the Penguin.

THE ST REVIEW COMPETIT

HANDHELDS UP

WORTH £500!!





Michael Keaton as Batman in the film Batman Returns.

RULES

The lines will be open from 14th December 1992 until 14th January 1993 only. The winners will be selected at random from all of the correct entries received after that date. Please note that this competition is only open to residents of the UK mainland and no entries will be accepted from employees of EMAP Images or Atari UK.

Winners will be notified as soon as possible after the closing date. The editor's decision is final and no correspondence will be entered into. There is no cash alternative to the prizes offered. Entry into the competition signifies acceptance of these rules.

Calls are charged at 48p per minute peak rate and 36p at all other times.

games on the world's best colour handheld will want to enter this competition. Luckily, entering our competition could not be simpler. Just ring 0839 500813 between 14th December 1992 and 14th January 1993 and answer a few easy questions about the Lynx. The winners will be selected at random from all of the correct answers received after the closing date.

Anyone that wants to play

HOW TO

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FIRST IMPRESSIONS

COOLWORLD

Ocean's latest game ties in to a film with a tortuously twisting plot ...

It's not often that Ocean makes a mistake with a film license, but they may not be able to ride on a wave of publicity surrounding the film Coolworld. Starring Kim Basinger, it's possible that the film may not be seen in cinemas and actually just go straight to video release.

Whilst the film and its eventual release may be subject to some controversy, the game is certainly going to have a showing on the ST. Based loosely around the film's complicated storyline, you take on the role of Harris - a cop with a difference. He's actually trying to keep the peace in Coolworld, an alternative reality populated by doodles where anything that can take place in a comic book can be accomplished.

Unfortunately, one of the doodles, (as played by Kim Basinger in the film), is hell-bent on getting it on with a human, who's



Here in Coolworld, there's always a host of doodle-like characters to avoid. The warp at the top of the screen moves you across the map.

In the film Holly, played by Basinger, is a sexual animal and the intro sequence has tried to capture this with the use of **some** completely inadequate underwear.



Warned against it, she seduces him anyway and creates an imbalance that could mean the loss of both worlds. You must skip between both

worlds - and police them to keep the imbalance to a minimum. To do this you must flit between the two worlds of doodles and reality and destroy anything that you find

existing in the wrong dimension. Complicated? You bet it is, but it all dilutes down to a platform-based shoot-'em-up with warps between levels and various power-ups. We'll be reviewing the game in full in a later issue but for now just take a look at the provocative intro screen shots and the gameplay.

STREET FIGHTER

Wayne Legg gets to grips with US Gold's new urban combat game and discovers that it really is tough on the streets

Complete mayhem returns to the ST once again, this time in the form of Street Fighter II, US Gold's conversion of Capcom's classic arcade game. In the past, some arcade-to-ST conversions have been less than impressive, but this is definitely not the case with Street Fighter II.

The game allows you to control any one of the eight strongest characters in the world, and your aim is to destroy all opponents that stand before you. Utilising the many fighting styles available, you must crush your opponents before they do the same to you. Each character has a range of highly individual combat techniques plus special abilities, which makes every one of them a lethal fighting machine



Ryu (Japan) - Martial artist and very agile to

> Zangief (Russia) Street brawler and proud of it.



Chun Li shows Blanka that brawn isn't everything, by finishing him off with her Spinning Bird Kick.

For example Ryu, the karate champion from Japan, can send forth a fireball from

his hands by harnessing his inner powers - with devastating effects. He can also strike with the Dragon Punch, a powerful, energy-sapping clench-fist blow, and deliver dangerous feet attacks with his Hurricane Kicks, amongst other things.

Other characters include the incredibly overweight but lethal, Honda, a Japanese Sumo warrior; Zangief, Russia's massive champion street fighter; and Blanka, a South American rainforest dweller with the ability to strike with electrical shocks





Chun Li (China) -Pretty (and) dangerous.

You can access the map at

your progress and see where

any time to keep track of

you need to go next.

TRANSARCTICA

All aboard for Silmarils' latest post-apocalyptic adventure

Silmarils' last release, *Ishar*, was taken to the hearts of most of the reviewers on ST Review and this month we pull the sheets back on Transarctica, where your task is to simply bring back the sun.

The game has a futuristic scenario where the Greenhouse Effect has finally taken hold of the planet and only the successful completion of a brave, scientific experiment, Operation Blind, can restore the earth.

Unfortunately, the miscalculations of the scientists cause the earth to tumble into a nuclear ice age – civilisation all but perishes under the ensuing ice sheet.

The game sees the earth centuries later. Some semblance of civilisation has returned despite the snow and ice. Small station towns have developed, with the only means of travel between them being huge trains controlled by the Viking Union along with the only source of power and currency left – coal.

Play takes place on board the Transarctica where you begin your hunt for the sun. You must travel across the world's surface looking for clues to enable you to clear the stratosphere of ash and debris and cause the sun to put his hat back on.

The game is played in real time (one second = one minute), so



players must be able to think on their feet as they constantly develop strategies and update them.

Victoria Station in the icy future. It really doesn't seem that different (except that the people are more normally dressed).

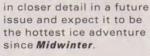
Whilst steam runs the world, more advanced technology is available to destroy



Crucial to this is the smooth running of the Transarctica. You must decide on destinations, find coal and mine it for fuel and currency. At the same time you must look after the engines, build new wagons which are are self-contained communities with war wagons, prison wagons, living wagons and so on.

Needless to say, all of this leads to an involved game requiring a myriad of tactics. There is even an optional arcade sequence which happens if you pass a Viking Union train. Weapons include missiles, cannons, infantry and even mammoths. You can even control teams of commandos to mine bridges and railway track...

A Falcon version is expected to coincide with the release of the computer in the new year. We'll be looking at *Transarctica*



Planning your journeys is crucial if you don't want to run out of coal, but at least you don't have to worry about leaves.

and a barrel-roll attack.

Street Fighter II allows for either player versus player or player versus computer combat – with the latter allowing you to test any one of the eight characters against one of four controlled by the computer – and the result is hundreds of hours of action-packed fun.

From the moment your character throws its first punch, you can see that the scrolling is truly superb. The jumping, lunging, rolling, leaping and spinning is all pixel perfect, with every move being gracefully executed. Every character moves fluidly and it is worth noting that you have to be the correct distance away

from your opponent for your blows to land precisely. This is where hours of practice pays off, as executing your character's special moves with split-second accuracy is essential if you want to do well.

Another factor that makes the game highly enjoyable is its balance. Characters who have the advantages of awesome blows and high energy suffer the disadvantages of slower movement and weaker special powers. This enables players to

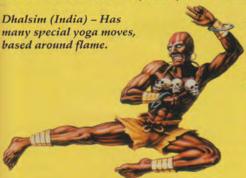
Honda sends a crushing blow to Guile's Midriff, leaving him severely weakened.

exercise their game-playing skills, with timing and preciseness being pitted against hand-to-eye co-ordination and strategy

To add atmosphere, the game's designers have supplied various backdrops, ranging from a US air-force base to an Indian palace. In the background various characters whoop and cheer your character on, while you are engaged in the ignoble art of street fighting. Needless to

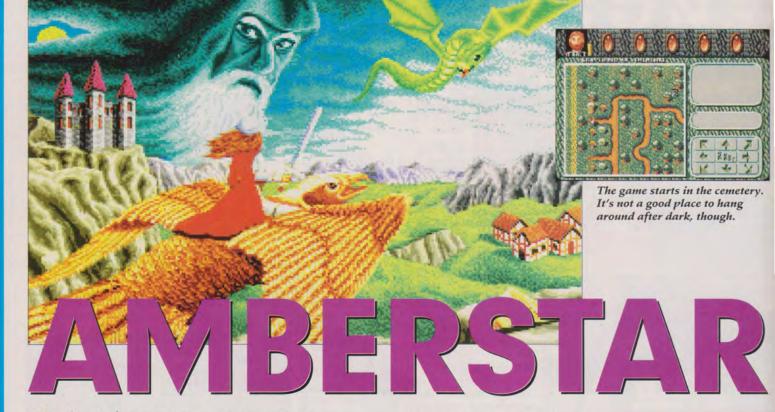
say, the sound quality is top-class, with every blow represented by bone-crushing crashes and stomach-churning thumps.

According to US Gold, **Street Fighter II** has taken a long time to convert to the Atari ST because of the amount of graphic detail it contains. Indeed, the game's release has been put back slightly because of these conversion problems and ST owners can look forward to seeing Street Fighter II on sale around late December or mid-January.









Magic and mystery abound as Thalion's latest unfolds. Mark Patterson unravels the mysteries...

ost RPGs feature a group of heroes out to destroy some unmentionable evil, but in *Amberstar* you can go one better and unleash a pre-emptive strike to prevent this evil manifesting itself et all. 1000 years

ago Tarbos, the God of Chaos, was imprisoned on the third moon of the planet Lyramion. However, the magician Marmion is now attempting to release Tarbos from lunar exile.

The only thing that can prevent him succeeding is the Amberstar, which has been broken into 13 pieces. Luckily, rituals for freeing gods trapped on orbiting satellites take a while to complete – in

fact there's enough time for a bold party of adventurers to seek out and reunite the shards of the Amberstar.

GETTING STARTED

Starting off isn't quite as straightforward as loading the game, though. If you're booting from floppies you need three blank disks to make write-enabled back-ups of the game disks, as the program information is constantly updated and saved. The next step is to generate your party.

You need six adventurers skilled in arts such as wizardry, theft and combat. Although the basis is rolling a couple of computer dice to determine a character's strengths, which are divided into categories such as strength, dexterity and luck, there's actually a lot of number crunching involved. For instance, a human warrior is faster than a dwarf, but the short guy can pack a harder punch and is far more resilient to blows.

Party members can be recruited in taverns and other places of disrepute. It pays to talk to anyone who looks capable of wielding a sword or chucking fireballs around, just in case they have some adventuring prowess and free time on their hands.

STYLES

The game is split into two distinct styles - overhead

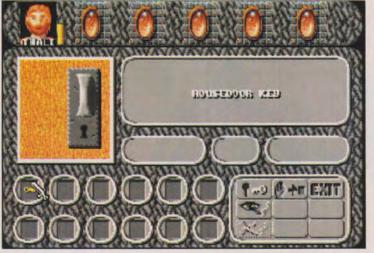
Very large Well packaged Comprehensive play system

PROS AND CONS

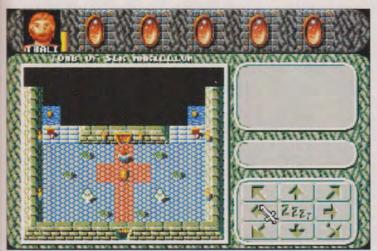
Requires three blank disks Can be tedious at times

view and 3D. The overhead section is used to navigate between towns and other locations, and shows a great deal of the surrounding area. The party is moved around the map by either clicking on the set of arrows at the side of the display, or placing the pointer on the section of map you want them to go to then hitting the mouse button. For all their talents, the party isn't very bright, and constantly blunder into trees, so you have to take time out to steer them around the most insignificant objects, which can be very irritating. To see the game in 3D you have to enter a dungeon, building or combat.

When you click on an object such as a picture or lock you're presented with a picture of it plus several options. It's usually wise to search for traps before anything else. If you perform a certain act the icon will be dulled. So that you don't miss anything it's



Clicking on an item calls up a close view, where other objects can be used in conjunction with it.



When you enter a building the view changes from 3D to top-down. Clicking with the right mouse button changes the bank of movement icons to command icons.

FELT IS HE HES

AUDINOSES IN SHORT THE RED.

HE HERE SUITING FROM THE
HIRKSTOLINGS IN THE SUSHING
HILL THE SUSHING CHARSELY
HILL THE STREET CHARSELY
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During a conversation you're given a list of topics to chat about.

best to try everything possible with every combination of obejects, especially if you've come to a standstill.

Combat is a complicated process. For starters you can be attacked from all sides, not just the front. To show you what's happening there's a tactical display at the side of the screen; this indicates where the monsters and the party members are standing. Each character takes it in turns to act.

To attack a monster with a sword or similar weapon, the character has to be right next to them. Spells can be cast at any time, although it's essential to keep your wizards out of harm's way as you'll find that they're not very good at defending themselves.

The characters are arranged in a marching order, which determines where they'll stand during combat and who'll take the brunt of any traps. It should be updated every time a new character joins the party so you can make best use of their

strengths and make any necessary allowances for any of their inherent weaknesses.

CAMPS

After a lengthy battle it's usually wise to set up a camp. Here the fighters can patch themselves up, have some food and rest, while the wizards memorise more spells. It pays to keep the map that comes with the game handy.

A good deal of the information that you need can be gained by chatting to the land's various inhabitants. When you enter a conversation you are shown a list of topics that you can ask about, although you're often required to type in your own statements if you want to gain information pertaining to your quest.

TRAPS

Traps are a constant hazard in dungeons. They range from simple traps which cause minor injuries to every member of the party, to infection

and petrifying traps. Many of the dead-ends you come across in dungeons are caused by puzzle mouths. These devices usually ask you a question and if you supply the answer they normally reward you by opening a doorway. This means you have to be very thorough in the preceding section, chatting to everyone and searching everywhere.

Sometimes it does get frustrating when you're faced with a question you haven't found the answer to, only to realise you pursued the wrong line of questioning with a particular character.

AUTOMAP

One useful feature is the automap. It's very easy to get lost, so as you progress through a maze you can call up the map screen at any time, which shows the areas you've visited plus a key that shows what the various icons mean. It comes in particularly handy at the start of the game, as the city it starts in

is very large and it's easy to miss important locations.

Much of the equipment you need can be found by looting corpses after a battle. It literally pays to keep items you

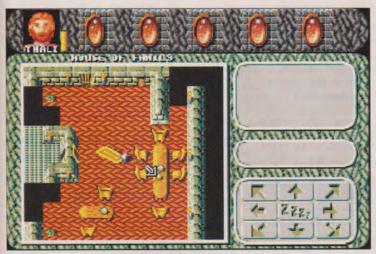
SIDE INFO

There are three schools of magic in the realm of Amberstar, each with a unique set of spells.

White Magic: This field is made up from healing spells and a few offensive incantations such as the pleasant Cause Blindness.

Grey Magic: This could be called the Swiss Army knife of the mage world. There are useful spells such as create light, magic compass. teleportation and clairvoyance.

Black Magic: The only purpose of black spells is to cause the person on the receiving end maximum pain. With these spells you can burn, drown, shake, bury or even disintegrate anyone who gets in your way.



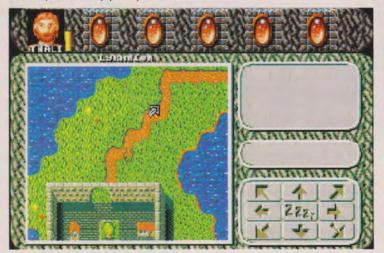
Finding your parent's house is one of the first tasks. Inside you'll find some handy magic potions as well as armour and weapons.



The magic picture seems like a red herring at first, but it soon comes in handy.



You don't encounter many people at first, but when you do find someone they're usually full of advice.



Fail to carry enough grub and you'll come to an untimely end in the middle of nowhere.

don't need as they can be sold to a merchant. You will visit several different types of shop during the game. Food traders are very important, as your party will starve if they

"Feature packed and fun to play, this one looks set to last"

NAME: AMBERSTAR COMPANY: THALION CONTACT: 021 442 2050

PRICE: £29.99
RELEASE DATE: NOW
MIN MEMORY: 1 MB

OVERALL

82%

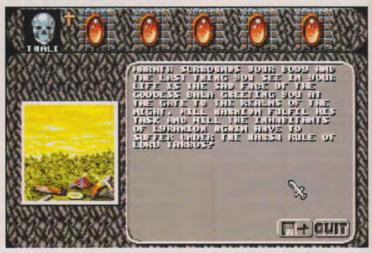
enter the wilderness without enough rations. Other modes of transport such as boats and horses can be bought, although these cost a lot of gold so you need to be a fair way into the game before you can afford them.

GUILDS

As your party wins battles, it gains experience. Unlike many RPGs where experience points guarantee an increase in ranks, you need to be a member of a guild in this game. Guilds are guite happy to let any adventurer join, providing they've got enough cash. To advance a level you need to have earned plenty of gold as well as experience points. It's worth the effort though: as characters increase in rank they gain new skills and abilities and wizards pick up extra spells, some of which are essential in the later stages. As soon as vou've amassed enough gold you should always get your party members to their respective guilds. You usually don't have to go far to find tougher monsters and meaner



The auto-map feature goes to work as soon as you enter a new area. The maps are larger than the window so you have to scroll around it.



It's not wise to enter the wilderness before you've recruited a few mates and tooled up with weapons.

traps, so it's best to have the party at maximum strength whenever possible.

Death doesn't always mean the end of a character, in fact there's much worse that can happen, such as having your corpse burned or disintegrated by magic. The cheapest way to resurrect a deceased character is by having a competent white wizard in your party who has mastered the appropriate beyond death spells. Obviously this is something you won't have early on in the game, so the alternative is to find a healer, who will perform the same iob and relieve you of your gold at the same time.

Amberstar is a complex and well thought-out RPG, but it's too big for novice adventurers – there are so many features with some aspects, such as combat for example, getting very confusing at times.

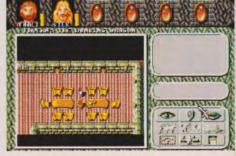
One of **Amberstar**'s major drawbacks is the absolutely horrendous amount of disk

swapping involved, just walking into a building can require two disks.

The access time is also slow, which makes for some extremely annoying breaks in the action. Fortunately the game is hard disk installable, and if you see it running off one you might not want to go back to floppies.

Some of the graphics are weak, especially the tiny caracters which merge with the backgrounds on the topdown view, but there are enough neat creatures to balance this out. It's also very large, so it should keep you going well into the New Year.

Pubs are very good places to pick up gossip and recruit expert sword-smiths.



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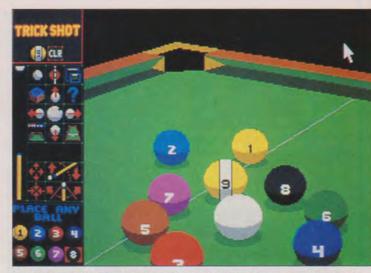
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Snooker's faces have returned, by popular demand!



The ball graphics are different for each of the game types: this is the American 9-ball set.

ARCH MACL POOL

Having already conquered the nation's snooker halls, Archer Maclean has now turned his hand to the popular pub pastime of pool. Cue: Gordon Houghton

hy bother buying a computer pool game when, for 50 pence a time, you can nip down to your local and play the real thing? There are three reasons. First, you might not have a local. Second, you won't get chalk dust up your nose and you won't get beaten up for thrashing the resident hotshots on their own table. Third, and probably most important of all, Archer Maclean's Pool allows you to do things you would never be able to do in reality. Well, not in public, anyway.

A DIFFERENT BALL GAME

But first, let's get one thing straight. Those of you who haven't played *Jimmy White's Whirlwind Snooker* can skip to the next sub-heading... Right. Let's assume that there are plenty of you still here, and that you're all wor-

rying yourselves silly that **Pool** isn't worth the disk it's
written on – because you
think it's just like **Jimmy**

White's Snooker but on a smaller table, because Archer Maclean didn't have to rewrite much of his 3D game engine, and because your immediate reaction

looking at the pictures is "what a rip-off... mumble, mumble... greedy software houses... blah blah... it's just the same...", etc.

Well, you can rest easy, because you'll find that **Pool** is a whole different ball game. Consider these facts. **Pool** is 15,000 lines of code bigger than **Snooker**, it has five times as many opponents, there are three different sets of rules and a rule editor, there's a whole new system of Match, Practice and Tournament games, there's four times as much disk storage, there are two

new scoring systems, a hints screen for the controls, and much better presentation overall. In programming terms alone, **Pool** is better.

TABLE TALK

Having established that, let's get down to the game. Once you've taken your eyes away from the impressive randomly-generated title screen, the action begins at the main menu. The list of options is exhaustive here, so make sure you concentrate. The first two are probably the most important, allowing you to select the type of pool (8-Ball UK Table, 8-Ball US Bar Table and 9-Ball USA Tournament), and choose the type of game (two-player practice, one-/two-player game, one-/two-player match - that's the best of three, five, seven or nine games - and a tournament for up to eight players).

In addition you can edit the 8-ball rules (include/omit the

Am dou disc sion cent Arc exp ces the MH atel inci act wri Am use add half

Amiga owners will no doubt be disgusted to discover that their version of Pool runs 25 per cent slower than the ST. **Archer Maclean** explains: "The ST processor runs at 8 MHz and the Amiga runs at 7.1 MHz, so that's immediately a 12.5 per cent increase. When you actually get down to writing the game, the Amiga version needs to use offset indexed addressing, which adds half a microsecond for each instruction. On the

ST you can get away without having an offset – so that saves another 12.5 per cent. This effectively means that on the ST the game generally runs at around 17 frames per second (fps), and if the screen is static and the balls are rolling around it runs at a flat 25 fps. The Amiga can also achieve 25 fps, but the average is 13 fps."

'D', force nomination of the black pocket and determine how many balls must strike the cushion at break-off), set up a trick shot, enter the demo mode, access a table of disk features (save to and load from disk trick shots and games), and fiddle around with the options (access hints and icons help screens, erase disks and quit to the title screen).

Special mention should be made of the manual which guides you through all this. At 50 pages it's not so long that it sends you to sleep, nor so short that you're left wondering how to go about playing a basic shot.

Two-thirds of the manual is packed with illustrated instructions, whereas the rest is devoted to a full explanation of the rules of each game-type, a section on spin and swerve, and some handy advice. In fact, it's as comprehensive and entertaining as the game itself.

GIVE US A BREAK

OK, so you want to play a game. The process is simple, whatever your decision – for the sake of argument, let's assume that you want to play the UK 8-ball rules, and you want to take part in a fivegame match against the computer. Making the appropriate selections from the menus, you suddenly come across a list of 20 opponents.

These players are part of **Pool**'s strength, and are neatly graded from real duffers to world-class pros who can clear up within two visits to the table. You get to know them as individuals, too – Miscue Mike keeps forgetting to chalk his cue, Pete Perfect tries too hard, Boring Bob takes ages to shoot, and Backspin Jim makes excessive use of screw. The only thing missing is a portrait of each player.

You've selected your opponent, you've entered your name, you've confirmed your choices – now it's down to action. The first thing that must be said about **Pool** is that it's fast. The 3D rotates effortlessly with barely a stutter, the ball movement is realistic, the computer takes very little time to make a tactical decision, and the range of controls is huge but easy to manipulate.

These immediate impressions are reinforced by the sampled sound effects which are, on the whole, excellent. The sound of a miscue or



balls smashing into each other is brilliant, although the effects of balls rolling into the pocket or striking a cushion are less impressive – and the title tune is uninspiring.

Playing a shot is simple, and uses basically the same controls as Snooker did. The accuracy is astounding: you can alter the viewing angle in 1/64th of a degree increments (giving 23,040 angles around the ball), there are 81 spinpoints and 88 levels of cue power, the positional accuracy is precise to 1/16th of a millimetre, and the collision and timing calculations are measured in microns and millionths of a second - which all adds up to 164 million shot options every time you pick up the cue.

Obviously, these statistics would be useless if playing a

shot was like escaping from a tar-pit. Luckily, Archer has made it as easy as falling into one on a dark night.

Pool, grossly oversimplified, is a case of potting balls. Once you've got the hang of this, you can become obsessed with one of the game's more unusual features: the score table. There are two types of score table, both of them roughly concerned with the same information - the number of good pots made, the total shots taken, any fouls made and the time needed for each shot. Broadly speaking, a combination of these factors gives you a percentage, and improving your percentages and times provides an incentive for self-improvement.

There's just one more thing to say here: once you've fin-

TRICK SHOT

One of Pool's more subtle features: when you can't hit a ball full-face, the cue graphic moves to find the best point of contact.

The score table which differs according to the type of game you're playing – tells you how well you're performing.



STEP BY STEP





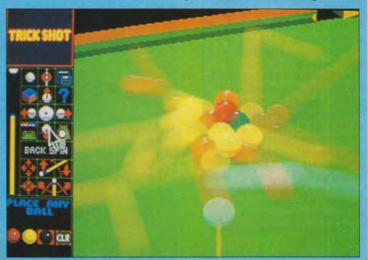
Setting up a trick shot couldn't be easier. A combination of mouse and keys allows you to place the balls in circular clusters, straight lines, or anywhere on the table.



The result is a three-ball cannon – white onto the red-3 onto the 9-ball – with the 9-ball ending up in the pocket. Having practised this you can go on to more adventurous setups...



2 If you're not happy, you can delete individual balls or clear the lot. Once you're satisfied with the arrangement, you can play the shot as normal: viewline, spin, chalk and shot strength.



...Such as this one. If you set the table correctly, multiple collisions can result in spectacular multiple pots. Fortunately, you can save trick shots to disk and show off to your friends.

BUYERS GUIDE

The ST isn't flooded with pool and snooker simulators, and many of those that have appeared in the past have now disappeared for good. These are Archer's two main challengers in the 3D world of cue sticks and super crystalate:

Gra Sou Rea Eas Pla Overall Jimmy White's Snooker 9 92% 5 6 64%

Key: Gra = Graphics, Sou = Sound, Rea = Realism, Eas = Ease of use, Pla = Playability

ICONOPHILIA

3D Pool (Rainbird)

Pool's icon system allows you to control every aspect of a shot and to watch it being played from almost any angle. If you forget what to do you can always call up this helpful little screen, which gives you a brief summary of the main controls, including

keys. Every icon has a number of different functions according to the type of game being played and whether you use the left, right or both mouse buttons. However, these are the basic controls (from left to right); set strength of shot, chalk the cue, top spin, left spin, play shot, right spin, backspin, activate viewline, go to/follow cue ball, rotate view left/right/up/down, cycle through eight main viewing angles, access score information or compute best shot, access help or main menu, and undo shot (if in practice mode)

ished playing a basic game, you can always try out the eight-player tournament, the one-off game, the practice match, the trick shot editor and the demo mode. Comprehensive isn't the word. Then again, perhaps it is.

CUE TIPS

The presentation throughout is superb. As well as multiple functions for each icon. according to the combination of mouse buttons used, Pool provides plenty of bonus features. For example, at any time you can look at a controls hint sheet or a screen detailing the icons, you can position the icon menu at the top or the side of the screen. you can enjoy the action from a huge range of angles and overhead views, and save your positions in 60 saved game slots.

One of Archer Maclean's trademarks is his attention to detail, and Pool reflects this. Silly faces appear on balls when you take too long over a shot, there are blinking eyes in the background, the title

screen and tournament victory sequence are excellent, there are over 40 different messages detailing your progress and, of course, there's a hidden cheat mode. In fact, there are just too many features to cover adequately, even in a review of this length.

MORE BALLS THAN MOST

Pool has no major drawbacks, and you have to look hard to find even minor ones. Few people will mourn the absence of an action replay feature - particularly when you can save prospective shots to disk anyway - and even fewer will miss the bizarre and little-used rulevariations which haven't been included. You do only get one colour of table (green) instead of the exotic American favourites (blue and red), the computer break-off sequence isn't as sophisticated as in real life, and inevitably with a game that provides such a wide and flexible range of controls, the first few matches might

. 8 BALL . HARNING S BALL UK COIN OF TABLE RULES

The three most popular types of pool have been included, along with a brief rule editor for even finer tuning.

An on-screen reminder of control tips can be called up at any

8 BALL . HINTS AND TIPS ICERS CHE MINE 9 ON MORE FUNCTIONS THE THREE SHAPE NAME OF IN CORP. ITS ACTION USING THE MOUSE INSTERD OF ICONS NG THE BELLS DORING IS SHOT



A simple tournament ladder adds extra depth up to eight people can take part.

prove a little difficult. However, once you're accustomed to the icons you're hooked, and even the most fastidious gamesplayers will find little to criticise.

Pool certainly deserves more than to be casually dismissed as a poor cousin of Snooker it's a great game in its own right. Whether you've been playing the real thing for years or you don't know one end of a cue from the other,

Very fast, very smooth 3D Three different sets of rules Accurate simulation of ball collisions 20 well-graded opponents Superb presentation **Loads of options**

PROS AND CONS

No action replay feature Some very minor compromises

you're in for a treat. It will take you a long time to discover everything, and even longer to exhaust the game's potential - but doing so will be a pleasure.

"The definitive pool simulator"

NAME: ARCHER **MACLEAN'S POOL COMPANY: VIRGIN GAMES** CONTACT: 081 960 2255

PRICE: £25.99 RELEASE DATE: OUT NOW MIN MEMORY: 0.5 MB

GRAPHICS 00000 SOUND 00000 VALUE FOR MONEY OOOO **PLAYABILITY**

OVERALL

RAMP

Running a castle
isn't easy, as Mark
Patterson discovered
when he tackled
Domark's
constructive coin-op
conversion

ampart originally started life as an Atari coin-op. The aim of the game, quite simply, was to build a castle while fending off attacks from neighbouring fortifications and pirates. What made it stand out was the peculiar mix of game-play styles. It took the shape-matching of games such as Tetris and mixed it with Missile Command-style action, to produce a highly playable game.

Now it's reached the ST courtesy of Domark, with all the original features of the coin-op. The game is divided into three stages, location hunting, cannon placing, attacking and rebuilding. Each section is played against the clock, with the time limited to just 10 seconds.

To make it through to the next round of the stage your castle must have at least one area completely enclosed with a wall, otherwise you lose a life.

The first step is to choose a likely site for your first castle. Every level takes place by the sea, and you're given five or six potential locations to build on. It's important to choose the right one, as picking a location close to the edge of the map or the sea will seriously limit the castle's potential growth.

Sluggish controls Crude graphics.

Very playable

Extremely addictive

PROS AND CONS

"Simple looking, but very playable strategy game"

NAME: RAMPART COMPANY: DOMARK CONTACT: 081 7802222

PRICE: £25.99
RELEASE DATE: OUT NOW
MIN MEMORY: 1 MB

OVERALL

80%

CANNON FODDER

The next stage is to place the cannons. The number you're given depends on the amount of territory you hold. The person who holds the most cannons has a huge advantage over their opponent.

When the clock's run down on that part, the game moves into combat mode. Here you have to direct your cannonfire against whatever enemy you're facing. This is done by positioning a cross-hair where you want the shot to land. The drawback is that each cannon can only fire one shot at a time. To help you keep track, the cross-hair shrinks when you have no shots available.

After the combat round the game goes into a **Tetris**-style mode. The aim of this stage is to rebuild your castle so that there are no gaps in the walls.

You're given a series of random shapes to do this. They can be rotated through 90° and placed anywhere on land, as long as no part overlaps the sea.

This section requires plenty of thought, as you can't simply stick the pieces down in a haphazard manner. All the gaps in the castle walls must be filled in, but because of the awkward shape of some of the pieces, you have to be careful that they don't take up too much space within the confines of the castle, otherwise you'll have no room to place the cannons.

There is an alternative to rebuilding your castle – you could try capturing one of your opponent's buildings. This is done by building a

wall around it, which takes quite a while, but once you've started doing this you leave the other player with the choice of either trying to save their own skin by halting your progress, or risking everything to destroy your castle before you capture his.

NEW GROUND

If your castle remains almost intact after a combat phase, you could consider building another one. The land is dotted with unused keeps, and building a wall around any one of those creates a castle. A second castle is not only good for attacking your enemy, but drawing fire away from your main one, which gives you time to expand it.

In a one-player game the threat comes from the sea. As soon as the foundations are laid, pirates sail into the nearby estuary and open up with their cannons. Their ships come in various shapes and sizes. To begin with your

Should the pirates make it to shore, they'll unload troops who will destroy your castle. Each successive level leaves more room for the pirates to attack.





ART



Although your castle's walls crumble at the onslaught, your cannons are indestructible.



It's game over if you leave any holes in your castle walls at the end of a turn. Once you've patched it up try to strengthen the forward walls.

construction is assaulted by simple gunships, which merely destroy walls and cause no real problems. Fight them off a few times and the black ships appear, which launch fireballs that devastate whatever they hit so utterly that it takes several turns to rebuild. Troop ships are a hazard that has to be dealt with early. If they reach the shore they unload foot soldiers who race towards your castle and tear down its wall.

The two-player game gives each person a castle, with a river running between them. The aim is to cause so much damage to your opponent's castle that he can't repair it in the allotted time. The player who can't patch theirs up loses. If both can't, the person who's built the most walls is the winner.

While this version retains all the features of the original game, it lacks the speed. The controls are often sluggish, which is irritating to begin with. After a few games, though, the speed won't be much of a problem.

INSIDE INFO

If you find yourself faced with a pirate onslaught, you should always make sure that you take aim at the front of their ships so that they move into the shot as they progress. It's important to work fast during the rebuild and cannon placement phases as the pirate ships start advancing as soon as the turn starts.

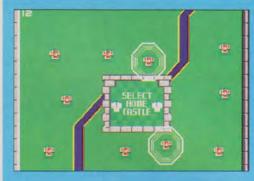
You must always aim for the troop ships first. If they make it to the shore the soldiers they're carrying will cause more

damage than any cannon shell.

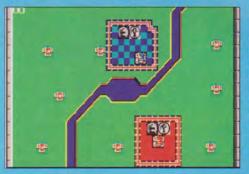
Expansion is another very important element of the game. After the first few waves more and more ships appear together, so you need to have as many cannons as possible to combat them.

It's not advisable to fire a salvo at one ship — you will find that it works much better if you fire a single shot at each vessel, then when you've shot at the final one, go back to the one that you fired on earliest.

STEP BY STEP



of the search of the piece you need to have enough space to expand your castle. If you build too close to the sea or the border you'll have a hard time finding the piece you need to fill gaps there.



Place the cannons close to the front of the castle and as near to the walls as possible. Try not to waste any space: placing cannons becomes tougher when your castle is damaged.



When you launch a salvo against an enemy castle, always aim for the bits that will be the toughest to repair. These include corners and walls next to borders and the sea.



Always aim to expand. The second you've a battle-worthy wall, place pieces next to it. If you're in a situation where you can't build any more, reinforce walls which surround the cannons.



5 The key to winning is your ability to build, and being lucky with the various shapes. Always create enough space to place new cannons and keep an eye out for missing corner pieces.

LEEDS UNITED CHAMPIONS

England may have roasted Turkey, but how would you take a soccer team all the way to the top table? Steve Keen takes the manager's chair. . .



More footy stats and menus than you can shake a referee's book at

PROS AND CONS

Exceedingly text orientated
Boring presentation

"Great depth and little action. One for bookworms only"

NAME: LEEDS UNITED CHAMPIONS COMPANY: EMPIRE CONTACT: 0268 541126

PRICE: £25.99
RELEASE DATE: OUT NOW
MIN MEMORY: 0.5 MB

GRAPHICS SOUND SOU

OVERALL 69%

he steady flow of soccer sims that oozes out of software houses never ceases to amaze us reviewers. But whilst there are still supporters turning up to matches, not to mention the millions tuning into the game on TV you can bet your season ticket that they'll continue to seep out until the companies either run out of teams to endorse their products or we all take up synchronised swimming.

THE PLOT SLOT

The idea of this game is for you to take Leeds United from the bottom of the league to the top of the first division and then win the European Cup? Easy enough eh? And after all no-one else is going to do it!

As soon as you've loaded the game, a niggle hits you full in the face, leaving its foul taste tainting the rest of the game until you turn it off. Leeds United is only keyboard controllable, leaving you hunched over your desk tapping out furiously on the keys and flicking through the menus by hand. And there are a huge amount of menus. Every single icon seems to hide a Pandora's Box of tables, more tables and even more tables. There are options galore with enough menus to keep Delia Smith happy for months.

Given that this is a management sim, and the complexity of handling a professional football team is not like deciding what colour shirt to wear to work, it's going to take some time getting into. It's best to start off by checking through the recent results by using the Results Service

icon. Here you can scrutinise all the teams and their scores as well as who's been sticking balls into the onion bag the most, your weekly accounts and training reports, injuries and the like. Then it's on to the match side of the simulation as you move into Squad Selection. Each player has his own statistics. The temperament and morale of each 'star' is displayed and you can swap and choose where to place each man from the 20 positions. You can also enter them onto the transfer market from here or expand their skills by turning a defender into a mid-fielder. You can even give belligerent

so-and-sos the old heave-ho if they get too full of themselves or don't perform.

THE LOW DOWN

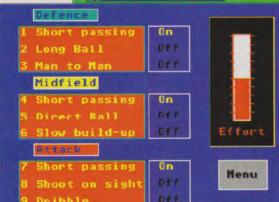
Each player's skill ranges from 11-99, their Temper from 1 to 99 and Morale from 0.1 to 9.9 and it's vital that you find the best combination of values for each player and their position.

This is the secret to success. If you over-delegate points in one field or under value another, players are liable to come a cropper on the field ruining the whole team's performance.

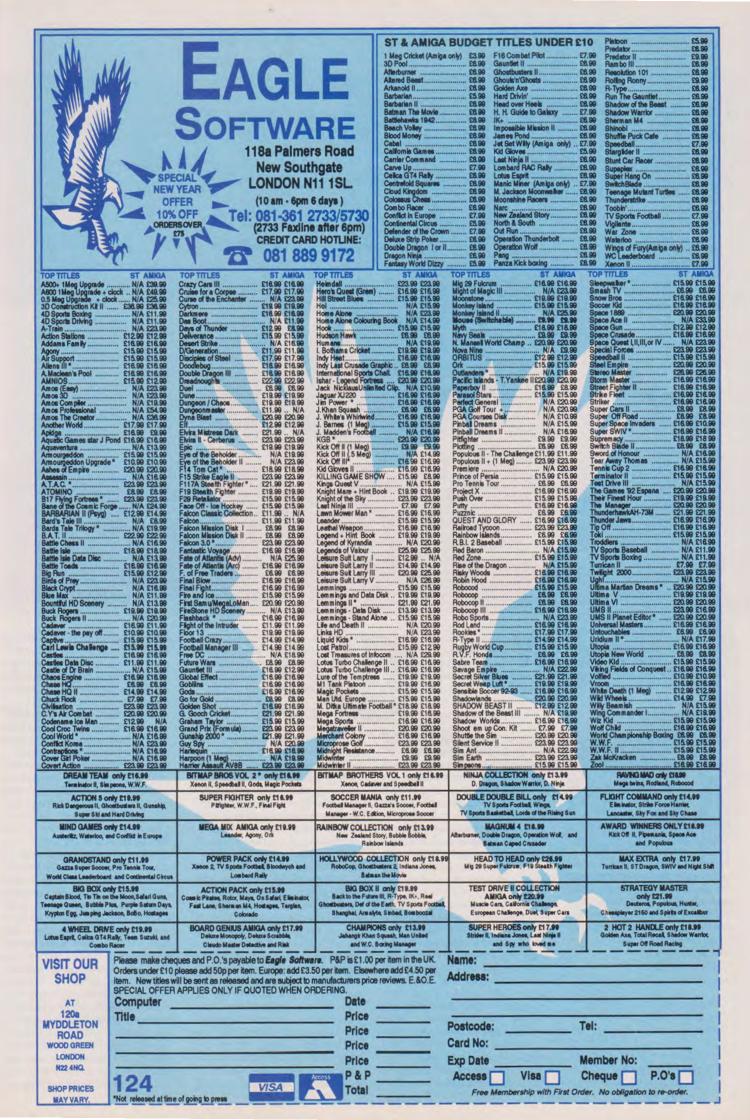
There are just so many aspects to this sim that you can't begin to explain them all, suffice to say that every aspect, including scouts, physio, youth-players and even mortgages from the local bank through the club, has been incorporated. This is where the game lets itself down a bit as it's so complex you can neglect the more important and fundamental reason for the sim, to win matches. However, if this type of thing appeals to you and you like ruining your eyesight by sticking your face right up to a monitor screen, then this is the footy sim for you. There are far better presented sims around, but few that are as deep.

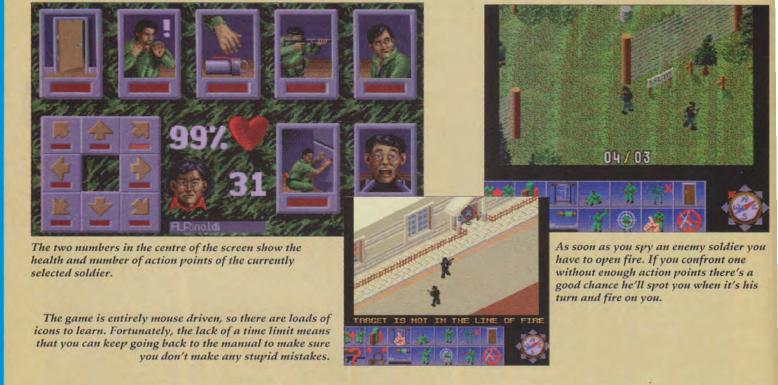
Teamwork, is what it's all about. Keeping tabs on the fitness of your players is as important as turning out the best side.





This is the place to check out how your lads are doing. The higher the rating the more skills the players have, but try to get a balance.





Krisalis' latest strategy game sees you leading an SAS squad. Mark 'Major' Patterson takes command...

Because your men can see and hear beyond the visible screen area, a system of arrows is used to tell you what's going on. Should one of your people hear something, a blue arrow lights up, pointing in the direction of the sound. This is useful - if they can hear someone just around the corner a well-placed grenade will put paid to any surprises they might have had in store. If they see someone the arrow turns red, although the

further away they are smaller than chance you man has of getting and accurate shot in. Additionally bullets do less damage over longer distances, so it's worth saving ammo and closing in when it's vour turn.

henever there are hostages to be rescued and machine guns being waved in the name of Allah, newspapers start mentioning the SAS. But what do we know about this elite regiment?

Is it really true that they stalk the lonely moors that are their training grounds, smeared in animal droppings with knives clenched in their collective jaw?

Sabre Team gives you a chance to take a squad out on a series of dangerous missions. As the commander you get the chance to send your men to death or glory in five different missions. The first, and therefore the easiest, is a simple matter of rescuing some POWs from a prison deep in a jungle. The other missions include storming an embassy where hostages are being held, wiping out a nuclear command centre, freeing hostages on a hijacked ocean liner and finally destroying a middle-eastern nuclear weapons factory. Whilst all these missions have vastly

different settings and objectives, they have one common theme kill anyone who gets in your way.

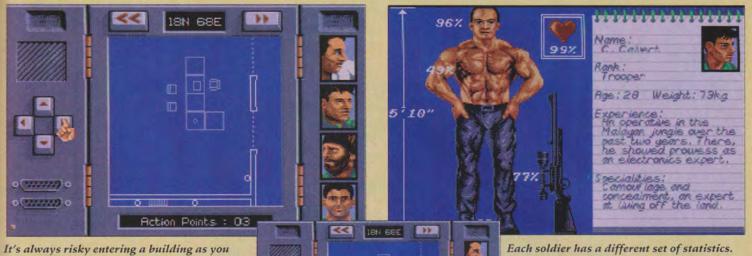
EQUIPMENT

Naturally no self-respecting team of SAS hard-nuts could be seen without the last word in military hardware. Indeed, before they set out on a mission you have to equip your men from a sizeable arsenal of assault rifles and submachine guns, all of which are based on real weapons that are supposedly used by the SAS. Ammunition also has to be taken in to considering when equipping your men as not all weapons fire the same size bullets. You could, for instance, arm them all with similar hardware so they can trade magazines, or choose a varied selection and rely on enemy soldiers to be carrying spare ammo that your men can pilfer.

Each mission requires four soldiers drawn from your initial squad of eight. Every character has different strengths and weaknesses in areas such as marksmanship and perception. If a soldier is killed during a mission you don't get a replacement for the next one, so it pays to save the game regularly to avoid losing your supertrooper. Before they embark on their killing spree you have to position them on the game map. You're shown several potential start locations and it's down to you to work out which place will give you the greatest element of surprise over your enemies.

BALANCING ACT

The control system is very clever, balancing detail with ease of use. Rather than have all your men and the computer-controlled troops going at each other simultaneously, they take it in turns. Each soldier is allocated a set number of action points each turn. These are 'spent' when you move them, reload or fire a weapon or instruct them to perform some other action. When their points are used up, control switches to the next person. Once you've finished with your team it's the computer's turn. If you end a soldier's turn without using



Action Points

It's always risky entering a building as you never know what's lurking behind through the doorway. The best thing to do is to go in with as many action points as possible to give your man a fighting chance.

Checking the map is essential on the rescue missions, otherwise you'll end up getting confused and searching the same rooms twice. Each soldier has a different set of statistics. Some are stronger than others which comes in handy when there's a lot of fighting, while it pays to select a sharp-shooter if there are civilians involved.

all their action points, they go into opportunity mode: should any computer trooper wander into his line of sight, your guy gets a free shot.

REALISM

What your, and the computer's, men see and hear is important. Just as in real-life they can't see around corners or through walls, so you only get to see what your people can see from their positions. Likewise with sound, the noise made by a gunshot only travels so far, and if any computer soldier hears it he'll be alerted to your presence. Obviously a large amount of the game is centred around your men shooting anything that moves, but from your point of view it isn't as simple as just pointing a gun and pulling the trigger. If there's an enemy soldier

in there is an enemy soldier in the field of view of one of your men the first step is to target a crosshair over him. There are two types of shot, a snap shot which is a burst of bullets that is moderately accurate and an aimed shot, which is one bullet only, but far more precise.

The advantage of a snap shot is that if your man has plenty of action points and is facing several soldiers that are close together he can have a crack at taking them all out. Of course, if he fails he's left standing with an empty weapon and not enough action points to run. There are some single shot guns which can only fire one bullet at a time before needing to be reloaded, so they carry a high risk factor which makes them only worthwhile if you have a good marksman in your team.

On top of the guns there are two types of grenades. The first is your standard flattenanything-type high-explosive device, which takes out everything over a certain area, including friendly troops who don't run fast enough. CS gas canisters can also be employed. These come in particularly handy for the hostage missions where you need to take out terrorists without harming their civilian prisoners. These weapons do take quite a few action points to use, though. There's no use chucking a

grenade without pulling the pin out first, so you have make sure that you man has enough action points left after doing this to avoid becoming a vaguely soldier-shaped imprint on the wall.

GRAPHICS

The graphics, on the whole, are well suited to the game. The isometric view-point makes it easy to manoeuvre your men to suitable cover and the character sprites are very good indeed.

Getting used to the mounds of animated icons in the game does take quite a long time, but fortunately your turns are not time-limited, so there's plenty of opportunity to find your feet.

There are a few less violent commands available. Stealth instructs a soldier to move as quietly as possible, although moving in this way requires more action points. Items can be traded between troops, and options such as 'panic' and 'run away' will ensure that your men, while not earning any bravery commendations, will be there for the next missions.

"Very playable and involving strategy blast"

NAME: SABRE TEAM COMPANY: KRISALIS CONTACT: 0709 372 290

PRICE: £25.99
RELEASE DATE: NOW
MIN MEMORY: 0.5 MB

GRAPHICS SOUND SOU

OVERALL 84%

I suppose it's fair to describe **Sabre Team** as an action game for people who like their action in small, easy-to-manage chunks. When it comes to relinquishing control to the computer for its go I find myself itching for it to finish its turn, so I can set about causing it even more grief.

If you've ever seen Rebel Star Raiders or Laser Squad you'll know what to expect from this game. If you haven't, this is the perfect way to welcome the New Year with a bang.



The picture you get while waiting for the casino to load in.



Change some of your money to play the crooked roulette tables.



Have a bet. See if you can work out the crooked system, then you could win some money.



All of the men seem to be bad guys. Beat them up and they drop money and chocolate.



One of the later stages. By the way, I had to use the demo mode to get this far!



Game over. This is how it's reported in the press.



Just keep wandering. There MUST be some light at the end of the tunnel!



This girl has a very good way of disabling nasty men when they try and stop her.

AND THE ATLANT FATE OF ATLANT

Indy returns in this, the latest game featuring our hero. Some say that sequels are never as good as the original. Tony Kaye finds out if this really is the case...

"Lack of control and poor gameplay make this a real letdown"

NAME: INDIANA JONES AND THE FATE OF **ATLANTIS COMPANY: US GOLD** CONTACT: 021 625 3388

PRICE: £25.99

RELEASE DATE: OUT NOW MIN MEMORY: 0.5 MB

GRAPHICS 00000 SOUND 00000 VALUE FOR MONEY O O O **PLAYABILITY** 00000

OVERALL

t is 1938. Indiana Jones, archaeologist extraordinaire and star of many an adventure, has just obtained two treasures that could prove to be the key to the existence of the legendary land of Atlantis. In time-honoured fashion, however, Indy doesn't get much time to investigate his latest finds before he's hit over the head and has them stolen.

THE VILLAIN

The thief turns out to be Klaus Kerner, a Nazi agent acting for Dr. Hans Ubermann, who was working on a theory that certain beads contained enormous energy. The beads, called orichalcum, can only be found in the mystical land of Atlantis. Together with his colleague, Sophie Hapgood, our hero travels to Monte Carlo to find Alain Trottier, an antiques dealer, who they hope can help them trace the thief before it's too late. The Fate of Atlantis is in the hands of Indy and Sophie.

GAMEPLAY

The first scene is in the casino. Controlling each player individually, you can use the mouse, keyboard or a joystick to move Indy and Sophie around the building, fighting the bad guys and playing roulette as they go.

There are treasure chests hidden behind chairs and in the basement, together with lamps and clipboards and other items you may need in vour search.

JUST REWARDS

Beating up the baddies that block your path may gain you chocolate or money. The money can be gambled in the casino and used to buy weapons and other essentials needed later in the game, whilst the chocolate will provide you with the energy to keep going.

DISPLAY

The screen is displayed as a 3D type action screen with a health meter, compass, timer, selected character, other character status and inventory item. The characters move from one side of the screen to the next when the action stops for the play area to catch up with the current position. If there is more to this game, it's buried so deep that even an archaeologist like Indy would have trouble digging it up!

It's a shame to see what could potentially be a very good adventure game ruined by slow gameplay and relatively poor graphics.

Hard disk installable

PROS AND CONS

Slow gameplay **Lack of excitement** Poor scrolling



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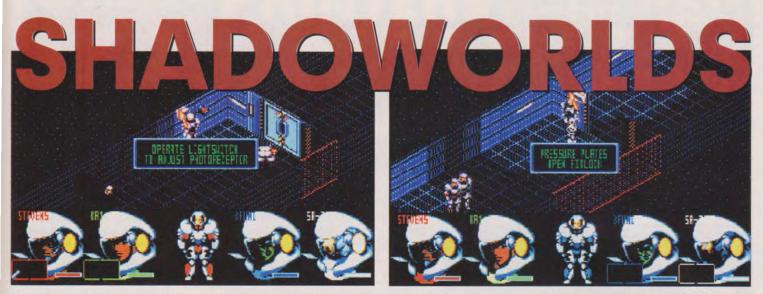
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Just how hazardous can deep space be? Alan 'Spock' Dykes seeks the shadowy truth in a far-off world...

Nice graphic touches Plenty of exploration Quick access functions

PROS AND CONS

Slow starter Lacks clarity to begin with Not very colourful

"Confusing at times but still rewarding"

NAME: SHADOWORLDS COMPANY: KRISALIS CONTACT: 0709 3722901

PRICE: £25.99
RELEASE DATE: OUT NOW
MIN MEMORY: 1 MB

GRAPHICS SOUND SOU

OVERALL

80%

pace-based RPGs always used to break down into two categories, the interactive 'movie' style or the behind the cockpit 'simulation' style. Then along came Space Crusade with its rigid board game rules and easily understood layout. Bringing the multiple character combat simulation into the '90s, the game's relative simplicity made it a success. Shadoworlds attempts to take this theme a step further by adding some of the ingredients of a 'movie' game while sticking with the idea of multiple characters, multi-tasking and quick, easy

WAR AND PEACE

Set in another galaxy where one of those ubiquitous space 'federations' has finally found peace and tranquillity, you play the part of the leader of a team of commandos sent on a high-security mission to a weapons research planet on the edge of explored space. Something has gone wrong there, but since you're not supposed to be producing weapons in this time of peace you can't just send in a few cavalry divisions to sort the mess out.

to access control functions.

First you choose four characters or accept the computer's default team. Your team must have the best possible combination of strengths in the following areas; strength, combat ability, health and technical knowledge, in order to succeed in their mission. Then you're transported to the topsecret planet where, with the aid of your trusty mouse, you guide the foursome through their fearsome task.

To begin with all your troops are equipped with

armoured space suits. On the inventory screen (accessed by pressing the right mouse button) you will see

that each of your characters has a separate box which shows what items they are carrying, up to 16 at a time, and also their life support system, measured by coloured bars. During the game you will not only need to collect weapons and tools but also oxygen (or in some cases helium) tanks and liquid food packs to keep them alive. Sleep is also needed and provided by clicking on the 'eye' icon on the inventory screen.

LIGHT AND DARK

Shadoworlds is aptly named because a lot of it is hidden in darkness. Light switches may be

found in most rooms but are often guarded by enemy creatures and robots. Because of this, the first item you must find is a battery. Each soldier has a torch built into his headgear but each needs a battery to operate it. Which, oddly enough, they don't start out with.

The multitasking system takes a little time to understand, but it is quite usable. It allows you to operate your commandos separately, as a single unit of four or as two units of two troops each. They can examine/read, use held objects, operate controls or pick up items, walk individually or as a group in up to five different formations. These tasks are carried out by clicking on a central control character on the main screen.

Watch out for wall-mounted VDUs. They usually contain valuable information.



Tailor your troop selection carefully.



it is hidden in darkness. Keep an eye on your troops' health here.

I didn't immediately warm to **Shadoworlds**, but it did grow on me after a while. Once all the moves and controls are fully understood and you learn to analyse the inventory screen and operate all the devices at your disposal it turns into quite an absorbing game.

The 3D movie-style graphics are reasonably good and there are some nice touches, even though the backgrounds are a little dull, while the sound effects are sparse but good enough.

In the final analysis **Shad-oworlds** is neither **Space Crusade** nor **Future Wars**, but if I had a hankering for more close combat space station exploration I would get this game, if only because there aren't that many alternatives.

RAVING MAD

It's the silly season again! As yet another Christmas compilation hits the streets, Steve Keen dons his Santa outfit and beard to take a look...



Make the most of these peaceful scenes, as it won't be long before the cute monsters are replaced with huge guardians.

splices it with a new witticism, Robocop. The result is a half-man, half-fish, halfrobot (if such a calculation is possible) scenario which throws up all kinds of possibilities for game-play. The Cod's latest mission is to infiltrate a toy factory that's been taken over by the machiavellian Doctor Maybe. The dastardly doc has sabotaged the toys destined to be delivered around the world for Christmas and intends to hold the world to ransom.

NEW POWERS

You don't need to know any more than this, suffice to say that ultra-cute sprites and backdrops are the order of the day. The game is split into nine rescue missions and using his new-found powers of stretchability, enabling him to reach the impossible, and the plethora of strap-ons including bullet-proof armour and wings, James must rescue his mates and make it to the exits alive. This is simple

Rodland's screens can get very cluttered at times, but the movement of the sprites never slows down! level after level of mean monsters and colourful scenarios. Once again there's not much on offer in the game-play stakes, but the graphics are very pleasing to the eye and you'll have to go a long way to find any sprites cuter or better animated than these.

By now you will have realised that a pattern has emerged - these games are sickeningly cute! Mega Twins is no exception, but there's much more to this than the other two as the game-play takes the more traditional form of a quest. You can choose to be either of the two Mega brothers and start out in a variety of locations. The visuals aren't any better than in the other games, but you can move more freely around the platforms and change your surroundings more radically. The creatures you have to fend off all have their own characteristics and some of the end-of-level guardians are pretty weird, but unlike the other two they're more than just a bunch of pretty pixels and you're never quite sure what's around the corner.

There's nothing really to separate these games from each other. No-one above the age of 12 will find much long-term appeal in their innards, but there's no denying that all three look great and should prove popular with younger gamers.

"All looks and no hooks. Only for the very young"

NAME: RAVING MAD COMPANY: US GOLD CONTACT: 021 356 3388

PRICE: £25.99
RELEASE DATE: OUT NOW
MIN MEMORY: 0.5 MB

GRAPHICS SOUND

SOUND COMMONEY COMMON

OVERALL

69%

00000



What the cod lacks in legs he easily makes up for with his extendible neck. Use it to grip onto the ceilings.

Beautifully drawn and coloured sprites
Appealing to under 12's

PROS AND CONS

No real variety for a compilation

othing causes quite so much scepticism as the release of a compilation. It doesn't matter how hard you try to tell yourself that what you have in front of you is a great, value-formoney, box of delights, you still can't help asking yourself, "what's the catch?" There's no denying that these are big name games: Rodland, Mega Twins and James Pond 2 - Robocod have all been up there in the top-selling games charts, but none of them held their positions for much longer than a month.

LICENCE TO THRILL?

Millenium's sequel to **James Pond** takes the original idea of the secret agent fish and

stuff, supported by cute, colourful graphics, but the tricky control system and underlying unoriginality of the product mean that its popularity will wane with more mature games players.

Rodland doesn't do much to change the pace of things. Yet another ladders and platform affair, the game concerns two hapless fairies who've had their mother kidnapped and imprisoned at the top of a tower. The two are armed with a magical rod and a pair of Rainbow Shoes. which they must use to climb to the top of the 40 screens, whacking nasties as they go. Needless to say the pick-ups and extra bonuses come thick and fast as you complete

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- Citizen Swift 9x 9 pin 136 192cps Draft, 48cps NLQ 8K Printer Buffer + 3 Fonts Parallel Interface

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Epson and IBM Emulation
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192 CPS 136 COLUMN

- Citizen Swift 24x 24 pin 136
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- Parallel Interface
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 Epson, IBM and NEC P6 Emulation
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- Offizen Projet inkjet 80 column 360cps Draft, 120cps NLO 50 Nozzie Head Whisper Quiet 47dB(A) 8K Printer Buffer + 3 Fonts Optional HP Compatible Font cards

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FLIMBO'S QUEST

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IN BRIEF: A Dewdropland beauty queen has been abducted by an evil professor so that he can harness her youth and beauty for his own dark purposes. However, her boyfriend just happens to be a mini super-hero (surprise, surprisel) and sets out to rescue her against all the odds.

And so begins yet another horizontally scrolling platform game. At the start you are armed with small knives and only a few lives but as time goes on and you collect coins (dropped by vanquished foes) you will be able to purchase better weapons, invulnerability and other items to make life easier.

ST REVIEW COMMENT: "Flimbo's Quest is a neat, cutesy platform shoot-'em-up that will keep you very busy - even obsessed - for quite a while. My advice is to play this game with a very good joystick or your fun will be ruined by clumsy play - which is all too easy with a bad stick.

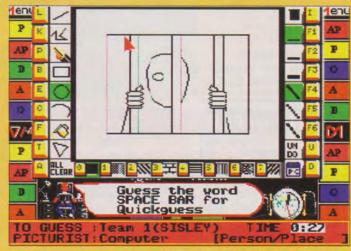
It's also useful to view *Flimbo's Quest* on a decent monitor if possible as the graphics are detailed and colourful, causing difficulty in sprite recognition, especially if both you and your enemy are on the move.

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Whether you're looking for a last-minute stocking filler or a game to spend your Christmas cash on, this selection of cut-price goodies should contain something for you



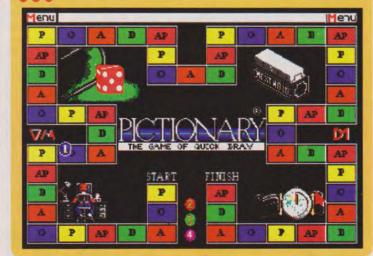
PICTIONARY

IIT SOUAD • £7.99 • 061 832 6633

IN BRIEF: If you've seen the popular board game, *Pictionary*, you will realise what an utter waste of money it is. It's not that there's anything inherently wrong with the game – in fact it's very entertaining. However, all it consists of is a set of cards, a board, an egg timer, a couple of pencils and some paper – yet the whole thing costs around £25. With a bit of imagination you could make it yourself for well under a fiver! Basically, the game involves picking 'word' cards from the aforementioned box based on the following categories: Person/Place/Animal, Object, Action, Difficult Words, and All Play (which can be any sort of word). Then draw a picture of your word, gesticulate wildly and hope your team-mate can guess it before your opponents do.

The good news is that the computer version is actually worth the money. You couldn't make this particular game yourself for under a fiver. Play is exactly the same as the board game, except now you can draw pictures on your ST with a rather nifty little art package and there's the positive advantage of not having to tidy up the cards and look for dice under the sofa when you're finished.

ST REVIEW COMMENT: "If guessing games are your thing, this represents much better value for money than the original board game."



FLIGHT OF THE INTRUDER







ACTION 16 • £14.99 • 0276 684 959

IN BRIEF: Flight Of The Intruder is a naval military flight simulation based around carrier operations in the Pacific and the Indian Oceans during the Vietnam war. You get to fly either of the two most important naval aircraft of the war, the Grumman A6 Intruder or the McDonnell Douglas F4 Phantom from

the deck of a carrier in a number of air-to-air and air-to-sea engagements. The main jobs include protecting US naval craft off the coast of Vietnam, aerial intercept missions and ground suppression mis-



sions. The aircraft are fitted with advanced radar and guidance systems and have a withering array of weapons options at their disposal.

ST REVIEW COMMENT: "Yet another in the current spate of mid-price games, *Flight Of The Intruder* is more than worthy of inclusion when military flight sims are discussed. It has realistic flight simulation, worthy graphics and very good overall sound. In fact the only real problem with it is that it's a bit too complicated.

The instruction manual is virtually a novel, containing 216 pages of essential information. Trying to remember all the controls will make you dizzier than actually flying the plane. However, there are more than enough missions to keep you happy, so if you ever manage to master the controls you'll be glad you added an Intruder to your flight sim collection.

SPELLBOUND DIZZY

CODE MASTERS • £7.99 • 0926 814 132

IN BRIEF: Dizzy has gone stark raving mad. His friend, Theo the Wizard, left a spell book lying around and our foolish hero

read out the most powerful spell in the tome, cast the magic and imprisoned all of the Yolkfolk (Dizzy's compatriots) in the underworld. Now he must release them by wandering around a strange land, picking up stars and mys-



tery objects in order to free them. Along the way he meets whales, jellyfish, trolls, leprechauns and a multitude of other animated flora and fauna. Some are helpful, some are not.

ST REVIEW COMMENT: "This is yet another eccentric game of find the right object and use it with Code Masters' hip hopping egg on legs. Although the formula remains the same the game is absorbing. It was originally billed as "the biggest Dizzy adventure yet" and will take some time to complete. If you're new to Dizzy, don't be put off by the rather childish storyline.

THE DUEL - TEST DRIVE II

HIT SQUAD • £7.99 • 061 832 6633

IN BRIEF: I always thought that test drives took place on special circuits, as far away from the public as possible. It appears not. In order to test the latest offerings from

Porsche and Ferrari you must hit the open road (literally sometimes) and compete against the opposition, to see which is the best of the cars that no-one really can afford. There are several levels of difficulty (in fact more than any other racing sim I've seen) the standard



auto or manual gearshift options and a variety of highways to race on.

ST REVIEW COMMENT: "This is a good-looking game, with smooth scrolling graphics and plenty of scenery – even in your rear view mirror! The car is easy to control and centering your steering is greatly assisted by a little blue dot on the wheel. The biggest disappointment is that the car never gives the impression of speed until you are just about to hit an obstacle. Then it's too late. *The Duel* looks good and plays well but lacks atmosphere. Pity.

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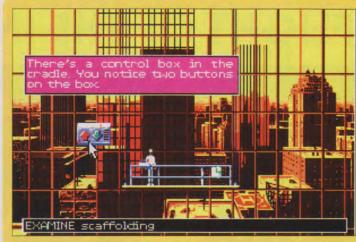
BATTLEHAWKS 1942

KIXX • £14.99 • 021 625 3366

IN BRIEF: Nostalgia buffs will delight in this WW2 combat sim set in the Pacific theatre of operations. You can take part in The Battle Of Midway, the Battle Of The Coral Sea, The Battle Of The Santa Cruz Islands and The Battle Of The Eastern Solomons, as either an American or Japanese naval air combatant. The planes on offer are world famous – Zero, Val, Kate, Dauntless, Wildcat and Avenger. The missions are either fighter intercept, torpedo bomber, or dive bomber and the going can be easy, tough or very tough!

ST REVIEW COMMENT: "I've always wanted to sit in a dive bomber and literally fall out of the sky at a designated target, pulling out of the dive just before it seems as though I'm about to hit the water. Battlehawks has made my dream come true. The dive bombing and torpedo run missions make a welcome break from the guided missile and radar systems of modern aircraft flight simulations, as does the sound of propeller engines humming from your ST. The game is very user friendly, allowing you to get straight into the thick of the action on a training mission without too much reference to the manual. Getting it right will involve some guidance, of course, and the tactics and explanations provided are fascinating as well as informative. The instruction manual doubles as a history book with lots of real life facts, figures and people, making the game much more interesting. Lucasfilm has a reputation for producing top-quality games and it looks as though they've done it again. 00000





FUTURE WARS

KIXX • £14.99 • 021 625 3366

IN BRIEF: Future Wars is an interactive role-playing graphic adventure using cinematic programming. Your character walks and talks at your command. Using a mouse you simply click on an object or area that you want the sprite to move to and it will move there.

A quick click on the right mouse button then reveals a command menu containing such role playing gems as 'EXAM-INE', 'TAKE', 'INVENTORY'



and 'SPEAK'. These allow you to interact fully with his surroundings.

To start with the storyline, as it is explained in the manual at any rate, seems to bear no relationship whatsoever to the game itself. The latter starts off on a window cleaning lift, of all things. But as the game progresses and aliens start to make their mark, everything eventually becomes clearer.

ST REVIEW COMMENT: "Future Wars sounds promising, but unfortunately it doesn't quite make it. The cinematic technique, with its pop-up menus and lovely sprites which match Prince Of Persia for quality, is very user friendly and works a treat but the game sadly lacks any immediate 'punch'. I was expecting an exciting start, but instead I just found myself muddled up in some very laborious examine, store and use adventure routines.

Admittedly it does get better as it goes along, and there is a certain amount of action to keep you going, but unless I was a hardened adventurer I'd probably feel a bit cheated by this game.

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PD ZONE

Bring some life to your ST's screen with these great animation packages

IMAGIC DEMO

FLOPPYSHOP • DISK NO: ART.19 & ART.20 • £5.00 • MEM-ORY: 1MB • BANNERWARE



IN BRIEF: For the most part, the desktop video (DTV) revolution seems to have passed the ST quietly by, mainly due to a lack of software. *Imagic* is a package that aimed to change all that but sadly never found its way to the UK.

by example!

Animations themselves are created by stringing together small sequences on the digital workbench. *Imagic* includes its own graphics editor, or you can import your own in Degas format. The number of tools available is simply stunning and all are very easy to use. It's unclear exactly why this is a demo version – everything appears to be working perfectly!

The entire package is propped up by a beautiful icon-driven interface which is happy to run in mono or colour.

ST REVIEW COMMENT: "Imagic is uniquely powerful. Although the prompts are in German, the majority of functions are taken care of by some user-friendly icons – it comes very highly recommended!"

00000

THE SPRITES PORTFOLIO FLOPPYSHOP • DISK NO: BPRO.05 • £3.95 • MEMORY: 0.5MR • LICENCEWARE



Ye olde Budgie Sprites Portfolio is one of the best ways to make up for any lack of artistic ability.

IN BRIEF: No matter how good your programming skills, without a nice set of graphics, your game or demo is doomed to failure. *The Sprites Portfolio* is Budgie's answer to the problem and crams over 500, Degas Pi1 format sprites onto this single disk. For the programmers among you, the sprites are also aligned on 16 pixel boundaries for ease-of-use.

Topics covered are diverse and include fonts from The Lost Boys and several screens designed to fill a whole game. One of these is an isometric (3D) game in the *Airball/Cadaver* mould which would make the ideal setting for a PD game. Designs range from space age explosions and huge aliens to mediaeval stone walls and wooden doorways. There are a few substandard screens, but generally the quality is excellent.

ST REVIEW COMMENT: "Even if you don't use the sprites supplied directly, they're great examples of technique and could easily be modified to suit your needs. Essential stuff for programmers, without a doubt!"

0000

ARTIST FREEHAND L.A.P.D. • DISK NO: L.16 • £2,50 • MEMORY: 0.5MB • LICENCEWARE

IN BRIEF: Artist Freehand uses blocks for animation. Just cut out the piece you want and assign it to a frame – it's as simple as that. This method is particularly good for testing the animation of sprites. Up to 99 frames can be defined – memory permitting – which should be plenty for most purposes. In terms of editing features, all the major tools are present and correct; nothing more, nothing less. The documentation is very sparse and split up into six sections (all under 1K per file!).

While fairly competent, *Artist Freehand*'s interface is a little bit tacky. It has neither NeoChrome's style or Degas' usability, but you can always plump for your normal package and just use Freehand for animation.

ST REVIEW COMMENT: "There's very little to actually dislike about this program, but somehow it just doesn't come together. It is however one of the few PD price art packages that will run in medium resolution."

0000

PEARLE AND BLASTRAM FLOPPYSHOP • DISK NO: ART. 10C • £2.50 • MEMORY: 1MB RECOMMENDED • PUBLIC DOMAIN



Pearle in all its glory. A picture of this kind of quality can take well over an hour to produce on a standard ST!

IN BRIEF: Have you got 12 hours to spare? What better way can there be to spend it than parked in front of your ST watching a raytraced picture slowly appear?

Raytracing is the process of calculating exactly where light will fall on a predefined scene, made up of basic shapes (mainly spheres it seems). This produces an extremely realistic picture

complete with shadows and reflections. Unfortunately, due to the calculations involved it does take a long time – in Pearle's case anywhere between one and 16 hours per frame!

The ace up **Pearle**'s sleeve, however, is its animation. Each of the shapes in a scene follows the forces of gravity, and given enough time a whole raytraced animation will be saved to disk in Degas PI1 format. The only limitation is the ST's 16-colour low-resolution screen – and your patience, of course! A fast display program, named BlastRAM, is also included on the disk for distribution with complete animations.

ST REVIEW COMMENT: "Pearle pictures are painfully slow in appearing, but the results are worth waiting for. At least the program runs unaided, meaning you can leave it to calculate an animation overnight."

0000

SYNTHY
THE ST CLUB • DISK NO: DRG.51 • £1.45 • MEMORY:
0.5MB (1MB RECOMMENDED FOR ANIMATION) •
SHAREWARE



IN BRIEF: Yet another art package tries its hand at the animation game. This time the specimen is a wonderful little French program with more than a passing resemblance to **NeoChrome**. Stylish in the extreme, this is the Rolls Royce of ST art pack-

ages. Brass knobs include gradient fills, a large zoom area and full colour brushes. In addition to the standard Degas PI1, file import includes The *Full Screen Construction Kit*'s 'KID' format, which is automatically split up into the four required quarters.

Unlike **NeoChrome**, the animation is flip-page, which could have been a problem if the number of screens in memory was limited. They're not, and any amount can be accommodated, right up to a whopping great 99 on a four Meg machine!

ST REVIEW COMMENT: "Great package! Synthy rivals Crack Art for features and the KID format support makes it the perfect choice for Full Screen Construction Kit fans."

00000

SPRITE MASTER

FLOPPYSHOP • DISK NO: BPRO.3 • £3.95 • MEMORY: 0.5MB • LICENCEWARE

IN BRIEF: STOS
aside, sprite handling
from BASIC is a real
pain in the neck.
Sprite Master aims to
take some of the
problems out of the
procedure by producing a machine code
routine to handle the
sprites together with

The program is split into two main sections - the designer and the

animation.

One of the better example sprites buried deep in the editing suite.

animator, all based in a graphical shell. The designer wouldn't win any awards, being nothing more than a magnified version of the sprite and a palette control, but it's simple to use and effective. The animator is equally functional, but for some reason the sprite begins its path behind the operations dialogue box, which can be annoying.

The on-line manual provided is excellent, but unfortunately it does take the place of any standard documentation. Should you want to use Budgie's **Portfolio** sprites, a program is provided to grab chunks from NeoChrome pictures in **Sprite Master** format.

ST REVIEW COMMENT: "If sprite handling from GFA or Fast BASIC is beyond you, *Sprite Master* is the disk to get. The lack of any printable documentation is frustrating, but not too serious."

0000

TOP TEN ANIMATION PACKAGES

1 IMAGIC DEMO • FLOPPYSHOP • DISK NO: ART.19 & ART.20 • £5.00 • MEMORY: 1MB • BANNERWARE

The definitive ST desktop video package with a superb user interface. It may only be a demo by name, but to all intents and purposes this is a complete package. Whether it be animation, special effects or just a simple slideshow, Imagic is the package to get.

2 THE RUN • FLOPPYSHOP • DISK NO: DEM.477C • £2.50 • MEMORY: 1MB • PUBLIC DOMAIN

Not so much an animation package as an example of what you can expect to achieve with a little bit of effort. The plot is a simple cop chase, but the attention to detail is superb and it loops faultlessly. A 'mini' half meg version is available on DEM.476C.

3 FRACTAL ZOOM • FLOPPYSHOP • DISK NO: ART.23 • £2.50 • MEMORY: 0.5MB • SHAREWARE

Excellent fractal generator with built-in support for mini, animated 'journeys' through the colourful landscape. *Fractal Zoom* is a little slow at times, but it's extremely user-friendly and the results are stunning. For the impatient among you, plenty of ready-drawn designs can be found on-disk.

4 SYNTHY • THE ST CLUB • DISK NO: DRG.51 • £1.45 • MEMORY: 0.5MB • SHAREWARE Synthy has a style that other packages can only aspire to. The animation facilities are good, but the 'flip-page' technique just gobbles up memory.

5 THE SPRITES PORTFOLIO • FLOP-PYSHOP • DISK NO: BPRO.5 • £3.95 • MEMORY: 0.5MB • LICENCE-WARF

The Budgie boys have come up trumps yet again with this collection of over 500 Degas sprites. Most are expertly drawn and are well arranged for inclusion in your games. A slideshow is included to give you an overall impression of what's available.

6 NO: DRG.45 • £1.45 • MEMORY: 1MB • SHAREWARE

The world's best pattern generator just got better. The hinted STE features have failed to materialise, but you now get 17 different mirror effects, sprites and an interface that is far easier to cope with. It's as pointless as ever, but even more fun to watch!

7 BLASTER • THE ST CLUB • DISK NO: GRA.34 • £1.45 • MEMORY: 0.5MB • PUBLIC DOMAIN

You've designed your animation with **Synthy** and now all you need is a program to display the screens quickly. Blaster does just that by loading them into a RAM-disk and is ideal for distributing your PD animations to the

world. Admittedly it's not inventive, but you're unlikely to need anything more.

8 LAMPS DEMO • FLOPPYSHOP • DISK NO: DEM.167C • £2.50 • MEMORY: 1MB • PUBLIC DOMAIN

A strange animated tale of two desklamps – a mother and a child – produced with the Imagic graphic compiler. The plot is taken from an award winning, raytraced animation and while not up to the high standard of the original, is very entertaining to watch. The whole thing lasts around one and a half minutes.

9 SPRITE MASTER • FLOPPYSHOP • DISK NO: BPRO.3 • £3.95 • MEMO-RY: 0.5MB • LICENSEWARE

Design and animate your sprites with the minimum of hassle courtesy of **Sprite Master**. The resulting routines can easily be called from most versions of BASIC, full details of which are provided in the on-line manual. The example sprites are awful, but you can always import something a little better from the The Sprites Portfolio.

1 OPEARLE & BLASTRAM • FLOP-PYSHOP • DISK NO: ART.10C • £2.50 • MEMORY: 1MB RECOMMEND-ED • PUBLIC DOMAIN

This is a raytracing-cum-animation package that is capable of producing some beautiful scenes. Creating your own designs from scratch is a little on the tricky side, thanks to the lack of a proper user-interface, but with the help of the example that is provided it can be mastered.



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MRS. MUNCHIE: Pacama clone from the United States. Imb D/S

HARD CORE: Five level demo version of the latest Jeff Minter blast. Imb

MINDLOCK: Challenging new quiz game with trivia, maths, etc. Imb STE's only

BLACT: Good, three-in-row falling block game with added features (STE only)

MYSTIC WELL: Complete Dungeonmaster type adventure with save facilty.

BLACK DAWN: Sci-fi text adventure game with graphics by M.Dosantos. D/S

ANARCHY ACADEMY: Ex Commercial 3D adventure, now released as shareware.

ATOMIX: Latest challenging per quiz game with rovin, amb, etc. Imb STE's only

BLACT: Complete Dungeonmaster type adventure with save facilty.

BLAC

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D.342 COSMIC JAM: Good multi-vector demo from Imagina of Finland. D/S

D.343 BIRD MAD GIRL SHOW: Multi-screen demo from the French crew, Fraggles D/S

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D.343 X-PLOSION: Good multi-demo from Imagina of Norway. D/S

D.345 CROSSBONES: STE demo (also known as RED SECTOR DEMO)

D.340 MENTAL HANGOVER: Conversion of Amiga demo. (STE Imb) (Licenceware £2.95)

D.341 NORTHERN & EQUATORIAL STAR ATLAS: Superb serious astronomy program S/W

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PDZONE

E ● DISK NO: MISC.76 ● £2.00 ● MEMORY: SHAREWARE

Plan your route to wealth with a copy of Poolwise. 1-58 5535 A familiar GEM interface waits in the sidelines, ready to spring into action at the touch of the

IN BRIEF: It may be 'a funny old game' for some people, but to the pools pundit, football is deadly serious. Poolwise 3 is the latest get-

'Prediction' button.

rich-quick program to appear on the shareware circuit and comes ready programmed with all teams and data up to early this year.

A few hours spent entering the latest scores should have you up and running and then it's simply a case of asking the computer for a prediction. Poolwise is even smart enough to take into account whether the team has the advantage of playing at home or not!

The interface uses a pleasant mixture of GEM and its own fullcolour, custom design. Unfortunately, this means the program only runs in medium resolution, which is not ideal for clarity. Eye-strain aside though, there's very little to complain about it's easy enough to use and will at least provide something to blame when you lose!

ST REVIEW COMMENT: "Poolwise won't guarantee you a win by any means, but it manages to stand up well against the competition in terms of usability. The ready-to-run teams data also adds to the appeal."

00000

Whether it's help with the pools, your homework or programming, you should find something to suit you in the latest batch of public domain utilities

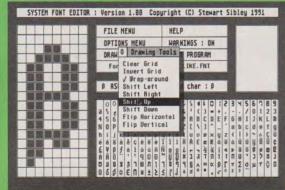


IN BRIEF: Functional is the best you can say about Atari's system font. Looking at a Mac - or even a PC for that matter - will bring home to you how much a nicelooking font can improve a machine. Fontedit, as the name suggests, allows you to edit your ST's system font, or load a completely new one if you prefer. Two examples are provided on disk including a Macesque 'Chicago' font and one wayout face.

The editing itself is fairly basic, but it's difficult to imagine how you could make editing a 16x8 font more powerful. You can always, of course, opt to import characters from a Degas picture if you crave more power. The interface is a GEM replica and looks great. The menus may seem more or less the same at first glance, but take a closer look and you'll notice some trendy shadows and they're also far quicker than their GEM counterparts.

ST REVIEW COMMENT: "Font editors are 10 a penny, but most are bolted on to other memory wasting utilities. Once a Fontedit face has been installed, it uses no memory whatsoever - which has to be pretty unique."

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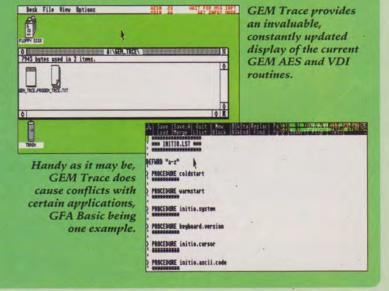
Fontedit is one easy way to change the ST's mega boring system font for something a bit more trendy.

GEM TRACE

UTL.3321 ● £2.50 ● MEMORY:

IN BRIEF: GEM Trace puts a stop to some of the problems encountered with GEM: it prints the current GEM routine in the top right-hand corner of the screen (yes, right over the GFA menu bar!). The ST, being the mini-rocket it is, often executes these instructions far too fast for you to read, so a keyboard combination is provided to slow things down to a manageable level. It's also possible to step through a program routine by routine. OK, the machine will still hang, but at least you know exactly where to start debugging!

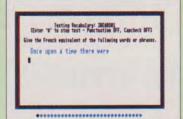
ST REVIEW COMMENT: "GEM Trace is the ideal companion to any GEM legal programming language. The lack of an 'off' toggle can be a little annoying, particularly within GFA BASIC, but the convenience on offer more than makes up for any small niggles."



WORKOUT GOODMAN ENTERPRISES • DISK NO: GD.1651 • £2.75 • MEMORY: 0.5MB • FREEWARE



Workout is set up to do its bit for European unity, but that can be changed with the built-in editor.



This is what I call a workout! French verbs, elementary grammar and not a barbell in sight!

IN BRIEF: Workout describes itself as a 'universal revision aid' and can be used to learn practically anything, from Latin verbs to Outer Mongolian traffic regulations!

As supplied, the program is set up with some French vocabulary, just as an illustration of what can be achieved. Basically the lessons themselves are question and answer sessions, the design of which we are told, complies to C.I.L.T. guidelines on language learning. Redefining the questions is easy, providing you know your subject well.

The interface, while not particularly inspirational, is colourful enough and makes a change from the mono-GEM approach. No rewards are provided for completing a lesson, but as the author says, the program is designed for adults who know the value of learning and don't require 'beeps' or pictures as motivation.

ST REVIEW COMMENT: "Workout is certainly more flexible than the majority of learning programs that are available in the public domain, but it's not quite up to the standard of many commercial offerings."

0000

THE STOS ADVENTURE CREATOR

MTS ● DISK NO: P.70 ● £2.00 ● MEMORY: 0.5MB ● SHAREWARE

IN BRIEF: They say everybody has one book in them and I suppose the same could be said of adventures. It's one of the few areas where imagination comes before a degree in programming, and with the likes of STOS Adventure Creator around, things are made even easier. So why not let your imagination run wild and come up with that PD masterpiece that's been struggling to get out?

Constructing an adventure with **STAC** is just a matter of typing in your locations together with the connections and objects – this is very easy indeed, providing you have a basic map of what you want to do. To achieve anything useful with the package, however, you really need a copy of **STOS** itself. The files produced can then simply be loaded and spruced up with your own ideas which is straightforward enough with the help of the manual. Ideal if you've been looking for an excuse to buy **STOS**!

ST REVIEW COMMENT: "The main problem with the STOS Adventure Creator is

the parser - twoword interfaces went out with the ark! But for sheer simplicity, it's worth a look."

000

The creator itself is text based and easy to use.



TOP TEN UTILITIES

1 DNJ GIF 3.0 • THE ST CLUB • DISK NO: GRA.146 • £1.45 • MEMORY: 0 5MB • SHAREWARE

DMJ GIF is the latest program to receive the upgrade treatment. Enhancements include slightly faster dithering routines, a brand new user interface and batch processing. The best GIF converter by miles!

MINT • THE ST CLUB • DISK NO: UTL 147 • £1.45 • MEMORY: 1MB • PUBLIC DOMAIN

MINT is the basis of the Falcon's new multi-tasking operating system. The public domain version allows you to run as many TOS programs as you wish alongside a single GEM application.

3 EQUATORIAL ATLAS ● SOFTVILLE MEMORY: 0.5MB ● SHAREWARE

Take a look at the sky at night in the UK and you're only likely to get one thing - wet! But thanks to *Equatorial Atlas* you can now stare into space from the comfort of your own living room. This is a very comprehensive program and offers good documentation.

4 DESKJET RESET • FLOPPYSHOP • DISK NO: UTL.255 • £2.50 • MEMORY: 0.5MB • PUBLIC DOMAIN

The HP DeskJet has an annoying habit of ignoring the ST if the computer was

switched on first. The only solution up until now has been a system reset. This accessory sends a reset signal to the DeskJet and manages to solve the problem completely.

5 TURBO 705 • THE ST CLUB • DISK NO: DMG.31 • £1.45 • MEMORY: 0.5MB • SHAREWARE

Turbo 705 is the best RAM-Disk/printer spooler utility available. Not only is it reset-proof, but the spooler replaces GEM's print routine with its own, actually increasing print speeds in some cases! An excellent configuration program makes installation a breeze.

6 AUTOGEM ● RIVERDENE PDL ● DISK NO: UTL.617 ● £2.50 ● MEMORY: 0.5MB ● SHAREWARE

TOS versions up to 1.2 suffer from the problem of not being able to autoboot GEM applications. This is particularly annoying on floppy systems where a disk might only contain one application. **AutoGEM** patches the operating system to run almost any GEM application you could care to throw at it.

7 EPSJET • FLOPPYSHOP • DISK NO: UTL.405 • £2.50 • MEMORY: 0.5MB • PUBLIC DOMAIN

One particularly annoying feature of older software is the lack of DeskJet support. *Epsjet* attempts to help out with this difficulty and make your life a

bit easier by emulating the Epson MX-80 (a relative of the FX), with varying degrees of success. The program runs from the AUTO folder and is completely transparent.

O STICKY MOUSE ● THE ST CLUB ● DISK NO: UTI.207 ● £1.45 ● MEMORY: 0.5MB ● PUBLIC DOMAIN

Sticky Mouse puts the usually dormant right mouse button to good use as a 'sticky' left button. Of course it won't work with any programs that use the right mouse button themselves, such as Calamus, but otherwise this is an excellent idea.

9 DC MOUSE WRAP • FLOPPYSHOP MEMORY: 0 5MR • PUBLIC DOMAIN

Mouse Wrap is a program that allows your pointer to move freely out of the right border, reappearing on the left, and vice versa. Love it or hate it, it'll save you and your rodent friend a whole lot of time!

1 OMEGA DEPACK • FLOPPYSHOP • DISK NO: UTL,3226 • £2.50 • MEMORY: 0.5MB • PUBLIC DOMAIN

There's nothing more annoying than finding a public domain program crunched with an inefficient packer. *Mega Depack* allows you to unsqueeze these files – over 40 different file types from 14 packers are supported – and crunch them using your chosen program. Source code is included for the brave amongst us to use.

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DTP/WORD PROCESSING

D042 FONTKIT D010 ST WRITER ELITE D051 CLIP ART

(Trees, birds, fish,etc) D052 CLIP ART

(People, logos etc) D058 IDEALIST/X-COLUMN D040 DELUXE FONT MASTER

U057 SELF-XLZH MAKER U049 GOGO ST etc U064 STD CAT v5.0 B005 FASTBASE B007 DOUBLE SENTRY

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PD ZONE

All work and no play makes Jack a dull boy - we bring a little light into your life with our look at the best of the current crop of PD games

HUNCHY

DISK NO: MPD.0966 • 99P • MEMORY:

IN BRIEF: Hideously deformed guy meets girl; girl falls for guy; girl gets kidnapped - see your role coming? Yep, it's your job, as Hunchy, to dash along the blisteringly colourful castle walls in search of the fair Ezzy.

In fact, you may well find the whole plot a little bit too familiar, because it's a reworking of Ocean's classic 8-bit game, Hunchback. A few bells and whistles have been added to catapult the game into the 90s including power-ups, extra lives and numerous other nice touches.

All graphics have been ripped from the Bitmaps' Gods and are excellent quality, but as for charging a shareware fee naughty, naughty!

In fact, the whole game would hold together really well if it were not for the infuriating collision detection - move anywhere within six miles of an arrow and you're history! It's

just not on when the original game owed its success to pixel perfect controls...

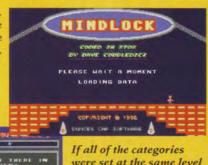
ST REVIEW COMMENT: "Plagiarised graphics and plot and a substandard control system. I'm beginning to wonder whether PD authors have their imagination removed at birth! A shame really - with a little more effort it could have been a system puts a nail in the coffin classic.'

Hunchy's irrational control of what could have been a good game.

MINDLOCK

GOODMAN ENTERPRISES • DISK NO: GD1650 • £2.75 • MEMORY: 0.5MB • SHAREWARE

While nicely presented, Mindlock's questions are far too difficult for the target age group.



HOM MANY ARE THERE IN 1) THELVE 2) THIRTEEN 3) FIFTEEN

were set at the same level as the maths section, Mindlock would be an excellent educational package.

IN BRIEF: Oh no, surely not another one of those incredibly embarrassing general knowledge quizzes? Well no, this one seems to be slightly more original!

Mindlock is a mixture of game styles and tries to take the boredom out of the standard 'question-and-answer' format. The game starts with the Skillmaster, the idea being to stop the cursor on a low figure, thus choosing the number of questions to answer

Next up are the three main categories - general knowledge, maths and English. Just choose the correct answer from a list of three possible responses within the time limit given.

Your lives are taken care of by a little cartoon character known as Clarence - get three questions wrong and our poor little friend will be dumped on the spikes! Clarence is also responsible for providing some digitised encouragement.

ST REVIEW COMMENT: "Mindlock is a confused game. The style seems to be aimed at children, but the questions are far too difficult - after all, do you know the meaning of 'vituperate' or 'galbanum'?"

CYBERNETIX

DISK NO: GD1645 • £2.75 • MEMORY: 0.5MB • SHAREWARE



IN BRIEF: Cybernetix is best described as a combination of Asteroids, Defender and Xenon (if such a thing is possible). Add some slick graphics and a selection of crisp samples and what you find yourself left with is something that is instantly addictive!

The idea is to fly your ship over the horizontally scrolling starfield, clearing asteroids and wasting any alien attack waves that make an appearance.

Each asteroid that you manage to destroy leaves a blue crystal in its wake and you have two choices: firstly you can pick it up for a juicy bonus, or secondly leave it to a 'grabber' alien (let him collect two and he will give you a power-up).

Linger too long on any level and an 'assassin' will race around the scenery. Some really crisp sound samples add to the atmosphere, with the occasional 'Attack Wave Detected' and a liberal sprinkling of explosions.

ST REVIEW COMMENT: "Cybernetix's graphics are stunning and the sound will simply blow your socks off! Order your copy immediately!"

00000



A cunning combination of game styles and startlingly smooth presentation makes Cybernetix far too good to miss.



Destroy the asteroids, grab the power-ups and collect the crystals in Cybernetix - the best PD shoot-'em-up for ages!

KLATRIX

DISK NO: CGP.1 • £2.99 • MEMORY: 0.5MB •



The excellent Blat was a tough act to follow, but Klatrix definitely scores well in the 'just one more go' department.

IN BRIEF: Klatrix is one the second generation Tetris clones, based around the colour of the tiles, rather than the shape. The idea of the

Well-polished graphics put Klatrix a cut above your average Tetris clone.

game - in common with most of this genre - is to stop the tiles piling up to the top of the play area by 'sliding' the colours with the fire button and forming lines of the same shade.

Different arrangements of colours yield different points according to their difficulty - columns being the easiest, while diagonals are the hardest.

And really, that's about it - the graphics are pleasant enough and the effects are pretty good. Unfortunately, you can't help comparing the game to Blat, which is far and away the better game, but a bit unfair considering it only runs on the STE. A noble effort all the same.

ST REVIEW COMMENT: "Klatrix isn't on quite the same scale as Blat, but for STFM owners, it's probably the best bet. Without a doubt, one of the best \$70\$ games around!"

0000

SQUIDGEY

GOODMAN ENTERPRISES • DISK NO: GD1667 • £2.75 • MEMORY: 0.5MB • SHAREWARE

IN BRIEF: Just as it's beginning to look as if the stream of public domain shoot-'em-ups and puzzle games is never going to end, along comes Squidgey.

Describing the game itself is tricky - it's all too easy to label it a puzzler, but it's obvious what you have to do and exactly how to do it. You just need the manual dexterity and patience to carry it all out, which is far harder than it looks. The aim of the game is to clear each of the 50 levels of blocks, by persuading our slimy hero to throw a duplicate. A mismatch simply piles on top of the existing blocks, meaning it takes even longer to clear the screen - still with me?

To add to your worries, the control system uses a mixture of joystick and mouse actions which allows you to select the different blocks - with just two extra hands it should be entirely possible to complete level 1!

ST REVIEW COMMENT: "Squidgey is nothing spectacular, but it's original and fun to play. The mouse and joystick approach, however, takes a little while to get used to.'

0000



Squidgey is terrifyingly cute and surprisingly good fun to play once you get used to the control system.

It's not likely to have a tremendous amount of long-term playability, but Squidgey is enjoyably original.



GONE TO THE DOGS
MTS • DISK NO: G253 • £2.00 • MEMORY: 0.5MB • PUBLIC DOMAIN

Greyhound Trophy Heat 1 Creature Feature

Make a selection by entering No. of dog You chose dog No. 2 Dominoe h would you like to bet? £ 100

Hi-tech it is not, but at least you only stand to lose £2.00 by gambling on Gone to The Dogs.

IN BRIEF: Can it be true? Is it really possible to experience the thrill of dog racing from the comfort of your own living room? If you manage to stay awake quite possibly.

Gone To The Dogs is a game for one or two players, the idea (obviously) being to amass a fortune from the measly £100 given to you at the start of the game. Each race is preceded by a list

of the runners together with odds and the amount in your kitty. Bets placed, you move onto the race itself which is very entertaining (but, unfortunately, for all the wrong reasons). The dogs all look like they suffer from terminal constipation! An editor is included in case you get fed up with the original selection of dogs, but Gone To The Dogs doesn't really offer anything that hasn't been done far better before.

ST REVIEW COMMENT: "Put aside the decidedly dodgy graphics and you're left with a very basic gambling game. It's fun for the first few tries, but don't expect miracles. At least it's cheaper than the real thing!"



Go on Dominoe!! The racing screen is the highlight of the game, but the animation definitely needs attention...

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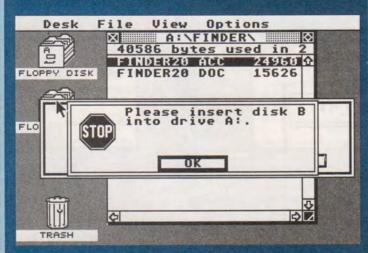
STBUYER



The Seikosha SL-90 will add style and speed to all your documents and it's up for grabs in the Blues competition on page 120.



Roland's Boss PC-200 (top) and PC-150 (above) are great value-for-money master keyboards.



Discover the time-saving world of Desk Accessories on page 100 and follow our step-by-step guide to using the program included on the cover disk.

Hello and welcome to ST BUYER – the blue pages of ST Review. This is the part of the magazine that will get your brain cells bursting with more specialised information about using the world's best home computer.

This month we show you all just how useful accessories can be. There are a couple of tasty desk accessories on cover disk two this month (see page 23) and we show you exactly how to install them in an easy, step-by-step guide starting on page 100.

Continuing your learning curve this month, the latest instalment of our HiSoft tutorial on page 118 shows you how to write your own address book using HiSoft BASIC as included on the cover disk of issue four.

Our Blues section competitions always offer useful add-ons and this month is no exception – on page 120 we give you the chance to win a Seikosha printer worth over £230.

On page 104 we continue showing you how to set up your own Public Domain library for fun and profit. This month we tell you how to set up a business plan to provide yourself with a healthy business.

MIDI monthly starts on page 111 and continues its look at the ST and music – including a review of two brand new and affordable Roland keyboards

And don't forget – there's still a host of regular articles this month including; Comms, Ask the Experts, Learn the Lingo, Letters, and much, much more!

Remember - don't get down, get the Blues!

PROBLEM SOLVED!

PART ONE – DESK ACCESSORIES

In the first part of a new series, Andrew Wright gives some advice on one of the GEM operating system's most useful facilities, DAs, and shows you how to install them – step by step. . .

esk accessories come in all shapes and sizes – if there isn't one to cover a specific task, it probably isn't worth doing anyway. The complicated process of installing and uninstalling them can be a little off-putting but if you follow our step-by-step guide below, which shows you how to install the accessory FINDER 20.ACC from this month's cover disk, it should all fit into place.

USES

So what exactly do DAs do? To answer the question properly requires you to know something about how normal programs work. When you run a normal program, which is achieved by simply double-clicking on its icon, it loads into the ST's memory and usually presents you with a list of options. Take a word processor such as

Firstword Plus, for example. It will offer you the opportunity to open a file or start a new document. If you then use the word processor, it will remain in memory as you work. You won't be able to run any other programs, of course, so if you suddenly decide that you need to draw an illustration, you will have to quit the program, load an art package, draw the picture and then reload the word processor.

BACK TO THE BEGINNING

Quitting the program releases all the ST's memory again and returns you to exactly where you were when you started the program in the first place.

The Falcon's MultiTOS operating system, incidentally, will change things completely.

You will be able to load and run the art package in another window alongside the word processor, a process known as multi-tasking. For the moment, however, we're only concerned with STs that are currently available.

AUTOMATIC REACTIONS

Some programs don't actually need your input at all. They will execute and quit automatically, returning you straight to the desktop again.

Examples include utilities to reverse the screen colours or reset the machine – essentially they are



DAs can be found hiding under the Fuji sign in some programs. . .

STEP BY STEP

INSTALLING THE FINDER ACCESSORY

Everyone starts up their ST with a boot disk even if it's only to start it up faster. The boot disk should contain two vital elements, the AUTO folder containing various TSR programs to enhance the system, and the DAs

Desk File View Options

COPY From A B to B

FLOPPY DISK

Drive A:
Drive B:
TRACK

Format a blank disk using the Format command in the File menu or a dedicated formatting utility. This is your boot disk.



2 Place the master disk containing your chosen accessory (the cover disk) into your floppy disk drive, drive A. Select the appropriate file (accessories have an ACC extender) using the left mouse button.



Glick once on the selected file, but keep the left mouse button depressed. Now drag the selected file across and drop it onto the Floppy Disk B icon, ensuring that the icon turns black. If you have done this correctly a COPY FILE(S) dialogue box will appear. Click on the OK button or press the Return or Enter key.

Understanding The ST



... or hidden away completely – in Prism Paint, for example, you have to click on the relevant menu command to get to a separate screen.

programs that alter one or more of the system parameters. The important thing is that the ST's memory is left free once the program has done its job.

TSR GAMES

Yet another type of program will actually remain in the ST's memory even when it has finished doing its job.

Programs like this are called 'terminate and stay resident' programs or TSRs for short, and examples include anti-virus utilities which constantly scan disks and files for hidden viruses and

GDOS, the operating system extension used by *Timeworks* and many other programs.

DESK ACCESSORIES

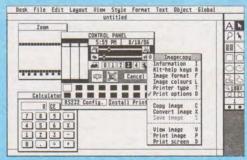
DAs are a special type of program – they are similar to TSRs in that they remain in memory until needed but they can be used even while you are running another program in the normal way. A DA is run by moving the mouse to the leftmost menu on the menu bar, moving down the list that drops down and selecting the required accessory by clicking the left mouse button.

NAMES

The leftmost menu will be labelled 'Desk' if you are on the desktop, but it can have a variety of names when you are running a GEM program - often just a Fuji symbol. Some programs bypass or replace parts of the ST's operating system and prevent you from using DAs at all. Others such as Protext and Didot will let you access them in a rather more roundabout way.DAs have to be installed at boot time by the operating system (see the step by step guide on these pages), but they are quick and convenient to use because they are already in memory when you call them and don't have to be loaded from disk.

MULTI-TASKING

This offers a limited degree of multi-tasking: users can switch almost instantly from an application such as a word processor to



Several windowed accessories can be open at once – even with an application running.

Now repeat the procedure

for as many accessories as

you want to copy across onto the

boot disk. Remember to copy the

resource files (RSC files) across too where necessary. If we try to

load. Assuming this is to be our

boot disk, we need to determine

which we want to load, up to six. We achieve this by disabling the

reboot, in order to install the chosen accessories, only six will

ones we don't want to use.

any one of several accessories and then back again, as if all of them were running at once. They aren't, of course: the program's operation is suspended while you use the accessory and then restarted when you switch back.

DIFFERENT STROKES

There are different types of DAs. Some use GEM windows of their own and this permits several accessory windows to be opened at once. Others take over the whole screen and require you to quit before you can do anything else. The main disadvantages of DAs, of course, are firstly that only six can be installed at once, secondly that they take up valuable memory, even when not being used, and thirdly that they can't be unloaded without resetting the ST. Various utilities do exist for getting round these problems, but we'll look at

them later.

When the ST boots, the operating system first looks for a folder named AUTO. It then executes all the programs inside this folder, in the order in which they were placed inside. Next, the operating system looks for any programs in the root directory with an .ACC extender and loads them into mem-



After the ST reads the file a dialogue box appears asking you to insert disk B in drive A. This is your newly formatted boot disk.



6 After more disk activity you will be asked to insert disk A (the master disk) in drive A. Do so, click on OK, and the GEM desktop will be restored to the same state as before.



6 Insert the boot disk and press the Esc key. You will see the file that you have just copied across.



To disable an accessory, select the ACC file with the left mouse button. In this example, I've put five accessories on the boot disk and added an AUTO folder (see over the page). However, I've decided to disable one of them.



9 Select 'Show Info...' from the File menu.



In the resulting dialogue box, rename the extender to something else. The easiest way is simply to type an 'X' which automatically overwrites the last 'C' in ACC, with the result that disabled accessories often have *.ACX extenders.

Reboot your ST, either by pressing the rest button or holding down the Ctrl, Alt and Delete keys simultaneously (except on pre-TOS 1.4 machines).

ory, placing their names in the free accessory slots.

The ST's operating system recognises accessories only by the special ACC extender – not because they are properly written accessories. In fact, you can rename any old text file with an ACC extender and TOS will try and load it as an accessory – with the expected result that your ST will bomb out and reset itself.

To access the DAs you have loaded, move the mouse pointer to the Desk menu and select one from the list which drops down.

You can't change the DAs that you have loaded except by rebooting and loading a different set. This may well entail disabling existing accessories and re-enabling those already disabled.

The principle is the same – to activate an accessory, ensure it has an *.ACC extender, to disable it, make sure it ends in anything but *.ACC (but it helps if you keep it consistent – renaming to *.ACX is the best method).

TROUBLESHOOTING

One of the biggest problems when using DAs is, of course, memory. Upgrading your RAM gives you the ability to install virtually any combination of accessories, whatever their size, without running out of memory. An accessory's physical size on the disk is not the same as the amount of RAM it uses.

Many accessories will reserve their own buffer areas or set aside extra space for data. The screen grabbing utility, SNAPSHOT.ACC, for example, takes up only 7K of disk space but well over 40K in memory (the added 33K is for a screen buffer).

Compatibility can be another problem when using DAs. No matter how stable an accessory might appear, when it is installed along-side others it might well prove incompatible. There are hundreds of combinations of accessories and programs that don't work. They are impossible to document as the various TOS versions play a part in it too.

Music programs such as sequencers are notoriously difficult to get on with, but there are often clashes when accessories do similar jobs or affect the same parts of the operating system.

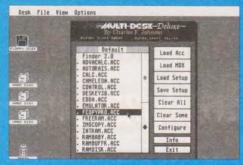
LITTLE LEFT

Another common problem is that some programs such as *Firstword Plus* use all available RAM when they are loaded. As a consequence, very little is left for any DAs which might also be required.

This is really an example of short-sighted programming, but it can cause problems for users. *Fastcopy Pro* and some other well-behaved accessories can actually set aside space for themselves – a kind of buffer – so that when called from within memory-hungry programs, they have room to run.

All this uses up memory, however, so it becomes a double-edged sword that you need to treat with some respect.

AIDING AND ABETTING



Multidesk - more accessories than a Mark 1 Ford Escort.

There are several utilities that are designed to help you get the best from your accessories. The first type overcome the ST's built-in limit of six accessories.

The commercial utility, *Multidesk*, which has recently been upgraded to incorporate even more features, and the PD utility DC

STUFFER come into this category

Multidesk lets you run up to 32 different DAs at once (96 in the Deluxe version) despite the GEM limit. It also supports a second level of accessories which are not loaded into memory on boot-up but can be loaded from disk whenever required.

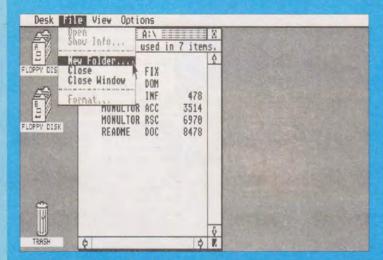
A second type of utility program lets you unload accessories 'on the fly' and add new ones when required. Examples include *Multidesk Deluxe* and the PD program *Chameleon*, which reserves a single slot and lets you load and unload from the desktop (though not from inside applications) without rebooting.

There are also programs to help you choose which accessories you need to load at boot time, many of which have other functions too. These are particularly useful if they allow various sets to be saved and reused. The best examples are fully featured bootup utilities such as XBoot or Superboot which also help with DESKTOP.INF and ASSIGN.SYS files but there are others such as ACCLOAD or SELECTOR which look solely after the accessory slots.

Finally, there are utilities that tidy up accessories, especially on hard disks. ACC13, on this month's cover disk, lets you store all accessories in a dedicated folder and patches the operating system so that GEM knows where to look at boot time. The step-by-step guide on this page shows you how to use ACC13.

STEP BY STEP

All that ACC13 requires is that you put it into an AUTO folder on your boot disk



1 Put your boot disk in drive A and and look under the File menu for 'New Folder...'



Desk File View Options

253860 bytes used in SAUTO
ARTG RRY ACC 4789
FINDER20 ACC 24960
IMGCOPY ACC 61750
MAXIFILE ACC 117682
MULTDESK ACC 43911

2 Type the word AUTO in the dialogue box provided and click on OK.

Copy the file ACC.PRG across to the AUTO folder. Follow the procedure for copying an accessory file to your boot disk. Select the file on your boot disk and drag it onto the AUTO folder icon.

All that remains is to add a second folder, ACCS, to hold all your accessories and resource files. What a good way to tidy up your boot disk or hard drive!

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PART TWO DIED BILLION

Last month we gave some general advice on getting your own PD library off the ground. This month we continue with a more detailed look at getting your business plan together

o be effective, a business plan should be well-structured. It should begin with an overview —a brief description of the business, including details of why you are writing your business plan. Then it should state what business it is that you are planning to start and what geographical area you are aiming at.

At the end of the overview (this can't be filled in until your business plan is complete), you should state your expected turnover, profit, what finance you are seeking and what it will be used for.

BACKGROUND

The next part of your plan should itemise your background under the following categories

- Personal Motives: This should list your reasons for wanting to start a PD company and your skills.
- Details of Management: This is basically a C.V. of the person who is to manage the company, i.e. yourself. It should consist of the following details name, address, date of birth, marital status, education, qualifications, employment since leaving school, references and interests.

SERVICES

The services section should list the following:

Description of Service: This should describe the service that you are going to provide: whether

you will deal with just PD or some of the other categories of software, such as Shareware, Charityware, Licenceware or Freeware as we outlined last month.

It should also describe what other things you will sell – blank disks, labels, disk boxes and so on.

- Price List.
- Future Development: This should cover the next three years and show the ways that you hope to develop. For example, you might start to stock proper software as well, or you might want to sell computers. This could also include offering a membership scheme if it is something you are not going to do straight away.

MARKET ANALYSIS AND MARKETING

A business plan needs to take into account the market that you will be dealing with. You should concentrate on:

- Location of Market.
- Market Size: This will take a lot of working out and in this type of business it can be very difficult to specify. The easiest way to look at it is to find out the amount of Atari STs that have been sold since production first started and you could do a survey in your area of the amount of people who own Atari ST computers.
- **Customers:** This should describe what type of people your business is aimed at for example,

people with an ST if you are solely stocking ST software.

Also, if you decide to specialise in one type of software such as demos, utilities or adventures then it will be aimed at the people who are interested in these.

Specialising does cut your market down considerably, but it also keeps your start up costs down.

• Competitors: Make a list of all the libraries you know, look at the things they offer, send away for some catalogues and build up a little file on them.

CUTTING OUT THE OPPOSITION

You should also cut out and keep any advertisements and promotional material given out by any competitors. By doing this you will be able to build up a profile of competitors and assess how you could project yourself better.

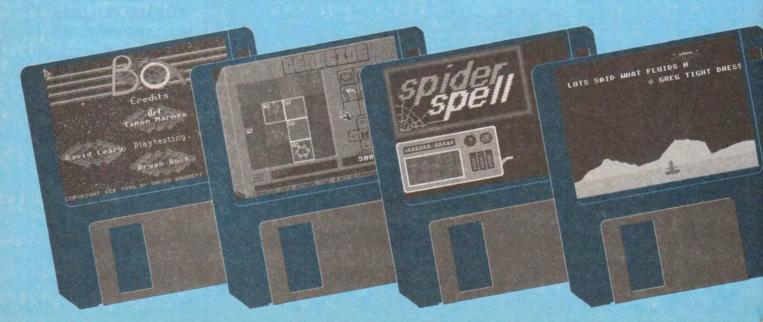
Sales and Advertising: In this section you should write down an approximate chart of the sales you feel you could achieve in a week or month. You could work it out in the following way:

Say the PD company sells disks containing software at £1.50 a disk, normal disks at 33p each and disk boxes at £5.00. A chart could look like this

£1.50 a disk

10 disks sold a day, (including Saturdays) = 60 disks a week.

60 disks x £1.50 = £90.00 a week



PROPERTY

2 disk boxes a week = £10.00 100 blank disks = £33.00 Sales for that week would be £133.00

ADVERTISING

The main source of PD advertising is in computer magazines or PD magazines. Your first choice would of course be computer magazines that deal with the specific type of computer that you are catering for.

You could put small postcards in shop windows in your area, if you want to advertise locally. Another good form of local advertising is newspapers. Your local newspaper would probably be interested in running an article about a new business starting in the town free of charge, especially if you placed a three-month advert with them for doing it.

DOING IT YOURSELF

Another source of your advertising would be your catalogue. Although these are often put onto disk nowadays, many people do prefer a printed catalogue so it might be an idea to give them a choice. Your catalogue should always be easy to use if it's disk-operated or well presented if it's printed. You could also put a discount voucher in: something along the lines of '£1.00 off first order' or 'Free disk with this voucher if you purchase more than three disks', might boost business.

LOCATION

In most cases you are likely to be working at home, at least to start with. You will need to think about:

- Location of Premises: Well, this depends on what was discussed earlier. Basically you need to describe the room in your house, that is whether you have your own room or if you will be working from a desk in the corner of the lounge. Make a note of how big the room or space is and what is in the space
- a phone, desk, computer etc.
- Cost of premises.
- Future needs: This really does depend on your future development. If you have plans to stock software then it is advisable to get premises when this happens. However, if you just want to carry on stocking PD there's no reason why you shouldn't continue working from home.

CASH FLOW FORECASTS

Many people seem to find the cash flow forecast the hardest part to follow. Before starting a forecast, write down the costs of materials and an estimated amount of sales for each month.

Although it is very hard to estimate sales I always class the first month as slow, then gradually increase the amount for the next three or four months. Then around months five and six keep the sales around the same. Month seven can be a bad month as can month

eight. Then on months nine, 10, 11 and 12 the business really starts to excel and the sales go up considerably each month before finally levelling out and only increasing a little after that.

You should take into account the following:

- Sales: The amount of disks that you expect to sell each month.
- Materials: This is basically the purchasing of jiffy bags, postage, stamps and blank disks.
- Wages: You will have to keep this to a minimum for the first six months or so, or at least until you break even and the profits start to come in.
- Adverts: This would include adverts placed in magazines or newspapers or any leaflets you have printed yourself.
- Electricity and telephone bills: These are received every three months, but there are various

financial arrangements that can be reached, such as direct debit payments, made straight from the bank or Building Society to British Telecom or your local electricity company. You may find that this kind of regular standing charge eases the burden on you slightly, if only in terms of saving you the hassle of writing and posting a cheque, but do remember to allow for it in your budget.

 Start-up costs: These are things that you will need before your PD library can get underway.

You will obviously need software, a catalogue, lots of blank disks, anything else you might be stocking, a second disk drive, a modem might be useful for down loading programs, a printer, and a word-processor for typing letters etc to customers (when disks are out of stock), and I'm sure you can think of a few more.

USEFUL ADDRESSES

The Prince's Youth Business Trust (1992) offers grants of up to £1,500 or £3,000 for a group of people and loans of up to £5,000. Grants can be used for tools, equipment, transport, fees, insurance and training and loans can be used for stock, equipment or for working capital. To apply for the grants and loans you must be aged between 18 and 25 (under 30 for the disabled), with a business idea with a good chance of success, ready to start trading and have been unable to get all or part of the required funding from other sources. The Prince's Trust is a charity and has particular concern for young people who are unemployed or disadvantaged in some way. After sending them your name trading your own

business adviser will be assigned to you. He or she will be or call with practical support and advice. The Prince's Youth Business Trust can be contacted at County Hall, Maidstone Kent MF14 1XO Tel: 0622 694280

Next on the list is **Livewire**. They offer a service (not financial) to people between the ages of 16 and 25. If you contact them they will send you an action pack, which is filled with tips on starting your own business. If you then decide that you want to carry on with your business idea, they will put you in touch with an experienced business adviser within three weeks. Your adviser will help you put together a business plan. If you send a copy of your finished business plan to Livewire you could win an award in their annual Start Up competition. There is a cash prize and lots of much needed publicity. Their address is: Livewire, Freepost, Newcastle Upon Tyne NE1 1BR.

Another scheme worth looking into is the **Enterprise**Allowance Scheme. You have to have been unemployed for a minimum of eight weeks and have £1000 to put into the business (this can be a loan or an overdraft). If you qualify you will receive £40 a week for your first year of business. Contact your local Job Centre for

more information.



WORKING WITH

WRITE YOUR OWN ADDRESS BOOK - PART TWO

This month we continue the address book program that we began in issue

eight

ast month we started writing a modular program, consisting of a short loop which waits for user input before calling one of several sub programs. You were also briefly introduced to the FNform_alert call which displays alert boxes. This month we will continue with the address book program, but first let's try to understand the alert box call a little better. What happens when you

FUNCTIONS

A function differs from a normal statement in that it always produces a result which you normally store in a variable.

call FNform_alert?

Many functions are used to perform a task and report the result. A simple example is the XBIOS function FNgetrez which first checks the system and then reports the current screen resolution.

The instruction a=FNgetrez will store the current resolution value in the variable 'a'. You can then PRINT 'a' to see the resolution value or decide what your program should do. If you want your program to run in low resolution only, use the lines shown in step one at the beginning of the program. The address book program will run in all resolutions and does not require this code.

The alert function is a little more complex. When you call FNform_alert you're asking TOS to do many things - first the AES prepares the alert box and its icon in memory, then it saves the current screen portion to a special memory buffer. The alert box is then displayed onto that portion of the screen. At this point TOS and your program enter a loop waiting for the user to click on a button in the

EXAMPLE A

FOR i=0 to lines STEP 6'

step through the array in steps 'of 6 (0,6,12,18,...)

IF INSTR(book\$(i),s\$ THEN... NEXT i

box. TOS then removes the alert box by redrawing the original screen and the button number is returned as the result of the FNform_alert function. Up to three buttons can be used in an alert, numbered one to three.

More complex dialogue boxes are normally created with a resource construction set program such as **HiSoft WERCS** which also enables you to easily create and edit menus and icons. Later in this tutorial you will see how this is done. In the meantime we can go back to our program where alert boxes can come in handy.

LOADING THE ADDRESS FILE

Last month we concentrated on the general structure of the program and on creating and saving the address book file to disk. Now we will see how to load the book and how to search for an address or a telephone number in the file.

Sub load_book should simply open the address book file, load it into the book\$() array and of course store the total number of entries in the book. The total number of lines is found by simply incrementing a variable for each line in the file until the end of the file. The sub must therefore share book\$() and the variable 'lines' with the rest of the program. The first time the user runs this program, there will be no address file and the program will fail to find it. This would normally result in a crash. To prevent this, we use the BASIC function FEXISTS. This

function checks whether a file exists or not. Step two shows how the new program should look.

FINDING A NAME

The most important function of a computerised address book is the ability to search for a name and retrieve the corresponding address and phone number. Since each cell contains six lines, we only need to search for a name every six lines. This is done with another useful BASIC function; INSTR can be used in a similar way to FEXISTS. To search through the array for the text string 's\$' we use the form shown in example A.

INSTR is case-sensitive which means that Jack Smith is not the same as jack smith. It works by trying to match the second string with the first. INSTR(a\$,b\$) will return if b\$ is found in a\$. So if a\$="Jack Smith" and b\$="Smi", INSTR will return a value, if b\$="Jack Smith Jr." - it will return 0, because a\$ does not contain the whole of b\$.

When the match is found we want to display the contents of the cell, that is the six lines containing the address and phone number of the person. The best way around this problem is to write yet another sub, purely for displaying a cell. The sub will come in handy later on, when you may want to write additional subs that enable you to scroll through the address book, edit it, remove entries etc.

Sub show_cell will be passed a single parameter telling it where the search string was found. The sub will then display six lines from

This complex dialogue box is taken from HiSoft BASIC 2 and demonstrates the friendliness of a dialogue box created with a resource construction set.

1	Address Book
Name:	Atari ST Review
Address:	Priory Court
	38-32 Farringdon Lane
	London
Code:	EC1
Tel:	
Neu	Find Save
Men	rinu sabe
Info	Next Quit

The shape of things to come...

Next month you will see how a resource file can be used to display a dialogue box inside your programs. The address book program is one step closer to being a 'proper' GEM application.

STEP ONE - TO RUN THE PROGRAM IN LOW RESOLUTION

m\$="This program runs in low-res only" a=FNgetrez IF a<>0 THEN

PRINT m\$

END IF

This can be written more efficiently -

IF FNgetrez<>0 THEN...

'read resolution into a
'if a is not equal to 0
'print message
'and stop the program

the book\$(). Sub find should be:

SUB find SHARED book\$(), lines STATIC i, srch\$ INPUT "Enter search string"; srch\$ 'user enters name to find

FOR i=0 to lines STEP 6 IF INSTR(book\$(i), srch\$) THEN 'if found then show_cell i 'show the cell starting at i EXIT SUB 'then exit the search

END IF NEXT i END SUB

Sub show_cell is quite simple, it uses the parameter passed to it as the start point to display six lines from the book\$(). See step three.

Another simple but useful routine can easily be added to the program. The sub will display some information about the book in an alert box. Sub info will need to divide the number of lines by six to find the total number of cells in the book. BASIC supports a special kind of

NEW COMMANDS

FEXISTS(filename\$) - This is a function that returns if the file specified was found. Use this function before attempting to OPEN a file in case it does not exist.

INSTR(a\$,b\$) - A function that returns if b\$ is found in a\$. The value returned indicates the position of b\$ in a\$. This value is not required in the address book and is ignored.

STR\$(value) - This function converts a numeric variable to a string variable. This is needed when using v_gtext or alerts to display numbers. When using PRINT this is done for you by BASIC.

FNform_alert(def,a\$)

Displays an AES alert box containing the message a\$ and with the default button as specified in def. The format of a\$ should be -[icon][text line| text line 2][button 1 button 2]. Icon may be a value between 0 and 3. You may have from one to five text lines and from one to three buttons. A badly structured alert will normally crash your program.

```
STEP 2
DEFINT a-z
LIBRARY "gemaes"
```

DIM book\$(599)

CALL load book

```
user$=INKEY$
SELECT CASE user$
        CASE=="N"
                CALL new_name
        CASE=="F"
                CALL find
        CASE == "S"
                CALL save book
        CASE=="O"
                CALL quit
```

END SELECT

LOOP

SUB load_book SHARED book\$(), lines STATIC I IF FEXISTS ("BOOK.DAT") THEN **OPEN "BOOK.DAT" FOR OUTPUT AS #1** DO LINE INPUT #1, book\$(i) INCR i LOOP UNTIL EOF(1) CLOSE #1 lines=i-1

ELSE

PRINT "ADDRESS BOOK NOT FOUND"

END IF END SUB

SUB save book SHARED book\$(),lines STATIC i PRINT "SAVING BOOK.DAT" OPEN "BOOK.DAT" FOR INPUT AS #1 FOR i=0 to lines PRINT #1,book\$(i)

NEXT i CLOSE #1 **END SUB**

BEEP

END SUB

SUB new name

SHARED book\$(), lines LOCAL tmp\$(5) STATIC i PRINT "NEW ENTRY" PRINT "======" LINE INPUT "Name: ";tmp\$(0) LINE INPUT "Street: ";tmp\$(1) LINE INPUT "Town: ";tmp\$(2) LINE INPUT "County: ";tmp\$(3) LINE INPUT "Post Code: ";tmp\$(4) LINE INPUT "Tel: ";tmp\$(5) IF tmp\$(0)="" THEN EXIT SUB FOR i=0 to 5 book\$(i+lines)=tmp\$(i) **NEXT** i

lines=lines+6 PRINT "NEW NAME STORED" 'needed for alerts

main text array

'first load address file

'wait for user choice

'if book.dat exists then 'load file into array

'scroll through the array 'until end of file

'store number of text lines 'if not found let the 'user know about it

Contd on next page

Contd from previous page

SUB find **END SUB**

SUB quit STATIC as, button a\$="[2][Save address book | before quitting][Save | Quit | Cancel]" button=FNform_alert(1,a\$) **SELECT CASE button** CASE=1

> CALL save book SYSTEM CASE=2 SYSTEM

END SELECT END SUB

'if save was selected, call save_book 'then quit

'just quit

STEP THREE

SUB show_cell(start) SHARED book\$() STATIC i FOR i=0 to 5 PRINT book\$(start+i)

print the six lines

NEXT i **END SUB**

division called integer division. This always produces a whole number and discards the fraction part of the result. The backslash '\' (found between the 'Z' and Shift keys on the UK keyboard) is used for this operation. You also need to add the option to call the sub from the main loop - see step four.

IFS, BUTS AND FUNCTIONS

You may have noticed by now that IF structures and functions work quite well together. INSTR(a\$, b\$), for example, returns 0 if it fails to find the required string, but a value when it does.

The value is the position of the search string within a\$. If a\$="ABCDEFG" and b\$="CDE", INSTR will return 3, indicating that b\$ was found starting at the third character of a\$. In our program we are not interested in this value - we simply want to know whether the string was found or not and so we use the line - IF INSTR>0 THEN ...

In fact, the inequality expression is not required - instead we can use a simpler version - IF INSTR THEN... - which does the same job. This also works with FEXSIST() and many other functions. The idea is that if the return value is not equal to 0, the THEN ... statement will be executed. In other words, whenever you use the expression IF A<>0 THEN... you can replace it with IF a THEN ...

'start is the passed parameter

As you can see, this shortcut also works with variables and in many cases you can make your program more readable.

Additionally you can PRINT the return value of a function by using it like a variable. PRINT FNgetrez. for example, will display the current resolution value to screen.

In a similar way you can PRINT the exit button number of an alert box - PRINT FNform_alert(1,a\$). Printing the return values of functions can be useful when debugging your programs. A full-

NEXT MONTH

Next month we will see how a cell can be removed or edited and will also be taking the first steps into using a resource file to produce 'proper' dialogue boxes. The final program will not display text in a window but in a specially designed dialogue box. Finally the program will be modified so it can run as an

blown program may use many functions and act upon the return values. If the program doesn't do what it is supposed or simply crashes, you can start locating the problem by printing to screen all important functions, results and variables. If you own a printer you could use LPRINT which behaves exactly like PRINT but diverts the output to the printer. You may find that a particular value is not what you expected it to be.



The buttons in an alert are numbered from left to right. The default button has a thicker border.

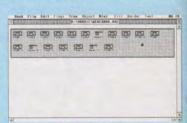




The alert box is a hidden loop which waits for the user to press a button. The button number is returned as a result of FNform_alert, the default button has a thicker border and can be selected by the user by pressing the 'Return' key. When defining the text and buttons, care should be taken not to exceed 30 characters per text line and 20 characters per button. A maximum of five lines of text and three buttons is imposed by the AES on alerts. A resource construction set is required if you need more complex dialogue boxes.



As you can see from the above, even a small part of the name is enough for INSTR to find the correct name - you do not have to type in the full name when using the find routine.



WERCS by HiSoft is a fully fledged resource construction set program. The Atari
"Introduction to Programming" package includes WERCS as well as many other programming utilities at £19.95.

STEP FOUR

CASE=="I"

CALL info

And the sub itself:

SUB info SHARED lines STATIC dum,a\$,total\$ total\$=STR\$(lines\6)

a\$="[1][There are"+total\$+" | cells in the | address book][OK]" dum=FNform_alert(1,a\$)

END SUB

'str\$ is used to convert the result 'into a text string

'this alert has only one button 'and we are not interested in 'the result

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MIDI MONTHLY ZOOMING TO THE TOP

Do you want all of those lovely expensive sounding effects like reverb, chorus and echo without paying the price? How about the Zoom 9001 at less than £250?

ver listened to a song on the radio or TV and heard the various effects used on the vocal? You know the kind of thing; echoes which carry on after the vocal has stopped, or that smooth reverb effect which makes it appear that the recording was made in a hall. What about that clean, jangly guitar sound?

A RARE EVENT

All of these are possible, courtesy of an effects processor, but such pieces of kit are not renowned for their light nature pocket-wise. In this area, you get what you pay for. Cheap processors generally result in harsh reverb, poor-quality echoes and an overall unacceptable quality of sound. Once in a while, though, a unit appears which fits the bill in price as well as quality. Enter the Zoom 9001 multi-effects processor...

WHAT DOES IT OFFER?

To say that the 9001 is small is an understatement as it measures just 10cm by 16cm - small enough, in fact, to fit into the average inside pocket. Power is supplied either by six AA batteries or via a mains

Good selection of effects Small enough to fit in your pocket Easy to program **Excellent manual**

PROS AND CONS

None

input, two for output) are of the standard 1/4" variety for connection to a mixer, or directly to a microphone, synth or other electronic instrument and a headphone socket is also included for personal use.

EFFECTS

On offer are 20 different effects grouped into eight categories, namely: Studio, Drums, Keyboard, Piano, Acoustic Guitar, Bass, Vocal and Sound, each with their own logo along the top of the display and a finger on-screen which points to the current category. Each category is then broken down into between two and four effects. For instance, Vocal offers Vocal 1, Vocal 2, Harmony and Robot (!). It's possibly a little unfair to categorise effects in this manner, because Vocal 2 might sound great with an acoustic guitar - who knows? Experimentation is the order of the day here.

WORKING WITH THE 9001

All 40 program slots are filled with factory settings, but you can edit any program and save your new effect to any slot. While this overwrites the current program, a facility exists to recall any particular one whenever you wish.

There are 10 banks, each with four programs, so select the bank with the program you wish to edit by using the Up and Down buttons, followed by pressing one of the four numbered buttons for the selection within that bank. Press Edit and you are presented with five editable parameters, each with a small pictorial representation of the value which grows or diminishes as you change it.

AN EXAMPLE

Let's take the example of program #74, Solo Voice, which uses the Vocal 1 effect type. The right and left inputs are mixed together and then passed through three effects modules with the five parameters being shared between these. The first, Enhancer, is used to improve the vocal clarity via the Enhancer Depth setting. The second, Chorus has a Depth setting which changes



The Zoom 9001 multi-effects processor offers a range of sounds that give excellent value for money.

the intensity, and Mode for mono or stereo. Finally, the reverb module has a Time setting for the size of the hall and Mix which balances the reverb effect with the sound coming into the reverb module. Don't worry too much about understanding how the effect works - just stick a sound in and listen to the difference the various parameters make.

PROOF OF THE PUDDING

The reverbs are great with a smooth, silky result, far belying the price of the 9001; units that cost twice as much are capable of sounding far worse.

Delay time goes up to 1.28 seconds and includes a great ping-pong effect where delays are consecutively bounced between the two outputs.

Chorus is extremely clean and wonderful on a clean guitar sound, but the star has to be the Harmoniser which lets you set two pitch shifts of between an octave above and below. This is very usable for instrument solos or even vocal harmonies.

With the vocal effects, a voice can sound anything from a professional, breathy vocal through to a unison choir in the Albert Hall. Marvellous stuff.

VERDICT

If you want a quality effects processor at a budget price for use in live or recording situations, check out the Zoom 9001 but take your cheque book with you. Once you've heard it perform, you won't want to leave the

"A professional sounding effects unit at a budget price"

NAME: ZOOM 9001 COMPANY: MCMCXIX CONTACT: 081 963 0663

PRICE: £249

RELEASE DATE: OUT NOW MIN MEMORY: N/A

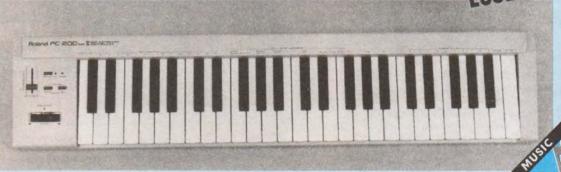
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00000 **VALUE FOR MONEY** 00000

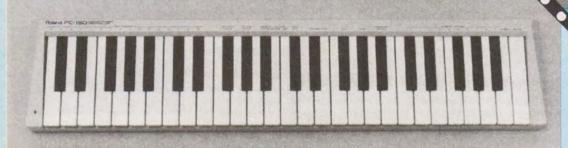
OVERALL

PLAYING THE PARA

MIDI Monthly has looked at sequencers, samplers, sound modules and drum machines. How about a keyboard? Here's a couple from Roland...



Roland's Boss PC-200 MKII - a great value master keyboard.



The Boss PC-150 is a cheaper alternative, but you couldn't get anything better for the price.

et's face it – it doesn't matter what else you have in your MIDI system, you're not going to get off the starting block without a keyboard of some sort to play you tunes on!

Bearing this in mind, there are three options that you can consider before you go out and buy one of these singularly useful beasts.

Firstly, you could buy a synth whose sounds you like and then consider adding an expander later to give you a greater choice of timbres when you grow bored of the available sounds.

COST

This is a path that many of you are likely to follow, but most synths with a reasonable MIDI side have a five-octave keyboard and a price to go with it; you certainly shouldn't expect to get much

change out of £800, at least not if you want to get your hands on a decent one.

ALTERNATIVELY. . .

The second option is to buy a cheap synth with poor sounds, use it purely for its keyboard and buy a separate expander. The problem with going down this path is that most cheap synths of this nature have miniature keys, which are totally unusable from a playing point of view, and a poor MIDI side as well.

IDEAL SOLUTION

The final option is to purchase a master keyboard which has no internal sounds and, again, buy the expander. But a master keyboard is an expensive option, isn't it? Not necessarily; have a look at this pair from Roland...

PC-200MKII

This is the more expensive of the two, but is still reasonably priced at £205. It sports 49 full-sized keys (four octaves) which are touch-sensitive so that the harder you hit

Did you know that EMF, the wellknown dance band, use a PC-200 live? Of course you didn't, but you do now!

Hands On MIDI Software programmer, Paul Young, also uses a PC-200 to create many of the songs for the Hands On MIDI Song library. You want to hear how good they are? Have a listen to the specially written MIDI File on Cover Disk 2 in the Hands On folder.

the keys, the greater the effect on the level and tone of the sounds that it plays.

While it looks rather cheaply made in its white plastic case, the PC-200mkll has features belying its looks and price. For starters, there's a combined pitch bend wheel and modulation lever. Moving the wheel sideways

changes the pitch of any notes that you're playing, while pushing the wheel upwards activates the modulation lever which usually adds a warbling effect to the sound. Then there are a couple of vitches labelled Octave Up and

switches labelled Octave Up and Down which allow you to play notes beyond the range of the keyboard, effectively giving you six octaves in all!

CUTTING COSTS

One of the price-cutting areas is in the lack of dedicated switches and sliders for all of the various functions. These can be assigned in turn to the slider called Data Entry by pressing the MIDI/Select switch followed by the relevant note on the keyboard, the names of the functions being written above the various keys.

For example, if you want the Data Entry slider to send out MIDI infor-

Good MIDI facilities Full-sized keys Cheap for what they offer

PROS AND CONS

Keyboard only covers four octaves Plastic construction a little fragile mation to control the level, or volume, of sound from the expander, press the MIDI/Select button followed by the D# key just above the middle of the keyboard. In this way you can control the likes of aftertouch (pressure), stereo pan position and reverb/chorus depth, with the latter being intended for any of Roland's GS synths (one of which, the DS-330, we looked at last month).

Using the MIDI/Select button and different keys, you can set the MIDI channel over which MIDI information is sent and you can also transmit MIDI program and bank change messages via the Numeric Keypad and key labelled Enter to remotely switch between different sounds on the expander.

Battery operated (six AAs are included as standard with the keyboard) with about 30 hours of life, the PC-200mkII is perfect for live use, weighing in at only 2.5 kilograms. For home or studio use,

however, you will probably need to buy the optional Roland power supply unit.

PC-150

Priced at £139, the PC-150 is a cutdown version of its brother, although having said that it still has 49 full-sized keys, but without touch sensitivity.

There is no pitch bend wheel, modulation lever or Data Entry slider - the PC-150 really is simply a bare keyboard.

ADDITIONS

However, some additional settings are available via the keyboard as with the PC-200mkll. On the rear of the PC-150 is a Command button which acts in the same way as the MIDI/Select variant mentioned above and allows you to set the velocity value of the keys, octave up/down, and all of the other functions mentioned for the PC-200mkII.

"The PC-200 is a great master keyboard that won't cost the earth the musical world becomes your oyster with this model"

NAME: BOSS PC-200 MKII COMPANY: ROLAND UK LTD CONTACT: 0252 816181

PRICE: £205

RELEASE DATE: OUT NOW MIN MEMORY: N/A

EASE OF USE 00000 00000

00000 VALUE FOR MONEY 00000

"Roland's PC-150 is the cheapest master keyboard available anywhere with decent MIDI facilities. Ideal for the home or studio"

NAME: BOSS PC-150 COMPANY: ROLAND UK LTD CONTACT: 0252 816181

PRICE: £139

RELEASE DATE: OUT NOW

MIN MEMORY: N/A

EASE OF USE 00000 00000 **EFFECTIVENESS** 00000 VALUE FOR MONEY 00000

A PC-200mkII with a Boss DS-330 sound module will cost you less than £550, for which you get a good keyboard and a sound module capable of playing 16 instruments simultaneously. If your budget won't and a sequencing program, the musical world is your oyster!

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Do you need to use a sequencer live? Do you want a librarian for your synth sounds? Do you want a single device for both of these tasks? The Yamaha MDF2 might fit the bill...

know the sun shines out of your ST's sockets, but let's get real; using one for live work is certainly not a bowl of cherries. An Atari ST is simply not designed to be lugged around from concert to concert and as for monitors...

In a musical sense, there are two main reasons why a computer might be necessary live. The first is to play back songs (for backing purposes) which have been recorded on a sequencer. The second is to load sounds into various different synths.

The latter role is also necessary in the home studio where you have a synth whose sounds you keep

In the studio the MDF2 is, perhaps, of limited use if you already have an ST and a sequencer as most programs allow you to save sound data on a track.

However, for live work the MDF2 is a very useful tool. Up to 112 files can be stored per disk, including up to 99 sequence files, depending on file sizes. A typical figure would be 20 or 30 which is enough to have an entire set of songs without the hassle of waiting for each of them to load.

editing but want to easily get back to a previous set. Yamaha's MDF2 (MIDI Data Filer) is the perfect tool for such situations.

ENTER ONE SMALL BLACK BOX

In keeping with the age-old tradition for such units, the MDF2 is a small, black plastic box which hardly looks big enough to take a standard 3.5" disk and six AA batteries which can power it for about four hours (an optional power supply unit is available).

It has a small, one-line display without a back light - a major omission bearing in mind the live applications on a dark stage!

Next to the display are three sets of buttons with the top row being used for mode selection. MDR (MIDI Data Recorder) is used for sound banks, SEQ for MIDI song file recording and playback direct from disk, JOB for various functions including repeats and tempo changes and UTIL for disk operations. Below this are the Record, Pause and Start/Stop buttons while beneath the display are the +/- data buttons and cursor movement keys.

WORKING WITH SONGS

If the MDF2 can play back MIDI song files from your sequencer, do you simply take your song disk and place it in the MDF2's disk drive? Well, yes and no. As previously mentioned in these pages, there are two frequently used formats for MIDI Files; 0 and 1. The MDF2 will only read format 0 files and most sequencers save MIDI Files in format 1, but you may be able to get around this by merging all tracks together into a single track and then saving. If this is still not a format 0 file, and the MDF2 will tell you in no uncertain terms, then you can connect the MIDI Out of the ST to the MIDI In of the MDF2 and transfer the song in that manner. Songs transferred in this way are always saved as format 0 MIDI Files on the MDF2.

Once you have a disk with various song files on-board, playback is simple. Place the disk in the MDF2's drive, select the song via the +/- keys and press play; the display tells you the performance time as the song plays.

SAVING BANKS OF SOUNDS

Transferring sound data is equally simple. Having connected the MIDI Out from the synth to the MIDI In of the MDF2, press the MDR button and select the next empty file on the disk. Hit Record and Start/Stop and start sending the data from the synth; there's a function on most synths to instigate such a data transfer.

Sending data to a synth is simply the reverse operation in terms of MIDI connections. Select a file and press play. That's it!

OTHER FUNCTIONS

Yamaha has always used the term 'JOB' to describe a whole host of functions and the MDF2 is no exception. JOBs include setting up play repeats for songs, putting together a chain of songs for playback, changing the tempo, or playback speed, of a song and forcing the MDF2 to play in time with another sequencer or even another drum machine

The disk utilities available include the obvious Delete and Rename functions along with Append to join files together, Backup of a disk (a lengthy affair as the MDF2 can only handle 20 Kbytes of data at a and Disk Format. time) Additionally, you can get information on how much space is free on a disk and the number of files.

Very portable Plays MIDI Files created on your ST sequencing program Saves lots of banks of sounds on a single 3.5" disk

PROS AND CONS

No backlight on the display

"As a librarian, the MDF2 is good. As a live song file playback device, it's invaluable"

NAME: YAMAHA MDF2 **COMPANY: YAMAHA**

KEMBLE MUSIC (UK) LTD CONTACT: 0908 366700

PRICE: £249

RELEASE DATE: OUT NOW MIN MEMORY: N/A

EASE OF USE

00000 00000

00000

VALUE FOR MONEY 00000

Standard MIDI Files, to give them their full name, are intended to allow you to save songs on one sequencer and load them into another, even on a different computer - although this depends on whether a different computer can read the disk format

There are three different formats. Format 0 is for a single track which can be used if you have recorded, say, a single piano backing accompaniment. Format 1 is for multiple tracks which is the case with most sequencers on the ST where your song has lots of different instruments. Format 2 is for multiple patterns, but this format has very rarely been used.

Don't worry too much about the file formats. If you have only recorded a single track, the sequencer will probably record it as a format 0 file while the use of lots of tracks will require a format 1 file. If you have to force a sequencer to save as a format 0, for instance for the MDF2, merge all tracks down to a single track and then save the song.

BUILDING A MIDISYSTEM

What happens if you want to use a sequencer and sound module with two keyboards? Time for a merger. . .

n issue seven, we looked at using a MIDI Switcher, a cheap device which allows you to select one of various inputs to be switched to the output. This is use-

ful if you have various different keyboards but only want to play one at a time. But what happens if you want to play two at the same time?

You may, for

example, want to share a multi-timbral sound module with a friend, each of you using a different keyboard and playing individual sounds. One of you might be playing a bass line while the other plays a piano part, each keyboard transmitting MIDI information on a different MIDI channel.

As this requires the MIDI information to be mixed together, an intelligent unit is needed to make certain that the MIDI data making up a particular message is kept together. For instance, there are three elements to a Note On message and these must not be split up, otherwise the Note On message will be incorrectly transferred and the note won't play. The unit which can carry out such a task is called a MIDI Merger and as it has a micro-processor on-board, it costs more than a Thru box or a MIDI Switcher – around £80 for a two into one merger (figure 1).

The simplest use for a Merger is with two musicians sharing an expander (figure 2). One synth might be transmitting on MIDI channel 1 while the other might use MIDI channel 2. In this way,

Figure three: using a pair of synths with a sequencer allows you to record a joint performance.

each of them can be playing a different sound on the expander.

The MIDI Out from each synth is connected to one of the MIDI Ins of the Merger while the MIDI Out of the Merger goes to the MIDI In of the expander.

Perhaps a little more interesting is the idea of recording a joint performance on a sequencer. There is nothing like playing along with another musician to give you musical inspiration and to get that feel which no amount of playing to a pre-recorded track can deliver. For this, the two synths are again connected to the Merger, but the output of the Merger now goes to the MIDI In of the ST whose MIDI Out connects to the MIDI In of the expander (figure 3). The soft-Thru facility of the sequencer must be turned on, but don't channelise the MIDI input or else both synths will end up playing the same sound.

There are various MIDI Mergers available, but the Philip Rees 2M at £79.95 is a particularly good one. It's mains powered and reliable;

Figure one: a two-way MIDI Merger combines together the MIDI messages appearing at the inputs and then transmits them from its output.

Fig. 1

Out

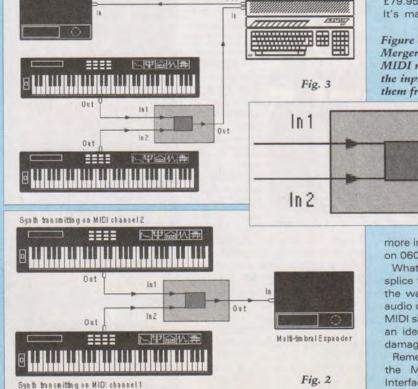


Figure two: two synths transmitting on different MIDI channels can play different sounds on a multi-timbral expander at the same time.

more information from Philip Rees on 0608 811215.

Whatever you do, don't try to splice together two MIDI leads in the way that you might do with audio cables. Due to the way that MIDI signals are transmitted, such an idea will not work and could damage equipment.

Remember that MIDI stands for the Musical Instrument *Digital* Interface which means that you can't take the kind of liberties that you might normally with standard analogue audio signals.

While not strictly a MIDI instrument, a sampler has a wide list of uses, from creating backbeats for dance music to playing solo violin! SAMPLERS

sampler is a bit like a tape recorder in that it records sound but rather than use tape, it converts the sound into a digital form and stores it in its memory. Once sound is stored in the sampler's memory, it can be altered in various ways, so it's not purely a playback device.

A sampler makes a recording in much the same way as a tape recorder, via a microphone or an audio input. Care has to be taken in the same way with a sampler as with a tape recording. The correct levels are essential: without them

too much background noise (known as under recording) or distortion (over recording) occurs.

Once recording has been made, the sample can be played back by allocating it to a note on a connected MIDI keyboard. If the key you press is higher than the one for which the sample was

recorded, the sample will play back faster and so will be higher in pitch but shorter in length. Playback via a lower key has the opposite effect; slower playback, lower in pitch and longer in length. The character of the sound also changes; playback via lower keys invariably makes the sound appear dull.

To get around this, a technique called multi-sampling is used. This requires you to record the original sound several times at different places on the keyboard and then set a range of keys for each of the

samples. The result is capable of bearing a high fidelity to the original sound, although multi-sampling invariably requires more memory than using a single sample. Let's say that you've taken a sample from a violin for three seconds. To get the aural illusion of it playing longer than that you use a technique called looping, where a portion of the sample is selected to repeat over an over again.

With a violin, this will probably be the part where the player is using vibrato because the repetitive nature of this is easy to loop. With

> a drum beat sample, it will be the entire phrase. Most dance music is based on a looped sample in this way.

Most samplers have a disk drive to allow you to save samples onto disk. Some of the more expenones sive have either an internal hard drive or a SCSI (Small Computer

System Interface) port for connection to an external hard drive.

As a final point, you should remember that you never get anything for nothing. For quality sampling, you need to use a high sampling rate – 30 kHz and above. However, a higher sampling rate means more data and so requires more memory.

The same can be said about the resolution of the sampler; the higher the number of bits, the better the quality of sample, but the higher the memory requirement.

MODEST MIDI

Just the place to explain all those terms that we take for granted. This month it's a look at all of those terms used in sampling...

AMPLITUDE:

The difference between the highest and lowest values of a recorded signal.

BANDWIDTH:

Due to the nature of digitising sound, the sampling rate has to be reduced by at least half to give the audio bandwidth that we hear. CD quality (44.1 kHz sampling rate) gives an audio range of around 20 kHz.

CROSS-FADING:

from one sample to another, usually according to the velocity of an incoming MIDI note. For instance, a soft piano sound might move towards a brighter sample as the velocity increases, much as a real piano. The payoff? More memory required!

CROSS-SWITCHING:

Changing from one sample to another according to the velocity of the MIDI note. A typical example is slap bass where a high velocity gives the slap sound while a low velocity gives the normal, sustained bass sound.

LOOPING:

Technique used to give the aural illusion of continuous sound from a short sample. Start and End points set a segment which plays continuously

MULTI-SAMPLING:

This is a technique where several different versions of a sound are recorded at different places across the keyboard.

RESOLUTION:

The number of steps into which the amplitude is divided. Eight bits means that 28 steps are available, a total of 256 values. However, 16-bits means that 216 steps are used, a total of 65,536 steps which is why 16-bit samplers are more expensive than 8-bit ones as they can reproduce the recorded sound more accurately.

SAMPLER:

Device capable of recording analogue audio signal and converting it to a digital format for storage and editing.

SAMPLING RATE:

This term refers to the number of times per second that the input is sampled. For instance, CD quality means 44,100 samples per second (44.1 kHz) while seedy quality usually means something less than 20 kHz!

TRUNCATING:

Lopping off bits of samples that aren't needed to free up memory space. For instance, you might start recording a little too early and just have unwanted noise at the start of a sample. Getting rid of it is known as truncating.

"My palms were actually sweating as Italy surged forward"



THE WORLD CUP - THE ULTIMATE CHALLENGE

The ultimate challange in soccer management is to take a ragbag of good club Players and mould them into an efficient, organised squad that will take the rest of the world apart in the World Cup Finals. Why not join Michel Platini, Johan Cruyff and Franz Beckenbauer in the USA in 94?

Soccer Supremo puts you in charge of a European national squad preparing for the European Nations Cup qualifiers. You have an initial four year contract that may be extended to six or eight years, or reduced to two, as the results dictate. You'll be expected to qualify for the Finals, then put up a show against the best European teams. but this is just preparation for the big one:The World Cup!

Customisation. The game will allow you to take the European nation of your choice and you will be allocated an initial squad of 16 players. You can introduce a further 34 players, making 50 in all, whose names and skills (but not levels) You can define yourself. These players are introduced gradually as you discover the weaknesses in your squad and also to create the balance of skills that match your style of play. The original 16 players can be defined in the same way using the EDIT program (free with the game) if you wish as well as the teams that will make up the opposition.

With Soccer Supremo the soccer management game comes of age with a match display that not only gives considerable information about the performance of players and team, not only allows the major tactical changes the state of the game demands, but is also entertaining and even exciting. The childish number juggling game has been replaced by an intelligent select-the-team and watch-the-match simulation. Oh.....yes. Italy equalised but England won on penalties.....

3D, 22 MAN MATCH DISPLAY

Continuous display of:

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PLAYER-WITH-THE-BALL INFORMATION

IN MATCH TACTICAL MOVES

SUBSTITUTIONS
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IND. PLAYER WORKRATE

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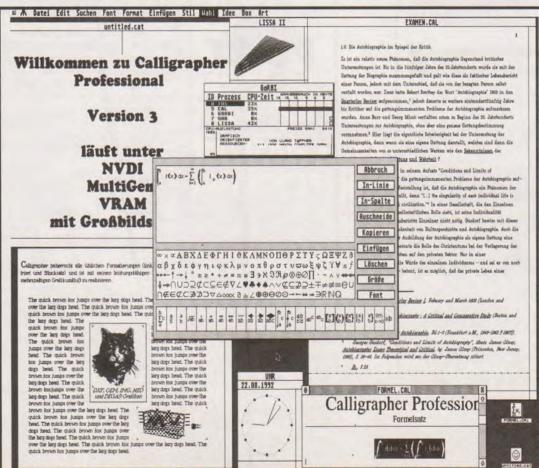
HC DIV1

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Head Coach works with ALL STs/monitors SS and DIV 1 require colour monitor/TV.



The message is clear in any language - Calligrapher version 3, a generation ahead of other wordprocessors.

Copies of Calligrapher registered after November 20th 1992 that are not version 3, will be upgraded automatically. Previously registered customers will receive details of upgrades directly.

The screen shot shows Calligrapher Gold version 3, running under MultiGem,with the interactive formulae editor displayed in the centre of the screen.

A brochure on both Calligrapher Professional and Calligrapher Gold is available from WorkingTitle, PO Box 4, Eynsham, Witney, Oxon, OX8 1UD. Tel 0865 88 35 92.

IMPORTANT ANNOUNCEMENT

The latest edition of the Goodman International Shareware Guide is now available.

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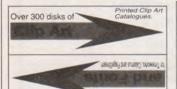
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Formerly Quick ST, this is the latest and great-est software screen accelerator for the ST/TT-graphics and text look the same, but appear with astonishing speed. Includes a host of utilities from CodeHead Software: mouse accelerator, desktop pictures, new system fonts, keyboard control over dialogs, and and excellent After-Dark-allike modular screen saver. Price; £24.95, upgrades from other screen accelerators (return manual cover): £12.95.

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At the latest alternative to Freeze Dried Torming!

Mark Baines looks **Dried Terminal**



The Freeze-Dried main control panel.

he excellent Freeze-Dried Terminal program is quickly becoming the de facto comms terminal program, much like Uniterm was a few years ago. However, for new users it is hard to set up (especially if you unknowingly obtain a copy that has been preset for the Canadian/US telephone system), it can be complicated to use and the poor documentation assumes far too much of

Kevin Millican wasn't happy with FzDT. The mono display was poor, the obscure text editor couldn't compete with Tempus2 and the control panels were too complex. The simple elegance of DTerm and Uniterm had gone. The answer for Kevin was to write his own, and KM-Term is the result.

PLAIN ENGLISH

the user.

KM-Term presents a friendlier interface for the user with the help screen and control panel just a key press or click away. External programs can be called from within KM-Term. Indeed, Kevin sees KM-Term as a shell for linking your text editor, file transfer protocols, QWK off-line readers, archivers and other utilities together. In this respect, KM-Term does provide that freedom, it works well and has been stable except under OverScan. It doesn't, however, work under MultiTOS.

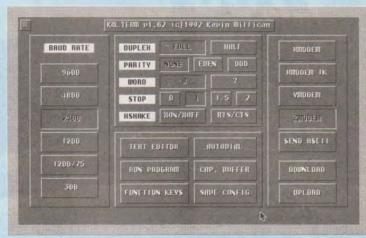
INNOVATION

One of the most innovative features is the HOST mode, which is obtained by pressing the Insert key. This sets up KM-Term so that someone else can ring in and connect to you as if you were a BBS. A menu system, text files and bulletins can be made available to the

remote user who can chat with you, and using Jekyll, upload and download messages and files even if you aren't there. That feature alone will keep KM-Term on my hard disk.

The configuration file can be directly edited, although most items are set from within the program. The AutoLogon feature allows for more scope than that of FzDT and much of KM-Term's versatility and control revolves around AutoLogon files. However, their use doesn't replace the power of a proper script language.

The lack of automatic redialling of a phone number is very frustrating and accessories are not available.



The KM-Term control panel - simple and clear.

There is no prompt to save the capture buffer when you quit which can be a disaster. However, I'm sure that such problems will be solved soon.

The shareware registration fee is £5, £10 will get you the excellent printed manual, utilities (XYZ, Jekyll, PROED editor etc.) and Power BASIC source code which the user can alter and recompile for their own use. This is a generous and creative idea.

KM-Term is the easiest terminal program to set up and use that I've seen. If you can't cope with Freeze-Dried's control panels and lack of documentation, can't configure Uniterm's pop-up menu or just dislike DTerm, then give KM-Term a run for its money.

Current Settings :- 2400baud, NO H/S, B/N/1, FULL DUPLES

The handy KM-Term help screen can be called up at any

To get a copy of KM-Term, contact Kevin Millican, 20 St Johns Road, Belton, Great Yarmouth, Norfolk, NR31 9NS

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- Automatic HOST (mini-BBS) mode

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OVERALL



WIN A SEIKOSHA SL-90 PRINTER

Fancy a new 24-pin printer for all your post-Christmas thank you letters? Here's your chance to win the excellent Seikosha SL-90

n page 47 of this issue, we take a look at the new entry-level printer from Seikosha, the SL-90. Amongst its many features is a tractor feed for continuous paper and a single sheet feeder for individual sheets. A cut sheet feeder is also available as an optional extra.

Print quality, as you'd expect from a 24-pin printer, is very good and the speed in draft mode is impressive. It has Epson compatibility, so you'll have no problems finding a driver to enable you to use it with your ST.

With a list price of £199 plus VAT, this printer represents great value for money. However, if your finances are overstretched after Christmas, we've got one to give away. All you have to do to win one is answer the questions opposite and send them to us on a postcard.

HOW TO ENTER

All you have to do to enter our competition and be in with a chance of winning your very own Seikosha printer is to answer the following questions and send the replies to us:

- 1. What is the maximum print speed of the Seikosha SL-90?
- 2. What is the maximum resolution (DPI) available on the printer?

Send your entry on a postcard or the back of a sealed envelope to Printer Competition, Atari ST Review, 30-32 Farringdon Lane, London, EC1R 3AU, stating your name and address, to reach us by 14th January 1993.

Please note that only one entry per household is allowed, and any multiple entries will be automatically disqualified. This competition is not open to employees of EMAP Images Ltd, Seikosha (UK) Ltd or their associates.

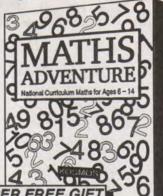
The Editor's decision is final and no correspondence will be entered into. There is no cash alternative. The winning entry will be the first correct one drawn from the hat after the closing date of 14th January and the winner will be notified as soon as possible after that date.

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High quality printer facilities to list all the vital information. Masses of historical statistics on past games, players and manager. Realistic Gate Capacities and Ground Improvements.

Quick game data load and save. All screens updated quickly and displayed in a pleasant format, which is easy to use and comfortable to read. Fully mouse operated. Printed instruction booklet with plenty of diagrams. An Editor is available (as an extra) to add flexibility to the new or saved games.

An options screen allows some of the above to be switched off if so desired. Others not mentioned above include Show All Goalscorers (when possible) and Show Transfer News



WANTED! Sports related programs or programmers Bold text highlights new features. Scottish version also av

There are many, many other little things that make this game the most addictive and accurate interpretation of a Football Managers season. It would be impossible to list all the features in this advert but we assure you that this is the best. We have thousands of satisfied customers from our previous edition of this game, many are still playing it 2 years after purchase. Se the order form below for details on how to order this incredible game. Available for all Atari ST's and Amiga's. PC WINDOWS version coming soon.

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ASK THE EXPERTS

Got a problem? Can't find the answer? Then write to us at Ask The Experts and our team of experts will work out all of your ST problems

KEY OF THE MATTER

l wonder if you could help me to solve a problem with my computer. I have an Atari 520 STE which I had upgraded a little while ago to one Megabyte.

On cleaning the keyboard the other day, I accidentally snapped off the Alternate key and, in trying to fix it back on with superglue, I have made a mess of the keyboard.

Consequently, any software that requires that key is no longer of any use to me until the key is fixed. On making enquiries around different suppliers, I am told that Atari don't supply spare keyboards and that the key on its own can't be replaced. You see, the fact is I am prepared to fit the new keyboard myself and I think that is the reason that they are reluctant to supply me with it.

Could you tell me whether it is true that they do not supply spares, or am I simply being given the runaround by these people?

G. Millum, Northfleet, Kent

You're not being given the runaround, but there is a solution to your problem. Most companies don't stock spares in this kind of detail, but there is one that will sell you just the one key if that is what you need. It is also likely that you may have done more damage with the superglue.

With this in mind and if you have already tried ringing around likely repair centres in your area, I would advise you to contact the Atari Workshop and arrange for them to fix the keyboard or replace it as necessary. They can be reached on 081 693 1919, or write to them at 17-19 Blackwater Street, East Dulwich, London SE22 8RS.

MORE OLD TOS

I was very interested in your article 'Load Of Old TOS' in the November issue of Atari ST Review. My machine, bought from Silica in June of this year, is a 520 STE (which I have upgraded to one Megabyte).

Using a Sysinfo program, I discovered that my TOS is 1.98 and was built on 1/1/90 (or assembled two and a half years before I

bought it!). Now, having read other articles about 'late' STEs operating on TOS 2.06, should mine have this? I would consider June 1992 to be a late STE.

I bought the machine as pricematched to another company's price so I did not receive the extra games that would have come with it. I also paid for the upgrade, but do I have any comeback with regards to the different TOS? Could I claim the 2.06? When did Atari actually bring out the 2.06 version of the STE?

Jim Logsdon, Dartford, Kent

I think you missed a vital part of the article, Jim. Atari has never put TOS 2.06 in the STE. Only the Mega STE has this version of TOS and the TT has version 3.06.

As for your computer, try the Which ST? program on last month's cover disk. I think that you will find that you have TOS 1.62 in your machine and the Sysinfo software is incorrect. To my knowledge, Atari has never produced a version 1.98. The date, incidentally, is when the TOS was written and not when the machine was built, so it has not been sitting in a warehouse for a couple of years.

PROBLEMS, PROBLEMS

I am writing to you because I have several problems.
Please could you try and solve them for me?

1. My father has a V23 modem which he uses in conjunction with a data terminal to send information to his head office at night. I have an Atari 520 STE with a one Megabyte upgrade. Is it possible to connect this modem to my computer? The modem has a 25-pin interface.

- 2. I am confused as to the difference between a 520 and a 1040 STE. Are there any, apart from the memory size?
- 3. Sometimes when I insert a disk into my internal drive, all I get is a clicking sound. Then when I try to access the disk it starts clicking again and a dialogue box comes up saying 'Drive A:\'\text{is not responding, please insert a new disk or try again'. When I retry, then every-

thing works fine, but I am worried that there is something wrong with my disk drive.

- 4. I have an Amstrad DMP3160
 9-pin dot matrix printer. It is Epson compatible and supports bit image graphics printing. Will I be able to print out using *Timeworks* or will I have to buy a printer driver? If I need a printer driver, can you tell me where to get one?
- 5. Another problem with my printer is that when I print out a *First Word Plus* document that includes imported graphics, the pictures end up being much bigger than they should be in comparison with the text.

This is annoying because the graphics sometimes overlap my text and spoil the printout. Any help in this area would be greatly appreciated.

6. The tips book that you published in your October issue was very good, but I cannot get the cheats for Crazy Cars, Arkanoid II, Z-Out or Panza Kick Boxing to work. Am I following them correctly? In the cheats book you mention a secret room in Robocod accessed by jumping on some snowmen. Where are these snowmen? I think I have found some things that look something like snowmen, but when I jump on them they don't move an inch. Please help me as Robocod is my favourite game at the moment.

Well, those are all of my problems and I hope you can answer them for me.

I have written this on *First Word Plus*, which was the only reason I bought your magazine in the first place. I am now going to buy ST Review regularly because it is the absolute best ST magazine. I am very grateful for your publishing such expensive applications on your cover disks and I'm looking forward to future editions. By the way, what day of the month is your magazine released?

Donald Walker, Lanark, Scotland

1. The modem should plug straight into the back of your ST through the serial port (the one on the left end of the computer as you look at the back.). The cable that is on it should connect with no problems at all.

- 2. As you correctly surmise, the only difference between the two is the memory capacity, so effectively, you now have a 1040 STE, although it's not badged up that way.
- 3. All that is happening is that you are not locating the disk in the drive properly. As you have done, make sure that you insert them cleanly and you shouldn't have any problems.
- 4. In Epson mode, you should have no problems in printing from Timeworks. If you find you need a specific driver, you have a bit of a problem.
 Timeworks uses GDOS printer drivers which is Atari's copyright. This means that the only way to get new printer drivers is to buy the upgrade.
- 5. There is no obvious reason why this should be happening from the explanation you give. Try making the graphic smaller on screen and leave a larger gap around them to cure the problem. Alternatively, now you have Timeworks, there is little need to add graphics in to First Word Plus anyway.
- 6. With the release of a lot of games on budget labels, some of them are reprogrammed to fit onto a double-sided disk. This could affect the cheat mode. The tips in the booklet could apply to either version, so don't be surprised if the odd one does not work. To get to the snowmen, go to the bottom of the castle and keep going left. You should find them there.

ST Review is in your newsagent on the 14th of each month.

WHICH WORD PROCESSOR?

Having recently bought my first computer (which is an Atari 520 STE) I wish to further my use of it.

The only function it is used for at the moment is gaming. Being a keen footballer and cricketer, I wish to write simple reports on each match I play and print fixtures, scores, averages and so on.

Could you please help me find a suitable word processing program and suggest a printer I should use.

I would also like to be able to write short stories for my children on the same disk and print them in a suitable book form.

Please could you bear in mind that this is my first contact with computers and a simple approach would be appreciated. I run my computer on a portable colour television. I hope this will not affect or restrict my use of the computer.

I read in ST Review about fonts, TOS, utilities and more, but to be honest, I have not got a clue what it all means and there does not seem to be a simple answer. Could you try to enlighten me on a few of these points?

Colin Latham, Lichfield, Staffs.

You obviously missed issue five, Colin. We gave away First Word Plus on the cover disks which would suit your needs. If you'd like to get hold of a copy, contact our back issues department. You will find the address and telephone number on the contents page.

The choice of printer really depends on how much you want to spend and what print quality you require. A nine-pin dot matrix printer is probably the cheapest, and is quite adequate for most cases where you are dealing with straight text. Take a look at the Star or Citizen range at your local dealer's.

As for the explanation of terms, I think that you'll find that most of your questions were answered by the booklet we gave away on last month's cover. If you missed it, it is a beginner's guide to the ST and is also available from our back issues department.

BACK TO BASICS

I obtained from you, via your cover disks, a copy of HiSoft BASIC (compiler version 1.31). On the strength of this, I sent away for the manual and was delighted to receive it within a couple of days.

I was a bit disconcerted by the disclaimer that I would get no support if I didn't pay a whacking great extra sum. Free disk owners can't be choosers, but I also bought the manual and expected more.

Imagine how I felt then, after three months of getting into it, when I found the graphics behaving completely at variance to what I wanted them to do.

For instance, in the medium resolution, 'BAR 50,50,50,50' will always draw an oblong twice as long on the Yaxis, and not a square as you would expect. There is no such problem in low resolution. This in itself is not a great problem, I just divide all Yaxis figures by two

and work round fractions.

A greater problem, however, is the mouse pointer. Locating the point of the arrow and getting the co-ordinates always results in a box lower down being filled.

Since I can't approach HiSoft now, being two months outside their absurdly short warranty, can you tell me if I'm doing something wrong, or if it's the software?

If it's not me, then perhaps I can think about demanding my manual payment back.

P. Lee, Bournemouth, Hants.

We spoke to HiSoft on your behalf and they stress that the fee covers the whole range of HiSoft products for your machine. It is payable by people paying the full price for their packages and not just some way of getting more money out of people who got HiSoft Basic from our cover disks.

The answers to your problems with the language are as fol-

1. In medium resolution, the screen display is such that there are more pixels in the horizontal plane than in the vertical. This means that you need to travel approximately twice as far horizontally to achieve the same distance as the vertical. 2. PSET is a command used in an open window, so you must make the window full size before you try to program the mouse. Try adding the com-mand WINDOW FULLW to your program before the PSET command. This should solve your little problem.

FLYING LEAP

I have had a number of computers over the years, including a 520 STFM and now a 1040 STE. I am now looking with great interest at the Falcon.

I enjoy programming in Assembler, but have always had trouble finding information on how to utilise the various pieces of hardware in the machines (eg the blitter and DAM chips of the STE 0. The best book I have found is **Atari ST Internals** by Abacus Software.

Because I know from experience that Atari doesn't exactly drown its customers in documentation, I was wondering if you have any idea where I can obtain this kind of documentation for the Falcon.

M. Tomlinson, Edenbridge

Atari has only recently released the full documentation for the ST, but there's every reason to believe that a similar service will be provided for the Falcon soon after its release. Have you got a problem? Can our team of experts help you? If you have any questions about your ST or any product or piece of software related to it, put it on paper and send it to us. We will try to answer it for you on these pages.

Please be patient with us, though. Due to the huge volume of post that we receive, it may take a while to deal with your enquiry. Although we will do our best, we cannot guarantee a reply and we are unable to enter into personal correspondence. Please do not send us any stamped, addressed envelopes.

Send your letter to: Ask The Experts, Atari ST Review, 30-32 Farringdon Lane, London EC1R 3AU, stating the nature of your problem on the outside of the envelope.



TONY KAYE
Technical help and general problems.

Our very own Tony Kaye will look at any problems related to the day-to-day running of your ST. He can help with technical matters like upgrades, disk drives and DIY projects.



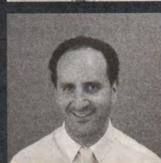
OFIR GAL
HiSoft Basic and general
programming.

What Ofir doesn't know about HiSoft BASIC, HiSoft doesn't know! If you've got a problem regarding Basic or 68000 programming, Ofir's your man.



GARTH SUMPTER Games and consumer watchdog.

Garth will be looking at your consumer problems. He can tell you where to get a program and what to do if you're not satisfied once you've got it.



VIC LENNARD Music, MIDI and sound recording.

Vic is Director of the UK MIDI Association. There's no-one more tuned in to the MIDI music scene than him. He can help with all of your music related problems from playing to recording. He's a wiz at the mixing desk, too! If you have something to say, here's your chance to say it. Write to us here at ST Review and air your opinion. There's even a prize for the sender of the letter of the month.

FALCON HELL

I have decided to buy the new Falcon as soon as I have the money, but there are a few questions that I would like answered.

1. Will I need extra software or hardware to use the machine's genlocking capabilities? If so, how much will the add-ons cost?

2. Will I be able to upgrade to an internal hard disk drive later should I wish to, or will I have to take the external route?

3. I've heard rumours that early machines have no Multi-TOS, is this true?

4. Is Atari going to redesign the case? How long will this take? I also have a comment to make. When is Atari going to advertise the Falcon? True, a masterful job was done on the free publicity before the launch, but there should be more.

Maybe in this one respect they should follow the example of Commodore which floods the press with adverts at the slightest sign of new products. Note the A600 ads in ST magazines.

So remember, Atari, that "machines cannot live on press releases alone".

Peter Nichols, Abbey Wood, London

The Falcon has many builtin facilities – and one that is particularly useful is the genlock feature. The video capabilities of the machine are actually one of its strongest features and obviously, software will be able to take full advantage of this...

As with all things still being developed, whether they be new computers or washing machines specifications may change, but at the moment it is likely that there will be an Atari upgrade kit released so that owners of the machine can install an internal hard drive.

Multi TOS is not expected to be installed in ROM for the machine anyway so it will be available as software.

At the moment there are rumours that next year, once a hardware base has been established, the machine will be packaged in two different ways,

one of which will be a DTP type package which is rumoured to have a completely new keyboard (hurrah!).

TO MAIL OR NOT TO MAIL?

I can't say how delighted I was to get not only *First Word Plus* with your magazine, but also a series of tutorial exercises which I have found excellent.

Mail merges are an item I have long wanted to tackle but have never had the motivation to learn. Reading your tutorial on mail merge for *First Word*, I finally decided to give it a go and try and solve this great puzzle once and for all.

I have a small business that I run using my STE and store a lot of data via a database, mainly names and addresses. I used this, with your example, to export an ASCII file with inverted commas, and it worked perfectly. Next, on to creating the main document with codes inserted in the top of the document as per the example.

Finally, the mail merge. Yes, you guessed it, nothing at all happened. No *First Mail* program exists on my disk. I must confess to missing the October issue of ST Review, so I don't know if it was included.

It is unfair, I feel, to add mail merging to your tutorials, when the copy of the program that you are basing them on does not have this feature.

David Grieve, Glasgow, Scotland

Whoops! Well you certainly don't miss a trick do you? To own up to our mistakes here's the full story. We originally bought the publishing rights to First Word Plus but the rights to Mail Merge were not included. After some negotiation, we decided not to buy the rights – but unfortunately the production process on the mail merge article was too far advanced for it to be dropped.

So please accept our apologies... the best laid plans of mice and men etc...

WORDS OF PRAISE

First I would like to express my thanks to you for the splendid cover disks on the November issue of your magazine. I have always wanted to try out DTP, but being a pensioner, have never been able to afford to buy a package. Thanks to you I now have a splendid set of *Timeworks DTP* disks, and will be able to make very good use of them.

My computer is an Atari 520 STFM which I have had for nearly 10 years and I think that the articles, general layout and the modern way of presentation is excellent. This letter is being written with the help of the *First Word Plus* word processor that was given away with the first issue of ST Review that I bought.

If future cover disks are of the same quality and usefulness, I am sure that your magazine will prosper. As I mentioned before, being a pensioner, I cannot afford to send for a year's subscription, but I will certainly be buying my copy each month.

Your offer of a new mouse was taken up and I am very well satisfied with it at the price of £9.99. It really was a bargain and much superior to the old Atari mouse which nonetheless, has given good service over the past 10 years.

Well, I think that I have said all that is needed about ST Review, so I will close now. I look forward to getting my hands on *Cyber Paint* and am sure that I will have much pleasure using it.

George Smith, Durham

The Atari probably has the greatest number of older people using it, which I think stands testament to the fact that it's by far the easiest computer for most people to get to grips with thanks to GEM and, unlike the Macintosh, serious software for it won't burn a hole in your pocket, especially as long as ST Review is around.

ST EMULATION ON A PC?

I enjoy reading your magazine very much. I have an Atari 520 STE. Just recently, I purchased a PC 386sx. Is there any way that I can run my Atari software on my PC?

Is there any hardware or software emulator on the market or do you know of any that may be produced in the future?

My PC has three megabytes of RAM, 120 MB hard disk drive and the screen is a VGA colour monitor. K Alexander, Nantwich, Cheshire

Although PCs will read ST disks, making moving text files rather easy, to do, there is no way that ST programs can be run on a PC and as for emulators, there are no plans known to us to make a hardware based emulator for the PC.

DOCUMENTATION GRUMBLE

I waited until the November issue of Atari ST Review came out before writing to you in the hope that a problem may have been dealt with.

It was not resolved, however, and I wish to complain about the software on a cover disk - not the quantity, quality or value, but the documentation.

There is a growing tendency with ST-specific magazines to issue good programs, maybe obsolescent or superseded, but nevertheless OK and then offer the full manual for a much higher price than the cost of the magazine. This is all right of course, people don't have to buy them, but surely one should have a chance to try out a program properly first?

I refer specifically to **HiSoft BASIC** which came with issue four and my complaint is that a full list of commands for the language has not been released on disk or in print.

This, to my way of thinking, is similar to listening to a car salesman extolling the virtues of a car and then refusing to give you the keys to try it out!

Assume the cost of the disk is £1.00 and the cost of the manual, £16.95. In this example, that is equivalent to buying the car for £10,000 and then being charged £169,500 for the handbook so that you can find out how to drive it!

Come on, ST Review, give us the keys and let us have a proper test drive.

Despite this grumble, the magazine is very good and the cover disk material excellent and I wish you every success.

John Davies, Sale, Greater Manchester

There's always an opportunity cost to having a complicated program on your cover disk. When we put an application program onto a cover disk, what we are aiming to do is to show people just what they can do with their ST – they're not really intended for people who are already well-versed in that particular package.

What we try to do is to teach people that they can do more than just stick a game in the drive and shoot a few aliens. To this end we run tutorials and offer cheap upgrades to the latest version of a utility in case

people decided that they are really interested in an aspect of their ST and, having been shown the way, want to really fly along.

To this end, the HiSoft BASIC tutorial is still running. So far we've covered about 40 of the commands – and, as we unveil each one, people will have a chance to use and understand each command.

If you're already that far ahead, then perhaps you're a more professional user and should take advantage of the cheap upgrade.

To use your analogy, you're really not interested in the car that we have at all because you want a better one, but you're not prepared to wait to get one for free and won't pay to get a better one!

Regardless of that, though, we will be printing the whole list of commands in a future edition of the magazine.

MONO EMULATORS DO WORK

May I first add to the praise of your magazine. The balance of the editorial content is just about right and the cover disks are excellent.

Secondly, an objection. I disagree with the comment on page 34 of issue seven regarding mono emulators.

On the contrary, I find them to be very effective utilities. The mono picture quality on my Philips CM8833 is very good and, although they do run programs more slowly, their speed is acceptable.

Both the Monulator and Sebra have the ability to display all of the pixels of the monochrome screen by including a magnify mode, and both also feature a choice of speeds.

Thirdly, in reply to A Ripley in the same issue, you recommend quite a drastic action, namely deleting the file.

To temporarily disable your useful RAMdisk program, click once on the file FASTRAMD.PRG icon and then use Show Info in the File menu to change its name to FASTRAMD.PRX.

Then switch off, wait for a while before switching on again. If the RAMdisk is ever wanted again, it can be restored by renaming the file back to FASTRAMD.PRG and rebooting.

Finally, I would like to share with your readers a tip for owners of HP Deskjet and Olivetti JP inkjet printers. When installing *Timeworks DTP* from the issue seven cover disks, choose the HP Laserjet Plus driver from the installation program. This gives perfect print-outs.

Philip Byford, Hemel Hempstead, Herts With regard to mono emulators, you unfortunately omit to tell us what software you are running on your machine as it's the type of software that you run that dictates the usefulness of any emulator. There are a lot of mono only programs that will not run well if at all when you use a mono emulator.

As to the RAMdisk, what we tried to do was to keep it simple – you have a copy of the RAMdisk on floppy should you need it. Of course, there's nothing wrong with disabling the RAMdisk the way you describe.

MORE INFO, PLEASE?

I have been reading your magazine every month since it first came out. I own an Atari 1040 STE which was bought for me in May of this year.

Before this, I owned an Amstrad 1640 PC with hard drive and have been using computers at home only since they first appeared, but I am afraid that I do not understand the ST.

I would like to see a series on how to use the Atari's internal workings. For example, you always mention TOS and that each model is different, but how does one find out about these things? Could a small program be developed to tell the user what TOS he or she has? And how do we use TOS for programming purposes?

This is just one thing that computer magazines seem to overlook and assume that everyone reading knows what they are talking about.

Your series on **\$70\$** went some way to redressing the problem, but after a little while, not enough explanation was given of the commands used, and this is a basic language. Having said that, I thought that this series was very good.

Is it possible to make my STE PC compatible? I still have a few programs that run on the old PC machine and I do not want to lose them.

S Britton, Harwich, Essex

There was, in fact, a program on ST Review issue 8, which you will no doubt have used already, called Which ST.

Once run, this will tell you exactly what your ST is made up of. There was also a whole section on emulators in the same issue but just to reiterate our findings, we found the best PC emulator to be the PC/AT Speed.

MORE PRAISE

I have just read the October issue of ST Review and I am writing to comment on what an excellent magazine you produce. To be honest, I found the first two issues very similar to the other ST mags, but now you are streets ahead of the opposition.

I think that the Buyer's Guide to hardware and your step by step guides to fitting such items as memory upgrades and the 'key click' set are great.

The competitions are great too, but could I suggest that you put all the coupons on just one page so that this can be cut out without spoiling the rest of the magazine. Also, why don't you just have one address for all of the competitions, or do you have shares in the post office or BT?

Thanks for a really great read. Keep up the good work.

K Wilson, Anglesey, N. Wales

Thanks for your comments. Unfortunately, different competitions are organised with various companies and so administration for them is sometimes done outside of our normal system, but this is a small price to pay as long as we can bring you the very best competitions possible. As regards cut-out coupons, we do accept photocopies, so if you have access to a photocopier, this is one solution.

SPREAD THE PAYMENTS

I would like to start this letter by saying that your magazine is by far the best.

I bought my 520 STE the week before your magazine was first released. I specifically bought this machine because of its built-in MIDI ports and abilities and also to learn something about computing at the ripe-old age of 27.

I had no previous experience of any kind with computers and no help available in Newcastle (an Atari free zone).

So what, you may wonder. Well, first of all, a one meg upgrade courtesy of ST Review, MIDI Tutorials every month, I'm typing this with First Word Plus and I have recently started programming with your HiSoft BASIC giveaway.

Your magazine has helped me enormously to understand what my ST is capable of.

In short, everything I bought the ST for and quite a bit more. One small gripe, though. Could the three leading ST magazines, Review, Format and User please spread their release over a four week period, as they all seem to be released at once.

This means that I, and presumably many others, have to fork out nearly £11 one week, feverishly spend the following seven sleepless nights and days reading and trying everything out and then spend the next three weeks twiddling our thumbs.

Lastly, I would like to point out the fact that Atari doesn't seem to spend any effort in supporting their product. While shopping around to buy my ST I was met with blank looks and incredulity every time I mentioned what I wanted, even in shops that stock Atari products.

In Dixons, the assistant couldn't help me as he had no idea about consoles and the like – he only dealt with PCs.

I hope this is not a national problem, or the Falcon has no chance, regardless of its specification.

Stephen Kelly, Newcastleupon-Tyne, Tyne and Wear

Some of what you say is certainly cause for concern – especially when we are all looking towards the marketing of the Falcon to beat that of its only near rival, the Amiga 1200. However, as reported in ST Review issue nine, the whole marketing setup of Atari is currently undergoing a huge change. So Atari certainly seems to be aware of its previous reputation and to be doing something about it.

TITLE NOT WORKING

I am writing to warn your readers about the very poor support given by Working Title for its *Calligrapher* document processor.

After buying *Calligrapher Gold* on the basis of some reviews and on its advertised features, I found I was pretty happy with the product except for a number of bugs in the Postscript driver. Some of the bugs were fundamental; for example, a letter 'o' drawn with FlexText was completely filled producing a 'blobbing' effect.

I was not too worried about these bugs, as they were so obvious I thought that all I would need to do would be to call Working Title, explain the problems and get a fixed driver.

However, their Mr. N P Johnstone refused to accept that there were errors in the output until I had spent some time producing and sending test documents to show the problems.

By return I got a badly spelt, unsigned letter printed on a dot matrix printer with at least one of the pins missing. More importantly, their letter still refused to accept some of the errors.

I followed this routine again, producing new test documents and even picked out the lines in the Postscript code which were wrong. Again, WT either refused to accept many of the bugs, or just claimed that they were not worth fixing. One problem that came into the category of problems "not worth fixing" was that where Calligrapher had to draw character outlines itself, some coordinates on the outline were a few points out, producing characters with an effective resolution of about 60 dpi, even on a 1200 dpi printer. Mr. Johnstone's reply to my complaints were that I should have bought *That's Write* instead!

I made enquiries with the Atari groups on UseNet to see if other users had similar problems with Working Title, and several people sent stories showing the same poor level of support.

Calligrapher Gold consists of Calligrapher Professional with some added 'Paks'. A quote I remember from Sound-on-Sound magazine was that any product with 'Professional' in the title is only ever suitable for amateur use. Calligrapher, due to its support from Working Title, seems to be a prime example of this.

David Stevenson, Reading, Berks.

I've forwarded a copy of your letter to Working Title and hopefully we'll be printing their comments to it in next month's issue of the magazine.

MISSING LINK?

I looked forward keenly to reading the review of electronic organisers in the December edition of ST Review, but was amazed to find that the Atari Portfolio was completely ignored. I do not own a Portfolio but am considering buying one because from what I can find out it seems to offer at least as much as the Psion 3, for example, and at a much more reasonable price. Can you explain why it was omitted from your review and would it be possible to give an opinion of its merits or otherwise in your magazine?

One other little gripe while I'm at it: can you also please explain why the Psion competition is only open to residents of the UK mainland? Surely you can not be guilty of ethnic discrimination here?

G.C. Hudson, Bangor, Co. Down

As you may have noticed on the organiser reviews, last month was the first part of the feature. And as you will have noticed by now, the Portfolio was reviewed this month and did rather well.

Atari's Portfolio was certainly not ignored and happens to be a personal favourite of mine as I mess around on PCs from time to time and DOS is like an old friend to me. So if you use DOS then you should take a look at

LETTER OF THE

the Portfolio: the review starting page 36 gives you a chance to decide for yourself.

The Psion competition is only available to mainland UK due to the cost of shipping the units and also because it is run as a phoneline. We are certainly not being racist: anyone can enter. We are however discriminating on a geographical basis but I don't think that that breaks any particular laws, including libel, does it!

Send your letters to Points of View, Atari ST Review, 30-32 Farringdon Lane, London, EC1R 3AU. The sender of the letter of the month will receive software to the value of £50. Please note that although we try to read every letter and answer as many as possible, but we cannot guarantee to reply to them all. Personal correspondence cannot be entered into. Please do not send stamped, addressed envelopes. We reserve the right to edit letters where necessary without altering the context.

EYE SAY!

Your advice on avoiding backache (Back To Basics, Issue seven) is very welcome, but another health aspect that needs to be addressed is that of eyesight.

It is always assumed that the computer generation consists solely of young people, but many of them are now grown up, they wear glasses and will soon discover that as the eyes get older they are less accommodating and need different lenses for distant and close work.

Separate glasses are a nuisance and most of us opt for bifocals, but when it comes to using the computer there is a snag because the monitor is up in the air and we need to look at it through the bottom section of the lens. As you can guess, after a prolonged period of tilting the head back, the back of the neck begins to ache.

I have alleviated this to a certain extent by digging out an old pair of glasses and using blu-tack under the bridge to wedge them high up on my nose, bringing the lower lens up level with the iris.

It so happens that with the normal ageing process, your previous prescription is about right for the extra few inches at which you view the monitor compared with reading a book.

In the long term, though, equipment manufacturers will have to look to a different way of arranging the hardware.

Instead of sitting on top of the computer, the monitor needs to come down at least to desk level and preferably lower.

In my view, the right arrangement would be a copy of what air traffic controllers do, with a console in which the screen is low down and tilted backwards, with the keyboard just in front of it.

Instead of looking on the work station as a desk with a computer on it, the time has come to treat it as a computer with a desk built around it. Now is the time for the industry to call in the ergonomists!

As a matter of fact, I think you would find that there are so many oldies using computers already that we constitute quite a niche market. At least 10 per cent of the men in my retirement club use them, mainly

for word processing and home accounting. We don't go much on space-age games, but we are quite keen on simulations. Considering that we are the generation that fought World War II, the new Air Warrior

should go down a bomb with usl

T.R. Boys, Tewkesbury, Glos.

Thanks for your letter. As people who use computers at work (for up to 12 hours a day sometimes), we're not without a few tips ourselves concerning eyesight and computers.

Your first criticism of your lens, I'm afraid, is a problem that anyone with bifocals will experience and if you try to compensate for the problem by tilting your head back or, as you seem to have done, inventing some peculiar Heath Robinson affair, then whilst your eyes may be okay, you may find that you run the risk of back problems.

If you spend any large amount of time using a computer then you should try to observe the following points:

- 1) Get a pair of glasses that are specifically for use with the computer. I find cheap, light glasses with plastic lens are ideal and if you have a screen that has a lot of glare, then it's cheaper to get your lenses tinted than to buy a screen cover.
- 2) When working with a computer screen it's always a good idea to have an alarm loaded as a desk accessory. Set it to go off once and hour and then spend at least five minutes away from the machine and go to a window and focus on something as far away as possible. This actually exercises the muscles of your iris and reduces the possibility of eyestrain.
- 3) Don't work in a darkened room without a light source. It may be fine when you're at the cinema but to work in the dark, focused on a screen for a length of time can lead to headaches, blurred vision and even nausea.

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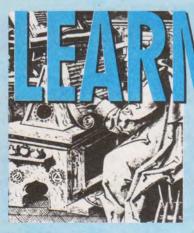
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ST JARGON EXPLAINED

ERROR MESSAGES

Error messages are a common occurrence on the Unfortunately not very well documented, error messages occur when something is wrong. It may not be a complete disaster. For example, an 'out of memory' message may be cured by removing some accessories at boot-up.

FUNCTION KEYS

The 10 keys along the top of the ST keyboard. They can be programmed and used for many different purposes depending on the program you are in. In some programs you can configure them yourself to give you shortcuts, called Macros.

Stands for Graphics Environment Manager. This is the system of windows, icons and mouse pointer that is used with the ST.

HARD DISK

A hard disk drive is a fast, convenient method of storing programs and provides a reliable alternative to a floppy disk drive. It has a much larger capacity, but it is more expensive to buy and is less portable than a floppy.

The pictures that depict programs and files. These can be changed on the latest versions of the operating system, but on the STFM and STE you are stuck with the icons that come with it.

JOYSTICK

Used for games playing mostly, the joystick is an alternative method of controlling movement on the screen.

An often used abbreviation for Kilo as in Kb. One K is a multiple of 1024, therefore one Kb is one kilobyte or 1024 bytes (a byte is one character of information or just a single space).

LASER PRINTER

A high-quality form of printing using laser technology. The principle is similar to a photocopier.

there is a line of words offering the

options available to you. Run the mouse to the one you want and a further menu will drop down. Then select the option you want to run by highlighting it with the mouse.

NETWORKING

THE LINGO

Connecting your ST to a friend's using a lead is a simple form of networking, using one machine to control or serve others. The Falcon has a new socket on the back marked "LAN", which stands for Local Area Network. This will make networking easier.

OUTPUT

This term is used to describe anything that leaves your computer in the form of information. This can be directed to either the screen, printer or disk drive.

PATH

The term path is used to describe the route to the files accessed by a program. If the files are held within a folder or several folders, then the path will be through each one. Some programs will allow you to set separate paths for data files, program files and information files. Timeworks, for example, has different paths for the program, overlays, fonts and data.

The command used by a lot of programs to exit.

RAMDISK

A RAMdisk is an area of the ST's memory that is set aside to have the characteristics of a very fast disk drive. Anything that is stored in this manner will, however, be lost when the computer is switched off, so it's important to make sure that you save anything in it to disk before turning the power off.

ROOT DIRECTORY

The contents of the first window opened on a disk. An Auto folder or an accessory needs to be in the root directory of the disk that you boot up with, otherwise it will be unable to load.

SAVE GAME

Complex games usually have a save game option. This enables you to start from where you left off, rather than constantly having to go back to the beginning.

Just got an ST for Christmas? Still getting to grips with the terms used? Our jargon buster may be just the thing to help you. . .

TRACKBALL

In simple terms, an upside-down mouse! This is a ball device used instead of a mouse for moving the pointer around the screen.

USER

That's you!

VIRUS

A small, unpredictable program that attaches itself to the boot sector of your disks and duplicates itself. Most of these are harmless and were created as programming exercises, but some can do you computer and disks real damage Use a virus checking program and always switch your computer of between disk swaps where possible to minimise any risks.

WINDOWS

When you open a disk drive by double clicking on it, a window wil appear. You can normally have up to four windows open at any one time, but later versions of TOS and some alternative desktops will allow up to seven and beyond.

X-CONTROL

Atari's new configurable Contro Panel allows you to edit your environment for comfort in terms of colour, mouse response, keyclicks bell and other options. This pane is able to configure other programs using files called CPXs.

Y MODEM

A transfer protocol used for transferring data by using a modem or a telephone line. There is also > modem and Z modem (the latter being the fastest).

A method of compression of data usually used to send programs via a modem.

Stands for The Operating System (or Tramiel Operating Operating System, depending on which books you read!). This refers to the desktop and all of the routines built in to the computer. The latest version in the STE is TOS 1.62, although the Mega STE has TOS 2.06, the TT, 3.06 and the new Falcon, TOS 4.00.

ACCESSORY

An accessory is a program that is loaded into the memory of the ST when you switch on if it's in the AUTO folder on either your hard drive or boot disk. It can be accessed whenever needed using the menu bar at the top of the screen. Identified by the extension .ACC, these programs are placed in the root directory of the boot drive (see the explanation below). There are many different types of accessory available, ranging from clocks and calculators through to text editors and disk formatters.

AUTO FOLDER

A folder placed on your boot disk called AUTO will cause the programs in it to run whenever you switch the computer on. This can only be done with certain programs, however - usually enhancements to the system such as mouse accelerators, bug fixes, RAMdisks and so on. This folder is created in the same way as others, but it is the only one that the system is capable of recognising for autobooting programs.

BOOT DISK

This is the term used for the disk in the internal disk drive (drive A) when you first switch on the computer. It can contain an AUTO folder and accessories for use during that work session. If you have an autobooting hard disk drive, the boot drive is usually drive C.

CARTRIDGE PORT

The port on the left-hand side of the computer can be used to plug in programs in the form of cartridges. It can also be used to plug in anti-piracy devices for certain software applications. These programs will not run unless they can find this plugged-in hardware, which is known as a 'dongle'.

DESKTOP

The desktop is the screen that you are presented with each time that the computer starts up. This usually consists of a green screen with a menu bar at the top and icons for disk drives A and B, although you can change this should you want to do so.

MENU BAR At the top of the working screen,

CHARTS

Here it is, hot off the press. Find out what others are spending their money on, and then decide which games to buy...

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ST REVIEW FAVOURITES

We asked around the office to find out what the experts have been playing and using

TONY KAYE - TECHNICAL WRITER
"I use utilities mostly, but I like
to relax with a good game now
and again"

1. ROGUE – A great little game that was around when I first got my ST in 1985/6. I recently rediscovered it and I'm always playing it. I wonder who has the rights to it now: it used to be Epyx, but they're no longer around.

2. LEMMINGS – The original and best. I managed, after many sleepless nights, to complete it all. I await the new offering, Lemmings II from Psygnosis with baited breath.

3. HEROQUEST – I'm a sucker for a good board game of Dungeons and Dragons and I find I can lose myself in this one.

4. JIMMY WHITE'S WHIRLWIND SNOOKER – Archer Maclean's great adaptation of snooker is addictive in the extreme. As a pool player, I can't wait for the new Pool from Archer. Having seen some of the pre-production versions, I think I'm in for even more late nights.

5. DEFENDER – All the clones and copies of this original game put together can't match the original for sheer gameplay. Just the one to take your mind off the frustrations of a day in the ST Review

GARTH SUMPTER - EDITOR
"I don't play a lot of games any
more (except for some of the more
strategic ones), but I have a lot of
old favourites that I get around to
playing every now and then'

1. RANARAMA – This one was (unfortunately) given away with the old Discovery packs a few years ago which has effectively killed it as a product, but it remains one of the best maze and magic games ever – uncomplicated and great fun!

2. CAPTAIN BLOOD – This was one really weird offering from the French company Infogrames.

It had stunning graphics for the

time but took some time to get into as you had to learn an icon language to use in the game. 3. STUNT CAR RACER - This was re-released in July by budget label Kixx and is one of a series of excellent products written by Geoff Crammond. It's a rollercoaster of a race and you can even link up to a friend's ST and race directly against them. 4. PRINCE OF PERSIA - This game single-handedly made the whole computer games world sit up and take notice when it was released in 1991. The animation of the characters is absolutely breathtaking.

5. DUNGEON MASTER – The game that launched a thousand clones! There isn't a modern dungeon/combat strategy game that doesn't owe part of its design to the grand-daddy of them all.

Absolutely superb!

VIC LENNARD - TECHNICAL EDITOR
"I only recently bought a colour
monitor, so games are not my
scene, but I've used a lot of utilities and have my favourites"

 CUBASE – Someone in my position has to pick this one as it is now the most popular MIDI software on the ST and used by everyone from the home user to top bands.

2. FIRST WORD PLUS – This really is a great word processor, although I must admit that I use version 3.20. It's ideal for letters and the usual typewriter jobs in the home.

3. SENSIBLE SOCCER – This was the first game I really got in to. When it came into the office, I just couldn't stop playing it. 4. REPLAY 16 – This is simply the best sound sampler available on the ST

5. WORLD CLASS LEADERBOARD

- Ideal when I haven't got the
time for a real round of golf, I
load up Leaderboard and play a
quick round in the office without
everyone having to hide under
their desks.

THE BLITTER END

ROGUE'S GALLERY Just what do they look like? Prepare to find out as we uncover the whole ST



Garth Sumpter Known for dramatic pauses and insomnia, Garth's energy belies his horrific age.



Nigel Taylor Proving that size really doesn't matter, Nigel has a giant task every month that men of twice his stature would balk at.



Review team

Sara Pruce
She looks quiet, reserved and
dainty but has all the subtlety
of a neutron bomb wrapped in
a slice of lemon.



Remzi Salih Exotic and mysterious Remzi conjures up all the romance and passion of the far east – a real Turkish delight!



Heather Turley Small but perfectly formed, Heather's lungs are known for their occasional volumatic outbursts!



Becky Willis Young and talented, but often troubled by telephone callers who want to talk about Becky's shoes (Try 0858 410510).



Sarah Connell Gorgeous, pouting Sarah is our very own Liver bird and is almost small enough to fit into a gilded cage.



Tony Kaye
Tony works like a smoothlylubricated engine although we
wish he wasn't so well oiled
from time to time.



Vic Lennard
Mr Logic is known for his
intellect and ability to interact
with any computer without
recourse to a keyboard.



Jo Winslow Ageless like the Sphinx and smelling slightly sweeter, Jo is a woman of mystery. No-one understands a word she says...



Gordon Barrick
The Rolf Harris of Earl's
Court, Gordon's bent on ST
Review being almost as
ruggedly handsome as he is!



Esther Rodd After a hectic day of running around like crazy, Esther loves to rest up by getting down to the latest rave dance music.

DEAR MR. NEWSAGENT

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AND SO TO BED ...

So, we say goodbye to 1992. It's been a great year for all of us on ST Review and we're happy to have been able to announce the coming of the new Falcon computer. So what else is there to look forward to?

We hope that 1993 will see the Falcon establish itself as the computer that everyone wants to own. With its DSP and other features, it is sure to become a firm favourite once the initial supply problems have been cleared up.

With cheap emulation, we should see CD ROM become more prevalent in computing with new, better and faster games and utilities in the offing. Music will benefit from these advances too.

So, 1993 looks to be a bright year for the Atari family. Forget all of the doom and gloom that other magazines would have you believe: Stick with ST Review, the brightest, biggest and best ST magazine on the magazine racks!

Happy New Year!

More Atari



from HiSoft

Devpac 3

HiSoft Devpac 3 is the latest version of the popular assembler/ debugger package for all Atari 680x0 computers. Packed full of features, it is the ideal programming environment for beginners and professional programmers alike.

Improved and extended, the Devpac 3 macro assembler is now often 40% faster than its predecessor (without using pre-assembly), has many extra, switchable optimisations and, with the ability to pre-assemble files for inclusion, can now claim to be the fastest assembler on the Atari computers. It produces 68000 up to 68030 code (via a user option) & supports the maths co-processors.

Devpac 3 is supplied with a professional 350-page, wire-bound manual, all the necessary include files for your system (ST/STe/TT/Falcon030), GST and Lattice linkers, various utilities, example programs and a complete 68000 Pocket Programmer's Reference Guide. Call or write for more details.

Wordflair 2 £129

We are delighted to announce, at last, the immediate availability of the English variant of Wordflair 2, version 1.1. The main features of this exciting, and long-awaited, package are:

- Full support for FSM GDOS which is included with the product
- Much improved user interface
- English language spelling checker and thesaurus included, with up to 5 user dictionaries. Plus hyphenation
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- Expanded and improved region setup with a easier choice of Calc/Graph/Write regions
- Enhancements to the database handling



The Serious Page

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While many other companies are abandoning the Atari market, we are moving forward, acquiring and writing new titles, many of which are detailed on this page.

Rest assured that we will continue to offer you the best software at truly competitive prices with a range of customer support options to ensure that you can use your Atari 680x0 computer, and our software!, with confidence and ease.

We are very encouraged by the Falcon030, believing that it will breathe new life into the general-purpose microcomputer market, which has often been driven by the computer enthusiast, who will find this new machine both fascinating and exciting.

We will sticker all Falcon030 product with Atariapproved labels for convenience and clarity; there are three such labels - Falcon030 Exclusive, Enhanced and Compatible, watch out for them.

TruePaint

£39.95



Due for release in November 1992, TruePaint is the first art package to take advantage of the true colour capabilities of the Falcon030 computer. Some of the highlights of the product are:

- Works in all resolutions including 768x480
 True Colour
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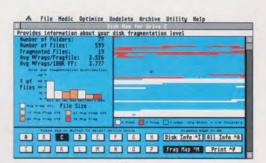
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Specifications and prices may change.

Diamond Edge

£39.95



From the authors of Diamond Back, the popular hard disk backup program, comes a new package that is essential to any serious user of an Atari 680x0 computer.

Diamond Edge is a complete set of management, optimisation, diagnostic, repair and data recovery tools for use with floppy disks and hard disks.

XBoot 3 £34.95

We are pleased to have acquired the exclusive rights to version 3 of this package, which provides comprehensive management of your AUTO folders.

XBOOT is an efficient, easy-to-use program and comes with a well-written and useful manual.

Kuma Products

We have taken on the majority of Kuma Computers Ltd's products for the Atari and Amiga computers, while Kuma concentrate on their book titles.

We are re-compiling K-Spread 4 under Lattice C 5.5 and hope to end up with a faster, more compact product, which we will correct and enhance.

Superbase Professional £99.95

Following the sale of the ST and Amiga versions of Superbase to Oxxi Inc with whom we are working closely on a project for the Falcon030, we are pleased to be able to offer Superbase Professional (Version 3) at a substantial saving over its previous recommended price.

All HiSoft's products should be available through your local computer dealer. If you have difficulty in obtaining a title you can order directly from HiSoft using your credit or debit card - just call Julia, Sallie or Marlynne on 0525 718181.



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