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FEBRUARY 1987

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Win Zing and Portex

Digital Solutions Inc. brings you the light with easy to use software specifically designed to use the power of your Commodore Amiga™.

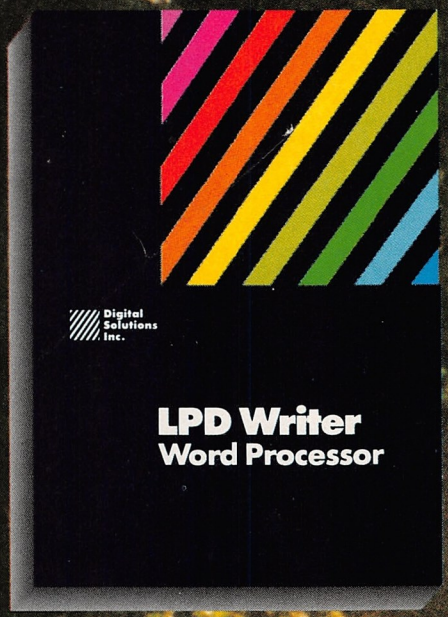
Announcing:
LPD™ Writer
LPD™ Planner
LPD™ Filer

Each of these programs give you all the functions you would expect from productivity software plus the following unique features:

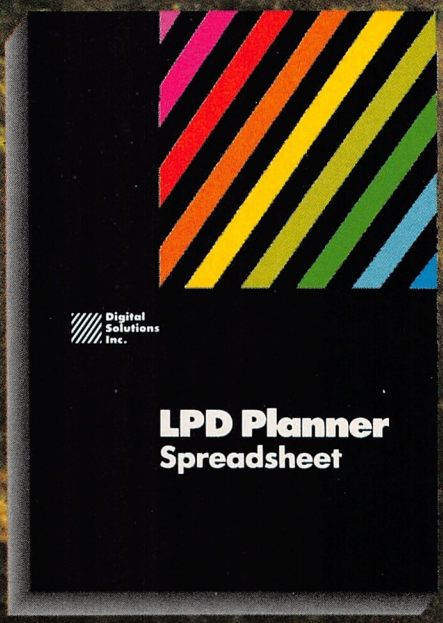
LPD™ Writer, LPD™ Planner and LPD™ Filer can run individually or together. When running together, information can be transferred from one application to another manually, or automatically using "links", a transfer procedure unique to LPD software.

The software allows you to see all projects and applications through windowing. Each application can then be "zoomed" up to full screen size. You can execute a command by using the mouse, function keys or "short cut" command sequences. A "suspend" feature allows you to put away all applications you are currently working on and a "resume" command will restore the applications to the pre-suspended state. Also featured is on line memory resident help.

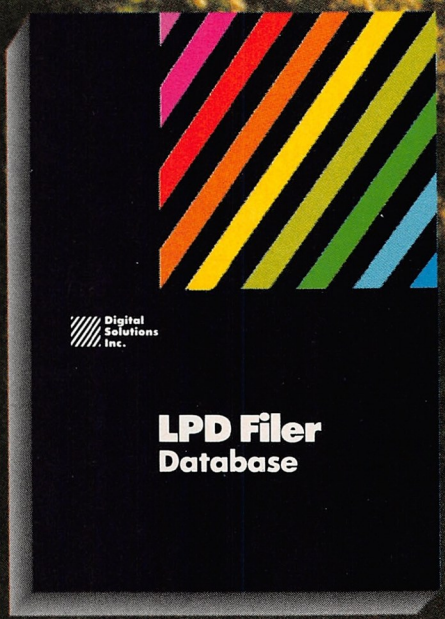
In addition, LPD™ Writer, LPD™ Planner and LPD™ Filer each have their own very special characteristics.



LPD™ WRITER/Word Processor*
- multiple documents can be edited at the same time
- more than one window can be opened on a document
- on screen representation of documents as they will be printed (including line spacing, superscripts and subscripts)
- on screen headers and footers
- underlining, boldface and italic enhancement of text



LPD™ PLANNER/Spreadsheet*
- multiple spreadsheets can be manipulated at one time
- more than one window can be opened on any spread sheet
- spreadsheet size: 256 columns by 65,536 rows
- sideways printing
- cells can be displayed underlined, boldface and italicized
- pie charts, line graphs, bar graphs and stacked bar graphs available
- variable width columns
- horizontal, vertical and "smart" recalculation



LPD™ FILER/Database*
- multiple databases can be used at one time
- more than one window can be opened on a specific database
- multi-page record layouts
- six field types: numeric, character, logical, date, time, note
- user-definable order of field entries and default field values
- calculations during record entry
- databases may be sorted on multiple fields simultaneously
- use of index files for fast access
- report generation including headers, footers and record-by-record calculations.

*Available October, 1986

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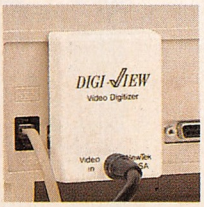
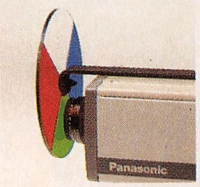


With **Digi-View** and a video camera, your **Amiga** can see! Faces, logos, artwork . . . anything you can imagine! Simply point your camera and click the mouse. In seconds, whatever the camera sees is painlessly transformed into a computer image that can be printed, stored on disk, or transferred to other programs. Imagine how quickly and easily you can generate stunning video art and animation when you start with high quality digitized photographs or artwork.

Sophisticated software included with **Digi-View** makes it easy to produce dazzling, broadcast-quality color images. Intuitive, on-screen controls are as easy to use as the knobs on your T.V. set. **Digi-View** can capture images in several modes, including 320x200 pixels with up to 4096 colors on screen ("hold-and-modify" mode), and the incredibly detailed 640x400 high resolution mode.



*The key to **Digi-View's** incredible color resolution is this color separation filter which attaches to your black-and-white or color video camera.**

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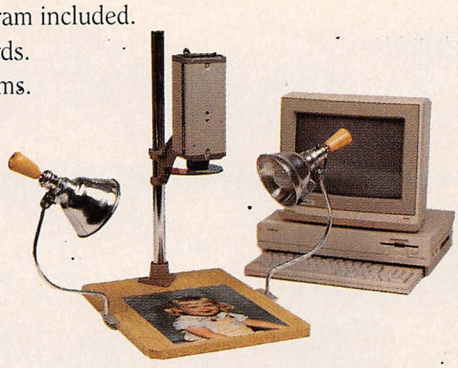

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* Digi-View software version 2.0 (or newer) required to use color camera. For maximum resolution use monochrome camera with 2.1 interlace. High-res color modes require 1 Meg expansion RAM.

Amiga RAM

Starpoint Software has released a 256k display RAM card for the Amiga. The card installs behind the front panel, expanding available memory for programs and graphics to 512k. This low cost alterntive to the Commodore-Amiga 1050 card comes fully assembled in a sturdy metal case, with a one year warranty, manual and schematics. The suggested retail price is $115 US, shipping $4, outside of USA $6.

Contact: Starpoint Software 6013 Macks Gulch Road, Gazelle, Ca 96034-9412. (916) 435-2371.

Comspec Developments

Comspec, of Canada, regarded as a leader in the field of AMIGA peripherals are to launch a new 20 mg hard disk drive. You can buy a Comspec controller card and plug in your own drive. The drive comes off the expansion part or you can plug it into a Comspec RAM card. The launch date is early March and price expected to be under US $1000. Comspec already produce a successful 2 meg RAM expansion. **Contact: Comspec/Electronics 2001 Ltd.,5529 Younge Street, Willowdale, Ontario, M2N 5S3. (416) 299 2700.**

RPS Announces Another New Promotion

The latest in a series of sales promotions launched by computer media specialists, RPS, offers customers two gifts with purchases from its High Focus range of diskettes.

For purchases of three boxes of diskettes, customers will receive a full function solar-powered credit card size calculator. Customers purchasing ten boxes of diskettes will receive a top quality personal stereo with headphones. Both gifts will be handed across the counter at the time of purchase, or despatched with products ordered.

Since the launch of the High Focus range — the unique high quality, isotropic coated diskette — RPS claims to have been making major in-roads in the UK market as a result of product quality, competitive pricing, and an aggressive promotional campaign.

"RPS is fast becoming a major force. Last month's sales gave us a record 10% market share — our high quality brand is really taking off states Chris Poulton, business manager, RPS.

Contact: RPS 0582 867222.

E.A's Sierra Link

Electronic Arts has announced through its affiliated label program that it has reached an agreement with Sierra On Line, Inc. as the company's exclusive distributor of its Amiga compatible software products.

"As a pioneer in software entertainment, Sierra On Line brings a full spectrum of fine Amiga compatible programs to the Electronic Arts' affiliated labels program", noted Randy Thier, Director of Affiliated Labels at Electronic Arts.

Thier noted that within the next few weeks, Sierra On Line will introduce five products under the new agreement. These include King's Quest I, II and III, the best selling trilogy in 3-D animated adventure games; Space Quest, a science fiction parody adventure game; and Winnie The Pooh in The Hundred Acre Woods, a children's software product co-developed with Walt Disney Productions.

Before the end of the Spring, Sierra On Line will introduce three additional titles including, Black Cauldron, a Walt Disney produced 3-D animated adventure game for children; Police Quest, a 3-D animated adventure game with an adult theme; and Donald Duck's Playground, a children's program also produced by Walt Disney Productions.

17,000 Screens!

Microillusions has announced the release of FAREY TALE ADVENTURE. Created by David Joiner, this adventure game is the first in a series of "Hi Quality" adventure games.

Farey Tale Adventure is a game, that Microillusions claims is beyond comprehension, beyond belief, it is a game that is so incredible you will never be able to leave your computer again. Programmers have been working the past six months non-stop to create a new world. "God did it the first time in six days, but he could only give Microillusions a couple hours of consulting time a week?". This new world consists of over 17,000 screens. You journey to underground caverns, mazes, forests, deserts, snow covered mountains, lakes and even the astral world. Speak to characters, fight mnsters and evil wizards. Farey Tale will take you weeks perhaps even months to explore, and there are several different ways to end the game.

WARNING: Microillusions has notified us that "the use of this product may cause sleepless nights, lack of appetite and family unrest. Prolonged use may cause loss of job, divorce, or mental breakdown. Microillusions assumes no responsiblity. Play at your own risk." Watch out! U.S. Price $49.95.

Midi For Amiga!

Music is an ideal application for the powerful Commodore Amiga, but for the serious musician a MIDI-interface is essential.

Supersoft have been appointed European distributors for the MIDI FOR AMIGA interface from Skyles Electric Works of Mountain View, California. Compatible with currently available MIDI-based software for the Amiga, the Skyles interface has *two* MIDI OUT ports, one MIDI IN, and a MIDI THRU).

Supersoft have established a reputation for music hardware and software with the MICROVOX sampler and RHYTHM KING drum machine on the Commodore 64, and it wouldn't be surprising if their next music product is for the Amiga. Existing music products for the Amiga rely extensively on the built-in sound facilities which, though excellent by most criteria, are not quite good enough for the recording studio.

MIDI FOR AMIGA costs £43.43 plus VAT (£49.95 inc VAT) and is available direct from Supersoft.

For further details contact Peter Calver on 01-861 1166.

Amiga and PC Developments

In the US Commodore has launched its much-rumoured two new AMIGAs — the 500 (previously known as B52) and the business-level 2000. The general opinion was that 'both are winners'.

The 500 looks like the now well-established 128 except that on the right side, at the back, it has a 3½in drive. It is 512K and has an external power supply. You can flip open the cover and there is a slot inside to take a 1.5Mg expansion board and a clock calendar option which will be available from CBM. You can add 2Mgs internally but chip memory stays at 512K.

The Agnes graphic chip has been enlarged and is no longer rectangular but square. Unflatteringly, it is called 'Fat Agnes' and provides a number of improved graphic facilities. None of the present peripherals for the A 1000 will fit on the new machine without a bus extension as the positioning ports are not on right side but hidden under the computer. There is also available a new 'high persistence' monitor, the 2080, which seems to eliminate flicker entirely. The price of the 500 in the US is expected to be $595.00.

While the 500 is not thought likely to hit the US market till late May or June, the 2000 is for marketing early spring. It has a built-in power supply, separate detachable keyboard and an internal drive. However, there is also room for a 5¼in drive and another 3½in drive with mounting and controller already in place. This means that any second drive can be used as a PC. It has seven slots — 3 for PC — and a facility for a second controller for a second hard drive. The 2000 also has two new ports for video inputs such as Genlock. Both of the ports have 'reversed sex' so they are normal IBM style ports. It takes 8Mgs of ram on one card on 1Mg chips, which most experts point out, is a rather expensive way of achieving this configuration. It has a Sidecar — PC facility — built in and it is thought that CBM's next in this line will an AT version which will have a AT board and a 3½" 20Mg drive. There are some reports that the CBM is considering selling its AT AMIGA cards to other manufacturers. This new top model AMIGA greatly impressed at the recent Las Vegas CES show including loading Deluxe Paint, previously taking 10 seconds, in just one second. Interestingly, both new AMIGAs have Kickstart not Workbench in ROM. The 2000 predicted price is $1495.00.

CBM's problem is still how to market the AMIGA for even these two new models do not fit into any obvious existing sales level. When Irving Gould, CBM's chairman, was asked where they would sell, perhaps in national store chains, shook his head and said, 'We've got a lot of people fighting about that'.

The major professional markets look to be in the sound and vision fields. Film and TV studios are beginning to catch on that they can use AMIGAs far more cheaply than usual video or graphics sources. Universal Studios in Hollywood has bought 40 AMIGAs and the Disney Studios have also acquired a substantial number. The purposes of studios seems unlikely to be satisfied with 512K and the Comspec 2Mg expansion boards are proving a popular add-on for extra memory.

Another buyer is the Toronto Police Dept and US national TV on December 29th saw TV versions of SF 'Amazing Stories' all with the special effects created on AMIGAs.

With the AMIGA's growing acceptance and success some publishers of software and books are being forced to eat their doubting words. Abacus who specialize in computer books were, just a few months ago, publically saying 'You won't see any AMIGA books from us'. Now they are publishing four.

In the UK, CBM took the 'Which Computer' business show to launch its AT compatible PC40, priced at £2,247 with 20Mg hard disk. CBM also announced 20% cuts in its PC10 and PC20 range to bring the cost of these compatibles down to £997 and £1,397 (plus VAT) respectively. The PC10 has 512K, internally expandable to 640K and the PC20 features a single double sided, double density 360K floppy drive and 20Mg Winchester hard disk. Also getting first public viewing at the 'Which' show were AMIGA products: Genlock (already reputed to have sold 300 systems including the Ariadne software); PCLO, a printed circuit package; and Alegra, a 512K ram pack (see review in this magazine).

COMMODORE BUSINESS AND AMIGA USER

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Win a PORTEX PC Diary Package or an AMIGA ZING!!

Answer these questions on a postcard, please, to February Competition, Commodore Business and AMIGA User Magazine, 40 Bowling Green Lane, London EC1R 0NE.

- ☐ **Where was the last AMIGA Developers' Conference held?**
- ☐ **Who Finally brought out a talking word processor?**
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- ☐ **What is the Great AMIGA Cover up?**
- ☐ **How much does a PORTEX cost?**
- ☐ **What can you use ZING! for?**
- ☐ **Who is the Vice President of Electronic Arts?**
- ☐ **Who is the singer on the cover of this magazine?**

Name .....

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PORTEX is a computerised "Filofax" style package that gives you a wallet and software that lets you print on special paper supplied diary-style details from a PC compatible computer. PORTEX is published by Showerings Business Systems, South Bank Technopark, 90 London Rd., London SE1 6LN. Tel: 01-922 8821.

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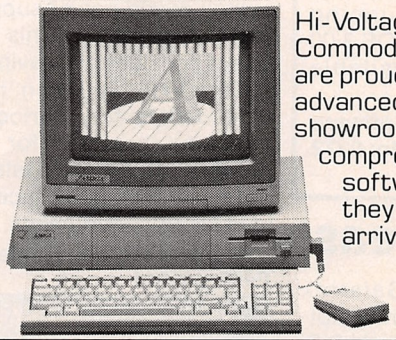

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File Security

Bristol Software have released 'Secure'.

SECURE is a file encryption utility program, which prevents unauthorised access to any file on disk, whether a simple data or text file or even a complete application program. It is ideal for those people who have information contained in data files which may be the subject of the Data Protection Act.

Despite the complexity and sophistication of the algorithm employed, the accent of SECURE is on simplicity of operation. Exactly the same user-defined password routine is used for encrypting a file as is required to restore it later.

'With the experience of software protection we have gained from our Software Key over the past three years, we have been able to develop a very simple, but secure method for the PC user to protect files from prying eyes and fingers' said Bristol Software Factory Sales Director, Richard Maugham.

Starting from £49.95 including VAT, SECURE is available now for all IBM PCs and compatibles running under DOS 2.00. A DOS 3.00 version will be available shortly.

Contact: Bristol Software Factory, Telephone No: 0272 629790.

Silence Please

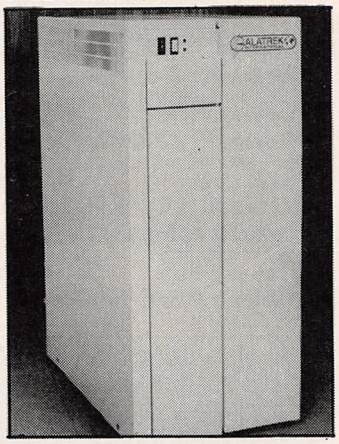
Before the new Galatrek VHF2500 U.P.S. (Uninterruptible Power Supply), U.P.S. were bulky and so noisy over 1Kva that they had to be housed away from people.

A U.P.S. saves costly errors, down time, programme degredation and even hardware damage as raw mains electricity is suprisingly often a major source of difficulties. Galatrek claims to eliminate this problem area and facilitate the completion of work to time.

The Galatrek VHF2500 U.P.S. is silent, small and has clean computer room lines and a satin pale cream finish. Rated at 2.5Kva, the VHF2500 can operate into non linear loads where previously U.P.S. of double the load rating had to be used. It can operate into switch mode power supplies without derating. This can effect considerable saving.

The VHF2500 can have extended battery periods in matching cubicles for any number of hours. Galatrek offer full consultant facilities in assessing load needs.

Contact: Robin Koffler on 0492-640311.



A-Talk Plus

Felsing Software has announced A-TALK PLUS, the first terminal program for the Amiga that supports Tektronix[1] 4010/4014 graphics emulation.

A-TALK PLUS supports all the features of the Tektronix 4010, 4014 and 4014-1 computer display terminals. In addition to the standard Alpha, Graph and Graphic Input (GIN) modes, two Enhanced Graphics modes are supported: Point Plot mode, and Incremental Plot mode.

Vector line formats include solid, dotted, short-dashed, long-dashed and dot-dashed lines. All 4 character sizes are supported with custom Amiga fonts. Hard copies of screens can be obtained for all printers supported by Amiga Workbench 1.2 in response to a "Make Copy" signal from the host computer. Screens can also be stored locally in IFF or Aegis Draw[2] format to be subsequently manipulated by other programs. Aegis Draw format files are produced at the highest Tektronix resolution of 4096 by 4096.

The standard 640 x 640 pixel screen size of the Workbench interlaced display can be increased to a maximum of 70 by 440 pixels for additional resolution. Vector and Alpha drawing keep up to 19,200 bauds. Interface Strap Options for CR effect, LF effect and GIN terminators are simulated with selection gadgets for maximum flexibility.

Besides Tektronix graphics emulation, A-TALK PLUS includes all the communication tools found in A-TALK 1.1.

KERMIT, XMODEM/CHECKSUM, XMODEM-CRC file transfer protocols and plain text upload/download are available as well as full emulations of VT100, VT52, H19, ANSI and TTY, including 132-char/line mode, and graphics fonts.

For automatic login, a powerful script language is provided with a phone number directory, and a separate function key definition table for each dialled system. Also included are a multi-tasking spooler, capture buffer, a custom Voice option, full control of all communication parameters and support of more than 10 modem types.

A-TALK PLUS is available at a suggested retail price of $99.95. Site licenses are available.

Contact: Felsina Software, 3175 South Hoover Street, Suite #275 Los Angeles, Ca 90007. Tel: (213) 747-8498.

IEEE Interface

Commodore is now fully equipped to achieve penetration into the scientific laboratory test equipment market with the Commodore Amiga following development and successful field test of an RS232 to IEEE interface.

The IEEE interface, linked to the Commodore Amiga, can replace the conventional computer solution, such as Hewlett Packard, at up to one third of the cost.

Commodore have a long history of success in this area as the Commodore PET has been the accepted automatic test systems computer for the past ten years with more than 100,000 PETs in the field.

A Commodore Amiga 512K system with IEEE interface may be integrated with Spectrum analysers, network analysers, electronic balancers, multi-meters, high grade pen plotters and printers to provide a high quality scientific programming test station.

"Not only can research and development organisations save at least £1,000 per system", says Commodore (UK) Managing Director Chris Kaday, "but the Amiga's multi-tasking and outstanding graphics capability provides just the power and performance that engineers have the right to demand. We have already had enquiries from many existing PET users and expect to win new friends in the scientific marketplace."

STOP PRESS ..... Software *Now* Available -

Professional Text Engine – fully definable text editor

The Monitor – Memory Management utility

..... *look out for reviews in the next Amiga User or call us for details.*

Now RS DATA's New POW•R•CARD Let's You Play Like The Big Boys.

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The POW•R•CARD is a powerful new expansion board which allows you to mature in your computer use with greater flexibility in multi-processing and multi-tasking.

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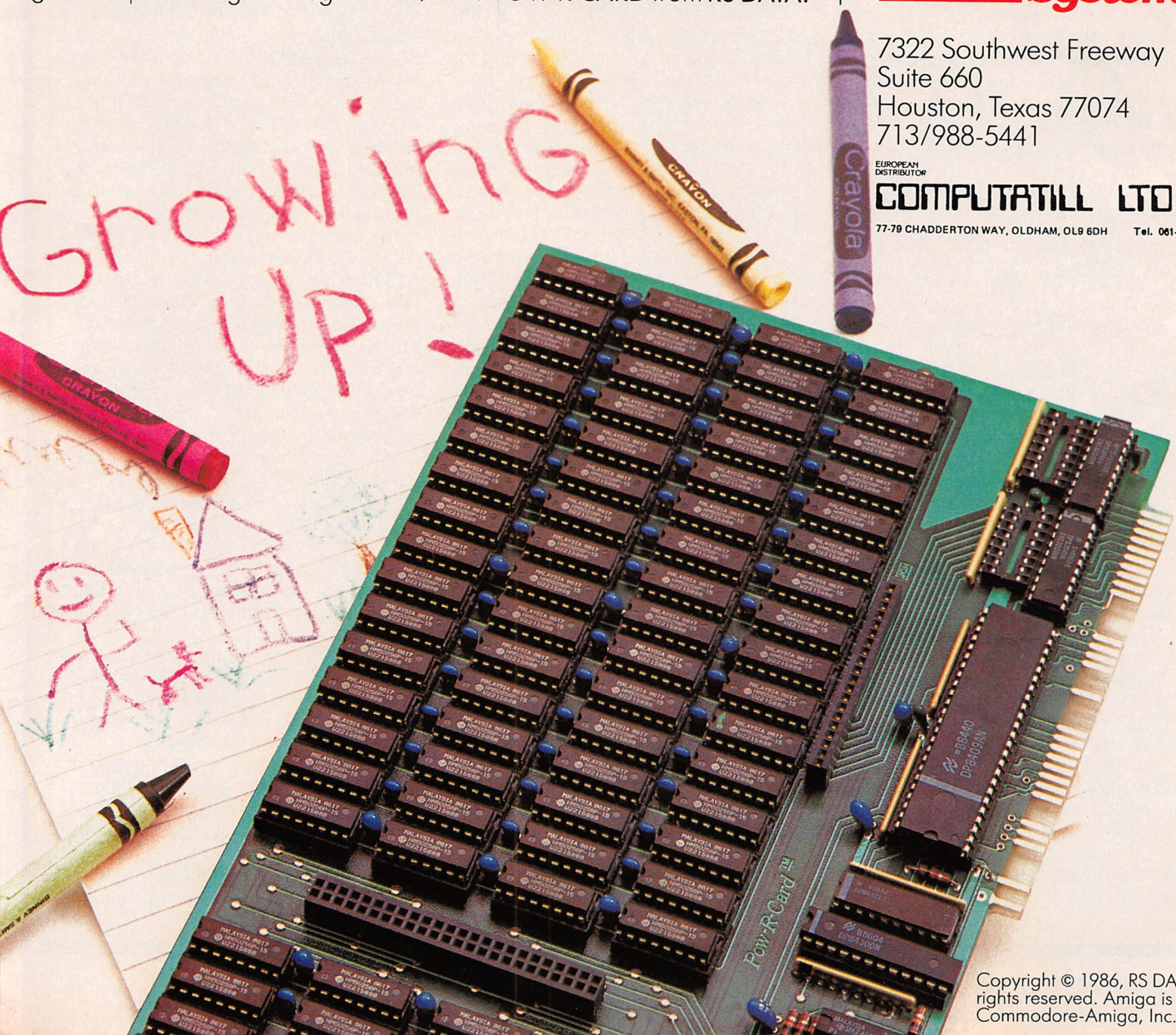

The AMIGA PAL Genlock 8600

The AMIGA has always been heavily promoted as a personal computer that allows full interaction with video. However, there have been some very heavy delays in making available the necessary hardware. The video input can either come from a stored source such as a VCR (video cassette recorder), video camera (camcorder) or a television. The high operational speed of the special graphics hardware together with a wide colour palette have made all this possible. But what does the word GENLOCK mean?

I'll go back a little further and start with another word that may be unfamiliar — *RASTERS*. A *Raster* display is one of the many different methods of obtaining an output display from a computer — some others being vector graphic display, liquid-crystal display, gas-lasma, etc. A *raster* is a parallel array of horizontal lines into which image data is inserted, the same technique is used for television displays. Unlike a vector graphic display where the image is drawn on a point-to-point basis, a *raster* display is made up of a series of regular horizontal lines drawn from the top to the bottom of the CRT (cathode ray tube) by a beam of electrons. The electrons are generated by high voltages at one end of the CRT, accelerated and then focussed to positions at the other end which is coated with a special group of chemical compounds sensitive to impact by electrons. This group of compounds are known as *phosphors* (they are chemically salts containing the element Phosphorous as their non-metallic component). When a phosphor is struck by an electron it emits energy in the form of light. As the electron beam draws a horizontal line it illuminates tiny dots of phosphor on the screen display end of the CRT. A grouping of these dots comprises a *pixel* or *picture-element* which is the smallest accessible unit of the *raster* display.

Television and the display of the AMIGA employ *raster* graphics and this forms the basis of the intermixing of images. *Genlock* is a technical term coined to describe an external video signal to be synchronised and displayed simultaneously with the computer's video output. *Synchronised* since the computer display hardware has to be able to operate at the speeds common in video and television applications. This is the main reason why a machine such as the Commodore 64 and Commodore PC-10 cannot be used in this way because of the limitations of their hardware. if the two video signals were not synchonised then the resulting screen display would be unintelligible to the viewer. The mechanism of the synchronisation is done through the medium of reference signals within the video signals themselves and all that a Genlock device does is to ensure that these reference signals are constantly in phase with each other.

The 8600 PAL Genlock device from Interactive Ltd allows the user to overlay a background video that is being derived from a video source with text, colour graphics or animation graphics generated on the AMIGA in real time. The unit also provides a *chroma key* functions which allows a foreground colour to become transparent for the video background. The package consists of the Genlock unit, three connecting cables, a disk containing several items of software discussed later in this review and a 20 page manual.

The manual makes no pretence at providing any detailed discussions as to the creative use of the Genlock — it fufills the primary functions of connecting and setting up in addition to providing a technical reference section. I was also pleased to see the inclusion of a section dealing with warranty and support — two subjects that seem to escape the minds of many hardware retailers these days. Connection of the unit is simply a matter of connecting the three cable — one replaces the existing monitor lead which now runs between the Genlock unit and the monitor, another fits into the A1000 parallel port and runs to the Genlock unit while the final cable runs between the Genlock unit and the A1000 video output port. The Genlock unit itself is contained inside a metal case colour-keyed to match the A1000. The design of the unit permits its stowage underneath the rear of the system box completely out of the way and without any interference to the storage of the keyboard — a very thoughtful touch.

The software on the system disk contains five elements. These are:-

a) A library of routines that allow the programmer to access and control the Genlock unit from Amiga BASIC, C, 68000 assembly language or indeed any language capable of gaining access to an AMIGA library.

b) A routine to define an AmigaDOS *device*, in this case a *player-device* which allows control over an external video source such as a laser disk player using RS-232.

c) Interface files — and AmigaBASIC *.bmap* file and *genlock.lib* file together with C and 68000 assembler header files named *genlock.h* and *genlock.i* respectively.

d) A demonstration application named *VideoShow* which allows Genlock


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control and player control to be synchronised with the display of graphic images created using other applications such as Deluxe Paint, Aegis Images, Deluxe Video, Aegis Animator and Aegis Impact.

All that is required of the user is to install the various components from this disk into the relevant directories on their Workbench disk. Ariadne Software Ltd, the providers of this software have made this very easy for the unskilled user by means of an automatic install program which is run from the Workbench environment.

I found the *VideoScript* demonstration application to be the most interesting. This allows the creation of a high-speed *slideshow* with special effects such as fades being available. The timing of these slides is accurate to within 10 milliseconds which is more than adequate for synchronised titled sequences. In addition to this there is also the ability to synchronise the video sequences with the mouse for interactive presentations. The *VideoScript* control file relies on simple commands such as:-

END terminate script file execution
REPEAT return to beginning of script file
DELAY (n) Wait (n) hundredths of a second
MOUSE wait for left-hand mouse button click
EXEC (command) execute other AmigaDOS commands

The overall feeling for the Genlock driver software is one of accessibility — the user is unlikely to be constrained in this area irrespective of programme skills.

There are four different operating modes of the Genlock unit. These are:-

Mode	Description
0	Colour Transparent
1	External Picture Only
2	AMIGA Picture Only
3	AMIGA Overlay

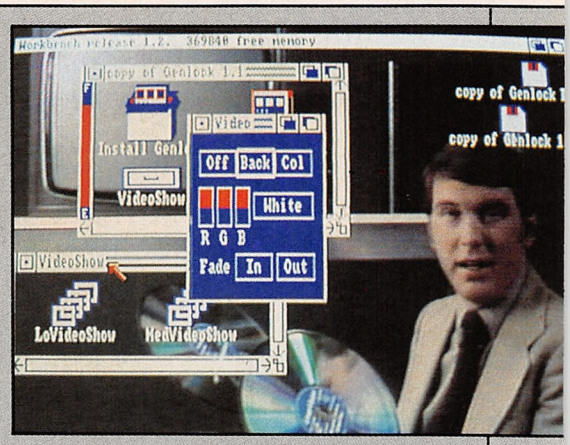
Mode 0 is where a video frame(s) from an external source are displayed through user-selected foreground AMIGA colour. Mode 1 is essentially the same as Mode 0 except that only the external picture is visible on the screen. Mode 2 is the opposite of Mode 1 and only the AMIGA picture is visible while Mode 3 has the external picture replacing the background of the AMIGA display. In addition to these modes there is also the facility to blank and/or fade the external video under software control.

When the system is first powered-up with the Genlock unit attached there is a noticeable screen flicker until the video signals synchronise after the loading of the *Kickstart* disk. If an external signal is then passed to the Genlock unit, the hardware detects the presence of the incoming signal and automatically synchronises the signals. Removal or interruption of the external signals causes the Genlock unit to revert to the AMIGA synchronisation signals. Signal pulse loss recovery is both automatic and very fast.

Synchronising signals may be accepted irrespective of the supply of equalising pulse, the input synchronisation is regenerated and fed to the output port thus a requirement for sync masters can be controlled by the user. The stability of the genlock images are very dependent ont the quality of the input signal from the external video source. The Genlock unit monitors both the frequency and phase of the input signal for variations in these two parameters and compensates for both. However, there are limitations on this process. In situations where the input signal is of poor quality because of an incorrect mechanical condition in the source system such as a worn tape that has stretched or a dirty pickup head then this is reflected in a poor quality image. The situation is rather analogous to taking photographs with a Hasselblad camera using life-expired cheap photographic film or playing an LP through a Bang and Olsen system using a knitting needle as the stylus.

The RGBA output from the Genlock unit is of sufficiently high a standard for it to be passed directly to broadcast quality devices. For those users with more mundane equipment, the composite video output is adequate for VCR use. The audio input to the recording VCR can be taken either direct from the AMIGA audio output in stereo, direct from the external video source or from a separate sound mixer unit. No sound mixing facilities are provided by the Genlock unit. However, note that there are two video output signals available from the Genlock unit which, together with the audio options, broadens the scope of the device considerably.

So what sort of uses does the Genlock unit have? The answer is quite a lot since the number of options appears only limited by human imagination. The whole basis of this hardware revolves around the conveyance of information and since this is best assimilated in visual form then the option to extend a personal computer into the world of video has some very far-reaching ramifications. Ariadne Software have made some very preliminary suggestions Interactive Video Training, Simulations, Interactive Point-of-Sale Equipment, Advertising and Product Display, Information Terminals, Video Production, Video Titling, Computer Animation, Video Databases, Security Systems, Industrial Video Control.



There is no doubt that the AMIGA/-Genlock system heralds the dawn of a new era at the personal computer level. In terms of overall cost measured against ability this combination has no direct competition. System configuration is very easy, free from problems and together with the options provided for a programmer leaves room for few complaints. There was only one area where I was unhappy — the loss of the Parallel port, although this could be overcome by the use of a piggyback IDC connector on the cable from the Genlock. I would strongly suggest that the manufacturer produces a Genlock for NTSC video input/output. The reason why I mention this is due to the very limited facilities that the Commodore NTSC Genlock device provides. This unit, which is designed and built in the U.K. also has a far superior display to the Commodore Genlock. In short, the 8600 PAL Genlock has produced the goods in this area irrespective of program skills.

Technical Specifications

Bandwidth	Composite	-3 dB 5.5 MHz
	RGBA	-3 dB 5.5 MHz
Locking	Horizontal	15.625 KHz
	Vertical	50 Hz
	Subcarrier	4.43 MHZ PAL
Timing	Horizontal	Co-incident with input
	Vertical	Co-incident with input
	Clock	Phase-inlocked with input
Connectors	Video IN	BNC 75R 1V p-p composite
	Video OUT	BNC 75R 1V p-p composite
	AMIGA	25-pin 'D'
	RGBA & TTL Sync	9-pin 'D'
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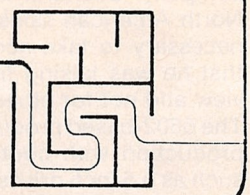

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The AMIGA in Monterey

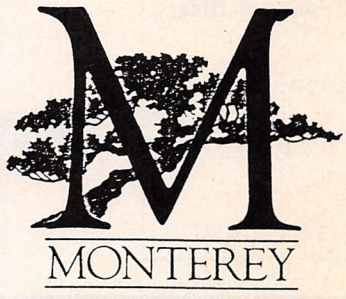
At 9.00 a.m. prompt on the Wednesday, the conference started with Frank Leonardi providing details of the financial turnaround of Commodore as well as revealing some of the future plans of the company. Leonardi is responsible for North American sales therefore it was necessary to take account of the fact that he was talking from this point of view and not for other sales territories. The 6502-based products will remain in production with continued expansion such as 3.5 inch drives and RAM packs. On the PC-compatible front, the 80286 PC-AT machine would be launched into the EEC sector during December 1986 while the 8088 machine would be launched in the USA at the same time. Turning to the 68000 machines, viz. AMIGA, Leonardi claimed that between 120,000 and 150,000 A1000's had been sold worldwide — I use the word *claim* since a discrepancy of the magnitude of 30,000 units seems to indicate some loose accountancy. The announcement that the **GENLOCK** device was not in production was greeted with cheers from the audience as was the statement that the newly launched APPLE IIGS was not perceived as a serious threat to the 68000 products.

The second speaker was Carl Sassenrath who gave a historical outline of EXEC. Several questions were raised on the subject of memory managements, or rather the apparent lack of it! The reply came in the shape of the fact that the A1000 is not a *virtual machine* and treading on locations $000004 and $000020, deliberate or otherwise, will cause a system crash. Using the resources of the 68000 processor directly such as *interrupts* and *exceptions* require a detailed knowledge of the system although one tip passed on to listeners was to run in 68000 *supervisor* mode with the stack serving as an interrupt-list.

The following speaker from the platform was the familiar Tim King, formerly of METACOMCO but now a leading light in PERIHELION, a company which we will be hearing a lot of during 1987. His presence, by my reckoning took the total number of attendees from the UK to four. Tim provided an overview of AmigaDOS and stressed the often overlooked importance of *locks* — programmers tend to forget they are dealing with a multi-tasking system. Further useful tips for programmers were revealed such as the undocumented call on LOCK — a null ("") name will give the current directory, or the *serial* device does not reply with the end-of-file character and this can be solved by using the METACOMCO Toolkit (reviewed in the last issue) console/serial driver.

Electronic Arts, the well established AMIGA software producers provided the next speaker Dave Maynard. He stressed the importance to delegates of using a common hardware base and the security of a reliable electronic mail system where programmers were working at locations remote from the control point. The benefits being a large measure of cost-effectiveness due to the use of shared code and experiences with the A1000. The point was made that an average serious application for the A1000 accounted for 2.25 man-years in programmers time. No doubt such a figure may horrify some British & EEC software houses but I would question them as to what their own ideas are on a multi-tasking 68000 machine in terms of development times.

Dave also described a software tool used heavily by Electronic Arts named DDT (presumably lifted from its namesake on CP/M 2.2 — Dynamic Debugging Tool) as well a some of the programming techniques and problems found with the A1000. For example, the dangers of uninitialised C language pointers sending structure pointers into low memory and stamping all over important areas used by the system software. DDT checks the first 100 memory locations for this. A discussion of problems with *allocmem* and *freemem* routines and how DDT monitors these continued for some time. Unfortunately, DDT is not destined for sale (yet!), the benefits using this are clearly sufficient for Electronic Arts to maintain a lead over the competition, hence the decision.



The next speaker was the petite Carolyn Schepper of Commodore, West Chester who tackled the *heavyweight* topic of the whole conference, **IFF**. This is a standardised file structure for easy transfer of graphics or audio data between different software applications and was initiated by Electronic Arts and Commodore. This gives the benefit to end-users of portability of data while providing yet another path to shortening the software development cycle for programmers. Carolyn stressed the importance of **ALL** developers worldwide registering their file format in confidence with her at Commodore, Westchester, to avoid future problems.

By now it was apparent that those developers who were new to the A1000 were suffering from a large degree of cerebral paralysis such was the pace and contents of the lectures so far. At this point the effervescent Jim Mackraz of Commodore-Amiga, Los Gatos, took to the stage amid loud cheers from those who have observed his previous performances. He took the European Software Developers Conference in Eastbourne by storm and one year on demonstrated he had not lost any of his natural ability to enliven tedious topics with wisecracks and ad-libs all delivered at frantic pace. If Jim was not involved with computers then he would find ready employment as a stand-up comic. The new 1.2 version of Workbench was the first topic that Jim dealt with. Whereas Tim King had concentrated on AmigaDOS aspects of V1.2, Jim covered

the Intuition elements of V1.2. There is a new manual for Intuition which Jim stated he had finished writing although he was unable to give an answer as to availability — let us hope that the bureaucratic processes at Commodore do not take too long over the issues of this important document.

Bob Mical the system designer of Intuition was the next to take the stage. Although no longer with Commodore-Amiga Bob is reportedly working on an AMIGA application for eventual release through Electronic Arts in the first quarter of 1987. Unlike Jim Mackraz whose speaking style seems modelled on that of a New Yorker, Bob Mical together with Dale Luck epitomise the *laid back* Californian school of lecturing with many stories and diversions into the realms of humerous events and happenings during the development of the A1000. He began with a discussion of the design philosophy behind Intuition and used a comparison of requestors used by GRAPHICRAFT and Aegis IMAGES as a demonstration of the improvements made in design styles between an early software piece and a later one.

The final lecture of the first day was taken by Bart Whitebook of Commodore-Amiga and concerned itself with 3-dimensional graphics. Bart started off with further amplification of the new graphics functions added to V1.2 and underlined the importance of the GFxBase definitions for PAL or NTSC displays. He also made the very pertinent point of avoiding the practice of stashing away several k's of memory for use as an emergency *programmer's ripcord*, a symptom of a poor standard of programming since V1.2 has sufficient robustness to avoid the need for this. A suggestion was made of 32-bit colour registers in future AMIGA products and together with the importance of the **LastChanceMemory()** function — some hints of a 68020 machines perhaps? The highlight of Bart's lecture was the demonstration of 3-D graphic images using the A1000. This was followed with a very detailed discussion of the mathematics behind 3-D graphics with matrix transformations and transformed polygons being the main topics.

The first lecture of the second day was taken by Neil Katin of Commodore-Amiga on Expansion Software. Some extremely interesting topics were discussed although Neil provided confirmation that V1.2 would not support a system boot-up from any drive other than df0: since many USA developers had been hoping that this would be possible from a DMA hard disk. The reason why this was not implemented in V1.2 was due to the simple fact that Commodore-Amiga did not possess a DMA hard disk at the time of writing V1.2 itself! Developers who were implementing a time-of-day clock were strongly advised to contact Commodore-Amiga as the memory space allocated in the system memory map for this was left open. Questions were raised over difficulties over the expansion bus interrupts and it was indicated that under V1.2 the function **AddIntServer()** must be used. This unfortunately yields a 63 microsecond overhead although it does overcome the problem of system crashes and lock-ups from interrupt problems originating on the system expansion bus.

One of the most novel topics to come out of the Monterey conference occurred at this point when Neil revealed the possibility of moving **ExecBase** out of *chip memory* and into an area of the system memory map previously thought to be inaccessible. The benefit here being an increase in the amount of available RAM to the user. For example a 512K A1000 would show about 650-700k free even with Workbench enabled for the user.

Hardware served as the core of Glenn's lecture and one of the major debates at the present time revolves around *interlace* mode flicker. Suggestions were made about overcoming this by adjusting the contrast and brightness controls, using long-persistence monitors or simply avoiding viewing conditions under fluorescent lighting. Since the *interlace* refresh rate is a direct function of the power supply frequency, the problem is made worse in countries such as the UK with a 50Hz supply where the screen refresh rate is only 25Hz with *interlace* mode selected as opposed to 30Hz in the USA and Canada. The lecture then moved on to connecting a RGB(I) monitor to the A1000 as the documentation supplied by Commodore seemed unclear on the connector layouts. Another piece of totally new information then emerged in the next topic to be discussed, namely the RS232 Serial Port. This port can run at speeds up to 3 system colour clocks which is the equivalent of 1.0MHz. No, this is not a misprint — I did say One Megahertz! The A1000 Serial Port also contains support for a **MIDI** interface and the AUDOUT/AUDIN pins are designed for this purpose being rated at 1 volt analogue.

Mike Boom, a freelance author and musician was our next speaker with the latter occupation giving the clue to the contents of his lecture. This was concerned with the sound and musical capabilities of the A1000 and Mike addressed the strengths and weaknesses of the machine. A very interesting and detailed discussion of the **MIDI** interface, its history, limitations and protocols followed. From a musician's point of view Mike felt the best application for the A1000 was as a precussive instrument, primarily a drum machine and he ably demonstrated this with some powerful accompaniment to some synthesisers. It was clear that there are many opportunities for software developers in this largely unexploited area.

Gail Wellington, already a legend in the UK provided the conference with the next topic named *"Developing products for Europe"* in her inimitable and confident style. She provided a large number of charts of data stressing the fact to the audience that Europe and the rest of the world **was** important to Commodore and would not nor should not be ignored. Gail is now the newly appointed International Software Manager of Commodore International, the holding company for all Commodore companies world-wide — an appointment for which she has worked long and hard.

Video Processing formed the following topic and this was addressed by Tim Jenison of Newtek Inc. He started with *hold and modify* — this is the display mode that allows 4,096 colours onscreen simultaneously — a feat that no other publically available 68000-based personal computer is capable of. Tim discussed exactly what *HAM* is and what it is best used for. This covered areas such as photographic quality images, video production, graphic arts and advertising. There was also some discussion of the limitations of *HAM* in terms of the horizontal resolution and processing time for pixel manipulation although it was made clear that compared to a system with 12 bit-planes it was still extremely good.

The final day was taken up with the product announcement of the A2500, the details of which are covered elsewhere in this issue. A software developers fair also took place with many conference attendees showing off their latest developments. The afternoon session was taken up with workshops covering all aspects of the A1000 and were hosted by the various Commodore-Amiga specialists. In the evening Commodore held an awards banquet for USA software with various comedy interludes. Probably the most hilarious were the series of homemade videos shot by the Commodore-Amiga crew in and around Los Gatos. These took the form of several mythical television advertisements for the AMIGA computer and confirmed my opinion that most of them are talented comedy actors. Thus ended a very busy, but enjoyable five days in Monterey, California and I came away with plenty to write about in future editions for our readers. All I have to worry about now is how to be nice to the publisher so I can go to the 1987 conference!

B.D.

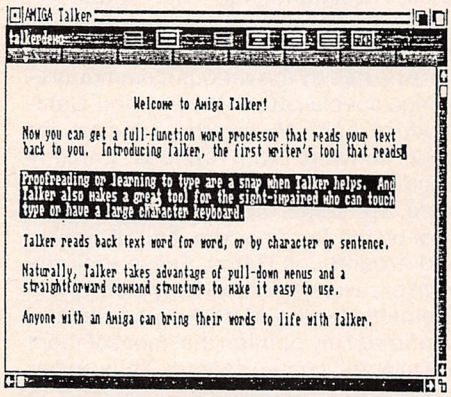
Talking W/P

As the AMIGA says, when you load up the disk, "Welcome to Talker..." Not quite, this is Hal speaking but very friendly indeed...

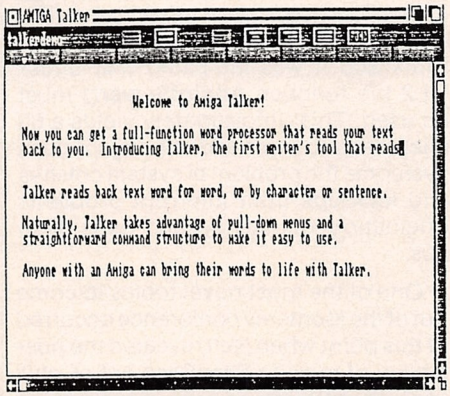
So you thought you knew what you knew what word processing was, eh? But then, probably you thought that you knew what computing was, before the AMIGA came along. Since computers came available to a wider than purely technical public, Word Processing has been growing in popularity. Dedicated word-processing computers like the Wang were the machines that made computers familiar both on office desks and to the average secretary. Amstrad's first success in computers came from their W/P machine. But why anyone would want to buy a dedicated word processor now, except by persuasion from a big adversting compaign, I can't imagine. Today the word processing packages that run on machines like the PC, AMIGA or even the 128 are for most purposes equally as useful and in addition you get all the facilities of a computer too.

As yet not many W/P packages have emerged for the AMIGA — which is a pity, for with the immense potential of its multitasking facilities it could prove a powerful tool for W/P. Of course, with Sidecar or the new PC compatible AMIGA 2000, all the wide variety of PC packages can be used. But they, in most cases, could hardly make full use of what the AMIGA can really do, designed as they are for the less imaginative scope of the MS-Dos environment

Textcraft and Scribble were the first to arrive on the AMIGA. Neither thought useful as their reviews in Commodore Business and AMIGA User demonstrated



— were other than average. Scribble has just brought out an updated version which will be reviewed in our next issue. ProWrite is about to be launched in the U.S. and is reputedly going to make a substantial impact. Viza, well-known for their high quality 64 and 128 wordprocessors are working on their long waited



W/P for the AMIGA but as a knowledgable commentator noted recently, "You'd better not hold your breath on that one. They've been promising it for over a year!"

So, in view of this unexciting situation, it is very pleasant to receive a word processing package that is an AMIGA W/P — created using the special characteristics that make this computer... well, special. We might, echoing its own opening phrase, offer a "Welcome to Talker".

It is an attractively and conveniently designed packaged, ideal for filing on a shelf. It has the neat design idea of making the manual a part of the packaging so you never will find, irritatingly, you have one, the package or the disk, without the other — the manual. The manual itself is brief — about 20 pages — easy to read and simple to understand. It is not full of technical jargon and is clearly intended for people who might have had no contact at all with word processing before. As one of the possibilities of TALKER is that it might be used by those who suffer from difficulties of sight, it was a good idea to print the manual with large clear type.

Starting up TALKER is simplicity itself. There are no complicated codes or routines you have to learn, just put in the disk and away you go.

It has all the usual functions that you might need from a W/P package: margin settings, adjustable tab stops, paragraph indents. Titling, line spacing, text alignment and other functions are carried out through the use of icons. And it effectively uses the pull-down menu system to create, store or retrieve documents and for other options. There is also an "About Talker" option that will give some brief details about TALKER and its creators. (Note to TALKER's creators: I was taught "i before e except after c". So the word is "Brief" not "Breif"! Maybe they could add a spell-checker next time — and use it themselves!)

The style menu lets you use plain, **bold**, *italic* and/or underlines and the edit option lets you move text around, copy it to the clipboard and paste it into your document.

Yes, yes, I hear you cry, that's word a processing package, what's so special — AMIGA special — about that?

TALKER is special in that it will tell you what you've done (No, it will not I'm glad to say, comment on you writing style...). With another option — as simple as any of the others, it will speak by single character, speak by word, or speak by sentence — or if you choose, it will remain absolutely—and in a noisy and crowded office perhaps mercifully — mute. It has sliding gadgets which let you control the voice variables — speed, pitch, rate, volume and sex. You can have a male, female or even computer style voice, if you wish. The voices are not the perfect, human tones that the AMIGA can manage in digitised speech but they are, according to your taste, adjustable to reasonably accurate, slightly metallic imitations of the male or female voice. There are people, I have met, who sound a lot worse.

Now, it might be asked, why should anyone need a W/P that tells you what you have just written or your last few words you can look up and see. Well, if you are sight impaired, there is no doubt at all that it is an absolute delight to be able to work alone on a computer to type letters and so on — and hear your words, for dyslexics it can also obviously be of benefit. But also if you are not a touch typist, as most of us are not and you follow the "hunt and peck" style. TALKER can let you hear your results — instead of having to look up every few moments at the type on paper or screen. It will tell you what you type, letter by letter, word by word or sentence by sentence; which can be a great help, too, if you are just learning to type.

There is one more factor in which TALKER can be useful. This is involved with any form of creative writing — and virtually all writing has some element of creativity in it. It is style, individual but acceptable, that is what makes something easy, agreeable, entertaining, to read — even technical material. That style is what gives the "sound", agreeable or otherwise that you hear in your mind when you read. Perhaps the best way to achieve pleasant sounding text is to read it aloud. TALKER will do that for you. It will give you the chance to hear what you have written and change it if it doesn't "sound" right, which can be very helpful.

If this review strikes you in addition to being informative — as I hope it does, pleasantly conversational in tone, it may be partly due to the fact that I had TALKER read it to me first. This is Commodore Business and AMIGA User — and TALKER — signing off. Goodbye.

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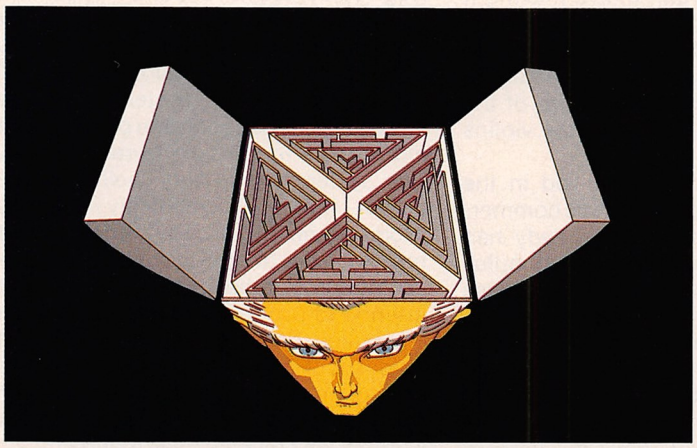

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ADMATICS

— The AMIGA in advertising by Stephen Rodgers

Television commercials cost an awful lot of money. Because of this expense, if you happen to be in the business of thinking up those commercials it can be said that you are only as good as your last idea. So, before the advertising agencies spend the possible six figure sum required for a finished TV advert, they like to be pretty sure that it will communicate effectively with the target audience. This is done by exposing a model or prototype to members of the public and researching the effects, the extent of communication and the accuracy of recall.

The stimulus materials used take many forms, depending on the context — and the budget. Sometimes a "narrative tape" an audio tape with sound effects describes the commercial. Sometimes a storyboard, a series of pictures (perhaps thirty) are drawn to represent the people and scenes. Sometimes these pictures are filmed and edited with a soundtrack to produce an 'animatic' or 'photomatic'. Theoretically a good animatic is the best medium as it is presented on a television screen and the audience has a better chance of relating to it as a 'trial' commercial. In practice many animatics are still so far from the finished article that the public may have trouble making the necessary imaginative leap.

This is where the Amiga fits in. Often an animatic will only have fifteen or twenty pictures across which, at best, jerky, unco-ordinated type animation occurs. Anybody aware of the potential of the Amiga can see that it can do better than that with one hand tied behind its back — and run a spreadsheet at the same time! Actually that is not quite true. In fact it calls for huge amounts of memory and the machine has to work fairly hard to throw all those pictures at the screen, but with excellent custom-software by Ariadne Software Ltd and some serious persistence by yours truly we have now been producing Admatics (as we call them) since August 1986.

A good example of how the Amiga scores over old fashioned animatics is supplied by our experience with a TV commercial for Butlins Holiday World, first broadcast on Boxing Day 1986. Those who have seen it will (of course) remember that it features scenes of a deserted, windy, decrepid, military looking, 50's style holiday camp. It is filmed in grey, green and white and a Beverly Sisters song (evidently played on a wind-up gramophone 1950's style through a Tannoy), completes the atmosphere.

Suddenly the camp begins to explode! We see a canteen erupt, a kitchen is destroyed, huts fragment and the horn loudspeakers of the Tannoy burst apart. All of this happens in eerie slow motion with fairground organ music making it seem jovial and fun. As the dust settles, the view clears and we see a sunrise over a cliff where a little girl hoists a flag on which is the logo and a picture of the brochure, the sounds are now violins and al is roses.

The Amiga became involved in the story of the development of this commercial after the agency had already had one stab at producing some stimulus material and researching it. In this case the stimulus material was as follows. A sort of video narrative tape had been produced — a man sat on a sofa and told the audience to imagine the commercial. When the explosions started we saw library footage of violent, flaming explosions and then cut back to him on the sofa. The young families to whom this had been shown had jumped when the explosions happened, one young mother even shouted — "Oh! There aren't people in there, are there?" So psychologically this stimulus had transmitted two ideas:—

i) A frightening, unpredictable, association between people and explosions.
ii) That holiday camps used to be really awful places, but now someone has blown them all to bits, so they are all right now.

Clearly these were not the desired communications and it was largely the stimulus material that was at fault.

The director of the commercial pointed out that she had intended the explosions to be gentle, non-threatening affairs, that it was intended to suggest change but of the non-violent kind. But how can you suggest that without blowing a camp up and replaying it in slow motion? (In general you can only explode things once).

"Simple!" we said and showed her some of our other work, she liked it and gave us a script, some photographs of the doomed camp and eight days to finish it.

The first stage was to digitise the photos and send them off to an artist — in this case the redoubtable and prolific Hugh Riley. We have found it important to use digitising wherever possible as it adds depths of realism that are hard to achieve by drawing alone. We use Digiview for this; the system that takes three filtered monochrome pictures and mixes them to produce lo-res pictures. The system works very well with the caveat that it is relatively easy to produce beautiful 'arty' effects, but rather harder to reproduce exact representations. A rather irritating fault is that it tends to produce two blacks when it calculates the colour palette, a waste of colour, but more seriously the colours are the ones that Aegis Images uses in requestors — black writing on a black window isn't exactly user friendly!

Hugh then used Images and Dpaint to edit these images, sharpen them up and create related ones. Considerable use of 'magnify', 'frame' and 'airbrush' produced the pictures that supply the explosion sequence, and a smooth panning shot can be made by using the same picture many times but altering the perspective on each. This is where the strength of computer drawn images becomes apparent — a conventional animation artist has to redraw each picture on a blank piece of paper, a computer artist can generate many different pictures from the same start point, and then choose the ones he or

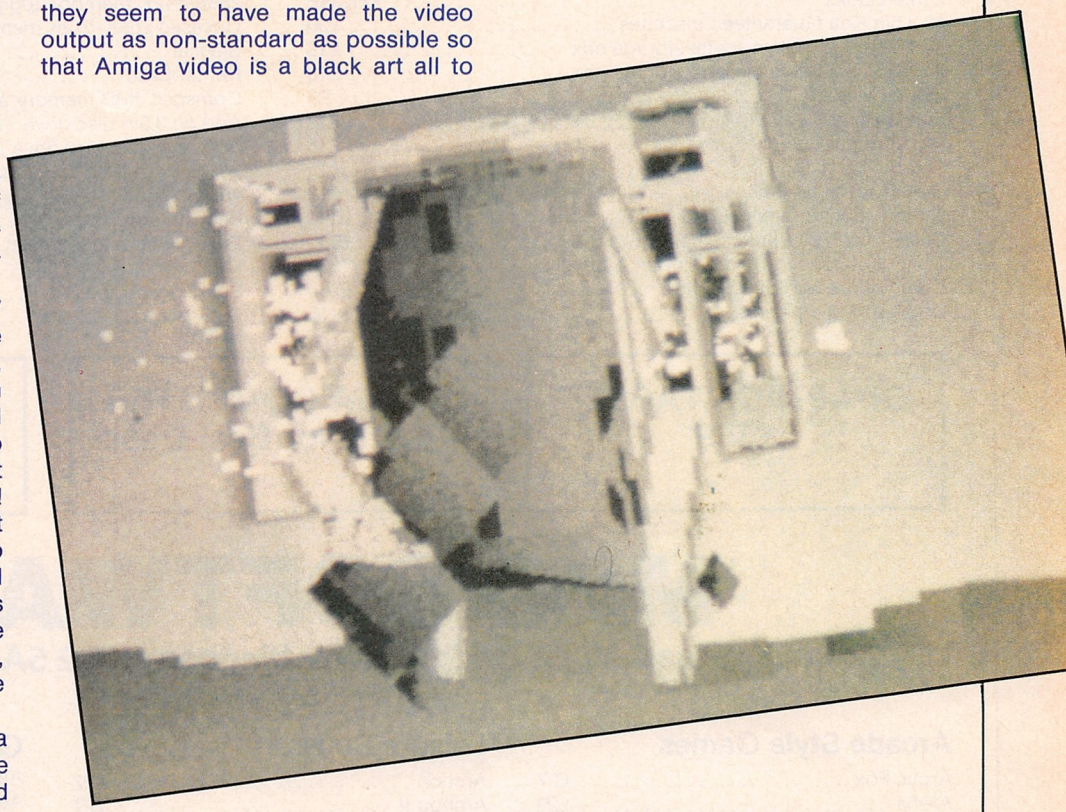
she really prefers. Another advantage of a computer based system is if, for example, a hairstyle was wrong in an animatic the producers would find it very expensive to change — a Admatic could have the changes effected and re-recorded in a matter of hours.

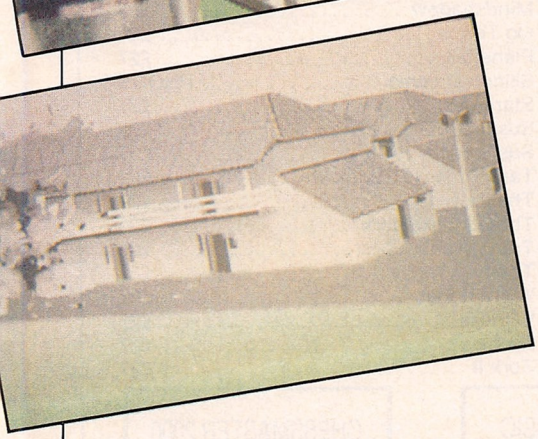
In order to give the artists as long as possible to work on the Admatic, and to save the half-day normally lost when using Red Star, we use modems to transmit the finished material. The modems also give us the advantage of being able to see how work is progressing — again this is nearly impossible with conventional animatics.

The models we use are Pace Series IV modems. They are expensive and have many features that we are not yet using, but we need them because they can handle 2400/2400 baud. This is essential as a finished Admatic runs in about two megabytes, even then it takes at least two hours to transmit the whole thing! We find that the phone system is not yet up to this data rate during day time, so we have to do it in the depth of night. I haven't found a way of automating this process from software as yet, so the artist and I have to man our terminals, typing the correct filenames every five or ten minutes.

Amiga artists are rare enough, Amiga artists equipped with extra memory are rarer still, so the Butlins Admatic arrived in nine sections which I had to stitch together before presenting myself and the machine at the video edit suite.

Commodore have produced the most affordable graphics computer yet, but they seem to have made the video output as non-standard as possible so that Amiga video is a black art all to itself. Getting a presentable picture into a Hi-Band U-Matic edit suite is extremely difficult, but it is enough to say 'we have the technology' and from here on we are in the hands of conventional video technology. This rankles a bit and I am constantly trying to think of ways in which we can leave even more of the final 'look' in the hands of the artist. Memory expansion helps as he or she can then see the whole of the Admatic in one go, I am also very interested in producing soundtracks on the Amiga, and having the machine play sounds and pictures simultaneously.





The memory expansion we use is the Comspec 2MByte device, it works fine and the latest version of Kickstart automatically senses its presence and makes it available to the system. However, certain items of software are not quite as clever, and I have found the following problems:—

i) Aegis Animator is not aware of the memory. This is frustrating as this particular program is always whinging about 'not enough memory'.
ii) DPaint doesn't display the slider knobs on the palette adjuster if it is loaded into an expanded system.
iii) Textcraft shows no pointers at all if loaded when the machine is enlarged.
iv) Aegis Images will not load pictures from ram disk.

These last two points are connected and are to do with the types of data chunks that C compilers create when outputting compiled programs. The pointers are presumably sprite or bob (blitter object) images that are getting 'lost' in the higher addresses. (Remember that the Amiga has only 515K of chip memory).

The output from the edit suite was a video cassette which was then placed in the hands of the researchers. The client was very pleased with our finished product, not to say amazed at the power of this new method. The Admatic researched better, as the explosions were much less frightening, and the production team were given valuable clues and insight as how best to film the obliteration of a holiday camp.

See your there!

Potential artists and clients should contact:—
Stephen Rodgers, The Research Centre, 1 Belitha Villas, LONDON N1 1PE.

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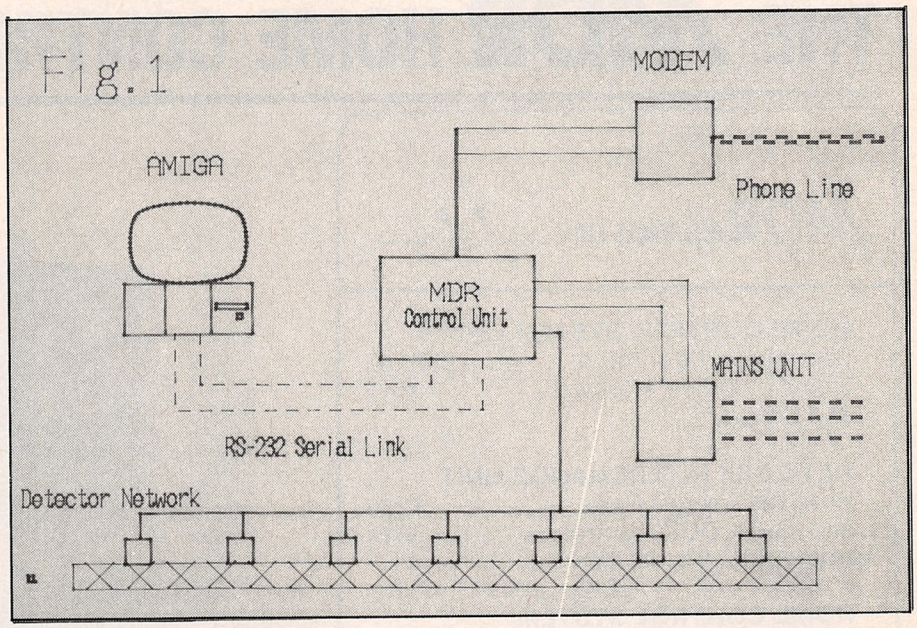
MDR Home Control System

Non-domestic premises are something else where contents values run into thousands and more importantly the after effects of the disruption caused to the business can easily out-run the actual loss. Even in a situation where a break-in has occurred and nothing has been taken it is worth remembering that industrial espionage is not a criminal offence under UK law. You may feel that because your business is not an *industry* as such, has nothing to do with the armed services or you have no competitors in the immediate vicinity that such a thought is frivolous. Put another way — would you like to have some stranger reading through all your letters, plans, invoices, bank statements? You would be astonished at the level of prying and spying that goes on these days.

Deterrence is the answer to these antisocial persons and using your AMIGA which unlike a guard-dog, never goes to sleep or needs feeding is now possible using equipment from a UK company. MDR Interfaces Ltd. provide a range of security hardware for use with the AMIGA A1000 by taking advantage of the machine's multi-tasking abilities. The most immediate advantage of using a multi-tasking machine is that the security surveillance regime is **continuous** since the computer can be used for other tasks. Other possible uses for this system lie in the field of process control. These do not necessarily mean control over manufacturing processes — for example, collection of sales or statistical data from personnel remote from the main site.

The fundamental design basis of the MDR system was **security, quality** and **safety.** Fig. 1 provides an outline of a typical structure. The AMIGA A1000 is connected to the MDR Control Unit by means of an RS-232 link. The Control Unit can then (depending on the configuration bought) be connected to a modem for control of a further system remote from the physical location of the main system, or coupled to the domestic 240V AC supply by means of a *Mains Modem Unit* to provide a distributed local control system, or directly connected to local detection devices.

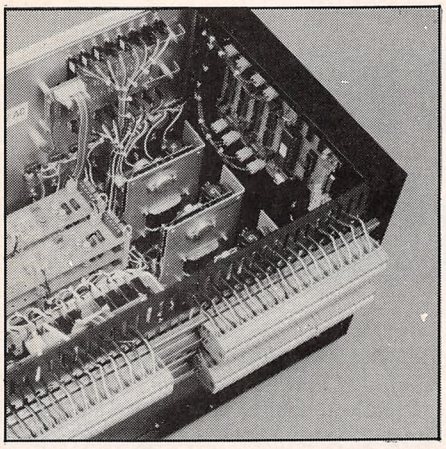
The local detection network can consist of low-voltage electro-mechanical devices such as relays, micro-switches, pressure pads, solenoids — in effect any device that can produce a change in voltage state. These devices can be part of a larger system such as a burglar alarm, central heating system, water level control, lighting, door or window controls, the list is inexhaustible. Control through the domestic power system *wiring* using the *Mains Modem Units* is a simpler and secure version since it avoids the creation of a wiring network by using existing resources. The most sophisticated aspects of the MDR Control System are revealed by using modems. These provide a means of monitoring and control over further MDR systems which can be situated thousands of miles away. Naturally this element of the system is dependent on the quality and availability of the telephone lines, however with the increasing sophistication of auto-dial/auto-answer modems with automatic transmission rate sensing there seem to be few restrictions.



The MDR Control Unit uses an 8749 cpu, an 8-bit processor which is well known in industrial control applications with the benefit of being a tried and trusted component. The interface within the *Mains Modem Unit* to the domestic 240V AC supply is done through optical-isolators for safety to the user and the hardware. The only limitation on using this method control is the restriction to a single phase supply. It is not yet possible to utilise UK industrial power supply systems for distribution because of certain component limitations on 440V AC. However, when this becomes possible the potential for spreading the control network over three phases of an industrial 440V power supply could be enormous.

The software for the MDR Control Unit relies on Intuition and is very well designed being both explicit and clear. The *control panel* is modelled on the *Preferences* control panel thus all users of the A1000 will be familiar with the structure. This *control panel* allows the setting of baud rate transmission if using a modem, selection of the Narrator device for aural messages from the system to the user, in addition to configuring the computer hardware with the usual attributes such as the filing system structure. A very strong feature of this software is error-recovery and error-detection of transmission faults with various alarms, audible or visual being available depending on the choice of the user.

There is no doubt that this system has far-reaching potential. By employing the multi-tasking facility of the A1000 the **continuous** monitoring of devices either locally or at some distance is

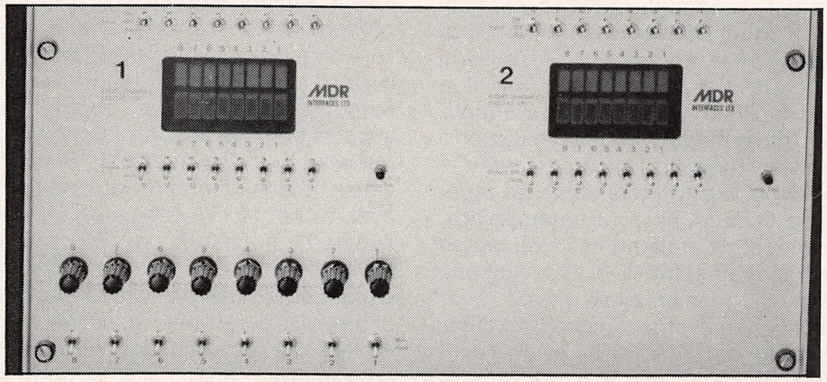


made possible **without** losing the use of the computer hardware. Since the AMIGA A1000 has many unique features in terms of its graphical facilities these can be engaged with this system. For example, consider a high security facility with an electrically operated gate remote from the installation itself. A person desires entry and initiates the *attention* sequence. This could be by optical detection by triggering a light beam or by infra-red detectors scanning body heat. This action then triggers a closed-circuit camera which in turn is relayed to AMIGA A1000 which is fitted with the GENLOCK device. The screen now displays an overlay of the scene at the gate. The security controller who has been word processing then switches into SUPERBASE and compares the graphical image of the person's face from the database of the site personnel. If the security controller is satisfied then the gate can be opened, if not then the deterrence device can be employed — in this instance a life-sized cardboard cut-out of the editor of *AMIGA USER* magazine which has been cunningly concealed in the bushes springs into view — exit the terrified potential intruder!

This may sound like science fiction, but the above scenario can be readily translated into facts because both the hardware and software are available **NOW** as you read this. Not only would such an installation be considerably cheaper than any other comparable system, it would also have the benefit of releasing a major resource for additional work. Once again here is a classic demonstration of the real power of the AMIGA hardware being put to sophisticated real-world applications by creative and imaginative ideas and programming. Richard de Rivaz, Managing Director of MDR Interfaces told *AMIGA USER* that substantial sales have already been made into several industries, although naturally he was reluctant to reveal too much given the sensitivity of some of his clients — in a future issue we hope to bring you an actual application of this innovative device.

B.D.

Price: Systems starts at £375 (plus VAT)
MDR INTERFACES Ltd. Little Bridge House, DANEHILL, Sussex RH17 7JD.
Tel: 0825 790294.



E.A.'s DELUXEPAINT II

Electronic Arts has released Dan Silva's **DeluxePaint II** for Amiga computer systems. This improved graphics tool expands the computer generated capabilities of the award winning *DeluxePaint* which was released by the company early last year.

The enhancements in **DeluxePaint II**, added to the original program, enable graphic enthusiasts to create colorful images in far less time than if using conventional techniques. **DeluxePaint II** introduces over fifty new effects featuring the ability to create Perspective effects, Stenciling, Fixed Backgrounds, Gradient Fills and Pattern Fills.

Gordon noted that features added to **DeluxePaint II** allow artists more flexibility in creativity than ever before. Artists who would like to lock out specific portions of an image, in order to paint behind or front of it without disturbing it, can now utilize a Stencil tool. Stenciling saves the artist from having to redraw any portion of an image. For example, a snow cap can easily be placed on one mountain top without the worry of any color bleeding onto the rest of the range.

Three new types of fill tools have been introduced to **DeluxePaint II** including Gradient Fill and Pattern Fill. Gradient Fill allows an artist to fill a shape with multi-colored gradients as well with solid colors. A range of colors can now embellish a relatively plain image in a fraction of the time it would take using conventional techniques.

A Fixed Background technique allows artists the freedom to experiment as little or as much as they desire without disturbing the original image. The technique literally attaches the picture to the background, as often as needed, so that it cannot be removed.

Finally, a Perspective feature allows artists to rotate any brush in three-dimensions without the need for technical drafting tools. This new feature allows artists to create such effects as floors that recede into the background, with a simple fill command.

"Fine tuning features available in **DeluxePaint II** give artists significant tools for "finishing" their creations," explained Gordon. Anti-aliasing, a technique that smooths jagged lines, created when an object has been shrunk or rotated, has been introduced to **DeluxePaint II** along with a Smooth feature which is used to create a more subtle boundary between two contrasting colors. Finally, depending on the type of printer available, **Deluxe Paint II** will allow pictures twice the size and at least one and a half times taller than a standard 8-1/2X11 page to be produced.

Artists can mix to their own specifications any of the colors in the palette of 4,096 and control the percentages of red, green and blue as well as hue, saturation and value. A specific range of colors may also be specified to create special effects, such as the illusion of a light source shining on a sphere. Color cycling now supports four cycles, each with its own direction and speed to create such effects as falling snow and running water. To assist artists with precise image placements and drawing, the program also supplies a grid and display screen coordinate for exacting point-to-point measurements. Additionally, **DeluxePaint II** features the added ability to rotate ellipses before placement.

Electronic Arts is offering an upgrade program for owners of the original *DeluxePaint*. In the U.S. The company will send the **DeluxePaint II** disk to owners who send in the front cover of their *DeluxePaint* manual and $30.00 (plus $7.00 for shipping and handling). For an additional $20.00, Electronic Arts will provide an un-copyprotected version of the program. Users who purchased the un-copyprotected version of the original *DeluxePaint* need only supply Electronic Arts with the disk and $30.00 to receive the un-copyprotected version of **DeluxePaint II**.

Deluxe Music Construction Set

Desktop music performance and composition for $99.95

Electronic Arts has announced the release of Deluxe Music Construction Set for Amiga computer systems. Based on the award winning Macintosh program created by Geoff Brown, this Amiga version of Deluxe Music Construction Set turns the computer into a desktop-based professional music studio.

"Deluxe Music Construction Set is one of the most powerful composing tools available for both amateur and professional musicians," said Bing Gordon, Electronic Arts' Vice President of Marketing.

Deluxe Music Construction Set provides users with complete input, editing and notation tools for quick and simple composing. A Score Window, featuring a work staff, is where music is entered, edited and reviewed. Music may be entered into the program from the built-in library, or notes may be arranged on the staff by selecting them from the Note Palette or by playing them with the mouse via the program's piano keyboard.

The program includes a selection of digitized instruments from flute to electronic bass.

Once a song is completed and ready for play, Deluxe Music Construction Set provides three forms of visual feedback to the user. As the music plays, a measure counter, flashing notes representing those that are playing, and the player piano which plays along with the music can be viewed. Specific playback options include the ability to change instruments and play styles within each staff whenever desired; a complete volume range and playback speed from 1 to 240 beats per minute between and within each staff; and full 4 voice Amiga sound played through the internal speaker or a stereo, or via any one of 16 different MIDI channels when using a MIDI instrument.

Advanced features include the ability to create staccato, smooth, vibrato and many other sound effects that are likened to the use of a piano pedal or synthesizer control. The program also enables users to change such parameters as key and time signatures, staff and clefs, working space and score width. Pitch modifiers can also be applied to the score, as well as dots, triplets, quintuplets and ties. Users also have the ability to identify specific sections in a score for playback as often as desired, or repeat a passage without actually duplicating the music. Finally, with the use of compatible sequencer software (i.e. Mimetic's Pro Midi Studio™), a MIDI keyboard performance may be channelled through Deluxe Construction Set for the production of professional music notation.

Deluxe Music Construction Set is designed to work with other members of the Electronic Arts Deluxe Creativity Series. The product will read *Instant Music* files as standard music notation and is useful for creating scores with *DeluxeVideo*.

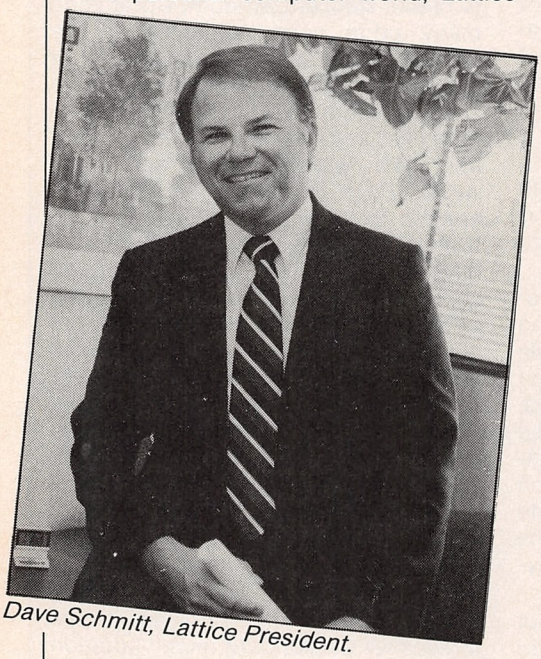
"Deluxe Music Construction Set manages for musicians what word processors have done for writers, freeing them to be more creative while boosting productivity," concluded Gordon. "With the comprehensive composition features of the program, it is an excellent software choice for both amateur and professional musicians."

Contact: Electronic Arts, 1820 Gateway Drive, San Mateo, CA 94404, USA.

Company Profile Lattice Inc

A computer without software is rather like a car without fuel and it would be true to say that without the existence of Lattice Inc. the Commodore AMIGA would be in a pretty bad way. Whilst it was Metacomco Ltd. of Bristol through the former leadership of Dr. Tim King who constructed a multi-tasking operating system for the A1000, it was Lattice of Glen Ellyn, Illinois who provided a platform for programmers to access and use the hardware through their C compiler software. Many readers are familiar with the Metacomco/Tim King story, but few are aware of the contribution made by Lattice to getting the A1000 up and running through the particular efforts of Dave Schmitt, president of Lattice and John Meissen, Lattice's AMIGA specialist.

In common with many companies in the personal computer world, Lattice



Dave Schmitt, Lattice President.

shares the distinction of having started life in someone's bedroom. This occurred in 1981, perfectly timed for the start of the boom in computers where the centre of gravity for hardware and software was moving away from the centralised data-processing/computer bureau concept into the hands of the users themselves. Many of the data-processing/computer bureau establishments contained whole rafts of frustrated programmers who worked in the hen-house atmosphere and rarely saw the end results or real-world applications of their programs.

Lattice's first product, the ubiquitous C compiler was born of the need for an effective low-level programming environment by the professional programmers who were now deserting their former employers in droves. The choice of C was an astute move since it foresaw the need for portability of software when the development costs of applications would easily outpace those of purchasing a hardware system. The software developer would be able to amortise his costs over several machines since the greater the number covered, the larger his potential market for his product.

With a spirit modelled on the *Three Musketeers,* Francis Lynch the founder of Lattice spent two years working on the C compiler, latterly assisted by Dave Schmitt now company President and Steve Hersee, Vice-President of marketing. As usual, it was money and not ideas that slowed things down, and the company survived on royalty advances and sales of their *Unicalc* spreadsheet which also came into being around this time. All three have a background as mainframe/minicomputer systems programmers and this technical inclination in the company's outlook continues to this day. Dave Schmitt continues in his original capacity of manager of the technical group and Steve Hersee serves as a leading member of the ANSI C Standards Committee.

One of the proudest achievements at Lattice is their complete financial independence — they have never taken on any outside financing. This provides the company with the freedom to take the risks and reap the rewards without the tedium and delay of third-party involvement. Critics may scorn such a cavalier attitude, but Lattice can point to aggregate worldwide sales of 30,000 units of the C compiler alone — no mean feat for a product directed at a specialised market. However, this doesn't mean that Lattice has an expansion policy based on *gut-feeling*, quite the contrary since Hersee makes the point that the first 5 years have been closely controlled in terms of company growth.

Customer service figures strongly in the management philosophy and in the USA Lattice provides a newsletter produced in-house, operates a 24-hour bulletin board and has a continuous conference running on the BIX network. This is in addition to the normal technical support offered from their *Hotline*

Steve Hersee Lattice Vice President Marketing.

phone-in service. Indeed the opening paragraph to their C compiler manual for the AMIGA states *"Welcome to the Lattice family"* — a phrase which may well be greeted with cynicism from European programmers used to nil support from software houses. However, from our own contact with Lattice the common theme of *wanting* to look after the programmer-customer emerged time and time again.

We were interested to learn of their continued support (and enthusiasm!) for the AMIGA and this was reflected in the latest release of their C compiler for the A1000 (version 3.10). A review will be appearing in AMIGA User. Some other products are in the pipeline although they wouldn't make any comments at this stage of what these are. A company to look out for during 1987 because they will have some interesting products for the AMIGA programmer and maybe end-users too.

B.D.

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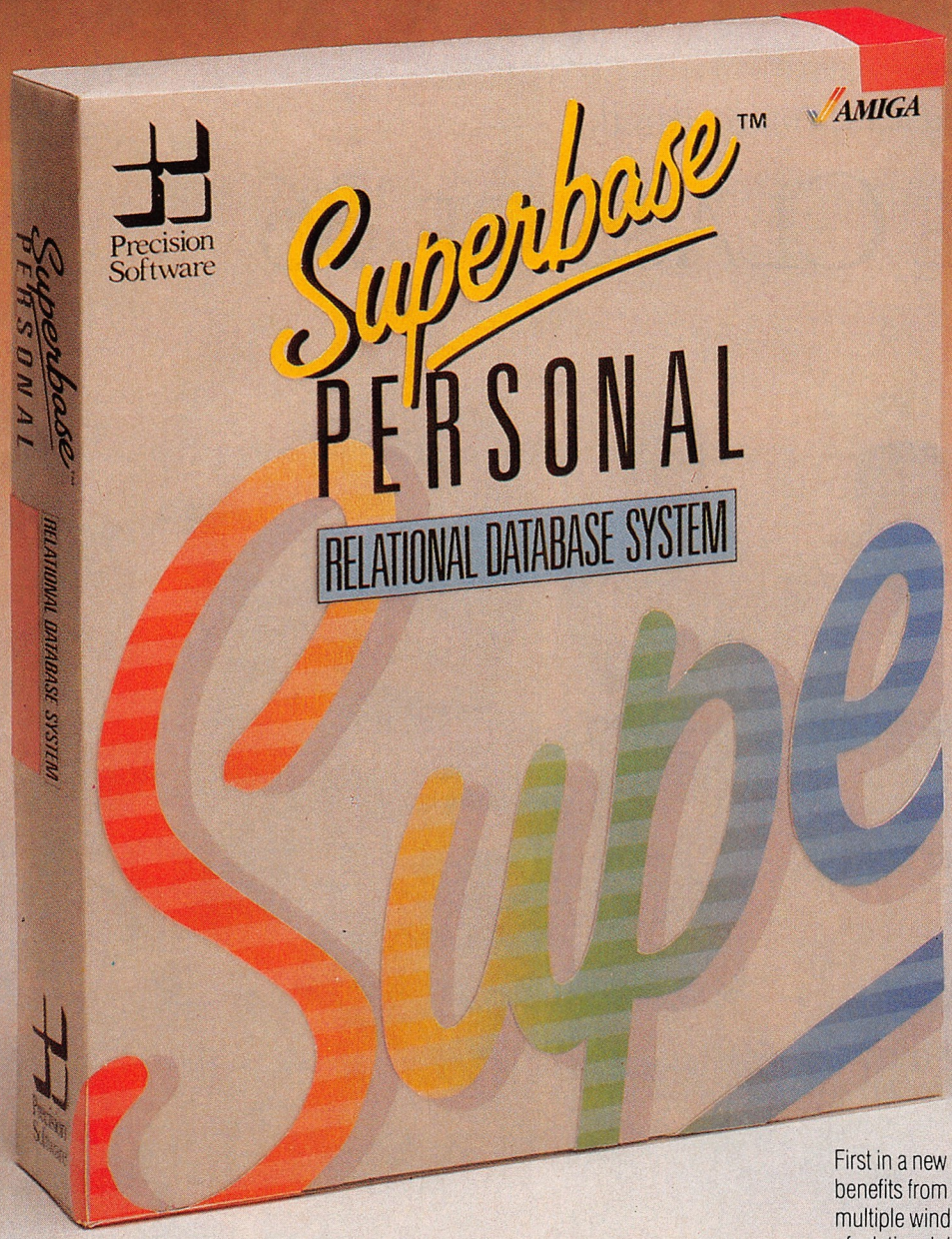

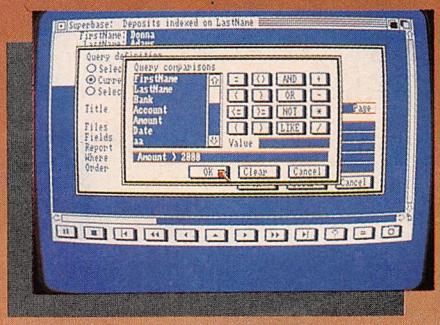

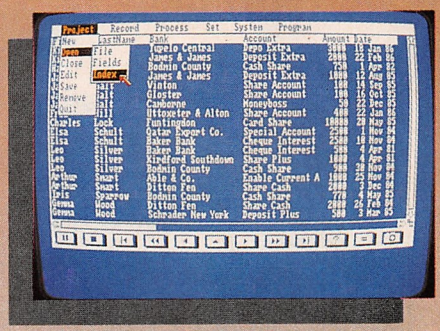

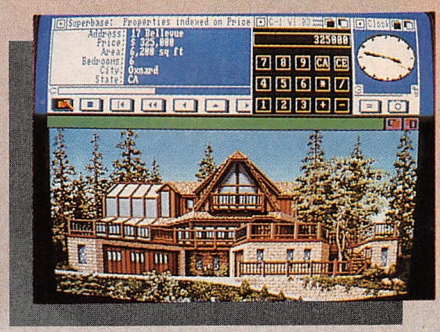

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Why Electronic Arts is Committed to the Amiga, Part II

THE CLASS OF '86

Last year, we challenged our best software artists with the audio-visual horsepower of the Amiga. They responded.

DeluxePaint is now the standard in personal computer graphics. DeluxeVideo is making "desktop video" a reality. Marble Madness is the first arcade game you can take home in your shirt pocket.

And that's just the beginning.

Brian Fargo
The Bard's Tale
The best new dungeon fantasy of 1986, impressively redesigned for the Amiga. See how ugly an ogre can be.

R. J. Mical (seated)
Co-designer of the Amiga has a top-secret game in the works. Can he really make the Amiga stand on its head?

Glenn Tenney
Adventure Construction Set
Build your own adventures. Or let the computer make them. Or play the nine built in.

Larry Reed
Marble Madness
Race marbles through wildly-colored 3-D mazes. Amaze your friends.

Rick Koenig (seated)
Grand Prix
See pixels fly at 250 mph. Hear the turbos whine. Taunt tailgaters in your rear-view mirror.

Damon Slye
Arcticfox
Tanks at war. Arctic storms with lightning. 3-D smart opponents. Rumbles.

Eddie Dombrower (seated)
Earl Weaver Baseball
The crack of the bat. The voice of the coach. The seams on the ball.

Moses Ma
Next generation typing instruction. Built-in artificial intelligence gives your fingers tips.

R. D. Rosenberg
DeluxePrint
For full-color greeting cards, stationery, calendars, and more. What you see is what you print.

John MacMillan (seated)
DeluxeMusic
Desktop music publishing. From keyboard to sheet music in minutes.

Dan Silva
DeluxePaint II
A feast for the eyes. With perspective, pattern fill, stencil, anti-aliasing and much more.

Tom Casey (seated, without co-designer Mike Posehn)
DeluxeVideo
Special effects. Slide shows. Animatics. Rock videos. The sky's the limit.

Bob Campbell
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Jam with digitized instruments. All music, no mistakes.

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OCTOBER 1986

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Lattice C Version 3.10

Few professional programmers involved with the AMIGA need any introduction to the **C** compiler from Lattice Inc. Not only was it the first low-level compiler to be provided for software developers but this particular **C** compiler despite claims from its competitors, remain the only one that provides *full access* to the functions and features of the machine. This is reflected in the popularity of the product among programmers where Lattice **C** continues to considerably out-sell the competition. Couple this with competitive pricing and official support from Commodore-Amiga and it is easy to see why. The previous version (v3.03) has now been replaced by version 3.10 with immediate availability. However, unlike most version updates which are merely a debug of the previous issue, this product update contains several new and valuable features.

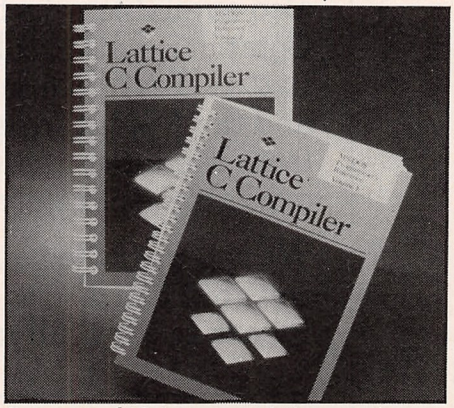
The first things that the new purchaser notices are the inclusion of two disks rather than the previous single one and a manual vastly increased in volume and scope. The manual has been completely rewritten and updated in the light of operating experience and product enhancements and now runs to more than 400 pages. The first disk is a bootable system disk containing the executable programs. The second disk contains the Lattice and Amiga header files and libraries, source files for some of the routines in the Lattice run-time support library together with some example programs written in **C**.

The new library now contains a further 100 functions than the previous version and new addressing modes, along with increased modularity of the libraries which means a reduction of load module sizes in the order of 20%. The maths functions have been completely overhauled and feature very much faster floating-point and integer calculations, improvements to the IEEE floating-point routines and the long awaited direct support to the Motorola FFP libraries. Support is also extended the multi-tasking facilities.

One of the strongest criticism's made by software developers was the length of time the Metacomco Linker took to execute. Unfortunately some of the *fallout* from this fell onto the **C** compiler despite reassurances from Lattice that the fault lay with the linker. Lattice decided to break away from the notorious **ALINK** with its object file format and use one developed elsewhere. This linker is named **BLINK** (presumably the next version will be called *PRISON* rather than *CLINK!*) and was produced by the Software Distillery Inc, although it is marketed and fully supported by Lattice. **BLINK** addresses the problems of linker speed and is a worthwhile improvement on its predecessor.

In addition to the new linker the other noticeable inclusion is a 68000 macro assembler. This, together with single command line execution of compiler, librarian and linker make up a very usable package. Thus purchasers now have a complete development system with this product and can avoid the hassle of dealing with several different suppliers — with each blaming the other for the failure of the programmers code to compile! So what are the differences?

The standard header files have been modified to include argument types in their external declarations. A completely new header file *STDLIB.H* contains declarations for functions not covered in the other standard header files. The compiler now consults the AmigaDOS logical name *INCLUDE:* to locate files mentioned on *#include* lines. A large number of new options have been added to the compiler. For example, the inclusion of a *—e* option which recognises extended characters sets — useful in foreign language applications such as Japanese. Another option allows the disabling of error messages for structure and union tags that are being used without being defined, an excellent time saving during the program development phase. Several of the compile-time limits have been increased, input line size and substitution text sizes up from 256



bytes to 512 bytes and the maximum number of macro arguments have increased from 8 to a maximum of 16 arguments.

Under AmigaDOS it is possible to specify which type of memory the program segments (*hunks*) were to be loaded into i.e. *fast* or *chip* memory. This version of Lattice now supports this making re-compilation of source code generated under previous regimes of the system software simpler. Loading times of *hunks* can be considerably reduced by the facility to merge similarly named *hunks* although this can be at the expense of efficient memory utilisation. The availability of symbolic debugging tools such as METASCOPE is taken into account with another compiler option which allows the inclusion of symbol data.

I mentioned earlier the support lent to the Motorola *Fast Floating point* maths routines although it is still not possible to merge code containing this with the IEEE floating point format — no doubt a large sum of money awaits the programmer who can implement this! Another option allows the compiler to generate data references as offsets from a base address register, a function more commonly known as *base relative addressing*. However, there are potential problems in using this option with such code that employs the **EXEC** *AddTask* function or is intended to serve as an interrupt-handler. This revolves around the use of the **A6** register which this option uses as data section base address register. Unfortunately, those tasks created with *AddTask* can place random values in register **A6**, although there is an option flag on the second pass of the compiler to solve this problem. At least can't say you were not warned!

The changes in the libraries has been extensive and many of the low-level routines have been improved. For example, the *ftell* function could not obtain the file position in translated mode and then reposition to the same spot using *fseek*. This problem has now been overcome by means of some changes in the *stdio.h* eader file. The *open* function now returns an AmigaDOS *file handle* rather than the UFB array index. Some of the new functions provide a very easy means for the programmer to access the AmigaDOS facilities — *getfa* obtains the file attributes, *getft* obtains the date and time information while *getcd* and *getcwd* get the current directory path.

Portability of code is a strong feature of the **C** language and this version of the compiler provides no less than 21 functions to provide closer simulation to the **UNIX** and **XENIX** environments.

One new feature which I found par-

CCI AMIGA USE

ticularly valuable was the automatic enablement of the *CTRL-C* keys. This now means that the usual situation of a program that appears to have compiled satisfactorily and runs seemingly OK until the user wants to end it and nothing happens — the program has taken over the machine. This is very, very frustrating since it means a time-wasting reboot in order to regain control. Modification of *_main.c* is needed to delete this feature which seems an eminently sensible approach to a repetitive and annoying problem.

Another peculiarity well known to regular AMIGA programmers is the *stack-overflow* syndrome. it is not possible to increase the size of the stack once the application is running, thus the importance of choosing the correct allocation from the system heap. Lattice have attempted to overcome this problem by using elements of Intuition to warn the programmer/user that a stack overflow problem has occurred. The reason why Intuition was selected for this purpose is related to the task in hand, for example some task will not use a standard AmigaDOS console window attached to them, whereas an Intuition requestor will always appear on the display. By soliciting a response from the user this allows incorporation of routines to either reset the stack if possible, or exit cleanly by closing files and deallocating memory. This assumes of course, that the programmer works to a high standard and allows for such events — unfortunately there seem to be a lot of sloppy programmers about these days.

A compiler purchaser is looking at four components — does it provide all of the facilities I am going to need, does it allow full access to the machine, is it supported by the supplier and is it competitive in terms of cost? This version of Lattice **C** directly addresses these four points and scores heavily on each. Existing users can upgrade to this version without paying the full retail price — the cost varies according to the country. Add to this the fact that Lattice have broken free of the reliance on the unloved AMIGA standard linker ALINK and object file format while retaining compatability with previous software demonstrates a company willing to listen to and act on behalf of their existing customer base. A polished, professional product which continues to retain its title as the definitive **C** compiler for the Commodore AMIGA.

Price: £345 (plus V.A.T.). **B.D.**

Supplier: Lattice Inc. PO Box 3072 GLEN ELLYN Illinois IL 60138 USA Tel: 312 858 2190

UK Distributor: Roundhill Computer Systems Ltd. P.O. Box 14 MARLBOROUGH Wilts. SN8 1LR. Tel: 0672 54675.

Amiga DTP

At last the Amiga can begin to compete in the newest of all major computer applications; desktop publishing, where everyone can be a do-it-yourself press tycoon.

PageSetter, the first DTP package for the Amiga, has just reached Britain from Gold Disk Inc. of Canada. It is not yet up with the pacesetters, PageMaker and ReadySetGo 3, for the Macintosh, the dominant DTP computer. But it's a lot cheaper and has great potential. With a little more polish, it could do for the Amiga what DTP programs have already done for the Mac — and make the micro an essential tool in businesses big and small.

Desktop publishing is one of those odd, rather meaningless bits of computer jargon that we all have to live with. Who wants to publish desktops? If the name is silly, the reality is serious. DTP is not just the first new application for years to join computing's Big Three of Wordprocessing, Database Management and Spreadsheets.

It's more the fourth horseman of the technological apocalypse, something that could change the way we live and work — just as the invention of movable type four hundred years ago changed the world, ushering in the industrial revolution by creating mass production.

As the '60s guru Marshall McLuhan wrote in *Understanding Media* "Typography created a medium in which it was possible to speak out loud and bold to the world itself. Boldness of type created boldness of expression."

DTP is giving back to the individual the sort of total control over the production of printed matter that no one has had since scribes gave up producing hand-lettered manuscripts in the Middle Ages. DTP provides access to all aspects of printing and publishing, from creating the text — whether it's a poem, a company report, a parish mag, or a handbill stuffed through neighbourhood letterboxes — to designing its appearance on the page and printing it.

At £150 PageSetter is a bargain. (PageMaker, the leading Mac program, costs £450, and programs just appearing for the graphically limited IBM PC are priced at around £900). It's the forerunner of at least half-a-dozen other Amiga DTP programs which are under development.

The first British program is likely to come this summer from Viza Software, a company long associated with Commodore computing, when it has finished VizaWrite Amiga, its word processor should have been ready last October.

That's taking longer than expected because its programmers discovered that such refinements as flashing cursors to mark your position in the text are difficult to implement on a multitasking computer. VizaWrite allows the use of the various fonts supplied with the Amiga and the incorporation of graphics created with such programs as Electronic Arts' DeLuxe Paint and Aegis' Images.

A rival, just out in the States, is ProWrite (New Horizons, $124.95), a word processor that allows you to use different fonts, coloured text and IFF colour graphics.

One of the encouraging aspects of the development of the Amiga is the way in which software houses have agreed on a standard IFF method of storing graphics, so that pictures created with one program can be loaded into another. It's how computers should be, but so rarely are.

PageSetter is probably the friendliest of all DTP packages, taking advantage of the Amiga's Intuition interface of mouse, icons and pull-down menus to create a program which can be used almost immediately, without reference to the manual. Which is just as well, because the manual itself is dire. It lacks an index, doesn't even mention all the facilities available and gives a passing reference (in brackets) to some of the best features.

PageSetter comes on a single unprotected disk, which also contains two utility programs — one prints documents without loading PageSetter itself and so saves on memory. The other converts finished pages into IFF format so that they can be loaded into other graphics programs.

The entire program, which switches between three screens and includes a word processor and a simple graphics editor, is held in memory. This makes operations extremely fast, but means that there's not much memory left on a standard 512K machine. There's just room to create one or two pages at a time, although the program itself will let you work on up to 99.

One disappointment is that the program is monochrome, making no use of the Amiga's 4096 colours. It is compatible with any printer included in the Amiga's Preferences and Gold Disk recommend an Epson or compatible dot-matrix printer.

A page takes around six minutes to print so you'll need to use a photocopier to produce documents in large numbers. PageSetter doesn't yet support PostScript, the language used to drive most laser printers, which rules it out for high quality professional use.

PageSetter's strength is not merely that it is easy to use. Gold Disk's designers and programmers — Kailash Ambwani, Arno Krautter, Paul Chafe and Eric Weigel — have adopted the best solutions to the difficulties of desktop publishing.

The first is how to cope on a small screen with designing a page that can be any size from 2 x 1 inches to 8.5 x 14 inches. PageSetter does it with three different levels of magnification. The first shows the whole page in miniature, occupying a quarter of the screen. The rest of the space is taken up by a blank "art board" with a dustbin at the bottom and a icon-driven "toolkit" menu down the right-hand side.

At this size, you can create the basic layout for your page, deciding on the placing of margins and the number and size of the columns of text and illustrations. If things don't work as you'd hoped, you can drag elements of your layout off the page and store them on the art-board to retrieve later — or dump them in the dustbin.

The second degree of magnification shows most of the page at the size it will be printed. At this level, you can read headings, but not the body of the text, and see a rough rendering of the illustrations. You can scroll the page in any direction.

At the third level of magnification, a pixel on the screen represents a pixel on a printer so that what you see (an eighth of a page at a time) is what you get. Switching from one level to another is accomplished by clicking the lefthand mouse button on the toolkit icon of a magnifying glass and takes a second or two while the screen is redrawn.

The second difficulty is physically handling text and graphics as well as design. PageSetter does this by having

three screens — one for page layout, and separate ones for editing graphics and text.

Graphics are the weak point of the program. The graphics editor itself is a simple but reasonable art program. You can grab any portion of a graphic and use it as a brush. You can also draw circles, ellipses and triangles, fill shapes with 16 different textures, draw lines in eight thicknesses, manipulate text, and magnify the graphics to add or remove fine detail.

You can also load any illustrations in IFF format, which means that you can make use of the increasing amount of art available on public domain disks or of drawings from Deluxe Paint, Deluxe Print and similar programs.

The quality of images brought in from other programs is variable, since most are in colour and PageSetter converts them to monochrome. Also available are thirteen screens of ClipArt, which consist of rather dull line drawings of toys, animals, sports equipment and suchlike.

The real problem is one of size. A full-screen illustration in the graphics editor shrinks to something about 5 inches wide and 3 inches deep when transferred to the page.

You can make illustrations bigger or smaller within the graphics editor, but whatever you do, you're stuck with something small on the page. This reduces graphics to a very subsidiary role, as decoration rather than information.

If you want to produce a page with graphic impact, you'll need to leave a space to stick down artwork or a photograph. What is urgently needed is a "size to fit" function so that the graphic will automatically fill a predefined box of any size.

Transferring the graphics to the page is achieved neatly enough. You clip the graphic by putting a frame around it, choose "Exit" from the menu and are instantaneously returned to the page, where you click the graphic into position.

The text editor works in a similar way. You can load text from such word processors as Scribble! or TextCraft, or you can type it within the editor, which has standard word processing functions such as Search and Replace and the manipulation of blocks of text, which can be moved, copied or deleted.

You can also add formatting commands to change the appearance of your typeface, choosing between bold, italic, underline, outlined, shadowed, or reversed simply by typing a backslash followed by the first letter of the command — so typing "\b" sets the following type in bold and "\n" returns it to normal setting.

The typefaces available are those supplied with the Amiga, except that PageSetter offers more sizes. The large type-size is 20 point, available in Diamond and Emerald. And that's simply not big enough for most headings. You can enlarge the type in the graphics editor, but the result can be ugly.

Anyone who wants to create effective publications with PageSetter will need to invest in at least one of the three volumes of Zuma Fonts, available at £29, which each contain three different typefaces in many sizes.

Text can be set centred, flush left or flush right or justified with straight left and right margins. You can micro-justify the text — that is, adding spaces between the individual letters of the words as well as between the words themselves. An extra refinement is "leading", defining the amount of space left between each line of text, which can be a useful method of getting text that would otherwise fall short to fill a particular area.

If you set justified text in newspaper or magazine-styled columns, long words will need to be broken, or hyphenated, at the ends of lines. PageSetter permits "soft hyphenation" — if you add hyphens to long words, then it will use them when necessary. It's probably quickest, though, to do this after you put the words in their columns since moving from page to text editor and back is a speedy process.

box, which can be of any size.

A box either contains graphics or text in one particular size of type, although you can mix bold, italic, shadowed, underlined or outlined styles together.

Typically, you'd create a small box to hold a headline in a large typeface and, underneath it, a larger box to contain text in a smaller type. You can have as many boxes as you like on a page and they can overlap each other.

Boxes are more powerful devices than mere containers for text or illustration. By clicking on an icon of a chain, boxes can be linked together over several different pages. Then, when you enter text into one box, it will flow to fill other linked boxes. If you alter the text in one linked box, it will be re-formatted in all. You can break links as easily, simply by clicking on a broken chain icon and then clicking in the box.

The final hurdle that any DTP program has to surmount is creating a simple but flexible method of designing pages. Here PageSetter succeeds brilliantly with its concept of "boxes", which work in the same way as the Amiga's windows. You click the lefthand mouse on the page layout to drag out a rectangular

You can re-position or re-size boxes at any time, which can be an especially effective method of clipping graphics to the right size. Graphics can also be moved within the box itself.

Boxes can be transparent, so that one box placed over another will not obscure the other's contents, which can be useful when putting text on graphics, or opaque, so that one box obscures another. You can add 16 different background shades, use five different kinds of borders and a shadow effect.

And if something isn't to your satisfaction in a box, clicking on the Edit icon will take you back to the text or graphics editors — depending on whether you were dealing with words or pictures — to put it right.

You can specify in inches or picas (a unit of measurement in printing which equals a sixth of an inch) the size and the number of columns you want on a page. The page is then automatically drawn with the columns in place so that you can see exactly where to put your boxes. An "autobox" feature then lets you fit a box to the column without having to draw it.

There are a number of useful visual aids: you can toggle between visible and invisible margins and boxes, have a ruler in inches or picas around the top and side of the page, turn on a grid in various sizes and use a "snap" option so that the boxes you draw will be positioned on the nearest grid line. And you can switch on co-ordinates to show the precise position of your mouse-printer on the page.

It has taken the programmers of ReadySetGo three versions to get it right for the Mac, so perhaps we shouldn't complain too much about the deficiencies of this first version of PageSetter.

Its great drawbacks are its inability to generate large-scale images — essential for meaningful graphs and charts — and to produce high quality results from a laser print.

It can't handle super or subscripts (and if you want a £ sign you'll have to draw one!), doesn't have automatic page numbering, won't set type in any shape other than rectangles, has limited fonts and lacks an editor so that you can create your own.

On the plus side, PageSetteris powerful, simple to use, and the concept of boxes that can be shifted and re-sized make it easy not only to design complex layouts, but to rectify any mistakes. For the moment, that will be enough for many users.

J.W.

Price: £150
Contact: (US) Gold Disk Inc., P.O. Box 789, Streetsville, Mississauga, Ontario L5M 2C2.
(UK) 64 Software Centre, 1 Princeton Street, London WC1.

Playing the Amiga

Zack Skinner looks at Amiga Gamesworld

The problem with games on the AMIGA is in the eyes of the beholder. What do we expect? What exactly do we want? Probably what we expect is real 'AMIGA games'. Of course, what we really want is a game that uses the knock-you-off-your feet graphic and sound capabilities of this wonder computer. We hope the games will surprise, astonish and delight us in the way we are sure they can, yet games on the AMIGA have hardly done that yet.

'Aha!', I hear you cry, "what about the rave review Commodore Business and AMIGA User gave 'Defender of the Crown' in its last issue? Wasn't that game the answer to a maiden reviewers prayer?" Well, yes, I'm not knocking it. 'Defender of the Crown' has its attractions. It has the first really clever and spectacular games use of AMIGA graphics. It made anything on other 68000 machines like the MAC or Atari ST look very inferior indeed. It attracted, at the UK Commodore Show, enormous admiring crowds. Somewhat to their alarm, high-ups at Commodore, having previously struggled to present the AMIGA as a state of the art business machine, admitted that this game was selling more AMIGAs to people who were terrifically impressed by Mindscape's wondrous graphic 'Cineware' game than anything CBM marketing had previously done in the business line. Mindscape are reputed to have produced — and sold — the largest single shipment of any AMIGA product as far — 20,000 Defender of the Crowns. A million dollars worth of it at one go... certainly not a game to be scorned. Mindscape are pressing on with more AMIGA 'Cineware' games. Next is to be 'SDI' — which, we are told, may not beat 'Defender' in impact but then comes 'King of Chicago' written by 'Defender's' creator and which is reputed to be something to take your breath away or knock your socks off — a real AMIGA game.

Yes, 'Defender' is a very successful production. But perhaps that is because it did have something special — some delightful graphics — pictures to illustrate what otherwise was, it must be admitted a pretty conventional medieval strategy game. Not a bad one but probably even its creators would not claim too much for it as a *game*. Anyway, what was it competing against for judgement?

Which is the nub of the matter. If you are an established Commodore owner, the probability is that you have a 64 or 128. Other CBM computers exist but not in such great numbers. It has been estimated that some *5000 professional* programs have been written for the 64 (and, of course, the 128 in 64 mode); most of them games. Some terrific creative ideas have been carried out, from arcade conversions like Gauntlet to original high speed shoot 'em ups like Paradroid, Combat games like International Karate and 'Fist', Simulations from Microprose like Silent Service and Gunship, Strategy games from SSI, Adventure games from Infocom, even oddities like Marble Madness, Ultima, Alter Ego or Little Computer People. With a 64 the games world is yours. (CBM are welcome to that as a slogan. It's about 2 years too late though)

Now, along comes the AMIGA, around 18 months old in the US and celebrating its first birthday elsewhere, and what have the games players got?
Not... Very... Much... No, not a terrific lot.

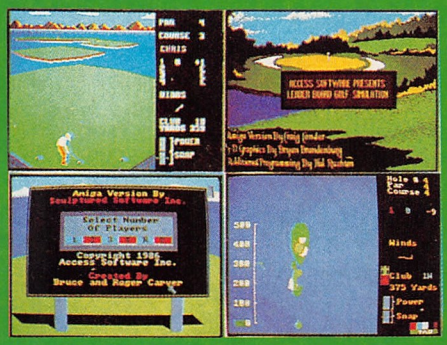
Virtually every game available on the AMIGA is a straight conversion from the 64 range. Only a tiny few quite exceptional games like the extraordinary Mindwalker or 'Defender' stand out. The rest are merely a few degrees better in graphics than their 64 versions but fundamentally remain the same.

Now is this wrong? Well, if you had a 64 and you've bought an AMIGA you might well scream with frustration. Of course, you probably did not buy your AMIGA to play games on but it is an article of faith at CCI that *everyone* will, if they get the chance, play a game sometimes on any computer. So you could feel deprived, get out your trusty 64 and plunge happily back into the gameplay mode.

However, how many AMIGA users were already 64 owners? Probably not as many as you might think. Of the 200,000 or so AMIGAs that have now been sold worldwide, what percentage were previously non-Commodore owners? Nobody, not even CBM, knows that answer. Though I bet they'd like to! But now, with buyers snapping AMIGA 1000s on the strength of 'Defender' and a still wider games playing audience likely to be found by the new 500 (at around $599 or £500 ish) many, many, more once-upon-a-time or even still active 64 owners will be attracted to the AMIGA. And what awaits them and their uncontrollable playing urges? Worldgames, Leaderboard, Temple of Apshai, Little Computer People. .Just a moment aren't those names somewhat familiar? Yes, every one of them an ex-64 product. Ah, but of course, Epyx, Access, US Gold, Activision have transformed their good but perforce 64K limited games into the wonderous world of the 512K AMIGA. Haven't they? Like hell they have! Each one of these games has the sharp, impression colours that the AMIGA glories in, and that's it for the wonder computer, for each one plays virtually the same as on the old 64.

Now for those first time Commodore AMIGA owners, the reply is 'So what?'. They have an undeniably good game — Leaderboard is certainly not *losing* in quality on an AMIGA! — and if it is not supremely using all the potential AMIGA magic, well that doesn't make a good game bad, does it?. Of course, for the professional — the journalist or reviewer who has seen it all, it's pretty ho-hum... 'I told you there wouldn't be the software', they can say knowingly. Yet, for those with unclouded memories, the early years of the 64 saw something of the same problem. Even though the 64 after the VIC was like swimming in the ocean after a swimming pool, it took time for the familarity of the machine to spread wide and deep, for the programmers & developers to splash out and produce the ideas, the imagination — and the Imagines — that could bring outstanding creativity to bear on the highly profitable games market.

The AMIGA is a much more complex machine than the 64 and will take longer still to dominate and exploit. And, as yet, there are few signs that it is really happening. Developers have been slow. CBM itself, partly due to its financial plight, has taken practically no part at all. In developing big selling entertainment software. Except for the odd case of Mindwalker which seems somehow to have passed into CBM's keeping and, if CBM had any sense it, wold be presented free, to every AMIGA buyer and the author commissioned to fulfil his undoubted genius on any subject he or she chose. (Mindwalker II now there's a truly mind-boggling prospect!)



Leaderboard — U.S. Gold. Price: £24.99

So the AMIGA games problem is really a matter of expectation. If we are ex-64 people we probably expect more than we are likely to get yet. If we are new AMIGA owners, it can be, however, still a great new fun games world. Buy the games? If you've got them already on the 64, no. If you've only (only?) got an AMIGA to play them on, definitely, yes.

Make no mistake they are mostly good games. We looked at six out on the AMIGA now — not counting: Leaderboard, TassTimes in Tonetown, World Games, Little Computer People, Shanghai and Temple of Apshai.

Leaderboard is undoubtably an exceptional sports simulation. It is not protected but you need a dongle plugged into the rear mouse port. Leaderboard gives you the chance to get the feel of a golf course, playing out different levels from amateur to pro. You can play alone or in competition with up to 4 players. You have a choice of club, distance, type of shot (hook, slice, putt etc). It has a practice driving range and a choice of courses. It is certainly fun. It gives several hours of entertaining competition even if you're not already a golf fanatic but it has its faults. The greens don't need much mastering as they appear very similar each time, so it's just a question of finding the strength of shot and the aim up the slope.

Claims by magazines (quoted on the pack) no doubt anxious to please their advertisers that it may be 'the sports simulation of the decade' are clearly exaggerated. The vivid AMIGA colour makes it a sharper and gives it a slight graphic advantage over the 64 version. Otherwise, we could detect little difference. Golf being of world wide interest, we'll bet that you will see a AMIGA golf simulation not too long in the future we hope (maybe a real AMIGA conversion of Golf Construction Set?) that will make Leaderboard look very outdated indeed.

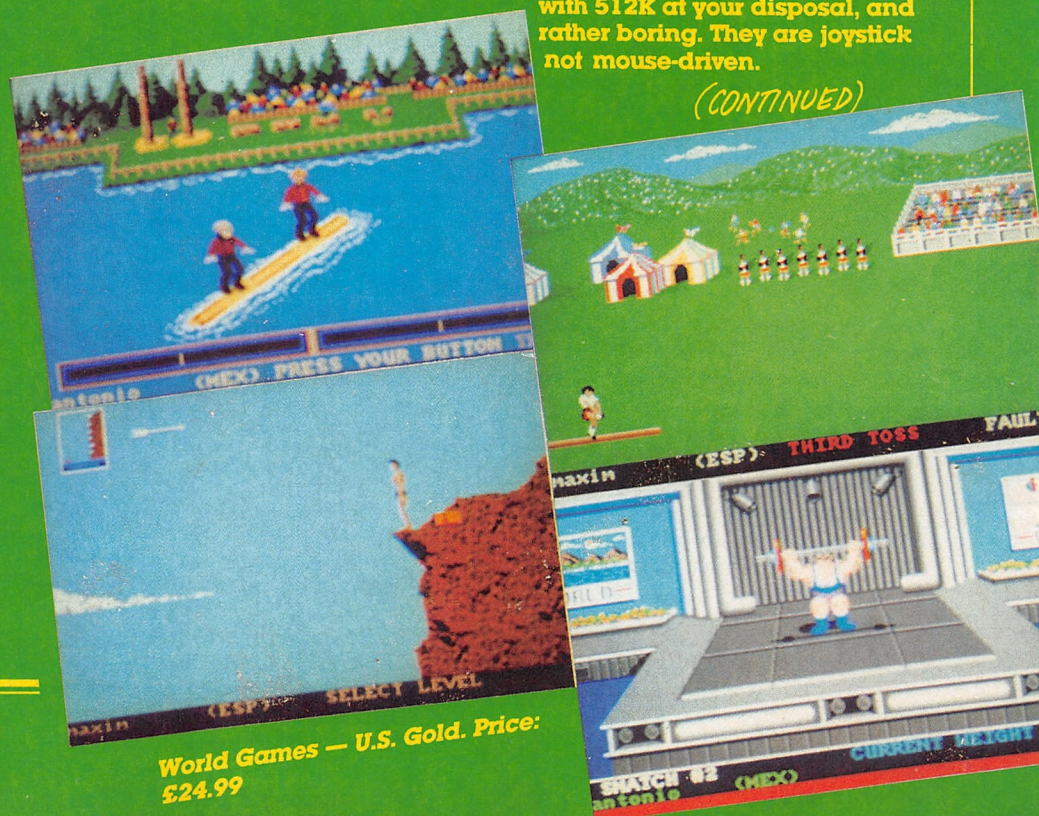
Now TassTimes in Tonetown is a very good adventure and last year's CCI Oskar winner in its class. Ah yes, on the 64. It's certainly no worse at all on the AMIGA. It has style and intelligence that keep you trying hard to disentangle its twisted clues and logic. It is, as many people will know, the story of trying to find your rather odd scientist grandpa in another dimension. You encounter characters not unlike the inhabitants of that 'alienated' bar in Star Wars and some of them have large teeth and are better avoided if you don't want to start the game over. We found 'TassTimes' excellent entertainment, always a challenge to our intelligence and once again with the extra AMIGA sharpness of colour good to look at.

Tass Time in Tonetown —Activision. Price: £24.99

World Games has come to be considered a classic of its kind; one of the most successful "sports compliations to appear on computer. Epyx are famous for this kind of high performance games software and "World Games" does their reputation no harm. It is a game that once started is capable of getting you back to the screen time and time again. It is, to employ that overused word, addictive.

The eight sports it offers are not the most obvious as international events. They are Weight-Lifting, Barrel Jumping, Caber Tossing, Log Rolling, Cliff Diving, Slalom Skiing, and, believe it or not, Sumo Wrestling (for the Japanese market, I suppose) Each game loads separately, which is unnecessary with 512K at your disposal, and rather boring. They are joystick not mouse-driven.

(CONTINUED)



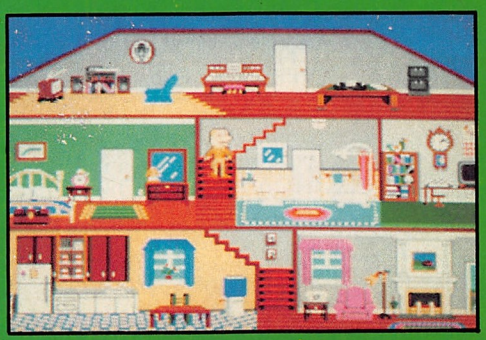
World Games — U.S. Gold. Price: £24.99

Playing the Amiga *Continued.*

But they are all capable of interesting you and keeping you at it to climb up into the higher scores and on to the gold medal places. Especically, if you are playing in the multiple player options against tough, unscrupulous opponents. In this office the opponents are not just without a scruple to their name but have taken to cheating as a way of life! And the evening we ran World Games, it nearly ended in curtains for the unnamed person who was representing Spain!

All these games, even the Sumo Wrestling, require quick reactions and as much practice as you can afford. "WG" has the well-known neat touches like the national anthems of the different countries, the caber falling on the unfortunate thrower's foot, the barrel jumper landing badly, falling through the ice and going blue and the Weight-Lifter cleverly adding to his bars. Frankly, the graphics are lumpy, childishly created and disappointingly, on the AMIGA almost no better than the 64. Yet once again, you can be captured by the challenge of these, quoting Epyx, "events the Olympics forgot". Just the fun of competing, of trying to beat the natural disadvantages and electronic obstacles of computer-based sport with no more than the clumsy human hand can certainly make it all worthwhile.

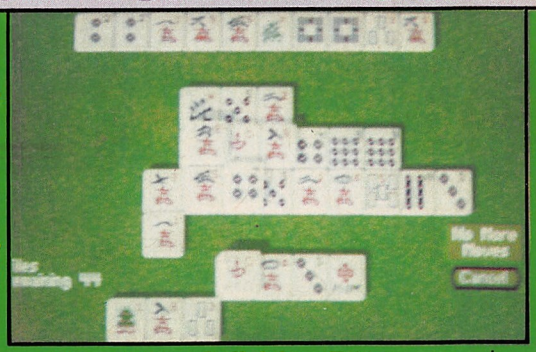
Now Little Computer People is rightly a cult game. It never, I believe, really hit the really big seller list outside the US (with the possible exception of Spindizzy what Activision game has, since Ghostbusters?) but there are people who since its introduction in 1985 regard it as unequalled entertainment. It is certainly an oddity, and has that fascination that makes you watch the little monster who takes over your screen with reluctant but unavoidable loyalty. You may not like the little so and so, I frankly cannot stand the arrogant uncooperative little swine — but you will always want to find out what he is going to do next. For anyone (is there anyone?) who doesn't know the plot... When you boot up the disk a house appears shortly to be inhabited by a small human — like figure. He first of all spends some time inspecting the property and if he likes it, moves in. Really nice of him... You can, at first, have no effect on his actions. The keyboard is frozen until he has moved in but later you can influence him by petting him (I kid you not!) by means of an extending hand or by giving him presents like records and so on. I personally would like to give him a present of a kick up the... Well, no doubt that would send him off in a sulk or up to the third floor to watch TV sullenly. He even leaves the TV flickering on when he goes down stairs. Doesn't he know about saving energy?



Little Computer People —Activision. Price: £34.99

My impression is that he moves more quickly in the AMIGA version but his general behaviour is the same as the 64. I understand that there is one version where he goes up into a cupboard and comes out wearing girl's clothes, which doesn't make me like him more. If you know someone who has an AMIGA whom you wish to drive mad, 'LCP' would make a great birthday present. It's a brilliantly developed program, an acutely intelligent piece of work. I hate it!

Shanghai, is, I think, very close to the ancient Chinese game of Mah Jongh. A distant cousin of dominoes, you have to remove tiles from a carefully constructed (random) pile. You must match the varied tiles, illustrated with seasons, numbers and other symbols. When you match one tile with another (the AMIGA lights them up), each must be free to move, nothing resting on them, or you cannot remove them. The game offers a number of options — playing alone (solitaire) or against other players or the computer (not advised!) There are 144 tiles laid out in Dragon's Formation. The positon of every tile is random so you never get two 'Dragons' alike. You can ask to go back and move or look under a tile (and you lose!) or advice on the next move.



Shanghai — Activision. Price: £24.99

Shanghai is excellent fun to play but its demands on the AMIGA (except for memory) are almost nil. But that doesn't stop it being enjoyable. It's a game that is always challenging and is a real time killer (if that's what you want to do with your time!)

Temple of Apshai — U.S. Gold. Price: £24.99

Temple of Apshai Trilogy. Oh dear. This is where the failure of 'AMIGA Imagination' shows most. When it was written it was good run-of-the-mill (or in this case 'run of the castle!) D'n D style strategy game. Your little brown sprite-type plods away through the maze-like castle buying weapons, attacked by spiders, losing energy etc etc etc. It's flat on the screen and flat on the mind. On the 64, well, it was OK-ish. Hey, but this is, believe it or not, an AMIGA... and we have seen 'Defender of the Crown'... Not an unsimilar strategy game but with all those marvellous graphics (including that moment when the heroine shows (and I do mean shows) her gratitude to you. Nothing like that in ' T of S'. It all makes 'Temple of Apshai' look like something off a 1K Sinclair. Someone should take this, address it to Rip Van Winkle c/o US Gold and say, we're in 1987 and we've got AMIGAs — which is a whole new — if not ball — at least strategy game.

I know, that out there something is stirring in the AMIGA game undergrowth, that suddenly all those glorious AMIGA games are going to pour down on me like tropical rain. The colours will be rainbow bright. Their speed will be *faster* than light. Their sound will be sweeter than instant music to our ears. The sheer excitement they will bring will be — well I leave *that* to your own imagination. They will combine our dreams, with that very special AMIGA magic. They are out there. Those totally awesome AMIGA games are coming, I feel it in my bones, But I suppose I'll just have to be patient for a while yet — and so will you.

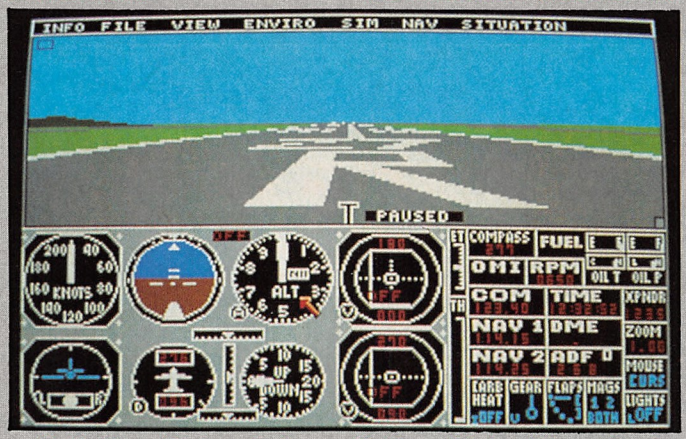
Z.M.S.

Flying the Amiga

Maybe one reason why there has not been that much games software developed on the AMIGA that uses its exceptional qualities (see previous pages AMIGA games story) is the fear of developers that someone who can afford to pay four figures (dollars or pounds) in cash for a computer may not be a teenage gameplayer. This was also true of the IBM PC and compatibles when those machines began to be sold in large numbers. Even with the falling prices of the PC clone such a machine is a four or five hundred dollar or pound job. Who is going to buy that to run games? THe answer turned out to be in the U.S. anyway, a hell of a lot of people.

So SubLogic came up with the PC Flight Simulator. Not so much a game, more a way of life . . . A best seller simulation that makes most others look like cheapo arcade games, Flight Simulator has become such a classic on the PC that grown men — its mostly men who dream of being pilots — are known to allow it to become a constant and all-absorbing factor in their lives. They've got to have their daily flight — or there are withdrawal symptoms.

Now, there is an AMIGA version — or to be exact a 68000 version for it almost precisely the same, not just as the PC, but the Apple version which came out first. None the worse for that, it is extraordinary in its power to trap you in a simulated but totally believable flying environment.



FL II offers 47 aircraft characteristics and multiple windows that show you out-of-the-cockpit and control-tower views using a 3D flight display. It gives you extensive flight control for which you use the mouse or keyboard.

Flight Simulator II features graphics that closely simulate a pilot's actual perspective. The "68000 Precision Graphics Driver" presents solid-modeled images with hidden surface elimination and surface shading.

It simulates two types of aircraft a single engine, high performance propeller driven aircraft Cessna 182, and a business Learjet. The Cessna 182 simulation presents the feeling of flying this particular aircraft in a reallife situation. The business jet simulation is designed more for fun than realism.

All I can say about SubLogic's Flight Simulator is that unless you are a pilot you will probably never get closer to the feeling of being at the controls of a plane. If you *are* a pilot you will appreciate just how faithful a representation of flying SubLogic has achieved.

Just one thing, this is not a piece of software you will buy and use for a few days (it is unprotected and they advise you to take a copy straight away). It has a 130 page manual which you really should read to be able to fly this thing. There are so many instruments and tricks to it that it will not only take you days and weeks to understand, it will take you even longer to master — and even then there will be new tricks and ideas you will learn or want to try. For a sense of total reality it only lacks one thing — to be able not to use the mouse but a joystick. No, not a plastic games joystick but the genuine steel joystick that pilots use in the cockpit of a plane. With one of these and FL II, you would really fly your AMIGA.

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MiAmiga LEDGER

At the present time there is no other 68000-based personal computer that can offer all of the facilities combined within the price range of the AMIGA A1000.

I can vouch for this from personal experience as my A1000 system is more than 15 months old and **every single component of this system has functioned without any fault whatsover.** It is very rarely shut down and is running 24 hours a day, 7 days a week — testimony to the robustness and inherent reliability. A telephone conversation with both Commodore UK and their service-maintenance contractors confirmed the view that very few AMIGA's go wrong. Those that have failed in service generally have been the result of accidental damage by the users caused by incorrect electrical connections or mechanical damage viz. dropping and breaking components.

Robustness of software should be no different and it is crucial in an accounting application that the software demonstrates a similar level of reliability and solidity. Probably the most important requirement is that there must be no way the software can crash. The effects of the system going down when the user is merely doodling with a paint package are insignificant in comparison to the effects of losing a file containing a list of creditors.

MiAmiga Ledger is one of the first general ledger packages to appear for the AMIGA and comes from the same stable as the popular MiAmiga File. Indeed, the similarities between these two extends beyond the visual appearance since files are transportable between the two applications. The product is supplied on a single disk and is easily installed on to a hard disk unit. Where the machine in use has an expanded memory then MiAmiga Ledger will make use of this for storage of transient data while the application is running. There is a minimum requirement of 512k of memory for this software.

The package is designed for use in either the home or a small business and functions as a double-entry bookkeeping and accounting system. All accounting transactions are entered into the system as journal entries containing debits and credits. The journal entries are then posted to user-defined general ledger accounts. This information is then able to produce financial and supporting reports.

The reports are quite comprehensive and should fulfill the requirements of most users. In those situations where the data needs to be consolidated with other data there are no problems since the format of these report files is ASCII. This means that a user could send the data into a powerful spreadsheet such as LOGISTIX and display the results in graphical form.

The size and number of accounts within a MiAmiga Ledger database is dependent on the amount of available memory since the database is held entirely within the system RAM. This has the advantage of enhanced operational speed although this could limit other applications on a 512k machine. The user may have several MiAmiga Ledger databases running simultaneously although access is restricted to only one at a time, thus the database is not relational.

The manual supplied adequately covers the computer aspects of the operation and also discusses basic accounting principles. Sensibly, the author makes it clear that the reader should refer to an accounting textbook for further details of bookkeeping and accounting procedures although he (she) fails to mention that it would also be a good idea to inform and involve your accountant in any project of this nature. The manual contains some useful appendices with helpful suggestions as to the setting up of account headings — always tricky since whenever I have to do it I invariably leave something important out. The menu structure of MiAmiga Ledger looks like this:—

Desk	File	Column	Select	Sort
	Open	Show	By Example	Low to High
	New	Hide	By Range	High to Low
	Save	Left	All Accounts	Single Account
	Abandon	Centre	Selected Accounts	Progressive Accounts
	Status	Right	All Journals	Single Journal
	Memory	Format	Selected Journals	Progressive Journals
	Quit	Rename		
		Show Accounts		
		Hide Accounts		
		Show Journals		
		Hide Journals		

Process	Print
Post Journal Entries	Chart of Accounts
Close Current Period	Journal Entries
Close Fiscal Year	Trial Balance
Install	Balance Sheet
	Income Statement
	General Ledger
	To Printer
	To ASCII File
	80 Columns
	132 Columns

You will note that the emphasis is on sorting of the data and this is accomplished very quickly with a variety of options available. Screen format control is also a strong feature of this package and this too operates at high speed — a reflection of the dedicated graphics hardware. The *status* and *memory* options are useful for monitoring the rest of the system during intensive operations. The printer control and selection is done using those printers defined with the Preferences file, thus most users should experience few, if any difficulties in this area. No problems were encountered with running MiAmiga Ledger with a 68010 processor and installation onto my hard disk was painless.

The first problem I encountered was printing an ASCII report file to disk — the software does not prompt for a file name and defaults to a generic *"Ledger.TXT"* file name. This means that any existing report file is overwritten thus when printing a sequence of files to disk. It was necessary to have a CLI window open and rename the report file before initiating the next file. Easier access to AmigaDOS in the way of directories and file pathways would certainly help. The only other problem was the $ dollar sign. Hope this will be rectified in the next release of the product.

Overall I would summarise MiAmiga Ledger as a fast, robust, simple-to-use bookkeeping package. It manages to accommodate and satisfy the requirements of the three major categories of potential users i.e. accountant, computer user or a person who has skills and knowledge of either.

B.D.

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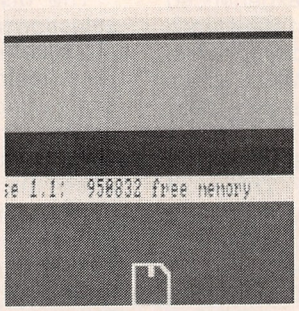

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Alegra Memory Expansion Unit (512K/2M)

By Access Associates

Expansion

Before I received my Amiga all I could do was lounge around thinking of all the wonderful things I would be able to do with 512 thousand bytes of memory. 1 week after I received my Amiga I learned the horrible truth. 512K is not enough! It's ok if you only want to play games and run simple business programmes but when it comes to writing your own programmes or making the most of some of the top of the range programmes you just don't have enough memory. There are several memory expansion units available on the market at the moment but most of them are 2 MB and have a price tag to match — typically £700 — £900. The basic Alegra unit, however, is only 512K and is less than half the price. Half the price for a quarter of the memory? It doesn't sound too much of a bargain does it? However, there are a number of reasons for still going for the Alegra. 1) The initial cost of a 2 Meg unit may simply be too much. 2) The Alegra can be upgraded to 2 Meg at a later date using 1 megabyte drams. I would guess that it would cost in the region of £450 — £500 to purchase the necessary chips at today's prices but as memory prices are tumbling downward on an almost daily basis it could soon be down to a less heart grabbing figure. 3) It is the smallest package available with a footprint of only 3/4" (19 mm) and in my house desk space is at a premium.

Installation

To install the Alegra you need to remove a small screw at the rear. This releases the cover. It can then be plunged into the expansion slot on the rightend side of the Amiga and secured with 2 selftapping screws that are supplied with it. Pop the cover back on and that takes care of the hardware side. If you are using Kickstart 1.2 (not available in the UK at the time of writing) you need do no more as the Alegra will auto-configure the additional external memory when used at this level. If, like the majority of non-U.S. users, you are still using Kickstart 1.1E you will need to install some additional software on your workbench disk. To do this you need to use the installation disk that is provided with the Alegra.

Ideal cure

My Alegra has worked flawlessly for the 3 months that I have had it. The only problem I have encountered is with the proximity of the Alegra to the rear mouse/joystick port. It is only 5mm — 6mm behind it and although it does not prevent me from plugging in a mouse or joystick there is not enough room for me to fit some of my sound and graphic peripherals. It could, however, be argued that the manufacturers of these gadgets should have used standard size plugs. I have circumvented this problem by making a small extension lead to bring the mouse port out beyond the Alegra. Using the Alegra has been a pleasure. It has made working with my C compiler a dream and has reduced the time it takes to compile programmes dramatically, I no longer get those "OUT OF MEMORY" messages just as I am about to finish my latest work of art on my graphics programme, I reckon I have found the ideal cure for 'dem old memory blues'!

I.B.

Price: $379

Zing!

Many readers will have experienced the feeling of being lost sometimes when they are examining a disk for a file. The high capacity of AMIGA disks necessitate a hierarchical directory structure with sub-directories to avoid presenting the user with a single, enormously long disk directory. This is all very well but inevitably can be frustrating on those disks which have plethora of directories and are unfamiliar.

Having located the file you require the next stage usually involves some type of manipulation such as copying it to another disk or looking through it usuing the AmigaDOS *type* command. Either option demands a knowledge of the intricacies of AmigaDOS and when the file is to be sent to a location on another disk several directories deep, the resulting AmigaDOS command line stretches across the screen — ideal conditions for a typo error and a subsequent repeat performance. This product simplifies all this by using the components of INTUITION to present the user with a window containing an easy-to-use file management system.

ZING! is supplied on a single disk along with 32 page unindexed manual and is designed to run under version 1.2 of the system software. Although file management is the main element of **ZING!** it also provides some further useful facilities such as a print spooler, screen display print or save and task activity monitor.

The display window opened after selection from the *Options* menu can be moved or resized and since **ZING!** supports multi-tasking, the manipulations can be done from within another application. These manipulations can be done from within another application. These manipulations are very comprehensive and permit a very high level of pattern matching. Files can also be browsed in either ASCII or hexadecimal format, depending on the type of file. The multi-tasking facilities of the AMIGA are further exploited by the print spooler selection within the *Files* option. This will transmit a file to the printer as a background activity while the user is carrying on with something else. I thought the screen display option very powerful — a screen can be captured and dumped to the printer or saved in an IFF file. A screen from an application running concurrently with **ZING!** could be saved and then read into a graphics application, interfaced with an AmigaBASIC program or used by a database such as SUPERBASE. A good example of use with the latter could be a software database which would display say, the opening screen of a piece of software.

The function keys can be re-assigned to user-designated AmigaDOS functions — a default selection is provided. This allows a customised environment for *power-users* to move around with familiar and often-used commands. The facility to monitor system tasks is somewhat limited to a display window of task priorities and various addresses relating to the task.

I have to admit that **ZING!** has certainly made my file operations considerably easier and makes me wonder how on earth I managed before! In truth the answer was I didn't and I was able to really give the hard disk a well-deserved cleanup — the number of duplicated files was horrendous. I applied the same strategy to some of my heavily populated disks and was able quickly to reconstruct these as well as achieving a greater volume of storage space. Although storage media is continually falling in price, the fact remains that it still costs money and anything you can do to make better and more effective utilisation of your storage media is ultimately saving money. Multiply this factor by the capacity of a hard disk and the savings become even more tangible. For a floppy disk using **ZING!** is very desirable, for a hard disk owner, it is an absolute necessity. By the way, Meridian tell us that they are preparing translations of **ZING!** into the main European languages. **B.D.**

Price: $89.95
Supplier: Meridian Software Inc, P.O. Box 890408, Houston, Texas, TX 77289-0408 USA. Tel: 713-488-2144.
European Distributor: AMILINK, 7 Rue Cherbuliz 1207, Geneva, Switzerland. Tel: 22865442.

The AMIGA Handbook

One day all computers will be like this... Marcus Breuer, the author of this book certainly conveys his enthusiasm for the AMIGA and he does it in a way that communicates the wonders of this computer even to someone who might not ever have handled one. This is a fully comprehensive manual for the AMIGA that should cover all the need for information that anyone might who either has, or is contemplating shortly the acquisision of, an AMIGA. This might not be the highly technical manual such as the Addison Wellesley series also under review in these columns but then most of us may not want to go into that level of detail and expertise. Called the "Handbook" —probably a neat translation from the German 'Hanbuch' in which it was originally published (why not use the word "Manual", the Latin derived word of the same meaning,it is a book precisely designed to be used more for reference than to be read through in one continuous thrust.

It is, without doubt, extremely easy to use in this way; well-developed, covering everything that I could look for that anyone might need to get quite a way along in exploiting the strengths of the AMIGA. The fact that it has been translated from the German, is both an advantage and a disadvantage. The advantage is that it has forced somebody, I assume the translator and editor, to think carefully about how to express, clearly the ideas it contains and the information it wishes to communicate, which is something that is by no means always noticeable about manuals written originally in English. The disadvantage is that in the effort to be clear and faithful, not such great pains have been taken with the grammar and its level of non-technical language is hardly graceful. The book is divided into three sections, each going progressively into greater detail on the AMIGA and its applications. The progressive aspect is clear for the information you gain from one chapter is often used to understand the next. The first section introduces you to the operating of the AMIGA and is mainly for the AMIGA Novice. This can be very useful also for anyone undecided whether or not to buy an AMIGA for it gives enough information clearly and simply to allow anyone to understand the machine even if they have no access to one. It even describes the appearance of an AMIGA —if there is anyone who has not yet seen one!

The other sections cover everything from required knowledge like CLI to programming and the internal mechanisms and a look at the early software releases and peripherals. If I have a criticism of this book, it is that by its nature the coverage of such software as Graphicraft. D Paint etc is bound to become quickly outdated — and is in fact so now. But you will not buy this book for that information anyway. You could get *that* better in this magazine! What you will buy it and use it for is as a constant aid to have at hand when using an AMIGA. It will certainly be worth its price for that.

By the way, the book was written, the notes tell us, with the use of "a Commodore Business Machine B-128" B-128? Is this an unfortunate error in translation or was there a special 128 for Germany?

The AMIGA Handbook Marcus Breuer — Progressive Publishing

Price: £15.95

U.K. Distributors Precision Software Ltd, 6 Park Terrace, Worcester Park, Surrey KT4 7JZ.

AMIGA ROM Kernel Reference Manual

Volume One — Exec
Volume Two — Libraries and Devices

This is the third and final release in the technical reference series for the AMIGA A1000 from Commodore Business Machines that are published by Addison-Wesley. The remaining members of the series, (from Bantam Publishing) those dealing with aspects of AmigaDOS will be reviewed in future issues. These two volumes represent the core of just what this powerful personal computer is about and should form the very first purchase from this range of manuals. Note that it is very important that prospective buyers should acquire these volumes together since the subject matter is closely interlocked between them.

It would be fair to say that these two volumes are not the sort of thing you can take for a spot of light reading at bedtime. The subject matter is both complex and extensive, although no one but a fool would say the AMIGA is easy to understand and/or program for it is not. But this raises the question of why this is so and I feel that this has a lot to do with the background of most AMIGA programmers, actual and potential. The vast majority have come from an 8-bit background, usually 6502 machines such as the Commodore 64, Apple II, etc series together with some refugees from the Z80 and 6809 camps. Occasionally someone pops up from the 8088 IBM-PC planet or the Macintosh 68000 world. With the sole exception of the latter, none of these programmers has had any actual experience of 68000 machines; very few will have programmed in the **C** language (in fact many of them will have not even seen a **C** program), and fewer still if any, will have had any direct experience of programming in a multi-tasking environment. I suppose that someone will now ring me up saying that they come from the UNIX, PICK or mainframe worlds but such persons would be an extreme rarity.

Thus the novice AMIGA programmer has to contend with 68000 code, the **C** language and for good measure multi-tasking, none of which is something that can be learned in the course of a week.

Now the complete technical reference library has been made publically available, an overall appreciation of this series is possible — but first an examination of the contents of these two volumes. The first volume with *EXEC,* the multi-tasking controller. *EXEC* lies at the lowest level of the system software, beyond this point and you are onto the hardware itself (see diagram). I don't think that it is any great secret that if you can understand how *EXEC* operates then you have started to unveil this machine. Volume One describes the functions of EXEC and how they are accessed. The means of access is demonstrated through numerous examples in either 68000 assembly language or the **C** language, with a predominance of the latter. I get many questions from AMIGA users about why the **C** language is used as the primary programming language of this machine. This particular volume reveals the reason why — the bulk of the system software routines were written in **C** and by programming in this language your routines will direct interface those of the system.

The volume starts off with an extensive preface about programming techniques and standards required for the AMIGA. There are no less than eight chapters, the first two dealing with *lists, queues* which *EXEC* operates its own internal control. This theme of internal control is expanded upon in the next two chapters which are concerned with *messages, ports* and *input/output.* It is slow going since these are heavyweight concepts and the style of writing makes many assumptions, e.g. fluency in **C** and a high level of computer knowledge. Several re-reads are mandatory and it is impossible to grasp some of the points without reference to other books. However, a basic understanding of these concepts within these chapters is crucial if you intend seriously to program this machine.

Chapters 5 and 6 cover *interrupts* and *memory allocation*. By this stage you are starting to examine *EXEC* in terms of its relationship with the rest of the machine. The present generation of the AMIGA product does not have a built-in mechanism for *memory allocation* of user programs. In other words it is the sole responsibility of the programmer to control the memory requirements of the application. Critics may throw their hands up in horror at this lack of memory management in a multi-tasking system, but don't say you weren't clearly warned. So if your program has a few loose ends or is generally just thrown together then don't blame the system when this program runs out of control and goes wildly stomping all over the rest of the memory. The users of such software will not tolerate the loss of data from your program but any application they may have been running at the same time when yours ran amok. This machine will not accept lousy programming and quite rightly too in my opinion — the user is paying dearly for their software and is entitled to good, solid programs.

The final two chapters deal with *libraries* and *ROMWack* — the latter being a debugging tool. The *libraries* are simply a collection of routines within the system software designed for ease of use and maximum flexibility. This degree of flexibility extends to the programmer being able to add, delete or modify libraries. They are designed in such a way that the programmer does not have to know their location — everything is called by *pointers*, an essential feature of a multi-tasking system. The chapter concerned with *ROMWack* is rather a surprise since this tool is not generally available to users and at the time of writing the only legitimate way of acquiring it is through registration as an official software developer. I have never been too impressed with *Wack* — it is limited in scope, awkward to learn and very quick off the mark to kill the machine, in other words it is too unrefined for general use. My own personal choice for a tool of this type is **METASCOPE,** a much more agreeable product with many more features.

There are four appendices explaining the support routines for *EXEC* and a very useful one providing details of the disk format. The rest of the appendices are the various *include* files for *EXEC* — these are effectively a series of *macros* for use with *EXEC*. The book finishes off with an index although no glossary is provided.

The second volume has the cumbersome subtitle of *Libraries and Devices* and is much more substantial — about 900 pages and together with the first volume provides the user with some 1200 pages. Just over half of the second volume is taken up by the *include* files for the system software components not covered in the first volume and with no less than 18 chapters and 6 appendices indicates that it is not designed for a spot of light reading.

The first four chapters are concerned with the graphical aspects of the AMIGA. These chapters deal with the *graphic primitives, layers, animation* and *text* and account for over 200 pages. Graphics are the principle strength of the machine and the subject is given in-depth treatment. The only flaw to this being that the prospective programmer has to be of an artistic persuasion with a mathematical inclination showing particular emphasis on three-dimensional geometry and trigonometry in order to make the most of what are some very rich pickings. In particular, the animation control system contains some difficult-to-grasp topics and for most the *gels, vsprites* and *bobs* require several repeat readings to comprehend this very powerful aspect of the AMIGA's graphics capabilities.

Chapters 5 and 16 expound upon the *devices* of the system — note that a *device* in AMIGA terms does not have to be a physical entity, *devices* in this context can mean *logical devices*. A *logical device* is something such as the *console, narrator or clipboard* devices. If all of this is confusing then don't worry you are merely suffering from *ASS-HOLES* — a B. Donald definition meaning *Amiga Systems Software Heavily Overloaded Limited Exotic Scoilism*. The coverage of these topics brings the whole of the system software into focus in terms of the rest of the machine and it is here that such matters as the RS-232 serial port, disk drive port and parallel port are discussed.

For the real mathematical freaks, Chapter 17 deals with *floating-point formats, transcendentals* and yet more *floating-points*. I always thought that floating and transcendental was the feeling you experienced after smoking certain herbs — obviously I'm wrong "Get your rocks off with Chapter 17 of the ROM Kernel Manual!" could be the cry of a whole new undiscovered generation of *techno*hippies. The final chapter covers the Workbench and discusses those topics not dealt with in the INTUITION Manual such as the *icon* library.

The remainder of this volume is taken up with the *include files* for the rest of the system software. I would strongly recommend that **all** programmers study these intensively for here is the system laid bare. The files are presented in their **C** language as well as 68000 assembly language format together with the *—fd files* (**f**ile-**d**escriptor files), the latter for the benefits of programmers wishing to access the system software from a programming language other than the aforementioned two. There are two useful sections demonstrating the construction of a device/library file and printer driver using *skeleton* files.

I only have two reservations about this series from Addison-Wesley, the first concerns the relevancy, the second is the contents. The whole series is based on version 1.1 of the systems software. Version 1.2 has already been released in the USA and is not far behind in the rest of the world. There **are** differences between v1.1 and v1.2, not to mention additions. Given the rate of revisions in the AMIGA system software which have averaged one every 6 months since July 1985, there is obviously a conflict between publishing this information in this book form simply because the average leda-time in book publishing is 12 months. I would suggest that the publisher reconsiders the format to take this into account and publishes this series in a way that revisions can be easily implemented, for example by using a ring-binder format.

My other criticism to the publisher revolves around the contents. A work of reference which this series claims to be should contain a lot more **working** examples and not mere outlines or fragments of programs. No one disputes that the contents of this series are heavy going — indeed a lecturer friend made the comment after perusal of these volumes that the level to which these are pitched comfortably places them in post-graduate ability. However, in defence of the publisher the prices charged for this series are quite realistic in relation to the range and depth of their contents. I always use an empirical measure of a book in terms of the cost per printed page and I'm always skeptical of book costing more than £10.00 per 100 pages. If you think this is too lenient then try using this measurement on other subjects and you will see that in these terms computer books in general are a bargain.

B.D.

Name: Amiga ROM Kernel Reference Manual: EXEC
Author: Commodore Business Machines Inc.
Publisher: Addison-Wesley
Price: £23.70
Name: Amiga ROM Kernel Reference Manual: Libraries and Devices
Author: Commodore Business Machines Inc.
ISBN: 0-201-11078-4
Price: £33.20
Contact: Addison-Wesley, Finchampstead Rd., Wokingham, Berks. RG11 2NZ. Tel: 0734 794000.

Metacomco SHELL

No, this is not Metacomco's first excursion into the games market although readers familiar with the *UNIX* operating system will known all about such weird and wonderful things such as *shells*, *pipes* and *filters*. A *shell* as far as AMIGA uses are concerned is simply a Command Line Interpreter — only this CLI is far more tractable and forgiving of the standard issue and provides many useful features.

The opening screen of the *Shell* appears exactly as a normal *CLI* except that the top left-hand corner displays the current directory — the default being the *root directory* of the disk currently in the *df0:* drive. This is a very convenient feature as users of hard disks will confirm, since it is difficult at times to keep track of just where you are in a directory structure. The other immediate difference is the removal of the *destructive-backspace*. In other words a spelling mistake can be quickly recitified without having to tediously re-type the section of the line which was erased by the cursor's movement. Based on the numbers of users who have made comments to me, this is the least loved feature of the standard CLI.

The new or enhanced commands that the *Shell* provides are:

Alias; CD; Equ; Esc; Help; History; Key; Nonres; Path; Pop; Push; Resident; Set.

Some of these commands are those which are part of AmigaDOS v1.2, for instance the *Path* command which provides for the setting of directory *search-paths* in either direct mode or as part of a command-execute file. In addition to these there is a full implementation of editing directly on the command line using combinations involving the *CTRL* key.

The product is supplied on a single disk along with a 106 page indexed manual styled along the lines of Metacomco's previous release for the AMIGA, the excellent *Toolkit*. This manual also provides full details of version 1.2 of AmigaDOS. Installation is simply a matter of copying several files from this disk into specified directories on the user's Workbench disk. The amount of disk space used by these additional files is not significant and will fit onto a standard Workbench disk. This assumes that your Workbench disk is not absolutely full although one solution would be to delete the CLI file itself. Be careful, there are some applications that specifically call for the CLI from the Workbench disk. The *Shell* allows for incorporation into the *startup-sequence* command-execute file which enables you to configure it to individual requirements. No problems were encountered with operations using a Microforge hard disk or running on an expanded A1000 machine using a 68010 processor.

The *Help* facility is engaged using the keyboard **help** key (naturally!) and provides an immediate on-screen list of the functions and their required parameters. Unfortunately this overwrites part of the users existing screen and I would have preferred a separate window. The other feature I found immediately useful was the function key with an AmigaDOS command string. For example I regularly archieve my word-processing files on to 5.25 inch disks (before you ask, it is because they are cheaper than 3.5 inch disks!). Doing this with a programmed function key is much simpler and faster — here is the actual configuration sequence:

key 1 copy dh0:applications/scribble/
key 2 to df2:

When F1 is pressed the following appears on the screen:

1> copy dh0:applications/scribble/

All that I have to do is fill in the name of the file(s) and then press F2. This gives the following display when our file is named *"wombat"*:

1> copy dh0:applications/scribble/
wombat *to df2:*

It is easy to see the time-saving that this facility offers when repetitive commands have to be used as well as avoiding spelling mistakes on the part of the operator. For the advanced user sections of text within an ASCII file can be *aliased* — in other words complete paragraphs can be temporarily substituted with a single character.

Another very useful feature of the *Shell* is a command line history. This will recall a command line — the number of lines that can be referenced backwards is determined by the user together with the ability to select and reuse a line. Very handy when you are compiling and linking series of files. As a hard disk user one troublesome area has always been disk directories. By its nature a hard disk requires many levels of directories and in my own case the navigation of 21 megabytes of files can be tricky at times in terms of remembering just exactly where I am on the hard disk. The *Shell* will remember the directories the users has visited and switch between them on a single key! This is done by means of the *push* and *pop* functions — assembly language programmers will no doubt recognise the stack mechanism. If the user issues the command *push*, the *Shell* makes a note is of the current directory; to recall the directory the command *pop* is used. Naturally if these commands are assigned to a function key then the whole operation is very fast.

Unfortunately lack of space prevents me from elaborating on the full range of facilities the *Shell* offers. In common with its predecessor the *Programmers Toolkit*, this is another first class product from Metacomco. Not only have I found it an indispensable aid when operating at the DOS level, my own view is that this produce *is the CLI the AMIGA should have had from the birth of the machine.* Go back to the normal CLI? No thanks — it was rather like trying to jump fences with a three-legged horse. I just hope that Metacomco will maintain the flow of powerful and useful utilities for the AMIGA because this company seems to have the unfailing ability to recognise exactly what users need and want.

B.D.

Price: £49.95
Contact: Metacomco, 26 Portland Square, Bristol BS2 9RZ. Tel: 0272 428781.