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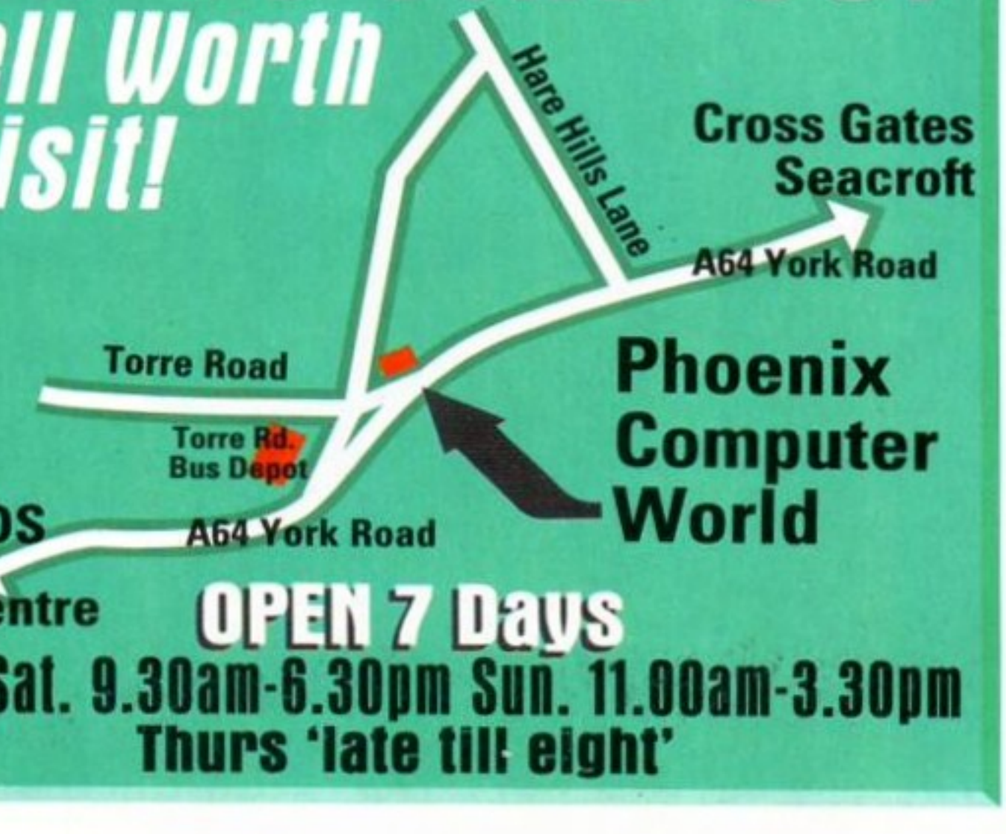
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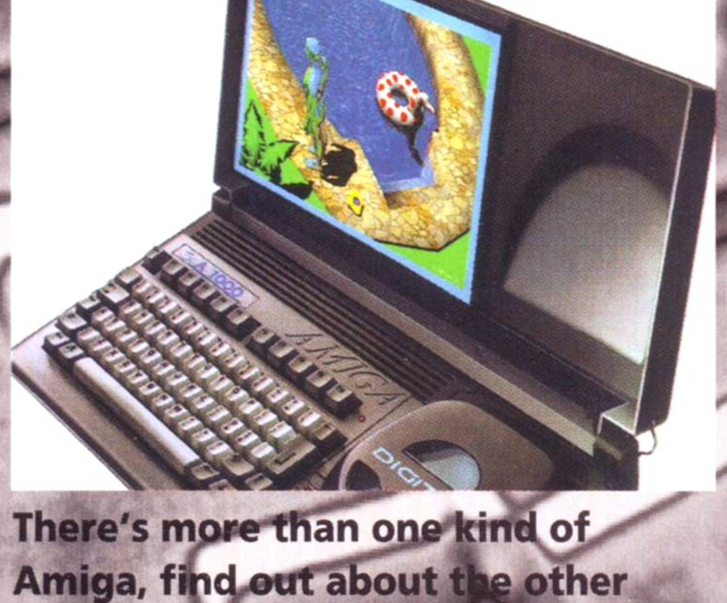
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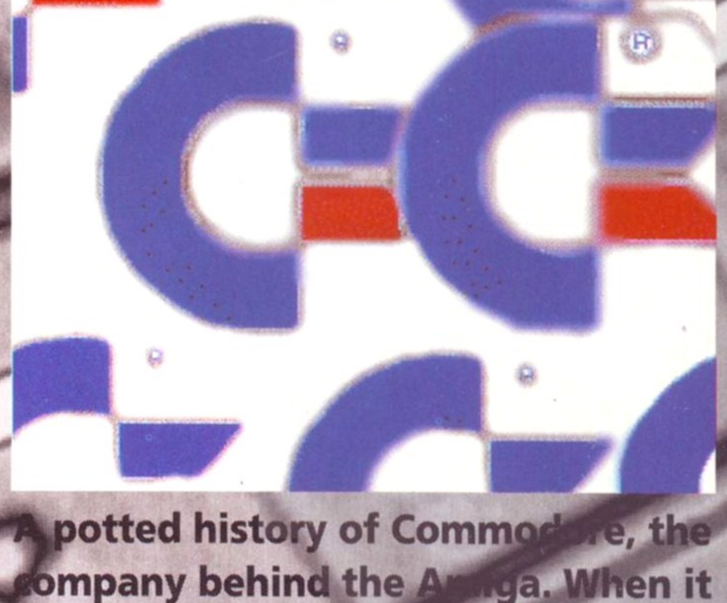
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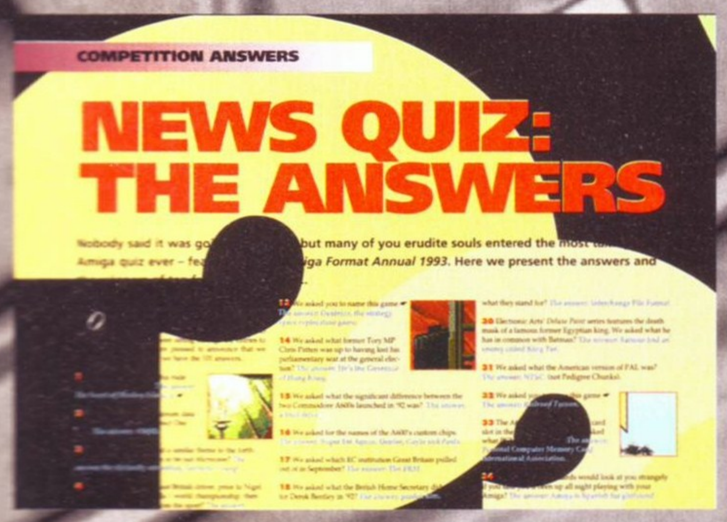
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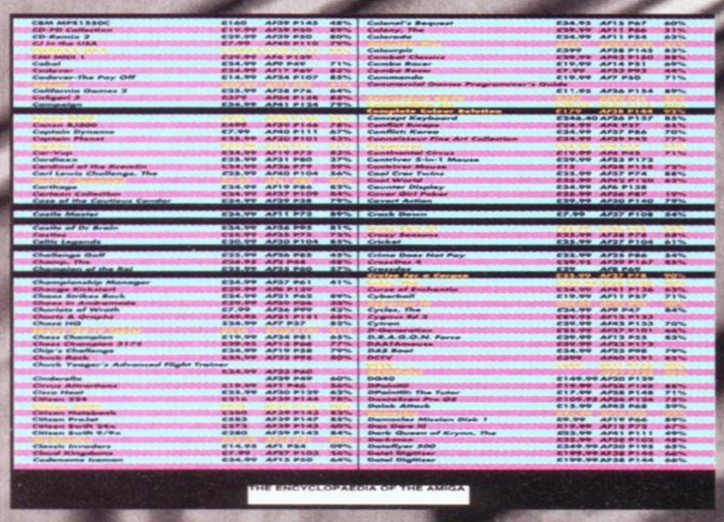
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Did you win a subscription? All the answers (and questions) to our issue two, 101-page quiz are here. 132



12 no-nonsense pages packed with every product ever reviewed and rated in *Amiga Format*. 134

Hello and Welcome



Tim Smith: Editor of the *Amiga Format Specials*

A very warm welcome to the fourth of the ***Amiga Format*** *Specials - The Encyclopaedia of the Amiga*.

The world of the Amiga is a huge and expansive area. It takes in subjects as diverse as computer art to virtual 3D landscapes, and Andy Warhol to Emlyn Hughes, and it does all of this with a population of millions – millions of Amiga users.

Since the very first Amiga, which was basically a bunch of circuit boards and wires in a Californian cellar-cum-office, came together around a decade a go, the machine has united many disparate communities. I hope that this book is able to show you how much more you can make out of all this.

I would also like you to keep mind the fact that this is an ***Amiga Format*** *Special*, a unique magazine that moves away from the standard format of computer magazines. It is not simply another copy of ***Amiga Format***, you'll see a copy of that on the same newsstand where you found this.

The Encyclopaedia of the Amiga does not deal in the immediacies of the Amiga world in the same way as its parent magazine does month-in-month-out, rather it is a compilation of more than three and a half years of reviews, features, letters – the best that Amiga journalism has to offer. Frankly, the biggest problem we have had is with just what to leave out! In order to make this *Special* easy on the eye and even easier for you to access, we have decided to keep the design simple and straightforward. So, you will be hit with fact after fact, reference after reference and detail after detail, presented in such a way as to be easy to find and make use of. This means that we have been able to pack in a vast 12-page reference section at the back of the book which lists all the products ever reviewed in ***Amiga Format*** with their ratings (were applicable) and page numbers.

The bulk of this Encyclopaedia comprises A-Z listings normally in small chunks, cross-referenced with each other to give you an overview of the subject in hand. In no way is it exhaustive on any single aspect of the Amiga or of Amiga culture but I certainly hope that you will turn to it when you come across a term, name or detail you are not sure of.

Finally, if reading the next 100+ pages puts any questions in your mind regarding the Amiga, please write to me with them, because the next *Special* is devoted entirely to answering such Amiga-related queries. Enjoy!

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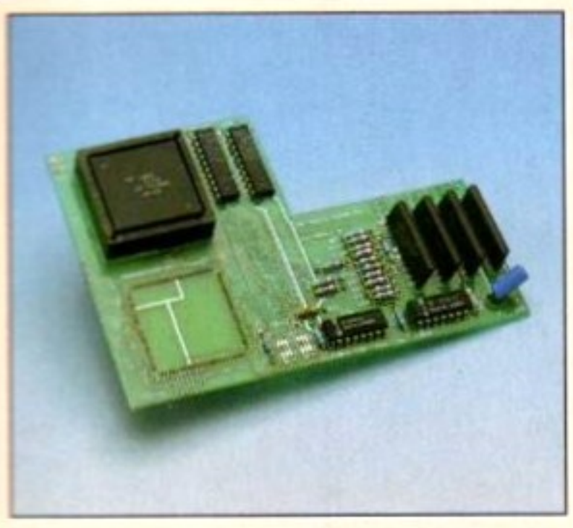
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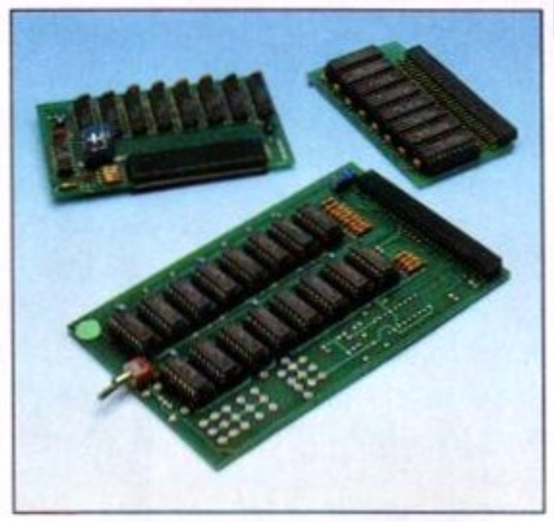
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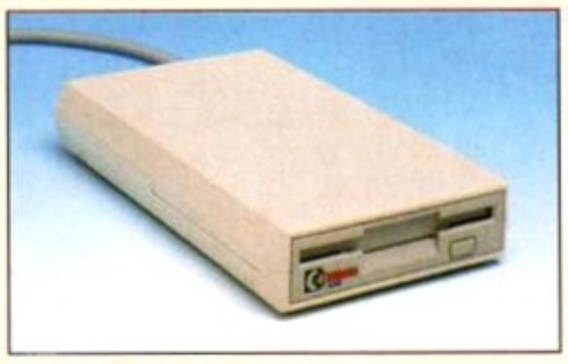
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A Plus a few numbers that didn't quite fit in elsewhere. The following pages include Amiga, Alien Hearts and more...

01 FOR AMIGA: One of the best Amiga Bulletin Board Services (BBSs), it contains some very good files (including a CD-ROM of Fred Fish disks), and lots of on-line advice.

You can leave Email (Electronic Mail) on this BBS and many top-notch Amiga types visit it. 01 For Amiga is well laid out and Sysop (Systems Operator) Tony Miller deserves all credit for creating a popular and usable service. Contact 01 For Amiga on the BBS modem number 071-377-1358. (See BBS).

21st CENTURY ENTERTAINMENT: Contact: Andrew Hewson, Tel: 0235 832929. 21st Century came about following the demise of Andrew Hewson's former company, Hewson which brought us games such as *Onslaught* (78 per cent in December 1989, *AF*5).The greatest achievement of 21st Century Entertainment must be that it brought us *Pinball Dreams* (£25.99. 84 per cent in *AF*33) and *Pinball Fantasies* (£29.99. 90 per cent *AF*41).

680nn: Shorthand for the Motorola series of processors that started with the 68000 and have moved up to the 68040.

68000: This is the Central Processing Unit (CPU) chip which is at the heart of the A1000, A500 and A600. It comes from Motorola, and has been around since 1979 . The 68000 appears in all the most popular computers and consoles. It is called a 16-bit chip because it can send 16 items of information to other parts of the computer at once (see Motorola).

68020: This emerged in 1984 and was the first important upgrade to Motorola's chip line. The 68020 is a 32-bit central processing unit (see CPU) which means that it can send 32 items of information at one time, and is thus immediately twice as fast as the 68000. This is the chip around which the A1200 is based (see Motorola).

68030: This is another of Motorola's 32-bit CPUs. The 68030 is a more sophisticated version of the 68020, offering more advanced features and a more efficient way of processing them. This is the chip around which the A3000 is based. The 68030 is capable of running at much higher clock speeds than earlier Motorola chips which means that it is capable of processing more information faster (see Motorola).

A1000: See Amiga History.

A1200: See Amiga History.

A2000: See Amiga History.



The Amiga 3000 can compete with many of the most powerful workstations in the world today, and it is one of the older members of the Amiga family.



The A570 CD-ROM drive for the Amiga 500 and 500Plus. A great leap forward without a doubt, but the A600 and A1200 are still waiting their turn.

A2200: A mythical Amiga that has been much talked about, but, as of early 1993, it has never actually materialised.

A2400: The rumoured upgrade to the A1200. The A2400 will once again use 32-bit technology, make use of IDE (Intelligent Drive Electronics) interfacing, as opposed to the older SCSI (Small Computers System Interface) but will have an extended chipset, and will probably make use of a built-in CD-ROM interface. Of course, these are very much rumours at this time.

A3000: See Amiga History.

A4000: See Amiga History.

A500: See Amiga History.

A500Plus: See Amiga History.

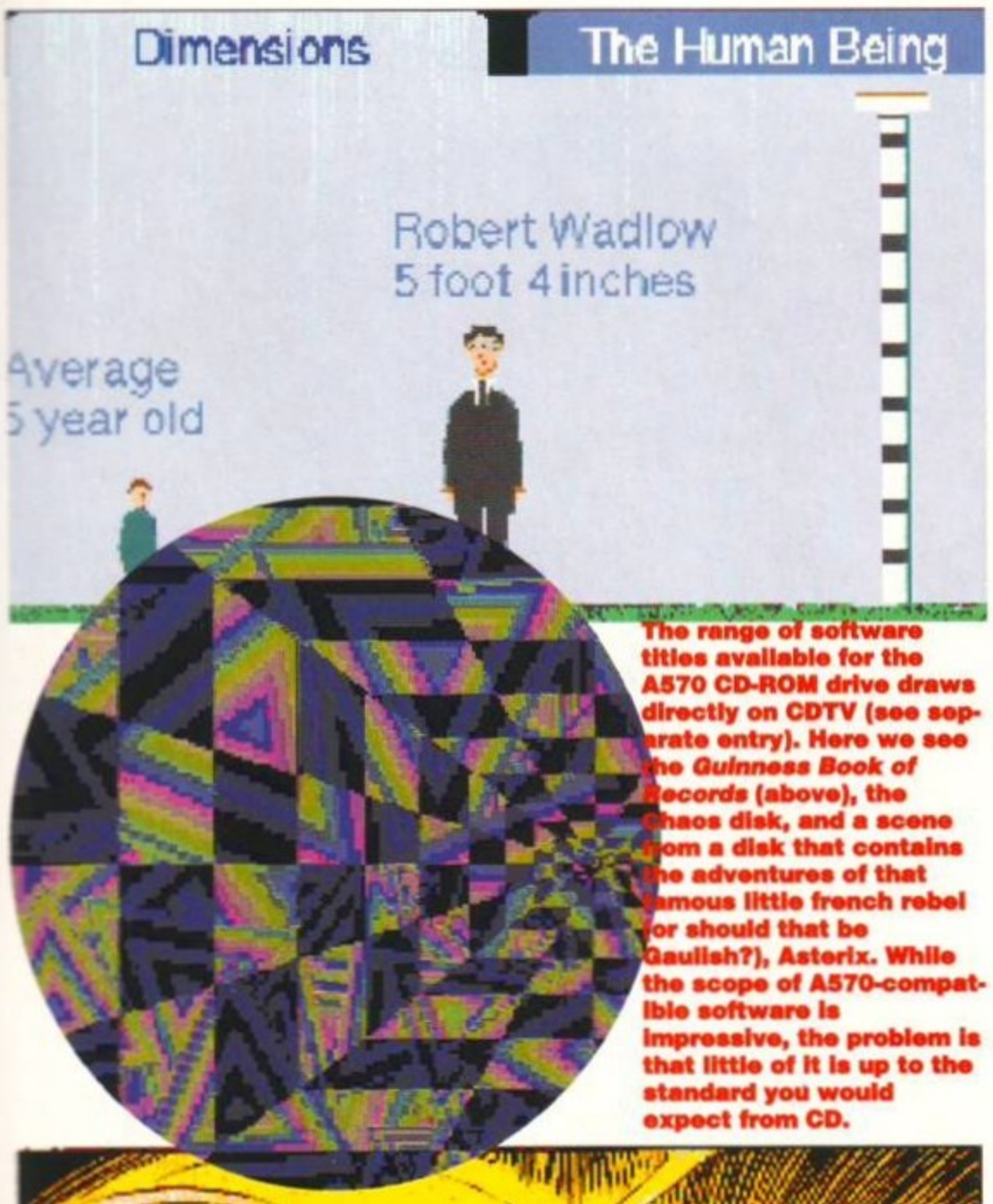
A530: The GVP (Great Valley Products) A530 hard disk and memory upgrade is regarded by the ***Amiga Format*** team as one of the most outstanding pieces of hardware available for the A500 ever made.

The A530, produced by American company Great Valley Products, is a hard drive, a RAM expansion unit and an accelerator all rolled into one. It's one of the best upgrades for the A500 available, but doesn't come cheap, starting at £749 and rising according to specification. For the record the technical specifications for the standard A530 are a 40MHz 68030 CPU, 120 Mb hard drive, 1 Mb of 32-bit RAM and it has space for a 68882 maths co-processor. (See also GVP, Hard Disks, Memory).

A570 CD-ROM: (Also known as the A590) This excellent add-on transforms a standard Amiga into a CDTV machine and then some. The A570 can read and playback practically every kind of CD there is, including normal music CDs.

The A570 plugs into the side of the Amiga, into its edge connector and then hijacks the standard Amiga booting sequence so that the CDTV boot logo (introductory screen) comes up, meaning that it is ready to receive a compact disc. There is an extra benefit to having your Amiga fitted with CD-ROM. People have written to us asking whether or the Amiga can use its stereo capabilities to play-back standard audio CDs. The answer to this is a big yes (see CDTV).

There are already plenty of decent CDTV titles available, but the A570 can also read CD+Gs (music CDs with built in graphics), CDS MIDI (music CDs with a built-in MIDI track to operate a synthesiser) and most impressively of all, ISO 9960 CD-ROM discs.



The range of software titles available for the A570 CD-ROM drive draws directly on CDTV (see separate entry). Here we see the *Guinness Book of Records* (above), the Chaos disk, and a scene from a disk that contains the adventures of that famous little french rebel (or should that be Gaulish?), Asterix. While the scope of A570-compatible software is impressive, the problem is that little of it is up to the standard you would expect from CD.



The latter format means that with this CD-ROM plugged into your Amiga you'll be able to access hundreds of superb IBM style CDs, such as encyclopaedias and graphic adventures. The A570 CD-ROM received an ***Amiga Format*** *Gold* rating of 92 per cent at a release price of £349. (See CDTV, CD-ROM).

A5000: An accelerator from Solid State Marketing for the A500 that appeared back in ***Amiga Format*** issue 20 at a cost of £295. It comes as standard with 1Mb of RAM on-board (it is capable of taking up to 4Mb in all) and is based around a 32-bit 68020 processor running at 16MHz as opposed to the A500's standard 16-bit 68000 processor. It also makes use of a 20MHz 68881 maths co-processor. Back in March 1991, the unnamed *AF* reviewer was more than pleased with the (relatively) low-cost of the unit.

AA Chipset: See AGA

AAA Chipset: See AGA

Member of the Audit Bureau of Circulations.
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Jan – July 1992

ABC: (Audit Bureau of Circulations). Somewhere in the contents of many magazines, including ***Amiga Format*** you will see this a small box very much like the one to the left.

This is the officially audited figure for the number of issues a magazine sells. It is audited over six month periods and the average figure sold during that period is then taken as the ABC. The company that publishes the magazine in question chooses whether or not it wants the title to be officially audited in this way. ***Amiga Format***'s ABC of 161,256 is currently the biggest for any computer magazine in the UK.

ACCELERATOR: An expansion unit that speeds up your Amiga's CPU (Central Processing Unit). The CPU is the Mister Big of the chip world, the decision-making processor who's job it is to control and monitor the data in the system (see CPU for a more detailed explanation). The basic problem with CPUs however, is that they keep getting improved on. This means that your Amiga could have started life what seemed like a fast 16-bit 68000 processor (it would have done had it been an A500) but then the 32-bit 68030 is launched, and you find that your machine now runs more slowly than your friend or colleagues. An accelerator is an ideal way of beefing up your Amiga's performance.

They will not (normally) mean that you can move from 16 to 32-bit in one leap (you would need a new CPU for this) but it does mean that you will be able to perform faster mathematical operations. In real terms this means that certain programs will run faster.

Accelerators are often used to speed up flight and other simulation games, but they are of more use for serious programs such as desktop publishing, and other memory-intensive applications, and spreadsheets which are maths-intensive operations (see A530, A5000).

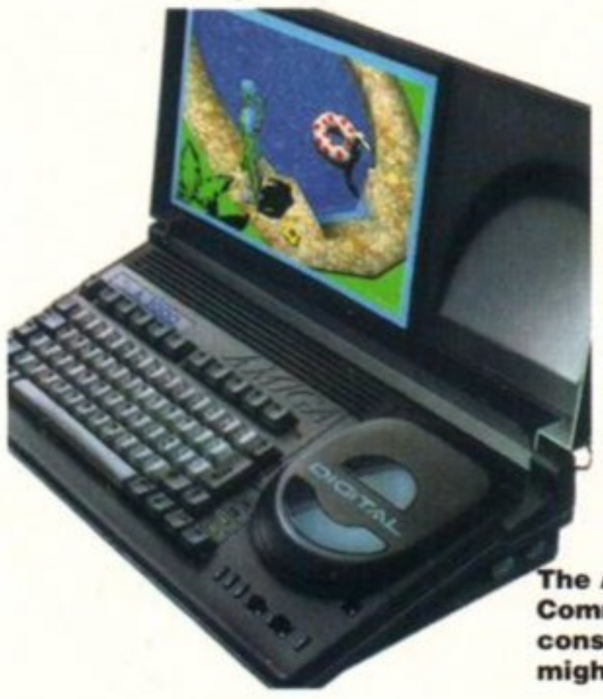
ACCLAIM: Software house. 4 Walcote Place, Winchester, Hampshire, SO23 9AP. Tel:0962 877788. Contact Richard Dennis. Acclaim has turned its attention to the Nintendo and Sega consoles over the last few months. But prior to this, the US-based software house brought out games such as *The Simpsons* (82 per cent in *AF*26) and *Krusty's Super Fun House* (85 per cent in *AF*43).

ACCOLADE: Software house. Contact: Nadja Singh, Lombard Business Centre, 50 Lombard Road, London, SW11 3SU, Tel: 071-585 3308. Another software house which, for the moment has split itself between the consoles and the Amiga. In its time, Accolade has brought us games such as *The Cardinal of the Kremlin* (59 per cent in *AF*24), *Gunboat* (72 per cent in *AF*25) and *Elvira – the Jaws of Cerberus* (81 per cent in *AF*34).

ACDC: Not the well-known rock band, but the Amiga Compact Disc Console. The industry got very excited about this in 1990 when it was strongly rumoured



Acclaim managed to get one of the software industries most valuable licenses in the form of the Simpsons. Pictured above is *Krusty's Super Fun House*, to the left is the brat Bart himself from the introductory sequence of *The Simpsons*.



that Commodore was going to produce a keyboardless Amiga, enter the console market, and push back the boundaries of computer CD technology all at once. In the event none of these things happened because the ACDC never materialised. However, it is a good idea to keep the memory of ACDC at the front of your mind however, as Commodore's committment to compact disc storage is as strong now as it has ever been.

The ACDC as it might have been. Commodore hasn't produced its CD-console yet, but who knows what might happen in the near future?



The well-known shape of the Action Replay cartridge is definitely a useful tool (we use it all the time) but it is also a tool with very ambiguous uses.

ACTIVISION: A now defunct software house, the bulk of the back-catalogue is no handled by The Disk Company, which was responsible for many an excellent Amiga game, and a few less than wonderful ones too.

The man at the head of Activision was Rod Cousens – a demi-legendary figure in the computer games industry who now works of Acclaim. Games from Activision included *Hunter* (86 per cent in *AF*20) and the excellent shoot-em-up *R-Type II* (88 per cent in *AF*25). Sadly, Activision's productive life in the UK came to an end in the latter part of 1991.

ACTION 16: Software house budget label which is affiliated to full-price softie, Digital Integration. The label is responsible of *F-16 Combat Pilot* (80 per cent in *AF*34), *Mystical* (60 per cent in *AF*32) and *Sim City – The Terrain Editor* (75 per cent in *AF*38) among many others all of which come in at under the £10 price mark – most are £7-9.99. (See Digital Integration).

ACTION REPLAY: Continually updated range of 'ripping' cartridges which enable the user to explore the very guts of most Amiga-programs. This in turn enables you to extract code, sound and graphics from programs or to inject cheats such as infinite lives, extra speed, or level leaps into them.

The latest model is version III (costs £59.99 and was awarded a coveted ***Amiga Format*** *Gold* of 90 per cent in *AF*38). It includes a slow motion feature, virus killer, autofire modifier, memory and code search facilities, deep training, burst-nibbler, switchable PAL/NTSC screen mode, crunch/decrunch memory and many other facilities.

Many computer magazines use such cartridges in order to obtain screen grabs. The standard Amiga Action Replay cartridge plugs into the edge connector of the machine, this means that it cannot be used with any Amiga other than the A500 or A500 Plus.

However these cartridges aren't hugely popular with the games software industry. This is mainly due to the fact that they also enable people to copy games that normally would be uncopyable by normal disk swapping because the cartridges enable you to bypass the copy-protection on games – if you have the technical knowledge, the patience and the criminal attitude required.

Datel the producer of the cartridges plays down this rather dubious practice and points out that copying commercial software is illegal unless you are making a back-up copy for personal use, or have permission from the copyright holder.



R-Type **from Activision (with *R-Type II* inset) a classic from the Activision. Unfortunately Activison ceased to produce games in the early 90s.**

ADAMS, DOUGLAS: Author of the book *The Hitchhiker's Guide To The Galaxy*, he also co-wrote an adventure game of the same title. (See Adventure Games, Infocom).

ADDICTIVE: Software house that scored a big success with two vintage football manager games, imaginatively titled *Football Manager* and *Football Manager 2*. Written by Kevin Toms in 1982 *Football Manager* sold half a million copies in six years, a huge amount in the early days of home computers.

Football Manager 2 appeared in 1988 and Addictive completed the success story with *Football Manager World Cup Edition* which coincided with the 1990 World Cup finals in Italy. By this time pictures of Kevin Toms were appearing on advertisements and packaging for the games, and on the wall chart that came with the World Cup version.

One of the prizes in the World Cup Edition promotional competition was getting your picture with Kevin Toms on the packaging of *Football Manager 3*.

ADVENTURE GAMES: In the beginning, long before the shoot-em-up had fired its opening salvo, was the adventure game. An adventure game is essentially an exercise in problem solving. The player controls a computer character (who you very rarely get to see) who moves around a virtual world in the hope of achieving a specific goal. This goal varies from game to game, but it's usually something like saving a world from certain doom. There are two kinds of adventure game: Text and Graphic:

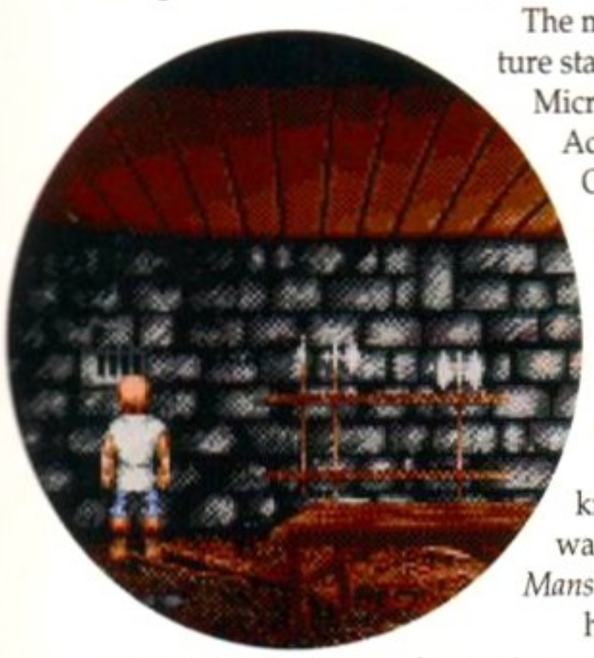
The Text Adventure is largely extinct now, but the very first examples of the adventure game genre used this format (the very first ever being *Colossal Cave Adventure*).

However, the most famous (and some would say the best) text adventures came from American software house, Infocom which released some superb games (most of which you can still get in one big compilation – *The Lost Treasures of Infocom* which attained an ***Amiga Format*** *Gold*-rated 90 per cent in *AF*40). Its best effort was generally regarded to be *The Hitchhiker's Guide To The Galaxy* which was co-written with the author of the original books, Douglas Adams. During the 1980s, the adventure game underwent something of a transformation as popularity moved from the text to the Graphic Adventure.

The first graphic adventure games simply used still pictures to set the scene and still relied completely on textual input. This variety of the genre was

mastered by a company called Magnetic Scrolls, which came into existence in the mid-80s and disappeared in the early '90s. Magnetic Scroll's highly polished games revived interest in the whole adventure game genre and included brilliant brain teasers such as *The Pawn*, *Guild of Thieves* and *Fish* (written by regular ***Amiga Format*** contributor, Phil South).

The move towards the modern graphic adventure started with games such as *Tanglewood* from Microdeal (probably the first Graphic Adventure) and *Where Time Stood Still* from Ocean. By the end of 1988, the Graphic Adventure was becoming the dominant format with games such as *Chrono Quest* from Psygnosis, *Mortville Manor* from Lankhor and, most impressively, with *Rocket Ranger* (89 per cent in *AF*22)from Cinemaware.



***Lure of the Temptress* is another game that shows what adventure the Amiga is capable of.**

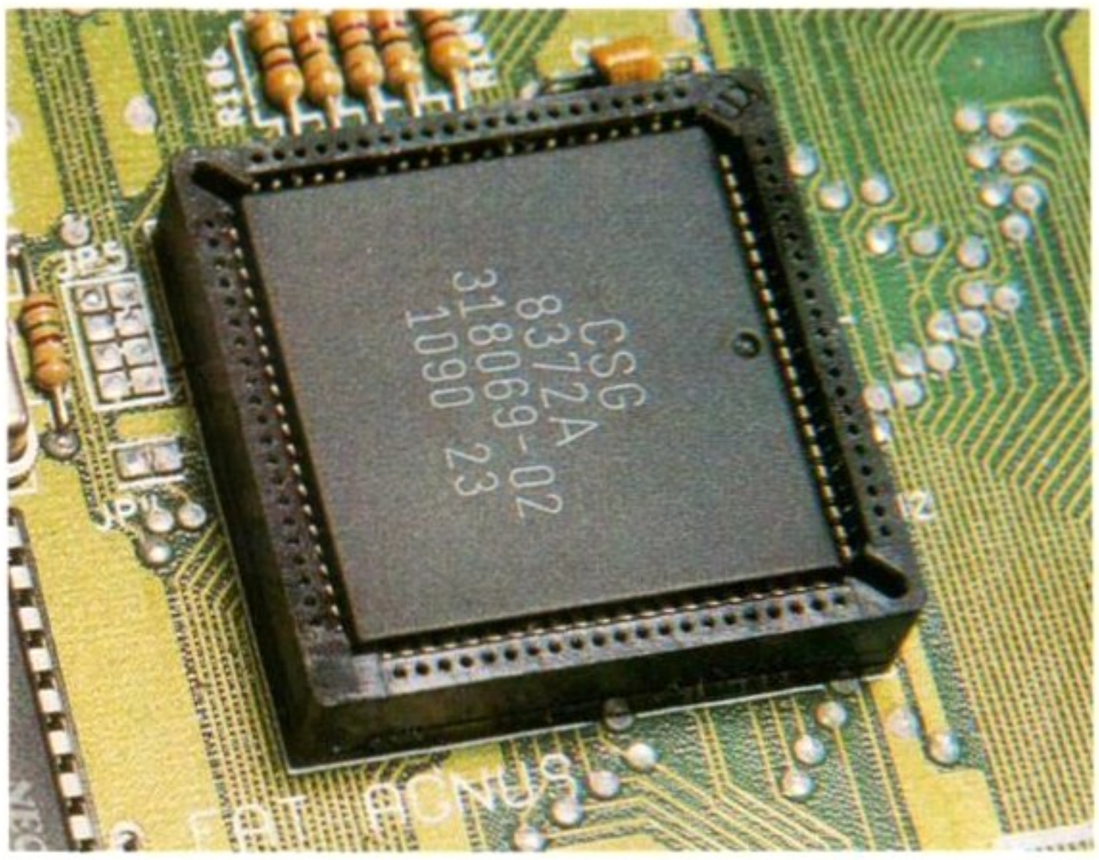
The Graphic Adventure as we now know it was an invention of American software house, LucasArts. Its game *Maniac Mansion* combined a slick user interface with humourous cartoon-like graphics to make an extremely playable game. This was followed by the very witty *Zak McKraken* which combined the more usual adventuring problems with a graphic interface you could manipulate with the mouse.

The LucasArts games got neatly around the principle problem in text adventures of playing hunt-the-word by reducing the vocabulary to a few standard words and phrases. Sierra used a similar system with their *Kings Quest* and *Police Quest* series to great effect. One of the first European software houses to release this style of game was French software group, Delphine.

It produced an excellent game called *Future Wars* (84 per cent in *AF*5) which featured a simple command interface and attractive cartoon graphics. LucasArts replied with the glossy *Indiana Jones and the Last Crusade* (77 per cent in *AF*1)which benefits from the huge programming team which George Lucas employs. In 1990, Delphine produced an adventure game which set the standard for all others to follow called *Operation Stealth* (90 per cent in *AF*14) a spoof spy story. The reason for the game's popularity is its combination of an easy-to-use interface, brain numbing puzzles and superb humour. However, the best adventure game of all time is LucasArt's brilliant creation: *The Secret of Monkey Island* (92 per cent in *AF*22).

This game is an enormous success due mainly to the brilliant storyline. It's one of those games that grabs the attention and remains addictive until it's completely finished. The point is that *Monkey Island* isn't a chore to play, the puzzles arise out of the wacky humour and includes such classic moments as how to get a six foot banana picker out of a one foot hole and how to outwit pirates by insulting better than they do. Since *Monkey Island* all the software houses have chosen to create graphic adventures in the same mould. Perhaps the most successful is *Lure of the Temptress* (92 per cent in 35) a British game which features particularly bright computer-controlled characters and some witty gameplay. Although the game is wholly original, it's very obvious that it came after *Monkey Island*. After *Monkey Island*, came *Monkey Island 2: LeChuck's Revenge* (95 per cent in *AF*36).

This further refines the laudable LucasArts graphic interface, a natty invention which they call Scumm™. The refined Scumm interface utilises graphic objects instead of phrases, so if you wanted to place a key in a lock you'd click on the key and then on the lock. This kind of innovation opens the game up to much younger computer game players. The graphic adventure game continues to go from strength to strength. This type of game is popular because it tests intellect not just joystick manipulating skills. The sense of achievement at having completed a good adventure game far outweighs the short term pleasures of shoot-em-ups.



Here in much, much larger than life is one of the Amiga's famous chips. In this case it's Agnus. She handles the graphics work on the A500.

AEROSKATE: In 1991 Cheetah launched a novel joystick (as it has kept on doing year in and year out for as long as anyone cares to recall, see the entry for Cheetah) in the form of a skateboard that could also control games.

This weird device was called the Aeroskate and as previewed at the Consumer Electronics Show (CES) in Las Vegas. The idea was that you bought the basic joystick controls and stuck your own skateboard on top, stood on the skateboard and controlled movement on screen through the skateboard. It may come as no surprise that although the Aeroskate was previewed at several shows it never went into full production. The idea is not a new one, in fact it harks back to the joyboard that was used by the team who originally developed the Amiga back in Silicon Valley (see Joyboard).



As usual with the Amiga, Electronic Arts is well up with all the newest of the new in technology. Here we see *DeluxePaint AGA*.

A.G.A: AA chipset. The 'Double A' chip set as it is widely known is more correctly called the AGA chipset. This acronym stands for Advanced Graphics Architecture, and it is in the graphics screen resolutions that this chipset differs from it's predecessors. First availed in October 1992 with the launch of the 68040 powered A4000, the chipset quickly made its way to the mass market via the A1200.

The main advantages of this architecture was that it offered 256 colours in every screen mode, and a new 8-bit HAM mode that gives 262, 208 colours, both these from a full 24-bit, 17 million colour palette. Many people were disappointed that the AGA chipset offered no new power in the way of sound, nor a DSP (digital signal processor).

The rumoured successor to the AGA (the 'Triple A' or AAA) chipset is still under wraps, but it is widely expected to offer true 24-bit graphics. Up to 8Mb of chip RAM and improved sprite handling, rotation etc are also hoped for. At this time all that is really known is that Commodore maintain a constant policy of chipset development, and they are not likely to be resting on the laurels of the AGA chipset.

AGNUS: One of the Amiga's many custom chips. Agnus (and not Angus as many people seem to think) is mainly responsible for graphics work. There are different versions called Fat Agnus, Fatter Agnus, and Super Fat Agnus. (See Custom Chips).



'Thom' from the Amiga-using art duo, Alien Heart. Based in East London and working with limited resources, the Aliens wouldn't be without their Amiga.

AIKEN, COMMANDER: See Bug, The.

AIR MILES: One of the first, and least successful of Commodore's A500 bundles. The Air Miles bundle was on sale from April 1989 until October 1989. It came with a standard 512K Amiga 500 plus three games: *Nebulous*, *Star Raid*, *Who Framed Roger Rabbit?* as well as £500 worth of Air Miles vouchers.

ALIEN HEART: Art and music team who work from a bedroom-cum-studio in Hackney, East London. Alien Heart use an Amiga to produce their distinctive industrial-techno sound and to create highly original artwork and album cover images. Alien Heart, otherwise known as Thom and Jane, started out in 1987 with an Amiga 500. They chose the Amiga because: "It was far more capable than anything else on the market."

ALICE: One of the newer in the ever expanding range of Amiga custom chips, it was introduced with the A400 in late 1992 to make use if the new machine's 32-bit capabilities. Alice takes over from Agnus in the graphics handling department. (See also Custom Chips)

ALOHAFONTS: Public Domain programmers whose software includes *Uncle D's Con-Sound-Tration* , a game based on the TV quiz show formula in which contestants have to remember what is hidden underneath a square. In the Alohafont version the player clicks somewhere on the lefthand grid and an image is displayed.

The player has to match the image with the appropriate sound hidden behind a set of squares on the righthand grid. If you correctly match the image and sound, the squares turn green and the idea is to colour in all the squares.

ALTERNATIVE: Software House which has been in existence since 1984. The last game it brought to us was *Dalek Attack* (59 per cent in *AF*43). Roger Hulley, 3-7 Bailey Industrial Estate, Pontefract, West Yorkshire, Tel: 0977 797777, Fax: 0977 790243.

ALTERNATIVE IMAGE: Software House responsible for *Big Alternative Scroller* as well as being the UK distributor of *Real 3D* (£310, it scored and ***Amiga Format*** *Gold* rating of 95 per cent in *AF*31). Contact 6 Lothliar Rd, Leicester, LE27OB. Tel: 0533 440041. See *Real 3D*.

AMAX: As the processing capabilities of computers have grown, so bigger and better applications have been made possible, one of which is the ability to emulate other computers. This particular model enables an Amiga to transform its self chameleon-like into an Apple Macintosh.

This particular kind of emulation is popular because Macintoshes are expensive machines which utilise some particularly well designed software. AMAX II-Plus (91 per cent in *AF*38), the latest version of the package includes such sophisticated features as full AppleTalk compatibility (so that you could in effect link your Amiga into a fully functioning Macintosh network), the ability to read and write to and from Mac floppy disks and the ability to access Amiga hard drive partitions.

At £324.99 for the basic program minus two Apple ROMS (which will set you back another couple of hundred quid) this isn't cheap, but then you get about £1,000 worth of Mac for your money. ***Amiga Format*** rating 91 per cent. (See Emulators).

AMFAS: Software company best known for a game called *Everton FC Intelligensia*, a football quiz that was released in the flurry of soccer-related games that surrounded the 1990 World Cup. Although its was fun at first, the game loses its attraction after you've answered the questions a couple of times. The reason for the word Everton in the title of the game is simply a gratuitous attempt by the game's writer to further the reputation of his favourite team.

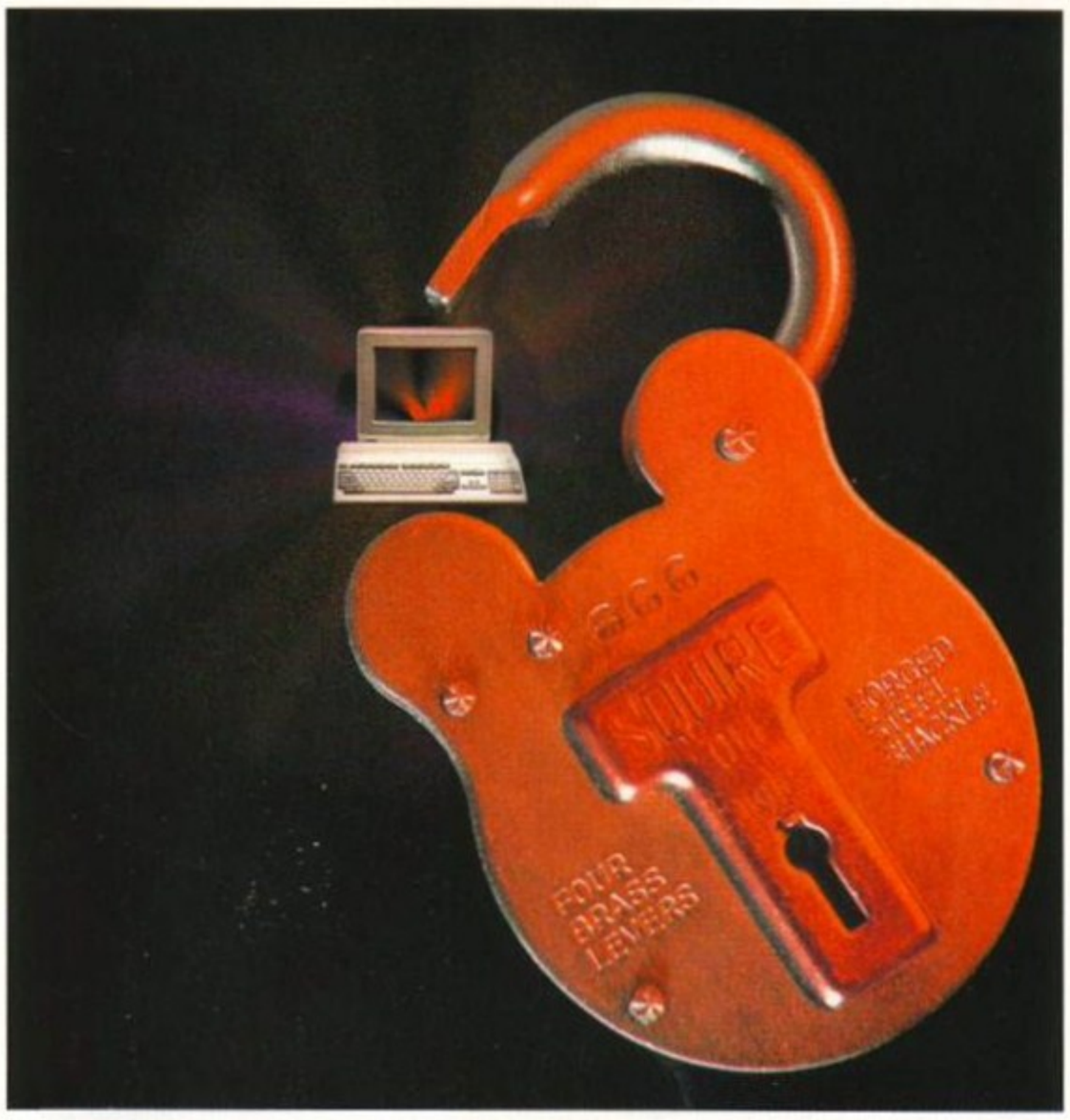
Amiga Centre Scotland: Harlequin House, Walkerburn, Peebleshire, Scotland EH43 6AZ. Tel: 089-687 583. One of the major centres for Amiga development and import of new goods in the UK. The ACS is also one of the major sponsors for the computer element of the annual Edinburgh Animation Festival, which is often won by Amiga animation genius Eric Schwartz.

AMIGADOS: Stands for Amiga Disk Operating System. You are given control over this hidden system through the CLI (Command Line Interface) and Shell, which enable you to control what's happening to things on your disk. It was invented by an englishman called Tim King.

AMIGA FORMAT: (See also Coverdisk, Coverdisk collection). With the huge success of the Amiga in the late 1980s, a magazine called *STAmiga Format* from Future Publishing was split into two separate (and best-selling magazines), *ST Format* and ***Amiga Format*** respectively.

The first issue of *AF* appeared with a cover-date of August 1989 with *Amiga Format Specials* art editor Sally Meddings on the cover. Also on the cover was a disk containing a playable demo of the classic *New Zealand Story* (which was worth a 94 per cent rating in the same issue), a utility called *DOTIL*, the Swining Frog animated demo, another utility called *TrackMon* ('keeping track of your disk drive), a graphics viewer called *VILBM*, some classic artwork, and even some Workbench hacks for the more technically minded. The main feature was on video, and there was also an interview with Commodore's head of technical support, Dr Rahman Haleem, among a great deal more.

Back then we had to wait until issue 10 for the first circulation figures (see ABC) of – the figure currently stands at 161,256, more than a 400 per cent rise.



The image above was created specifically for the cover of *Amiga Format* issue 44. The parent magazine for this journal, as well as *Amiga Power*, *Amiga Shopper* and the *Amiga Format* Live! Show. It's not a bad read either!

Over the years, Amiga Format has pioneered the use of dual coverdisks (see Coverdisk collection), and is the first computer magazine to gain sponsorship for its reader's own works of art (see The Gallery, Max Graphics).

Amiga Format has also moved into computer-show sponsorship. It's first foray into this area was with the highly successful World of Commodore Show at Earl's Court II in November 1992, the next was the Future Entertainment Show, held again at Earls Court (arenas I and II this time) in November 1992. The next Amiga Format sponsored event is the ***Amiga Format*** *Live!* show which will run at Wembley from May 7-9.

It is also the best-selling magazine for the Amiga computer in the world. ***Amiga Format*** staff are available for reader calls on Tuesdays. The current editor is Marcus Dyson.

AMIGA FORMAT GOLD: This is the accolade awarded (occasionally) to software and hardware (in fact any Amiga-related article that comes under the eye of ***Amiga Format*** reviewers, and is of high enough quality to merit it.

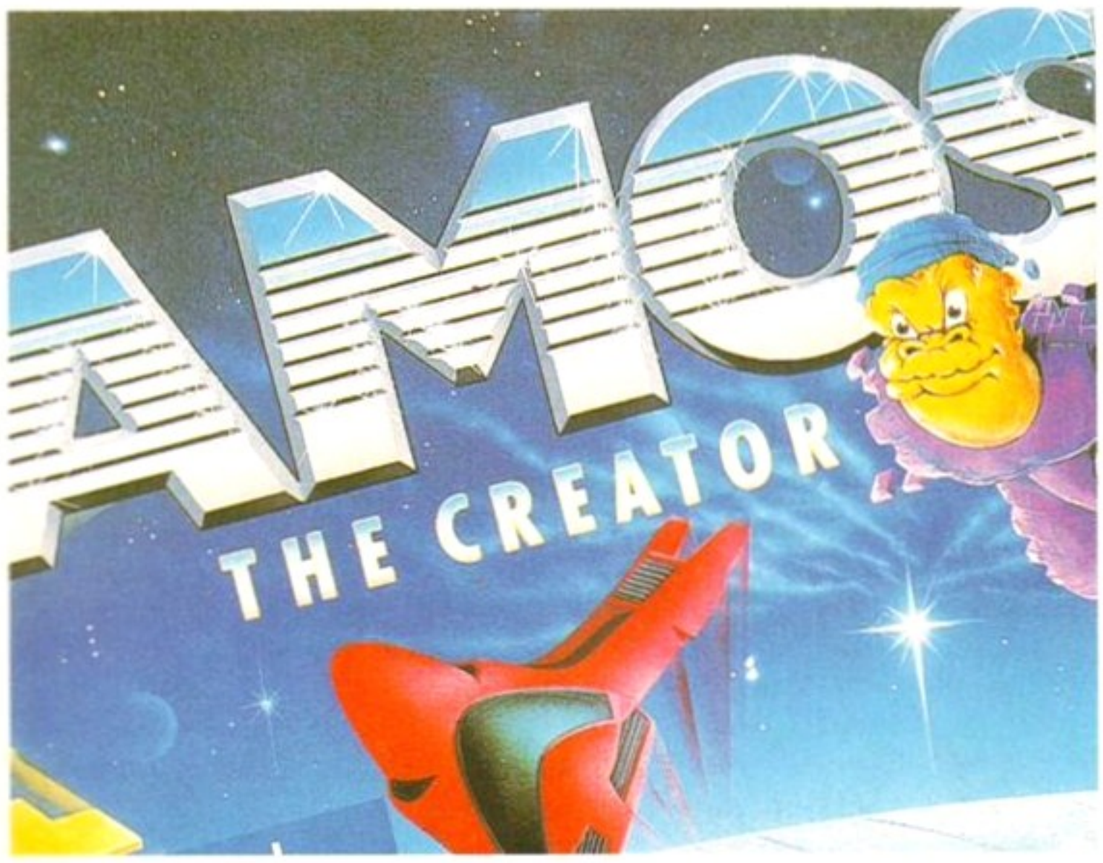
The only criteria for the award of a *Gold* is that the product attains 90 per cent or more as a reviewed score. This means that it has to satisfy the *AF* reviewer or reviewers that it has lasting quality, value for money and offers something that other products cannot. This is far from easy. Many manufacturers have decided that packaging their products with the *Gold* logo is a good idea, so if you see a product bearing the logo to the right, you know that it will be up to a very high standard indeed. By the way, this logo was also designed and produced on an Amiga, by then art editor Marcus Dyson.

AMIGANUTS UNITED: 169 Dale Valley Rd, Hollybrook, Southampton, SO1 6QX. Fax: 0703 785680. One of the major distributors of Public Domain software for the Amiga in the UK. Much respect is due to the late Ray Burt Frost, who was a major force in the popularisation and distribution of Amiga Public Domain software for the high quality attained by Amiganuts PD.

AMOS: is a programming language designed for beginners, or more to the point, those who don't wish to become familiar with machine code. Since its launch it has been expanded to include compiler and 3D extensions and in late '92 it received a drastic overhaul in the form of AMOS Professional, the highest rated Amiga program ever.

AMOS Pro enables the programmer to create any variety of program with the minimum of fuss. It does this by including a sprite editor, sample editor, resource editor and code editor which remove the need for in-depth knowledge of the Amiga's chip-set. The program which costs £69.95 is ideally suited to the educational and hobby environments and received the highest ever ***Amiga Format*** *Gold* rating of 97 per cent in November 1992 (*AF*40). (See BASIC).

An earlier version of AMOS was also featured as part of *AF*'s Coverdisk Collection on the front of issue 42 (January 1993), and a serious of expert tutorials followed in later issues.



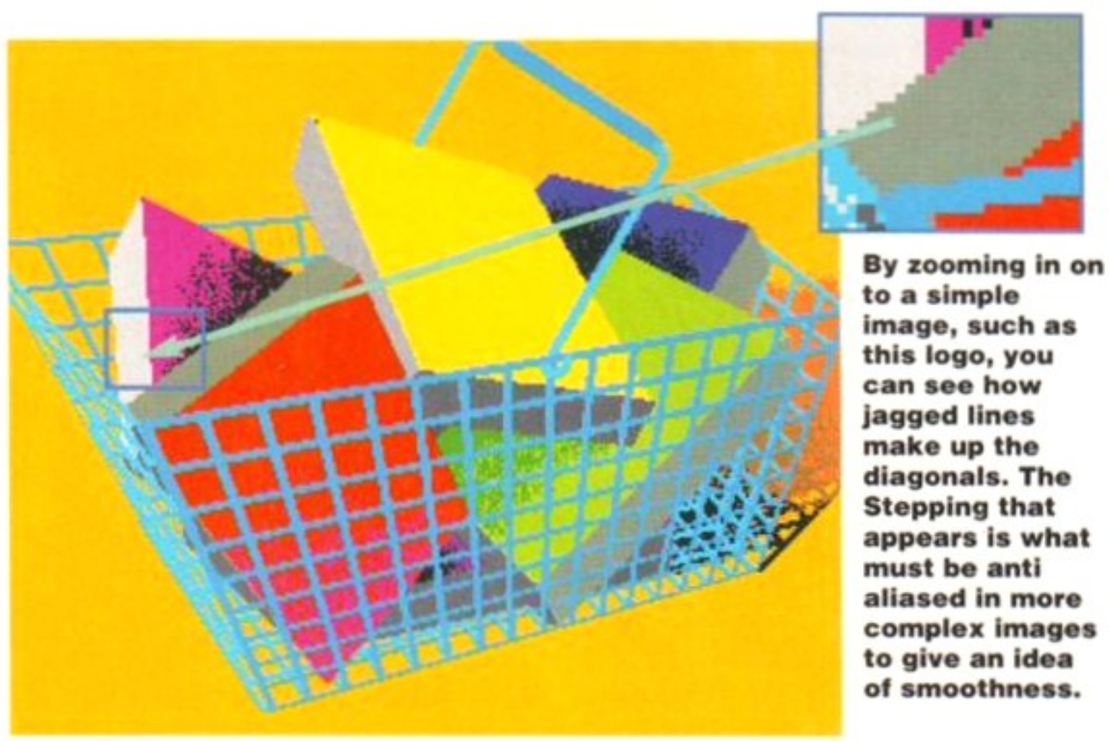
AMOS is still the premier creative tool for most Amiga-users. It has been upgraded and improved, to 97 per cent near perfection in its Pro' form.

ANCO: This is the software house responsible for the seminal footy games: *Kick Off* (£19.95. *AF*1, 91 per cent) and Kick Off 2 (£19.95. *AF*13, 94 per cent). Tel: 0322 292513.

ANDREW, IAN: Founder of the Incentive programming team. (See Incentive.)

ANIM: Similar to IFF (Interchange File Format) a standard way of storing pictures and sound. ANIM is the equivalent for animated images.

ANIMATION STATION: One of the most advanced animation programs available for the Amiga. What makes this program so special is the ease with which it enables you to pull together separate picture files into an animation. It also gives you the ability to use pictures from just about any source imaginable. *Animation Station* was given away as the coverdisk of ***Amiga Format*** issue 37, so if you want a copy, order yourself a back issue today.

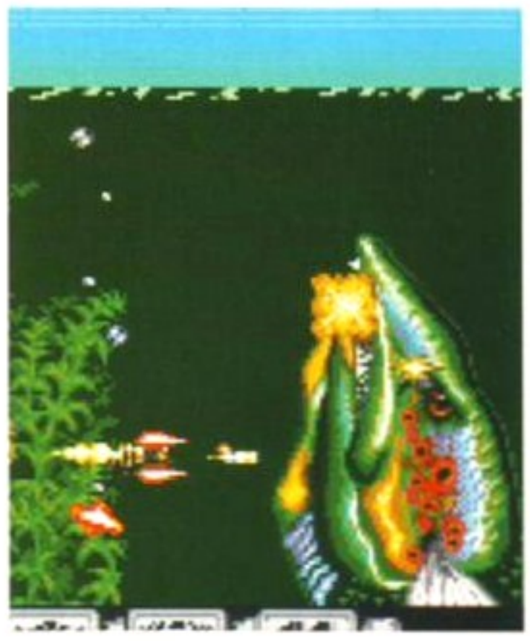


By zooming in on to a simple image, such as this logo, you can see how jagged lines make up the diagonals. The Stepping that appears is what must be anti aliased in more complex images to give an idea of smoothness.

ANTI-ALIASING: A painting term. When you're creating images you'll sometimes find that they have a ragged edge, caused by the coarseness of the screen resolution. Anti-aliasing is the process of softening the edges with colours that are part way between the background and foreground colours to lose the ragged edge. For example, if you wanted to soften the edges of a black image on a white background you would do so by using a scale of grey.

APIDYA: An innovative and rather strange shoot-em-up that puts a game such as the rather tedious *Sim Ant* on turbo. It also brings new life t to a very jaded genre. Instead of controlling a spaceship, your vessel is a wasp, while the enemy are made up of marauding beetles, flies, snails and fish of all sizes.

The graphics are sumptuous, the sound is clear and the gameplay combined with a brilliant difficulty curve make the game a joy to play. *Apidya* received an ***Amiga Format*** *Gold* rating of 90 per cent in June 1990 (*AF*35) and cost £25.99 on release. (See also Shoot-em-ups).



APL: Programming language that uses its own unique set of symbols that look a little bit like ancient runes. APL stands for A Programming Language and was invented by Dr Kenneth Iverson. Despite being a thoroughly strange beast, APL has a small but dedicated band of followers and admirers, some of whom were responsible for introducing APL on to the Amiga.

ARCADIA: Way back in 1987, Mastertronic (later to become part of Virgin) started producing its own coin-ops called Arcadia. What marked these out from other machines was that all the hardware inside was pure Amiga. The first two titles released were *Rockford* and *Road Wars*.

ARCHIVE FILES: Files compressed by an archiving or compression program. Archiving files means that they are are far quicker to send over a modem and the telephone lines – this makes them far cheaper as well. Another positive aspect to file compression/archiving is that you can store vastly more data on a single floppy or hard disk than normal – yet another money saver. Of course, in order to make use of archived files you have to unarchive them. Believe it or not, not doing so is a common mistake among new Amiga users.

ARENA: Company whose main claim to fame is that it was responsible for bringing us the *Arena Accounts* software, one of the first accounting programs to be written specifically for the Amiga. When it was released in mid-1990 *Arena Accounts* was regarded by the ***Amiga Format*** reviewer as a valuable contribution to the Amiga as a business computer and: "the most serious attempt yet to bring businesslike software to the Amiga."

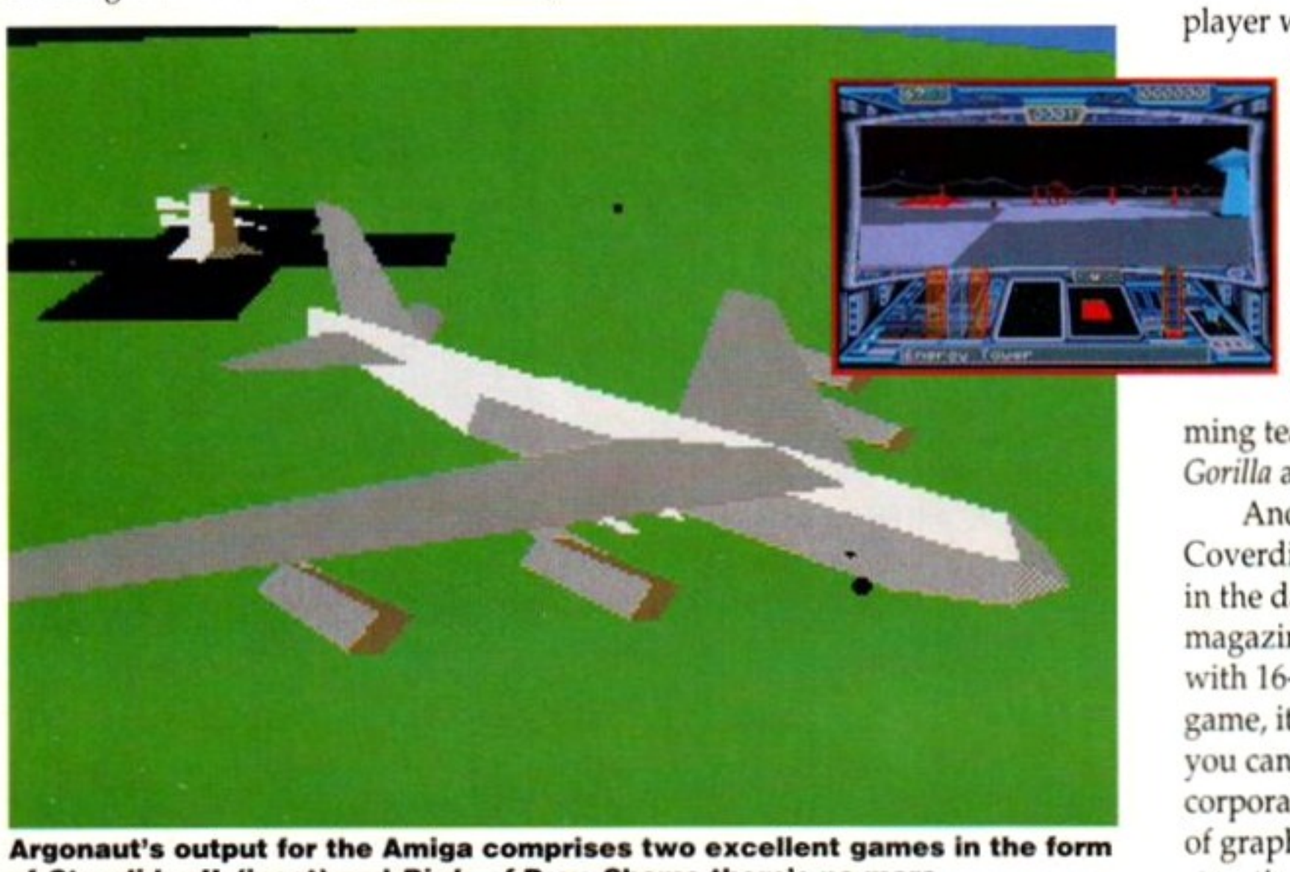
ARGONAUT: Contact Jez San. A software development house that works in tandem with many of the big software houses. Tel: 081 200 5777. Its work for the Amiga is not the most prolific in the world, in fact it has only developed two games for the format: *Star Glider II* and *Birds of Prey*.

ART OF DREAMS: French software house that had its 15 minutes of fame in 1990 with a game called *Antago*. The one or two-player game is a curious but cute affair in which an angel and a devil face one another across a board measuring five squares by five squares.

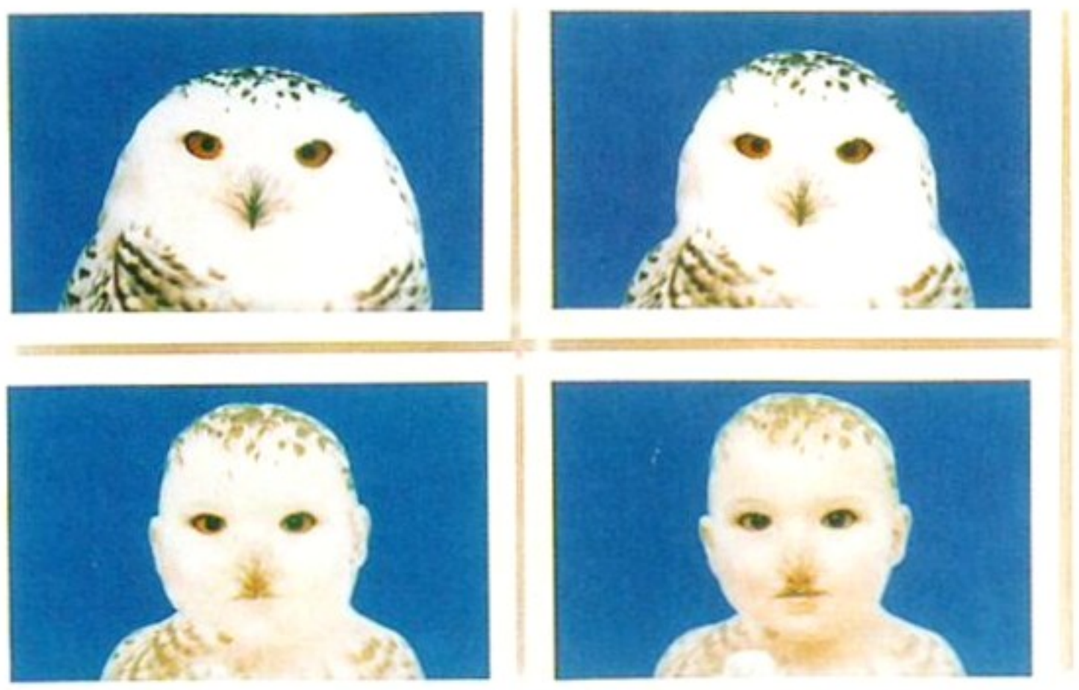
Each player takes it in turns to place pieces on the board with the aim of lining up five in a row. It's a bit more complicated than that and requires a fair degree of cunning. Despite doing reasonably well with *Antago*, Art Of Dreams now seems to have disappeared without trace.

ASCII: This stands for American Standard Code for Information Interchange. It is a simplified format for text which enables one computer to understand information created by another. It is a bare format lacking all the special control characters created by individual machines. As a result ASCII files lack cosmetic touches such as emboldened text.

ASDG: Though better known these days for their art packages, ASDG started its life as a memory board manufacturer. Its first piece of software was a recoverable RAM (RAD) disk designed to be used with all this extra memory. Due to the fluctuating price of RAM chips the company started looking for other product ideas and the first of these was a floppy disk caching program called Facc II. ASDG then released a serial port expansion board called Twin-X which failed to sell in any great quantities and it was at something of a hiatus for the burgeoning company. But for a cab ride the company would never have considered entering the arena it is most famous for, and here is that tail.



Argonaut's output for the Amiga comprises two excellent games in the form of *Starglider II* (inset) and *Birds of Prey*. Shame there's no more.



ASDG's revolutionary *MorphPlus* software in action with the famous owl/baby morph. The company's direction was set during a cab ride.

The president of ASDG (Perry Kivolowitz) was showing some products at the huge American computer show Comdex and he missed his bus. He hailed a cab and another chap asked if he could share the ride; the two got talking and it turned out that the other guy was the General Manager of Sharp's Colour product division. The man from Sharp explained how he'd quite like to see an interface which could connect his scanners to an Amiga and Perry said that he could do it.

The result of which was ASDG's *Scanlab* software, designed to operate with Sharp scanners. Since then the company has gone on to become the leader in colour technology on the Amiga.

Its catalogue includes *Art Department Professional* (version 2.1 achieved a near *Gold* 85 per cent rating from ***Amiga Format*** graphics correspondent, Dr Brian Larkman in July 1992 – *AF*36). This is a very high quality colour image processing package that enables owners of high-end Amigas to produce and manipulate exotic graphics without having to track down the nearest, expensive specialist workstation.

The company is also responsible for numerous software drivers for scanners and printers that would otherwise not support the Amiga (many hardware manufacturers are so short-sighted they can only see the PC market, and this is where ASDG acts as a life saver for the Amiga owning classes.

ASDG's most recent addition to the pantheon of Amiga image processing software is the remarkable *MorphPlus* package. This enables users of most Amigas to produce stunning graphic images akin to those seen on the recent BBS commercial (with Mel Smith, Griff Rhys Jones and a host of morphed stars, as well as the Nintendo Super NES advert with the irritating blond games player who turns into a fly-like machine). *MorphPlus* is quite possibly the best morphing package available for the Amiga or any other affordable computer. Contact: ASDG Inc, 925 Stewart Street, Madison, WI 53713, USA, Tel: 0101 608 273 6585, Fax: 0101 608 271 1988. (See Morphing, Scanning).

ASSEMBLY LINE: A group of four exceptionally talented programmers who started working together as The Assembly Line (TAL) towards the end of 1989. The four, Adrian Stephens, Andy Beveridge, Martin Day and John Dale, became one of the most respected programming teams in the business and produced some classic games including *Killer Gorilla* and *Powerplay*.

Another of the team's achievements featured in its entirety on the Coverdisk of the January 1991 edition of ***Amiga Format*** (AF18) (those were in the days before an agreement was reached between the software houses and magazine publishers to ban full games from the covers of magazines dealing with 16-bit computers – see the entry on ELSPA) *Interphase*, was the name of the game, it was designed for the Imageworks label. Basically it was (and still is if you can get your hands on it) a deeply Cyber trek into the world of massive corporations, dreams and extreme violence. It might look a little dated in terms of graphics by today's standards, but the imagination that went into its construction stamped the Assembly Line's mark on 1,000s of Amiga gamesplayers

memories and gaming skills.

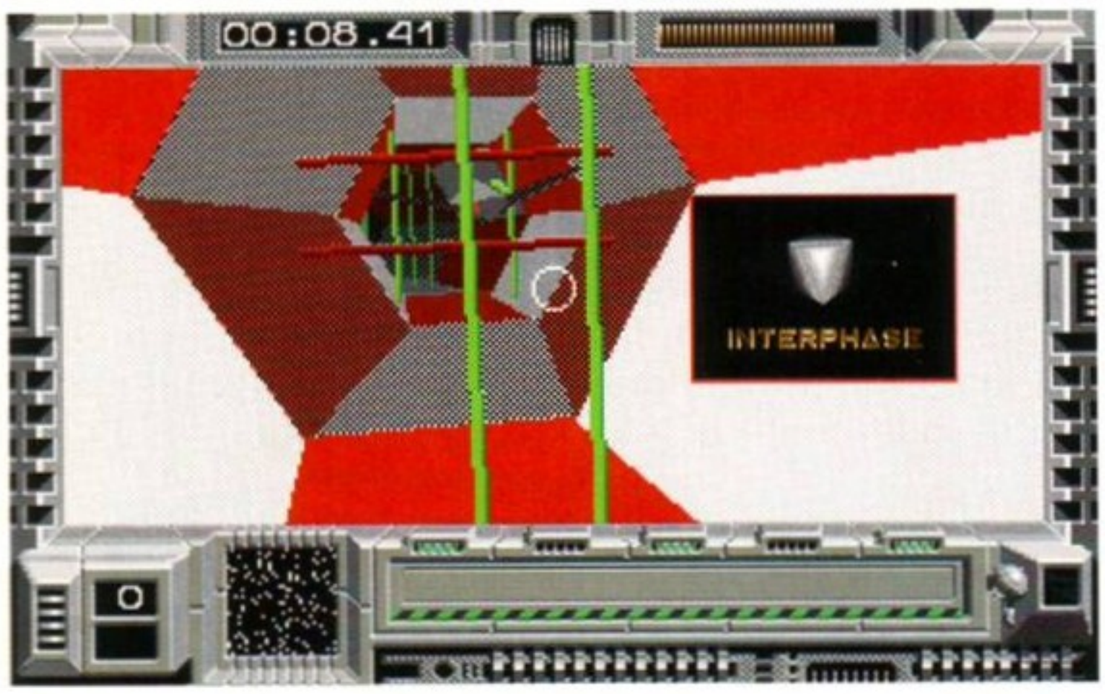
The Assembly Line have now gone their separate ways, but remain active in the industry. One of them is involved with a new PC Disney flight sim that is selling in enormous quantities in America, and the others are still involved with games development.

ATARI: Computer console, coin-op and computer manufacturer based in California. Atari invented the home console and the simplified joystick with its VCS system which was on sale in the early '80s.

As some of our more irritating American pals might say, Atari and the Amiga have 'a lot of history'. The current head of Atari, Sam Tramiel (see separate entry) once worked for Commodore, he worked for the company in a big way – he was head of it – but this all ended in a puff of boardroom politics. But as opposed to taking the money and running, the redoubtable Sam simply went off some say bought Atari, some say bought a controlling share, but everyone agrees he runs the shop. Aside from virtually creating the global software leisure industry with the VCS, Atari also pumped some early development money cum venture capital into the very first Amiga...

So considering the Amiga's dominance over Atari's own ST computer, Atari must still be smarting from the way Commodore simply bought up the entire Amiga project in 1984. In 1992 the company announced losses due in part to the dominance in America of the Sega and Nintendo consoles.

(See Amiga, History Of for the full details of this intriguing piece of computer history, and be careful when deriding friends for owning STs, they were once nearly part of the family!).



***Interphase* was featured in its entirety on the cover of *Amiga Format*, it is also an example of the work that the Assembly Line were capable of.**

AUDIO ENGINEER: Released in 1990, the Audio Engineer is a complete hardware and software sampling package. The GSoft hardware add-on is a six-inch box that connects to the Amiga's parallel port via a ribbon cable. It has facilities for either mic or line inputs, so that a microphone or stereo system can be connected with ease, thus saving you having to fiddle around at the back of your Amiga. The software part of the package is the excellent *Audiomaster* software. (See Audiomaster).

AUDIO ENGINEER PLUS: This £200 stereo sampling package which was released in May 1992 is highly rated, thanks to the meritorious software and sturdy hardware. The program carries out complex sound calculations quickly, comes with an excellent manual and provides near-studio quality sampling for a fraction of the price. Its sample editing is speedy and accurate thanks to a flexible zoom function and the time stretch and conversion utilities add greatly to its shelf life. It received an ***Amiga Format*** rating of 94 per cent. (See Samplers)

AUDIO VISUAL RESEARCH (AVR): Dave Woodhouse, Tel: 0582 457348

AUDIOGENIC: Peter Carver, Winchester Road, Canning Road, Wealdstone, Harrow, Middlesex, HA3 7SJ, Tel: 081 861 1166. One of the older software houses in the industry. Audiogenic is responsible for games such as *Exile* (which scored a respectable 68 per cent in June 1991 (*AF*23) and *World Class Rugby*, again 68 per cent but this time in February 1992 (*AF*31). The latest claim of the company is the fact that US Gold has picked up on its *World Class Soccer*



***Exile* from the redoubtable Audiogenic, a company that was set up off the back of a recording studio in Reading, which Martin Rushent also used.**

and is currently re-working it in order to produce the first Premier League soccer game. This is expected later this year.

AUDIOMASTER: The *Audiomaster* range of sampling software is generally regarded as being just about the best available for the Amiga, because the quality is high and it's easy to use. *Audiomaster* was designed by Peter Norman, is produced by Aegis and is available from Aegis distributor Oxxi.

The latest version is *Audiomaster 4* , which features a wide range of editing functions including multiple sample loops, time stretch, pitch conversion, and extensive digital filtering. (See Audio Engineer).

AUDIOMATRIX: A recording studio in Cardiff that used Amigas for sequencing and sampling. Audiomatrix was set up by Steve Perry, who was one of the first people to start using the Amiga in the recording studio rather than the preferred Atari, PCs and Macs. The main reason that other computers got into the studio before the Amiga was that their software was around first and they therefore became firmly established. Although the Amiga is still not the most popular recording studio computer, more and more are now using it because top quality software such as *Dr T's MRS* is now available.

AUDITION: Company that produced an Amiga Tutor Video that went on sale early in 1991. The video is of limited use now because it applied specifically to the A500 which has since been updated.

The video got the thumbs up from the ***Amiga Format*** reviewer, who reckoned it was a far better way of getting to know your way around the Amiga than ploughing through an instruction manual.

AUDITION 4: Sound sampling software from Sunrize Industries which was released in December 1991.

The program includes looping, tuning, sound effects, real-time oscilloscope, programmable trigger levels and time stretch functions. When used in conjunction with one of the better samplers, such as Sunrize's 12-bit or 16-bit models the program can produce stunning results. It received an ***Amiga Format*** rating of 93 per cent and costs £49.99. (See Samplers)

AUSTERLITZ: Impressive if somewhat dated looking war-game produced by PSS in early 1990. You can rewrite history by playing the role of either Napoleon or Czar Alexander as they face each other across the borders. Your orders (you play in a series of rounds) are dispatched to the front by dispatch riders on horseback and you can then watch the results of your strategic planning. The crux of the game is to watch what your subordinates are up to while reacting quickly to situations, a pursuit which is both enjoyable and addictive. *Austerlitz* was released at £24.95 and received an ***Amiga Format*** *Gold* rating of 91 per cent in March 1990 (*AF*8).

AUSTIN, PETE: Programmer with the Level 9 team who is best known for creating *Billy The Kid*, *Time And Magik* and *Champion Of the Raj*. These games all fall into the history game category, a strange little genre because it doesn't really exist. History games are in fact, strategy, adventure or action games that are based on the exploits of a historical situation or character such as *Billy The Kid*. History games were moderately popular a couple of years ago, but never really caught the imagination of the great Amiga game-buying public.

THE EARLY HIS

It was just over ten years ago in Silicon Valley, California, that a young development team came up with idea for the prototype Amiga, now it's Britain's most popular home computer

1982 was the year that saw the conception of the Amiga. The Amiga codename, which is now so familiar to us, was chosen by a small development team, then called Hi-Toro as the secret title for its Atari-beating games console. This team comprised four young men who had all been well immersed in the high-expectation, high-achievement, high-profile world of Silicon Valley. They were Jay Miner, RJ Mical, Dave Morse and Karl Sassenrath.

The Hi-Toro title didn't stick for too long because the Amiga name that the boys had adopted was that bit catchier. There are a number of stories as to just why the name Amiga was chosen. One of the theories has it that when the guys were discussing their new baby in the local Californian bars, they had to use a codename that was not too obviously computery – calling their nascent console the X5532/3Y would have been a bit of a giveaway to people sitting around them (all of whom would also be creating new computers, it being Silicon Valley) and it would also be a bit of a mouthful after a few tequilas.

So they decided on a name that would make them sound like the kind of lads who had Spanish girlfriends – Amiga being the Spanish word for girl-friend. They also carried this theory over to the codenames for the special Custom Chips that became the heart of the machine, coming up with the names Agnus, Portia and Denise, and decided to base their computer around the latest chip technology, which happened to be the 16-bit Motorola 68000.

Back in the early 80s, Silicon Valley was a remarkably lively, but very peculiar place to work, because there was so much industrial espionage going on. The products being developed there were worth hundreds of millions of pounds, so spying was a lucrative business and secrecy was essential to the early development of the Amiga.

Apart from the codenames, the team decided that they'd disguise their operation further so that no-one would know that the Amiga was being developed by creating weird joystick designs such as half-size surf boards to act as a distraction to potential spies (and as meditation aids!).

Eventually a console design started to appear and a table full of circuit boards connected to a keyboard, disk drive and various ports and connectors was christened Zorro.

This then, was the very first physical Amiga. Unfortunately it looked like Zorro could also be the very last Amiga because the team had run out of money before they finished developing the machine.

The initial $7million venture capital had been enough to rent premises, pay wages and, of course, buy all the extremely expensive electronics equipment required to launch a world-beating console. In retrospect it seems that the team had not really got the business brains to make the best use of the money - how else do you explain a $7million loss?

Luckily for the boys, the Consumer Electronics Show in June 1984 was the ideal stage to preview their new machine, and to look for some additional capital.

And boy, did the show do the business for Hi-Toro/Amiga. All the big-name companies were there, and among those companies was Atari. The once-massive corporation had stumbled upon hard times with the console crash of the early 1980s, and was now looking for a way to clawback some sense of empire.

This desire was augmented by the fact that the founder of Commodore Business Machines, Jack Tramiel had a rather large axe to grind (see Jack Tramiel) having recently been ousted from his seat at CBM, and having gone on to buy controlling interests in the rival Atari operation.



The A2000: launched in the UK in 1987 when it would have cost you £1,500.

But money did not come immediately to the team. They showed their prototype machine to executives from companies including Hewlett Packard, Philips and even the once maverick Apple Computer before Atari finally stumped up anundisclosed (but not massive) amount of money.

But Jack Tramiel and Atari were not to benefit from this investment in the long term. There was no way in which Commodore Business Machines was going to allow Tramiel the opportunity to have a potentially big stick with which to beat his old firm. So, the whole machine was bought up by CBM who then created a brand new division, Commodore-Amiga, to finish development and to market the computer.

With the new funding, and the backing of an enthusiastic company behind it, the first Amiga , the A1000, went from clunky but interesting development machine to full-blown home computer. So one year later at the same (CES) computer show the Amiga 1000 was launched. It was extremely primitive compared to today's models boasting only 256K of memory and a price tag of £1,000, but it created a huge stir in terms if publicity and market image. This was helped by Debbie Harry demonstrating the computer's music capabilities and by Andy Warhol showing off its graphics abilities.



The A500 marked a breakthrough for Coomodore and paved the way for the incredible success of later models.

Another year on, in 1986, the A500 was launched with a price tag of £599. But all the famous names, and the media hype was not reflected in huge sales. So, Commodore was forced to rethink the image of its machine. And what a rethink it was.

The most obvious choice made by the company was to avoid making the A500 an IBM PC or Apple Macintosh clone, but instead to go for its own look. That decision paid huge dividends and by 1990 the A500 was the best-selling computer in the UK.

Over the last nine years there have been many different Amigas. They've come with widely differing specifications and price tags, but what they all have in common is that they've all sold in their thousands and they've all retained the basics of a Motorola processor, Commodore's own custom chips and the Workbench operating system. In that respect even today's new A1200 reflects its ancestry.

TORY OF THE AMIGA

The Amiga Family - an at-a-glance guide

Since it first entered the world of home computing, the Amiga has had many guises. Here is the family tree so far...

Lorraine - This was the very, very first codename for what we now know as the Amiga. Lorraine was only ever going to be a games console to beat Atari's VCS series and to recoup the initial $7million investment made by Mical, Morse and Miner. Lorraine was a fine idea, but she never saw the light of day.

Zorro - The original codename given to the first physical manifestation of the Amiga. Basically, Zorro was a mishmash of wires, drives, keys and other electronic bits'n'bobs. The one thing it was not, was a simple console beater.

Amiga 1000 - Launched in the UK in 1986 for £1,500, it was the first true Amiga. It was based on the Motorola 68000 processor and came with three custom chips - Portia, Agnus and Daphne. Its initial launch at the Chicago Consumer Electronics Show of 1984 was a mass-media affair. Unfortunately, the interest was not followed up by consumer support.

Amiga 500 - Launched in the UK in 1987 for £599. It was the first truly successful Amiga. The A500 was a deal cheaper than the worthy A1000 and was pitched as an everything machine, and as such it took some time before its worth really became known. As with the A1000, the A500 is based on Motorola's 68000 central processor, but the custom chips are refined, and renamed as Agnus, Denise, Paula and Gary.

Amiga 2000 - Launched in the UK in 1987 for £1,500 Another in the range of 68000-based Amigas. The A2000 was basically a repackaged A500 with added expansion slots (the Zorro II). It was aimed at power users in the worlds of multimedia, the arts and music and came in a bigger box (more IBM PC-like), with an extended keyboard to give it a non-games machine look.

Amiga 3000 - Launched in the UK in late 1990 for £2,000. The A3000 was the first 68030-based Amiga, and was a real leap forward. The A3000 was aimed at the power-users in the Amiga community. Most importantly, the A3000 is the first Amiga to make use of true 32-bit technology.

Amiga 1500 - A strange hybrid Amiga, launched in the UK in 1990 for £1,000 to fill the gap between the high-flying A3000 and the entry-level A500.

Amiga 500 Plus - Launched in the UK in 1991 for £399. The differences between it and the A500 are more RAM (1Mb as opposed to the standard half), an Enhanced Chip Set (ECS) and Workbench 2.

Amiga 600 - Launched in the UK in 1992 for £399. The A600 was met with a storm of 'traditionalist' outrage when it was released as the A500 replacement. Once again it was 68000-based, but it didn't have a numeric keyboard. Nevertheless, it still had the basics of the A500. The A600HD (launch price £499) was the first entry-level Amiga to come with the hard disk configuration.

Amiga 4000 - Launched in the UK in 1992 for £2,100. Based on Motorola's 68040 processor, the A4000 is real top-of-the-range machinery. It comes with 32-bit technology, and six (yes six) custom chips. These are Super Gary (which deals with the disk drives), Super Ramsey (dealing with RAM), Lisa (Denise in her new AA chipset guise), Super Amber (a built-in flicker fixer), Alice (Alice in her AA chipset guise), and Paula. The A4000 also makes use of IDE drive technology.



The A4000, launched in 1992 for £2,100, is a top-of-the-range machine and is particularly popular in America.

Amiga 1200 - 1992 also saw the UK release of the most exciting mid-range Amiga since the A500. Based on the 68020 processor, the A1200 (launch price £399) uses true 32-bit technology. To put this in perspective, the first IBM PC to use true 32-bit is the 486! The A1200 makes use of the extended Advanced Graphic Architecture (AA) chipset, has 2Mb of RAM built-in, and a numeric keypad.

Commodore Total Dynamic Vision - Launched in the UK in 1989 for £599 and known as CDTV to it friends. Although, at its launch Commodore attempted to pitch the machine not as an Amiga but rather as a multimedia, family entertainment centre or some such nonsense, the CDTV is in fact an A500 with an extended keyboard, built in CD-ROM storage and a black body. Some people think of it as a sleeper, others maintain that it was a machine ahead of its time, and others still that CDTV has been seriously let down by the quality of its software.

Specialist Amigas

Amiga 3500 UX - A Unix workstation

Amiga 3000 T - A tower-configured Amiga 3000

Amiga 2500 - an A2000 with a built-in accelerator card.

B From Babbage to Bytes by way of *Batman*, Blondie, Bob, Bug, Bump Mapping and Branson

BABBAGE, CHARLES (1791- 1871): Known as 'The Father Of Computing', Babbage never actually developed a computer, but had all the right theories to do so. Babbage was a mathematician, who was born in Teignmouth, Devon, and was educated at Trinity and Peterhouse colleges Cambridge. In 1814 he married Georgina Whitemore. Babbage devoted most of his life to trying to build two calculating machines, The Difference Engine, and The Analytical Engine.

The Difference Engine was intended for calculating logarithm tables, nautical tables, and similar functions by repeated addition performed by trains of gear wheels. A small prototype was described to the Astronomical Society in 1822 in a paper called *Observations On The Applications Of Machinery To The Computation Of Mathematical Tables*, and Babbage was awarded the Society's first ever Gold Medal.

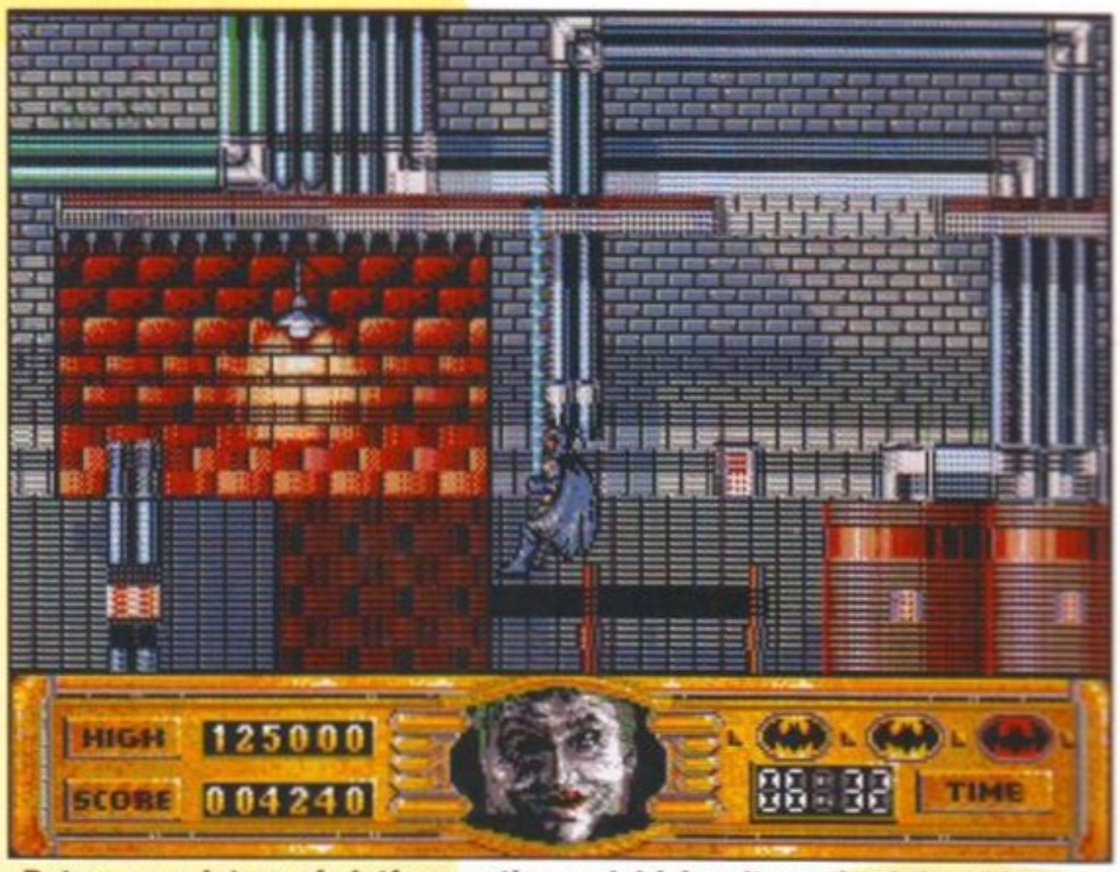
Thanks to this, and his friendship with the Prime Minister, The Duke Of Wellington, Babbage was granted Government money to build a full-size machine. After spending £17,000 of public money and £6,000 of his own (a huge amount in those days), support was withdrawn when Babbage's engineer, Joseph Clement resigned following an argument and took with him all the tools that had been specifically machined for the engine. An unfinished portion of the machine is now in the Science Museum in London.

Babbage quickly moved on to a more ambitious project to design The Analytical Engine, which was designed not just to compute a single mathematical function, but to be programmed to compute more complicated functions by using a punched card system, similar to that used in the Jacquard Loom. He was joined in this project by Countess Ada Lovelace, Lord Byron's only legitimate daughter.

She was an exceptionally gifted mathematician, and devised a program for The Analytical Engine in 1835 – the first ever computer program. Babbage and Lovelace were dogged by problems, most of them financial, and she lost much of her wealth gambling on an 'infallible' horse-racing system. After her death at the age of 36, Babbage continued alone.

The ideas behind The Analytical Engine were too ambitious to be realised by the mechanical devices of the time, but can now be seen to be the essential theories behind the computer as we know it. Babbage held the Lucasian Chair of Mathematics at Cambridge (the chair once held by Newton) between 1828 and 1839, but delivered no lectures. In 1833 Babbage was parliamentary candidate at Finsbury. In his final years he grew increasingly disillusioned, and expecting a peerage for his work, he turned down a baronetcy.

BABYLON 5: American science fiction series. The show's producers show used Video Toasters with the Amiga's *Lightwave 3D* software for the graphics.



***Batman:* a mixture of platform action and driving. It received the ultimate accolade of an *Amiga Format Gold* in December 1990.**

BATMAN: Interesting arcade adventure from Ocean based around the recent Tim Burton film about the Dark Knight. The game mixes platform action with driving (in the Batmobile) and flying (in the Batwing). *Batman* comes equipped with all those lovely toys that the Joker is so jealous of, the most useful of which is his grappling hook belt item with which he can climb or drop levels within the platform sections. *Batman* cost £24.99 on release and received an ***Amiga Format*** *Gold* rating of 90 per cent in December 1990 (AF 5).

BATTLE COMMAND: Slick 3D strategy cum shoot-em-up game from Ocean which was released in February 1991. The game places you in charge of a futuristic tank and the aim is to complete 15 missions, ranging from escort duties to search and destroy sorties. Obviously these require completely different skills and unless you can handle a Sidewinder missile you'll be stuffed. *Battle Command* cost £24.99 on release and received an ***Amiga Format*** *Gold* rating of 90 per cent in February 1991 (AF 19) . (See Whole-world Games)

BATTLE ISLES: Superior futuristic war-game from Ubi Soft which was

Continued page 20



***Battle Isles* is an excellent futuristic war game from Ubi Soft, which combines battlefield action with a strong element of strategy.**



Well-written scenarios and impressive graphics help add to the realism of *Battle Isles*, especially when you go into two-player mode.

Bring Home The Best



If you're thinking about getting an Amiga® special effects or image processing product, here are some facts to consider:

• ASDG's Art Department Professional was named the "Best Image Processing Program" for 1992 by the readers of Amazing Computing Magazine and "Best Video Software" by Germany's Amiga Plus Magazine.

• American Software And Hardware Distributors and MicroPace Distributors (the two largest Amiga® software distributors in North America) cite ADPro and MorphPlus as the best selling products of their kind.

• ADPro placed third among ALL Amiga® software products on the MicroPace 1992 Top 50 Sellers List.

• The Post Group, one of the largest post production houses in the world, has used ADPro and MorphPlus in the production of special effects for the prime time TV



show Quantum Leap and for major motion pictures.

• Mark Swain, an AmigaWorld reviewer (and animator for Foundation Imaging, the creators of the special effects for Babylon 5), said, "MorphPlus produces the most realistic shape shifting special effects I have ever seen on a desktop."

• David Duberman, Executive Editor of Video Toaster User, said in a comparative review of Amiga® morphing products, "MorphPlus is the Rolls Royce of Amiga® morphing software... it will pay for itself with one job."

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released in December 1991. You control an army of tanks, soldiers and aircraft which you've got to use strategically to defeat the opposition's troops. The game (like so many others) really comes alive when you play a human opponent rather than the computer.

The gameplay is helped along by the well written scenarios which progress both in difficulty and in terms of the hardware on offer to you. In terms of gameplay and presentation this is a superior game which introduced many new people to the strategy game genre. *Battle Isles* cost £29.99 on release and received an ***Amiga Format*** *Gold* rating of 90 per cent in December 1991 . (See War Games)

BAUD: Baud is a measurement in Bits Per Second (BPS) of the speed at which a modem can connect. The word baud comes from the the surname of M Baudot, a pioneering figure in the telecommunications industry. The Baud speeds you are likely to see mentioned are 1200, 2400, 4800, 9600 or HST, (High Speed Technology). An average modem has a baud rate of 2400, which is fine for most users, and will enable you to connect to most Bulletin Board Services.

A faster modem will save time and help keep down telephone bills. However it's easy to get hooked on comms , so you may well be advised to start off with a fast modem, rather than upgrade after a few months. A faster baud speed will also give you a bigger choice of online services as faster modems can connect to slower services, but slow modems cannot connect to fast services. Although Baud speeds are translated as BPS it is more literally 'level transitions per second'. (See BBS, Modems).

BBS (BULLETIN BOARD SERVICE): A BBS is a computer that is set up so that it can use a modem to answer incoming calls from other users. This computer is known as the Host, and has a hard disk on which is stored many (sometimes thousands) of useful utilities, programs, and occasionally games and demos, usually from the Public Domain. You can link up with a BBS via a telephone line by using a modem.

Once connected to the BBS you can send and receive messages and PD programs, or link up with other users to play games. Bulletin Board Services are usually set up by enthusiasts (systems operators or SYSOPS) who scour the world for the best Public Domain software.

The process of linking up to a BBS (or other computers) is known as Comms (short for communications). To do this you need a modem (short for MOdulator DEModulator) which you connect via a cable to the serial port on the back of your Amiga. Another cable goes from the modem to a standard British Telecom phone socket.

To get in touch with A BBS you also need some terminal software, available from the Public Domain. Once you have the phone plugged into the modem, modem plugged into the phone socket, software loaded and serial cable attached to the modem and the Amiga you can dial up a BBS by selecting one of the numbers from the terminal software.

You will then be connected to the BBS and by following the on-screen prompts you can download (copy) software, or leave messages for other users. (See Baud, Modems)



Virgin's 1990 beat-em-up release *Double Dragon 2* was not one of the software company's better moments.

BEAT-EM-UP: They're not big and they're not clever, but they are a lot of fun. Ever since its inception, this genre of the games world has come in for abuse and controversy. It's not hard to see why of course, the whole idea of a beat-em-up is to kick the living daylights out of a character controlled by another player or the Amiga. Intellectual it isn't.

Beat-em-ups have been a staple of the computer games industry since it began, because they are easy to program and because they have always been hugely popular. Like it or love it, the beat-em-up is here to stay.

The first beat-em-up to appear on the Amiga was a wonderful title which went by the name of *Barbarian* and was produced by Palace. The idea of the game was simply to kill your opponent by hacking at them with a sword or kicking them. The game was an instant success because it had some gloriously tasteless sampled sound effects which included a nasty thud as a decapitated head hit the floor and a very sick thwacking sound if you managed to connect your sword with the opponent.

The sequel, the cunningly named *Barbarian 2*, created its fair share of controversy too. This was because the adverts for the game showed a very top heavy Maria Whittaker displaying plenty of breastage and a large sword. Incidentally, that advert also featured a stern looking chap with a pointy hat who has recently reappeared to take part in the television programme called *Gladiators;* his name: Wolf.

These games should not be confused with another early Amiga game called *Barbarian* which was the first game from Liverpool based software house



***Barbarian* from Psygnosis (main picture) and the game of the same name from Palace (inset). The Palace *Barbarian* was one of the first beat-em-ups.**



The Psygnosis Barbarian is an unusual game in which you control the warrior by clicking on walk, run and other icons.

Psygnosis. This is an utterly peculiar game in which you have some control over a warrior character on a quest to find a crystal. The game uses mouse control to move the warrior, with the player clicking on walk, run, slash and climb icons at the bottom of the screen. It's very tricky to play and this type of point and click beat-em-up game hasn't been attempted since.

The next chapter in the story was something of a step backwards. In *Sword of Sodan* you play a warrior who has to defeat an evil ruler and although the game features relatively innovative graphics and some funky samples, it is sorely lacking on the gameplay front.

Programmer Archer Maclean then came on the scene with game *International Karate Plus* (*IK+* to its friends), a superbly playable affair with some brilliant touches. The game is a straight karate match in which you have to learn a large variety of moves and then employ precision timing when using them. The game is hugely playable and is an enduring favourite with the ***Amiga Format*** team.

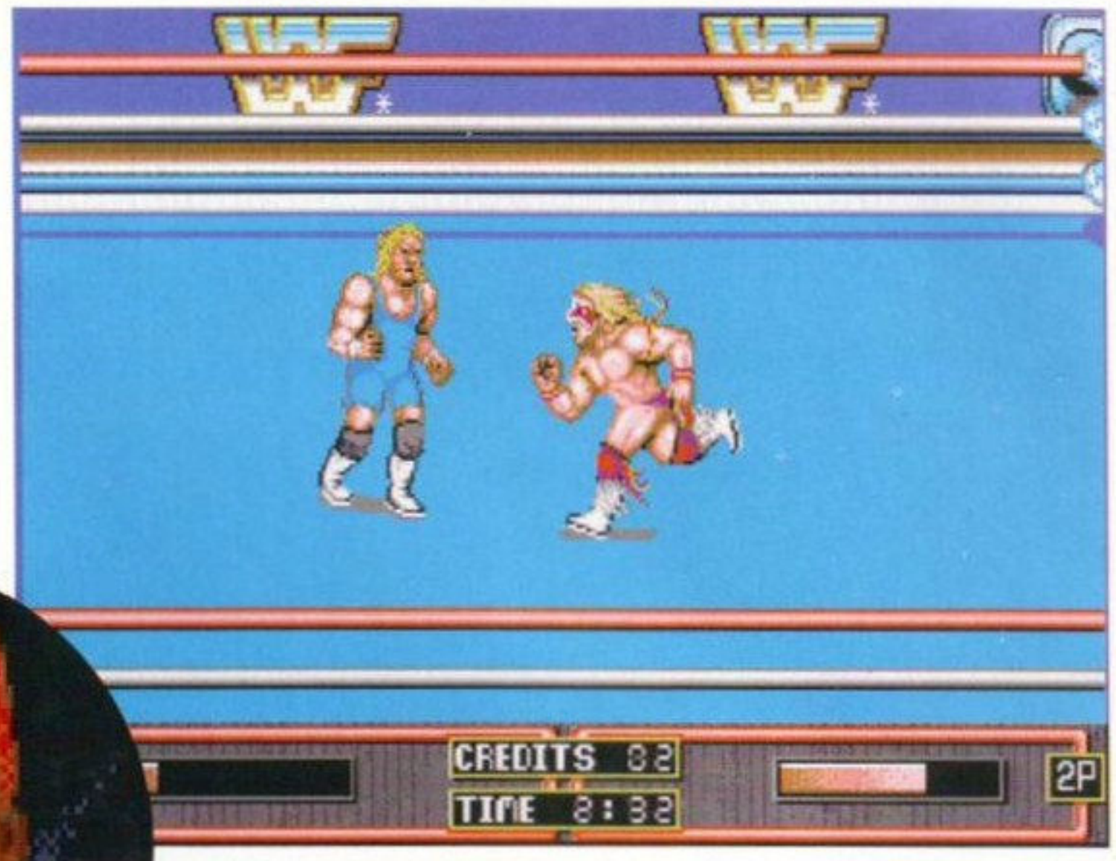
By mid-1988 the only new beat-em-up to appear on the scene was a dreadful game called *Double Dragon*. which was slightly innovative in that it introduced the concept of walking around levels beating up bad guys. US Gold jumped on the scrolling beat-em-up bandwagon in 1989 with its own effort, a tedious game called *Vigilante*. This features plenty of scrapping on the streets, the odd end of level hard guy and some mildly innovative movements, but is really tedious to play.

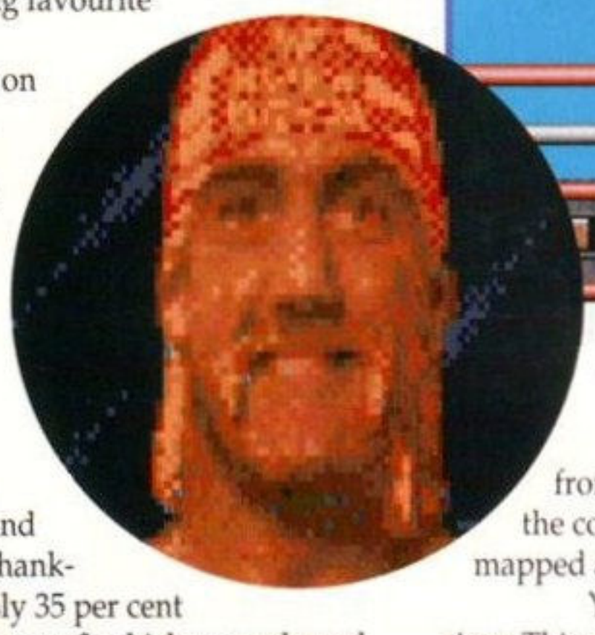
The same year saw an American subway-based scrolling beat-em-up called *Fallen Angel* (derivative and dull), *Knight Force* (a medieval looking game which thankfully disappeared) and *Shinobi* , which scored a measly 35 per cent when it was reviewed in ***Amiga Format***. *Double Dragon 2* which was released at the beginning of '90 is a disappointing game from Virgin, a software house who should know better and redeemed itself within a month with the brilliant *Ninja Warriors*. Lots of care and attention was lavished on this game, it is playable and fun.

Ocean, which has probably released a greater ratio of beat-em-ups than any other software house unleashed two decidedly average games on to the Amiga market in mid-1990. *Shadow Warriors* is a dull Ninja-style game with zero gameplay, while *Sly Spy* is a tedious secret agent-type game with the lasting interest of an episode of Eldorado.

The more traditional kind of martial arts beat-em-up made a return towards the end of 1990 in the form of *Oriental Games*, a fairly average game. *Torvak the Warrior*, *Narc*, *Eswat*, *Golden Axe* and *Street Fighter*, a series of best forgotten misadventures followed, and it took Readysoft to save the day in early '91 with *Wrath of the Demon*. This thoughtful (we kid you not) beat-em-up has a stonking musical soundtrack, over 600 locations and superb graphics. More to the point it's fun to play.

All was quiet on the beat-em-up front until the end of 1991 when Domark decided to inflict *Pitfighter* upon us. The arcade game which this is converted





Beat-em-up, WWF Wrestlemania (above) and one of the grapple competitors Hulk Hogan (left).

from features digitised graphics of real people scrapping it out, but in the conversion to Amiga those sumptuous graphics got severely bitmapped and ended up looking more like walking Mandlebrot sets.

You can't accuse *Final Fight* of having dodgy graphics though, nope siree. This game has large, detailed sprites which move smoothly. Unfortunately it doesn't have any gameplay or variety. Foiled again. At the start of '92 those kings of the licensed game, Ocean, realised that American wrestling was pulling in the viewers on TV. Therefore, they snapped up the rights to the game and knocked up *WWF- Wrestlemania*, a game which appeals greatly to the kids, but leaves the more hardened Amiga gamester cold.

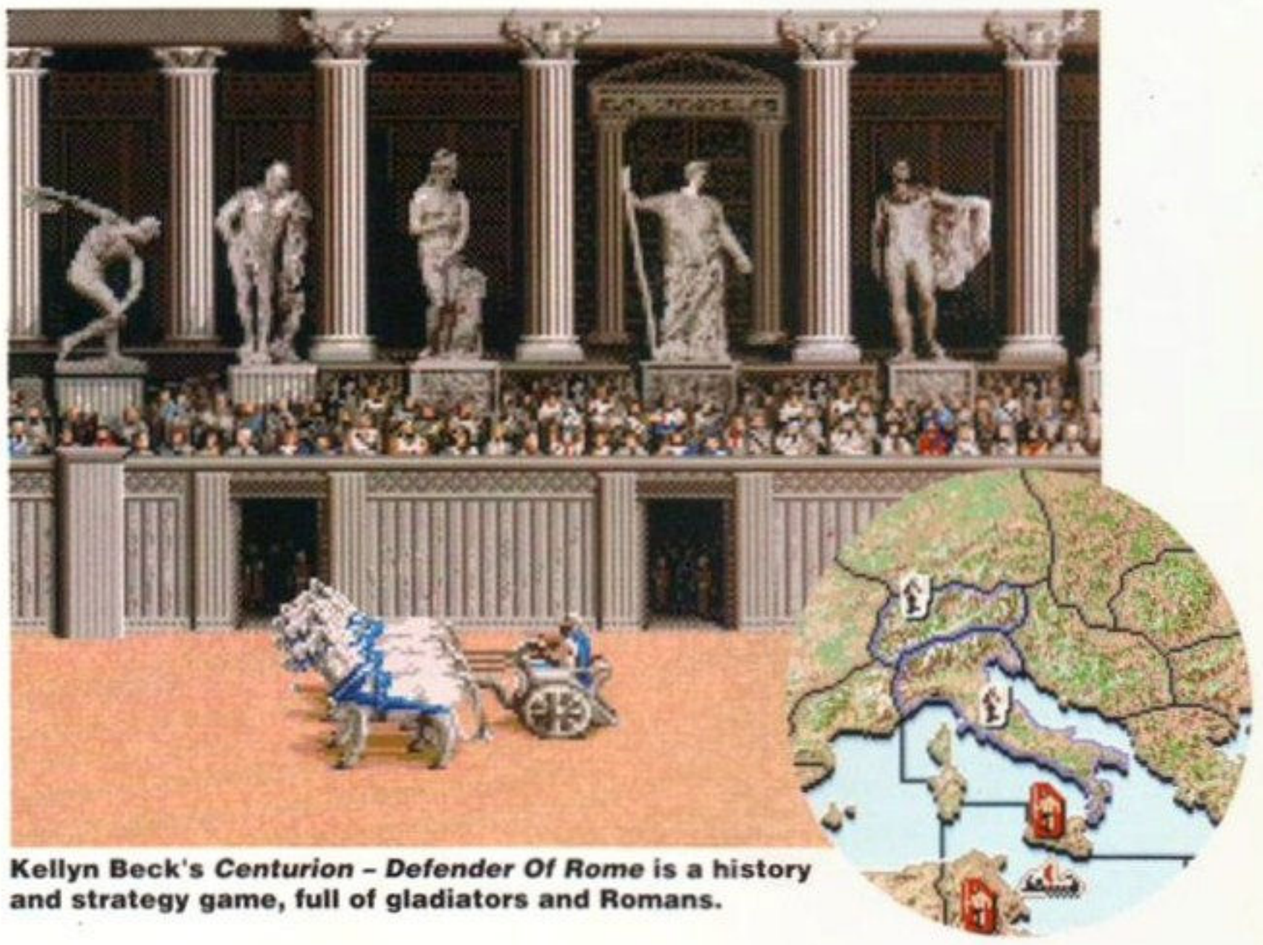
Which brings us along quite nicely to *Street Fighter 2*. This is the game that made more headlines in '92 than David Mellor. The coin-op version is responsible for getting kids off the football pitch and into the arcade where they belong. It also happens to be the best beat-em-up conversion to date. *Street Fighter 2* is a two player game in which you control one of eight characters. The game has a huge amount of depth and it takes a long time to learn the more subtle aspects to each character. In addition, each character has a couple of secret moves which take lots of practice to get right. It's difficult to know where the beat-em-up can go from here, except of course, to *Street Fighter 3*.

BECK, KELLYN: The man widely credited for starting the history game movement with his seminal *Defender Of The Crown*, a game released about five

Continued over



***Shadow Warriors* from Ocean is a beat-em-up of the Ninja variety which did little to further the cause of the genre in the *Amiga Format* offices.**



Kellyn Beck's *Centurion – Defender Of Rome* is a history and strategy game, full of gladiators and Romans.

years ago that set new standards in graphics and sound. *Defender Of The Crown* is a strategy game set in medieval times in which you play the lord of the manor and control your environment by setting taxes, organising jousting tournaments and the suchlike.

Beck, a history buff, saw the game as an escapist adventure based on well-researched historical facts. In an interview with ***Amiga Format,*** he said: "None of my games were intended to be strictly accurate. They capture the flavour of the period and that gives them an authentic feel." Beck also created *Centurion – Defender Of Rome*, another history-cum-strategy game in which you organise gladiator fights, defend the empire against barbarian hordes, and generally look after Rome and its citizens.

The other game for which Beck is best known is *Rocket Ranger*, in which you play an all-American hero who defends the 'home of the free' from the menace of all manner of baddies. Like the rest of Beck's games *Rocket Ranger* is distinguished by its exceptional sound and graphics.

BEERWARE: A similar concept to shareware – software that is initially free but for which you are meant to pay the author if you like the program. A sort of "try before you buy" deal. With beerware, instead of giving the author money, you give them lots of beer in return for the software. (See Shareware).

BENNETT, ROGER: Chief Executive of the European Leisure Software Publishers Association. (See ELSPA).

BELL, STEWART: The managing director of Microprose. (See Microprose)

BEVERIDGE, ANDY: See Assembly Line.

BIG BANG BURGER BAR: A Bulletin Board Service (BBS). This relatively new BBS is home of the very good Rapport software. Big Bang Burger Bar takes its name from the Douglas Adams' book *The Hitchhiker's Guide To The Galaxy* and the Sysops (System Operators) name themselves after the characters from the book Slartibartfast and Gargravarr. The BBS is littered with many other references to the book and there is even an online magazine, *The Guide*, to help travellers in time and space get their bearings. Contact the Big Bang Burger Bar on the BBS modem number 081-909-2064. (See BBS).

BIT BUCKET: When something disappears from a computer without explanation or trace it is commonly said to have found its way into a receptacle known as a bit bucket.

BITMAP BROTHERS: Once upon a time there were three chaps who disliked the train spotting, spectacled, biros-in-the-pocket image of programmers. The three, Mike Montgomery, Eric Matthews and Steve Kelly, decided that they'd set up on their own with a suitably flash image and see if they could get the mainstream recognition they felt they deserved.

Hence, in 1988, Renegade was set up and lots of pictures of the Bitmap Brothers wearing imitation RayBans started appearing in magazines. The actual games which the Renegade boys produce are, almost without exception, of a very high quality. They started the ball rolling with a game called *Xenon*, which was one of the first decent shoot-em-ups to appear on the Amiga. Their latest game is *Chaos Engine*.

BITS: Read the piece about bytes before going any further. Right, got your head round that. Well, every byte is subdivided into eight binary units known as bits. If you use two bytes at a time you are using 16 bits. Three bytes is 24 bits and so on. The number of bits your computer is capable of using at the same time is the equivalent of the amount of data it is capable of processing. Therefore the greater the number of bits, the faster and more powerful your computer is. Most home computers are 16-bit. The A1200 is 32-bit.

BLACK BELT SYSTEMS: Company responsible for the *Image Master*

BLITTER: A block image transfer device. It is used for copying large areas of memory from A to B or to combine areas of memory into a single image. It is widely used to create large graphic shapes in computer games.

BLONDIE: '80s band of which Debbie Harry was the lead singer. She was involved in the launch of the Amiga in 1984. (See Harry, Debbie).

BLUTH, DON: Ex-Disney animator who set up the Sullivan-Bluth animation company in Dublin. The company enjoyed some success in the computer games market with the *Dragon's Lair* series and with *All Dogs Go To Heaven*. Unfortunately, the company went bust in '92.

BOB: Cute, child-like character who stars in *Bubble Bobble*, *Rainbow Islands* and *Parasol Stars*.

BOOM BOX: Dr T's music program was designed to be used by those who aren't terribly au fait with computerised music. It utilises sample loops which enable the user to build up a complete song. The program comes with seven different back beats, ranging from hip-hop to rave.

Each of these consists of three separate tracks: one for drums, one for bass and one for melody. Then when you've got the right backbeat you can play your own samples over the top to make a song. The tempo of the song can be altered, as can the pitch shift, echo and loop points. The program isn't hugely flexible because patterns can't be created or modified, but for people who are new to this kind of music, *Boom Box* does a great job. It was released in early '93 and received 80 per cent in ***Amiga Format.*** (See Sequencers, Samplers).

BOOT: In computer language-talk to boot is to read information required to start up the computer's system. The Amiga has a small amount of ROM space, just enough in fact, to boot, or pull Workbench or a game off a floppy disk or hard drive.

BOPF, RAINER: Programmer who created *A320 Airbus*. This hugely technical program was criticised for being too pedantic, but it has proved popular



***Dune*: Richard Branson's Virgin Games released this graphic adventure with tremendously slick graphics in July 1992.**



Richard Branson: the hugely successful entrepreneur set up Virgin Games when he bought out Mastertronic in 1977.

with the propeller head variety of flight simulator fan. It received 78 per cent in ***Amiga Format*** and was released in February 1992.

BRABEN DAVID: Creator of one of the greatest computer games of all time, *Elite*. Braben was an undergraduate at Cambridge University when he co-wrote this game with Ian Bell. Between 1982 and 1985, Braben studied Natural Sciences at Cambridge University. It was while he was there that he wrote the 8-bit version of *Elite*.

In 1985-6 he attended a one year postgraduate computer science course and it was during this year that he started experimenting with 3D techniques and the result was a 3D tank game which never got released. Those 3D experiments became the 3D shoot-em-up, *Virus*.

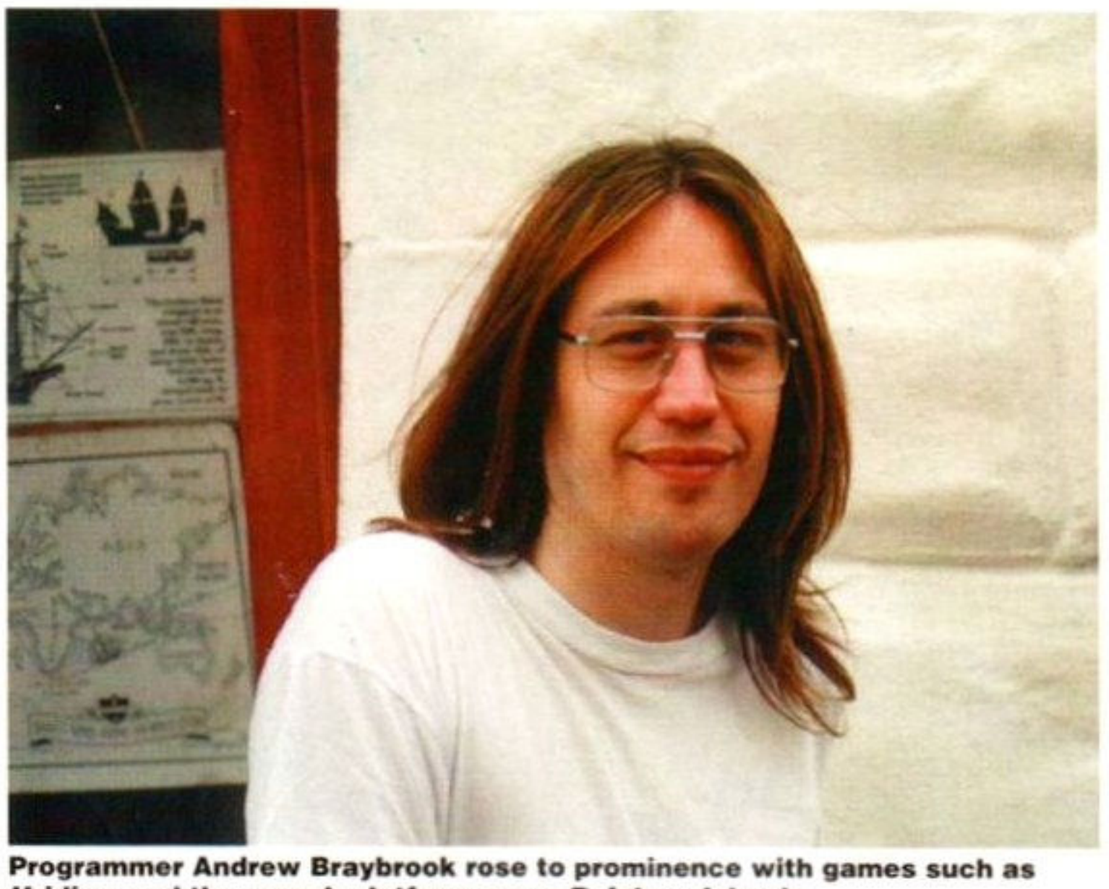
He is presently hard at work finishing off *Elite 2*. This looks set to create as big a stir as the original, as Braben has simulated an entire universe. David's favourite historical figure is Sir William Stanier and his favourite Doctor Who is Jon Pertwee. (See Elite, Whole-world Games).

BRACEY, GARY: Software Director at Ocean. Gary has become something of a celebrity as Ocean has grown to become one of the biggest software companies in this country. Gary has long been championing measures to stamp out piracy such as including 'dongles' with games.

He recently said, "No matter what some people say, having games copies does eat away at our sales... if nothing else, it's bad news for the man in the street because it means we can't charge less for a product." Ocean's games have been criticised for being formulaic, a charge he defended by saying, "... they're as much original products as anything else - we don't copy a coin-op with them, they have to be created from the ground up. And of course you have to admit that they sell - people vote for them with their money, so we must be doing something right." He defends the Ocean's products by saying, "... we know the market - and it's a mass market we're interested in, not any little specialist area - and we know how to be successful in it. We *do* explore original avenues with our products - but more importantly we generate high levels of sales, and that's what counts at the end of the day. I mean, that's why we're here, isn't it?"

BRANSON, RICHARD: Balloon pilot, adventurer, Mike Oldfield fan (though the reverse is not necessarily true) and ex-record company owner, Branson also created one of the better software houses, Virgin Games, when he bought out the Mastertronic label in 1987. The company has produced respected games such as *Dune, Shuttle, Lure of the Temptress, The Legend of Kyrandia, Reach for the Skies, Jimmy White's Snooker* and Sensible Software's *Cannon Fodder*. Mr B now concentrates on the airline portion of his empire as does British Airways. (See Virgin; Maclean, Archer and Sensible Software).

BRAYBROOK, ANDREW: Programmer who rose to prominence in the mid '80s when he created such stonking games as *Uridium*. He resisted the urge to program on the 16-bit machines, until the Amiga was established when he produced the best platform game of all time, *Rainbow Islands*. Since then Braybrook has created *Fire and Ice* a brilliant, if under-rated platform game starring one, Cool Coyote. (See Graftgold)



Programmer Andrew Braybrook rose to prominence with games such as *Uridium* and the superb platform game *Rainbow Islands*.

BRINCKEN, BERND VON DEN: With his partner Mike Weber, Bernd Von Den Brincken worked on a system of controlling the Amiga purely by thought.The system, developed in West Germany, was named *Cyberspace*, after the science fiction short stories by William Gibson and the prototype model was demonstrated at the sixth annual Chaos Computer Club Communication Congress in 1990.

The theory behind Cyberspace is that the user is positioned in front of the Amiga screen with four electrodes taped to their forehead to read their brainwaves to a PC. The Cyberspace clone then processes the information and sends the data to the Amiga for display in real time. The user controls the graphic screen display and their brainwaves through various forms of concentration. (See Virtual Reality).

BROWN-MARTIN, GRAHAM: Chairman of Next Technology, a company that committed itself to producing software for the Commodore Dynamic Total Vision equipment when the idea of CDTV was first suggested back in 1990. ***Amiga Format*** reported in September 1990 that Next was already working on a welcome disk that would come with every CDTV system.

BRUSH: Whenever you draw a line in a paint package you use a brush. The brush can be one or more pixels wide. Most programs give you a choice of brushes of different sizes and shapes. Built-in brushes are usually just one colour.

BUBBLEJET PRINTER: In terms of quality and cost a bubblejet printer lies somewhere between a dot matrix and laser printer, and has now largely replaced the similar-ish inkjet printer. A bubble jet uses tiny elements to heat the ink in nozzles. At a certain temperature bubbles form and force out the ink through a small moveable film mounted on a print head. The ink is squirted directly on to the page as the print head zooms backwards and forwards. Bubblejet printers are exceptionally quiet, with speeds to match a dot matrix, though the resolution is not as good as a laser printer.

BUCAS, GERALD: President and founder of Great Valley Products, an American company that is one of the largest and most successful producers of peripherals for the Amiga in the world. Bucas formed GVP about four years ago after leaving his job as a vice-president with Commodore and is now head of a company with an annual profit of about $35 million.

The success of GVP is particularly impressive when you consider that sales of the Amiga in America are tiny when compared to the massive PC market. The company's sales are split roughly 50-50 between America and the rest of the world. (See A530).

BUFFER: Because the Amiga is capable of outputting information to a printer faster than it can print it, most printers have a buffer zone which stores the information from the Amiga until it can be printed.

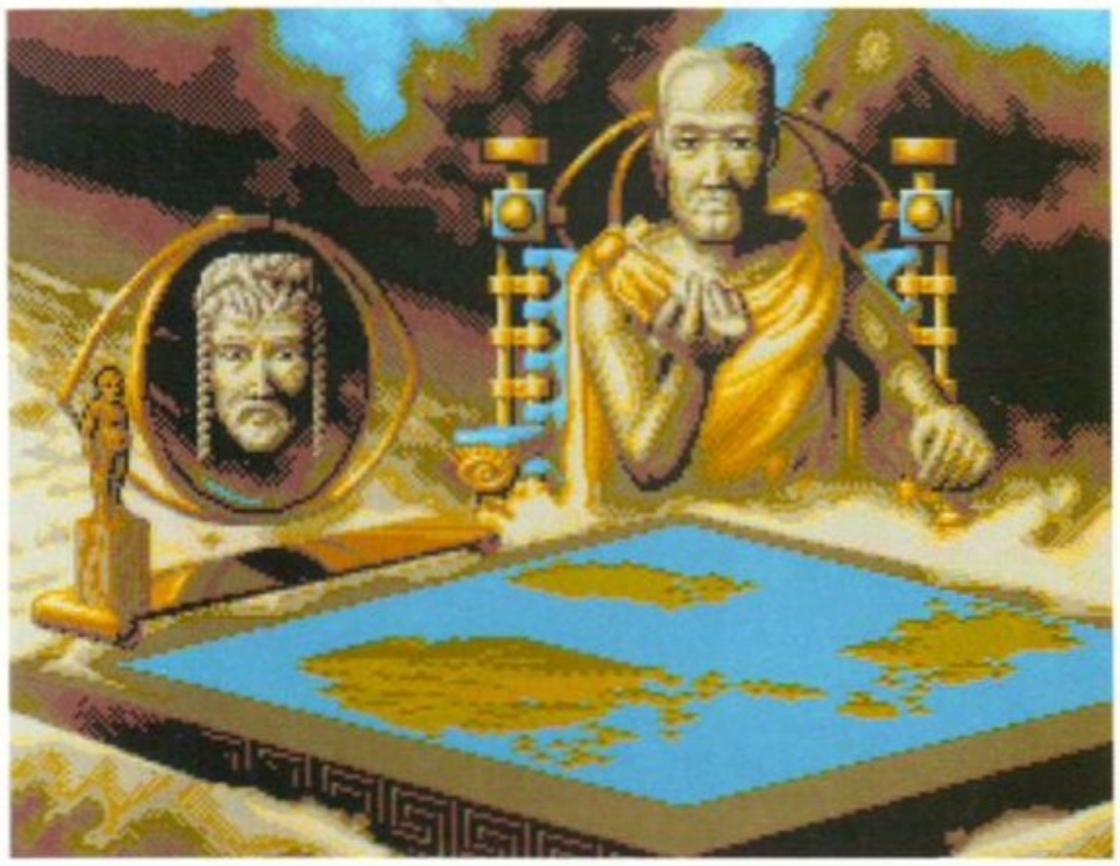


Graham Brown-Martin, the chairman of Next Technology which began working on a welcome disk for release with CDTV.

Continued over



The Bullfrog team was set up by Peter Molyneux (third from left) in 1988 and has created such games as *Populous*, *Flood* and *Powermonger*.



The Bullfrogs' *Populous II* followed up the success of the original *Populous* to become one of the best games on the Amiga.



The Bullfrogs' *Flood* is a curious, but likable platform game in which you play a garbage-gathering little dinosaur.

BUG, THE: When Cheetah's *Bug* joystick was first introduced it was treated with some suspicion because of its strange shape and peculiar appearance. Now it is regarded as one of the best joysticks on the market and got a 92 per cent ***Amiga Format*** *Gold* rating when it was reviewed in issue 29 (December 1991). The Bug is cast from smooth plastic and has a small stick, with the two fire buttons at the front (forming the Bug's 'eyes'). It may not look pretty but the Bug is easy to use and suits virtually every type of game. (See Joystick).

BUG: This is an erroneous piece of code within a program which stops the program from operating in the correct manner. There are many stories about where the term bug came from, one of which is that the first bug ever recorded was discovered by a scientist called Grace Hopper.

Hopper was working for IBM in 1945 and was involved in ballistic computing for the war effort. Her boss, Commander Aiken, would come to the workshop and ask: "Why aren't you making numbers, Hopper?"

After one computer breakdown, the fault was discovered to be a moth which had flown in through the window and been hammered to death in a relay switch. Hopper replied to Aiken that she was "debugging the machine." This first recorded 'bug' was removed from the relay with a pair of tweezers and is preserved at the Naval Museum in Virginia in the log book for the computer, the Harvard Mark II.

BULLFROG: The company was set up in 1988 by Peter Molyneux and two others on the top floor of an old age pensioners flat. The idea of the company was to create games which were a little different to the competition's.

The first game Bullfrog produced was a conversion for the now extinct *Firebird*. The first original product was *Fusion*, a strategy shoot-em-up on the Amiga. It was while the programming team were putting the finishing touches to this game that Peter started programming and designing the god game *Populous*. In April 1988, *Populous* was released to overall acclaim and the game went on to win every award bar an Oscar.

To the present day, *Populous* has sold over a million copies on all formats and the team are still engaged in conversions for other machines.

The Bullfrog team wanted to do something even more spectacular for that 'difficult' second game and they decided to create a living world within the computer. The result of their exertions was *Powermonger*, a game which again scooped loads of awards.

At about the same time the Bullfrog team released *Flood*, a platform game with an ecological bent in which which you are a little dinosaur that must collect litter and throw hand grenades at monsters.

If you don't collect enough garbage, the screen fills up with water and the dinosaur drowns. *Populous II* followed soon after and although this was a superb game it was pipped to the Christmas number one slot by the utterly mediocre *WWF Wrestling* from Ocean.

Peter feels that the best game that Bullfrog has ever produced is the two player version of *Populous*, even though this is the least played version created. Contact Bullfrog at: Enigma House, 30 Alan Turing Road, Surrey Research Park, Guildford, Surrey, GU2 5AA. Tel: 0483 579399. Fax: 0483 301030.

BUMP MAPPING: Painting term to describe the process of shading a 2D image to make it appear as though it is 3D.

BUSHNELL, NOLAN: Programmer and visionary. Bushnell was responsible for producing the very first proper arcade game, a tasty little tennis number which went by the name of *Pong*.

Bushnell touted the game around the bars of California himself and his perserverence and belief in the game paid off, because it went on to be one of the most successful games ever.

He was one of the founders of Atari and has also worked for Commodore, but recently he has dropped out of the scene.

BYTES: Bytes, kilobytes (K) and megabytes (Mb) are all to do with your Amiga's memory. Bytes are like boxes that are capable of storing a given amount of information.

You might think that 1Mb is enough memory to store all the information in the known universe, but it's not. It takes about 2K to store the contents of one page of printed text and one second of sampled sound uses about 32K of memory.

Just to complicate matters a kilobyte is not 1,000 bytes but 1,024 and a megabyte is not a million bytes but 1,048,576. This is because computers work according to binary maths (base two). If you start at the number one and keep doubling it you will eventually reach 1,048,576. Why not try it at home?

Potentially a very bizarre letter, including – would you believe it – a religion based around Amiga worship!

C64 The predecessor of the Amiga and one of the world's most successful home computers: it remained the best-selling machine in Britain as late as 1990, even though by then its 8-bit design made it fairly outdated. Yet it was easily the most advanced of the 8-bit computers, far more sophisticated than its competitors the Amstrad CPC and the Sinclair Spectrum. It incorporated a custom sound chip by the name of SID, in much the same way the Amiga has a custom sound processor called Paula.

The C64 is based around a 6502 CPU (equivalent to the Amiga's 68000) and had a 64K RAM capacity – hence the name. It first appeared, as far as anyone can remember, in 1982, a successor to Commodore's successful PET (Personal Electronic Transactor), the world's first ever personal computer ahead of the more familiar IBM PC, and to the less well-known VIC machine.

The C64 was redesigned round about 1985 to give it a more modern look, similar to a more compact A500 with its all-in-one keyboard/CPU unit. Many Amiga owners and, indeed, programmers started off with a C64 and will talk lovingly about its graphics and sound capabilities, which were excellent for the time. Although the C64 is still on sale, it's not as popular as it once was: Commodore's boss, Kelly Sumner, explained to ***Amiga Format*** that sales were effectively killed when Commodore made a deal in 1991 to supply C64s at a special price through a major national retail chain. No other shops could compete with the price this chain was selling the machine at and so everyone else stopped stocking the C64: so when the major retail chain decided to drop the C64, the market for it had effectively disappeared.

The C64 is still available in a £99 pack, which is still very good value: the C64 has an enormous back catalogue of good games and of productivity software, but software houses have more or less stopped producing new games for it. The C64 is still the most popular computer for business use in New Zealand, ahead even of the IBM PC compatibles.



Commodore's C64 computer. As you can see from this shot, the idea of bundling hardware and software has carried over from the Amiga.

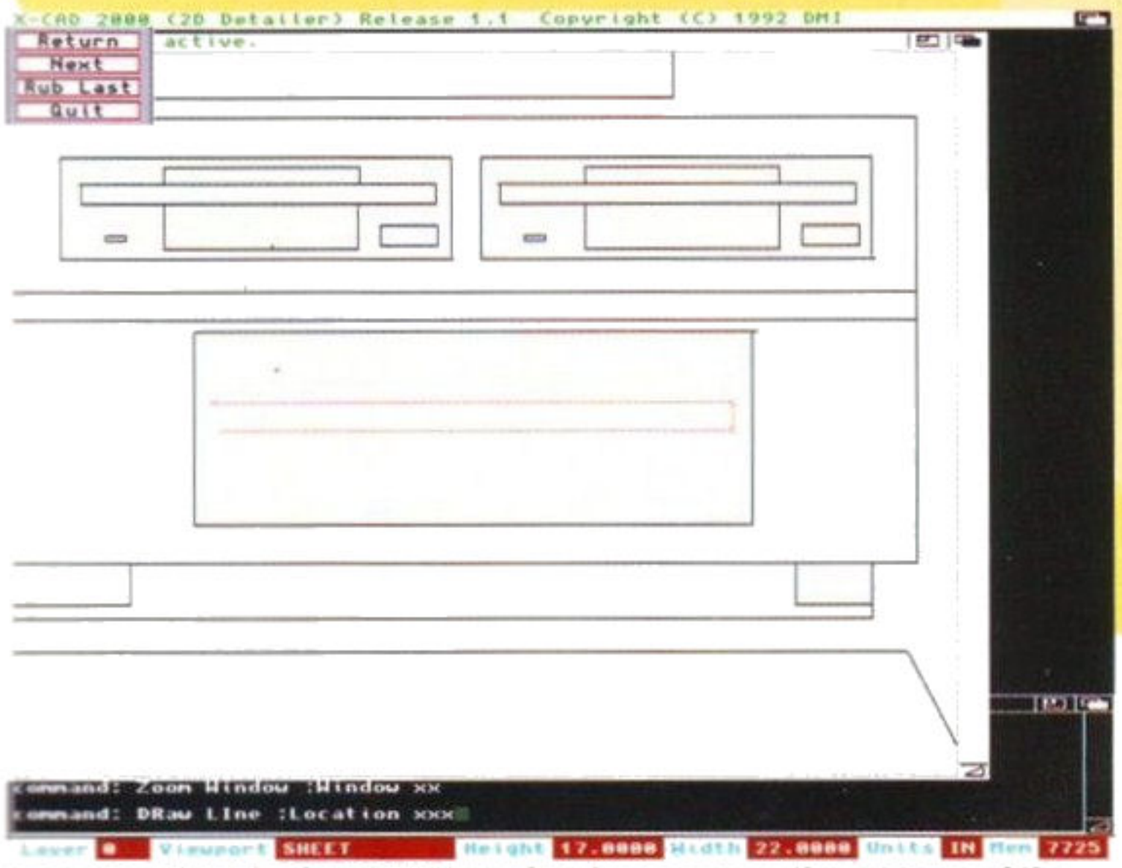
C64 GS: Described by Commodore UK's boss Kelly Sumner as his worst ever mistake, the C64 GS was a cartridge-based games console developed from the C64. Uniquely, the C64 had been designed from the start to load tapes from tape, disk or cartridge, though cartridges had never been released for it.

In an attempt to cure piracy problems, Commodore co-operated with software houses to come up with the C64 GS. It went on sale in 1990, looking like a large, brown plastic brick, and several games were released for it on cartridge, most notably by Ocean. Sadly it proved to be about as popular as ice cream in the Arctic and sales were a total failure. Unsold C64 GSs were probably put under a steam-roller so Commodore could claim back tax on them.

C64 SX: Short-lived 'portable' version of the original C64, released in about 1984, this came in a smart grey and blue box with a 3.5-inch colour screen, weighed about three tons and cost about £800. Computer fiends all lusted after one but nobody could afford one and it soon vanished.

C128D: Sophisticated big brother of the C64, this was the equivalent of the Amiga 2000 – the keyboard was separate, the main CPU unit was a big, square metal box you could rest a monitor on top of, it had a 5.25-inch floppy disk drive in the front (hence the 'D' for disk in the name) and it had twice as much memory, a massive 128K of RAM. Really it was an excellent computer for games and business software, though it stopped being produced when the Amiga got popular and Commodore repositioned the C64 as a budget, entry-level family computer.

C.H.I.P: The Church of Heuristic Information Processing (CHIP) was founded by Saint Silicon in America and has followers called DOSciples, a Binary Bible and prays to G.O.D. (the Giver Of Data). Saint Silicon sells all sorts of wonderful and worthy products, including a headache remedy called Amigraine. The strangest thing about this entry? All of it is true.



Computer Aided Design (CAD) has often been seen as the preserve of the high-end PC or workstation. But the Amiga is quickly catching up.

CAD: Computer Aided Design. These programs enable the user to create sophisticated plans for houses, PCBs, cars etc. These days practically everything is designed on a CAD package because it offers advantages over the draftsman's board such as flexibility and modification of mistakes. These programs differ from art packages in that they offer specific drafting tools such as electronic component templates and as a result they tend to be far more complicated (for complicated, read expensive). The best CAD package for the Amiga is *X-Cad 2000/3000*.

CAEN, ERIC and HERVE: French bothers who formed the Titus software house in April 1985. At one point Titus claimed to be the only company in the world to give their products a lifetime guarantee. Two of its best games are *Titus The Fox*, an arcade platform game with outstanding graphics and design which is regarded by many people as one of the finest of its type on the Amiga, and *Crazy Cars 3*, a 3-D racing game that was released last year.

CAESAR: Impressions came good when they created this brilliant god-game released in December 1992. The game casts you as a RUMFie (Roman Upwardly Mobile Freeman) and your vocation is to rise up through society to the very head of the Roman empire; to be Caesar. Along the way you have to fight off warring armies while at the same time keeping your citizens happy and plague free. This involves building homes, places of worship, administrative and commercial buildings, a water supply, transport routes, cultural

centres, security zones and civil services. If you think it sounds tricky then you'd be right, getting to be Emperor is a tricky job. *Caesar* has great graphics, finely tuned gameplay and a great long-term goal. It cost £29.99 on release and received an ***Amiga Format*** rating of 91 per cent in December 1992 (*AF*41). (See God-games)

CALCULUS: innovative chain of small dealers formed by ZCL, one of the UK's largest distributors of Amiga products. The Calculus umbrella organisation consists of a central phone line (0543 251275) which you can phone to find out where your local Amiga shop is and whether they have a particular item in stock. The idea is that because all Calculus shops are small, independent local retailers, you'll get a better and more personal service. ZCL later caused something of a storm in the computer trade by launching its own direct sales dealership, Indi, in competition to Calculus. (See Zappo).

CALE, ADRIAN and MARK: Brothers who are the brains behind software house System 3, who had a major league success with the game *Putty*. The Cales have enjoyed reasonable success and are best known for their liking for fast cars with personalised registration plates. (See System 3, *Putty*)

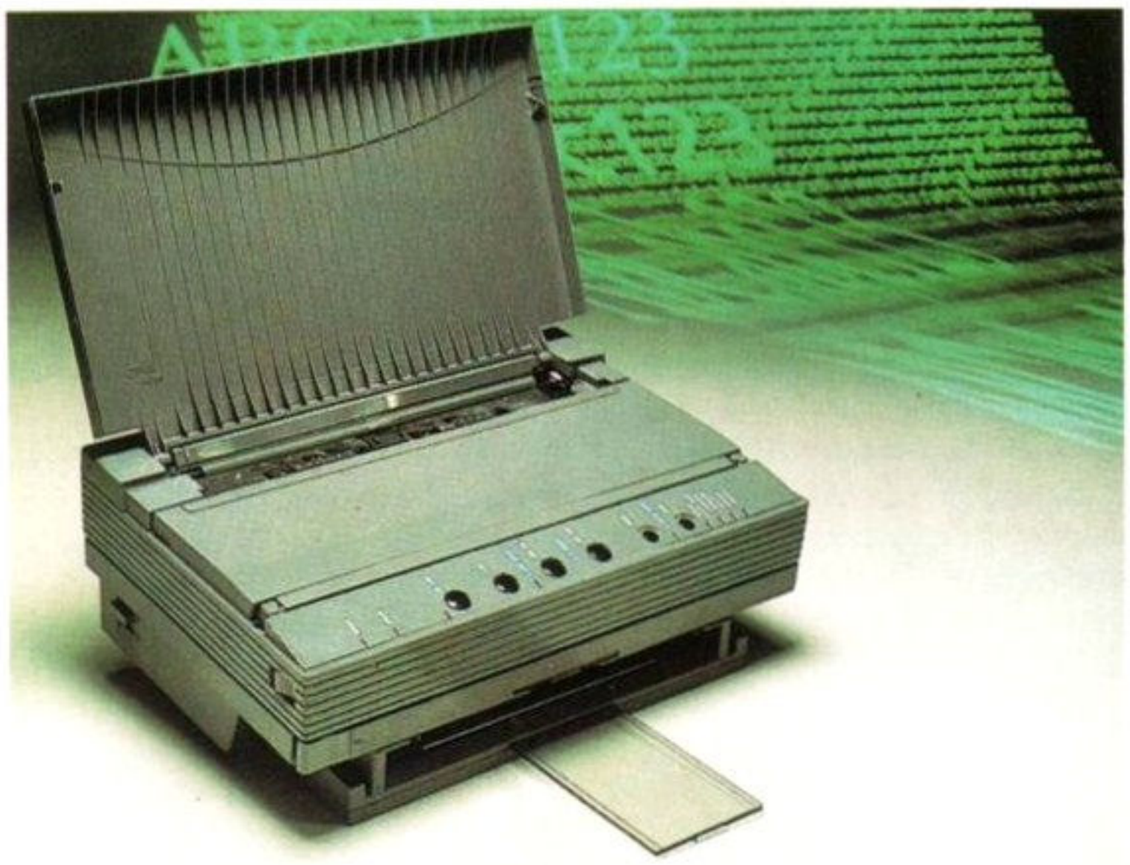
CALIGARI: Not a stadium in Italy used in the 1990 world cup finals, but a 3D modelling package. A hugely expensive *Professional* version gave some good results but the affordable versions were not so impressive, and so never made an impact on the more popular *Imagine* and *Real 3D* packages.

CANON: Japanese-owned manufacturer of cameras, photocopiers and printers best known for inventing the bubblejet printer and for their sponsorship of the Williams Formula One team. (See Canon BJ20, Printers, Bubblejet)

CANON BJ20: This is quite possibly the best and the cheapest black-and-white printer ever conceived. It's a bubblejet machine, which means it gives print quality similar to a laser printer at a much lower price. It comes with a cut-sheet feeder so that you can feed single A4 sheets into it and a wide selection of fonts. By using the Canon printer driver it's possible to print graphics from any program at a maximum resolution of 360 x 360 dpi. The resulting printouts by this machine and the excellent price raise it head and shoulders above the competition and make it just about the best printer you can get for your Amiga. The Canon BJ20 was released at £299 on release and received an ***Amiga Format*** Gold rating of 95 per cent . (See Printers, Bubblejet)

CAPCOM: American coin-operated arcade game manufacturer. CapCom games get converted on to the Amiga and released by US Gold. They may be good looking on specialised arcade machines, but they don't often translate to the Amiga in such style.. (See US Gold).

CAPTIVE: While all Amiga RPG games owe a huge debt to *Dungeon Master* this game does at least manage to push the genre forward in terms of gameplay and long-term interest. It does this by creating a believable futuristic scenario in



If you are looking for a reasonably low-cost, quiet and very high quality printer to output your DTP, WP or graphics, the Canon Bj-20 is for you.



***Captive* added as much to the Amiga role-playing/adventure game genre as any other influence. Great graphics, excellent plot and good gameplay.**

which you are held in jail (the captive of the title), to gain your freedom you remotely control four droids to your jail cell. The add-ons and power-ups found lurking around the game-world along with the rather violent natives make this a superb addition to the role playing adventure genre. *Captive* from Mindscape cost £24.99 on release and received an ***Amiga Format*** *Gold* rating of 91 per cent in November 1990 (*AF*16) . (See RPG, *Dungeon Master*).

CARRIER COMMAND: If ever a game deserved the accolade 'ground breaking' then this is it. The 3D graphics which the Realtime programming team devised for this game are enough to stop even the most hardened Amiga owner in their tracks.

The game can be played as either a strategy game or an action/strategy mix, but in both scenarios your tools are the same. You control an enormous aircraft carrier fitted with fearsome armaments and a selection of air and amphibious craft which can be remotely controlled or preprogrammed. In order to survive you have to build up a network of islands under your control, each tailored towards a different task, be it defending or producing.

On the other side of the map there's another aircraft carrier hellbent on wiping you out. Sooner or later you meet in the middle and that's when the fun really starts. *Carrier Command* costs £9.99 on the Kixx budget label and received an ***Amiga Format*** *Gold* rating of 90 per cent in December 1992 (*AF*41) . (See also Whole-World Games)

CARTOON CLASSICS: Amiga 500 games pack aimed at cashing in on the popularity of Bart Simpson and released in 1991. As well as a 1Mb A500 Plus, the pack featured Ocean's *Bart Simpson versus the Space Aliens*, Psygnosis' *Lemmings* (the world's best-selling computer game), Mindscape's (rather dire) *Captain Planet* and Electronic Arts' *Deluxe Paint III*, all for £399.

CCS: Software house that scored some success a couple of years ago with strategy war games by programmer RT Smith. A fairly typical example of Smith's work is *Ancient Battles*, an historical war game in which you take your choice of the world's top armies from different periods of history and match them against the computer in a series of pitched battles.

Although the game controls are on the poor side, *Ancient Battles* is notable for its well summarised notes on everyone from Abyssinians to Hoplites and Early and Late Romans. Excellent reading material for wargamers, even if the games themselves lack the elan of those produced by Dr Peter Turcan.

CD-ROM: Compact Disc Read Only Memory. Because CDs store digital data, they can be used for computer data as well as for music. A CD with Amiga data on can store 550 Megabytes of data, as much as 600 or more floppy disks, and yet it costs the same to make as a floppy does. For this reason, CD will take over from floppies very soon.

CD-ROM DRIVE: An add-on for the A500 that enables you to run programs stored on CDs rather than floppy disks and also to play normal audio CDs. (See A570, CDTV).

CDTV: Sounds pretty snappy, doesn't it: a combination of compact disc and television. In fact CDTV stands for Commodore Dynamic Total Vision. Basically CDTV is an A500 that uses CDs instead of disks. The advantages of CD over disk are many. For example, CDs are less easily damaged, and disks wear out, but CDs don't. But most importantly of all CDs are cheap. It actually costs the same to produce a CD as it does a floppy disk, but.it can hold a lot more data. A floppy disk holds 880K, a CD can hold 550MB, the equivalent of 640 floppy disks. CDs are also much more difficult to pirate. In fact it would probably cost more to pirate a CD than it would to buy the original.

CDTV also represented a marketing ploy to change the image of computers and make them appeal to a wider audience by making them look like video recorders or CD players. Commodore launched CDTV in 1991: it was basically an A500 with a CD drive instead of a floppy disk drive. Although it was a great prospect, CDTV failed to catch the public's imagination, partly because at £599 it was £200 more expensive than a standard A500, and partly because the software was disappointing. About 50 special CD disks went on sale, but the games were no better than the floppy disk versions (and in some cases they were worse) and the other programs were a bunch of clumsy reference works (encyclopaedia, cookery books and dictionaries) and a couple of educational titles.

At its launch, CDTV didn't have a computer keyboard (this was later added in the Multimedia bundle following a CBM rethink). It was operated by a user-friendly hand-held infra-red remote control. Owners of early version CDTVs can get their fingers on a matching black keyboard for £50 now.

When the CDTV floppy disk drive is added, the machine can function as an Amiga. The current state of play with CD is that there is a CD-ROM drive available for the A500 and the original CDTV is still available. At present there is no Amiga apart from these that can run CDs, but the industry is expecting CDs to take off over the next year or so, and Commodore is likely to release a CD Amiga as soon as it judges that the market is ready.



Commodore's CDTV has the heart of the A500 and the software-quality of the Sinclair Spectrum. Improvement in this area is a must.

CECCO, RAFFAELE: Better known as Raff, this guy is one of the real geniuses of games programming. He made his name with a series of Spectrum platform games noted for immense detail and weird atmosphere, the last of which, *Stormlord* (62per cent in January 1990, *AF*6) was converted to the Amiga. Raff then went on to join the Vivid Image team and program the amazing *First Samurai* (91per cent in December 1991, *AF*29). (See Vivid Image, *First Samurai*)



Raff Cecco, helped in the creation of the fabulous *First Samurai*.

CELL: The position at the intersection of a row and a column in a spreadsheet. Cells are like pigeon holes that hold figures, data, functions, text and so forth. The area marked in red on the illustration to the left is a single cell in.

	A	B	C	D
1	Boots	23	22	24
2	Shirts	32	33	32
3	Balls	55	53	77
4	Nets	64	68	2
5	Grass	35	32	332
6	Seats	546772	3333	4333
7	Gloves	2	44	44
8	Studs	4444	4444	4444

CENTRONICS: The firm that invented, and gave its name to, the standard for parallel data ports. (See Parallel Port)

CES: Every year in Las Vegas, the electronic and computer industry descends and makes camp for one week in January. The CES (Consumer Electronics Show) is the show in the industry that absolutely everyone makes the effort to attend, be they Japanese, American or European.

The CES is traditionally the event at which brand new consoles, computers, chips or even whole new platforms of technology are launched. The 1984 CES saw the 'behind closed doors' industry preview of the Amiga 500.

Seven years before the Hi-Toro team attempted to tout its design for the Amiga 1000 to various industry bigwigs – and more importantly, big money players – before the funding ran out (see Amiga history). You could say that without the CES, there might never have been an Amiga. Coming more up to date, the 1993 CES was no exception when the incredible new 3D0 games console system was revealed.

3D0 is an entirely new CD-based RISC machine developed by a team under the guidance of Electronic Arts boss Trip Hawkins and will make a huge impact on gaming. The 3D0 could steal the limelight from Sega and Nintendo consoles: it is to be produced under the Panasonic brand name, though other manufacturers may make versions of it too, and will go on sale in late 1993.

CFA: The Computer Football Association attracted more than 5,000 players to its Challenge Cup competition at the Computer Shopper Show in London in 1990. All the games were played on *Kick Off*, Anco's ground-breaking football game. The winner of the Challenge Cup was Neal Type, from Brighton. He went on to enter a mini European championship which was won by Italian player Luca Caldiero. CFA chairman Steve Anderson planned further competitions, including a World Cup, but these never materialised.

CHAMBERS, CLEMENT: Leading light behind On-Line, the software house that evolved from CRL, and is best known for running on-line games (in particular the multi-player flight sim *Air Warrior*) and for CDTV games such as *Psycho Killer*. Clem, as he is commonly known, is quite a thinker and firmly believes that the games industry will soon have a major place for pornography and horror genres: he is determined to be first to get a game 18-rated, and his *Women in Motion* CD for CDTV cut close to the line. (See Women in Motion).

CHAMELEON: Released early in 1991 Chameleon was a software emulator program produced by Maxon Computer of Germany. It enables you to run Atari ST software on the Amiga – at least that's the theory.

In practice only a limited amount of Atari software runs on the Amiga using Chameleon, and there is absolutely no way of getting games to run with the emulator. Chameleon was released as competition to another software/hardware emulator called Medusa, which, highly illegally, included a utility for dumping the Atari operating system to disk.

Atari was granted an injunction banning the sale of the Medusa because of copyright infringements, and tried to stop Chameleon being produced, but failed, though Chameleon is still not widely available. The whole area of emulators and copyright infringement remains a confused one. (See Emulators).

CHEAM AMIGA: A relatively new Bulletin Board Service, but a very nicely laid out one. Cheam Amiga is linked to Fidonet (a world-wide network of linked up BBS) which means you can exchange messages with people all around the globe.

Cheam Amiga also has file areas and because it runs using DLG Pro software, it is fast and user-friendly. Contact Cheam Amiga on the BBS modem number 081-644-8714. (See Bulletin Board Services).

CHEETAH: Manufacturer of joysticks. Tel: 0222 867777. Fax: 0222 865575. Cheetah House, Bedwas Business Park,Bedwas, Gwent NP1 8DU. Cheetah's most notable products include the recent Characteristicks range, shaped like

various film and TV characters from Bart Simpson to the Alien from *Aliens*, and also the ***Amiga Format*** favourite, the Bug (£14.99) – the only joystick ever to achieve an ***Amiga Format*** *Gold* rating; 92per cent in December 1991, *AF*29).

It has also produced the quite outlandish Tortoise stick (£9.99), shaped like the reptile of the same name, it has three buttons and is controlled with the flat of the hand on the 'shell' of the stick. For flight sim enthusiasts, Cheetah also has the Turbo Fighter flight yoke (£49.99).

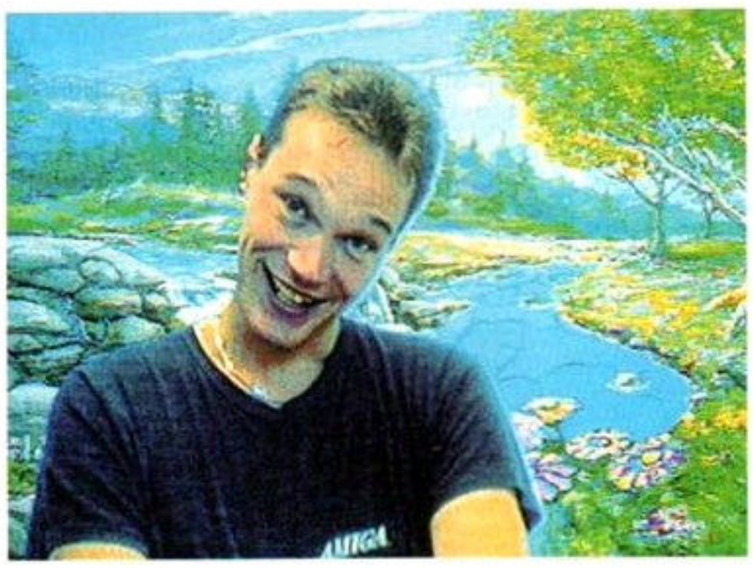
CHERRY MK 4 GRAPHICS TABLET: Expensive (£450) but high-quality tablet from Cherry Electrical Products (Tel:0582 763100). The unit has an A3 footprint (that's technical speak for the amount of space it takes up on your desk), an A5 manual and an A1 program disk.

It features a four-button 'puck' (much like a mouse) and/or a stylus (a pen-like input device) through which data is input, making it easy to use, and the comprehensive setup program enables practically everything to be customised to your satisfaction. The flatbed graphics tablet itself is used A graphics tablet such as this is used for high-tech design work, hence the price. The good thing about the Cherry is the fact that it comes with driver software that enables *X-Cad* users to get more out of their software with it.

However, the £450 price tag is a dramatic fall in cost since the original tablets appeared, which were aimed strictly as workstation-bound designers. Also the appearance of the Cherry on the Amiga boded extremely well for the future of the Amiga family in areas other than games.

A professionally designed and fully featured tablet with loads of custom features. The Cherry MK 4 graphics tablet received an ***Amiga Format*** *Gold* rating of 91per cent when it was reviewed in November 1991 (*AF*28).

CHROMA-KEY: A very good example of how a chroma-key works is the way the weather-people on television appear in front of computer generated maps. Rather than the weather-person standing in front of a screen (you would see shadowing if this was to happen), they are superimposed over the image. A more 'happening' example of chroma-key is the way in which coloured backgrounds on a program such as *The Word*, can be changed.



The RocKey enables Amiga-users to produce professional-looking video work. You could probably produce a far better program than *The Word*.

With a chroma-key you can replace a colour on a video with a computer image. So if you filmed someone against a blue background you could then replace the blue with a computer image. In the weather-person's case the blue is replaced with the computer-generated weather map. In the case of *The Word*, the blue (or whichever colour they choose) is replaced with a variety of other colours or even images.

Probably the best example of Chroma-key on the Amiga is the amazing RocKey which attained an ***Amiga Format*** *Gold* rating of 90per cent in January 1993, *AF*42.

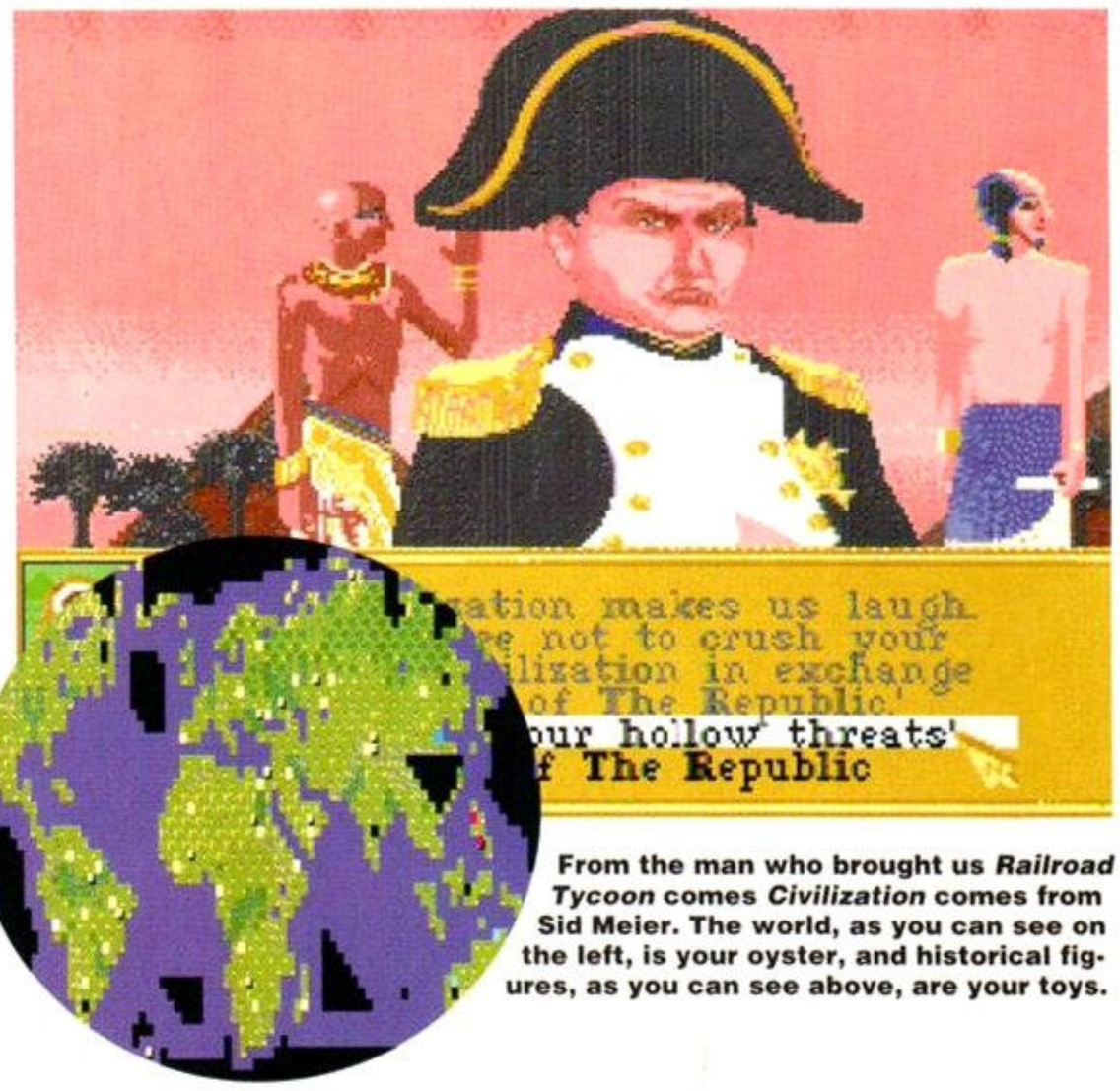
CINEMAWARE: A US-based american software house that produces exceptionally attractive games which, as its name suggests draw a great deal on the influence of movie making.

This means that you get long, long stories that are usually dramatically packaged, exotically scripted and which look absolutely wonderful when displayed on an Amiga screen.

The idea is to create a games experience rather than simply a bit of light entertainment. All of this means that unfortunately, and most usually there is also an immense lack gameplay – a common problem with many great looking games – as you watch the 'game' being carried out in front of you, almost out of your own control.

Cinemaware is best known for one of the first Amiga games ever, Kellyn Beck's *Defender Of The Crown*. This game utilised the Amiga's superb graphic and sound reproduction capabilities and was responsible for the sale of more Amigas than any amount of advertising.

Since then the company has produced a number of games including *Rocket Ranger* (89per cent in June 1990, *AF*11 on budget), *It Came From the Desert* (80per cent in February 1990) and *The King of Chicago* (unrated). (See Beck, Kellyn).



From the man who brought us *Railroad Tycoon* comes *Civilization* comes from Sid Meier. The world, as you can see on the left, is your oyster, and historical figures, as you can see above, are your toys.

CIS: another name for Compuserve, one of the biggest and most popular subscription Bulletin Board Services. (BBS).

CITIZEN: Printer manufacturer notable for their commitment to the Amiga market (most printers work on a variety of machines and so manufacturers tend to concentrate on the business market). This commitment was shown in 1991 by Citizen's development of an Amiga printer driver which massively improved the quality of colour prints.

CITIZEN 240C: Highly-rated (90 per cent ***Amiga Format*** *Gold*) if expensive (£435) 24-pin dot matrix printer. This particular Citizen printer is capable of producing colour output if a colour ribbon kit is installed inside. The printer operates at 200cps in draft mode and 66cps (characters per second) in NLQ (Near Letter Quality). The LCD (Liquid Crystal Display) screen and 8K printer buffer make this an excellent quality choice. (See Printers)

CIVILISATION: It sometimes seems as if programmers sit there and think "Okay, now let's simulate something really large". Witness *Sim City*, *Sim Earth*, and *Civilisation* as just three examples.

Sid Meier, the programmer of this game, is responsible for one of the most addictive god-games ever, namely *Railroad Tycoon*. However, with *Civilisation* he decided to give Amiga owners everywhere the opportunity to simulate mankind's progress down the centuries.

The idea of *Civilisation* is simple: conquer the world, spread civilisation and survive the centuries. If it sounds like a huge prospect you'd be right: this is one game that you're not going to complete during your lunch hour. *Civilization* is the Amiga equivalent of *War and Peace*, except that it's interesting and American, not Russian. All right, so it was a lousy analogy, but just check out the game, would you! *Civilization* received an ***Amiga Format*** *Gold* rating of 94 per cent at a release price of £34.99 in September 1992 (*AF*38). (See also God-games, Sid Meier)

CIX: Stands for Compulink Information Exchange, a Bulletin Board Service that has been running for years, gets bigger by the day and is used by many famous Amiga types. It's primarily a conferencing service, which means you log on and read a stream of text left by other users. The text is arranged into topics, so you just choose from a topic you are interested in. Contact CIX on the enquiries number 081-390 8446. (See Bulletin Board Services).

CLASS OF THE 90'S: Incorrectly punctuated (it should be '90s) A500 educational package which saw the A500 bundled yet again with a collection of software. It was released in 1990 and aimed at schools as well as educationally-

minded parents. It cost £499, £100 more than the equivalent games pack, and included programs such as a database, word processor and music software. At the time it seemed to be an industry strategy to show that computers were for more than just gamesplaying (a theory that most Amiga-users and admirers had been aware of since 1985).

Both Commodore and Atari released 'serious' or 'sensible' bundles at this time for the A500 and the ST respectively. Although neither company would admit it at the time on the record, this sales strategy was in preparation for the console boom that we see happening around us right now.

Although this heavy targeting of education must have seemed like a good idea at the time, it appears that now, Commodore's interest in this market seems to be waning.

CLEMENT, JOSEPH: Engineer who worked with Charles Babbage in the 1830s on The Difference Engine, which Babbage developed into The Analytical Engine. Although Babbage never got The Analytical Engine off the drawing board, it is regarded as the forerunner of the modern computer. Clement walked out on Babbage after an argument, taking with him many of the tools designed for The Difference Engine. (See Babbage, Charles).

CLI: Command Line Interface. A program, such as Shell, that enables you to type commands into AmigaDOS for standard operations such as copying files or getting a directory. (See Shell)

CLIFFNET: A nicely put together Bulletin Board Service with plenty of Fidonet (a world-wide network of linked up bulletin boards) mail areas where you can share your views with people from every corner of the planet, and find online games such as *Drag Racing*, *BlackJack* and *Scrabble*. Contact CliffNet on the BBS modem number 0642-467324. (See Bulletin Board Services).

CLOCK SPEED: The speed at which the CPU (Central Processing Unit) operates, measured in MegaHertz (MHz), which basically means 'ticks of the clock per second'.The same processor can be changed to run at any number of speeds. Clock speed isn't necessarily the best benchmark of a computer's power – for example, the A1200's 14MHz from its 68020 CPU makes it much more than twice as fast as the 7MHz of the A600.

Equally when you read about PCs running at 33Mhz, this is normally on an 16-bit data bus (the conduit for the data, a 16-bit bus can only handle 16 bits of information at any one time). When you compare this to the A1200's 32-bit bus, well there is no comparison when it comes to applications such as graphics.

CLOCK: Some Amiga memory expansions have a digital 'real time' clock built into them, with a battery to keep it going. This means that any files created or altered have a date stamp attached to them. This makes later identification a lot easier. Oh, and you don't have to keep setting the date on your calendar either.

CM8833 MK2 MONITOR: The trouble with many pieces of hardware for the Amiga is that they are simply adapted to fit the computer rather than the other way around. This Philips monitor, however, was designed specifically for the home computer market and the Amiga in particular. This monitor can accept an RGB signal from an Amiga as well as its stereo sound. All the picture controls are on the front so you won't have to fiddle around with a screwdriver and a torch just to change the brightness. Picture quality is excellent and the whole unit is ergonomically and (dare one say it) attractively designed. High quality, great price. The Philips CM8833 MK2 received an ***Amiga Format*** *Gold* rating of 92 per cent at a release price of £229. (See Monitors)



Former head of Commodore in the UK, Steve Franklin reputedly came up with the idea of the A500 + software bundle. He recently left Commodore.



Dizzy, from darlings of the leisure software industry, The Codemasters, is shown here in all of its C64 glory. But the Codies are leaving the 8-bits.

CODEMASTERS: Way back in the mists of time, when the world thought that all programmers were spotty adolescents who earned a million a year, these chaps made more than a few headlines.

This probably had something to do with the fact that they were spotty adolescents who earned a million a year. The company was founded in 1986 by two brothers, David and Richard Darling. The boys hit on the idea of releasing vast numbers of games at a very budget price and their policy proved so successful that by the end of its first year of operation, Codemasters was the number one games software publisher by volume.

While other software houses have gone the way of the Sinclair C5, these chaps have grown and grown. They continue to release software across every major computer format, including the quieter 8-bit formats which other publishers ignore. Many of the company's most popular games are based around an egg called *Dizzy*. Of late there have been six outings for the ovoid one, all platform games.

Dizzy games to appear on the Amiga have been: *Dizzy: Prince of the Yolk Folk* (81 per cent in August 1989, *AF*1), *Dizzy's Excellent Adventure* (77 per cent in June 1992, *AF*35), *Spellbound Dizzy* (77 per cent in January 1993, *AF*42) and *The Dizzy Collection* (78 per cent in January 1992, *AF*30).

Not ones to ignore a booming market place, the company recently released a game cheating cartridge called the Game Genie for the console market. The powerful Japanese company Nintendo sued Codemasters and lost. This legal victory and the consequent success of the Game Genie has made Codemasters an extremely powerful company. The guys' favourite (non-*Dizzy*) game is *Pang*. The most recent news to come from the Codemasters stable is that fact that after a nearly decade in the business, the boys have finally decided to pull out of the 8-bit computer games market.

Contact: Codemasters, Lower Farmhouse, Stoneythorpe, Southam, Warks, CV33 0DL. Tel: 0926 814132. Fax: 0926 817595 (See Darling Brothers).

COLOURPIC PLUS: Weighing in at a somewhat hefty £699, this is a 24-bit digitising unit produced by specialists JCL (0892 518181). Colourpic can save in any Amiga graphic format or as either an AIM or RAW picture file. The software which comes with the package is excellent and is most likely to appeal to professional Amiga users. (See Digitisers)

COMMODORE: No such thing outside of the navy rankings. Although we all call the Amiga's makers, Commodore, the truth of the company matters is far more complex than that. (See also CBM History, Amiga History and below).

COMMODORE AMIGA: The company set up by Commodore Business Machines specifically with the idea of developing the Amiga console/computer that parent company, Commodore International had recently bought the rights to. This was all the way back in 1983/4. Commodore Amiga still carries out a great deal of research and development even today. (See also Commodore History, pages 32-33).

COMMODORE BUSINESS MACHINES: The parent company of Commodore UK, and also the company that funded the development of the Amiga. See the complete history of the Amiga's manufacturers on Pages 32-33.

COMMODORE INTERNATIONAL: The parent company of Commodore Business Machines. Commodore International is based in Canada and not in the United States as many people seem to believe (See also Commodore History and The World of the Amiga, a two-page atlas of the Amiga on the world stage, which appears in the Ws section).

COMPENDIUM SIX: Games get boring after a while, even on the Amiga and it's nice to do something a bit more creative on the nation's favourite home computer.

This pack from GeniSoft is designed for just such a purpose, as it contains six great educational programs which avoid looking too much like they were designed by a pipe smoking tweed jacket wearing teacher.

The six programs are *Kids Type* (brilliant colourful word processor with built-in samples), *Calendar Quiz* (designed to teach the relationships between calendar events), *Game, Set and Match* (shape recognition for young kids), *Weather Watcher* (excellent weather database storage cum display program), *Where is it? What is it?* (teaches the geography of the UK) and *Words and Numbers* (teaches the relationships between words and sentences). *Compendium Six* received an ***Amiga Format*** rating of 90 per cent when it was reviewed in August 1992 (*AF*37) at a release price of £39.95. (See *Weather Watcher, Where is it? What is it?, Kids Type*).

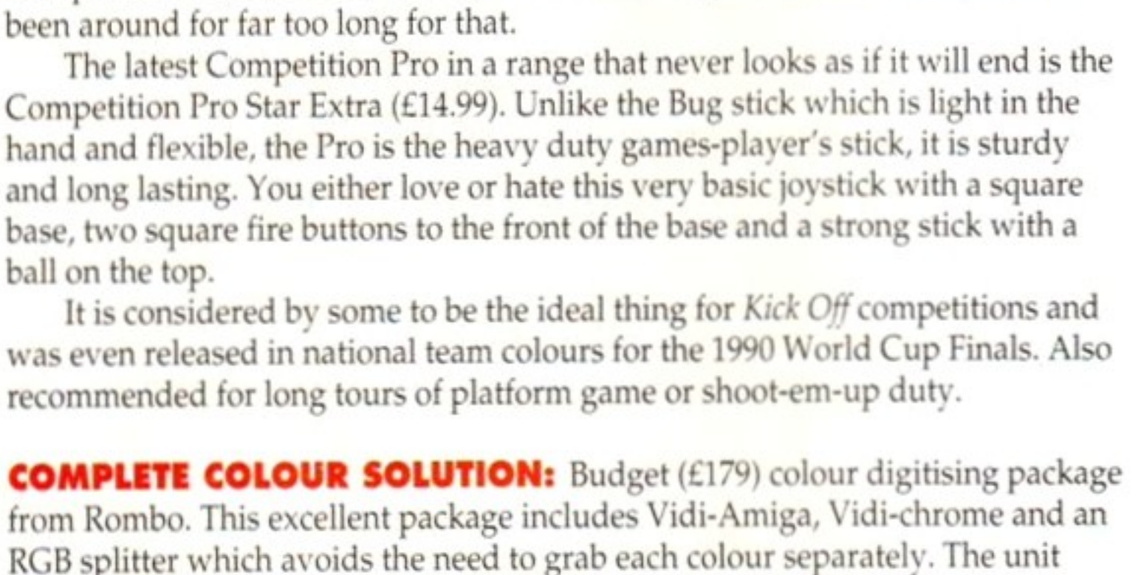
COMPETITION PRO: One of the classic joysticks of all time, the Competition Pro has never been reviewed in ***Amiga Format*** – the stick has been around for far too long for that.

The latest Competition Pro in a range that never looks as if it will end is the Competition Pro Star Extra (£14.99). Unlike the Bug stick which is light in the hand and flexible, the Pro is the heavy duty games-player's stick, it is sturdy and long lasting. You either love or hate this very basic joystick with a square base, two square fire buttons to the front of the base and a strong stick with a ball on the top.

It is considered by some to be the ideal thing for *Kick Off* competitions and was even released in national team colours for the 1990 World Cup Finals. Also recommended for long tours of platform game or shoot-em-up duty.

COMPLETE COLOUR SOLUTION: Budget (£179) colour digitising package from Rombo. This excellent package includes Vidi-Amiga, Vidi-chrome and an RGB splitter which avoids the need to grab each colour separately. The unit isn't, however, realtime and so animations aren't possible. Complete Colour Solution received an ***Amiga Format*** rating of 92 per cent. (See Digitisers).

COMPOSITE VIDEO: The combination of luminance (black and white video) and chrominance (the colour component) into one signal, hence the name. The most common video signal in use after RF (Radio Frequency), the



Rick Dangerous **is just one of many high-quality games to come from Sheffield-based Core Design.**



Commodore Amiga, CBM, Commodore International, they all really mean one thing to most Amiga lovers – they go lucky enough to get the Amiga.

type used by TV aerials, but not as good as RGB, the type used by monitors.

COMPUSERVE: One of the biggest Bulletin Board Services in the world and although it is expensive to join it is worth every penny. This subscription BBS has thousands of topics to discuss and about a zillion files to download. Contact Compuserve on the enquiries number 0800-289378. (See also Bulletin Board Services, Modem).

CONQUEROR: In between creating *Elite* and *Frontier – Elite 2*, David Braben came up with this nifty tank game released by Rainbow Arts. You control either an American, German or Russian World War 2 tank and you battle the opposition's rolling stock on a fractal looking landscape full of both hostile and non-hostile obstructions.

The speed of movement over the landscape, coupled with the brilliant rotation and long-term missions make this a hugely playable, above-average shoot-em-up. *Conqueror* received an ***Amiga Format*** *Gold* rating of 93 per cent at a release price of £24.99 (April 1990, *AF*9). (See also *Elite*, David Braben)

CO-PROCESSOR: A chip that compliments the computing power of the CPU by taking some of the workload from it. In early computers, the CPU did all the work, controlling sound, graphics, input/output and everything else. In the Amiga a plethora of co-processors carry out functions such as graphics or sound, leaving the CPU to get on with the heavy duty number crunching. Also used to mean specifically a maths co-processor, which is used alongside a faster 68020 or 68030 processor to speed up a particular kind of calculation, floating point maths, used in 3D graphics.

COPPER: Short for co-processor, this is used to refer to one specific co-processor that is part of the Amiga's custom graphics chip. The copper can be programmed using three specific command, and what it can do is change the colour of the background colour in a screen at the end of each scan-line on the TV or monitor. The results of this is the multi-coloured shading effect you'll often see in the backgrounds or skies of games – these are known as Copper colour bars. (See Scan-line)

CORE DESIGN: This Sheffield-based software house (Tel: 0332 297797, Fax: 0332 381511, Tradewinds House, 69/71 Ashbourne Rd, Derby DE22 3JS).

Core started off its life simply as a development team and has grown massively since. Core produced hit games such as *Rick Dangerous* (89 per cent in September 1989, *AF*2) and *Chuck Rock* (80 per cent in May 1991, *AF*22) and then, having made its name, decided that it could also make pots of money by publishing, marketing and distributing their games itself. Its first independent game was the top-notch flight sim *Thunderhawk* (90 per cent in September 1991, *AF*26). Core's Richard Barclay recalls how the whole Core team worked overnight packing disks and manuals into boxes before driving the finished game to the warehouse just in time to hit its deadline. Core have since maintained a reputation for quality with the releases of *Heimdall* (88 per cent in December 1991, *AF*29) and *Premiere* (89 per cent in October 1992, *AF*39) – all its

games have sold in excess of 50,000 copies on the Amiga, which is why Richard now drives a Lotus Esprit. Next from Core is an adventure called *Darkmere*.

CPS: Characters Per Second. A measure of printer speed. Sometimes manufacturers will give two figures, one for draft printing and one for Near Letter Quality. (See NLQ)

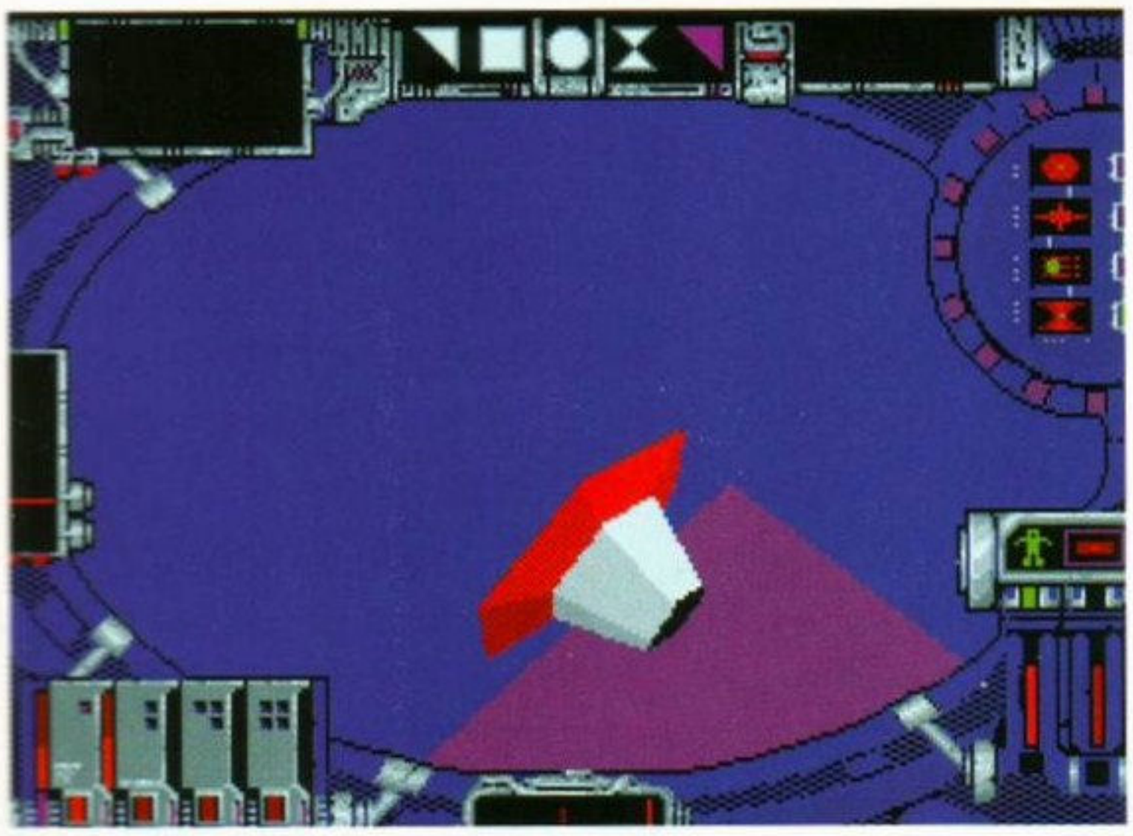
CPU: Central Processing Unit. The Mr Big of the chip world. This one is the decision-making chip in the Amiga that tells everything else what to do: it handles all the important bits to do with running a program. The CPU in an Amiga is from the 68000 family made by Motorola – the 68000 in the A500 and A600, the 68020 in the A1200, the 68030 in the A3000 and the 68040 in the A4000. By fitting a faster CPU from the range, you can make your Amiga run certain kinds of programs more quickly. (See Accelerators).

CRAMMOND, GEOFF: One of the most respected writer/programmers in the business, Geoff Crammond first made a name with a realistic 3D racing game called *Revs*, for the BBC computer, in the early Eighties. He went on to create one of the classic first-generation Amiga games, *The Sentinel*, a complicated but absorbing 3D board game, but he is know most famous for his more recent 3D racing games for MicroProse, *Stunt Car Racer* (93 per cent in January 1990, *AF*6, and on budget it got 89 per cent in *AF*30) and *Formula One Grand Prix*, (92 per cent in January 1992, *AF*32) both of which received ***Amiga Format*** *Gold* ratings. The unique feature of *Stunt Car* was that two Amigas could be linked by a cable and players on each machine could take part in the two-car race, making for the most astonishing action and amazing scenes of destruction. *F1GP* is widely credited as the most realistic driving game yet and includes a brilliant replay feature so you can watch your crashes as if they had been recorded on telly!

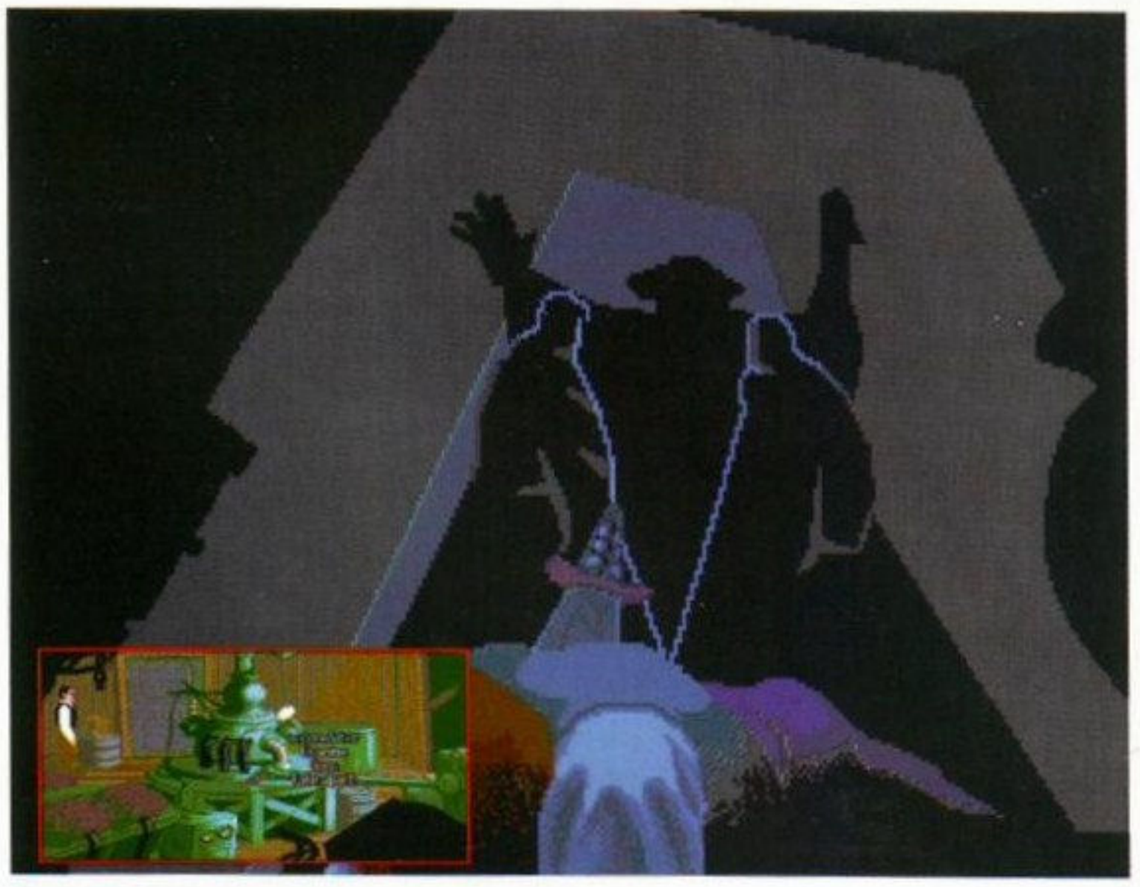
CRAZY CARS III: Considering the underwhelming nature of this game's two predecessors, nobody was holding their breath when *Crazy Cars III* was released in mid-'92. The gameplay in this car racing game, however, is superb: fast, frantic and extremely playable. Titus added more depth to the game by including a great plot about convicts, some automobile upgrade options and map reading elements into the actual racing bits.In terms of graphics, sound and shelf life, this is a great game. *Crazy Cars III* received an ***Amiga Format*** Gold rating of 93 per cent at a release price of £25.99.

CROSSDOS: A program that enables you to read from and write to disks formatted by other computers, most notably IBM personal computers. It's not an emulator, but enables you to access data stored on IBM and other disks. *CrossDOS* was featured on the Coverdisk of ***Amiga Format*** issue 40).

CRUISE FOR A CORPSE: Ground breaking graphic adventure game from French software house, Delphine. This game utilised an first-rate detective plot set on a boat, with some of the most impressive 3D graphics ever seen on the Amiga. Delphine use movie techniques to animate the main character all of



Cybercon III **an** ***Amiga Format Gold*** **winner forces you to re-examine the way in which you work with computers, frankly you have to destroy them.**



Cruise for a Corpse **strange french detective fun from that most cinematic of European software houses, Delphine. A kind of 'Ooo-la-la-dunnit'.**

which adds greatly to the plot. This is a whodunnit in the traditional sense, you even have all the suspects lined up at the end of the game, at which point you've got to pick your suspect and see if your choice was correct. Cruise for a Corpse is a great test of the grey matter and comes highly recommended. It received an ***Amiga Format*** Gold rating of 90 per cent at a release price of £25.99. (See Graphic Adventures, Delphine)

CTW: *Computer Trade Weekly*. This is the home computer industry's newsletter. It includes news, views and reviews on all that's happening behind the scene, such as job moves, news of new machines and reviews of the more high profile software titles, it also tries to cram in as many punned headlines as sanity allows. Editor Stuart Dinsey who also contributes to ***Amiga Format*** *Specials*.

CUBE, THE: Highly rated TV that can also be used as an RGB monitor, from Philips. Good sound (thanks to a subwoofer) and a bright clear picture make it a great buy, but its real distinction is the highly unusual design, which really makes it stand out from the crowd – especially at a reasonable £279.99.

CUSTOM CHIPS: One of the attributes of the Amiga that makes it so powerful and so much more versatile than other machines is the fact that it does not rely on its Central Processor Unit (CPU) for all the hard computing work. Its designers built-in several other, smaller, processors that handle various elements of the computing process. These chips handles graphics, the screen display and the sound quite independently of the CPU and can be programmed using programming instructions of their own. To make this possible, the Amiga incorporates an idea known as DMA (Direct Memory Access). This means that when a programming instructions crops up that tells one of the custom chips to do something, that custom chip is allowed to go directly to the RAM to get the data it needs, without asking the CPU for permission.

Only memory that is defined as Chip RAM can be accessed in this way: there is no DMA access to Fast RAM. The Amiga custom chips have now been changed several times. The members of the original set featured in the A500 and A2000 are called Agnus, Denise, Paula, and Gary. When the A500 Plus was released it featured a new version of Agnus known as Fat Agnus, which meant that 1Mb of RAM (rather than just 512K) could be configured as Chip RAM and accessed by the custom chips – the new set of chips with this new Agnus in was called the Enhanced Chip Set (ECS).

With the release of the A1200 and A4000, yet another chip set appeared: this is the AA chip set, in which Alice and Lisa replace Denise and Agnus. This latest set means 2Mb of memory can be chip RAM and also includes new graphics capabilities, so that the A1200 can display 256 colours in games or use a 256,000-colour mode in graphics programs.

CYBERCON III: The idea of this 3D arcade adventure is to battle, solve and otherwise break your way past all of the Cybercon computer's defences and then pull its plug. This game successfully mixes puzzle solving with all-out game-world destruction. *Cybercon III* received an ***Amiga Format*** Gold rating of 90 per cent (in June 1991, *AF*23) at a release price of £24.99.

THE EARLY HIS

From humble beginnings in the 1950s when it started selling typewrites and cashtills Commodore has become one of the major players in the computer world. Here's how it happened

Commodore Business Machines (CBM) is the company that took up the idea of the Amiga as a family of computers and made the machine one of the most popular home computers in the world. But CBM has a much longer and more complex history than simply being involved with the Amiga.

CBM is the name of the company that brings you the Amiga, and CBM has a parent company, called Commodore International Ltd. Although you might expect Commodore International to be based in the USA, it in fact started life in Canada way back in 1958.

At this time the company was in the typewriter, punchcard and cashtill business – much in the same way that the monolithic International Business Machine (IBM) was when it started out.

As the needs of the business world grew and grew, the old manual number crunching machines in the large corporations were slowly replaced by huge mainframe computers. These took care of creating and maintaining audit trails, accounts and the numerous more laborious tasks previously carried out by legions of clerks.

This was IBM's territory and the company made damned sure that it had this area of business life wrapped up. This meant that smaller companies such as Commodore International stuck to less ambitious operations. Maybe Commodore International's one claim to fame before the arrival of the PET computer was to be the first company in the US to market electronic calculators (don't confuse these with pocket calculators). (See Zuse, Konrad).



The C64 was an outstanding success and earned the money that helped put Commodore in a position to invest in the Amiga in the mid-80s.

In fact it wasn't until 1974 that Commodore decided to dip its toes into the rapidly heating waters of computing. The computing revolution of the mid-70s which was to change the way we all work and play, was just about to kick in hard at his time. Small groups of people at places such as CalTech, MIT (the Massachusetts Institute of Technology) and even Cambridge in the UK were beginning to see the possibilities of smallscale computing over the monstrous, room-engulfing mainframes of the day.

Even smaller groups of people in what was to become Silicon Valley in California were actually building kit-form 'personal' computers. While the people at IBM were content to see the dollars coming in from the mainframes, and considered that small computers at a few thousand dollars a go would not rake in the bucks in the same way as a mainframe costing millions of dollars, these smaller groups saw that the freedom offered by small computers was a good enough selling point in itself.



The Batman Bundle featured *Batman* (above), *F-18 Interceptor*, *DPaint 2* and *New Zealand Story*.

So it was then that in 1974 that Commodore International dived in at the deep end (after the toe-dipping) by buying-out a small, new and exciting company called Micro Office Systems.

As you can tell by the name, the underlying idea of MOS was to move away from big computers and instead to make the most of the fledgling micro-computer industry.

One of the most interesting points about MOS is that some of its staff had previously been designers for the Motorola company. This meant that when the MOS boys were told to develop a machine for the business user, they turned to their old company for the main processor.

At that time, development of the central processors for small computers concerned itself with one thing and one thing only – making it small. Because the fashion was to move away from lumbering mainframes and over to smaller, more compact, cheaper and more widely available personal computers, the designers thought that combining all the aspects of the larger machines on tiny chips was the way forward.

This trend had been set by people such as Apple Computer and the Homebrew Computer Club, and also by the brains behind the first available home computer, the Altair (named not after the real celestial body, but after a planet in the cult TV series Star Trek).

This was sold in kit form via the hippy bible, the *Whole Earth Catalogue*. The Altair had no keyboard, and the only output was in the form of coloured lights.It was in this environment that the developers from MOS set about their task with a firm intent, and they came up with what they considered to be their dream – the computer-on-a-chip. This was basically a very heavily worked Motorola 6800 which they eventually titled the 6502.



***Streetfighter 2*, recently released on the Amiga, is clear evidence of how Amiga keeps up with arcade trends.**

The 6502 enabled Commodore and the MOS team to make a giant leap, and to be able to claim that CBM – as the wing of Commodore International came to be called – had in fact invented the personal computer (Altair would have quibbled with this no doubt), in the form of VIA – the Versatile Interface Adaptor.

VIA enabled Commodore to develop something that the Altair designers would have jumped for joy at the sight of; keyboard interfacing. This in turn gave rise to the Granddaddy of the Amiga – the KIM1. KIM, which stands for Keyboard Input

TORY OF COMMODORE

was a remarkable device, and enabled Commodore to develop the PET series of home computers. KIM came with a built-on power supply (now if only Commodore had stuck with that for the Amiga), keyboard and screen.

It also came with the BASIC programming language on ROM. This meant that when starting up a KIM computer, you didn't have to go through a tedious disk load process, all you had to do was to switch on.

It has been said that it was KIM that gave Steve Jobs and Steve Wozniak the incentive for coming out of their Californian garage and hitting the unprepared world with the Apple II computer and the revolutionary disk drive. It is also more than likely that KIM had an effect on the development team behind the Amiga (again based in California's Silicon Valley).

As soon as the technical success of KIM had filtered up to the Commodore bigwigs, a harsher, more commercially relevant question was posited: 'How do we get the damn thing to make money?'.

It was the Summer Consumer Electronics Show of 1977 (some seven years before the Amiga 1000 was exhibited at the same place) that KIM's commercial form was displayed to interested parties as Commodore's snappily titled Personal Electronic Transactor – PET. PETs, like Sinclair ZX81s ended up in bedrooms the world over, and at the time was a major innovation. As with KIM, the PET came with monitor and keyboard built-in. Unlike the advanced machines of today (the A1200 for example) the PET 4000 had no disk drive, and programs had to be loaded from, and saved to, a specially-made cassette tape, which meant that a specially designed cassette recorder also had to be used.



***Epic*: another popular game which is bundled with the Amiga. Commodore UK did much to increase sales by introducing the Amiga software bundles.**

It also came with a laughably small, by today's standards, 4K of RAM. Upgrades came in for the PET series, disk drives were added, and the Commodore 500 (not to be confused with the Amiga 500) topped off the range with a more streamlined design. But the PET was not to last forever, and after being a huge success for Commodore, it was followed up with the equally famous, VIC (Video Interface Chip).

The VIC was the first games computer for the home user, and with its development Commodore pinned its computing colours firmly to the mast. The VIC was a colour machine, it also had built-in sound (the PC doesn't even have that now!) and even a built-in joystick port – no mistaking its role there. Once again the VIC was built around the MOS designers' revolutionary 6502 processor. Initially, the VIC came with a cassette drive until the 1541 (5.25-inch) disk drive came into being.

The VIC was to prove more lasting in the UK than in the States, but it was to be nothing in comparison with the amazingly successful Commodore 64. The C64 is still going (reasonably) strong today and gave Commodore the success it needed in order to think about purchasing the rights to the Amiga.

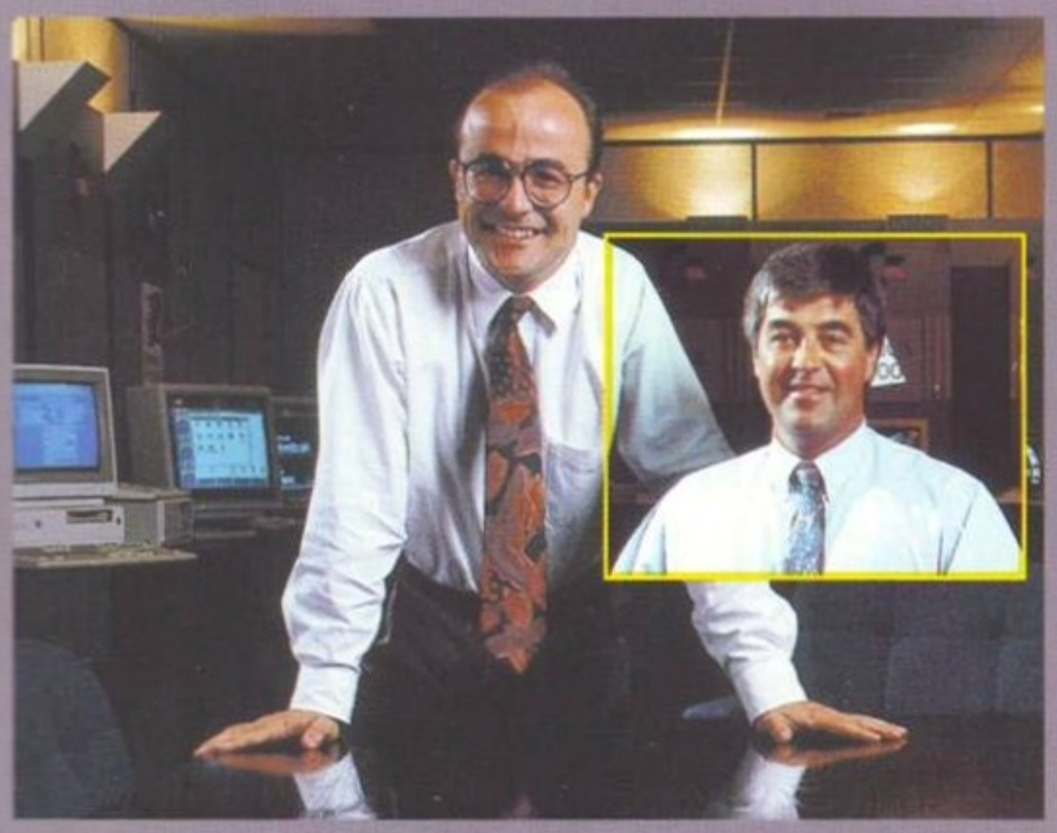
The C64 made use of the 6502 processor as well as the chip that gave the VIC its name, the Video Interface Chip II, but it also used a brand new chip called SID (Sound Interface Device). The C64 was hugely popular in its heyday is still the most popular 8-bit machine available and appeared in many, many guises. The C64 was the culmination of 8-bit technology and sold in millions. It was able to use 16 colours (not a patch on the millions that the A1200 can master, but impressive for its day), and had 64K memory, a huge amount for its day, but not so impressive when compared to the A600's 1,024K RAM.

All this meant the C64 was an outstanding games machine on which you could run those early programs such as *Dropzone*, *Ancipital*, and *Locomotive*, and that it was also more than competent when it came to dealing with business software such as the first spreadsheet program, *VisiCalc*, and the early word processor *VisiWrite*. It was, and still is, a popular and versatile machine.

The C64 made a considerable amount of money for Commodore, enabled the company to compete with IBM in the development of PC-compatible machines, which helped provide the cash to buy the Amiga, set up Commodore Amiga, and rule the world!

Commodore UK

Commodore International/Commodore Business Machines has branches all over the world. The bulk of computer manufacture is carried out in the Far East, although Commodore has recently opened up a plant for the assembly of Amigas in Irving Scotland. Commodore UK (0628 770088) is primarily a marketing operation which is responsible for keeping up the image of the company and its machines in this country. It is headed up by Kelly Sumner who took over from Steve Franklin in 1992. Commodore UK's biggest contribution to the sales of the Amiga in the UK was to come up with the idea of the Amiga software/hardware bundle – the first being the Batman Pack.



Ex- bench engineer Kelly Sumner took over from Steve Franklin (inset) as the managing director of Commodore in the UK in 1992.

D From D&H to *Dungeon Master* plus some fascinating facts about Dan Dare, Denise, *Dragon's Breath* and Dr T...

D&H: Software house that brought us the management games *Football Director 1* and *Football Director 2*. The ***Amiga Format*** verdict was that although the games were moderately interesting because of the strong element of management strategy involved, they were just the latest in a series of football games that were exploiting a rather tired theme. D&H also launched the similar-style *Striker Manager* and *Rugby Coach*.

DAISY CHAIN: If you run four external floppy disk drives from your Amiga the way in which they are connected is known as a daisy chain. As there is only one external disk drive port on the Amiga, the first is plugged in here, the second into the back of the first and so on.

DALE, JOHN: See Assembly Line.

DAMOCLES: You are a mercenary, you have been hired to save a planet from destruction by diverting the course of a large, hard comet, oh and you don't know where to start. That's the basic idea behind *Damocles*, the second in Paul Woakes' Mercenary trilogy which was released in mid-'90. In order to complete this 3D adventure you need to solve clues, learn to find your way around a large and very empty planet and take a quick course in explosives. An addictive and extremely protracted game with lots of style and some extremely quirky humour. It received an ***Amiga Format*** *Gold* rating of 92 per cent in September 1990 (*AF* 14). Release price £24.99.

DARE, DAN: The hero of the Eagle comic strip was the subject of three games from Virgin, the third of which was released to celebrate the clean-living spaceman's 40th birthday on April 18, 1990. The first *Dan Dare* game is a search and find adventure, the second is a more standard shoot-em-up, and the third follows the same pattern as the second.

In *Dan Dare 3*, Dan escapes from the clutches of the evil Treens and makes it back to his spaceship only to find it has run out of fuel. You must search the Treen complex for fuel and once you've found it, set off to collect additional weapons and use them to blast the living daylights out of the Treens and various other alien nasties.

DARLING BROTHERS: During the '80s these chaps (Richard and David Darling) made more than one headline as the press turned them into 'whizz-kid 'teen programmers'. The Darling Bros co-founded CodeMasters and churned out hundreds of cheap-'n'-not-always-cheerful games. These days they still produce cheap games, but they've diversified into the console business and recently defeated Nintendo in a court case in America. Spookily enough they look exactly like they did in the '80s. (See CodeMasters)



David Darling (left) with brother Richard (right) and father Jim. The Darling brothers made a fortune from the exploits of a peculiar egg called Dizzy.

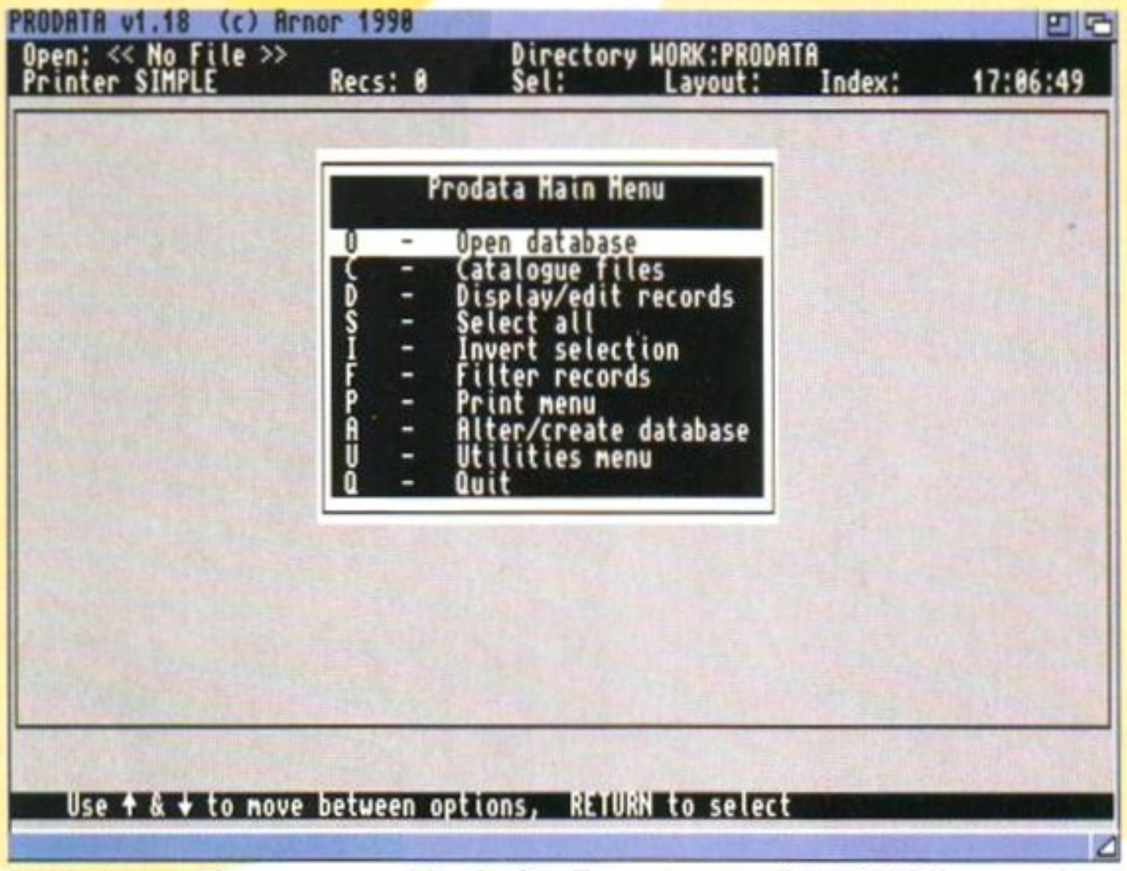
DATABASE: A database is the computer version of the good-old office filing cabinet or card box file that stores the information on floppy or hard disk instead. The information within an Amiga database system is separated into records. The best way to grasp the structure of a record is to think of it as a job application form. Because the form needs to contain many different items of information such as name, address, age and so on, each piece of information is allocated its own box. In database terms the complete form is the record and each separate information box is known as a field.

To make the task of extracting the record that you want as easy as possible, all the records within the database are sorted into a given order using one of the fields as a key or index field, which acts as a reference point for that record. For example, you could arrange a database containing customers' names and addresses by using the surname as the key or index field. If you then wanted to find the record for Mr A.N. Other, you would simply look under the letter O, for Other, just as you would in a traditional office filing cabinet.

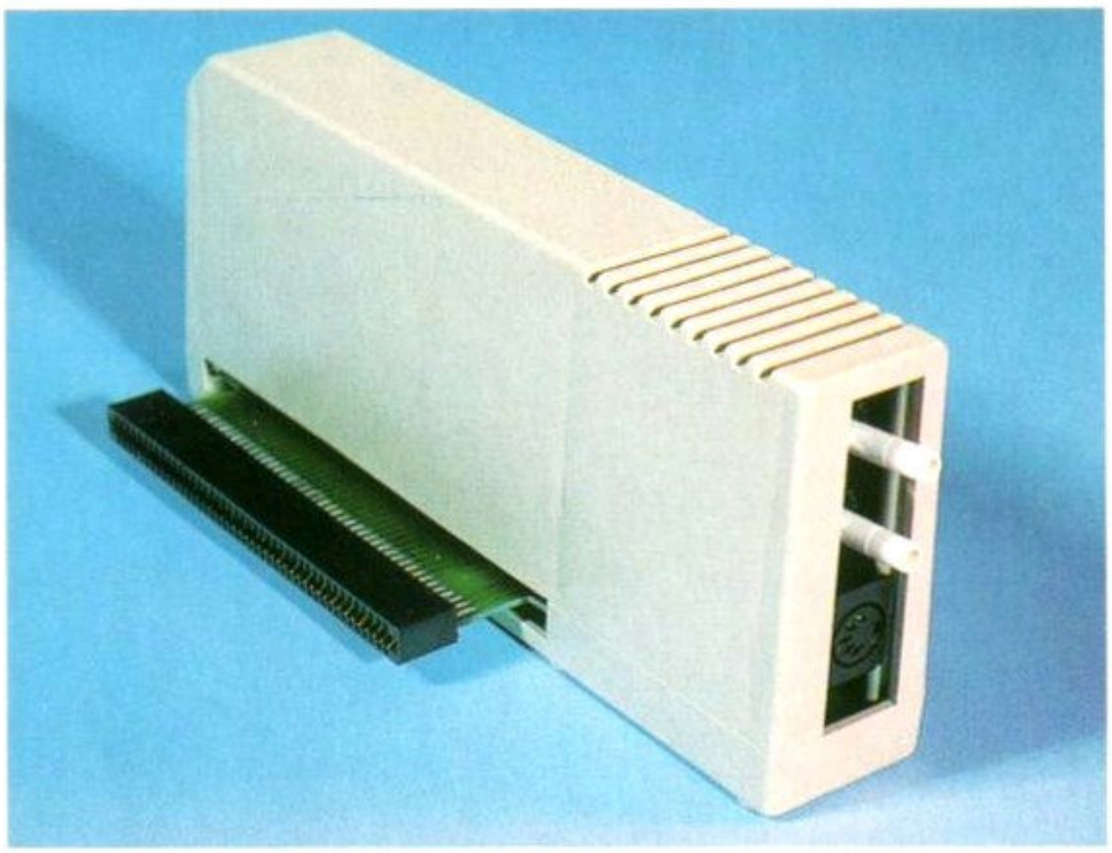
Databases also enable you to select records based on a more complex set of key fields. For example you could set up your database with a set of key fields that would enable you to select customers of a given age group, who live in a certain area and who earn a given income. Modern database programs can also



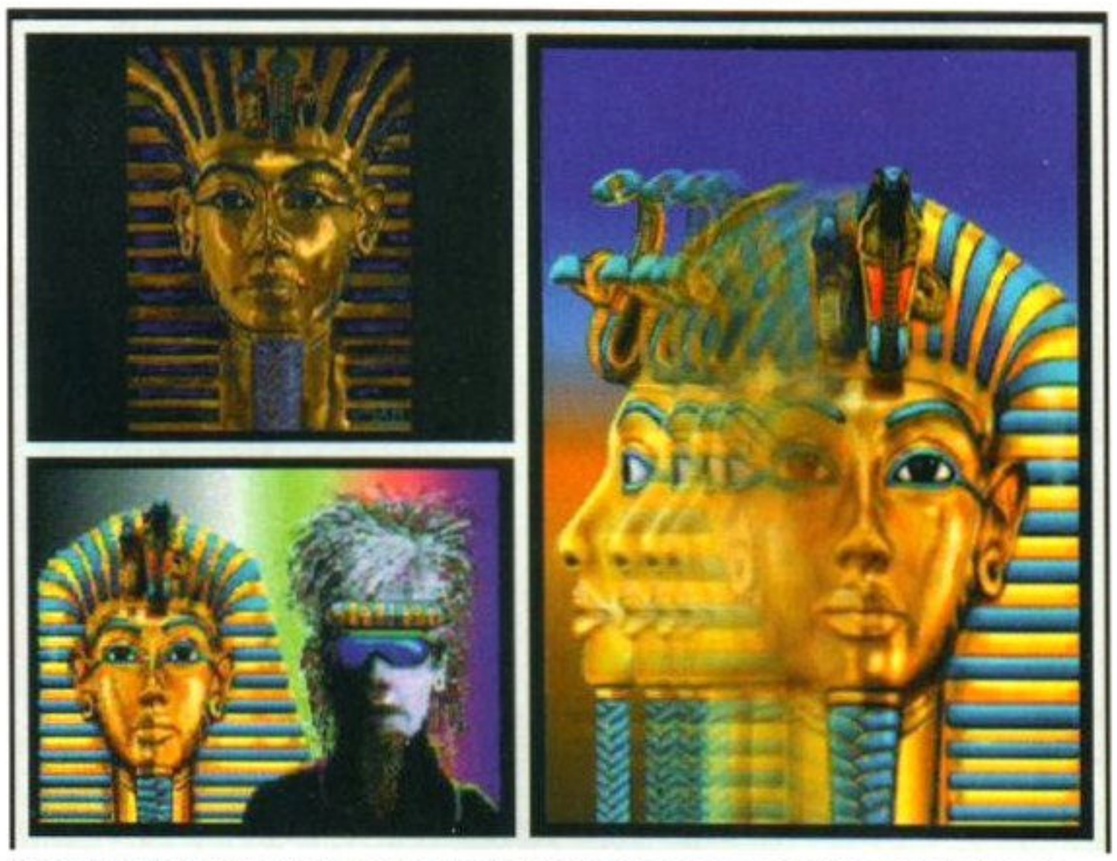
Damocles is one of the better whole-world games. Author Paul Woakes has a peculiar sense of humour as the location of this grab proves.



Prodata was given away on the Amiga Format coverdisk #42. It is a particularly flexible database with powerful search facilities (shown here).



The Datel Video Digitiser is capable of surprisingly sophisticated results, particularly when the source material is monochrome.



***Deluxe Paint AGA* utilises the incredible new colour palettes available on the A1200 and A4000 Amigas. King Tut has never looked so good.**

handle digitised sounds, pictures and even animations, so if you were creating a database for your album collection you could include full text details of the tracks, and date of issue alongside a digitised picture of the album cover and a short digitised sample of the first track.

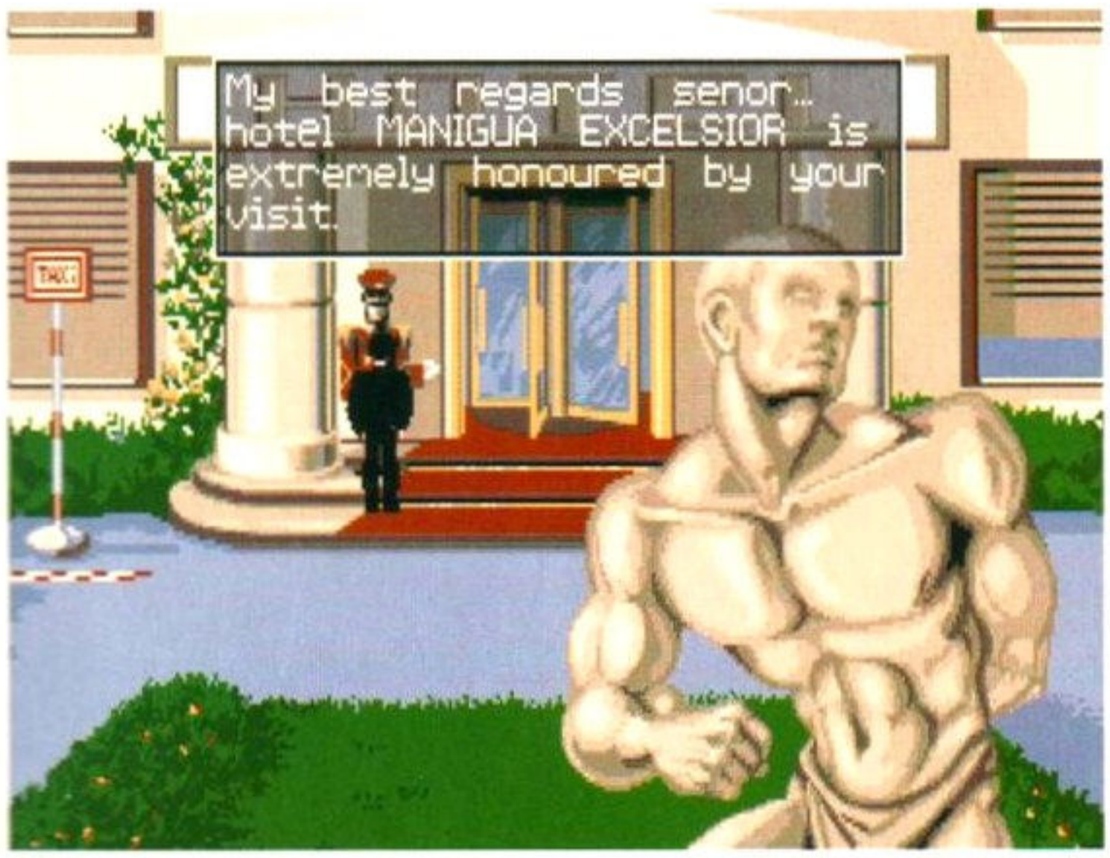
Some of the better database programs reviewed by ***Amiga Format*** include *Homebase* (Helios Software, £29.95); *Gallery* (Helios Software, £59.95); *Prodata* (Arnor Ltd, £99.95); *Superbase Personal* (Precision Software, £61.27); *Superbase Pro 4* (Precision Software, £411.19); *Mini Office* (Europress Software, £69.95); and *Order* 2.2 (South Hams Software, £24.95). All prices release prices.

DATEL: Company responsible for the Action Replay cartridge and the Datel Video Digitiser. Contact: Datel, Govan Road, Fenton Industrial Estate, Fenton, Stoke-on-Trent, ST4 2RS, England, Tel: 0782 744707, Fax: 0782 744292.

DATEL VIDEO DIGITISER 2: Simple and effective monochrome digitising package released at the tail end of '92. This unit provides grabs quickly in 16-shade grey-scale format. There is also an animation facility built in, but the usefulness of this is questionable. This unit is of most use if you are going to be grabbing primarily from video for DTP or other monochrome work. Video Digitiser 2 received an ***Amiga Format*** *Gold* rating of 90 per cent in November 1992 (*AF* 40). Release price £89.99. (See Digitisers).

DAY, MARTIN: See Assembly Line.

DCTV: True colour digitising and paint system from Digital Creations. This excellent unit makes use of 24-bit colour cards which equip an Amiga with almost 17 million (different) colours. Setting up and using the hardware is a very simple process, digitising a picture is a simple case of clicking the left mouse button, while operation is smooth and quick. The package comes with *DCTVPaint*. (See DCTVPaint, Digitisers, True Colour).



***Operation Stealth* was the game which really put the Delphine name on the map. Here the star of the game, John Glames, attempts to get into a hotel.**

DCTVPAINT: Program which comes supplied with DCTV from Digital Creations. This superb graphic tool enables 24-bit images to be manipulated in a plethora of ways. Functions include Watercolour which charges your mouse with a finite amount of digital paint, so that a stroke will run out like a real paint brush, Blend which picks up and mixes paint, Tint which changes chrominance but leaves luminance intact and Rub Thru which enables you to rub one image through another. *DCTVPaint* got an ***Amiga Format*** *Gold* rating of 95 per cent in February 1992 (*AF* 31) Release price £499 with DCTV. (See DCTV)

DE RIVAS, RICHARD: The man behind a company called MDR Interfaces, which used the Amiga as the computer part of a domestic control system. The MDR Interfaces system could handle such tasks as turning heating on and off, or activating the burglar alarm. If a modem was fitted the system could even call you on the telephone to tell you that something had gone wrong – floods, fires, or earthquakes can be detected with the right sensor.

DEBUG: To check code in order to find mistakes. There hasn't been a piece of code written which didn't need debugging. (See Bug).

DEADLINE: A fixed time, at a point in the future, by when a project or enterprise must be completed at all costs. Achieving this aim is known as 'hitting the deadline'. Software houses fix deadlines for completion of programs, in much the same way that magazines fix print deadlines. Whereas software houses often miss deadlines, the ***Amiga Format*** *Special* team never misses a deadline, largely because we maintain that time is an abstract concept.

DELPHINE: Delphine is actually a record publishing company (biggest 'star', Richard Clayderman) that diversified into software in 1988. The company is responsible for some of the most original titles to appear on the Amiga. Most of Delphine's games use the Cinématique operating system (a point and click interface) and great graphics with movie-like methods. This influence is a very deliberate move by the programming team, who see the Hollywood tradition as something they should aspire to in terms of quality and innovation. The software arm makes full use of the recording facilities at its disposal so the games feature good soundtracks. Delphine made its mark on the software industry with its first graphic adventure, *Future Wars*. The follow-up to this game, *Operation Stealth* (90per cent, August 1990, issue 13) proved an instant success, as it blended gallic humour with an intuitive interface and great graphics. Since then the company has continued to refine its programming system and released successively superior games such as *Cruise for a Corpse* (91per cent in October 1991, issue 27) *Another World* and *Flashback*. Contact: Delphine, 150 Bd Haussmann, 75008, Paris, France. Tel: 010–331 4562 0102.

Continued over

DELUXE PAINT: Ever since the Amiga came into existence, this art package from Electronic Arts has been linked with it. When the Amiga was launched in 1984, Andy Warhol demonstrated the graphic potential of the Amiga by creating a bit of art with DPaint and an Amiga. Over the years the system has gone through loads of revisions and updates, the most recent of which have been *DPaint IV* and *DPaint AGA*. The former was a huge overhaul of the original *DPaint*, designed to take advantage of HAM mode and while it is a sophisticated program, it still seems slightly unwieldy.

DPaint AGA is designed to make use of the A1200's increased colour palette and resolution. The program includes the ability to load 24-bit IFF files, to cut and paste to clipboard, morphing is now capable on full-screen, there's a Rub Thru facility, translucency and smooth gradient fills. Although *DPaint AGA* was rushed out to coincide with the release of the A1200, it's still an exceptionally useful and slickly programmed package which no A1200 owner should be without. *DPaint AGA* received an ***Amiga Format*** Gold rating of 90 per cent at a release price of £99.99 in January 1993. (*AF* 42). (See Warhol, Andy).

DEMO COLLECTION, THE: CD Title from Almathera Systems featuring hundreds of public domain demos, games and programs. The disk includes the entire Eric Schwartz back catalogue of superior animations and other innovative titles such as Amoeba Invaders, the brilliant Space Invaders clone. The Demo Collection received an ***Amiga Format*** Gold rating of 90 per cent at a release price of £19.99 in December 1992. (*AF* 42).

DEMONWARE: Software house that produced *Ooops Up*, a shoot-em-up/strategy game that featured a soundtrack based on Snap's cover version of The Gap Band's *Ooops Upside Your Head* record. You play an astronaut who is trapped in a group of galaxies and must travel between 100 of these galaxies collecting tokens to buy a section of space ship in order to build a massive space ship capable of getting you home to earth. The ***Amiga Format*** reviewers felt that although it had much to recommend it, *Ooops Up* was too similar to *Pang*, a peculiar but addictive platform game that involves shooting two large bouncing balloons, that then split into smaller, faster bouncing balloons.

DENISE: One of the Amiga's custom chips. Denise handles the video work –moving things around the screen and so on. (See Custom Chips.).

DESIGNING MINDS: Producers of a *Talking Storybook* program for children that tells the tale of the Little Red Hen. Although the graphics are impressive and the music is good, the computer voice is fairly flat and toneless. The ***Amiga Format*** reviewer felt that the best way to use the program was to turn off the sound and read the story over the pictures, which really defeats the object of getting the kids to use the program themselves as a learning tool.

DESIGNWARE: Software house that produced an exceptionally good children's educational package-cum-game called *Designasaurus* , which combines loads of fascinating dinosaur facts with a three-part game. In the first part the player controls a dinosaur of their choice and must find it the correct food to survive. In the second part you build your own dinosaur, and in the third you print out pictures of dinosaurs which can then be coloured in. All the stages are accompanied by various dinosaur facts.



Despite the lack of parallax scrolling and a celebrity endorsement, *Deuteros* is an excellent and popular strategy game.



***Digipaint* is an enormously, and deservedly popular painting program, largely because it is easy to understand and to use.**

DEUTEROS: Space exploration strategy game from Activision which was released in April 1991. The idea of the game is to design and build spaceships and then set out to discover earth's ancestors who are believed to be on the moon. The game plays like an interactive novel and even pushes you in the right direction when it looks like you're going wrong. There are no arcade elements to the game, this is more of a strategy/adventure game, but the graphics are superb and the plot is brilliantly well designed. *Deuteros* got an ***Amiga Format*** *Gold* rating of 95 per cent in April '91 (*AF* 21) Release price £24.99.

DEVPAC 3: Popular assembly programming package from Hisoft. *Devpac* enables the user to program in assembly language and then compile this code into machine code for maximum speed. The multi-window front end enables code listings, monitors and assembly listings to appear on the same screen, thus aiding debugging. If you're serious about programming or want to be then *Devpac 3* is the best assembler you can get. It received an ***Amiga Format*** *Gold* rating of 95 per cent in April 1992 (*AF* 33) at a release price of £69.95.

DIBSDALL, OLIVIA and DEAN: The people who bought the 200,000th Amiga 500 sold by Commodore in the UK. Olivia and Dean bought their A500 in Woking, early in 1990, and to mark the occasion they were presented by Commodore with a Class Of The 90s education software bundle. There are now approximately two million Amigas in the UK. World sales are somewhere in the region of five million, and growing by the hour.

DIGIPAINT: An early HAM paint package from NewTek, notable for the unusual positioning of the menu bar which is at the bottom of the screen, and accesses requester boxes. Despite this unusual feature *DigiPaint*, in its various incarnations, was immensely popular because it was extremely easy to use. *DigiView 1* is now bundled with NewTek's DigiView Gold digitising package. (See Digi-View).

DIGI-VIEW/DIGI-VIEW GOLD: Two digitisers developed by American company NewTek. Although there are now equally good, if not better, digitisers for the Amiga on the market, these two set the standards that others followed and NewTek did much to lead the way in the development of the digitiser. A digitiser is a video hardware/software device that enables you to grab images and import them into your Amiga.

DIGITAL INTEGRATION: Software house responsible for the flight simulator *F-16 Combat Pilot*. Contact: Digital Integration, Watchmoor Trade Centre, Watchmoor Road, Camberley, Surrey, Tel: 0276 684959. (See F-16 Combat Pilot)

DIGITISER: A device used for grabbing images from a video signal and importing them into an Amiga. Some digitisers will only grab black and white images and must be linked to an RGB (Red Green and Blue) splitter which sepa-



DMA Designs, the producers of the extraordinarily successful *Lemmings* games have just set *Lemmings 2* onto the Amiga world.



***Super Space Invaders* is one Domark's more recent games. It is an update of the ancient Taito coin-op game.**

rates the video signal into the different red, green and blue constituent parts to create a colour image.

DIGIVIEW: Slow but high quality colour digitising range from NewTek. This unit can only digitise in two colours, so in order to get a colour picture you need to place red, green and blue filters over the video camera's lens. All the internal workings of the unit are 24-bit which means that 24-bit images can be loaded and previewed if the Digiview is plugged in. Unfortunately Digiview isn't best suited to digitising direct from video, but if you need a cheap, high quality camera digitiser this is a good choice. Digiview got an ***Amiga Format*** *Gold* rating of 90 per cent in September '92 (*AF* 38). Release price £149.95.

DINC, MEV: Founder member and director of the Vivid Image development house, Mev Dinc also created the classic beat-em-up *First Samurai*. (See First Samurai, Vivid Image).

DIP SWITCH: Stands for Dual Inline Pole switch. Because most printers are designed to work with more than one sort of computer it is necessary to set up the printer for the computer. This used to be done by turning on or off a series of DIP switches, but now it is more likely that a new printer can be set up using front panel displays. In most cases it should not be necessary to worry about this as the printer should be set up at the shop when you buy it.

DIRECT DIGITAL DISTRIBUTION: Company that came up with an extraordinary piece of hardware early in 1990, an erasable optical disk drive. The drive uses CDs, works at the speed of a hard drive and can store 650Mb. The catch is that it costs £4,900 and each disk it uses costs £375 (1990 prices). DDD were at pains to point out that despite the initial outlay the cost per megabyte compared favourably with hard disks.

DIRECTORY OPUS: This nifty program from Innovatronics replaces the front end Workbench of your Amiga with a far more useable menu system. Opus consists of two windows showing directories. These can be used to copy, move, delete or examine all your files.

By using the powerful scripting language it can also be set up to run your favourite programs by simple clicking on an icon at the bottom of the screen. If you use your Amiga for something other than games, even if only rarely, then this is a useful program to have on your boot disk. *Directory Opus* received an ***Amiga Format*** *Gold* rating of 92 per cent in October 1992 (*AF* 39). Release price £39.95

DISK COMPANY, THE: A French software company which came to prominence when it bought out the floundering Activision company a couple of years ago in the early '90s .Tel: 010–33 1476 1746

DISK DRIVE: Storage device which uses floppy disks. These come in various flavours, such as 5.25 inches and 3.5 inches; your Amiga has a built-in 3.5 inch floppy drive unit.

DISTANT ARMIES: Suite of chess variations from around the world produced by Exocet. The game includes Chaturanga, Burmese, Chinese, Shatranj, Byzantine, Medieval, Courier, Turkish, Decimal and Los Alamos variation on the chess theme. Each different game comes with a history of the game and a commentator who will tell you off when you make a wrong move. *Distant Armies* received an ***Amiga Format*** *Gold* rating of 92 per cent in November 1990 (*AF* 16). Release price £24.99.

DMA: Direct Memory Access. These are a variety of chip which can talk to the banks of RAM inside a computer without having to access the CPU first. (See RAM, CPU).

DMA DESIGN: Software production company. DMA's most notable creation is *Lemmings*, one of the most successful computer games of all time. The team do a lot of work for Liverpool based software house, Psygnosis. Of late their time has been filled getting *Lemmings 2* ready for release in mid-'93. This game features 12 tribes of lemmings, each with a different set of talents and it is sure to clean up in WH Smiths.

DOMARK: One of the larger software houses, Domark has always strangely remained on the fringes of the computer games industry, never quite breaking through into the US Gold, or Ocean territory. Domark is best known for its series of James Bond games, the best of which is *The Spy Who Loved Me*. and for odd titles such as *Super Space Invaders*. The company is owned by Dominic Wheatley and Mark Strachan, and the name of the company is an amalgam of the Christian names DOMinic and MARK. Contact: Domark, Ferry House, 51-57 Lacey Road, Putney, London, SW15 1PR, Tel: 081-780 2222.

DOORWAY: You will also see a doorway referred to as a Gateway. It's a way out of the main Bulletin Board Service (BBS) into a sub-system, usually a game or other on-line pursuit. (See BBS)

DOPPELGANGER: Type of computer virus that works by replacing the code of a program with its own. It then moves the original code somewhere else on the same disk and gives it a blank name. So when the original program is selected, the virus runs instead. The word 'doppelganger' is German for a double, and also has the meaning of a malicious evil spirit or wraith which substitutes for an identical to a real person.

DOT MATRIX PRINTER: Most common and cheapest printer. Works by forming each character from a group (or matrix) of pins that strike the paper (noisily) through an inked ribbon. So to print the letter T a dot matrix printer would fire just the top pin, then move to right and fire the top pin again. Then it would move to the right and fire all the pins at once to create a vertical line, before moving to the right, firing the top pin and moving again to the right and firing the top pin. Most dot matrix printers have nine pins, more sophisticated models have 24 pins and therefore a better print quality because there is less

Continued over

space between the dots. The best-known make of dot matrix printer is Epson. In fact these printers became so popular that unless current models are Epson compatible they are not considered to be much use.

DOWNIE, JOHN: John Downie is a software designer and lecturer who, along with Karl Torok, developed the plotter, an ingenious device used for outputting computer images that creates a far better quality finished image than a printer is capable of producing.

A plotter works by moving a pen mounted on a bar or bars over paper. It differs from a normal printer because it can go back to fill in extra details of the plot or image. Now used mainly in computer-aided design, although Downie developed it primarily for artistic use.

DOWNLOAD: To transfer a file from a remote computer to your computer. When using a modem with your Amiga, to access the data on another computer you can browse through file directories, picking out any interesting looking titles. These can then be downloaded to your machine by using a transfer protocol, such as Z-Modem, which lets both computers know how many bits of information to squirt down the phoneline every second. Downloaded files are susceptible to corruption if the line isn't clear. (See Modem).

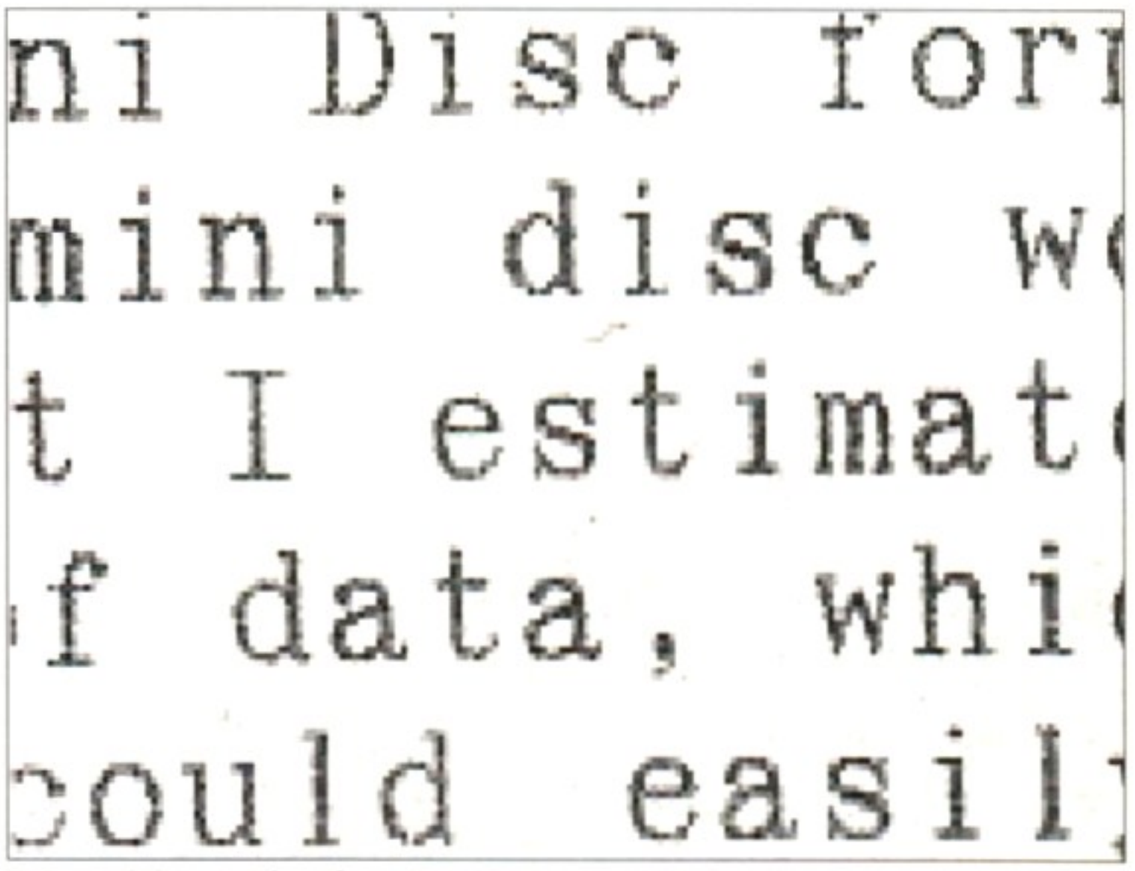
DPI: Dots Per Inch. The quality of a printer's resolution is measured by the number of dots per inch it creates – the more dots, the better the quality of the resolution. Most printers are capable of producing between 240 and 360 dpi. A professional imagesetter (the printer we use to produce ***Amiga Format***) is capable of a whopping great 2400 dpi.

DR T's: Software development company which specialises in music products, especially sequencer programs. Its earliest program is *Tiger Cub* which has now been built into *KCS* (Keyboard Controlled Sequencer), which is Dr T's best known Amiga product, and is currently up to V3.5 Level II. The company also produces *X-Or* a patch editing program for getting the right sounds into the right sequencer.Contact Dr T's 124 Crescent Road, Suite 3, Needham, MA, 02194, USA, Tel: 0101–617 455 1454.

DRAFT PRINTING: Dot matrix printers offer draft printing, which sacrifices quality for speed, making it ideal for producing rough copies and first drafts of documents. The dots which make up each letter of the print-out produced in this style are clearly visible. (See NLQ)

DRAGONS BREATH: Is undoubtedly jolly stinky, but this game isn't. This weird god-game which was released in early 1990 by Palace is a kind of fantasy medieval *Sim City* in which you've got to locate the three pieces of a talisman before the computer opponents do. You locate pieces by dispatching dragons to do all the dirty work for you. As well as eating lots of people and giving unsuspecting peasants a quick short back, front, sides and middle with the old fiery breath, your dragons can do battle with each other. All these dragons have to be hatched from the egg until they're ready for battle.

This is an engrossing game with great graphics and great 'dipability'; the



Enlarged dot matrix print outs clearly show the individual dots which comprise each letter or number. This is from a nine pin printer.

sort of game you can load up every now and then to see how Ivor and friends are getting on. *Dragons Breath* received an ***Amiga Format*** *Gold* rating of 94 per cent in April 1990 (*AF* 9). Release price £29.99.

DRAM: Dynamic Random Access Memory. This kind of RAM is faster than standard variety and is used in the Amiga.

DYSON, MARCUS: Editor of ***Amiga Format***. Marcus joined the magazine as art assistant and worked his way up to art editor (a position he held for two and a half years). In February 1993 he became the editor of the magazine. He enjoys snowboarding, promoting the cause of a free Yorkshire and has owned an Amiga since 1988.



Marcus Dyson, *Amiga Format* Editor

DUNGEON MASTER: The very best games create their own genre and *Dungeon Master* certainly did that.

It's impossible to look at more recent RPGs without seeing similarities with this early game. Software houses still use *Dungeon Master* style control layouts, spell systems, and graphic displays. The Faster Than Light (FTL) programming team, who put together *Dungeon Master* , did such a good job that it has been copied by all and sundry. The idea of the game is to battle your way through the nine levels of a dungeon, before doing battle with the Dungeon Master himself. In order to progress you need to learn spells, gain experience and solve some extremely cunning puzzles. *Dungeon Master* is an enormously entertaining game with oodles of long term interest. (See RPGs, Mirrorsoft).



Dr T's most recent package is *Boombox* a sampled sound music program. Shown here is the 'jam' free-form mode.



***Dungeon Master* is a game that has had a huge influence on the Amiga games market – *Eye of the Beholder* owes it great homage for example.**

From E's to *Executioner* with some erudite words on Eccentric Games, *Elite*, ELSPA and End Zone

E'S, JESUS ON: Highly impressive rave music and graphics PD demo from a team called LSD, *Jesus On E'S* drew gasps of admiration in the ***Amiga Format*** office. It's an extremely innovative demo and could herald the start of a new Amiga art form.



Jesus On E's: **we raved about the music and graphics Public Domain demo**



Spelling Fair: **from Europress is one of the better educational programs available on the Amiga and received an 87 per cent rating.**

EASY AMOS: Programming language designed for those who are new to the concept. **Easy AMOS**, which is built around BASIC enables the beginner to create programs with the minimum of fuss by cutting out the more indecipherable technical stuff. Thus the program includes a sprite editor, a sample editor, an interpreter and an interactive tutor. Examples included with the package can be taken apart and analysed, thus aiding the learning process. Easy AMOS is a cut down version of the popular AMOS range which includes AMOS Professional, the highest rated program ever in the ***Amiga Format*** – 97 per cent. Easy AMOS received an ***Amiga Format*** *Gold* rating of 92 per cent in May 1992 (AF 34) at a release price of £34.95. (See AMOS)

ECCENTRIC GAMES: Every now and then a game comes along for the Amiga which is completely mad. It's the sort of game which has people scratching their heads in a vague manner while trying to sort out exactly what the point of the game is. Magazine reviewers when faced with an eccentric game usually reach for the thesaurus and search for words which mean ethereal.

Now far be it from us to be xenophobic, but the overwhelming majority of odd games comes from France. Don't ask us why, but the French in their inimitable way usually manage to come up with utterly hatstand ideas which only make sense to people who are either under the influence of hallucinatory drugs or are serving time in one of Her Majesty's more secure day care centres.

The first eccentric game which came out on the Amiga was *Captain Blood*, a kind of outer-space detective game. You play the Captain and your mission is to recover the nine 'you's which have been zapped to various locations around the galaxy. This involves zipping down to planets, chatting to aliens and then blowing the hell out of their planet. Graphically and sonically the game is superb, but the plot and the jobs you need to carry out to complete the game are odder than Mad Jim McMad of Peterborough.

Exxos, the producer of *Captain Blood* unleashed another bizarre game on the world in the form of *Purple Saturn Day*. This is a kind of alien Olympics in which you compete in five ludicrous events in order to become the supreme being in the galaxy. These events include a space race through an asteroid belt and a brain re-arranging game. Again, you can't fault the graphics or sound, but the gameplay and plot are utterly impenetrable.

Infogrames got in on the weird game scene when they released the 'new age' karma-soothing *Alpha Waves*. The idea in this game is to bounce a ball around a series of floating platforms. You play different levels depending upon the mood you happen to be in at the time.If you're uptight you play a nice mellow level, of if you're too chilled then you play one with a little more action.

The idea behind *Safari Guns* wasn't exactly of this earth. You're supposed to be a wildlife photographer, out in the bush and your job is to take piccies of the many wonderful creatures. This is done by clicking on the animals in a vaguely *Operation Wolf* manner. And that's about it.

Mindscape decided not to let the French have it all their own way when they released *Life and Death* on an unsuspecting Amiga public. This distinctly odd 'simulator' requires that you perform a number of operations on patients. This involves diagnosing their illness, preparing them for the operation, anaesthetising them and then carrying out the operation without killing them. If you do sew up the scalpel inside them or loose a bit too much of the patients blood, causing them to kick the bucket, then you get sent back to school with a slapped wrist! Odd, odd, odd.

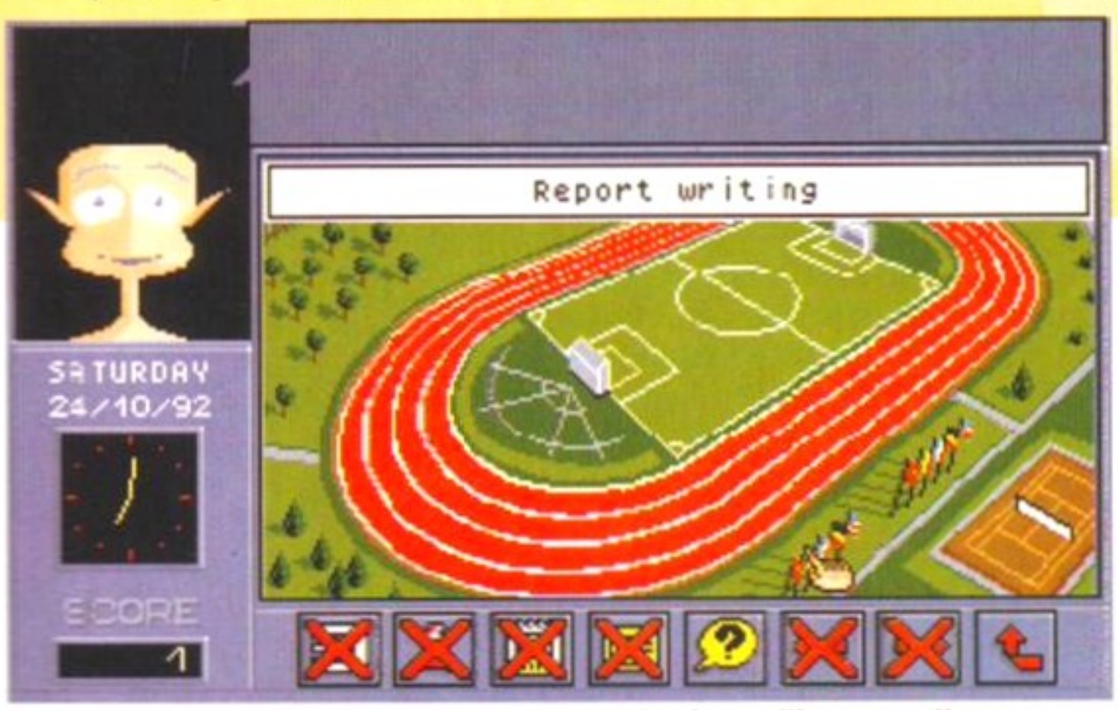
ECS: Enhanced Chip Set. The Amiga's internals have been slowly upgraded throughout its ten year history and the ECS improved the Amiga's graphic display capabilities.

EDGE CONNECTOR: The edge connector is located on the side of the A500 and A500 Plus, and by the trapdoor slot on the A1200 and A600s. The edge connector gives you access to all the signals going on within the Amiga, so you can attach virtually any hardware to your Amiga via the edge connector. The A500 and A500 Plus have the same edge connector, the A1200 and A600 versions are different. Other Amigas have a card slot instead of an edge connector.

EDGE, THE: Software house responsible for the children's games *Snoopy: The Case Of The Missing Blanket* and *Garfield: Winter's Tale*, neither of which were particularly well received by ***Amiga Format.***

EDUCATIONAL GAMES: The computer is an ideal learning tool, and the Amiga (being the complete home computer that it is) is ideally suited for educational programs for children. Yet, with a few notable exceptions this area of Amiga use has not achieved its full potential. For the most part educational programs simply transfer the standard three Rs tests from paper on to the screen; they usually require little more than the pupil clicking on the correct answer and a suitably jolly screen display or an end-of-level game as a reward. Given the massive capabilities of the Amiga in terms of graphics and sound, educa-

Continued over



The *ADI English* education package covers basic spelling as well as comprehension and other exercises in a bright and friendly environment.



Eldritch The Cat was responsible for creating *Projectyle*, a futuristic sports game that took place over five pitches. It got a Gold rating in August 1990.

tional games rarely make full use of them. There are some exceptions however, and perhaps one of the most consistent performers in terms of educational games is the Europress software house A recent impressive release from Europress is *Spelling Fair* , one in the series of Fun School packages which received an 87 per cent rating in November 1992 (AF 40).

The game is set in a fun fair and involves tests such as a coconut shy where the pupil spells words by hitting the relevant letter on the coconut, a mechanical grabber which the child must direct to select the correct ending to a word.and a haunted house which is a test for commonly confused and misspelt words, such as were/where, to/too and two (or is tew).

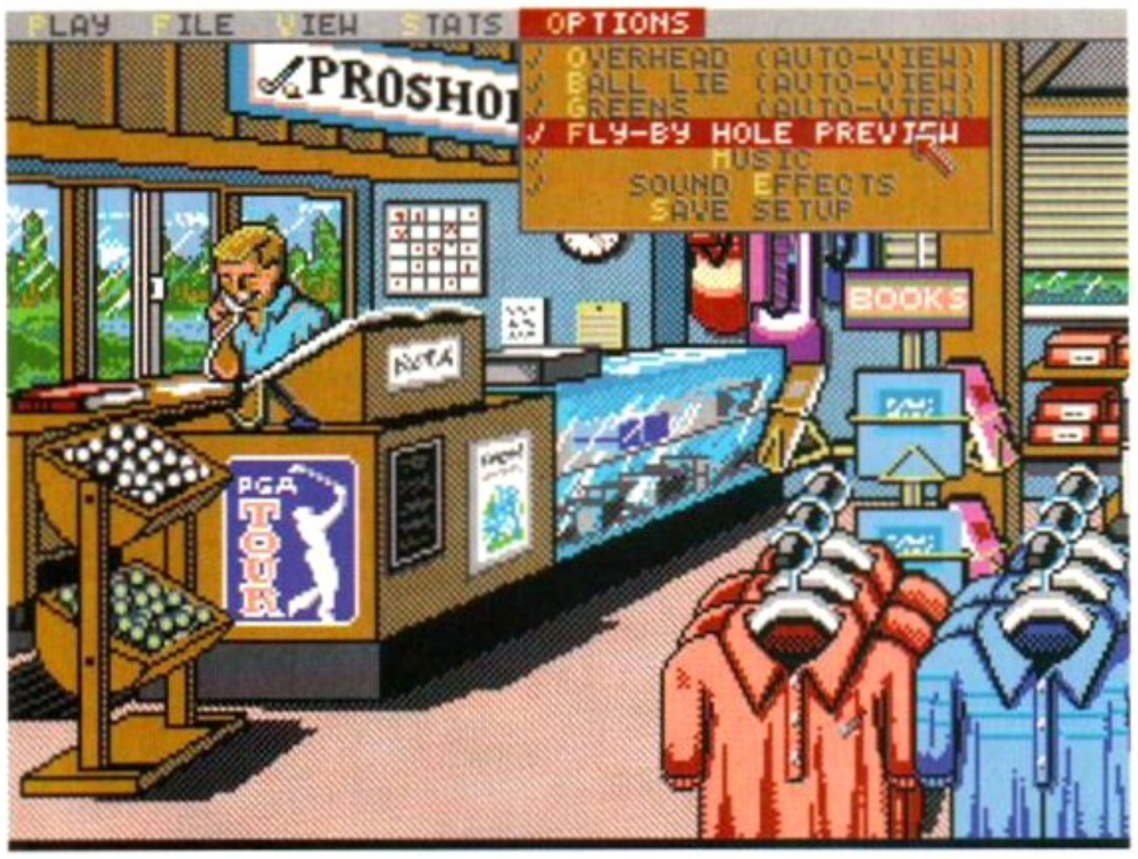
Another package from Europress is the ADI programs, the most recent of which is a Maths, English and French program that received a 75 per cent ***Amiga Format*** rating in AF 44.

ELDRITCH, ARTS (GAMES): Development team best known for the adventure game *Hound Of The Shadow*, which received a less than enthusiastic 45 per cent in AF 7.

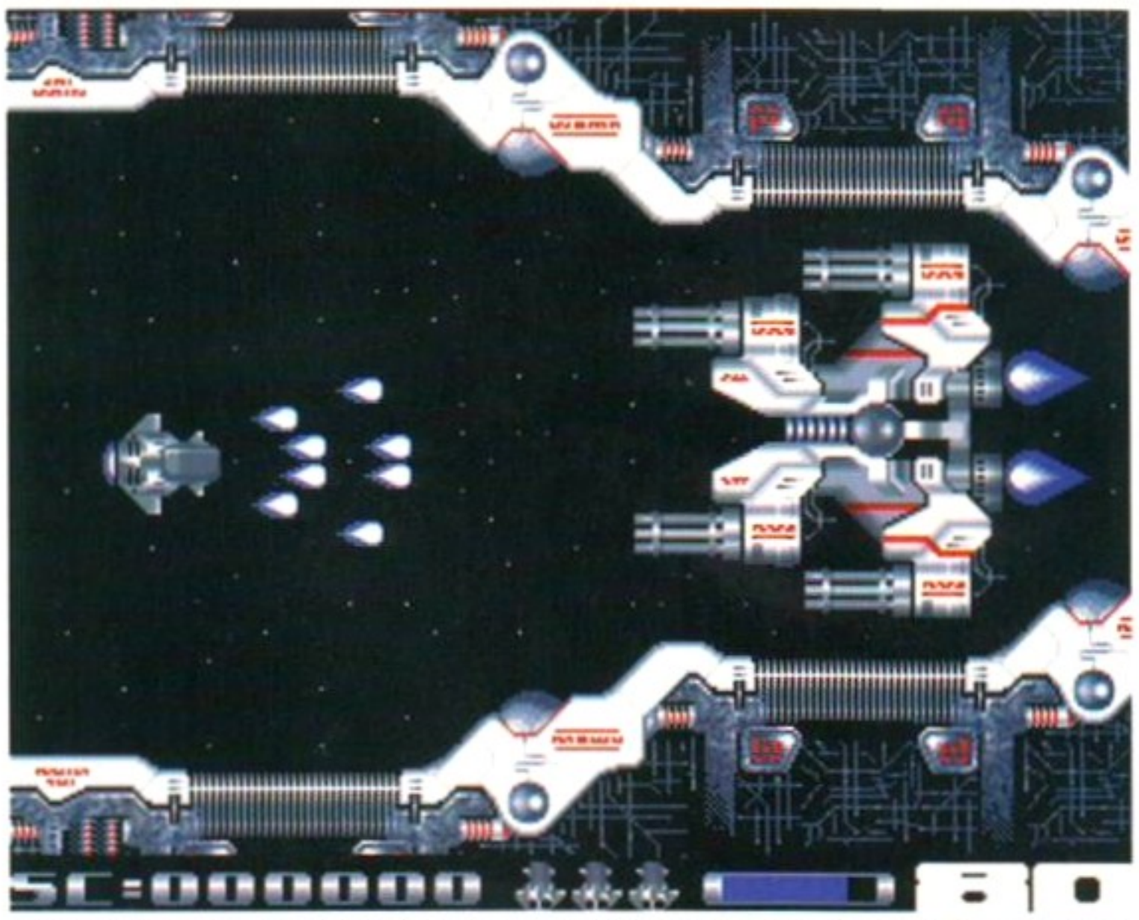
ELDRITCH THE CAT: Development team responsible for the ***Amiga Format*** *Gold* game *Projectyle*, a peculiar sport game played on five pitches. *Projectyle* got a 90 per cent rating in August 1990 (AF 13).

It's a little known fact that former ***Amiga Format*** editorial assistant Clare Hodgson was the British *Projectyle* Press Champion of 1990, when she saw off assorted hacks from other mags and trade papers in the grand final at Electronic Arts' Slough headquarters. Clare has now gone on to become staff writer for *Commodore Format*. (See Memory Expansion Boards, Projectyle).

ELECTROCOIN: Software house responsible for a 1990 coin-op conversion



Electronic Arts' *PGA Tour Golf* is possibly the most addictive of the many and varied golf games that are available for the Amiga.



Electronic Zoo game *Cardiaxx* is a fast and frantic shoot-em-up that is probably far too spedy for the average games player.



Electronic Zoo introduced *Abandoned Places* to the Amiga world. The Hungarian-produced game is one of the few from Eastern Europe.

called *Time Soldier*. The game revolves around two Earth Commandoes called Yohan and Ben who battle through various time zones from Primitive Era to Future World to try to release five of their comrades from a time void. Received a less than enthusiastic response fromthe ***Amiga Format*** reviewer who described it as: "A below par implementation of a rather forgettable coin-op."

ELECTRONIC ARTS: An American company founded by Mark Lewis in 1982, EA is one of the most respected software companies in the business. The British arm of this company was formed in 1987 to market and distribute products developed in the US. Electronic Art's most famous serious product to date is the phenomenally successful *D-Paint* series of art packages. However, it's in the arena of computer games that the company makes most of its profits. Electronic Arts has third party publishing rights for Interplay, Mindcraft, Three-Sixty Inc, Broderbund, Bullfrog, Millenium, Humungous Entertainments and the Strategic Studies Group. This has meant that superb games such as *Robocod PGA Tour Golf*, and *Populous* have come out on the EA label. The company works with as many as 20 programming groups at one time. Tel: 0753 549442. Tel USA: 0101 415 571 7171.

ELECTRIC DREAMS: Software house responsible for an early motorcycling game called *Super Hang On* and the thoroughly excellent *Spindizzy Worlds*, which received an ***Amiga Format*** *Gold* rating of 94 per cent in February 1991 (see Spindizzy Worlds).



Doesn't Maria look nice? Well, no. But that's because it's a grainy picture designed with schoolboys in mind by Emotional Pictures in *Cover Girl Poker*

Empire's *Megatraveller* is a role-playing science fiction game with an absorbing mix of strategy, action and challenging gameplay.

ELECTRONIC ZOO: Software house that introduced the Amiga world to games including *Battle Squadron, Under Pressure, Treasure Track, The Ball Game, Abandoned Places, Magic Garden, Cardiaxx, Germ Crazy* and *Brigade Commander*. The best of these is *Battle Squadron*, a space shoot-em-up in which you launch a daring rescue mission to free kidnapped troops from the grip of a hostile alien force. *Battle Squadron* received an 82 per cent rating in February 1990 (AF 7).

ELITE: This software company started releasing games way back in the days of the C64, but has only put out a handful for the Amiga. Of these the most recent is *Joe And Mac: Caveman Ninja*, a 13-level colourful cartoon game in which you control one of two cavemen as they trudge their way to work, pausing along the way to club dinosaurs. It received a 74 per cent rating in February 1993 (AF 43). Contact Elite on 0922-55852

ELITE: Whenever two or more forty year olds are gathered together they usually end up discussing where they were when Kennedy was shot. Whenever two or more thirtysomethings are gathered together, they usually end up discussing punk rock. And whenever two or more twentysomethings are gathered together (over a beer of course) they usually end up discussing the computer game *Elite*. This game was developed by David Braben and Ian Bell and initially released on the BBC Model B computer. It was an enormously influential game because it was way so far ahead of its time. Essentially the game is a space trading game in which you nip between planets, buying or selling commodities. You start the game with a small, slow, badly-equipped ship and 100 credits. The idea of the game is to improve your rating from the initial Harmless, to the ultimate Elite level. You push your ratings up by shooting other ships and completing missions. *Elite* is an incredibly atmospheric game which draws you into its virtual world in a way that very few games have managed to emulate. The reason that all us twentysomethings wax lyrical about the game is because it helped push the computer games industry in the right direction. It is our *Pretty Vacant*

ELSPA: Stands for European Leisure Software Publishers Association. Formed in 1989, ELSPA is an umbrella organisation made up of about 60 of the leading European software companies, its aim is to promote its members and their products across the world. To this end ELSPA sponsors trade exhibitions such as The European Computer Trade show held in London in April and September and is a member of FAST, the Federation Against Software Theft. ELSPA also funds Gallup to provide sales charts and lobbies for legislation to secure the rights of its members. ELSPA's chief executive is Roger Bennett. Contact ELSPA at Station Road, Offenham, nr Evesham, Worcestershire WR11 5LW. Tel: 0386 830642.

EMAIL: Short form of Electronic Mail, a service similar to ordinary mail except the messages are delivered electronically rather than physically.

EMOTIONAL PICTURES: Software house responsible for *Cover Girl Poker*, a less than taxing exercise in voyeurism in which you play poker against various Page Three Girls, and they remove items of clothing as they lose. Programmed by the Unreal team. (See Unreal).

EMPIRE: The Empire software house was founded in 1987 when two existing companies merged.The two were Oxford Digital Enterprises and Entertainment International, the former a specialist in programming, the latter a specialist in bringing product to the market. Oxford Digital Enterprises was previously responsible for both *Trivial Pursuits* and *The Hunt for Red October*. Since '87 Empire has been responsible for (among others) *Pipemania, Pacific Islands, Death Bringer, Team Yankee, Megatraveller, International Sports Challenge, Pacific Islands* and *Campaign*. Contact: 4 The Stannetts, Laindon North Trade Centre, Basildon, Essex, SS15 6DJ, Tel: 0268 541126, Fax 0268 541125.

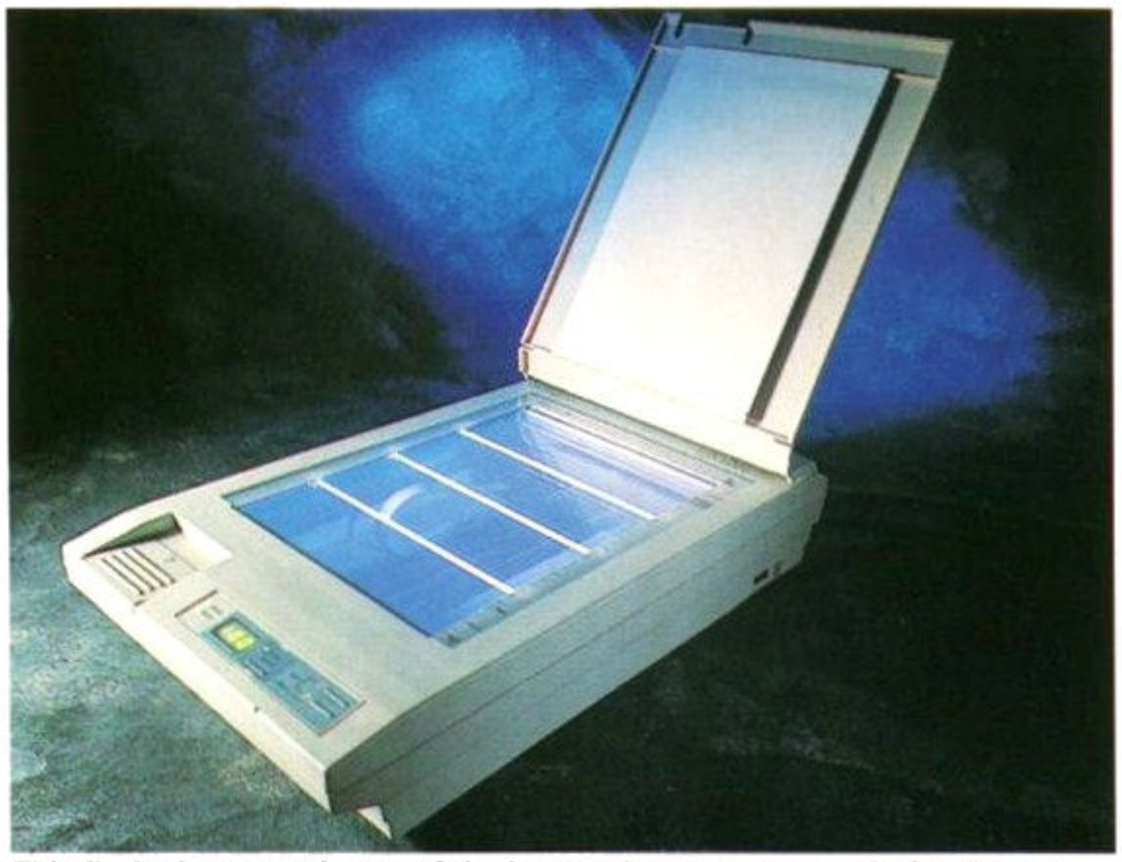
EMPLANT: A program that enables you to read from and write to Apple Mac disks on the Amiga.

EMULATORS: An emulator is a remarkably useful device which in effect changes your Amiga into a different computer. For example, if you use a BBC computer at work, but were discerning enough to buy an Amiga for home use, an emulator program would enable you to use the BBC software on the Amiga, rather than just transfer files between the two computers. Some emulators raise interesting copyright questions because they require you to copy the operating code of another computer.

END ZONE: A Bulletin Board Service that is linked to the Fidonet system (a world-wide network of BBS) that enables you to get in touch with other users from all over the world). This is a user-friendly BBS, full of great files and chat. Contact End Zone on the BBS modem number 0524 752245. (See BBS).

ENVI: Stands for Enterprise with Vision, a Commodore award for the best-

What is this picture of? Turn the page to find out...



This flatbed scanner is one of the best we've ever seen at *Amiga Format*, but what is it? To find out you'll have to consult page 42.

designed Amiga software product. The first recipient of the award in 1990 was Electronic Arts, who received it for the outstanding *Deluxe Paint III* package. To date Electronic Arts is also the last recipient of the award because it hasn't been handed out since 1990 for reasons best known to Commodore.

EPSON COMPATIBLE: A trade standard. Epson is a printer manufacturer and if a printer is Epson compatible it should work on your Amiga. If you have any doubts check thoroughly before you buy it.

EPSON GT-6000: The GT-6000 is a flatbed scanner which can operate at any resolution up to 600dpi. It comes with an AdPro driver program for use on the Amiga which takes care of all the actual previewing, sizing and scanning operations. The results produced by the unit are excellent and these can be saved in 24-bit, 8-bit or 1-bit formats for manipulation in art packages. The GT-6000 was released in September 1992, it received an ***Amiga Format*** Gold rating of 98 per cent in AF 38 at a release price of £1,175. The Epson GT-6000 is no longer in production but has been replaced by the Epson GT 6500, which is similar, but offers higher resolution and an optional transparency scanning facility. (See Scanners)

EPYX: American software house. Epyx specialises in producing simplistic sports games based around a central theme. Thus they have brought us *Summer Games* (sprinting, pole vaulting, javelin etc), *Skate or Die* (half-pipe skateboarding, race skateboarding etc) and *California Games* (surfing, skating, Frisbee etc). These games have always been distributed in Europe by US Gold, in fact US Gold's first titles were Epyx imports. (See US Gold).

ESSEX AMIGA: A lively Amiga Bulletin Board Service which is connected to Fidonet (a world-wide network of BBS), enabling the user to communicate with other users from all over the world. Contact Essex Amiga on the BBS modem number 0277-23354. (See BBS).

EUROPRESS: This software house is best known for its serious programs such as *Amos* and educational packages such as *Fun School*. One of their few games releases is *Dojo Dan*, a 20 level platform game which received an 80 per cent rating in August 1992 (AF 37). (See Amos, Education Games).

EXTERNAL FLOPPY DISK DRIVE: Most Amigas have one disk drive, so when you undertake some functions, such as copying disks, this means a lot of disk swapping. Although this is a minor task, it is one that can become irritating. Using an external disk drive means you can run two floppy disks at once. Most external floppy disk drives cost upwards of £50 . You can run up to four external floppy disk drives on your Amiga.

EYE OF THE BEHOLDER: Taking its cues from *Dungeon Master* this RPG improved on a very popular format, advancing the gameplay and producing a notable adventure game. So far there have been two *Eye of the Beholders*, though there is little difference between the two, bar the storyline.

Both games are set in a fantasy land of freakish, outlandish creatures and powerful beings, all of whom are intent on making you pay for your purchases. You have six people in your party, all equipped with a different skill or strength and all of whom need looking after if they're to survive the trials and tribulations ahead. Each character has the ability to learn how to use weapons



***Eye Of The Beholder* is one of the best role-playing games around. It's atmospheric, cleverly-scripted and unspeakably addictive.**



You start off with six characters in *Eye Of The Beholder* and must use their skills and yours to guide them through a threatening shadowy world.

and (if they are a mage or cleric) to cast spells or to heal people. This means that your party of adventurer's knowledge grows as yours does.

The original *Eye of the Beholder* was released in June 1991 and received an ***Amiga Format*** *Gold* rating of 92 per cent (AF 24). The sequel *Eye of the Beholder 2: Legend of Darkmoon* was released in June 1992 and received an ***Amiga Format*** rating of 91 per cent (AF 35). (See RPGs)

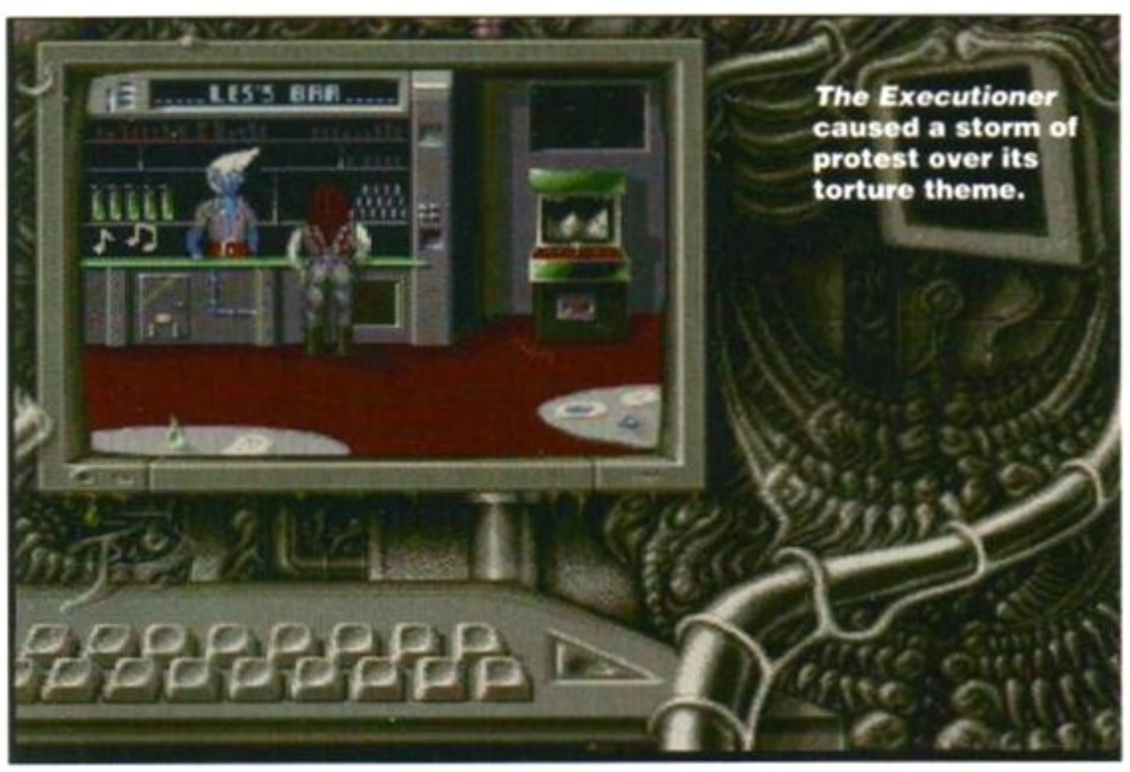
EXECUTIONER: We've all heard the argument that computer games are harmful to the growing minds of the youth of the nation, but just occasionally you have to take a step back and look at the morality of certain games. *The Executioner* from Hawk (40 per cent in October 1991) was a game which crossed the 'fun' line and entered the realm of the sick.

The game's box boasted about some torture scenes in the game in which the player had to try and extract information from prisoners without killing them. This seemed a bit on the strong side and so ***Amiga Format*** got in touch with Amnesty International to ask for their opinion on the game. Their reply was:

"We are disturbed to learn of another game being marketed in which torture is presented as a fun way to deal with 'prisoners'. We are concerned that impressionable young people will, through this game, accept that torture is an acceptable practice. Torture is a fact of life in more than 100 countries, as the dossiers and photos in our files illustrate. Perhaps those who design, manufacture, market and distribute games such as *The Executioner* would care to consult our library, particularly the pictures of children who have been tortured, we feel sure they would then not be inclined to link it with what they describe as 'gorgeous, tense action'."

Shortly after its release, *Executioner* disappeared from sight. Nobody mourned it. A very similar situation occurred with the release of *Killing Cloud*, a game which included torture scenes.

Amnesty International complained to the producers of the game, Mirrorsoft, via the owner of the company, one Robert Maxwell. Maxwell insisted that the scenes be removed and thus the game which made it on to the shop shelves lacked the offending pictures.



***The Executioner* caused a storm of protest over its torture theme.**

From *F-15 Strike Eagle* to Future, stopping along the way to explore flight sims and the FAST

F-15 STRIKE EAGLE II: Curiously enough, this flight simulator was criticised for being geared too much to the 'arcade' market. Fans of the genre objected to the simplicity of the gameplay and the lack of superfluous technical embellishments. Fortunately, that's exactly what everyone had wanted from a flight simulator all along and this quickly leapt to the top of the software charts where it stayed for ages. The graphics within this game are superb; fast and detailed. Your F-15 zooms around the sky with incredible silkiness, meaning that the gameplay is fast and frantic. What's more, you don't have to spend two years just reading the manual, this is a game you can dip straight into and for that it must be applauded. *F-15 Strike Eagle II* received an ***Amiga Format*** *Gold* rating of 90 per cent in July 1991 (AF 24) at a release price of £34.99. (See Flight Simulators).

F-16 COMBAT PILOT: Aged (1989) flight simulator from Digital Integration. The game includes a vast amount of detail about the F-16 plane including complex facilities such as real-time mapping, radio operation (fiddly bit) and waypoint calculations. Oh, and you've got to fly the plane too. Despite its age, the game is still worth checking out, especially as it came out on the Action 16 budget label at £9.99 about a year ago. *F-16 Combat Pilot* originally received an ***Amiga Format*** *Gold* rating of 94 per cent in July 1989 (AF 3), at a release price of £24.95. (See Flight Simulators).

F-19 STEALTH FIGHTER: Enormous and extremely technical game from Microprose. The F-19 is America's stealth bomber, a plane supposedly 'invisible' to radar and thus highly effective at blowing bomb installations to bits. Although *F-19 Stealth Fighter* is undoubtedly a fun game to play, it certainly isn't thrill-a-minute stuff. Those Stealth Bombers are extremely hi-tech creations and you spend most of the time keeping your radar 'signature' to a minimum by adjusting your height before dispatching a deadly accurate 'intelligent' bomb onto the unsuspecting warehouse below you. *F-19 Stealth Fighter* received an ***Amiga Format*** rating of 91 per cent in November 1990 (AF 16), at a release price of £29.99. (See Flight Simulators).

F-29 RETALIATOR: Flight simulator from Ocean. This game manages to bridge the gap between being too technical and too shallow perfectly. The game enables you to fly either a Lockheed F-22 or a Gruman F-29 kitted out with some suitably brutal missiles or bombs. The adjustable difficulty level and collection of missions make for long term interest, but what really sets the game apart are the graphics which are both detailed and fast. There are some great tricks you can perform within the game-world, such as flying under a suspension bridge at 800kph or unleashing some ASRAM air to ground missiles on an aircraft hanger and then watching it blow in your rear view mirror. *F-29 Retaliator* received an ***Amiga Format*** *Gold* rating of 92 per cent in June 1990 (AF 11) at a release price of £24.95. (See Flight Simulators).



F-15 Strike Eagle **another superb flight sim that sees you heading quickly into the skies to do battle in a real arcade feel of a game.**



F-19 Stealth Fighter **comes from the classic Microprose stable, it was also available before the official plans to to top secret plane were released.**

FALCON: Classic flight simulator which was released on the budget Action Sixteen label for £14.99 recently. The game is based around the F-16 and features loads of tricky missions, some superb graphics and some wonderfully protracted dog-fights. This certainly isn't a hop-in-and-nuke simulator, you'll actually have to read the manual before taking the plane up. Or at least you will if you want to live longer than two minutes. There are also two mission disks available for the program, namely Operation Counterstrike and Operation Firefight. The former is based on air to ground strikes while the latter is all about air supremacy. *Falcon* received an ***Amiga Format*** *Gold* rating of 90 per cent in October 1992 (AF 39) at a budget release price of £14.99. (See Flight Simulators).

FAST: Federation Against Software Theft. Pirating (illegally copying) games and other programs costs the industry zillions of pounds in lost revenue. FAST is the body that tracks down and prosecutes the pirates. Last year it received more than 1,000 reports of piracy from members of the public and from member companies. Fifteen people appeared in court, and received sentences ranging from heavy fines to Community Service Orders. One man has served a three month prison sentence for pirating Amiga disks and another was given a suspended sentence and a £2,000 fine.

Car boot sales have become one of the main outlets for pirate disks and FAST teams have swooped on the worst areas. More than 10,000 disks have already been seized following raids at Glasgow's Barrowlands market alone.

FAST was formed in 1984 by software companies to combat the growing problem of illegal copying of software in both the business and leisure sectors. At that time there was no effective legislation to tackle the problem. The Theft Act was inapplicable because software did not fit its definition of property, and the 1956 Copyright Act did not recognise the existence of computer software.

In 1985 the Government passed the Computer Software Amendment Act , which gave FAST the power to prosecute under the terms of the 1956 Copyright Act. In 1988 the Copyright Designs and Patents Act was passed, which created a new offence that applied specifically to the sale or distribution of pirated software. Offences under this act carry a maximum sentence of six months imprisonment if the offense is dealt with at a Magistrates Court, or two years at Crown Court, plus heavy fines.

The current Chief Executive of Fast, Bob Hay, left the Metropolitan Police, where he was a Chief Superintendent, in 1984, to head FAST. As FAST's caseload increased an ex-Trading Standards Officer, Robin Lawrence, and a former CID officer John Loader, joined FAST. Last year the European Leisure Software Publishers Association (ELSPA), an umbrella organisation for leisure software publishers, joined FAST as a full member, making all its leisure software companies associate members, and John Loader was appointed FAST's leisure sector investigator. Contact FAST at 2 Lake End Court, Taplow, Maidenhead, Berkshire SL6 0JQ. Tel: 0628 660377. (See ELSPA).

FASTER THAN LIGHT: Programming team responsible for (among others)

Continued over

Dungeon Master which is one of the most influential (See Dungeon Master).

FIELD: A database record is sub-divided into fields, that contain specific pieces of information. For example, the record of a customer called J Smith could be divided into fields that would contain address, phone number, age, and any other relevant information. A key field or index field is one which is used as a reference point for the record. So if the surname field is the key field you would find J Smith's record by searching for the surname key field. (See Database).

FILL: A paint package term. When you draw something in a paint program it is usually in outline form. If you want it solid, you fill it. The fill will be the same colour as your brush. Flood fill descibes a function which stops filling when it reaches the border of another colour.

FILM TIE-INS: Since the software industry came into existence it has struggled with the problem of making its products fit into the public's mainstream conscience. Initially it did this by using sponsorship of athletes and television personalities, but as the profits started flowing in and they had a bit more money to spend on licensing it has been the film tie-in and the movie-game which has made the serious money for the software industry.

Tying a game in with a film has loads of benefits for the software house, but the main one is that the film industry is superb at hyping its products. That means that the software companies don't have to spend too much of their precious loot building a game up, the Hollywood machine does it for them. All of which is a bit ironic, because with a few notable exceptions, movie-games are awful.

There have been some unlikely Amiga movie-games over the years such as *Plan 9 From Outer Space* (a singularly awful movie, and a singularly awful game), *Elvira* (a pretty good RPG game), *Moonwalker* (dreadful platform game thing) and *The Godfather* (gorgeous graphics, complete lack of gameplay). Usually a software house goes for the really big films to collect a licence which has led to the creation of games such as *Terminator 2* (pretty graphics, awful game), *Robocop* (one and two were dreadful, three was a superb game), *Total Recall* (again, nice graphics, devoid of gameplay), *Predator* (insipid stalk 'n' slash cum platform game), *Teenage Mutant Hero Turtles* (bland platform game), *Lethal Weapon* (dull predictable stuff, much like the film) and *Blues Brothers* (an excellent platform game).

Occasionally a movie-game comes out which is actually worth loading more than once. Step forward and bow: *Batman* (great graphics, great gameplay and lots of cloak swishing), *Addams Family* (fun platform action), *Ghostbusters* (bit dated now, but great platform fun still) and the *Indiana Jones* range from LucasArts. Of these the best are definitely Indy's outings, but then the same people who produced the film brought out the game, so it's understandable.

Occasionally a software house becomes connected with a certain kind of film: Ocean are known for their big budget tie-ins, Domark for their Bond games and LucasArts for their big-name graphic adventures. However, one thing remains constant, the public will part with their hard-earned cash for a movie-game irrelevant of how good the game is.



Flight sims and the Amiga just love each other. Here we see the pilots from Ocean's *F-29 Retaliator*. The Amiga's ability to scroll rapidly is ideal for this kind of work, and its massive colour palette also adds to the realism.

The most notable example of this rule is *Teenage Turtles*, a game which had all the playability of a spreadsheet, yet it squatted on the top of the games charts for months, because all the little boys and girls up and down the country wanted to be a turtle. But over the last couple of years, the quality of these games has been steadily improving. Software houses have actually started creating interesting game plots rather than simply rehashing the movie's story-line in a platform game format.

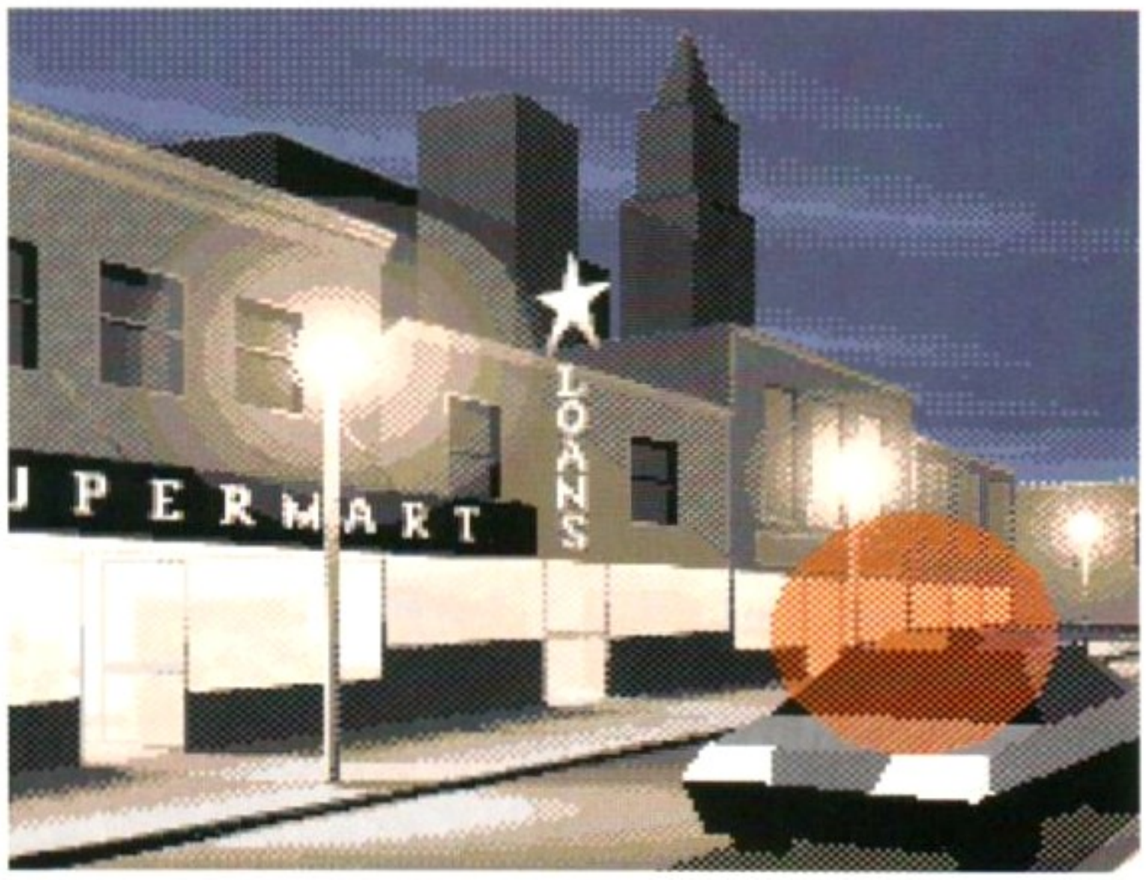
Nobody expected much from *Robocop 3* when it came out because the previous two games in the series were awful, but *Robocop 3* is a stonking game, combining flight simulation with driving and 3D stalk 'n' slice elements. The graphic adventure *Hook* had its merits too, though it was hugely derivative of the LucasArts games style. *The Untouchables* was a brilliant and innovative game with bags of lasting interest and a style which matched the film.

In the future no doubt and with the growth in CD games, we'll see movie-games which actually include chunks from the film itself. However, that doesn't necessarily mean that they'll be any better than the movie-games we're seeing at the moment because as with many current games of the genre, the nice graphics usually hide the fact that there's no game lurking in the box.

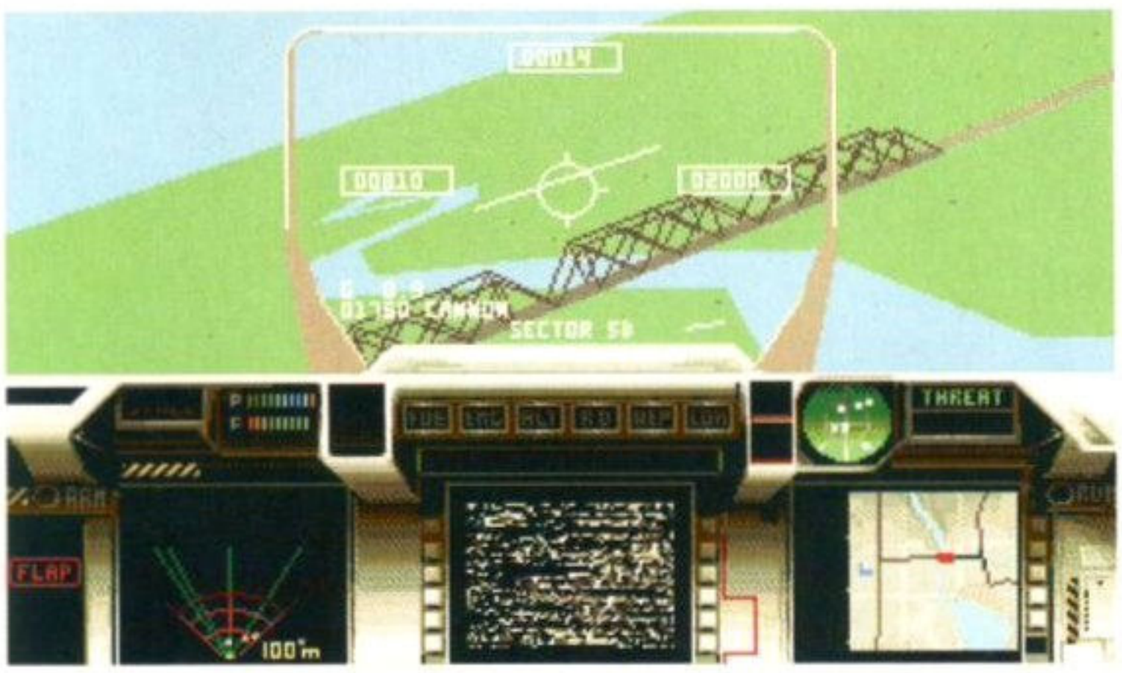
FIRST SAMURAI: Mev Dinc, of the Vivid Image development house, more or less re-invented the beat-em-up when he created this game. You are a nifty samurai warrior equipped with a pointy sword and the ability to jump high into the air. The game is played over the course of ten levels, each harder than



One of the finest film-tie ins (or licences) of all time was Ocean's *RoboCop III* which is strange because no film of the same title has ever been made.



***RoboCop*'s graphics and gameplay lifted it above the nornal cash-in-and-care-less attempts to make computer capital from the silver screen.**



Although some ignorant people see the Amiga as only any good for the occasional shoot-em-up or platformer, it is excellent for sky-fighting too.



One example of this is Domark's *MiG-29M Super Fulcrum*. It is easy enough for the beginner but the more experienced player can also benefit.

the next and each presenting a different challenge. There are puzzle and platform elements within this game, but first and foremost it is an extremely classy beat-em-up which tests anyone's joystick skills to the maximum. *First Samurai* received an ***Amiga Format*** *Gold* rating of 91 per cent in December 1991 (AF 29). Release price of £25.99. (See Beat-em-ups, Vivid Image)

FLIGHT SIMULATORS: Lord knows what Orville and Wilbur Wright would make of it all, but up and down the country people are making their first flights in a weird and wonderful assortment of air vehicles. These days practically every popular aeroplane has been analysed, simplified and converted into a silicon representation which anyone with an Amiga and 40 quid to spare can take up into the air.

To start off with the most popular simulators recreated state-of-the-art American and Russian jet fighters, but lately the most popular simulators recreate early planes from World War One such as the Sopwith Camel. In order to master a flight simulator you need to get to grips with a strategic, shoot-em-up and map reading skills. The Amiga flight simulator scene was born in the States in 1988 with the release of *Flight Simulator II*. This isn't a terribly exciting excursion into the atmosphere as it tries to faithfully recreate a Lear jet, a Cessna and bi-plane. Even in 1988 it looked decidedly 8-bit, was over technical, and only appealed to people with deep pockets (it cost £50).

Electronic Arts took the whole flight simulator genre in a very different and formative direction with its *Interceptor* game that emerged in mid-1988. This has a less technical approach to flying and is thus a lot more fun. It's the first game to feature external views and on-going missions and is still an extremely popular flight sim despite being five years old.

LucasArts then released *Battle Hawks* in 1989. The game centres around the air war in the Pacific in 1942 and enables you to fly either allied or enemy aircraft in a series of bombing/dogfight missions. The game isn't overly technical which is good news for the average gamester and manages to be an engaging, atmospheric game despite the almost comic-book simplification of the conflict it seeks to simulate.

The sequel to *Battle Hawks* was a game called *Their Finest Hour* which is rated more highly because it makes a better job of the flight simulation elements of the game, rather than spending too much effort on the strategic elements. In an effort to appear inventive, Microprose released a helicopter simulator in mid 1989. The game, *Gunship*, has all the usual Microprose trademarks, such as amazing attention to detail, loads of missions and of course some 'real life' scenarios. Flying a helicopter is a lot harder than an aeroplane because you've got to get to grips with the cyclical and collective control system.

Gunship is a success and set a trend for simulations about exotic aircraft. While some flight simulators aim to be as accessible as possible, others appeal to the kind of people who hang around Heathrow airport watching jets take off and land. *F-16 Combat Pilot* is just the kind of game that the Heathrow posse would love. The game has an amazing amount of detail, and even though it's four years old now, the purists still love it.

For sheer overload of information, few games can come close to Microprose's *F-19 Stealth Fighter* and it remains one of the finest Amiga flight simulators. The game is set around the (when the game was first released, top secret) American Stealth Fighter which can hide itself from radar and can bomb far distant targets. It represents a hell of an achievement because of the obvious care and attention which went into its creation.

There was a glut of flight simulators during 1991, but it wasn't until the release of *Mig-29M Superfulcrum* in 1992 that the genre got any more interesting. *Mig 29* was a worthwhile game because it relied on flying skills rather than the ability to wade through a 400 page manual and hit the missile button occasion-



This, a good game? A fine game? And excellent game? Come off it, it's just a beat-em-up sort of bash and run game isn't it? I mean where's the fun...



Well you'd be wrong matey. This is Vivid Images *First Samurai*, an all-time great that shook the Amiga gameplaying world when it first appeared.

ally. If you play *Mig-29* you'll be can guaranteed some superb dogfighting. Towards the end of last year the outstanding *Knights of the Sky* was released and became a huge success. The game manages to be accessible and realistic at the same time, thus pleasing both the techy fans and the beginners.

FLOPPY DISK: The disk containing games and the suchlike that you insert into your Amiga. It is called a floppy disk because, beneath the protective case, it is a little floppy, black round thing, like a mini version of those flexi-discs you used to get free with music mags. Before the advent of the floppy disk computer data was stored on tape. Loading the data from tape was a slow and laborious process, and made computers inappropriate for home and leisure use.

The best way to imagine a floppy disk is as a pie with a series of about 85 concentric circles from the outer edge to the middle and with about ten slices vutting across those rings. Each of the blocks those intersections make is called a sector, and each sector can store 1024 pieces of information (a number or a letter). This means that on beach disk you get 880,000 bytes of usable space. All the data is written to and read off the disk by a movable magnetic head. This operates in much the same way as a tape, in that it it affects a magnetic strip by charging it with bits of electricity.

The head can only move left or right over the disk and so the disk spins in order to to enable the head to get to the right bit of information at the right time. When you insert a disk into the drive, a couple of spindles flip up into the holes in that metal bit on the underside of the disk, a little lever flips back the the metal flap at the top and the read/write head descends on to the disk's surface.

FONTS: Also spelt founts, this is a term from the world of printing and applies to a style of typeface. For example, the typeface of the text you are now reading is Palatino. **This is the bold font of Palatino**, *this is the italic font* , ***and this is the italic bold font***. (See Typefaces).

FORMATTING: Before you can use a new blank disk you must format it so your Amiga can read it. Formatting a disk on the Amiga is easy. You simply insert the disk you wish to format into the drive and follow the on-screen prompts. When the disk is formatting a message will appear on screen showing the number of tracks that have been formatted and the number that are left to be formatted. (There are 80 tracks on an Amiga disk).

FORMULA ONE GRAND PRIX: Superb car racing game from Microprose, definitely the best Formula One simulator available. The game blends sprites with polygon graphics which means that as well as having superb fast graphics for the cars, details such as trees, marshalls and even roads look the part and not like lumps of Lego. Gameplay itself is superb and a lot of practice is required if you want to be really successful..

However, beginners are aided by the five skill levels in the game. In order to win a championship you have to see your car from drawing board to prectice circuit to all the grand Prix races; it's no easy task, but that's one of the things that makes this game special. *F1 Grand Prix* received an



Weird and wonderful graphics are a piece of cake for the Amiga. Now this is one way to make mathematics interesting to any one.

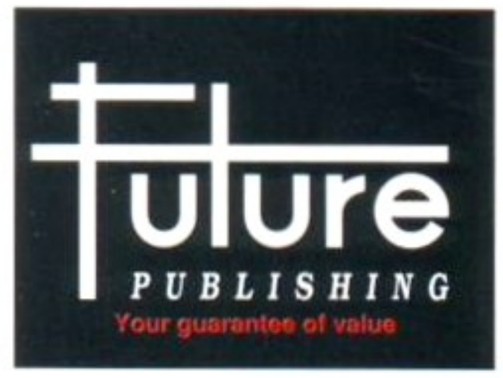
Amiga Format rating of 92 per cent in March 1992 (AF 32) at a release price of £30.99. (See Sports Games)

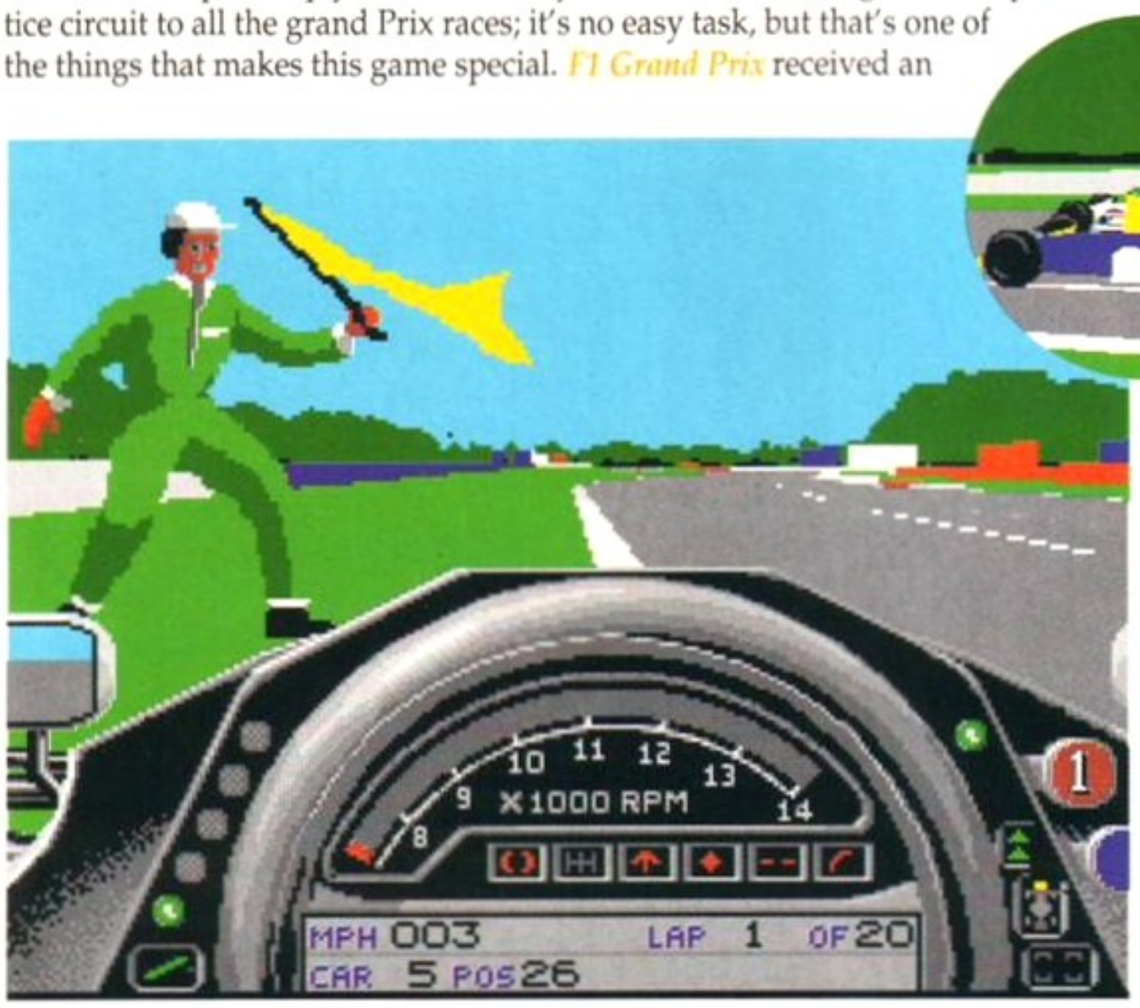
FRACTAL: Fractal is short for fractional dimension and is a fiendishly complicated mathematical concept based on the principle that a fractal recognises not just one, two or three dimensions, but an infinite variety. Fractals are therefore capable of creating stunning patterns. Scenery generators such as Vista use fractals to draw landscapes.

FRAME GRABBER: A device for capturing live video data and converting it into computer picture data. It does not require a still video signal.

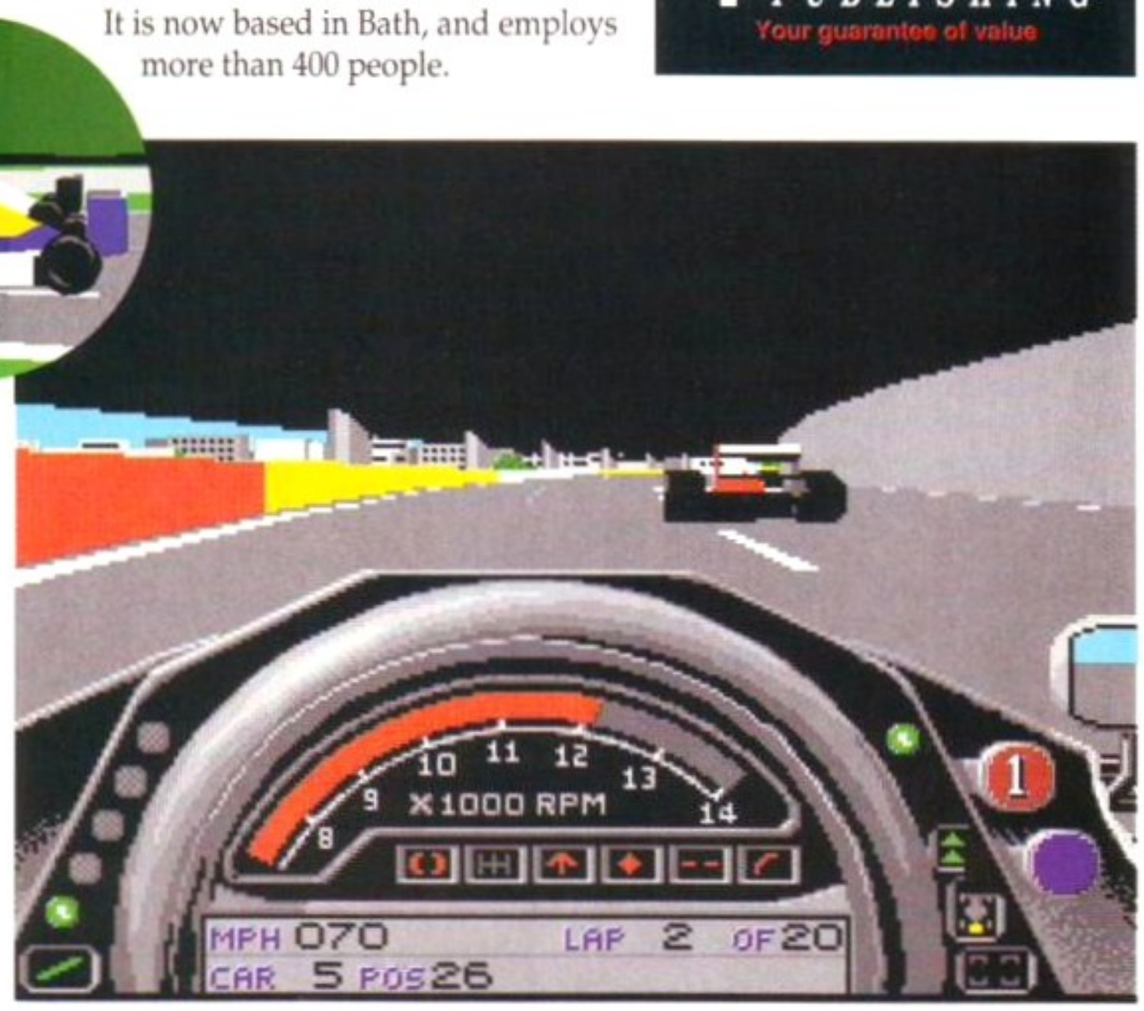
FREESCAPE: 3D game-world device invented by the Incentive programming team. The Freescape system features on games such as *Darkside, Total Eclipse, Castle Master, Driller, Sphinx* and *Jinx*. (See Incentive).

FUTURE PUBLISHING: The company that brings you ***Amiga Format,*** the ***Amiga Format*** *Specials* and many more titles. Future started publishing from the bedroom of a house in Somerton, Somerset. It is now based in Bath, and employs more than 400 people.





One of the greatest games ever to appear on any machine anywhere at any time. This is *F1GP* or Formula 1 Grand Prix to give it's full title.



Not only is it a challenge for the person who considers him or herself to be an Alain Proust, it is also good training for the beginner. Great detail too.

From Gadgets to GVP with a lingering glance at God games, Gold Disk and *Gravity*

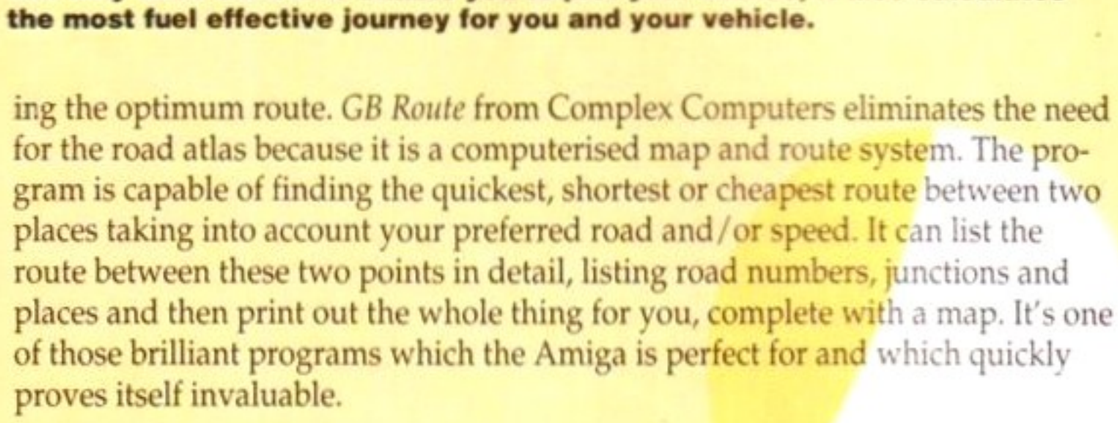
GADGETS: Once you've opened a window, the gadgets are the bits around the border of the window that enable you to do various things to it such as scroll up and down or from side to side, resize the window and so on.

GAJITS MUSIC SOFTWARE: Company responsible for various music software packages, the best-known of which is Sequencer One. Contact: Tel: 061 236 2515



GALLERY, THE: Long ago in a galaxy far away, a magazine called ***Amiga Format*** used to put a picture created by a reader on the coverdisk every month. This picture was called the Pic of the Month, mainly because it was a picture and there was one every month (space permitting). Submissions for the POTM used to flood into the ***Amiga Format*** offices by the thousand, and although all of them were given a critical appraisal, there was only ever room for one on the coverdisk. Eventually, in order to get more readers piccies published, Damien Noonan (see Noonan, Damien) decided to include readers pic on the letters page. Originally called Vision On in a thinly veiled reference to the ace '70s television programme featuring , Tony Hart. This part of the magazine was renamed The Gallery from issue 44, and is now sponsored by Max Graphics of Cardiff, who offers the sender of the winning entry a huge high-quality printout of their submission. All other published entries receive an ***Amiga Format*** binder. Send your submission to ***Amiga Format***.

GB ROUTE: Imagine you wanted to travel from Chichester to Bath, but you didn't want to use any motorways and you wanted to stop off at Madam Gringley's Coffee shop for a slice of her fabulous Banana and Radish cheesecake. Normally you'd spend a few hours sweating over a road atlas, checking out routes and trying to decipher all the little symbols in the vain hope of finding the optimum route. *GB Route* from Complex Computers eliminates the need for the road atlas because it is a computerised map and route system. The program is capable of finding the quickest, shortest or cheapest route between two places taking into account your preferred road and/or speed. It can list the route between these two points in detail, listing road numbers, junctions and places and then print out the whole thing for you, complete with a map. It's one of those brilliant programs which the Amiga is perfect for and which quickly proves itself invaluable.



Not only does *GB Route* enable you to plot your course, it also calculates the most fuel effective journey for you and your vehicle.



***GB Route* shows that the Amiga can be highly practical when it needs to be. This program enables you to plot the most effective routes in the UK.**

GENLOCK: An Amiga video device that gets its name from two words: GENerating LOCK. A genlock enables you to link the Amiga with a video image and place graphics created on the Amiga on top of that video image. The combination can then be recorded to video. The most obvious application of a genlock is to use text and graphics to title or caption a video, but any image you can create on your Amiga can be transferred to video using a genlock.

GHOULS 'N' GHOSTS: Although it's looking distinctly long in the tooth nowadays, this was a superb game for its time (early 1990). This is an arcade adventure from US Gold in which you control a knight who has lost his girlfriend and sets off on a rescue mission. The game's playability is matched by the surprises which the knight faces en route to his chick, such as skellingtons rising up out of the ground and plants gobbing fireballs at you. Still fun after all



***Ghouls and Ghosts* frustratingly, rapidly, graphically, excellent as an arcade game and, thankfully, as an Amiga conversion.**

this time, Ghouls 'n' Ghosts received an ***Amiga Format*** *Gold* rating of 91 per cent in February 1990 (AF 7) at a release price of £24.99.

GOD-GAMES: It has been said that there are only three types of joke and five types of computer game. However, when the shy and retiring programmer Peter Molyneux unleashed *Populous* on an unsuspecting public, nobody knew quite what to make of the game, least of all the computer journalists who like putting games in neat little compartments.

The god-game enables the player to take part in the birth, life and death of computer-simulated worlds. The ultimate aim of this type of game varies, but it usually involves either the conquering of enemy lands and the simultaneous success of a friendly land or the success of an ecosystem.

There had been some early god-games, such as *Eco*, but these were restrictive and not great fun and it wasn't until Molyneux's creation that the new genre really took shape. The idea of *Populous* is to conquer 1,000 worlds by monkeying about with the land and weather and being a right old deity. To conquer a world you have to make one of the two indigenous tribes follow you and you do this by making life terribly hard on the other guys and terribly easy on your guys. This basic idea of popularity dictating success is familiar to all god-games.

Like all mould breaking games *Populous* created a hell of a stir, earned its creator a serious amount of money and spawned a large number of imitations. Practically every software house in the country has created its own brand of god-game, few however, have done as well as the *Populous* games.

The French managed to move the genre along a bit at the end of 1989, when Infogrames released a game called *Sim City*. This enables you to build up a city ecosystem from scratch, complete with sewage works, power plants and sports stadiums. The idea is to create a healthy city environment, which means keeping the citizens happy. Novel twists within the game include the option to visit disasters upon your lovingly created metropolis. So if it looks as though your city was going to wrack and ruin you can send a fire, earthquake or killer monster to flatten the place.

Following on directly from where *Populous* left off, *Powermonger* involves the domination of different lands. The primary difference between the two is that in *Powermonger* you actually do battle against a series of bosses who control their own tribes of people. *Powermonger* is a far more sophisticated game than its predecessors and it received a number of update disks, including a World War One scenario.

Then of course, there's *Populous 2*. To date, this is the very best god-game. The idea is to conquer 500 worlds, by making your tribe of people the strongest. The game is far more refined than the original and includes many subtleties which *Populous* lacked. It's possible to make life extremely hard for the other guys by sending them plagues, volcanoes, storms or earthquakes. You can also create super-soldiers who march over the land taking out anyone in their path.

Populous 2 is the ultimate god-game, but it isn't where the story ends. The god-game scene was quiet until the end of 1991 when two very influential software houses released games. Gremlin put out *Utopia* and Sensible Software came up with *Mega Lo Mania*.



Utopia **fits snugly into the niche of the God Game. All you have to do is colonize a planet, keep all the people under control, and escape disaster; easy.**

Utopia definitely falls into the *Sim City* style of game. The idea of the game is to create a perfect lifestyle for the inhabitants of the city you've created. Your task isn't made any easier by the fact that any number of stresses and problems can crop up meaning that the balance of life (stressful through to idyllic) can be upset.

Mega Lo Mania is a kind of jokey *Populous*. You start off in control of a small sector of an island and the idea is to finish the game as the ultimate ruler of everything. To do this you employ the usual god-game tactics of weapons research and occupation of neighbouring lands. *Mega Lo Mania* is one of the better god-games because it is a lot easier to get into quickly.

In much the same vein is a game from Silmarils called *Storm Master*. This singularly peculiar game has a very Gothic feel to it and includes arcade, strategy and religious wind ceremony sections. Still, the overall idea, as with all god-games, is to dominate a land by sending armies out to capture them and at this it succeeds brilliantly.

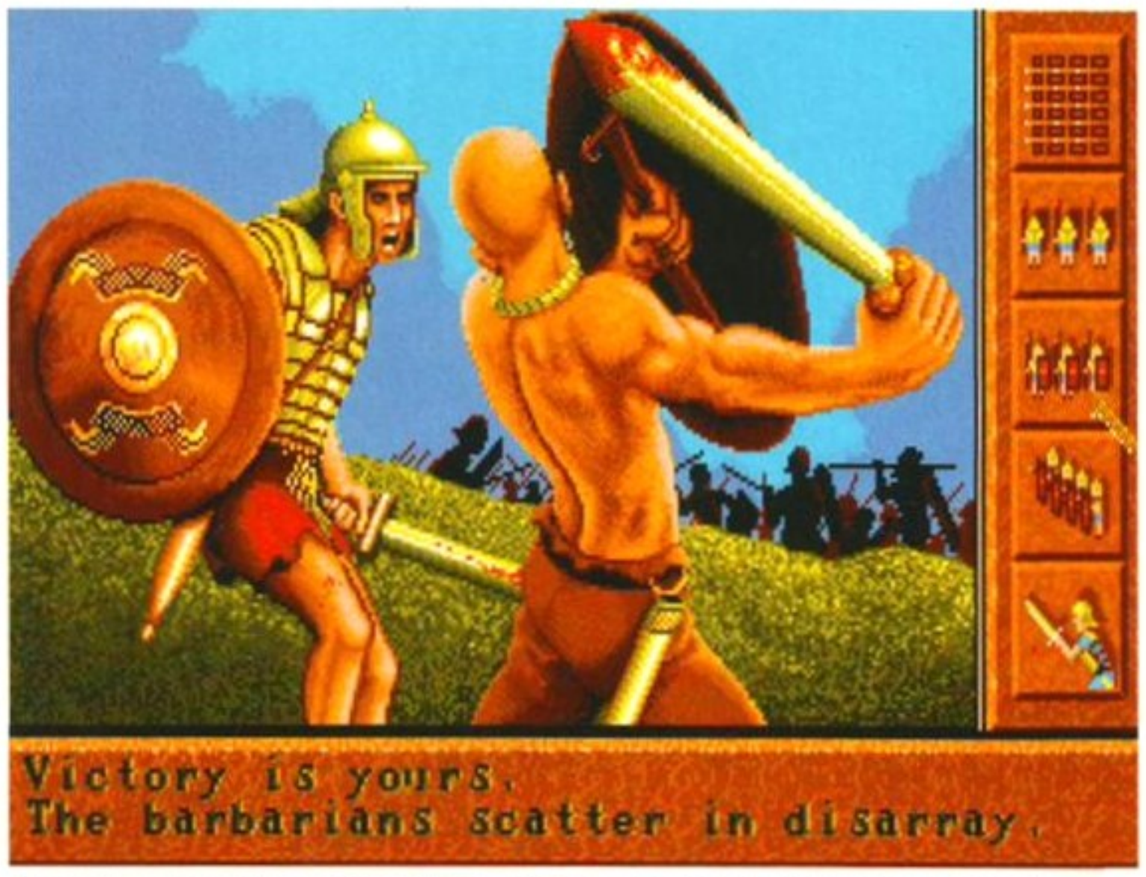
American company Maxis took the god-game in a completely different direction with its two games *Sim Ant* and *Sim Earth*. The former enables you to take charge of an army of black ants, the main idea being to keep them alive and to conquer both the marauding red ant army and to occupy the entire back garden of a suburban home.

Sim Earth takes the concept slightly further. The overall objective of the game is to evolve life on planet Earth and then to see it prosper and grow; all of which involves making sure that pollution stays within acceptable levels and that there is plenty of food and other resources for the life-forms.

All of which brings us to the latest god-game, a nifty program by the name



Storm Master **means that yet again you to have enforce your enormous ego on the population of an otherwise peaceful community. Maybe you need it.**



Ceasar **in one of its more violent stages. Normally this game of control, strategy, dirty politics and graft is a play for the brain, but not this time.**

of *Caesar*. Here, the object of the game is simple, you've got to work your way up through the ranks to become Emperor of the Roman Empire. Now, all that might sound simple, but pleasing all those Italians is no easy job and you'll find yourself playing around with your Roman city, adding a school here or a plaza there to keep the masses happy and increase your popularity.

GODFATHER, THE: Peculiar use of a film licence by US Gold. This odd scrolling beat-em-up had nice graphics, but was let down by overly hard and ultimately tedious gameplay. Originally cost £30.99. (See Film Tie-ins).

GODS: Platform game created by the Bitmap Brothers in mid-'91. The idea of the game is to battle your way through a series of dungeon levels by collecting dosh and power-ups. The game includes innovative features the best of which is the intelligent difficulty level. This nifty attribute means that if you're doing badly then the baddies take it easy on you, if you're doing really bad then goodies fall from the sky and if you're walking it then things suddenly get a lot tougher. Some of the puzzles within the game are distinctly devious, especially later on. *Gods* received an ***Amiga Format*** Gold rating of 90 per cent in July 1991 (AF 23).at a release price of £24.99

GOLD DISK: Canadian software house, distributed in this country by HB Marketing, that specialises in graphics and business programs. *Moviesetter* is Gold Disk's animation package aimed at the novice who wants to create cartoon-style animation sequences. Eric Schwartz, a computer animator who works mainly in the Public Domain, and who is generally regarded as about the best in the business, uses *Moviesetter* to create much of his work. Gold Disk's business software includes the spreadsheet program *Advantage 1.1* and the *Gold Disk Office*, an integrated database, spreadsheet, word processor and page layout package that earned an ***Amiga Format*** Gold rating.

GOLIATH GAMES: Software house that launched *World Championship Boxing Manager* in mid-1990. The game puts you in charge of a stable of boxers. As manager you arrange an opponent with another manager, work out your share of the purse, decide which governing body you want to supervise the fight, decide on a training routine, and when the big day arrives you can watch your boy in action in a 10-round bout. One of the better management games.

GONZO GAMES: Software house that will be remembered for the games *Wipe Out* , *Brides Of Dracula*, and *Street Hockey*. Of the three *Wipe Out*, an intergalactic hoverboard challenge, with enough levels to be of genuine lasting interest, was the best-received by ***Amiga Format***. *Street Hockey* , a 3D sports sim, was described as 'awful' and arcade action game *Brides Of Dracula*, was considered 'appallingly primitive'. Gonzo Games was formed by the team of developers and programmers who created the Viz Design label and enjoyed some success with the games *Werewolves of London*, *Frankenstein Jr*, *Airwolf*, *Hypersports* and *Roller Coaster*.

GPFAX: Fax send/receive software from GP Ware. This program enables the



Dracula was all the rage when this very caption was written. You couldn't have said that Gonzo's *Brides of Dracula* would have caused he same stir.

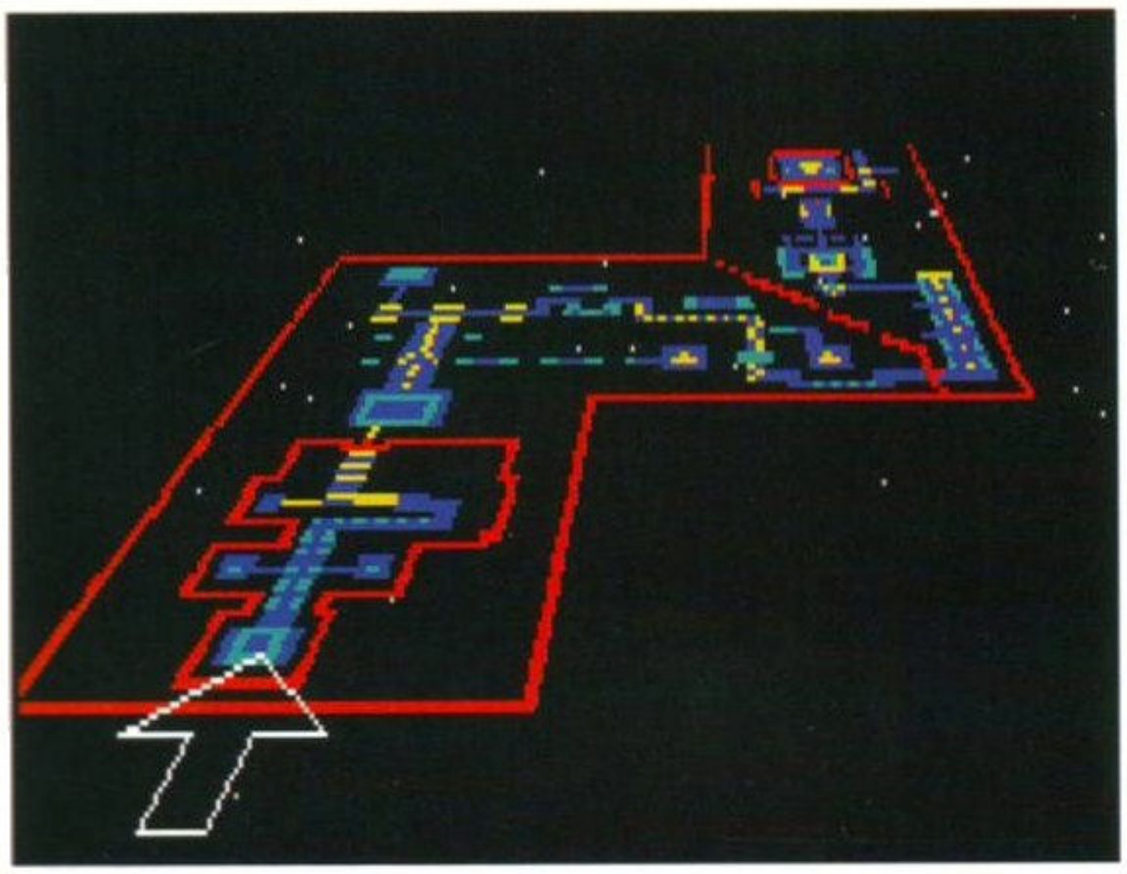
user to compose faxes on an Amiga and send them straight down the phone-line to the appropriate telephone number. The same software can also receive faxes and these don't have to be printed out unless you want to. The program works in conjunction with a Fax/Modem setup. This software is both extremely easy to use and configure, with everything in a point and click icon format, rather than the more standard unfriendly CLI. Extremely useful. GPFax received an ***Amiga Format*** Gold rating of 90 per cent in November 1992 (AF 40).at a release price of £39.99.

GRABBING: The process of grabbing images from video and TV and storing them on a floppy disk so that they can be recreated on your Amiga.

GRAFTGOLD: This prolific programming group came into existence in 1982 when Andrew Braybrook and Steve Turner started creating games on the 8-bit Spectrum and Dragon computers. They quickly built up a large following for their hugely original games despite the fact that the vast majority of the early games were programmed in Steve's dining room.

The game which really made Graftgold's reputation was their flawless conversion of *Rainbow Islands*, a game which is the best pure platform game ever. The team went to such amazing lengths to recreate the arcade game on the Amiga that they disassembled the code on the actual ROMS inside the machine to see what programming tricks the original programmers used.

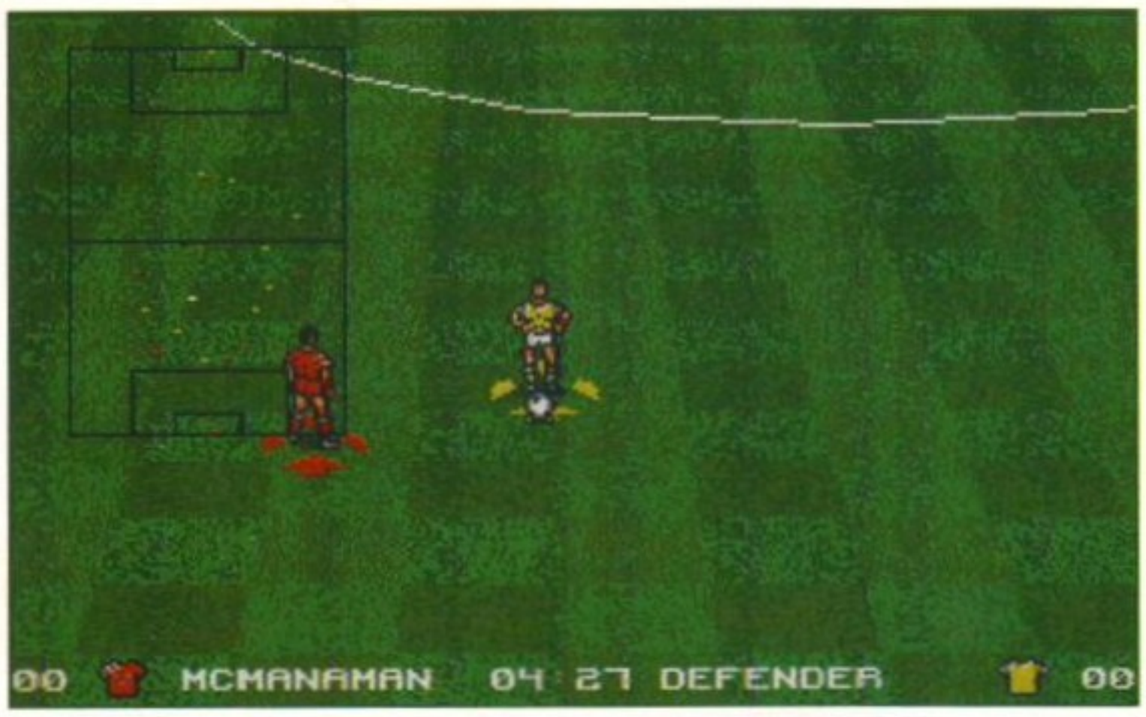
Graftgold uses only internal staff, they don't hire third party help, which means that they can keep very close tabs on exactly how a particular project is



Graftgold has crafted some major league games in its time. *Simulcra* was one of the earlier examples of the work of this excellent team.



***Fire and Ice* is a much later example its work. The hallmarks are superb graphics for the technology combined with a nifty sense of gameplay.**



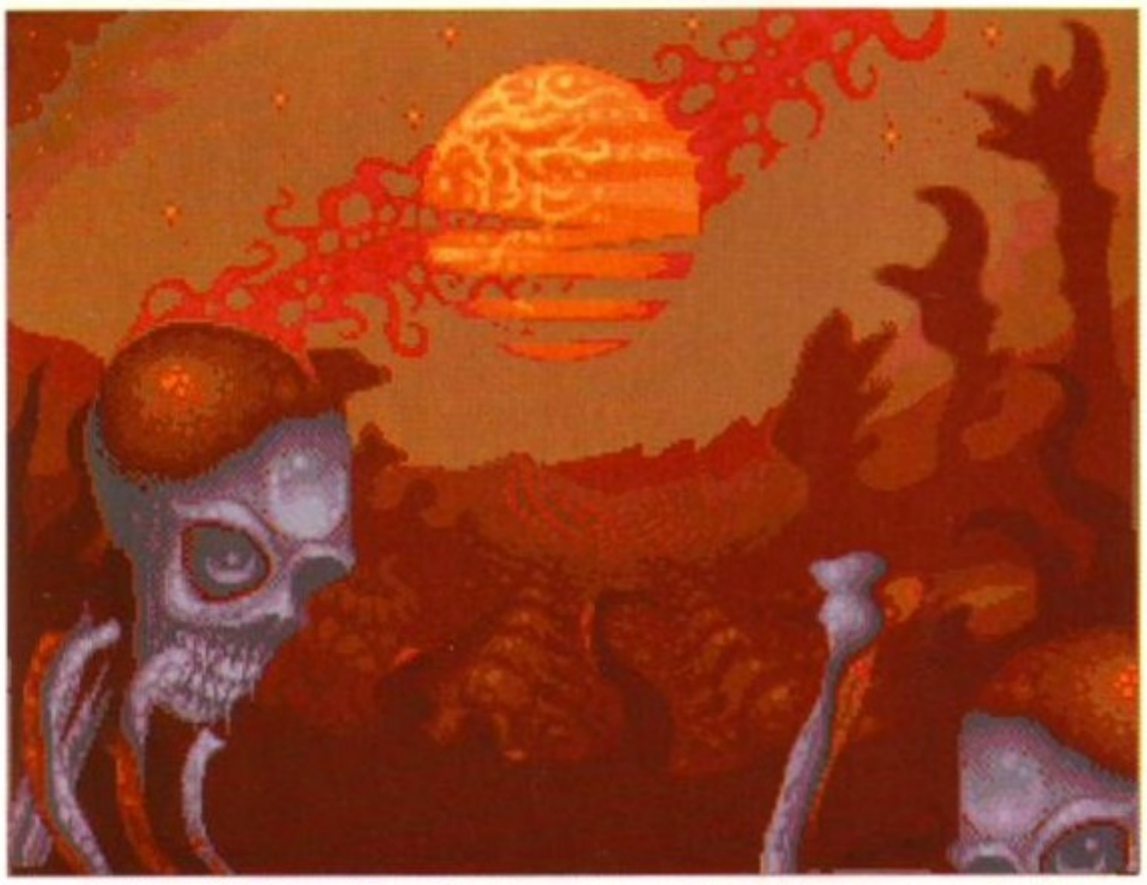
Liverpool FC hasn't looked much kop this season. And when Grand Slam got hold of the licence, well, the season had already started to go rocky.

progressing. Thus far, they have produced six Amiga games, namely: *Rainbow Islands*, *Simulcra*, *Paradroid 90*, *Offroad Racer*, *Realms* and *Fire and Ice*. Their latest creation (*Fire and Ice*) is a brilliant platform game starring a main character called Cool Coyote who pads around in Oakley shades and rescues all the little animals. Tel: 0376 500275.

GRANDSLAM: Grandslam was formed in 1988 and produces software in-house. The company is responsible for *The Running Man*, *Die Hard 2*, *Pacmania*, *Pacland* and *Thunderbirds*. Grandslam is also developing software for CD and cartridge formats and during 1993 will release *Nick Faldo Golf* and *Liverpool Football*. The senior staff at Grandslam are Stephen Hall (managing director), David Birch (sales and marketing), and Paul Chamberlain (production development). Contact: 3 Rathbone Square, 28 Tanfield Road, Croydon, Surrey, CR0 1AL, Telephone: 081 680 7044, Fax 081 688 7535.

GRAVIS MOUSESTICK: As the name would suggest the MouseStick, from Gravis, is a combination of a joystick and a mouse. The MouseStick comes with a Gravis MouseStick Processing Unit, a 16-bit computer that holds all the information on how the MouseStick should act. The GMPU enables the user to program a whole host of settings and to switch between mouse and joystick functions. The MouseStick looks much the same as a normal joystick, but when in mouse mode the joystick acts as a sort of vertical mouse. The ***Amiga Format*** verdict on the MouseStick was that it is a very good joystick, but a below average mouse.

GRAVITY: Peculiar space exploration war game from Mirrorsoft. The idea is to zip around the time/space continuum zapping the dilithium crystals out of any alien space craft, because they want to take over our (sunny, south facing, two minutes from the beach) portion of outer space. All of which involves sending out armies and building colonies on any planets you're lucky enough to have taken over. This is a well-thought out game which has slick graphics and good long term interest. Gravity received an ***Amiga Format*** *Gold* rating of 91 per cent in June 1990 (AF 11) at a release price of £24.95.



Gremlin hasn't just produced *Zool* you know. The company was going long before that, and *Hero Quest* was one of the jewels in its purse.



***Lotus Turbo Challenge* from Gremlin yet again reminds us that the company can do more than simply produce very, very fast hedgehogs indeed.**

GREENPEACE: Subject of a large dossier residing in a French government filing cabinet and also a strategy game by Microprose. One suspects that the former is far more interesting than the latter, which is most definitely 'Prose's worst game to date.. (See Microprose)

GREMLIN: Well-established software house that began life making games for the C64. More recently Gremlin has been responsible for games such as the excellent *Lotus Turbo Challenge* driving program, *Heroquest* (an addictive strategy game) and the mighty *Zool*.

Gremlin has been in business since June 1984 and this year it has made the great journey across the Atlantic and into the US market. ALong with the famously good *Zool*, Gremlin has produced an excellent football management simulation in the form of *Premier Manager*, along with the less than wonderful *Nigel Mansell's World Championship* (which was going to be called *Nigel Mansell's World Championship Challenge* until Nigel put the kibosh on it by removing any challenge from the World Championship by winning it so early on in the 1992 season). Having ploughed through the years in the shadow of the big concerns of US Gold, Ocean, Microprose and Electronic Arts, Sheffield-based Gremlin is finally making a big mark on the industry.

Contact: Gremlin, Alpha House, 10 Carver House, Sheffield, S1 4FS, Tel: 0742 753423

GTS: George Thompson Services. Well-established Public Domain program sellers and distributors of all the major PD libraries. Contact GTS on 0707 271117.

GUI: Graphical User Interface. As computers developed, the scientists quickly realised that they needed to come up with a better method of interacting with them than the traditional text and numbers approach. To this end the GUI was developed in America and was first used commercially in an Apple computer. The Amiga was the first home computer to utilise a GUI, which is effectively a means of communicating with your Amiga by way of a mouse and pointer as with the Workbench program. (See WIMP)

GVP IMPACT 2: Hard drive produced by Great Valley Products. The shape and colour of this unit closely match the Amiga, meaning that it sits unobtrusively next to the computer. It has four SIMM connectors, enabling the user to add 4Mb of memory to the Amiga. The smallest drive comes with 50Mb of space and operates at a high speed. It is let down somewhat by the documentation. The GVP Impact II received an ***Amiga Format*** Gold rating of 92 per cent at a release price of £499.

GVP: Great Valley Products. (See Bucas, Gerald).

From Hacking to Hutch, stopping along the way to explore the world of Harry, Hopper and Hughes

HACKING: There are two varieties of hacking, both of which are illegal. The first variety concerns editing game disks, removing protection and releasing them on to the pirate circuit. The second variety concerns gaining illegal entry to a remote computer system by means of a modem. Despite companies going to great lengths to prevent people cracking their passwords, some clever chaps still manage to wiggle their way in. This kind of pursuit was glamourised in the 1982 film, *War Games*, in which a teenage boy managed to start WW3. Since then the hacker has been seen popping up in various movie guises, usually as the backroom revolutionary fighting the system.

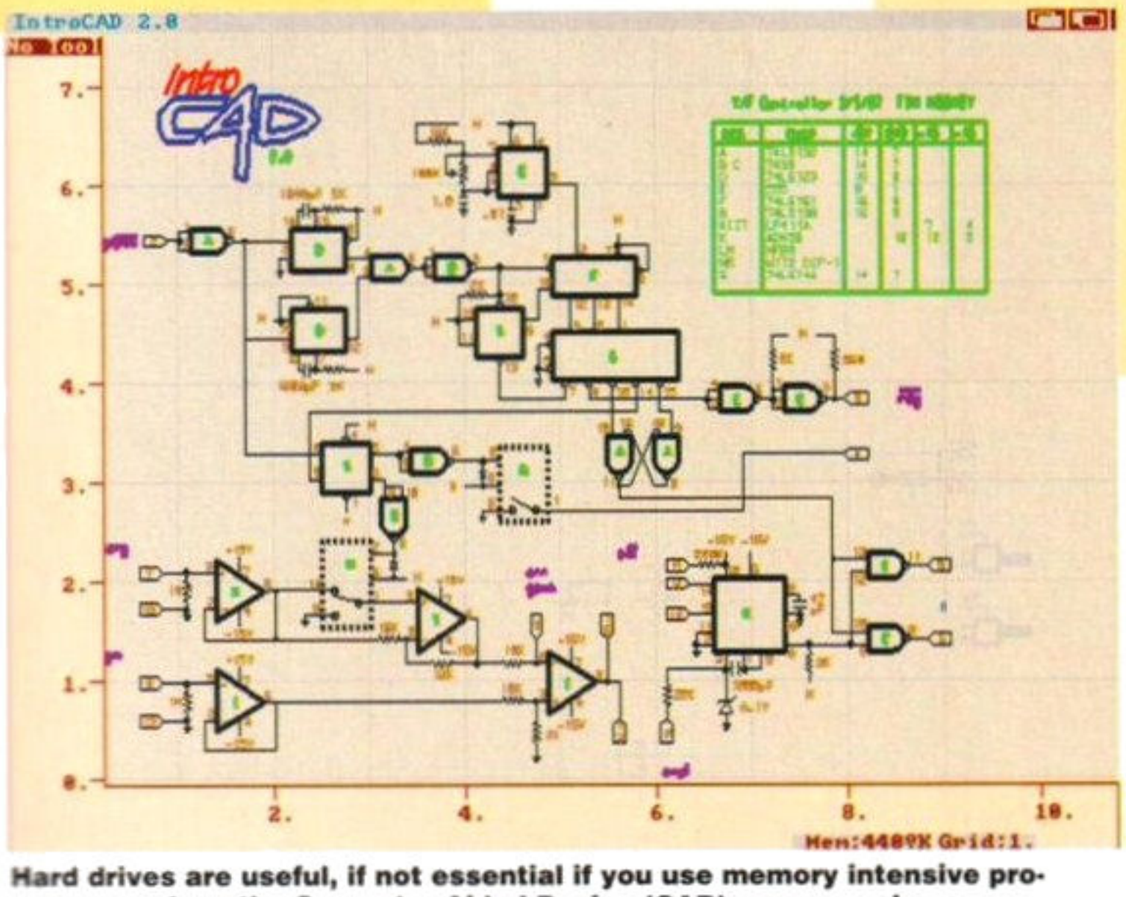
HALEEM, RASHMAN DR: Former head of technical support at Commodore UK and a guiding light in the Amiga Developers' Advisory Board, a body that grew out of a meeting of the Commodore Show in June 1988 to act as a forum for the development of the Amiga and to take an overview of the development of software and hardware for the Amiga.

As such Dr Haleem exerted tremendous influence on the development of the Amiga to become the complete home computer we know and love today. Dr Haleem was interviewed in issue one of ***Amiga Format*** when he said that he felt the A500 had "broken through the barrier" in terms of a new generation of computers.

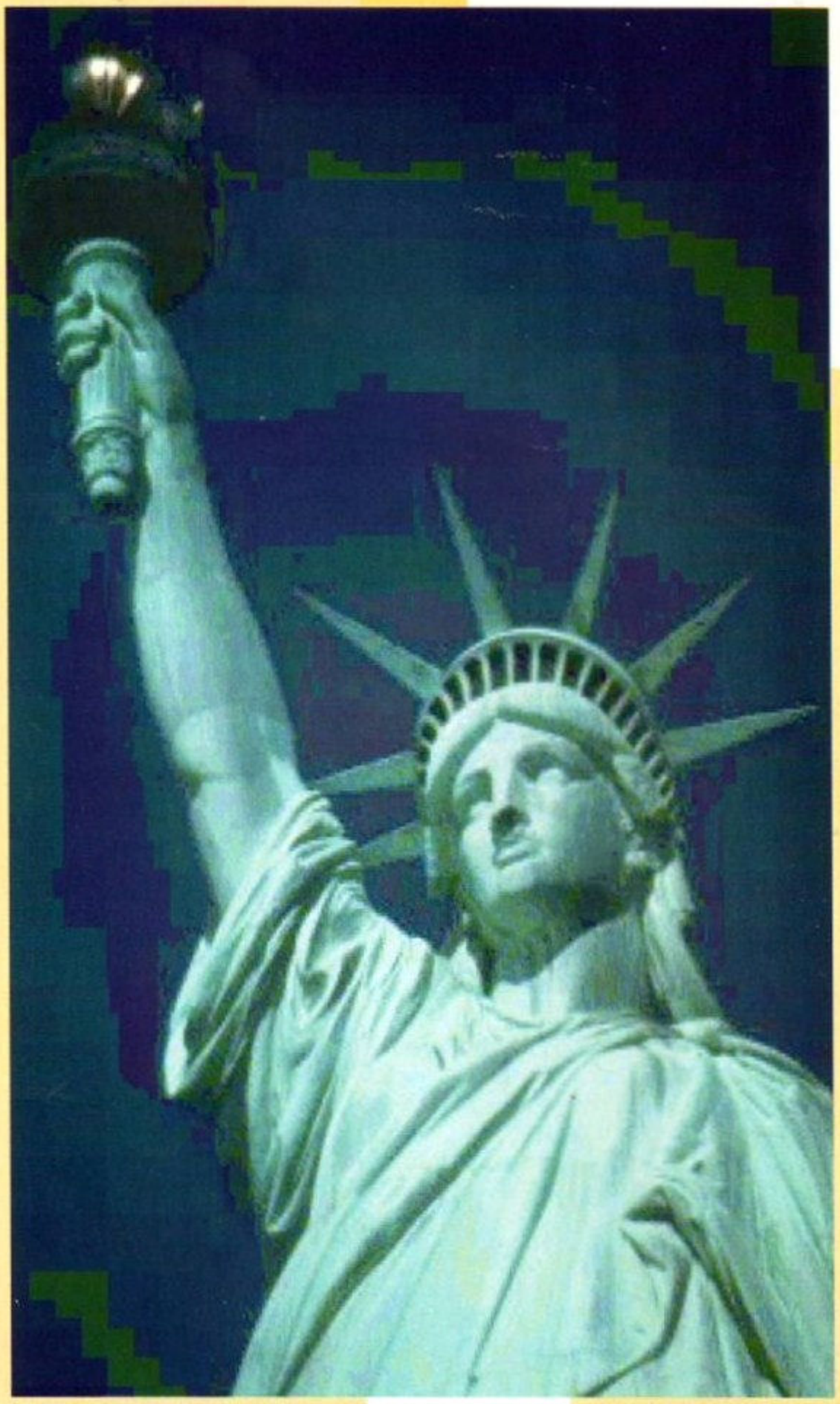
HALEY, STEVE: The main man at Bristol's Vision Factory, an audio visual studio, which used an A500 to produce videos for Bristol musicians *The Pop Group* and *Smith And Mighty*, among others.

HAM-E SPECTRACOLOR: This was the first program to animate in HAM-E, the HAM-Extended software mode. The package provides 18-bit colour graphics which means that you have 262,152 colours at your fingertips. The features in the software include a wide range of blending, airbrushing and transforming tools. These can be animated by using a standard *DPaint* Anim brush. This is one of the best painting packages available for the Amiga, it's only real competition being *DPaint*. Spectracolor HAM-E received an ***Amiga Format*** *Gold* rating of 90 per cent in January 1992 (AF 30). Release price of £69.

HAM-E: 24-bit colour graphics card for the A500 which gives thousands more colours. The HAM-E board is a breakthrough because it gives true colour processing on a standard monitor for £300. The *Image Professional* software which comes with the unit includes features such as pixelisation, false colour, oil brush, solarise, spiral blur, filters, shine and watercolour effects. If you need lots of colours, but don't have too much cash this is a good option. HAM-E received an ***Amiga Format*** *Gold* rating of 90 per in October 1991 (AF 27) cent at a release price of £300.



Hard drives are useful, if not essential if you use memory intensive programs, such as the Computer Aided Design (CAD) program, above.



The French gave the Statue Of Liberty to America. And with the excellent HAM-E 24-bit graphics card you could images this good out of your Amiga.

HAM: Hold And Modify. This is a desktop publishing and paint packaging term that gets its name because the function holds the screen and modifies it to display all the different coloured pixels available to you.

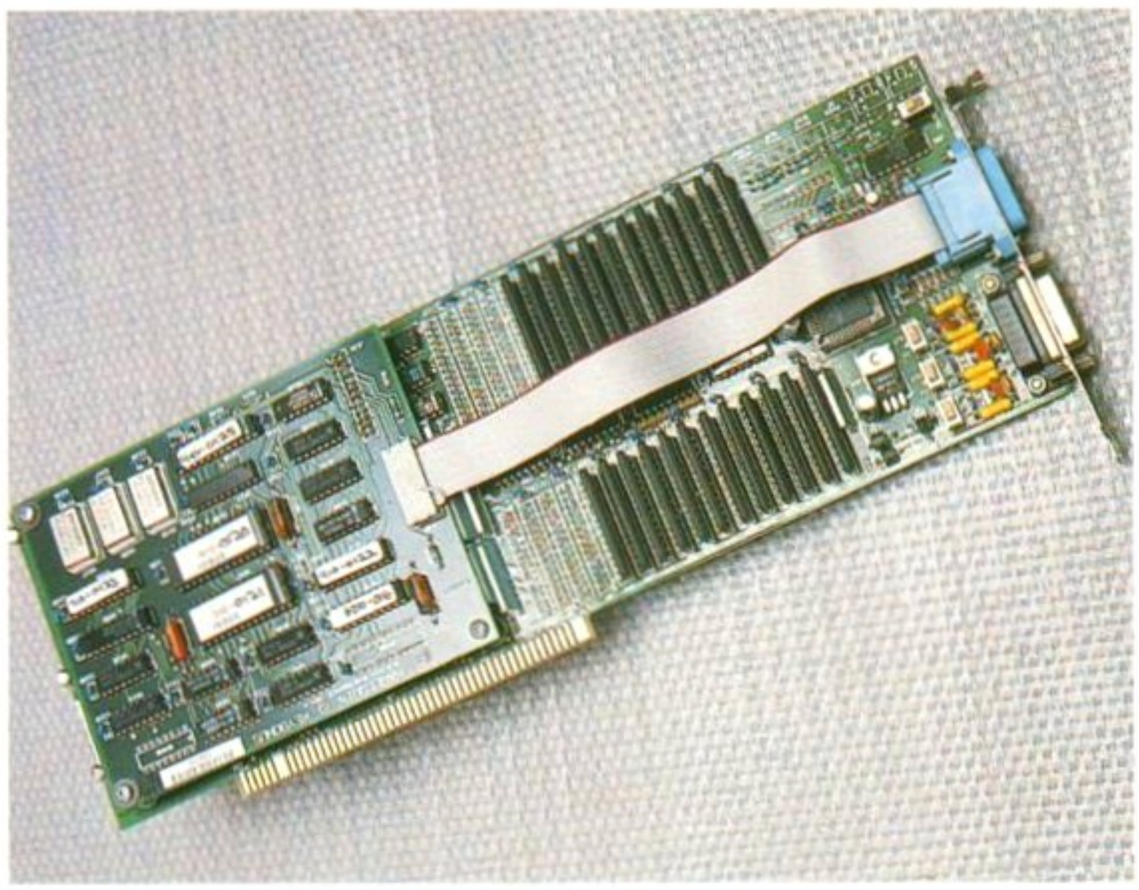
HAM programs vastly increase the number of colours available to you.

HARD DRIVE: A hard drive unit contains a hard disk that is capable of storing much, much more data than a floppy disk. Once a program is installed to hard drive it can be loaded directly to the Amiga, thus saving on lots of floppy disk swapping.

Hard drives work in a similar way to floppy disks, in that they store data magnetically on a conductive surface. The hard drive is a completely sealed unit that contains a hard disk. Within this vacuum a read/write head zooms over a drum-like surface at speeds far greater than those of a floppy disk.

The drive surface on which all the data is stored is divided into sectors in a similar fashion to a floppy disk, except there are up to 40 times as many. Hard drive units come in a huge variety of sizes and speeds. The smallest amount of

Continued over



Doesn't look too interesting, does it? In fact the Harlequin 24-bit graphics card is one of the most brilliant pieces of graphics software available.

memory it's worth considering is 40Mb, and if you can afford it, it is worth investing in a 100MB model. The Amiga models A2000, A3000, A4000 and A600HD all have an internal hard drive fitted as standard. Some programs work best with the speed and capacity of a hard drive to back them up. CAD programs, high end graphics programs, many sound samplers, and the larger flight sims and adventure games simply adore the space a hard drive affords. (See Floppy Disk).

HARD DISK: The disk within a hard drive unit that is capable of storing much more data than a floppy disk. (See Hard Drive).

HARDY, STUART N: Persistent letter writer to ***Amiga Format*** who achieved near legendary status for the his regular missives on the whole spectrum of Amiga life. Every newspaper and magazine in the world has at least one reader who bombards the office with letters, ours was Stuart N Hardy. Of late the flow of letters from Mr Hardy's Sheffield home to ***Amiga Format***'s Bath offices has ceased.

HARE, JOHN: Director of Sensible Software. (See Sensible Software).

HARLEQUIN: The original Harlequin card, from Amiga Centre Scotland, was one of the first 24-bit graphics display boards and remains top of some people's shopping lists. The Harlequin True Colour Card, which came on the market in early 1991, is still the best supported by graphics software, although Opalvision is catching up fast. But it's not cheap, costing upwards of £1,400 depending on specifications, and is really aimed at the professional user.

HARRY, DEBBIE: Didn't use the Amiga to create *Denis,Denis, Heart Of Glass, Always Touched By Your Presence Dear,* or any other Blondie songs, but was one of the celebs at the launch of the Amiga in 1984. Debbie Harry was there to give credence to the Amiga's claim to be an outstanding computer when it comes to using music software, which indeed it is. The other major name at the Amiga launch was Pop artist and friend of the Velvet Underground, Andy Warhol (See Warhol, Andy).

HARWOOD, GORDON: One of the companies that has been associated with Commodore right since the early days of of VIC and the C64. Now supplies a comprehensive range of hardware and software.

HAWK: Software house that was a part of the Robert Maxwell empire. It released two games towards the end of 1991, *The Executioner* and *International Championship Athletics*. The Executioner caused quite a stir at the time because of the torture scenes it boated about on the game packaging. (See Executioner, The, Maxwell Robert).

HAWKINS TRIP: One of the leading lights at Electronic Arts. (See Electronic Arts).

HAY, BOB: Former Metropolitan Police chief superintendent who became chief executive of FAST (Federation Against Software Theft) in 1984. He has since been joined at FAST by John Loader and Robin Lawrence. FAST is committed to stamping out software piracy and to this end has already prosecuted many people and seized many thousands of illegally copied disks, most notably from car boot sales and open air markets. (See FAST).

HB MARKETING: Distributor for many software houses which was set up by Andrew Hewson. Contact HB Marketing at Unit 3, Poyle 14, Colnbrook, Slough SL3 0DY. Tel: 0753 686000.

HEART OF CHINA: Graphic adventure game from Sierra which is the sequel to *Rise of the Dragon*. The program uses the Dynamix Game Development system which enables the player to interact with the background and other players. The idea of the game is to rescue a beautiful woman from the grasp of a nasty Chinese warlord called Li Deng. The game is different to most graphic adventures because it doesn't have any set direction. This means that you can move things

Continued page 56



Rescuing a woman from an evil war lord may sound corny, but *Heart Of China* is actually an outstanding game.



***Heart Of China* is an atmospheric graphic adventure set, hardly surprisingly, in China. Apart from the games all round playability, it is also notable for the unusual device of having several different endings.**

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Geoff Heath set up the Mindscape software house in 1982. Mindscape has been responsible for many games, one of the best of which is *Legend*.



***Hero Quest*: a colourful and humorous adventure game from Sierra that earned a Gold rating in August 1990.**

along in any manner you want, the result of which is that there's more than one ending to the game.*Heart Of China's* also features an innovative point and click interface that makes for an easy adventure, even if it does come on nine disks. *Heart of China* received an ***Amiga Format*** *Gold* rating of 90 per cent in March 1992 (AF 32) at a release price of £34.99.

HEATH, GEOFF: Formed Mindscape software house in 1982. (See Mindscape).

HELIOS: Eons ago (1988 to be precise), Commodore was rumoured to be developing a transputer system based around the Helios operating system. This was meant to appear in 1989, but there's no sign of it yet. (See Transputer).

HERO QUEST: One of a long line of graphic adventure games from Sierra. The game operates along traditional graphic adventure lines, in that to go somewhere or interact with something you simply click on it. Its great graphics and rambling storyline set it apart from other graphic adventures. This game is best played off hard drive however as it does take a lot of disk swapping. The bright, colourful graphics and sense of humour which pervade the game add greatly to its atmosphere. *Hero Quest* received an ***Amiga Format*** *Gold* rating of 92 per cent in in August 1990 (AF 13) at a release price of £34.99.

HEWSON, ANDREW: Former head of the Hewson software house, now with 21st Century Entertainment, the company responsible for releasing the excellent and fiendishly addictive *Pinball Dreams* and *Pinball Fantasies*.

HI-TEC: Software house that specialised in cartoon games, such as the surprisingly playable platform budget game *Scooby and Scrappy Doo*, which got a 69 per cent rating in December 1991 (AF 29).

HI-TENSION: Developers of the *Small Business Manager* accounts software. The SBM software enables you to run programs including stock control, invoicing and VAT returns. Despite the impressive range of programs, the ***Amiga Format*** reviewer in July 1990 found it a tad tricky to use. The verdict on SBM is that it is a potentially good package, but your patience could be tested getting used to it.

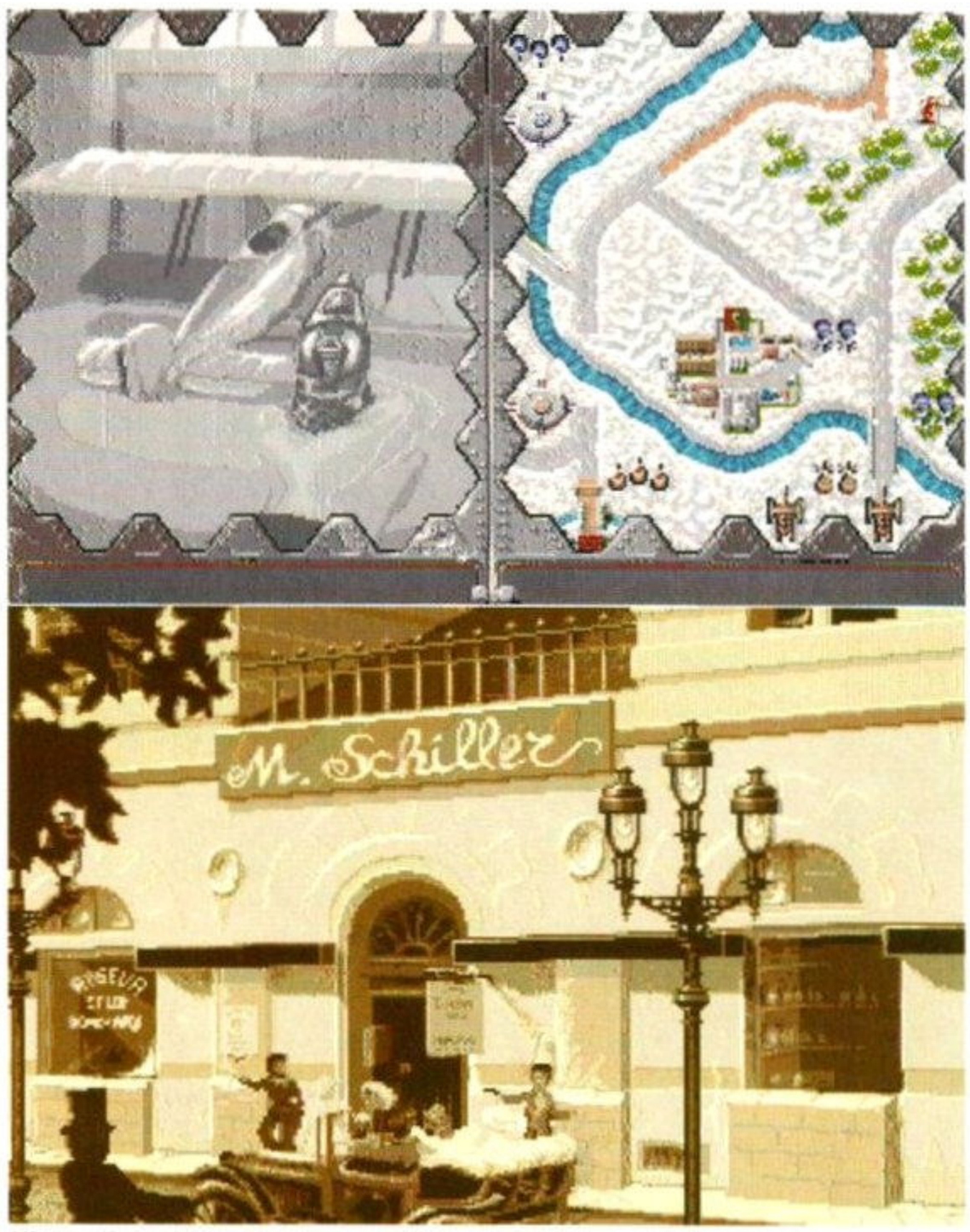
HI-TORO: Original name of the company formed to develop the Amiga prototypes. The four young men who developed the early Amiga (Jay Miner, Karl Sassenrath, Dave Morse and RJ Mical) changed the name from Hi-Toro to Amiga because of the high level of industrial espionage that was taking place in Silicon Valley in the early 80s.

Amiga is the Spanish for girlfriend, and the theory was that if anybody from opposition development teams heard them talking about their Amiga, they would presume they were concerned with their sweethearts, and not the prototype model of the computer that went on to become one of the most popular in the world. (See Amiga, History of).

HISOFT: Technical software house that specialises in programming languages such as C and Pascal. Contact Hisoft on 0525-718181

HISTORY GAMES: A curious genre of game in that most history games fall into the broader categories of strategy, graphic adventure or role playing games. However, history games do have their own niche, albeit a small one, in the development of Amiga games.

The four best-known exponents of the history game are Pete Austin, Kellyn Beck, Jon Law and Matthew Stibbe, who created games based on historical characters or situations ranging from the Vietnam War (Stibbe's *'Nam*) to the lawless frontier days of the American pioneers (Austin's *Billy The Kid*), the Roman Empire (Beck's *Centurion – Defender Of Rome*) and the Second World



***Historyline 1914-1918*: a recent game from Bluebyte, and a winner with the *Amiga Format* reviewer who gave it a *Gold* rating.**

War (Law's *Colditz*). The balance between historical accuracy and entertainment varies from game to game, but most of the authors and programmers are willing to sacrifice complete accuracy for the sake of more exciting gameplay.

However, the level of accuracy in history games has caused some marketing problems. For example, it was felt unwise to use any images of Swastikas in Jon Law's *Colditz*, in case they offended the large and lucrative German market. Likewise *'Nam* received a less than enthusiastic response in America, because of the still bitter memories many people still have of the Vietnam War.

Although the history game has never really caught the imagination of the majority of Amiga games players it remains an interesting category, and in the majority of cases the games are expertly and accurately researched.

HISTORYLINE 1914-1918: The best games are always the one which push the boundaries of a genre to create something new and that's exactly what Bluebyte did with this superb war game which was released in February 1993. The beauty of this game is that it has been lovingly put together, with stills from history peppering the gameplay and some brilliant music backing the whole thing up.

The actual war bits of the game are easy to find your way around, moving units where you want them to go is simply a case of clicking on the said unit and and then its destination. This is quite possibly the best war game ever released on the Amiga and is definitely worth checking out. *Historyline* received an ***Amiga Format*** *Gold* rating of 94 per cent in February 1993 (AF 43) at a release price of £34.99.

HIT SQUAD: Ocean software's budget label. Hit Squad re-releases mainly Ocean games at a budget price of under £10 (usually £7.99). Among the many excellent games released at a budget price by Hit Squad is *Wizball*, an intriguing game in which you colour in levels with a bouncing ball, and *IK Plus*, the classic Amiga beat-em-up and recipient of an ***Amiga Format*** *Gold* rating.

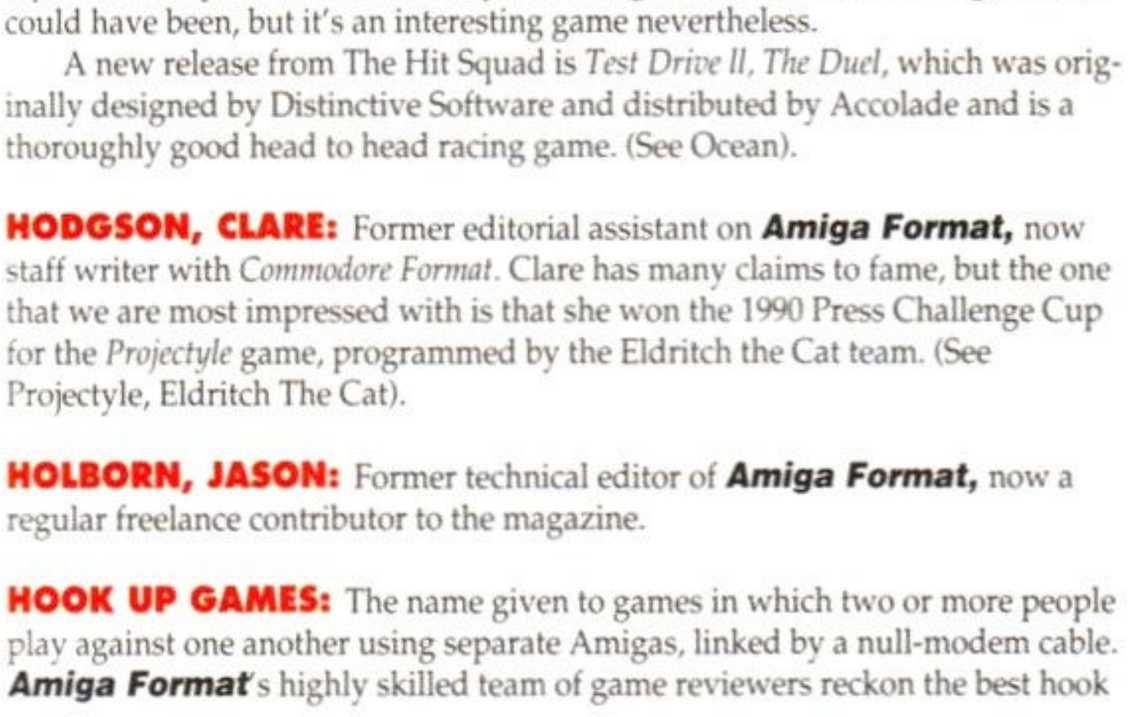
Other notable Hit Squad budget releases include *Prince Of Persia* , *Smash TV* and (originally from Broderbund), an arcade adventure with superb graphics; *Smash TV*, an excellent arcade beat-em-up in which you play the contestant in a gameshow and must battle against various thuggish types to claim your cuddly toy and other prizes. Unfortunately, the Amiga conversion wasn't as good as it could have been, but it's an interesting game nevertheless.

A new release from The Hit Squad is *Test Drive II, The Duel*, which was originally designed by Distinctive Software and distributed by Accolade and is a thoroughly good head to head racing game. (See Ocean).

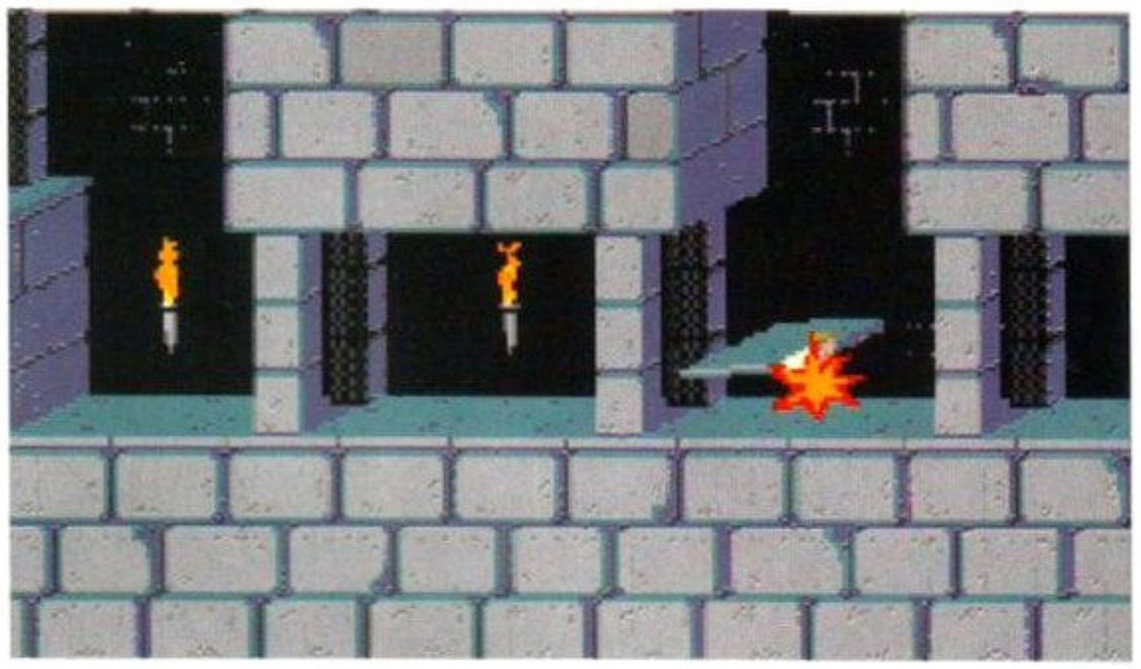
HODGSON, CLARE: Former editorial assistant on ***Amiga Format,*** now staff writer with *Commodore Format*. Clare has many claims to fame, but the one that we are most impressed with is that she won the 1990 Press Challenge Cup for the *Projectyle* game, programmed by the Eldritch the Cat team. (See Projectyle, Eldritch The Cat).

HOLBORN, JASON: Former technical editor of ***Amiga Format,*** now a regular freelance contributor to the magazine.

HOOK UP GAMES: The name given to games in which two or more people play against one another using separate Amigas, linked by a null-modem cable. ***Amiga Format***'s highly skilled team of game reviewers reckon the best hook up game is the flight simulation *Air Warrior*, in which up to 40 people can play against one another via a telephone modem link.



Hit Squad is renowned for its budget releases, one of the most recent of which is the racing game *Test Drive II, The Duel.*



***Prince Of Persia* is a Hit Squad budget release that boasts outstanding graphics, even if the gameplay isn't of as high a standard.**



***Smash TV* was an excellent arcade game, that lost something in its conversion to the Amiga, but is still a good budget buy from Hit Squad.**

HOPPER, GRACE: Grace Hopper American scientist working on computers during the Second World War who, legend has it, coined the word 'bug' to describe an operating error, when she discovered that the reason she was having a problem with a program was that a moth, or bug, had somehow managed to fly into the machine. (See Bug).

HOST: The other computer you talk to when using a modem to communicate electronically. The host essentially follows your commands, becoming a kind of remote Amiga. The computer you dial up when you connect to a Bulletin Board Service (BBS) is the host. (See BBS).

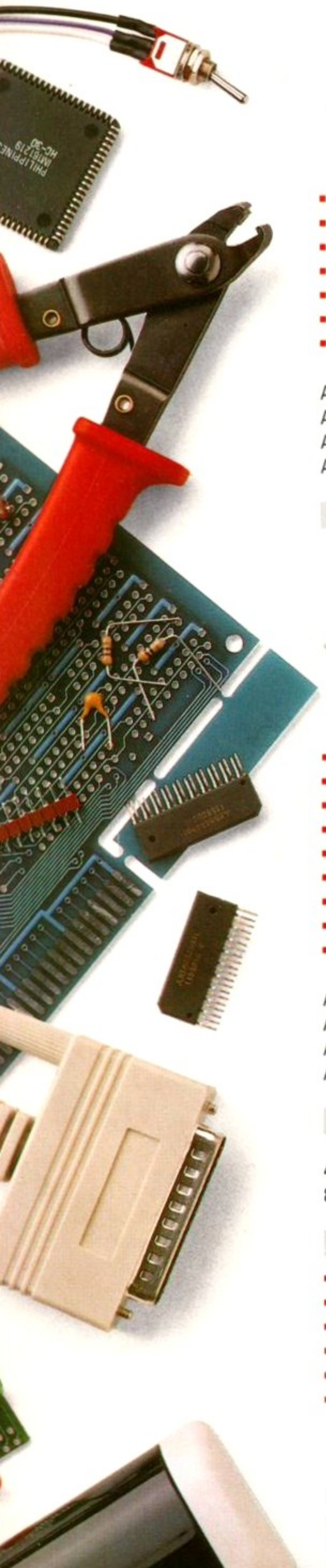
HOWELL, KEITH: Proprietor of HB Marketing – the H in HB stands for Howell. Keith Howell bought out his partner in HB Marketing, some years ago and HB is has now become part of the DMI company. (See HB Marketing).

HUGHES EMLYN: Former Liverpool and England footballer, known to friend and foe as Crazy Horse. Emlyn was also a regular on BBC's *A Question Of Sport*.

It was presumably for this reason, rather than for his distribution of the ball from just in front of the back four, that he gave his name to an Audiogenic game *Emlyn Hughes' Arcade Quiz*. Emlyn was also the celebrity name on the Audiogenic football game *Emlyn Hughes' International Soccer*.

HUMRICH, AL: Head man at W Industries, the company responsible for developing the Visette, a black helmet that is supposed to give an impression of virtual reality when worn by a games player. (See W Industries).

HUTCHINSON, ANDREW: A widely experienced computer journalist who worked on Future Publishing titles *Your Sinclair* and *ST Format* before joining the ***Amiga Format*** *Specials* as consultant editor. Before all this he spent a year in America completing a thesis in investigative journalism.



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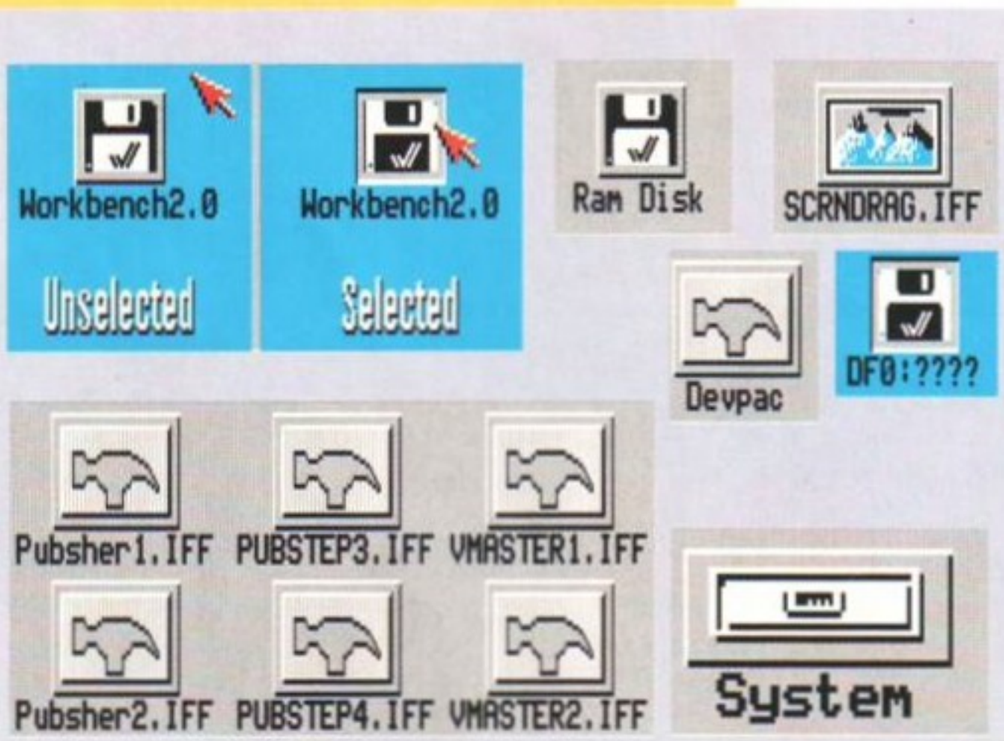
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IJ IBM to Jumping Bean Co with a peek at Indy, Impulze, Infocom, *Intuition* and joystick....

IBM: International Business Machines, the biggest computer company in the world. IBM was founded by Herman Hollerith, the inventor of punched card computing. This kind of data processing was popular at the turn of the century. The system was first used commercially by the Bureau of Censuses in 1889. Hollertih charged the American government 65 cents for every thousand cards he processed. As there were 56 million people in American at the time he made $3,640,000 out of the deal and he used this to create IBM.

ICON: Small images on the Amiga screen that represent a specific operation or file. To select a particular function simply place the mouse pointer on it and click. Before the icon system was developed obtaining the same result would have involved inputting lengthy text commands. Fortunately, the Amiga range use a wide variety of icons to differntiate between different files. These icons, differ from those found in other machines in that they can be any size. This has lead to some enormous icons being produced for programs such as Quarterback Tools.



The icons on your Amiga's Workbench enable you to examine or run files. Each icon has its own distinct image, although you can create your own.

IDE: Intelligent Drive Electronics. The A600 and A1200 both make use of it because it is cheap. The rest of the Amiga range make use of the more popular SCSI interace. This is both quicker and generally more reliable than IDE and has the added bonus of being used on PC compatibles.

IFF: Interchange File Format. A standard way of storing pictures and sound. Almost all art programs can load and save pictures in this form.

IMAGINE 2: 3D modelling and animation package from Impulse which was released in June 1992. This superb program enables the most fantastic images to be quickly created with the minimum of fuss. There are loads of weird and wonderful tools available within the program, so that ray traced or rendered images can be transformed in a dizzying number of ways: texture can be added, magnets can be applied, details can be added, pictures can be wrapped around shapes and all this with a quick redraw Video production companies are likely to make the most use of the program. *Imagine 2* received an ***Amiga Format*** Gold rating of 93 per cent at a release price of £269.

IMPACT II COMBO BOARD: 68030 accelerator card with SCSI controller and RAM from Great Valley Products. This is a power upgrade which costs £1495 and boosts an Amiga's power on all fronts. The actual processor on the board is a 33 Mhz 68030 CPU with a 68882 FPU, used in conjunction with 4Mb of 32-bit RAM. The *GVP Combo* board is feature packed, comes with an excellent manual and just plugs into the Amiga. If you need real power processing then this is a great option. It received an ***Amiga Format*** Gold rating of 95 per cent at a release price of £1495.



It may look like *Rainbow Islands*, but it's actually Impulze's *Edd the Duck*. Let's face it, that is one hell of a licence to have secured.

IMPULZE: Software house responsible for bringing us a handful of games including *Vector Championship Run*, a racing game notable for its truly dreadful controls, *Edd The Duck*, a cutesy *Rainbow Islands* -style platform romp, *Neighbours*, a particularly poor skateboard racing game, and *Graeme Souness Vector Soccer*, a football game that featured clever use of innovative 3D graphics, but below average gameplay.

INCENTIVE: Programming team founded by Ian Andrew best known for pioneering the Freescape system that was used to create the remarkably realistic 3D environments of the games *Driller*, *Dark Side*, and *Total Eclipse* . These game include 3D logic puzzles which involve object manipulation and relocation. After gaining itself a strong reputation, Incentive teamed up with software house Domark to further develop the 3D theme with a game called *Castle Master*, an action adventure that involved rescuing a princess from a Gothic castle inhabited by ghosts and wizards. Unfortunately, most of these games looked remarkably similar to each other, meaning that the first Freescape games seemed a lot more innovative than later games. *Castle Master* Earned an 89 per cent ***Amiga Format*** rating in June 1990.



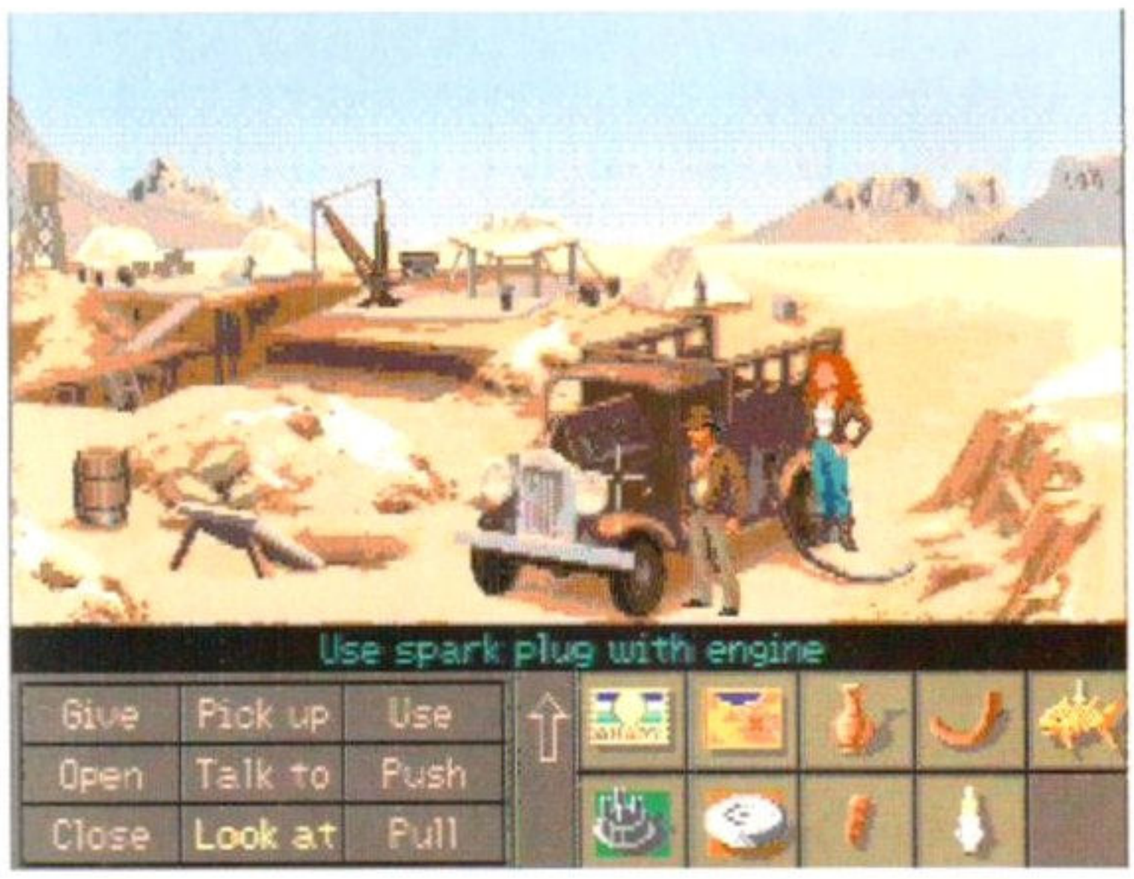
***Driller* was game to make use of Incentive's highly innovative Freescape system, these games were to reach their zenith with *Castle Master*.**

INDIANA JONES AND THE FATE OF ATLANTIS: LucasArts is zthe master of the graphic adventure and this is one of their finest games to date. The game sets Indy against the nasty Nazis, as both parties search for the hidden world of Atlantis and the secret mineral which powered its machines.

The game is simplicity itself to play, you simply click on where you want to go or on one of the nine actions at the bottom of the screen and Indy does it. The plot is absorbing, fun and certainly not too easy. It all starts with Indy crashing his way down through the floors of his college building. We soon learn that he was hired by a mystery man to get hold of a statue. The man discovers a curious bead inside the statue and promptly does a runner with it. The chap, it turns out, is a nazi and Indy has inadvertantly sent him on his way to the lost city of Atlantis. In order to save the day, Indy teams up with another scientist, the alluring Sophia Hapgood and they both travel the globe by jeep, plane, balloon and foot looking for clues to the location of Atlantis.

Progressing through the game involves solving a series of logic puzzles. Some of these puzzle require movement back and forth between locations. Thus while a key, for instance, may be discovered in the tropics, it isn't needed until the pyramid. Some of the puzzles require considerable amounts of thought and it's all too easy to miss something in the background. On occasion you need to take control of Sophia in order to complet a puzzle.

In some instances your course of action completely changes the direction of the gameplay, so that if you choose to battle your way out of a situation, you'll find yourself following a far more action-packed plot-line than those who chose

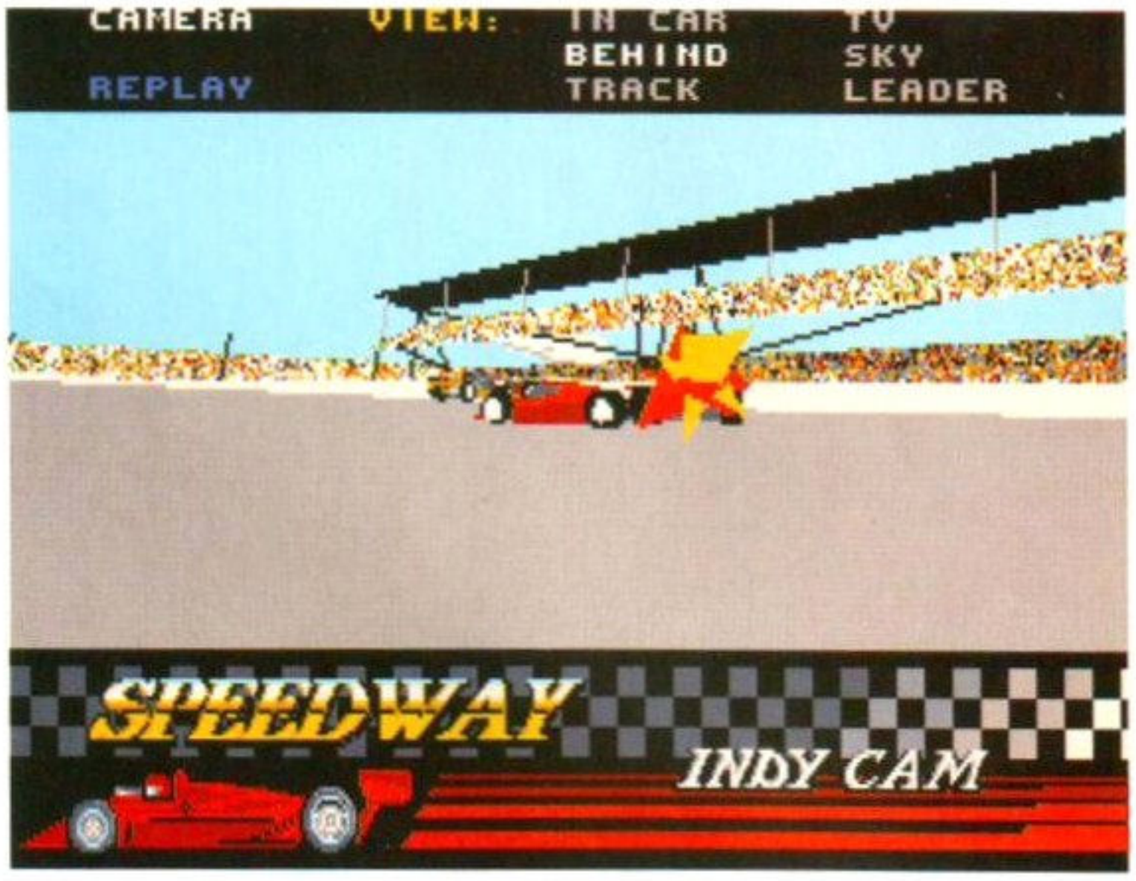


***Indiana Jones and the Fate of Atlantis* is a game with humour, great graphics and nearly enough Umpf to put it into competition with *Monkey Island*.**

to behave cerebrally. Similarly, there are adventure portions of the game which logic fans will have to undertake, such as a travel section in the balloon.This is a worthy addition to the LucasArts stable and a brilliant graphic adventure by anyone's standards. *Fate of Atlantis* received an ***Amiga Format*** Gold rating of 92 per cent at a release price of £37.99.

INDIANAPOLIS 500: Car racing simulation from Electronic Arts based on the American races in which contestants scream around an oval track at extremely high speeds. The races are characterised by the number of high speed crashes which occur, just the kind of thing the blood-thirsty American audiences love. This simulation captures the manic speed of the races and includes lots of camera angles for analysing those 15 car pile-ups. Fast 3D vectors used for the graphics mean that the action is seamless and suitably stomach heaving, especially as the level of detail can be offset against speed.

This is undoubtedly one of the best racing simulations around, especially as it avoids the clichéd territory of Grand Prix. The game has a sharp learning curve in that control of the car takes a while to get right. Initially the desire to go faster than anyone else on the track takes over and you end up pranging, wrecking, totalling and otherwise destroying a whole load of shiny cars. Once you do get it right then the desire to win the championships takes over. *Indianapolis 500* was released at the end of 1990 for £24.99. It received an ***Amiga Format*** Gold rating of 92 per cent . (See Sports Games).



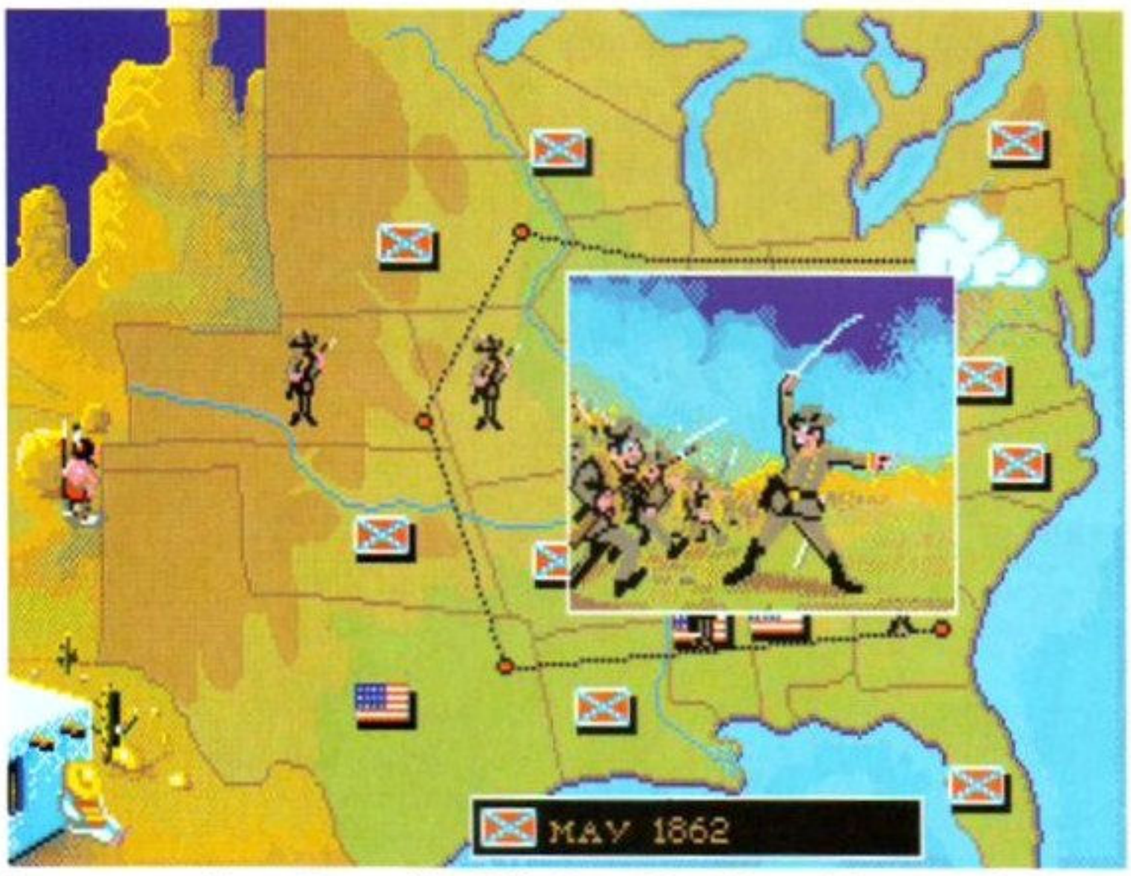
***Indianapolis 500* is one of the best racing games available for the Amiga. If you like driving in small circles that is and wearing a rather dull moustache.**

INFOCOM: Long before games had incidental features like graphics, sprites and sound, Infocom was at the top of the software industry. The company dealt purely with textual adventures, although it prefered to call its games 'interactive novels'. Over a ten year period Infocom released over 30 adventure games covering everything from dungeon exploration to galactic hitchhiking. Towards the end of the 1980s, Infocom fell foul of fickle public taste and its text adventures were shunned in favour of the graphic adventure format.

Its best game ever is *The Hitchhiker's Guide to the Galaxy* which was co-written with Douglas Adams, the author of the novel, and includes many humorous moments which aren't in the original book. For instance, there is one portion where the adventurer needs to get a Babel fish in order to understand the messages being broadcast in the ship, this involves blocking up an ever increasing number of holes and crevices which the fish manages to slip down on being released fromthe dispensing machine. Infocom was bought out by The Disc Company (the remnants of Activision) in 1990; which released a compilation with every single Infocom adventure ever in 1992 on the Profile label. (See Adventure Games).

INFOGRAMES: Software development house responsible for *North and South* and *Tintin on the Moon*. Mitre House, Abbey Road, Enfield, Middlesex, EN1 2RQ, Tel: 071 738 8199.

INKJET PRINTER: An inkjet printer works in a similar way to a dot matrix, but instead of having a series of pins that strike the page through an inked rib-



Fancy yourself as a General Lee? *North and South*from Infogrames is a great strategy game that enables the most sanguine of players to have fun.

bon, an inkjet printer has a series of nozzles through which ink is pumped on to the paper to build up the image. The inkjet printer produces substantially better results than a dot matrix, but is not of as high a quality as a laser printer. The bubblejet printer, which works in a similar way to the inkjet, has now taken over to a great extent. (See Dot Matrix Printer, Bubblejet Printer, Laser Printer).

INTERLACE: Interlacing describes the way a TV picture is divided into two fields of odd and even-numbered horizontal lines which are swapped every 50th of a second in PAL (Phase Alternation Line) systems – the colour TV system that has 625 lines at 25 frames per second. This results in the transient illusion of the 625 lines which make up the full TV frame every 25th of a second. The American NTSC system uses 400 lines and thus the pictures do not look as sharp as the European variety.

INTERPHASE: Innovative 3D arcade game from Imageworks which was released in November 1989. The game is set in a virtual world in which you must infiltrate a computer network in order to guide your girlfriend to the memory banks containing your last dream. This involves solving 3D logic puzzles and travelling up through the virtual building to the top floor where your dream is kept.

In order to guide your girlfriend through the building, you effectively fly a craft around the virtual world inside the computer network. The computer has defence mechanisms which will attempt to stop you by zapping and/or ramming you. Energy can be topped up along the way by refreshing the appropriate banks at replenishment points.

However, winning through,solving all the puzzles and winning back your dream is very much an uphill struggle which takes lots of practice. *Interphase* was released at a price of £29.99 and received an ***Amiga Format*** rating of 88 percent inNovemeber 1989 (*AF*4).



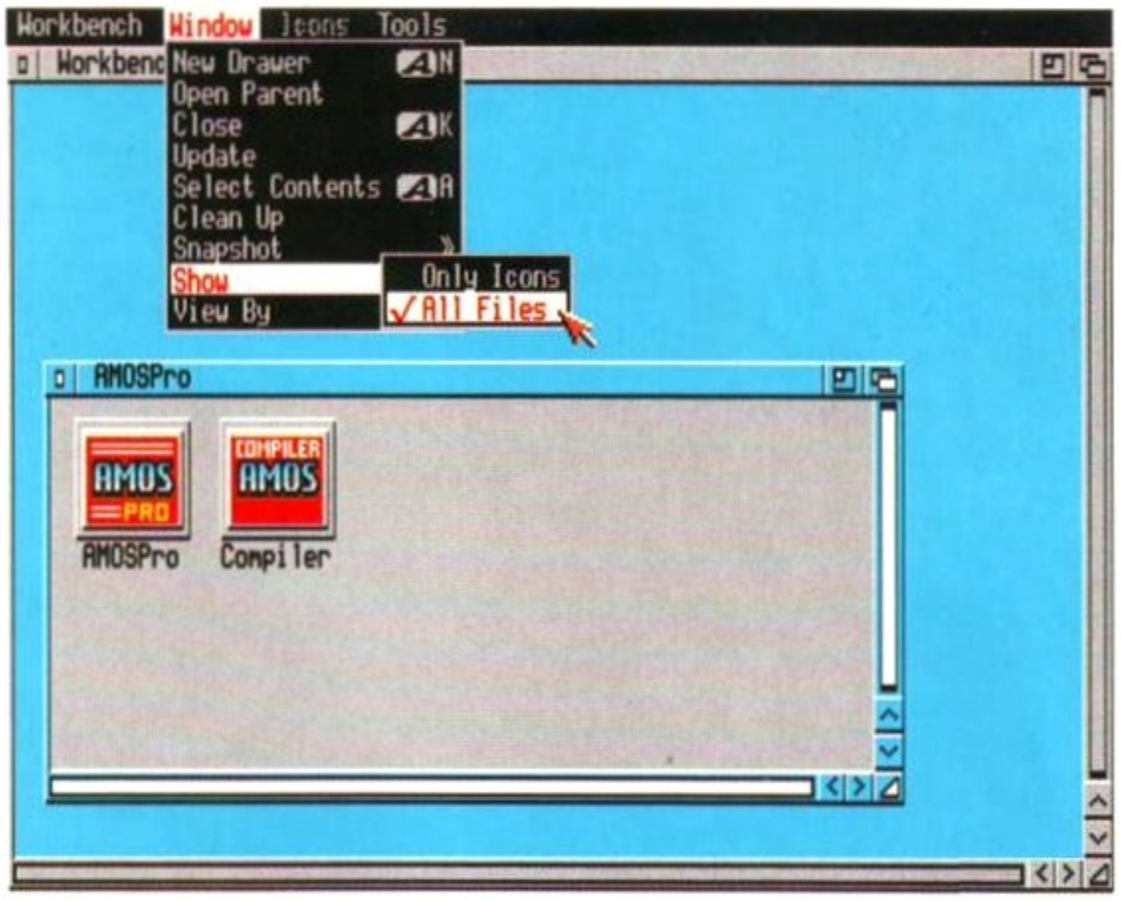
It's weird, but it's also a hell of a lot of fun. If you fancy exploring a virtual world inside a mad com,putercomputer then check out *Interphase*.

INTERSTEL: Software house best known for releasing a game called *Dragon Force* a couple of years ago. *Dragon Force* is a single player tactical skirmish wargame featuring a dozen missions that can be played in any order. It's a clever combination of strategy and combat, but the graphics could be better. It has a similar theme to the outstanding (and ***Amiga Format*** *Gold*)*Laser Squad*, but is not as good.

INTUITION: a slightly nebulous concept, so take a deep breath. Intuition is actually a set style of presentation that makes all Amiga programs that run from Workbench – and, indeed, the Workbench itself – look and feel the same. Intuition is what's known as a graphical user interface (GUI): it makes sure that the way in which you use a program is easy to begin with, because everything is presented to you in a graphical way.

Specifically, Intuition sets styles for the menus that drop down from the top of the screen, for file requesters that appear when you want to save or load a file, and for program requesters that appear when, for example, the Amiga wants you to swap a disk.

In actual fact, you never need to worry about Intuition when you're using your Amiga, because it's just there. The only situation in which you might need



Lots of thought has gone into the way in which your Amiga behaves when running programs. This is shown in the menus, that's Intuition.

to know about it is if you are programming your own application, in which case you need to know how to use the libraries that Commodore supply to make sure your program is presented in the Intuition style. One thing you might notice is that some programs ignore Intuition altogether and use their own style of presentation instead. (See GUI, WIMP)

IVERSON, KENNETH: Inventer of a peculiar programming language called APL – A Programming Language (See APL).

JACKSON, NEIL: Ex-***Amiga Format*** writer. Neil joined the *AF* from *ST Format* in 1991 as games editor. He left in January 1993 to join the programming team, Argonaut. His closing comments in an *Eswat* review ('*Eswat* is an anagram of 'waste', whose is being wasted ours or theirs?') sums up his style.

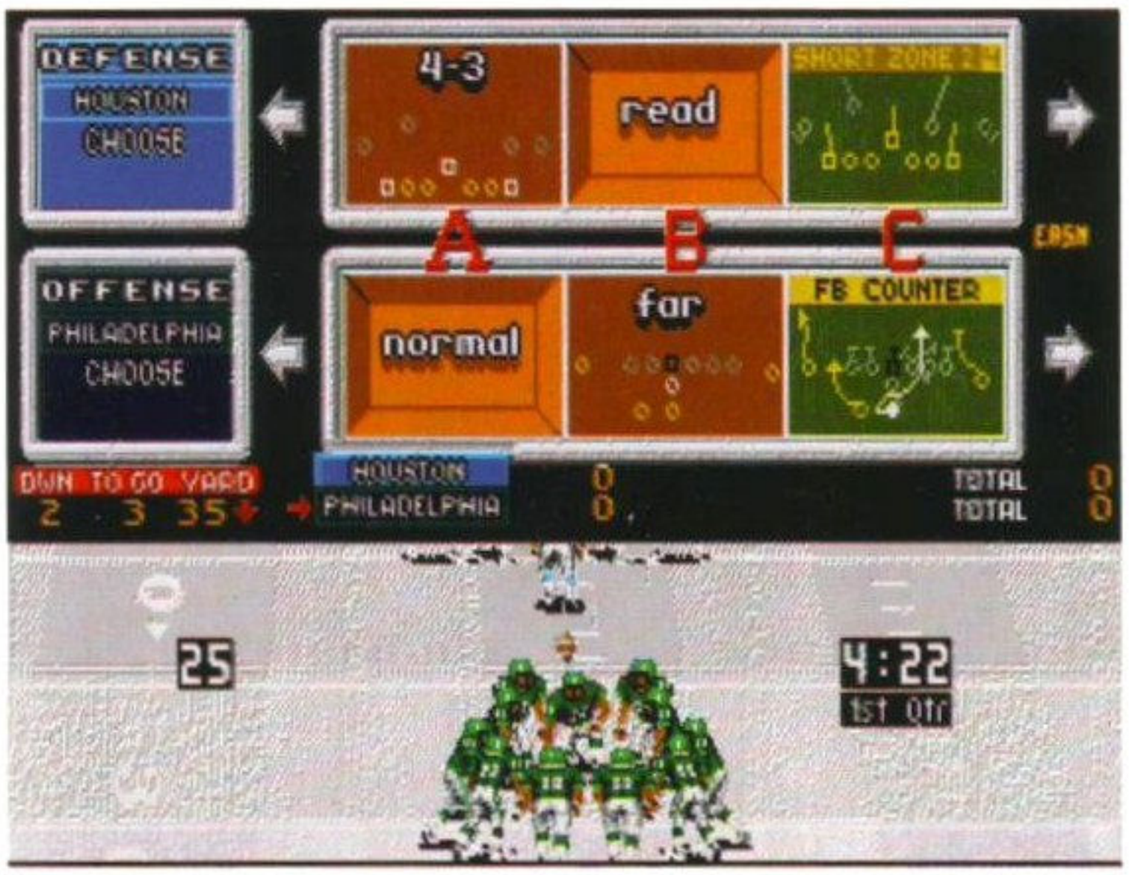
JAMES POND: The first game to feature the fish that went on to become a star of the computer game world and create some of the worst puns ever. The sequel to which was *Robocod*. *James Pond*, released in April 1992 by Millenium is an aquatic platform game in which Pond has to collect lots of ecological time-bombs and progress through a series of 12 missions.

With cute graphics, great gameplay and loads of secret rooms the game has oodles of lasting interest.

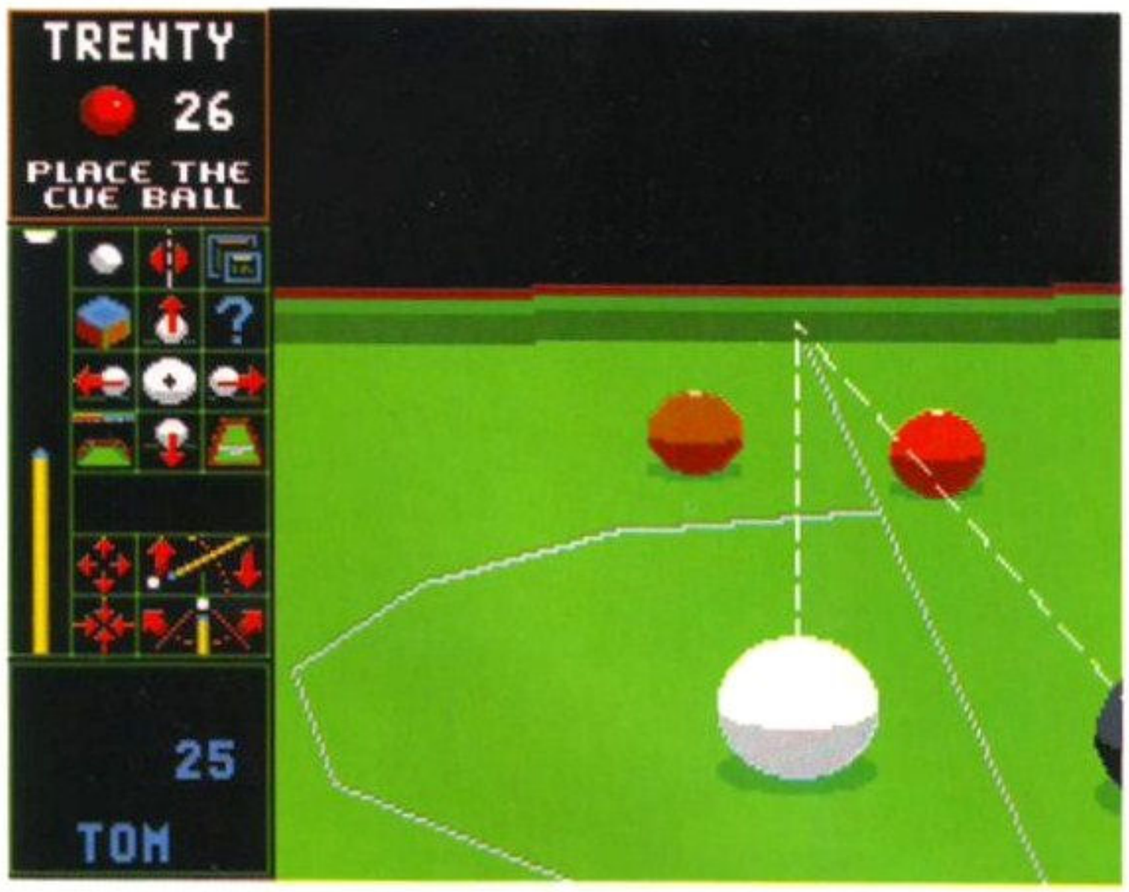
The best feature of the game is the way in which Pond leaps from the water and jumps around on his tail It was recently released on budget for £7.99 and received an ***Amiga Format*** Gold rating of 90 per cent.



He's got gills and he knows how to use them. *James Pond* from Electronic Arts is a funny platform game with loads of lasting interest.



I'd definitely go for the FB Counter if I were you. Hey, why not try them all with *John Madden's American Football*.



Another great piece of code from that man Archer Maclean. *Jimmy White's Snooker* had snooker lovers gawping, and the rest of us yawning.

JIMMY WHITE'S WHIRLWIND SNOOKER: Brilliant snooker simulator from master programmer Archer Maclean released by Virgin. The game is a proper 3D version which accurately translates the dynamics of snooker onto the Amiga while simultaneously capturing the gameplay. The game features eight opponents who play a tough game, but you can also compete against a friend. This is one of those games which you're actually going to have to practise at to get anywhere and as a result it has a long, long shelf life. Slick and humorous. *Whirlwind Snooker* received an ***Amiga Format*** *Gold* rating of 91 per cent at a release price of £29.99.

JOHN MADDEN'S AMERICAN FOOTBALL: The best American Football simulation available for the Amiga. This game from Electronic Arts captures all the excitement of the sport and includes details of the plays you can get your offence and defence to carry out. Madden is an enormously playable game which is well programmed and has lots of long term appeal. *John Madden's American Football* received an ***Amiga Format*** Gold rating of 94 per cent at a release price of £29.99.

JONES, DAVID: Programmer of Lemmings. (See Lemmings, Psygnosis).

JONES, RICHARD: ***Amiga Format*** Specials production editor. Richard joined the AFS team from the *Bristol Evening Post* where he was features sub-editor. He enjoys football (watching) and pinball which he is also exceptionally good at, meaning that his favourite Amiga game is... *Sleepwalker*.

JOYBOARD: Creation of the team who created the Amiga. The joyboard was an invention of those new age chaps in California. Basically, it was a surfboard mounted on movement detectors and connected up to some hardware called Guru. When someone got annoyed with their progress they would sit on the board and meditate, trying to gain a level of cosmic harmony. If a crash occured on the Amiga, an error message saying "Guru Meditation", would instruct them to go and chill out on the surf board for a bit.

JOYSTICK: Simple stick-like device which can be pushed in eight different directions. Within a game, the computer reads this information and moves a character correspondingly. There are three types of joystick: leaf switch, micro-switch and analogue. The leaf switch is the cheapest and least reliable variety of joystick. This is because it uses to small pieces of metal to read direction information. This metal wears out quite quickly and makes reliable movement difficult.

Micro-switch joysticks use switches instead of metal leaves. These are much more effective, have a longer life and more importantly, make a satisfying click every time the joystick is moved. This kind of joystick is best used for shoot-em-ups and platform games. Analogue joysticks are a lot more sophisticated than the switchable variety. They work in a similar manner to mice in that there's an almost unlimited number of positions which the joystick can be in, thus making smooth movement possible. This kind of joystick is useful for flight simulators, where smooth movement is essential. It's worth pointing out that joysticks can be intensely uncomfortable pieces of kit to use. It's well worth having a play on the joystick in the shop to make sure it sits comfortably in the hand. The ***Amiga Format*** team have found that most novelty joysticks, with the notable exeption of The Bug are very wearing on the hands. Particularly useless in this categoy is the Alien CharacteriStick from Cheetah.

JPEG: (Joint Photograohic Experts Group) graphics Compression file format. JPEG is widely used on CD-ROM titles and in any application which makes use of large (ie rendered or true colour) pictures.

JUGGLER: Of all the factors that went into making the Amiga the amazing success it is, one of the greatest was a humble demo – a small piece of code that features music and graphics but is not in itself interactive.

The Juggler demo, created by Eric Graham, was left running on Amigas in shop windows up and down the country and often drew audiences who would gawp at the amazing graphics and then rush into the shop to buy an A500. These days the A1200 is doing pretty much the same job.

JUMPING BEAN COMPANY: JBC is a subsiduary of Bell Fruit, one of the very few fruit machine manufacturers in the UK – and the only one that decided it wanted to ge into the computer software market in a big way.

The Jumping Bean Company's first release is the licenced product *Noddy*, an educational program for younger children which was featured on ***Amiga Format*** Coverdisk number 43.



Well that's tough isn't it. Now where could that cat be? Hmmm.. perhaps he's in *Noddy's* bucket

K

KCS to Kult gazing longingly at *KGB*, *Knights of the Sky*, Kosmos and Krisalis...

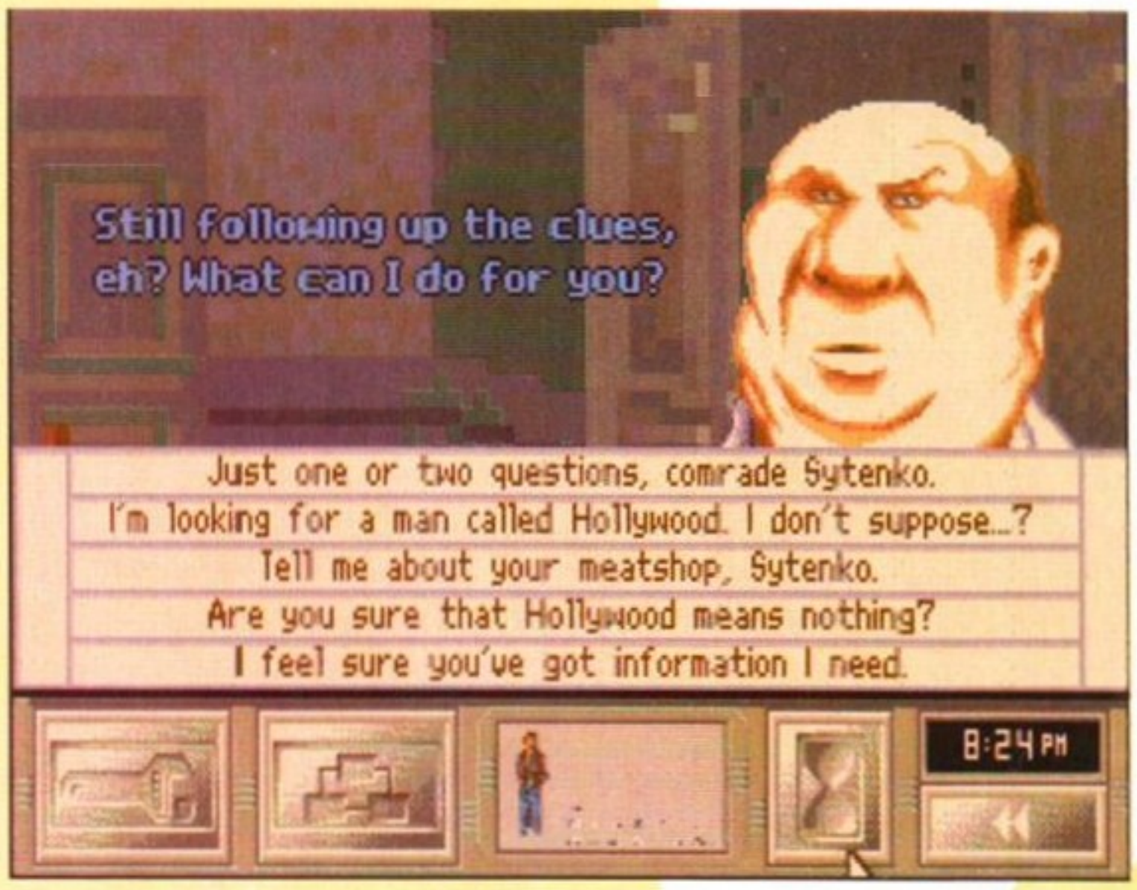
KCS: Music sequencing package from Dr T's. This suite of programs includes Tiger (a graphical note entry/modification system), Automix (creates a final mix-down of a song), Quickscore (nope, not Bristol Rovers but a score print program) and Phantom (SMPTE tape synchroniser).

Together these programs make up one of the best sequencing systems available for the Amiga. Music entry is simple and fast and the editing tools for use afterwards mean that all facets of the sound can be modified. KCS 3.5 Level II received an ***Amiga Format*** *Gold* rating of 92 per cent at a release price of £279. (See Sequencers, MIDI)

KELLY, STEVE: See Bitmap Brothers.

KGB: Brilliantly designed graphic adventure from Virgin which was released in January 1993. The idea of the game is to root out corruption from within the Russian government a job which involves wandering around Moscow talking to its natives and interrogating anyone who looks nervous. The game tackles some rather 'adult' subjects such as teenage prostitution, labour-camps and urban decay as well as using some rather fruity language.

Innovative features within the game include a replay option which enables you to check over dialogue and re-interview people in a different way. The puzzles, graphics and gameplay with *KGB* are all superb and with its tough puzzles, it's certainly not a game anyone will finish in a lunch-time. It received an ***Amiga Format*** *Gold* rating of 91 per cent at a release price of £30.99.



Hmmm... a meatshop eh? Is that like a butchers, or is it something more mysterious. Maybe Hollywood's the butcher of *KGB*.

KICK OFF: There are games which take their cues from other games and there are others which copy no-one and create a new style; the two Kick Off games are definitely in the latter camp. *Kick Off* was the first in a long line of overhead football games with fast kick and run action. It appeal to fans of the sport because some events were beyond the player's control, while other required skill. *Kick Off* and the superb sequel *Kick Off 2* are games that take practice to get right; the latter includes lots of team information and refinements such as controllable corner kicks. Purists tend to prefer Kick Off 2 to that other great footy game, Sensible Soccer.

The original Kick Off came out in mid-'89 and received an ***Amiga Format*** *Gold* rating of 92 per cent at a release price of £19.95, the sequel *Kick Off 2* was released in August 1990 and received an ***Amiga Format*** rating of 94 per cent at a release price of £19.95. (See Sensible Soccer, Sports Games, and also Anco).

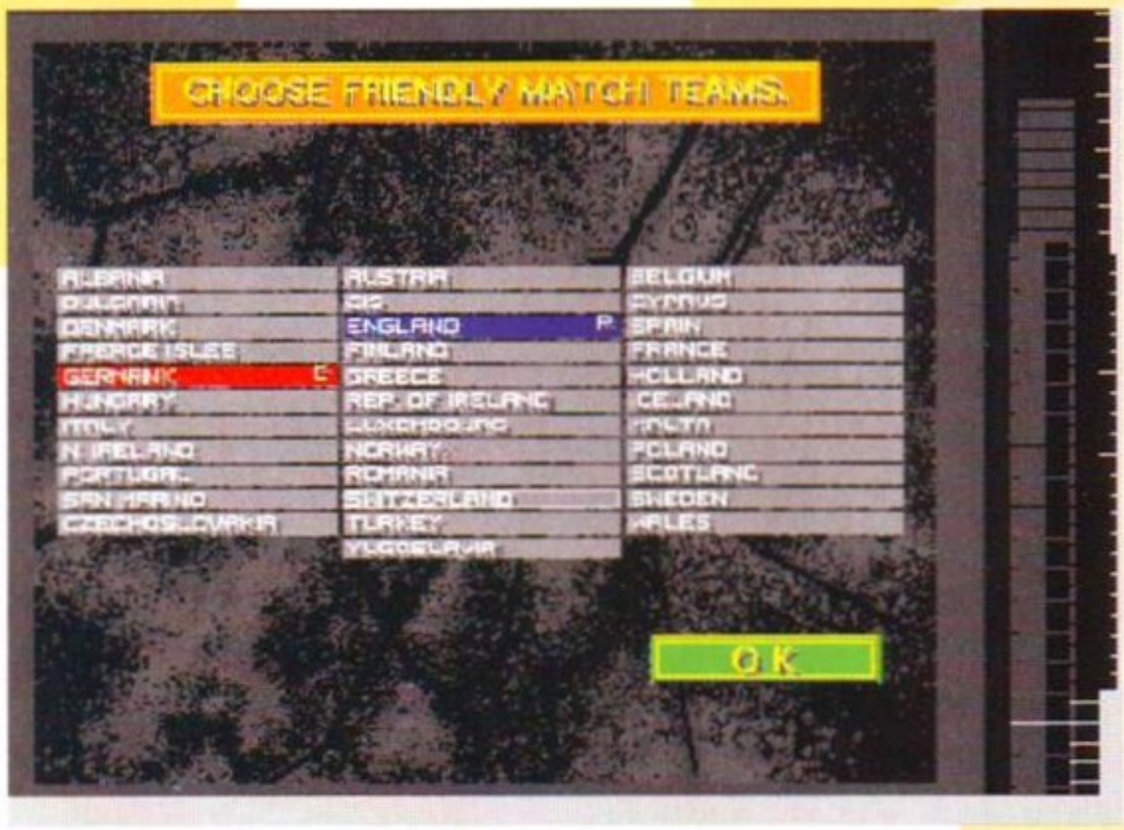
KICKSTART: The name of the set of programs that are run when you switch on your Amiga.

KIDS TYPE: Good educational programs for kids are hard to come by. The educational market is traditionally far more lax in what it lets slip by, so the really good programs always stand out. *Kids Type* is a colourful word processor which received an ***Amiga Format*** *Gold* rating of 95 per cent when it was released in August 1991.

The program includes illustrated letters, patterns, pictures, word prompting and text speaking. In terms of speed, documentation and value this is still one of the best educational program available for the Amiga. It is available from GeniSoft and originally cost £24.95.



***Hagar*, you would have thought that a cartoon printed in the UK's best-selling newspaper would have been a peach... well the dinosaur doesn't.**



It's a game of money, basically Brian. All these teams have one thing in common, they've all beaten England recently. Or did I dream it?

KILLING GAME SHOW: You know it's going to be a bad day when you get transformed into an android form and transported into a game show in which there can be only one winner and the losers die, ermm, horribly. That's the plot anyway, what this actually is, is fast moving, well-paced platform shoot-em-up action from Psygnosis. You control a biped with some weaponry and the idea is to make your way to the exit before the acid which is bubbling up the screen corrodes your joints and takes you out of the game... permanently. This is one of those frantic games which blends addictive zapping, with platform edge jumping. *Killing Game Show* received an ***Amiga Format*** *Gold* rating of 92 per cent on release in December 1990 at a release price of £24.99.

KINGSOFT: Software house that released a game called *Hagar The Horrible* in 1990. The game is based on the exploits of the lovable newspaper cartoon character and is a humorous arcade style adventure. Regarded by the ***Amiga Format*** reviewer as "fun but not essential".

KNIGHTS OF THE CRYSTALLION: A highly unusual RPG-cum-strategy game from US *Gold* with a plot so bizarre that the game doesn't fit easily into any particular genre. A huge prehistoric monster is trapped in a canyon dies, and over the centuries rots down to a skeleton. A tribe of people discover the huge skeleton and carve their way into the bones to create caves.

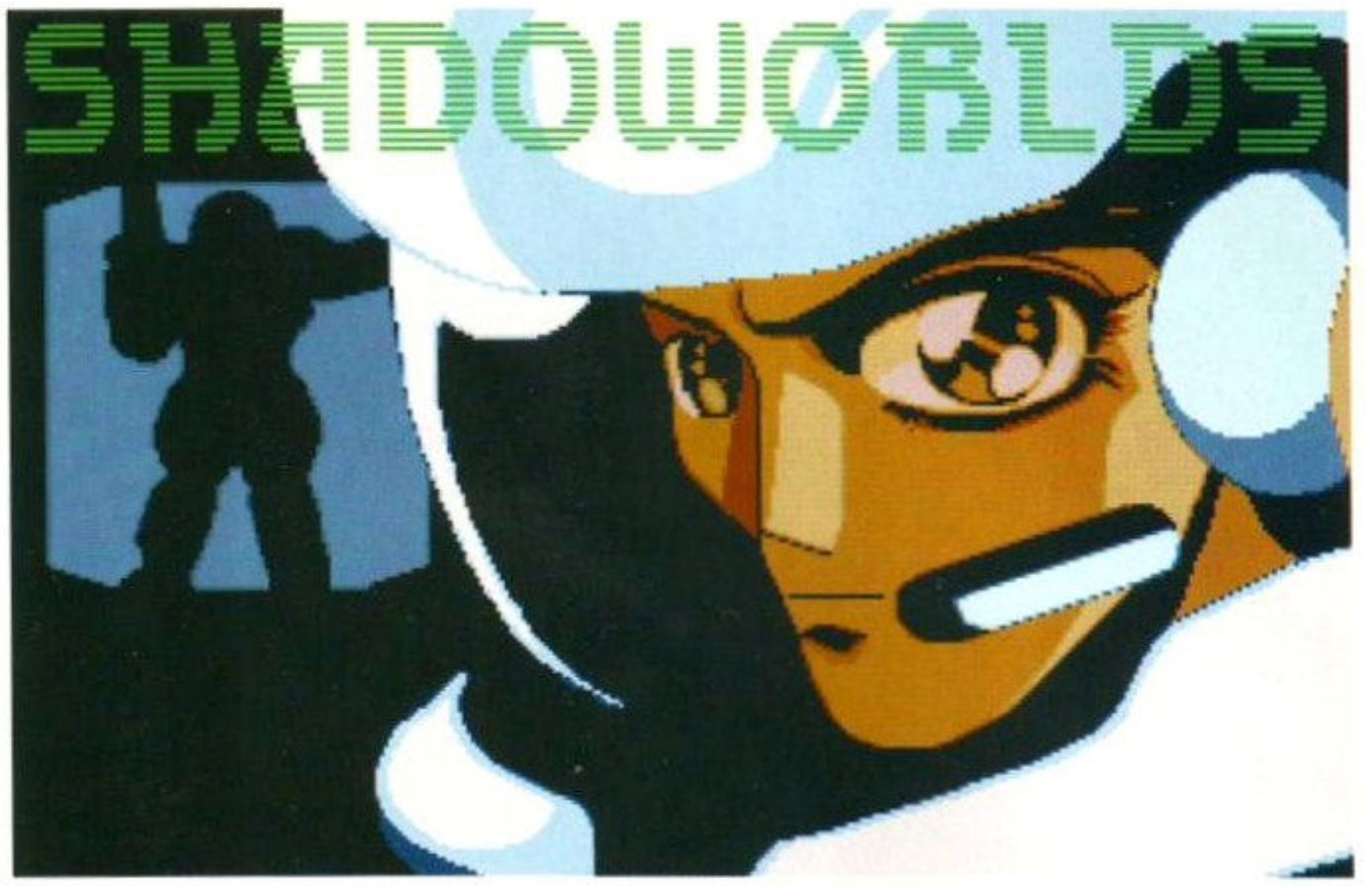
Over the years a society develops within the skeleton you must administer and control that society. To complicate matters some of the inhabitants have telepathic powers and you must undergo five tests to prove yourself worthy of having these powers yourself. *Knights Of Crystallion* received a 91 per cent ***Amiga Format*** *Gold* rating in April 1990. Release price £29.99.

KNIGHTS OF THE SKY: Hugely enjoyable World War One flight simulator from Microprose. The game enables the wannabe pilot to fly any one of 15 different planes, each with its own characteristics. As befits a Microprose game, there are loads of external views, brilliant sound and smooth, fast moving, detailed graphics.

The game can be played over a series of missions or as one offs against a particular fighter ace. The in-flight characteristics of the planes have been faithfully simulated and there are no little extras to help you win; your plane comes equipped with bullets and bombs, nothing more. This is a hugely enjoyable flight simulator which should be a part of any Amiga owner's games collection. It was released in December 1991 at a release price of £30.99 and received an ***Amiga Format*** rating of 88 per cent.

KOSMOS SOFTWARE: Software house responsible for children's educational pakages, the best of which are the Answer Back Junior Quiz and the Answer Back Senior Quiz. The junior quiz is aimed at the 6-11 age group and the senior version is suitables for children of 12 and over. There are 15 quizzes on each program and 50 questions per quiz. Answering a question correctly enables the user to play a sub-game. The junior version involves rescuing a damsel in distress from a fire-breathing dragon by dropping a brick on its nose from a hot air balloon. The senior version is a conventional UFO shoot-em-up.

KRISALIS: Krisalis Software Ltd was formed in 1987 purely as a development house and was responsible for titles including *Prison, Pacmania* an *Blasteroids*, among many others. In 1990 it distributed its first independent title, *Manchester United*, and followed up that with *Manchester United Europe, Boxing Manager, Jahangir khan Squash* and *Face Off Ice Hockey, Graham Taylor's Soccer Challenge* and *John Barnes' European Football*.



Yes but it's all very Akira isn't it? *Shadoworlds* is one hell of a good RPG, even if they did get the eyes wrong.

More recently the company has moved away from sports sims and has released *Vikings, Sabre Team* and *Shadowworlds*. The key personnel at Krisalis are Tony Kavanagh (managing director), Peter Harap (programming director) and Shaun Hollingworth (technical director). A

According to Krisalis sales and marketing manager Tim James, Krisalis hopes to: "continue to be a leading independent company, to become immensely rich and famous, and see peace, love and understanding reign throughout the universe."

Contact: Krisalis Software Ltd, Teque House, masons Yard, Downs Road, Moorgate, Rotherham S60 2HD. Tel: 0709 372290.

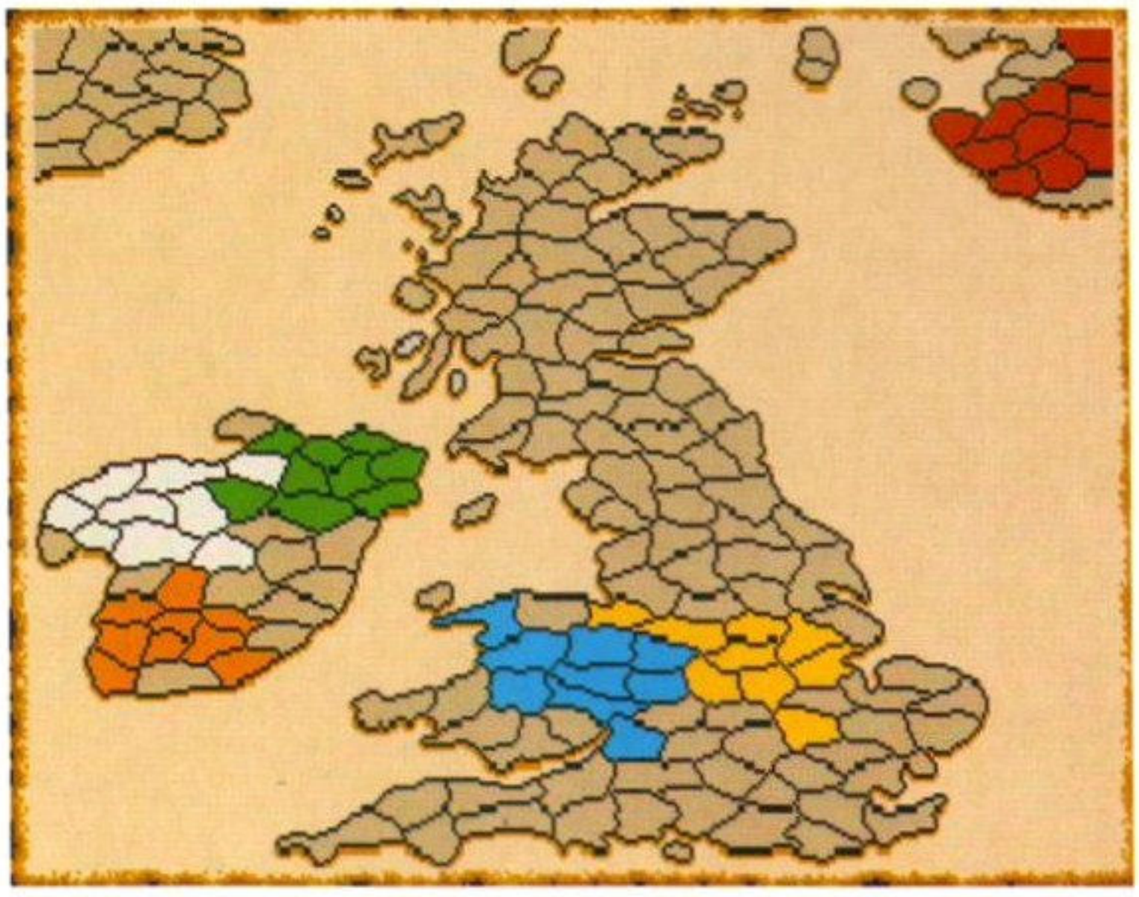
KULT: This adventure-cum-puzzle game from Infogrames has a good plot, tricky puzzles and a simple but effective structure that add up to make it an outstanding program. The plot involves two tribal groups, the primitive and pagan Protozorqs and the Normals.

The Protozorqs (who are obviously not normal) wage a bloodthirsty war on the Normals (Protozorqs) and you, Raven, must rescue a hostage from their evil grip.

In order to do this you must undertake five tasks to gain access to the second, level, the temple where you believe the hostage is being held, and then set about solving clues and acquiring the items you need to rescue her. *Kult* received a 92 per cent ***Amiga Format*** *Gold* rating in September 1989. Release price £24.95.



Take *Knights of the Sky* up and your can shoot the Red Baron Von Rickthofen and his Fokker out of the sky.



Those *Vikings* were ambitious chaps. What good map-makers they were too, fair puts the old Ordnance Survey to shame doesn't it?

Laser printer to *Lure of the Temptress* taking in *Legend*, *Lemmings*, Leibnitz and *Links*...

LASER PRINTER: The most expensive form of printer and the one that produces the best results. The way in which laser printers work is complicated. First a copy of the image you want to print is built up in the printer's memory. This image is then used as a template by the laser beam, which creates the image of the characters by firing a negative charge at a photosensitive drum, which then attracts the toner to it. The characters are transferred directly to the paper which runs over the drum. At this point the only thing that is attaching the toner to the paper is the static charge that has been created. In order to actually bond the toner to the paper, the paper is heated up, which is why laser printed paper is always warm when it comes out of the printer. Laser printers are expensive (about £1,000 upwards) and so is the toner, so they are generally only used by professionals who require top-quality results.

LASER SQUAD: This one or two player tactical war game from Blade, and written by Julian Gollop, doesn't score to highly in the sound and graphics departments, but requires a fair bit of thought and is desperately addictive. For these reasons it merited an ***Amiga Format*** *Gold* rating in of 93 per cent December 1989 (*AF*5). The game is played over a set number of turns on a pseudo 3D board,has seven difficulty levels and five different scenarios. Played against the computer the game is good, played against another human, it's excellent. Release price £19.95.



***Legend of Kyrandia*, gorgeous priestesses, dodgy clothing, pleasant graphics, reasonable plot; all in all, a not half decent adventurish kind of game.**

LAW, JOHN: Created the game *Colditz*, released by Digital Magic Software. *Colditz* is one of the games that fits into the specialist genre of history games, which were moderately popular a couple of years ago. History games, take a historical event or character and build a strategy-cum-action gameplay around it. *Colditz* and other Second World War games had to be carefully programmed in order not to offend the German market, so swastikas were banned. An image of Hitler in *Colditz* was only allowed through because it looked more like Charlie Chaplin than the leader of the Third Reich.

LAWRENCE, ROBIN: See FAST.

LEGEND: As with the music industry, where good sounds get copied, so it is in the software industry. In March'92 the brilliant *Shadowlands* was released to critical acclaim. Five months later, Mindscape released their own isometric 3D adventure game based on the same idea. Fortunately, *Legend* is a great, if derivative game.

The twist with this game is that the player has individual control over all four members of the adventuring party. This means that puzzles can have extra depth, as each individual player can be set on a different task. In traditional



***Legend* added a couple of new twists to the tired dungeon exploration genre. Spell-mixing, multi-character interaction, and some great fights.**

RPGs like *Eye of the Beholder* all the adventurers occupy the same space and so can only solve puzzles as a one. The plot-line is largely irrelevant to the gameplay as you know what you're getting from any RPG game. It's the huge exploration area, the colourful graphics and the engaging puzzles which mark *Legend* out from the crowd. The game was released at £30.99 by Mindscape and it received an ***Amiga Format*** rating of 88 percent (July1992, *AF*36) Not to confused with CRL's *Legend* (52 per cent in December 1989, *AF*5)..

LEGEND OF KYRANDIA: We've a got a lot to thank LucasArts for; since they released *Monkey Island* onto the market everybody has been coming up with humourous graphic adventures of the same ilk. *Legend of Kyrandia* certainly falls into this category, but that's not to say it's bad. On the contrary, it is one the best Monkey island-a-likes around.

Kyrandia is set in a mystical world where a malicious jester called Malcolm has slain the King and Queen and taken over the land. You control Brandon, the hero of the day and your job is to inherit the thrown that is rightfully yours. The gameplay follows the traditional graphic adventure point-and-click style and is set in a vast land (nine disks worth). The game has glorious graphics and



***Lemmings 2* saw the programmers on turbo-drive as they came up with new and exciting ways for the rodents to damage themselves... great!**

a very quietly understated humour which appeals greatly, especially after the over-the-top madness of the two *Monkey Islands*. While the *Kyrandia* experience doesn't quite match up to LucasArts efforts, it's still a worthy game. It cost £35.99 on release in early 1993 and received an ***Amiga Format*** rating of 87 per cent.

LEMMINGS: This is one of the most famous computer games ever. It is a puzzle game, from Psygnosis, in which the idea is to guide a bunch of multi-talented rodents to safety through 100 levels. These two dimensional levels have an assortment of obstructions and dangers into which the lemming can blunder; your job is to assign the lemmings tasks such as bridge building, tunnelling or climbing to overcome the obstacles. The game is a test of spatial, logistical and timing skills; it is addictive and often intensely infuriating. It has sold in huge quantities all over the world, making its programmer, David Jones, one very rich chap. *Lemmings* merited a 92 per cent ***Amiga Format*** *Gold* rating in March 1991. Release price £24.99. In February 1992, Psygnosis launched *Oh No! More Lemmings*, another 100 levels of the game, which is available on a data disk (£19.99 release price) or as a stand alone game at a release price of £25.99. *Oh No! More Lemmings* received an 82 per cent ***Amiga Format*** rating The sequel *Lemmings 2, The Tribes* was recently released and was well received. (See Psygnosis, David Jones).

LENNARD, DAN: Created the *Quartet* music software designed to back up Microdeal's range of sampling packages for the Amiga. *Quartet* offers four-track sample sequencing capabilities, some rather impressive sample editing options and was considered to be one of the better packages when it was released in 1990. Since then it has been surpassed by superior, and cheaper, software such as *MED* and *OctaMED*.

LEIBNITZ, GOTTFRIED: During the Age of Reason, Leibnitz was busy inventing such joyful mathematical tools as calculus and dynamics theory, while also studying and making contributions to geology, theology, history, linguistics and philosophy. However it was his invention of a very early calculating principle to which we owe most.

In 1673 Leibnitz presented his calculating machine to the Royal Society. This was an improvement on the adding machine which Blaise Pascal had invented in 1642. His improvement was to make the machine capable of both multiplication and division. He achieved this by designing a device called the Leibnitz Cylinder which used a series of rods and cylinders and a cranking device to perform maths. Funnily enough it's just this kind of principle which engineers are re-examining in their search for the creation of a fifth generation computer.

LEWIS, MARK: Founder of the Electronic Arts software company. (See Electronic Arts).

LIBRARY: Collection of files. Groups of files are arranged together in libraries to make everything easier to locate. Thus a program and its associated files will be placed in one library or folder.

LIMPET: Computer virus also known as a 'bootblock' or boot sector virus. A limpet virus consists of a small section of code that loads a disk's boot sectors when the computer is booted from an infected disk. Every time a new disk is inserted the virus writes itself back to the new disk. This was the first virus to appear on the Amiga. The original one came from a bunch of pirates known as the Swiss Crackers Association.

LINKS: An odd name for a game we'll admit, but US Gold's *Links* is an excellent golf game. Practically every aspect of the game can be modified from the stance of the feet to the arc of the swing. The animation of the golfer is really top notch which is all the more impressive when you discover that it's all done in HAM mode. The control method is slick and well thought out. With *Links* it's just as easy to hit a soft shot as a hard one, because the swingometer completes a complete circle of shot strengths irrelevant of whether you're chipping or driving. You can store an unlimited number of players and play eight at once against each other. Another nice touch is that if you mess up you can take a shot back and try again. Try doing that on a real golf course!

However, we would say that it's absolutely essential you have a hard drive because it's a bit on the slow side, so floppy drive owners beware. The game's almost worth getting a hard drive for. *Links* features brilliant graphics, the gameplay is realistic and there are several neat touches. *Links* got a 92 per cent ***Amiga Format Gold*** rating in July 1992. Release price £37.99.



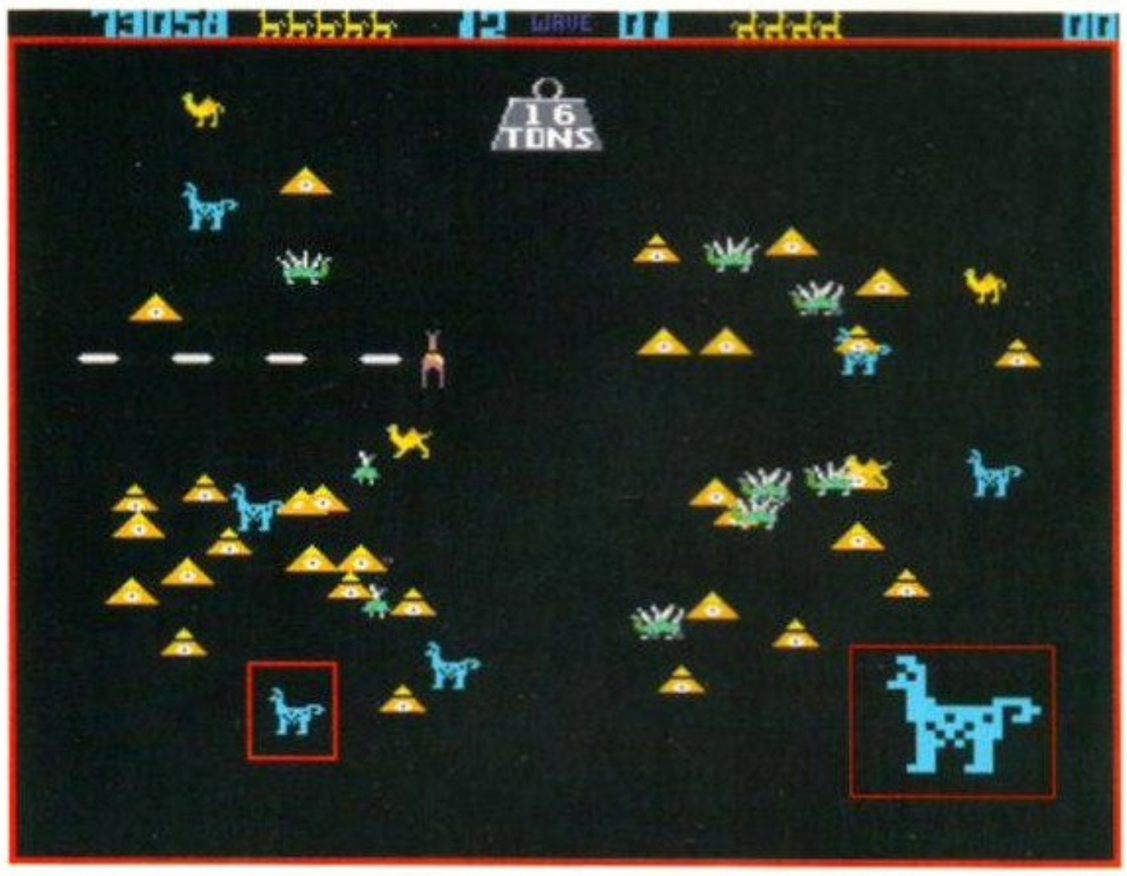
***Liinks*: now you really do need a hard disk to get the most out of this extremely well-crafted golf game. It is big and very powerful indeed.**

LINKVIRUS: Particularly unpleasant parasite computer virus, which is also known as Worm, Zombie, Lycanthrope and Vampire. A Linkvirus works by attaching itself to a real program and creating a Trojan Horse virus by locking on to the code and then transferring across. A Trojan Horse, also known as a Trojan, usually works on a timebomb basis whereby the disk will operate normally for a given time until the virus takes effect. (See also Virus, Parasite, Trojan Horse, and Safe Hex International - SHI).

LIPSTIK: Long ago when kids were supremely naive and Chelsea were a side to be reckoned with, a company called Access software marketed a device called the LipStik which plugged into the Amiga and responded to speech.

The user wore a headset with a mouthpiece into which they'd say things like "Bang" and "Go away alien entities" and the computer would read this as the fire button being pressed on a joystick. Lipstik sank without trace. but the youth of the '90s are being encouraged to buy a similar device, only this time it's called a Laserscope and it includes a sighting device which you control by moving your head.

LLAMASOFT: Jeff Minter's homegrown Welsh programming company. So called because of his love of llamas. Llamasoft's main claim to fame, aside from its basic eccentricity, is the fact that it produced the admirable (and of course, Llama-related) *Llamtron* which is a kind of floaty, flying, shooting, weird-out, *Space Invaders*-ish extravaganza that could only have been written by minter, and appear in the Shareware, it is a must for any serious Amiga owners software collection. (See Minter, Jeff and *Trip-a-Tron*)



***Llamatron* is so incredibly basic (see inset), so simple in concept and so much fun to sit down with for an hour or three, that you can't help liking it.**

LOADER, JOHN: See FAST.

LOGO: A philosophy of education, and a family of computer programming languages designed to help implement that philosophy. All of which basically means that children get to program in the language LOGO because it is designed to help them develop their cognitive abilities. The designer of the concept, Professor Seymour Papert, conceived it as an environment in which children could learn diverse subjects. The computer language revolves around a remote robot called a Turtle which has a pen attached and can thus be used to draw pretty pictures.

LOVELACE, COUNTESS ADA: The only legitimate daughter of Lord Byron and gifted mathematician, she worked with Charles Babbage on his Analytical Engine project in the 1830s. The theory behind The Analytical Engine was that it could compute various functions by working on a punched card system. As such it is regarded as the forerunner of the modern computer, even though it was never developed beyond the theoretical stage.

Countess Ada Lovelace understood the theory behind The Analytical Engine, and worked with Babbage on a means of programming it. She devised a program for it in 1835 – the first-ever computer program. The project ran into difficulties, most of them financial, and Countess Ada Ada Lovelace lost most of her wealth on an 'infallible' system of betting on race horses. She died at the age of 36. (See Babbage, Charles).

LUCAS ARTS GAMES ENTERTAINMENT COMPANY: LucasArts Games was founded in 1982 to provide an "interactive element in George Lucas's vision of a state-of-the-art, multi-faceted entertainment company," It was also part funded by money from Atari.

George (*Star Wars*) Lucas decided to move into the software industry in 1982 to create interactive adventure games. The games division was designed to be consistent with the movie arm, in its storytelling, character development, advanced sound and visual effects and painstaking attention to detail. The company's first games successes were the 8-bit *Ballblazer*, *Rescue on Fractulus* and *Strike Fleet*. The company's first Amiga game was the innovative *Maniac Mansion*, the first adventure game to use a point and click interface. This was quickly followed up with *Zak McKraken* and the *Alien Mindbenders*, a humourous graphic adventure game with a quirky storyline. They made use of their links with the movie division in 1990 when they released the acclaimed *Indiana Jones and the Last Crusade*.

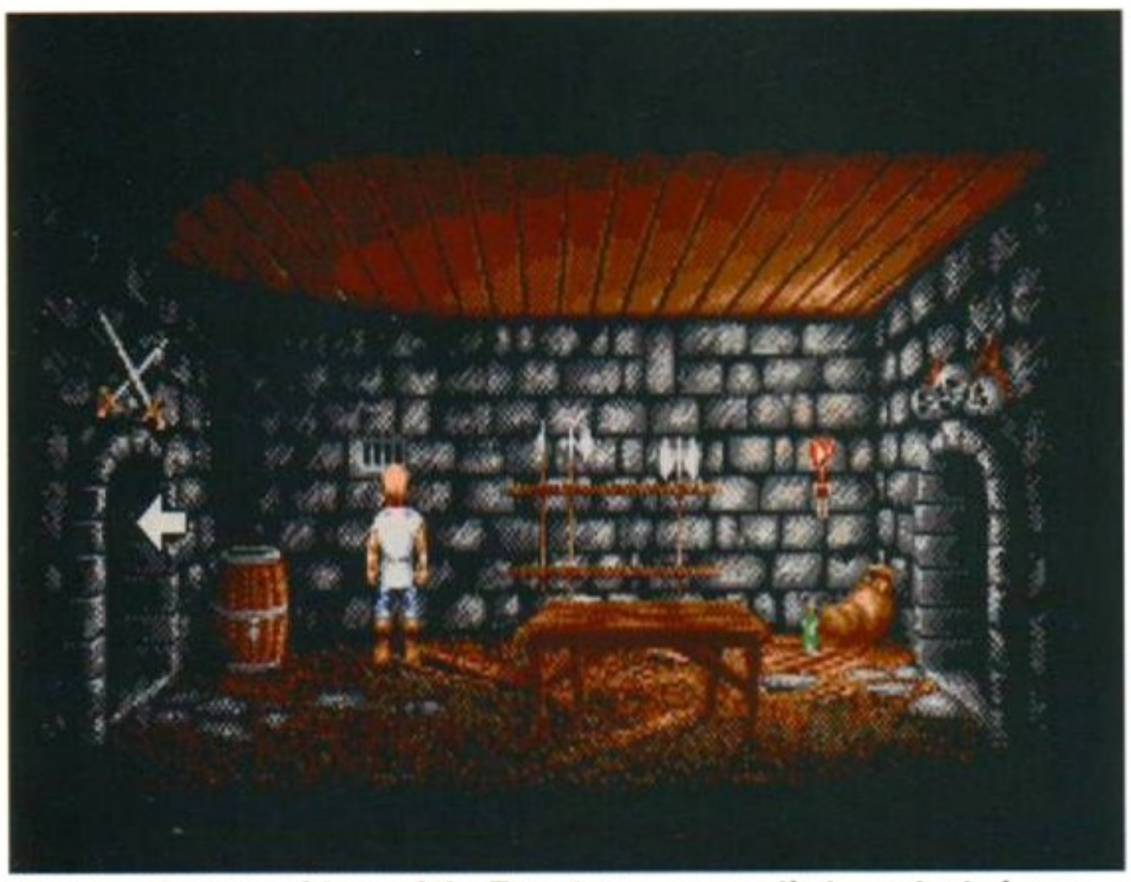


Detail from *Indiana Jones and the Final Crusade*, another LucasArts game. Don't be fooled into thinking the rest of the graphics are like this.



***Lure of the Temptress* is an amusing graphic adventure from Virgin. This caption was delivered straight, to camera. I thank you.**

However, it was the release of *The Secret of Monkey Island* which really made LucasArts' name. This game has won awards all over the world for its superb humour and brilliant playability. It is reckoned to be one of the best computer games ever. Its sequel, *Monkey Island 2 – LeChuck's Revenge* improved further on the formula and was similarly well received. Aside from its high-class games development, LucasArts is forever sending out ambassadors who declaim about the value of good design, and the fact that computer games should be aiming to be one of the major influences on the rest of the entertainment industry (the look and feel of the film *Hook* for example pays great homage to that of Monkey Island – although it is doubtful whether Mr Spielberg would admit to this). And while this crusading on the part of the company makes everyone concerned with computer games feel important and warm inside, there is a sting in the tail – the LucasArts representative at a recent ECES told delegates that computer games were just up to the standard that film making had attained in the early part of this century. LucasArts continues to develop product based upon films such as the *Star Wars* trilogy for both the Amiga and CDTV. LucasArts is based in California. Contact: LucasArts P.O. Box 2009, San Rafael, CA, 94912. Tel: 0101–415 721 3300. Fax: 0101–415 721 3342.



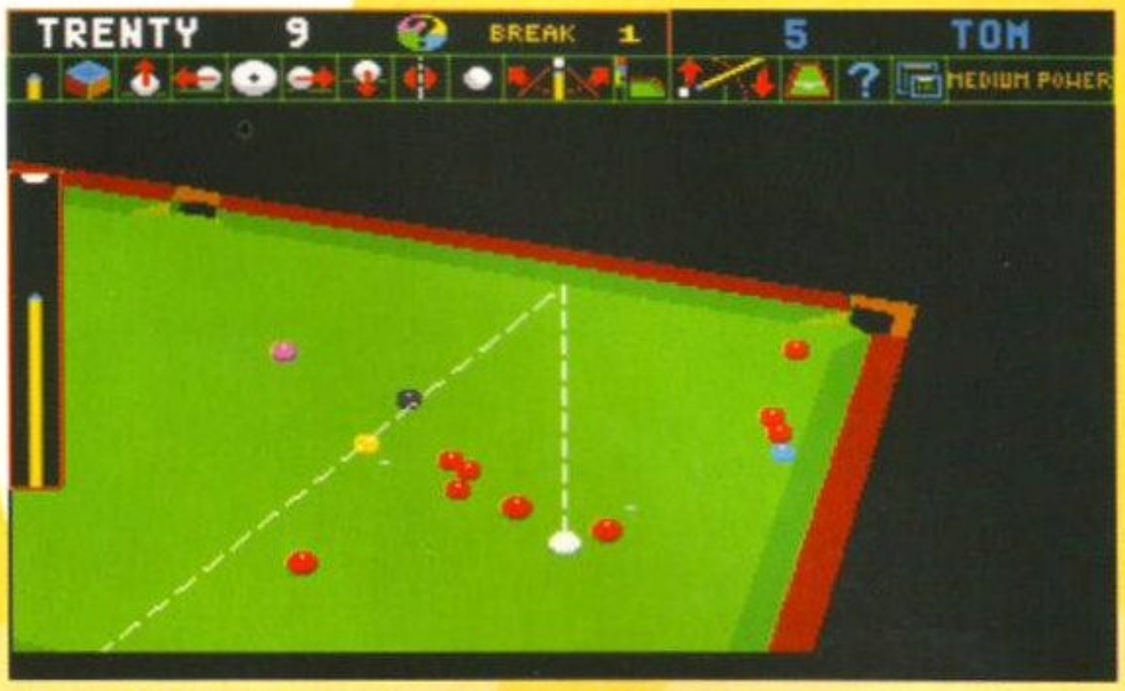
Malcolm, the hero of *Lure of the Temptress*, a game that was touted as a yet another *Secret of Monkey Island* beater. It wasn't half bad either.

LURE OF THE TEMPTRESS: One of the better adventure games for the Amiga, Virgin's *Lure Of The Temptress* has a fairy-tale plot with a liberal dose of humour and self-parody. The story involves caves, dungeons, dragons and a host of beastly characters. You play Diermot, an unwilling hero who gets caught up in a plot to de-throne the evil temptress and rescue her prisoner.

The game includes some extremely clever touches. For example, the characters possess a rudimentary intelligence, in that if you annoy them at one point in the game then they will remember the next time you meet up with them. Thus if you insult a villager they won't help you later on, whereas if you're pleasant to them they'll be all sweetness and light. These characters also wander around the game world of their own accord. They have been programmed to carry on a kind of work-life and so if you want to find someone you need to know where to catch them. This artificial intelligence leads to many of the more humourous moments in the game because you can effectively spy on another character and they will go about their business whether it be simply strolling from one place to another or doing a 'job'. The puzzles themselves often require the aid of the computer characters. Your assistant can be sent off on missions to get something or find someone while you're off investigating something else. The level of sophistication within *Lure of the Temptress* is very high and this aids greatly to the long term interest. Many of its features are included in more recent RPGs such as *Legends of Valor* from the DCD programming team. *Lure of the Temptress* is an absorbing and interesting game which is a must for adventure game fans. It received a 92 per cent ***Amiga Format*** *Gold* rating in July 1992. Release price £30.99.

M Magnetic Scrolls, Jeff Minter, Miracles, Mice, Microprose, Robert Maxwell and much more...

MACLEAN, ARCHER: During the course of the 1980s, as computers became increasingly high profile consumer products, so software houses went from back room efforts to multi-million pound affairs with huge teams. Or at least, some of them did. One of the notable exceptions to this rule is Archer Maclean. Archer writes and sells his games all on his own, only bringing in another software company to distribute it. This gives him complete control over the games he produces, but does mean that Archer Maclean products are few and far between. The few games that he does produce are excellent. Archer is responsible for *Dropzone*, *IK+* and more recently, *Jimmy White's Whirlwind Snooker* and its follow-up, *Pool*. He is one of the top ten programmers this country has produced. (See Beat-em-Up).



***Archer Maclean's Snooker* was the game that thrust the quiet, unassuming, shy Archer Maclean into the limelight once again after. It's a cracker.**

MAGNETIC SCROLLS: The software industry has changed beyond all recognition over the last ten years. One of the most obvious transformations has been the movement from text to graphics games, particularly in the adventure game genre. This style of game was popular for a period of about 20 years from the mid-70s (on mainframe computers) to the demise of Infocom in the late 80s. The Magnetic Scrolls software house represented a halfway point between the text and the graphic adventure because its games mixed the formality of the textual form with still graphics. Magnetic Scrolls games such as *The Pawn* also featured a very sophisticated parser (the bit of code which works out what you've typed in) which enabled the player to type in complex sentences. So, rather than having to type sentences such as "Go North" or "Eat Cake" you could type things like "Walk north up the gravel path, examine the cake and if it is blue then eat it." Another feature of the games was artificially intelligent characters who roamed around the game-world. Before its demise in 1991, Magnetic Scrolls released seven games, the best of which is *Guild of Thieves*.

MAKEPATH: Virtual Reality Laboratories *MakePath* program is an addition to the *Vista* and *Vista Pro* graphics packages that enables you to easily render animations from those programs. To do this you simply click on two points to create a path which the *MakePath* program will animate. *MakePath* received an ***Amiga Format*** Gold rating of 90 per cent in June 1992. Release price £29.95. The only reservation about this outstanding program is that it should be included as part of *Vista* and *Vista Pro* rather then marketed as an addition.

MANAGEMENT GAMES: For many Amiga users, the idea of rushing about a football field, scoring the winning goal with a lobbed, bending, viciously dipping but perfectly placed screamer from 35-yards out while being tackled by Vinnie Jones, Des Walker, Stuart Pearce and Basil Bolé, is too exhausting. What they want is to be able to yell at Vinnie, Des, Psycho and Basil for letting that striker through in the first place. Then we want to be able to drop Basil from the team and replace him with a recently bought Franco Baresi.

These kind of people want to be managers. They want to be in control, their heroes are Bill Shankly, Matt Busby, Brian Clough and Ron Atkinson. They need power and frustration, and this is where the football management simulator comes in. You get to be the most hated person in football (outside of the directors' box, or Keith Curle's house that is).

Footy management games range from the shakey *D&H Games Football Director I* and *II*, in the early days – where you basically got to balance the budgets and look at a rubbishy stadium, we moved on to the well-programmed *The Manager* from german software house Software 2000 (distributed in this country by US Gold, and worth 79 per cent in October 1992, *AF*39) There are some neat animated sequences and a good user interface in this game, much as there are in the more recently released *Premier Manager* from the ever-improving Gremlin.

Premier Manager managed to gain more interest from ***Amiga Format*** than the actual Premier League has managed to do. It starts you of in the GM Vauxhaull Conference in your bid to reach the Top Flight. When it was reviewed late in the season (February 1993) it achieved a near *Gold* 87 per cent (*AF*43) for its easy-to-use system and attention.

However, the only football management sim ever to have broken the prized 90 per cent barrier (see ***Amiga Format*** *Gold*) is Anco's *Player Manager*. This add-on module to the classic *Kick Off* hit the offices in May of 1990, and came away with a massive 93 per cent (*AF*10). It enabled you to create whole new teams, train them, put them in new and interesting formations and even make use of the *Kick Off* playing system, where you could either sit back and look at what was going on, or you could be the eponymous player manager. *Player Manager* even today retains its playability and really does add to the enjoyment of *Kick Off* (it even makes the off-season less dull). Sadly, the same cannot be said for the licensed game that related to the last ever winners of the 1st Division.



It started life as *Bundesleiga Manager* before changing its name, and nationality to *The Manager*. Still it came from the German software developers, Software 2000, via US Gold in this country, and still it's quite good.

Leeds United Champions! would probably have made Tony Dorigo, Lee Chapman and Howard Wilkinson even more disillusioned with the game than they are right now – Eric Cantona would have been even happier about having left to go to Manchester Utd (which itself has had some dodgy football games in its time - see Krisalis).

Leeds united appaling graphics, dire sound and next to no gameplay in one tacky package. It got hammered for a shock 32 per cent loss in January 1992 (*AF*42) and it bore a striking (or rather non-striking) resemblance to the *Football Director* games we mentioned before.

Much the same can be said of the Kenny Dalglish management licence (it was more like a Graeme Souness Liverpool simulator) which has passed into a well-earned obscurity so we'll pass over it.

Talking of licence games, believe it or not , but the Graham Taylor version met with some approval when it was reviewed in August 1992 (*AF*37). *Graham taylor's Soccer Challenge* came in the wake of the European Championships in Sweden, and its 832 per cent rating seems to suggest that GT might have thought king it with him and the squad when he left for Stockholm. Neat graphics, a good user interface and some good detailed touches had a few non-football fans beginning to think that the genre wasn't all boring football stats

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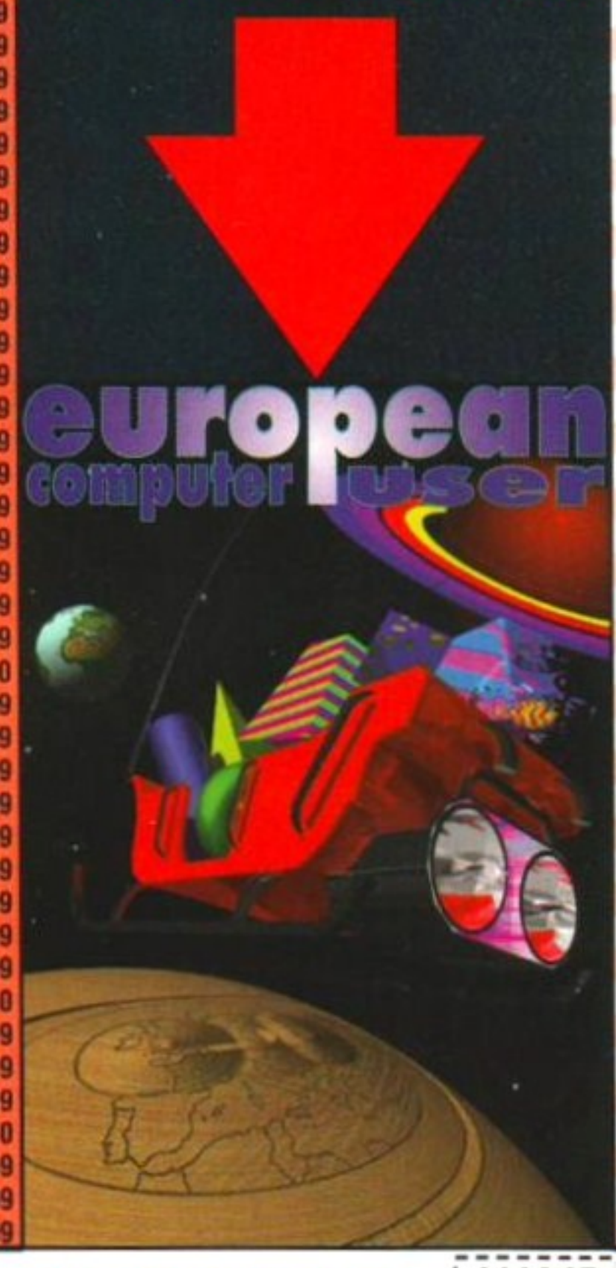
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AMIGA FORMAT MARCH 93

AMIGA FORMAT





***Premier Manager* actually managed to get the image of football management simulations into a respectable condition after a few years in the wilderness. Here we see it in all its glory, on the field and off, alongside the easy-to-use iconic control system. Gremlin played a blinder again.**

after all. The same cannot be said for Domark's attempt at the genre. Yet again we hark back to that old favourite, *Football Director* (sorry to keep having a go at this game, but it does keep coming back) in the guise of Championship Manager (41 per cent in August 1992 – *AF*37).

This makes use of the hackneyed old – let's not bother with the game itself, number crunching is so much easier to program – school of thought. The *AF* reviewer commented *'Championship Manager* could easily be a an accountancy package.' Yes.

So to close this little section, let us return to D&H Games (the company responsible for *Football Director*. In October 1992, D&H came up with *Striker Manager*. Breath was held, would this be another Accrington Stanley?

No, the company had managed to pull an above average (62 per cent is above average if you take 50 per cent as benchmark) mixture of arcade and management action. You got to choose from 16 leagues across Europe and were given the ability to build up squads and then watch in agony as all of your tactics, strategies and planning were totally forgotten by the boys on the park.

And there we will leave the Football Management Game hoping that someone can top a three year old, 93 per cent game, soon.



***The Chaos Engine* is the latest gameplay extravaganza from Eric Matthews and the Bitmap Brothers programming team and software house. Since the Bitmap's started out, they have gained a reputation for high-quality design.**

MANDALA: Name given to Amiga technology invented by John Vincent and Frank MacDougall and developed by Canadian firm Vivid Effects that enables the user to control an image of themself on the Amiga screen. A camera mounted above the monitor transfers a digitised image of the user on to an Amiga-generated display or video sequence. Making a movement causes the on-screen image to move correspondingly, while the software handles the background changes.

For example, with the *Mandala Baseball* program, the user hits the ball by controlling the movement of an animated on-screen bat by swinging an imaginary bat. Due to the fact that Mandala is MIDI-compatible the user can control the actions and create the sound of, for example, an on-screen drummer by making drumming movements in thin air.

At the Canadian Hockey League's Hall Of Fame a Mandala system was demonstrated in which players saw themselves in front of the goal and had to move hands and feet to prevent a score.

Mandala is already in use in museums and science centres (and you can sometimes catch it touring computer shows) and it has also been used in business presentations to enable live presenters to appear as Amiga-generated images within graphs and control animated bar charts on large video monitors. It took nine years to develop Mandala, a home system should be available soon. Until then , make do with Chromakeying.

MATTHEWS, ERIC: See Bitmap Brothers.

MAXWELL ROBERT: Owner of the Mirrorsoft software and development company, which folded after Maxwell's mysterious death at sea in 1991. (See Mirrorsoft).

MD PRODUCTIONS: Software house responsible for a game called *Wildlife*, one of a small band of environmental/animal games. *Wildlife* involves taking pictures of animals and shooting a few poachers. You select one of four conti-



robert Maxwell look on a Karadoc, a character from *Cadaver* one of the last MirrorSoft products to make it anywhere near the shelves.

nents and are told which three animals to photograph. A camera icon does the snapping and you click on a rifle icon to shoot the poachers as the screen scrolls horizontally. A poor game made bearable by good graphics.

MDR INTERFACES: See De Rivas, Richard.

MEDDINGS, SALLY: Art editor on the ***Amiga Format*** *Specials*: Sally has worked widely in design of computer magazines, from *8000 Plus* (Amstrad PCW), *Your Sinclair*, *Amiga Power*, *ACE*, ***Amiga Format*** (the very first issue in fact she's on the cover) and *'S'* (Sega – later renamed *Sega Power*).

MEGA MOUSE: Golden Image UK's Mega Mouse was one of the best one's reviewed by ***Amiga Format*** and received a 90 per cent *Gold* rating in September 1992. At £12.95 (release price) the Mega Mouse is excellent value for money and is a nifty little performer.

MEGA-LO-MANIA: Image Work's *Mega-Lo-Mania* is one of the better god game/strategy games available for the Amiga and received a 91 per cent ***Amiga Format*** *Gold* rating in September 1991. The aim of the game is to make your tribe the most powerful and to dominate a total of 28 islands. To do this you must control the islands that contain the minerals you need to develop weapons, create the weapons and then wipe out the opposition. Sounds simple enough, but this game is absorbing, has a lasting appeal and includes some humourous touches. Release price £29.99.

MEMORY EXPANSION SYSTEMS: Company that makes memory expansion boards. This in itself is entirely unremarkable, but what makes MES worthy of mention is a give-away demo they produced in 1990 that came with their expansion boards. Written by the Eldritch the Cat development team, the demo was seven minutes of bass-pumping dance music and way-out graphics.

MEMORY: Computers can 'remember' things by storing them in its RAM (Random Access Memory). The RAM can only store data while it is fed a current, hence the need to reload data after you've switched off your Amiga.

Some computers have battery backed up memory which means that it can store a small amount of information in memory and not lose it after shutdown. ROM memory (Read Only Memory) is code which has been etched electronically on to a chip. It does not need a voltage charge to retain its code.

The Amiga makes use of two types of RAM (even if they both come in the same chip form, the way the Amiga uses them is the deciding factor).

These are Chip RAM – which (and this is a very basic definition, for more detailed technical overviews, read ***Amiga Format*** each month) – which is used predominantly by the Amiga's custom to chips to carry out tasks to do with disk access, sound and graphics; and Fast RAM, which is used predominantly by the Motorola processor to store the program code that is to be executed.

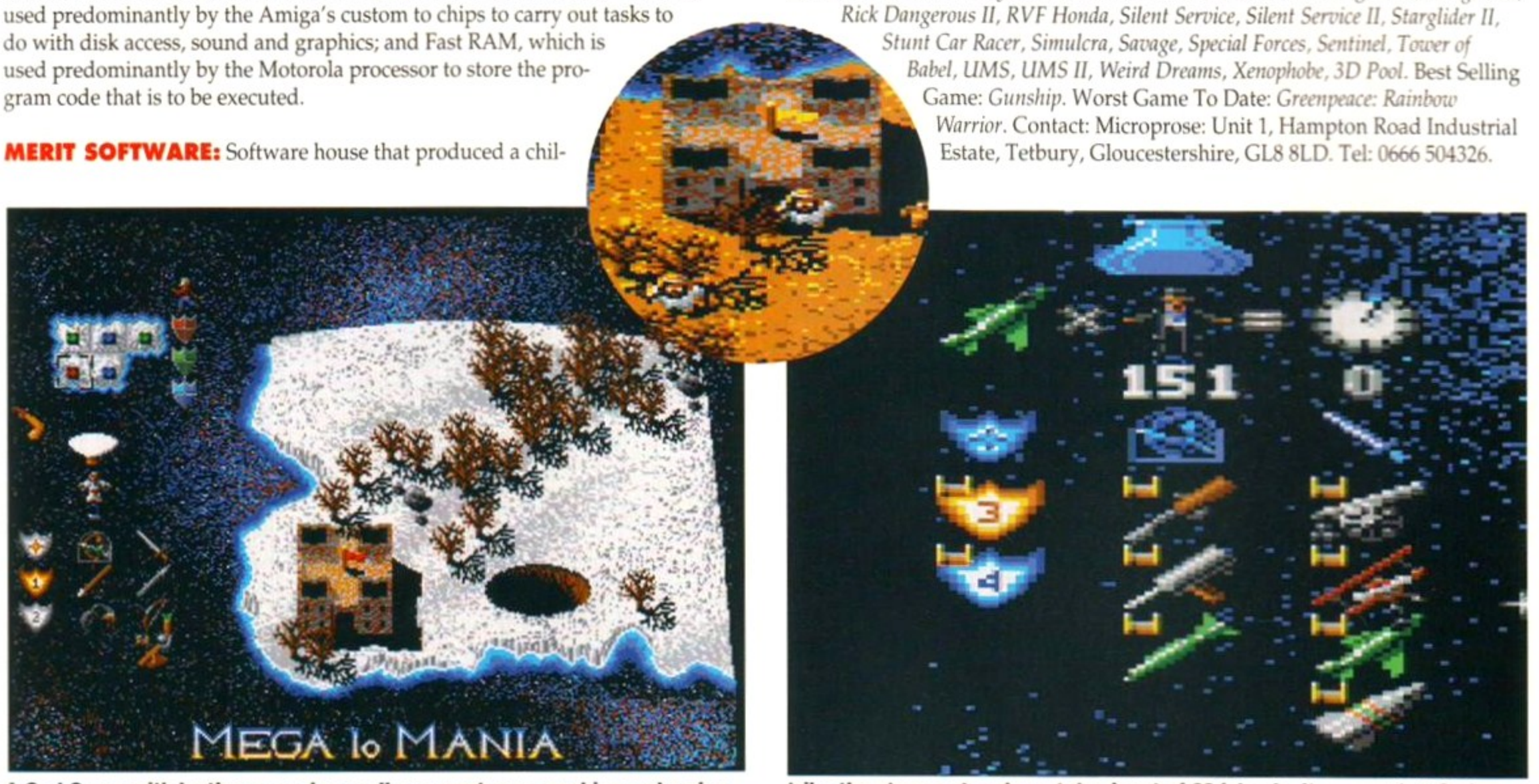
MERIT SOFTWARE: Software house that produced a children's educational package called *At The Zoo*. The program is essentially a zoo-trip colouring book on disk. The pencil pointer is used to select a colour from the palette of 24 and is then pointed at the area you wish to colour. The program includes various animal sounds, but they come on a separate disk.

MICAL, R. J: One of the team of three that developed the original Amiga. (See Amiga, History Of).

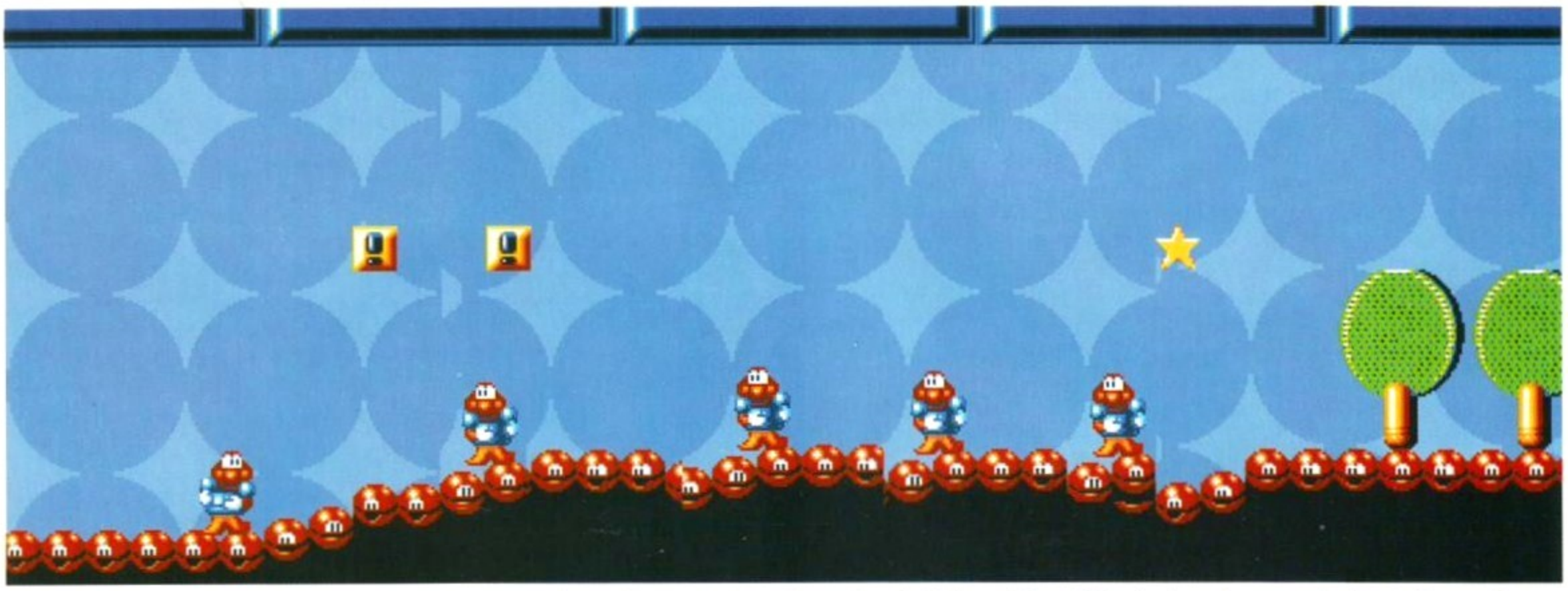
MICRONET: Now defunct commercial Bulletin Board Service which was a smaller portion of the Prestel service. Micronet was designed to enable home computer owners to access news, reviews and files within one service. The most popular portion of Micronet was the chat system whereby lots of different people could talk electronically. Micronet went down the pan with the rest of the British computer industry in the late '80s, although the Prestel Viewdata service continues to operate.

MICROPROSE: In the world of simulations this company is the best. It produces top notch Amiga games with an incredible amount of depth. When people tire of platform action and want a proper challenge, they're likely to reach for a Microprose simulation. Microprose was formed 10 years ago by 'Wild' Bill Stealey (who, it is rumoured was a defence consultant to the Pentagon – ever wondered why the game *F-19 Stealth Fighter* came out before the USAF was prepared to unveil the plane itself?) and Sid Meier – the man who designed and wrote the classics *Railroad Tycoon* and *Civilization*.

These two chaps met while attending a conference in Las Vegas. They both started playing a video game called *Red Baron* and found it severely lacking. Sid (an experienced programmer) reckoned he could write a better game in a week and although it took him a bit longer than that, the game (called *Hellcat Ace)* became an immediate success thanks partly to the knowledge Bill (a former USAF jet fighter pilot) brought to the project. The team was forged from a love of intelligent gameplay from Meier, combined with Stealey's love of all things airborne. In 1986 bought out British Telecom's TelecomSoft computer game label and launched several ancillary labels to handle arcade releases. Six years on the company, now under managing director Adrian Parr, employs 120 people and is one of the most powerful leisure software publishers in the world. Microprose continues to support the Amiga range with games being developed specifically for the A1200 and CD. Diskography: *Airborne Ranger, Betrayal, Civilization, Covert Action, Elite, F15 Strike Eagle II, F-19 Stealth Fighter, Flames of Freedom, Formula One, Grand Prix, Fire and Brimstone, First Contact, Gunship, International Soccer Challenge, Kennedy Approach, Knights of the Sky, M1 Tank Platoon, Microprose Soccer, Midwinter, Microprose Golf, Mr Heli, Oriental Games, Pirates, P-47, Railroad Tycoon, Rainbow Warrior, Red Storm Rising, Rick, Dangerous, Rick Dangerous II, RVF Honda, Silent Service, Silent Service II, Starglider II, Stunt Car Racer, Simulcra, Savage, Special Forces, Sentinel, Tower of Babel, UMS, UMS II, Weird Dreams, Xenophobe, 3D Pool.* Best Selling Game: *Gunship*. Worst Game To Date: *Greenpeace: Rainbow Warrior*. Contact: Microprose: Unit 1, Hampton Road Industrial Estate, Tetbury, Gloucestershire, GL8 8LD. Tel: 0666 504326.



A God-Game with lasting appeal as well as sumptuous graphics and a nice line in strategic thinking, *Mega-Lo-Mania* saw you attempting to make your tribe the strongest and most dominant of 28 islands. It seems that God-Games (see separate entry) have not started to lose their appeal yet.



The little fishy-one – source of millions of bad puns and hours. Games such as *James Pond – Robocod* (from Millenium) are known as horizontally scrolling platform games. The Amiga excels at these. Other excellent examples of this genre include *Zool* , and that's really it. James is fairly unique.

MICROPROSE GOLF: An outstanding golf sim from MicroProse, marred only by the poor quality of the sound. The most notable aspect of the game s the flexibility of stroke play enabling you to to punch the ball out of bunkers, slice and hook shots. Received a 90 per cent ***Amiga Format*** *Gold* rating in January 1992. Release price £30.99.

MIDWINTER: An outstanding 3D one-player strategy game from Rainbird set in the year 2099. After being struck by a meteorite the earth has been plunged into a second ice age, but a small group of people manage to survive and set up a new civilisation on the frozen Midwinter Isle and form the Free Villages Peace Force (FVPF).

A rebel army threatens the stability of this new society and you must oppose them by deploying forces, and moving around the island on skis, in a cable car, on a snow mobile or by hang gliding. An unusual, but addictive game *Midwinter*, merited a 92 per cent ***Amiga Format*** *Gold* rating in July 1990. Release price £24.95.

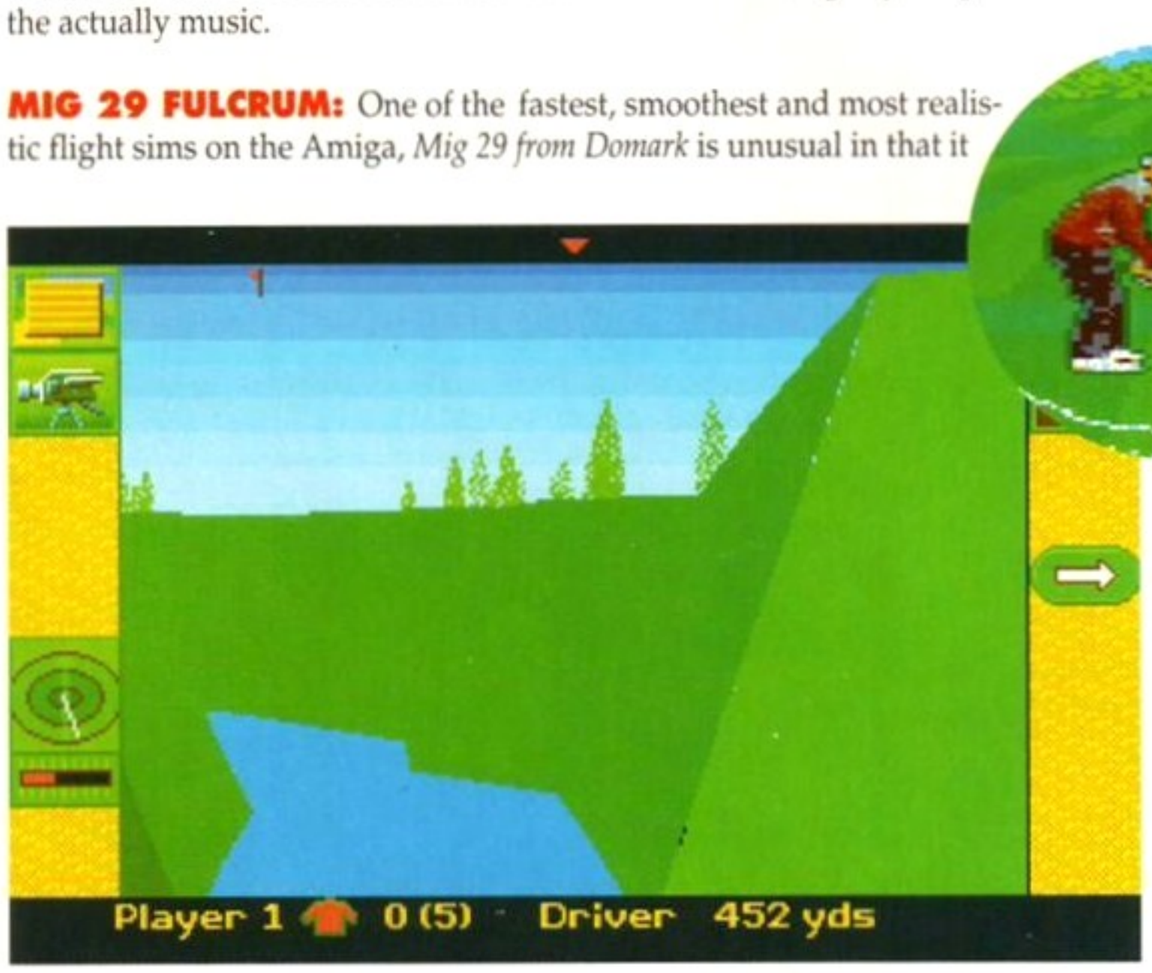
MIDI: Musical Instrument Digital Interface. A standard code by which compatible (MIDI- equipped) devices, such as computers and a synthesisers, can communicate with each other, and can exchange files. The strangest upshot of this is that, using an Amiga with a MIDI interface, you could control an entire orchestra of electronic instruments. MIDI essentially deals with the way in which the data is stored and transferred rather than having anything to do with the actually music.

MIG 29 FULCRUM: One of the fastest, smoothest and most realistic flight sims on the Amiga, *Mig 29 from Domark* is unusual in that it is set in the Russian Air Force. The action is exhilarating and the only minus point is that the game only has five missions. Received a 90 per cent ***Amiga Format*** Gold rating in March 1991. Release price £34.99. (See Flight Sims).

MILLENIUM: Millenium is one of the many science-based companies to set up shop within the science parks of Cambridge. The company has been in existence for four and a half years and produces a small number of games each year, though these are distributed by Electronic Arts. The company's first mainstream Amiga game was *Resolution 101*, a futuristic cops and robbers game which featured some superb 3D and a great plot. Since then Millenium has really made its mark with the *James Pond* series of games which have become enormously successful. With an eye to the future, Millenium has invested heavily in CD-ROM technology. Its first game to be released on this format will be *Daughter of Serpents*, a cinematic role-playing adventure. Contact: Millenium, Quern House, Mill Court, Great Shelford, Cambridge, CB2 5LD. Tel: 0223 844894. Fax: 0223 844918.

MILLER, TONY: Systems operator of the 01 For Amiga Bulletin Board Service. (See 01 For Amiga).

MINDSCAPE: Geoff Heath formed the company in 1982 after he realised that the software industry was going to be big business. The company soon acquired distribution rights to all of Software Toolworks programs in this country. This meant that programs such as *Mavis Beacon Teaches Typing* and *Chessmaster* got their British release. Mindscape merged with Software Toolworks in 1990, thus creating a transatlantic company. Since then Mindscape has moved almost wholly into software development.





All over a sudden over the last two years, the Amiga has been smitten with a variety of really very good golf sims indeed (for years the whole world was forced to play *Leaderboard*). We have had *PGA Tour Golf*, we have had *Links – The Challenge of Golf*, and (above) we have *Microprose Golf*.



Mindscape's *Wing Commander* came to the Amiga from the PC – an achievment that no one said would ever be possible. It was, and it's worth it too.

The company is also responsible for the entire *Ultima* range of role playing games and all Renegade releases. Mindscape produces a piano tutorial package called *The Miracle Piano Teacher* system and a wide selection of CD titles such as *Sherlock Holmes Consulting Detective*. Contact Mindscape at Priority House, Charles Avenue, Maltings Park, Burgess Hill, West Sussex RH15 9PQ. Tel: 0444 246333

MINER, JAY: One of the team of three who developed the original Amiga . (See Amiga, History Of).

MINTER, JEFF: Programming guru, new man, hippy, resident of Wales and llama lover who runs the Llamasoft programming company. Jeff eschews the traditional approach to programming and marketing his games in that he relies on creating interesting games which sell themselves. So far this approach has proved highly effective. His latest game *Llamatron* was released on to the Shareware circuit and includes a very witty text file detailing exactly what's wrong with the computer industry (mainly lots of bread-heads with Next city suits).

MIRACLE PIANO TUTOR: This software and hardware package from Software Toolworks, which comes complete with its own keyboard received a 93 per cent ***Amiga Format*** Gold in March 1992. The idea is to learn to play piano from computer tutorials. The program plays a tune while showing you the musical score and a picture of the keyboard with the keys highlighted in time with the music and progresses to more difficult exercises. It's an excellent tutorial program which is interesting and easy to follow. It also includes potted histories of famous composers. Release price £299.

MIRRORSOFT: A large software publisher/developer which was part of the Robert Maxwell empire (see Maxwell, Robert) and went down the pan along with the Daily Mirror pensions fund and various Maxwell companies following Maxwell's interesting time with a yacht and the Mafia/CIA/Rum/Mossad, somewhere off the Canary Islands.

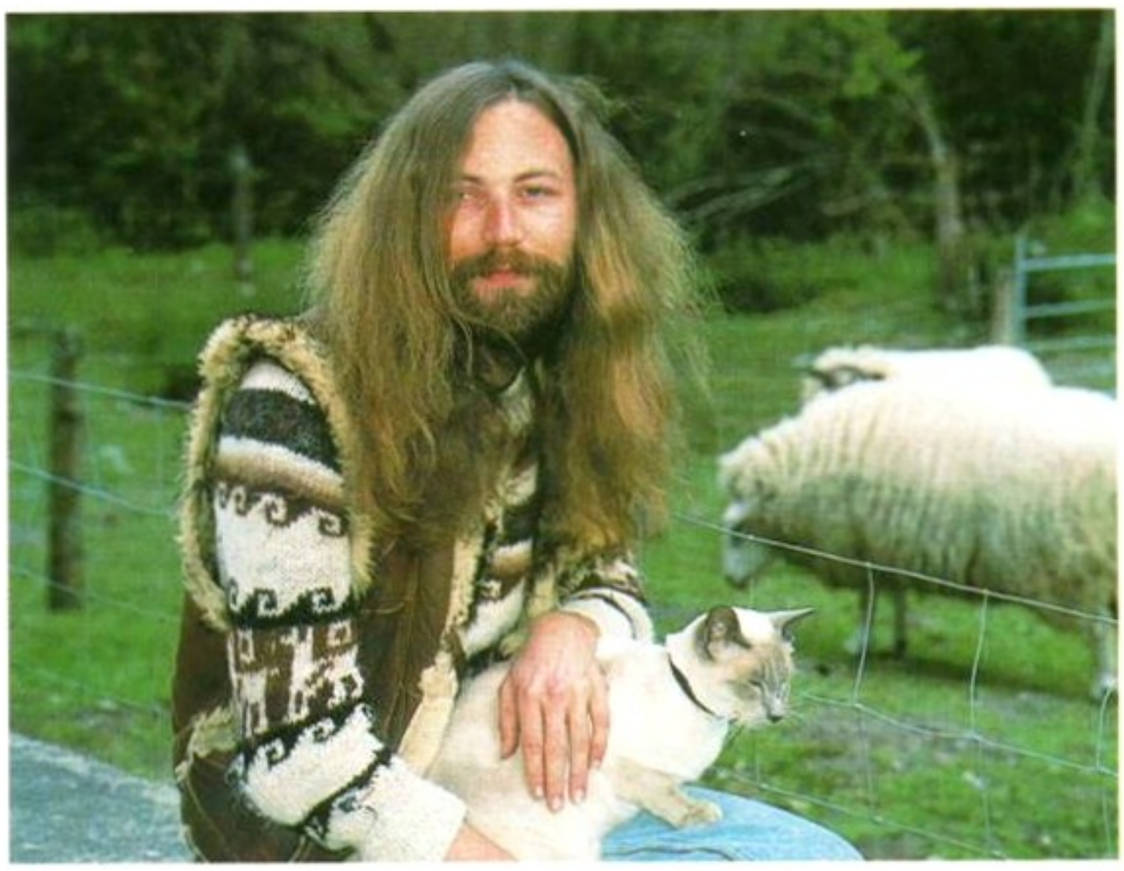
Mirrorsoft was formed in the mid-80s, when everyone with a few quid to spare was diversifying into the software industry. The company's first release was an import from America a Role Playing Game called *Dungeon Master*. It continued to release bought-in games up until 1992. Mirrorsoft's best games included *Xenon 2* , *Mega-lo-Mania*, *Bloodwych*, *Interphase*, *Gravity*, *Cadaver*, *The Killing Cloud*, *The Turtles* and *Speedball* 2. Mirrorsoft was legendary among computer journalists for being one of the companies you could guarantee would whinge to editors, publishers and managing directors if one of its games came in at under 90 per cent (we can't name the others at the moment because some of them are still in business, and would whinge).

MIX & MATCH: An excellent educational program from Scetlander, a company that produced packages exclusively for school use before moving into the home computer market. *Mix & Match* is aimed at encouraging children to learn by recognising and matching various items. The program received a 90 per cent ***Amiga Format*** *Gold* rating in August 1991. Release price £24.99.

MONKEY ISLAND 2 – LECHUCK'S REVENGE: US Gold's sequel to the excellent *The Secret Of Monkey Island* this game continues the graphic adventures of Guybrush Threepwood and the dastardly pirate Le Chuck. This time the action takes place on Scabb Island, and among the main characters are: Mad Marty, Woody Carpenter, Bart and Fink, and The Voodoo Lady. Opinions vary about whether this game is better than the original *Monkey Island*, what is certain is that they are both among the very best of Amiga games. *Monkey Island 2 – LeChuck's Revenge* received a 95 per cent ***Amiga Format*** *Gold* rating in July 1992. Release price £37.99.

MNP: Miracom Networking Protocol. A device used with a modem and telephone line. Up to level 5 MNP filters out any garbage from line noise. Level 5 also uses data compression, so you can get twice as much down your phone line at once.

MODEM GAMES: Games that you can link up through a modem and a telephone line to play against opponents anywhere in the country. There's a commercial variation on this theme whereby you dial up the main game controlling computer and use special software to link into it. Usually you need to pay a subscription to play. The best modem game in this country is *Air Warrior*, an interactive flight simulator in which you play against other people playing the game by modem. Up to 40 people can play at the same time.



Here he is, the demi-legendary, totally unique Jeff Minter (and his cat). Jeff works from his house in North Wales with his company Llamasoft. Man.

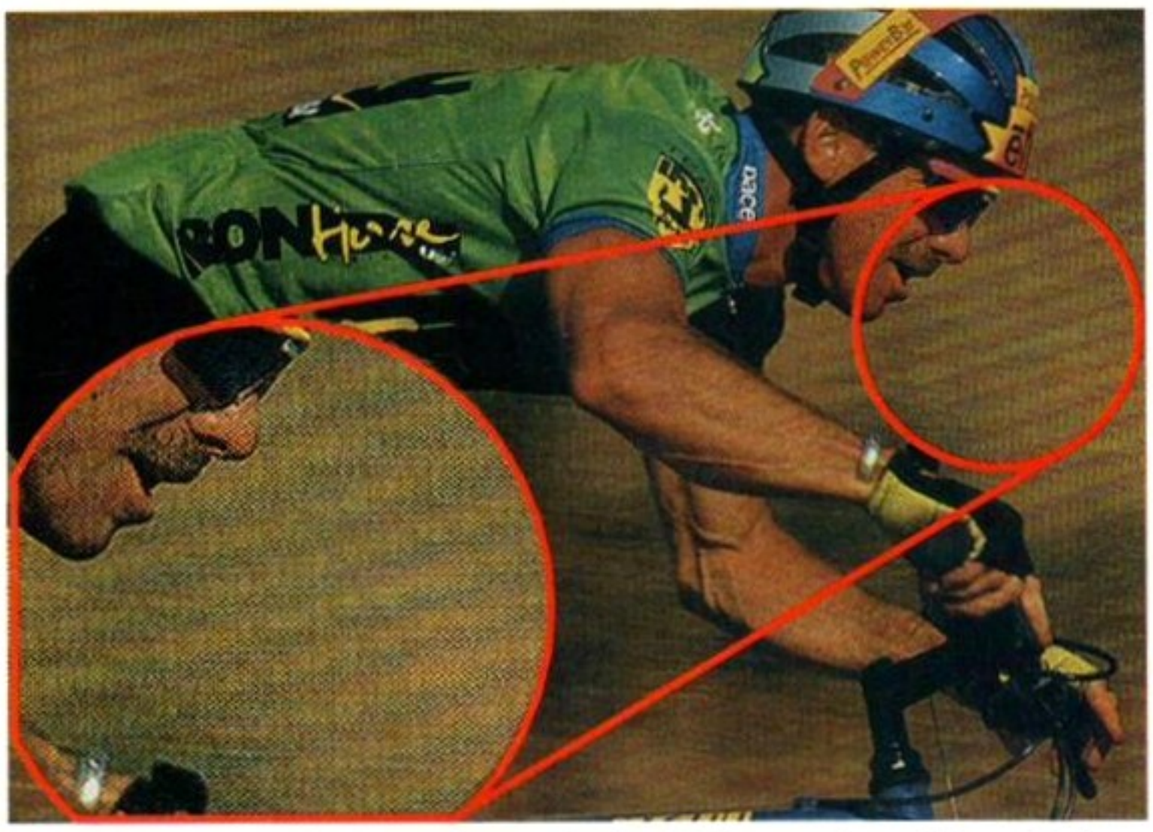


The Miracle Piano System began life on the Nintendo, and has now spread across all the major computer formats. The Amiga, of course, is best.

MODEM: A device that enables you to link up with other computers via a telephone line, modem is short for MOdulator DEModulator. The modem connects via a cable to the serial port at the back of your Amiga and another lead from the modem fits into a standard British Telecom socket. You can then dial the number of another computer on your telephone and send (upload) files to it or copy (download) files to your Amiga. Modems are most commonly used to connect with Bulletin Board Services, but are also used by journalists to file stories from all over the world, and by anybody else who wants to send electronic messages from one computer to another down a telephone line (See BBS).

MODULATOR: A device used to convert the Amiga's RGB (Red Green and Blue) and audio signals into either RF (Radio Frequency) or television and separate audio signals. Built-in to A600 and A1200 machines.

MOIRÉ PATTERN: The ugly pattern of interference that sometimes occurs when a halftoned (printed) image is scanned. It is caused by the dots of the scan halftone coinciding with the pattern of the printed image. Changing the scan resolution or angle of the input image can sometimes alleviate the problem.



Moire Patterns are the bane of many Amiga DTP'ers, and graphic artists' lives. But there is a way to get around this nasty image processing problem.

MOLYNEUX, PETER: One of the founders of the Bullfrog programming team. (See Bullfrog)

MONITOR: Specialist computer display unit. Although you can use a television set as a monitor, there are many advantages to having a specifically-designed monitor, not the least of which is that other members of the family can watch the television while you are playing *Lemmings* or using a word processing program. Other advantages of the monitor over the television are that they offer better clarity, and (if the monitor has built-in stereo speakers) better sound. If you intend to use your Amiga to run word processing programs, or other programs that demand good visual detail, a monitor is essential.

MONTGOMERY, MIKE: See Bitmap Brothers.

MONUMENTAL MUSIC: Recording studio in Gillingham, Kent, run by Andy Moss and Blane Turner, which was one of the first to use the Amiga as the in-house computer, rather than the more usual ST Atari or Mac. Many people think of computers being used only for sequencing and sampling with dance tracks, but Andy and Blane specialise in 60s and 70s psychedelic sounds. They say using an Amiga has speeded up production immensely and produces a better-sounding end product than with traditional methods (See Audiomatrix).

MORPHING: Morphing is a relatively new, but potentially brilliant, visual effects function. The basic principles of morphing are that one image is transformed into another by physically warping prominent features of the first into the form of the second. Ech step of the morph is saved as a frame so the whole transformation can be animated. The most well-known example of this process is the part of Michael Jackson's *Black Or White* in which the faces change from one person to another.



MORPH PLUS: ASDG's *Morph Plus* is a very powerful image transformation program, and is also a mini version of the *Art Department Professional* image processing software. Morph Plus received a 90 per cent Amiga Format Gold rating in January 1993. Release price £199.99. (See Morphing).

MORSE, DAVE: See Amiga, History Of

MOSS, ANDY: See Monumental Music.

MOTION PICTURE HOUSE: Software house that produced a futuristic space/flight sim called *Warhead* in 1990. This was the only project that MPH completed, at least as MPH, which is perhaps a little surprising as *Warhead* is a great game, despite a few problems. The game combines blasting alien ships with a fair amount of strategy and tactics, and earned an 88 per cent rating when it was reviewed in ***Amiga Format***.

MOUSE: In the early days of computers the only way to control the machines was by typing in instructions in computer language . This obviously limited the use of computers to people who understood that language and severely restricted their use as home-based machines. All that changed when the Window Icon Menu Pointer (WIMP) system was developed. Instead of communicating with the computer through the keyboard the user could now perform functions by selecting functions with an on-screen pointer. That pointer is controlled by the mouse. Mice come in different shapes and sizes but all work in the same way. Within the lump of plastic that sits under your hand is a weighted rubber ball. As you push around the mouse, the rubber ball turns three little rollers which read horizontal and vertical movement and speed. Therefore the rollers move in different directions depending on which way you move the mouse. The Amiga reads and interprets this information and moves the pointer on screen accordingly. Clicking on the mouse buttons simply turns a switch on or off, and again the Amiga interprets that information accordingly to select or highlight options on the screen. (See WIMP)

MOUSESTICK: See Gravis Mousestick.

MUGICIAN: A self-contained sequencer and soundchip tune creator, released by Thalamus early in 1991. Mugician enables you to create tunes and play them back just using your Amiga. You can play notes direct from the Amiga's Qwerty keyboard. Although it has a few peculiarities, Mugician came highly recommended by ***Amiga Format,*** particularly as it only cost £29.99 when it was first released.

MULTIMEDIA: Multimedia is all about the integration of hardware and software. Essentially it is the combination of new storage mediums such as CD with an accessible user interface and state-of-the-art graphics and sound. It's not so much about any one kind of software, but new kinds of software. Commodore's CDTV is a multimedia machine. Examples of multimedia packages available at the moment include karaoke disks and encyclopaedias. You can squeeze 550Mb of information on to a CD meaning that applications such as encyclopedias can have colourful graphics, sound and even animation. Other applications include interactive movies, using real action from the film or interactive atlases in which photographic quality images are used.

MULTISYNC 4FG: This monitor from NEC is one of the best available for the Amiga and received a 93 per cent ***Amiga Format*** *Gold* rating in an extensive monitor survey in September 1992. Its only disadvantage is that it needs an additional flicker fixer, and at £599 (release price) it's not cheap.

MULTI-TASKING: A process whereby the Amiga can perform more than one task at a time. With the advent of advanced computers such as the Amiga this kind of process has become easier because the processors can handle vast amounts of information quickly and easily.

The advantage of multi-tasking is that you don't have to keep loading different programs. You could, for instance, have a DTP program and a word processing program in memory at the same time and feed data from the word processor into the DTP program.

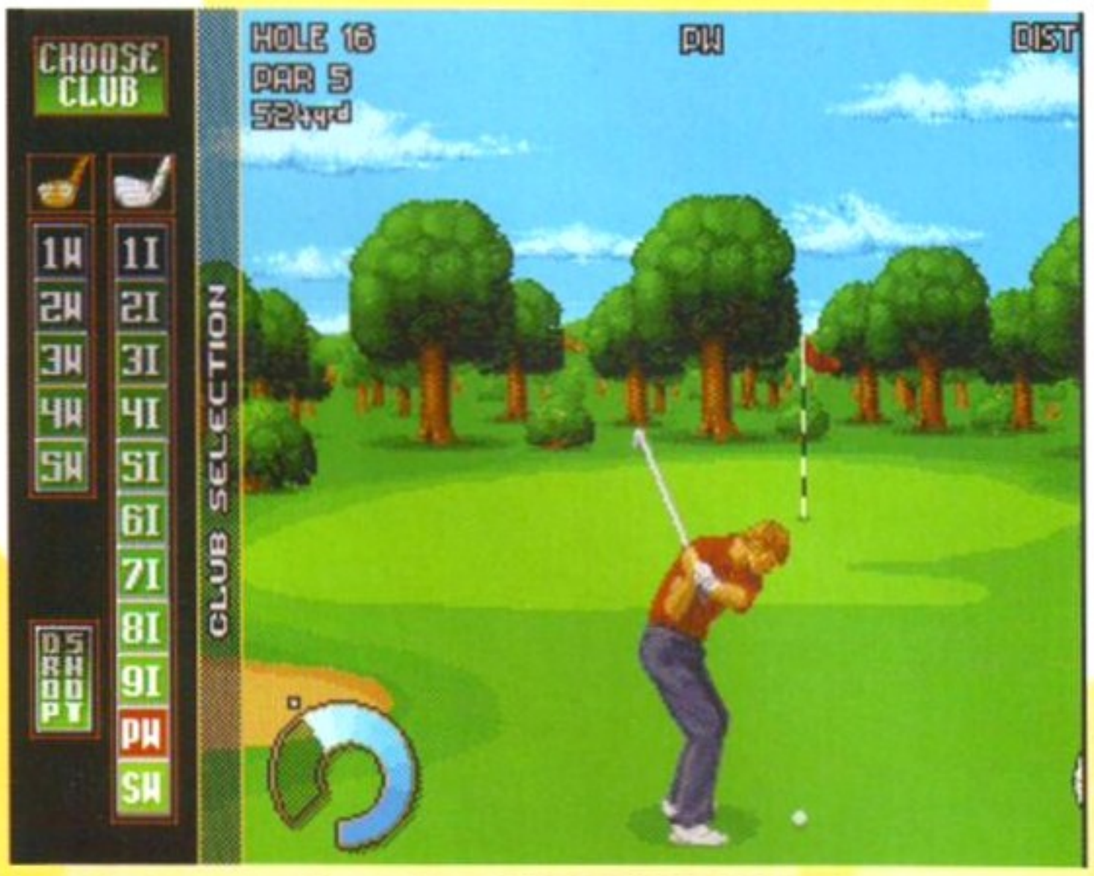
From *New Zealand Story* to Null-Modem Games with a subtle dip into NLQ and NTSC

NEW ZEALAND STORY: Superb 'cute' platform game from Ocean which was released in August 1989. You control a little yellow kiwi bird which comes equipped with running shoes and a bow and arrow. *New Zealand Story* is very similar to *Bubble Bobble* and *Super Mario Brothers* in that the graphics are large and colourful and the emphasis is most firmly on jump and avoidance movements. The game received an ***Amiga Format*** gold rating of 94 per cent in AF 38 at a release price of £24.99.

NEXT TECHNOLOGY: See Brown-Martin, Graham.

NICK FALDO'S CHAMPIONSHIP GOLF: A particularly realistic golf sim from Grandslam, that manages to combine good graphics with speedy gameplay. Some people find the control system a touch on the tricky side, but once you've mastered that, the game makes compulsive playing. *Nick Faldo's Golf* received a 90 per cent ***Amiga Format*** Gold rating in February 1993 and costs £34.99

NLQ: Stands for Near Letter Quality. Most modern printers offer at least one NLQ font, for printing finished documents to a high standard. Printing in NLQ mode usually slows down the printer. It works by making two or sometimes three passes across the paper, overlaying one dot partially over another. This creates a far better grid of dots and thus far more legible text. Top of the range printers also offer SLQ (Super Letter Quality) fonts.



Love the trousers, old man. Even in *Nick Faldo's Golf* the players look like they've walked out of an episode of *Starsky and Hutch*.

NTSC: National Television Standards Committee – the US colour TV system prevalent in many parts of the world which has 525 lines running at 30 frames per second. The Amiga 1200 is capable of displaying graphics on an NTSC TV or monitor as well on PAL equipment.



Gremlin's *Lotus 2* is an example of a null-modem game. By playing another person rather than the computer, the game comes alive.

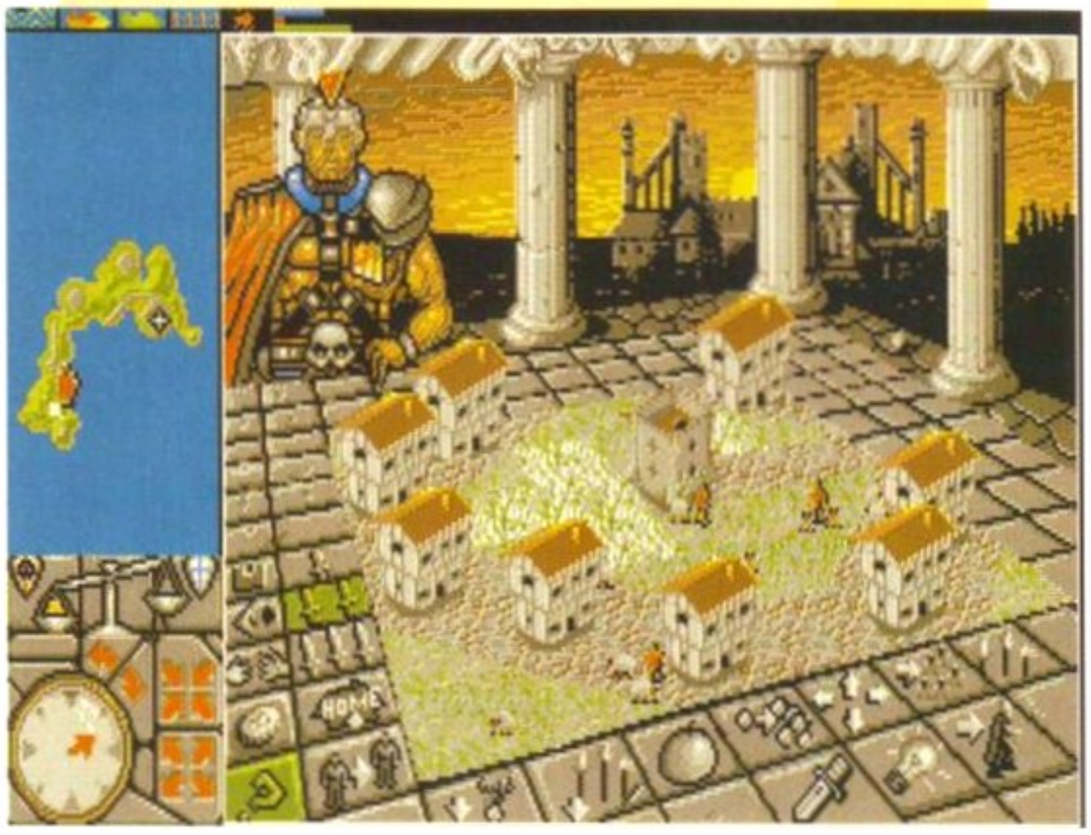
NULL-MODEM GAMES: Games designed to be played by two players using two Amigas, that are linked by a null-modem cable. With a racing game such as *Lotus 2* this enables you to race against your opponent rather than the computer. This kind of game is immensely enjoyable because computers become predictable, whereas human players are always capable of acting randomly. *Falcon*, the flight simulator is the best null-modem game as it enables you to dogfight another player in real-time.

NUTTALL, ANDREW: Otherwise known to the great unwashed as *Nutts*. Andy is an ***Amiga Format*** staff writer and Welshman. Prior to joining the ***Amiga Format*** rabble he completed a degree in Electronic Engineering, but finds himself unable to advise anyone to do the same. His favourite type of game is the graphic adventure.

NOONAN, DAMIEN: Ex-editor of ***Amiga Format*** and now assistant publisher of same. Damien started his journalistic career by creating a listings magazine in Nottingham. He joined Future Publishing's *ACE* magazine in August 1988 and then became the first production editor on ***Amiga Format*** in August 1989. After Bob Wade left to launch *Amiga Shopper*, Damien became editor, a position he held until January 1993. He favours black clothes.

NORDIC POWER ACTION CARTRIDGE: A cartridge that enables you to grab music and graphics from programs and load them into art or music programs. Released in mid-1990 this was the first action cartridge for the Amiga. The cartridge also enables the user to break into the program code and change elements of the program – for example, create extra lives in a game. Despite a few annoying quirks the Nordic Power Action Cartridge is a useful device, but should not, of course, be used in any way that infringes copyright.

NOVAGEN: Now bust production company behind Paul Woakes's *Mercenary* games. It disappeared shortly after the release of *Mercenary 3*.

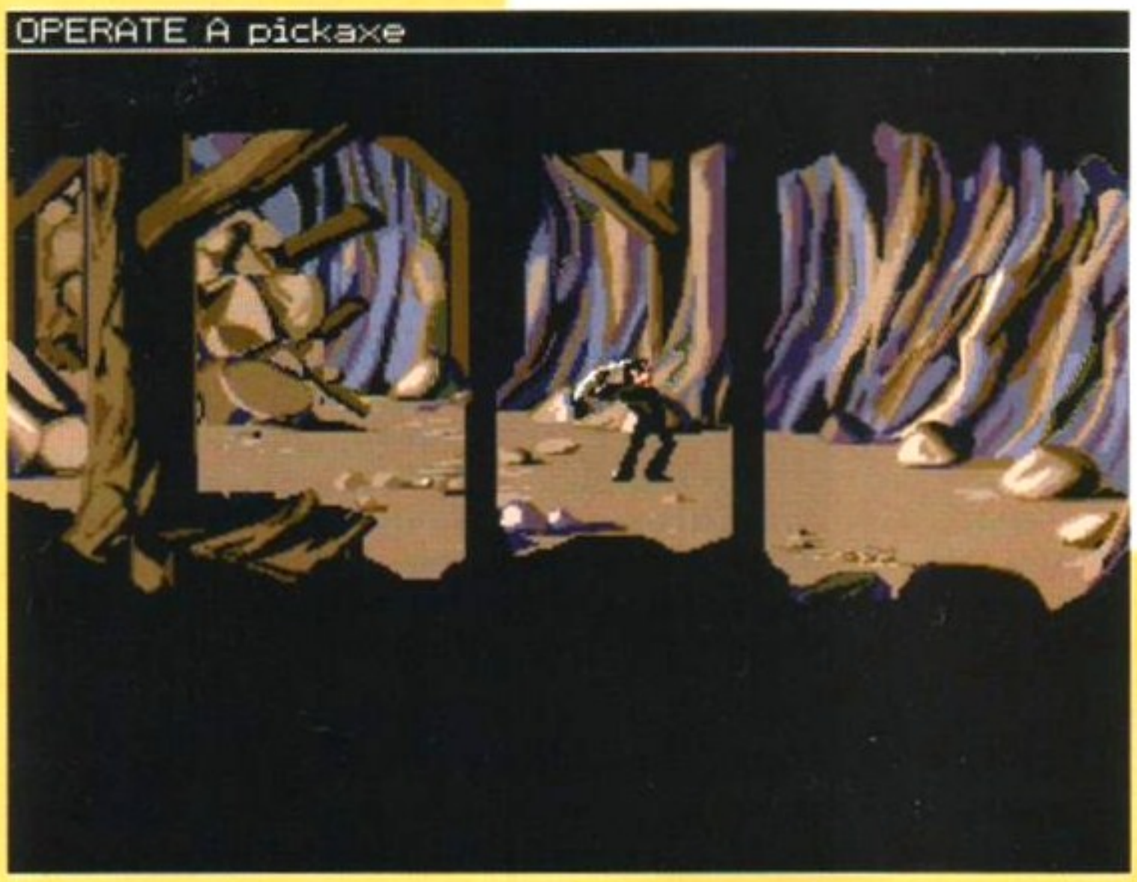


Null-modem: Peter 'Bullfrog' Molyneux's favourite game is the null-modem version of *Powermonger*. You can also play this over a modem link.

From Ocean to Overscan, taking in views of *Operation Stealth*, On-line and Ortman

OCEAN: The early '80s was an amazing period in the computer games industry. Some companies rose to prominence, others disappeared without trace. Ocean was one of the success stories and is now one of the top two software publishers in the UK and a major force abroad. David Ward and Jon Woods founded Ocean in 1983 in Manchester, setting up in a warehouse on the banks of the river Irwell which was previously owned by Manchester venture capitalists of the Victorian era the Ralli Brothers. In 1988 Gary Bracey of Ocean told a reporter on ***Amiga Format*** that he was debating whether to buy an Amiga for the company in order "to assess the opposition's software." Lord only knows how many Amigas Ocean own now, but since then the company has gone on to produce a plethora of licensed and original games software for the Amiga; including the *Robocop* series, *Epic Batman* and *Wizkid*. Contact: Ocean, 6 Central Street, Manchester, N2 5NS. Tel: 061–832 6633.

ON-LINE: Regarded by many as the best Bulletin Board Service for games software. On-Line also features a number of multi-user games which enable you to play against other users. The best example of these is *Air Warrior*, a flight sim in which all the other pilots are controlled by other users. Indeed, if you choose a bomber plane, then your gunners can be modem friends too. Contact On-Line on the enquiry number 081-558-6114. (See BBS)



If you enjoy testing your deductive skills rather than your joystick mangling ones, then check out Delphine's *Operation Stealth*.

OPALVISION: *OpalVision* is a 24-bit card and paint package from Opal Technology and Centaur Development that uses the Amiga's graphic capabilities to the full, and enables you to create some stunning results. It's a sophisticated program with rub thru, watercolour, pencil and chalk functions which means that practically any effect can be achieved and because these are in true colour, they are of broadcast quality. It's certainly an exciting, and relatively new development in Amiga graphics and is most likely to be of use to small video production companies. It received a 96 per cent ***Amiga Format*** *Gold* rating in December 1992, issue 41. Release price £800.

OPERATION STEALTH: A humourous and classy graphic adventure that revolves around your mission as CIA agent John Glames to retrieve a American Air Force Stealth bomber that has gone missing over the banana republic of San Paragua. In order to discover the whereabouts of the bomber you must ask questions, find clues solve puzzles and extricate yourself from various tricky and bizarre situations. *Operation Stealth* is a quality game with lasting appeal. It received a 90 per cent ***Amiga Format*** *Gold* rating in October 1990 (AF 17) and cost £24.99 when it was first released by US Gold.

ORTMAN, MATHIAS: German programmer who created the totally wonderful Mandel Mountains Public Domain program that enables the user to render impressive, and we're talking really impressive 3D images of the Mandelbrot fractal set on the Amiga. The images are truly astonishing, but surprisingly this is the only example of Ortman's programming talent that we've heard of at ***Amiga Format.***



***Ocean* is famous for its big-name games, one of which is *Epic*, a 3D space game that cost a lot of money, got a lot of hype and wasn't very good.**

OTHER GUYS, THE: Software house that released the *Math-a-Magician* children's education package. As the name suggests this is a maths program aimed at making arithmetic fun. The program displays a sum in large friendly letters, reading it aloud as it does so. The child answers the sum and if they get it wrong they are encouraged to try again. A correct answer results in a large whizzy graphic of the magician, a wise owl sort of character, appearing on the screen.

OVERSCAN: To ensure that a TV picture reaches the edge of the average video screen a system called overscanning is used. This is really just a picture bigger than the displayed TV area. A typical, though memory hungry, Amiga overscan resolution is 768 x 576 pixels in hi-res, but variations are very widespread.



Well obviously the grass is symbolic of the changing nature of humanity in the 20th century. Create your own artistic dilemmas with *OpalPaint*.

PAL to QWERTY with a thorough inspection of Parasite, Pixel, Probe and *Putty*...

PAL: An abbreviation of Phase Alternation by Line. The colour TV system used in the UK (and many other countries) which has 625 lines at 25 frames per second. (See also NTSC).

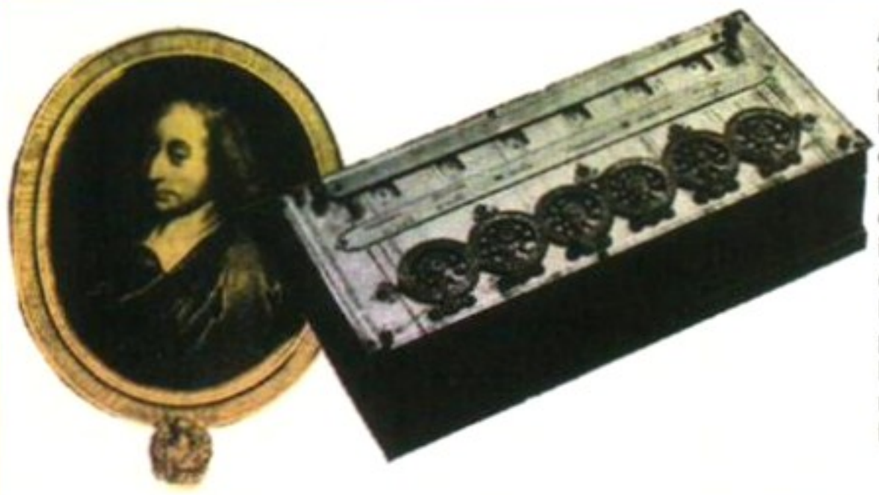
PALETTE: The menu of colours at your disposal in a paint program. Sometimes called a paint box. You will normally choose a limited number of on-screen colours from a vast palette.

PACIFIC ISLANDS: Impressive war game from Empire in which you control 16 tanks. The aim is to liberate the Yama Yama islands from the North Koreans, and to do so you must combine shoot-em-up skills with tactics and strategy. This makes *Pacific Islands* a touch more interesting than a standard shoot-em-up and earned the game a 93 per cent ***Amiga Format*** *Gold* rating in June 1992 (*AF*35). Release price £29.99.

PAGESTREAM 2.2: Soft Logic's *Pagestream 2.2* is quite simply the very best Desktop Publishing program available for the Amiga at present. The program is flexible and accessible and has everything you need to produce top-quality results in terms of fonts, colours and layout facilities. The program received a rave review and is still considered to be very, very difficult to beat – it also managed to achieve an ***Amiga Format*** *Gold* rating of 91 per cent for itself in May 1992 (*AF*34). Release price £199.

PANDORA: Software house responsible *Xenomorph* (83per cent in June 1990, *AF*11) one of many games that cashed in on the success of the film *Alien*. *Xenomorph* is a space-age blast-em-up, with a strong element of strategy that basically involves you setting out in search of other space ships that have headed off for a distant solar system, never to return. It 83per cent rating was due as much to the 'inspired' environment that the game created as it was to the amount of gameplay that was involved.

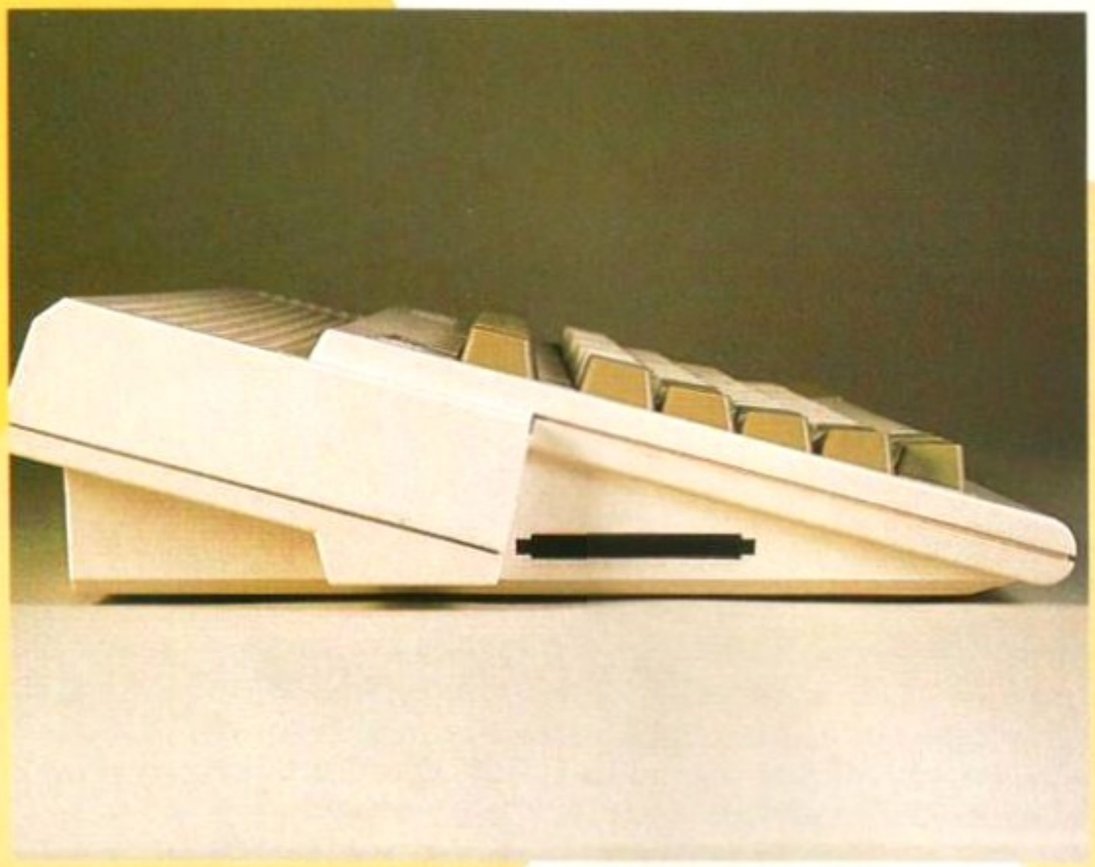
PARASITE: A form of computer virus. See also Virus, Trojan and Linkvirus.



Among other achievements, French mathematician Blaise Pascal created this innovative calculator. He also has a programming language named in his honour.

PASCAL: Programming language named after mathematician Blaise Pascal, the the 17th Century inventor of the first four function mechanical calculator. Pascal is an old, structured and largely redundant language only taught to computer science students who are led to believe it's still used in the real world by lecturers who opted out of the real world circa 1972. The language is most suitable for creating text based programs, but as it is a compiling language (that is it can be converted into machine code) it can be used for other applications if you're prepared to have reams of code.

PCM CARD: The Personal Computer Memory card is about the same size as a credit card, but is capable of storing vast amounts of memory, and therefore all sorts of software. But what makes the card really special is that it is compatible with other computers. At the moment it production costs are high, but Commodore must think it has a future because there are PCM card slots on the new A600s and A1200s (replacing the edge connector which had previously enabled add-ons to be connected to the A500 range of Amigas) and Commodore has already said it would be easy enough to release PCM card adaptors for other models.



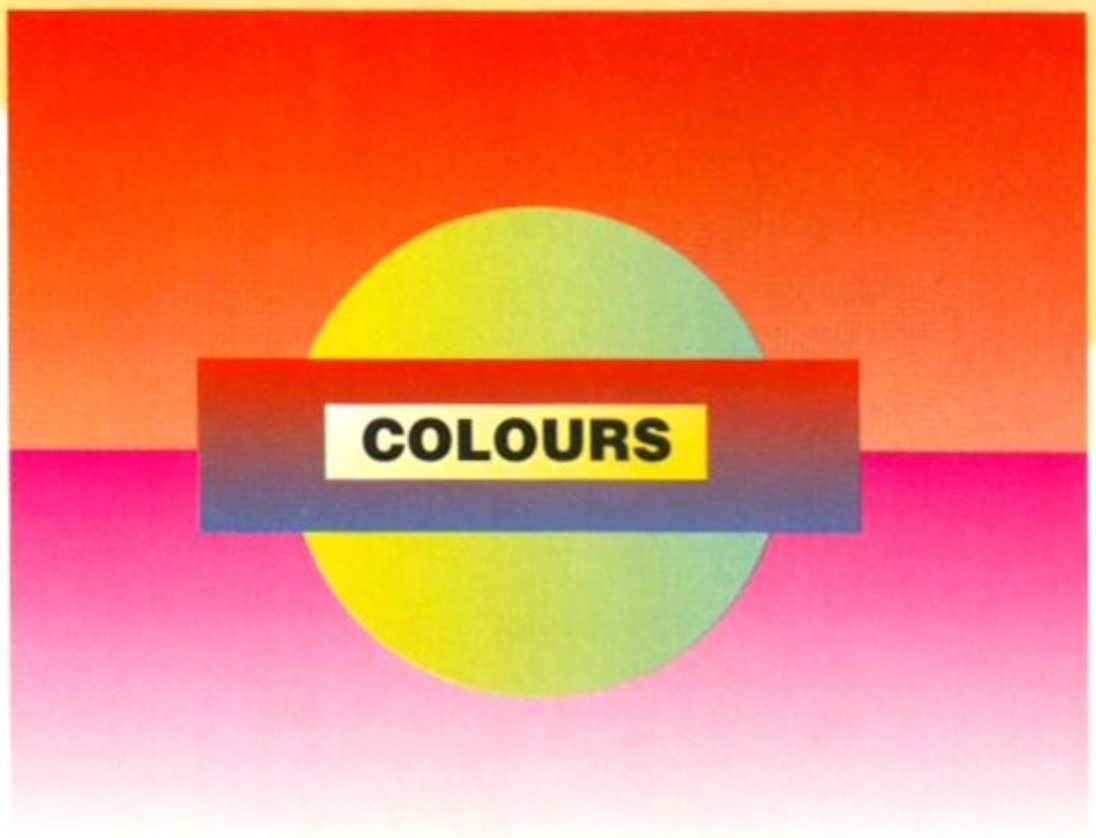
The PCMCIA slot on the A600 and A1200 meant the death of the A500s edge connector, but means that RAM upgrades have never been easier.

PCMCIA: Stands for Personal Computer Memory Card International Association, a high-powered group representing the major computer companies which is looking into and regulating the development of the PCM card (See PCM Card).

PD: Stands for Public Domain. When software programmers waive their copyright the software becomes Public Domain and can be freely copied. PD software is available from Public Domain libraries, run by Public Domain companies and is freely available on various Bulletin Board Services (BBSs). Public Domain programs are not issued via commercial publishers and are therefore very cheap, the only cost is usually that of the disk on to which the program (or more normally, the programs) are copied and administration.

PD software can be freely distributed, as long as you don't make a profit from it. The quality of PD software varies extremely widely. One of the most famous names in the Public Domain is Fred Fish.

Fred is an American who has collected all the best PD programs for a wide range of computers. If you want to get started in PD, going for an Amiga Fish Disk is a safe bet; there's even a CD-TV Fred Disk available. The only restriction on copying PD software is that the author should be credited on all copied versions. (See Fish, Fred and BBS).



The range of colours available on your Amiga is referred to as the palette. If you have an A1200 you can produce vibrant colours like these.

PERRY, STEVE: See Audiomatrix.

PET: Commodore's first outing into the home computer market was with the PET (Personal Electronic Transactor) in 1977. The computer featured an all-in-one case with monitor and was described on adverts of the time as the first 'plug-in-and-go' computer. The PET featured a 6502 central processing unit which ran at 1MHz. It came with 32K of RAM and 20K of ROM and came with just the BASIC language. It cost £775. The computer was not capable of high resolution graphics, it simply used character sized block graphics. Although the computer was widely respected at the time, in comparison to the modern Amiga range it had all the features of a digital watch. Thanks to chronic under-funding you're still likely to find a few of these knocking around in school science labs.

PGA TOUR GOLF: Electronic Arts' *PGA Tour Golf* is still one of the best golf games available for the Amiga despite being almost two years old – late middle age in Amiga games terms. The game features pleasant 3D countryside graphics which are drawn speedily and effectively, superb sound effects, realistic action and excellent gameplay. Received a 90 per cent ***Amiga Format*** *Gold* rating in May 1991 (*AF*22). Release price £24.99.

PHASOR STRIKE: Early example of a quasar-style game based in Blackpool. Competitors put on a control pack and are given a light gun, then divided into two teams and taken into a large warehouse-style area full of ramps and smoke and dark corners. They then proceed to blast the hell out of each other with their light guns, the team that scores the most hits wins. It's all great fun, but what has it got to do with the Amiga? Well, the lighting, sound and other special effects at the Blackpool Phasor Strike are all controlled by a couple of Amiga 2000s.

PINBALL FANTASIES: It's perhaps a touch strange that a computer game based on a mechanical arcade game should prove so popular, but there's no doubt that 21st Century's *Pinball Fantasies* has successfully brought the silver ball to the Amiga screen. The game is just a faithful pinball reconstruction with all the usual bonus shots and has a choice of tables. Not as good as the real thing, but an addictive game, with excellent graphics, and an improvement on the previous venture, *Pinball Dreams*. *Fantasies* got a 90 per cent ***Amiga Format*** *Gold* rating in December 1992 (*AF*41), is a firm favourite in the *AF* office and cost £29.99 when it was released. *Pinball Fantasies* features four superb tables, each one appealing to a different kind of player.



***Pinball Fantasies*: combines the Amiga standards of great gameplay and superb graphics.**

PIXEL 3D 2: An excellent program from Axiom, that is a must for anybody who uses their Amiga for working on 3D images. The program enables you to view 3D objects from any angle, move, zoom in and rotate them, and load and save them in virtually every format currently in use on the Amiga.

This genre of program has revolutionised the television programs and adverts we see everyday; the most recent advert to use this kind of software is the Nouvelle kitchen paper one. Bear in mind that, as with all 3D programs, you will need to use an accelerator to get the most out of *Pixel 3D 2*. Received an ***Amiga Format*** *Gold* rating of 95 per cent in April 1992 (*AF*33). Release price £95.



***Parasol Stars* is the follow-up to the phenomenally successful *Rainbow Islands* created by ace-Amiga development team , Graftgold.**

PIXEL: The word pixel is derived from two words: PIX ELement (Pix being shorthand for pictures). A pixel is often described as a dot of colour. More accurately a pixel is like an open square on a bit of graph paper (except its on your screen). Images are created by colouring in each individual square or pixel.

PIXMATE: An image enhancement software system from Progressive Peripherals and HB Marketing. *Pixmate* enables you to process graphic images with extremely powerful manipulative tools. Conversion between screen formats is possible, and it has special tools, such as colour mapping, histogram testing, and colour palette reduction. Although a little on the old side, it's still an extremely useful image manipulation program.

PLATFORM GAMES: One of the biggest criticisms of Amiga games is that they are simply a test of eye/hand coordination, that basically all that's being tested is the stress limits of your joystick; when it comes to platform games this is entirely true. Real platform games combine jumping, collecting and bashing with an utterly bizarre plot. The first Amiga platform game to make any impact was *Bubble Bobble* from Firebird, released in 1988. This featured a cute dinosaur who minced around the platforms enveloping baddies with bubbles. 1989 saw the release of the popular *Nebulous*. This starred a toad that had to make its way up a tower situated in the middle of the sea. The game had sumptuous graphics and a tremendous amount of playability and a bizarre plot too. The clever thing about *Rick Dangerous* was that it managed to combine 8-bit style playability with 16-bit graphics. The game was a kind of *Indiana Jones* adventure in which you had to manoeuvre your way around traps, spikes and Egyptian bad guys by performing toe-breaking leaps and jumps. Gremlin Graphics released a game which looked a hell of a lot like *Rick Dangerous* in 1990. It was called *Axel's Magic Hammer* and it featured tests of jumping and logical skills. However, it wasn't until later that year that the best platform game of all time was released. The game was *Rainbow Islands* and it was produced by Andy Braybrook's unfeasibly talented Graftgold team. Braybrook made sure that the arcade game was converted to the Amiga as faithfully as possible and to that end he actually disassembled the ROMs inside the arcade game. As a result every nuance of the original game was in the conversion and it proved to be an enormous success. The follow up to *Rick Dangerous* also proved to be successful. *Rick Dangerous 2* was a beautifully programmed platform game with oodles of playability. It included some cunning puzzles, loads of variety and a quirky sense of humour. 1992 saw the release of two more great games, Millenium's *James Pond: Robocod* and Storm's cutesy *Rodland*. Although *Robocod* featured a sprawling series of levels reminiscent of beat-em-ups, it included all the essential jumping and collecting actions which are a platform game's life blood. Then of course there was *Rodland* which was played over 50 screens of increasing difficulty; it scored highly because of the superb simultaneous two-player action. Most recently Ocean has released the two best platform games in ages: *Pang* and *Parasol Stars*. Both of these are conversions of arcade games, the former being a weird mixture of shooting and platform elements. *Parasol Stars* is the follow-up to *Rainbow Islands* and it is brilliant. The game has bright colours, loads of secret bonuses to discover and simultaneous two-player gameplay.

PLAYER MANAGER: Anco followed up the success of its soccer sim *Kick Off* with Player Manager, a game that combines the football action of the original game with the strategic and tactical skills of a manager such as picking the side, and overseeing the scouts and training sessions. Received an ***Amiga Format*** *Gold* rating in May 1990 (*AF10*). Release price £19.95.

POINTER: The arrow which is displayed on screen at the Workbench. It is moved around the screen with the mouse. The pointer was first developed as Window Icon Menu Pointer (WIMP), which replaced the previous way of carrying out functions on a computer by typing in computer code via the keyboard. (See WIMP, Mouse).

POPULOUS: Created by Peter Molyneux and his Bullfrog team, *Populous* was a ground-breaking game in that it didn't fit easily into any of the established categories and was responsible for a new genre known as god games.

In *Populous*, which got an 89 per cent rating in December 1991(*AF29*) you start off with a simple civilisation and by managing the inhabitants well you progress through 1,000 levels gradually building a more complex and sophisticated society. The follow-up game, *Populous 2*, is even better than the original, and a real power trip for those who revelled in the control they were able to wield in the original *Populous*.

In *Populous 2* you must conquer islands and their inhabitants, gradually moving up the ladder of deities and confronting other god figures as you do so. The ultimate aim of the game is world domination. *Populous 2* was programmed on an Amiga using the *Devpac* programming language. It merited a 95 per cent ***Amiga Format*** rating in January 1992 (AF30). Release price £29.99. (See God Games, Devpac).

POWER, THE: Cutesy, addictive puzzle game from Demonware. The idea of the game is to bounce around a series of yellow squares collecting love hearts. It sounds odd, but then show us a puzzle game that doesn't. It sounds simple, but then so does *Tetris*. Despite its less than *Gold* rating, it comes highly recommended and deserves inclusion in retrospect. Received an 84 per cent rating in March 1991. Originally cost £24.99.



POWER COMPUTING: One of the UK's largest retailer and distributors of Amiga software and hardware. Power does not only retail Amiga-products, it also develops for the machine. As Power's Tony Inari commented in January 1993 (*AF42*): "We have many projects under development, and we are working closely with the big players, passing on the latest developments as they happen. Four years ago, an 8Mb RAM board needed over 250 chips. Now the same board can be produced with just four. Watch this space." Contact: Unit 8, Railton Road, Woburn Road Industrial Estate, Kempston, Bedford, Herts MK42 7PN. Tel: 0234 843388. Fax: 0234 840234.

POWERDRIFT: The original *Powerdrift* coin op game was one of those arcade racing games in which you sat in a cabinet and moved from side to side to simulate the feel of a car or bike, while a crowd of spotty kids gathered behind you. Activision's conversion for the Amiga is excellent, despite not having the cabinet. *Powerdrift* is a fast and colourful racing game, which is compelling and addictive. It received a 92 per cent ***Amiga Format*** *Gold* rating in December 1989 (AF5). Release price £24.99.

POWERDROME: A futuristic racing game from Electronic Arts in which you fly a jet fighter through a twisting, turning 3D course. sis fast, has slick graphics and is cunningly addictive. Another plus is that you can link up your Amiga via a null-modem cable to race against another player. Received a 92 per cent ***Amiga Format*** *Gold* rating in the very first edition of the magazine in August 1989 (*AF1*). Release price £24.99.

POWERMONGER: A strategy game from Electronic Arts that received a 94 per cent ***Amiga Format*** *Gold* rating in January 1991(*AF18*). The scenario is that an earthquake shook the world, reforming land masses and destroying political alliances. Three new leaders emerge from the chaos, to challenge your position as top-dog and you must defeat them by recruiting armies, getting food for them from friendly villages, deploying commanders and forces to different parts of the map and generally overseeing every aspect of rebuilding your society and defeating the opposition. Release price £29.99.



***Powermonger* was the sequel to the groundbreaking *Populous*. Both games were created by Peter Molyneux's Bullfrog team.**

POWERSCAN PRO2: An outstanding hand-held mono scanner from Power Computing, that received a 90 per cent ***Amiga Format*** *Gold* rating in July 1992 (*AF36*). The PowerScan pro2 is fast, efficient and exceptionally good value at £99 (release price).

PRECISION SOFTWARE: One of the leading software houses responsible for database programs. Precision Software has released several database programs in recent years from reasonably cheap entry level software to top-of-the-range systems for professional use. ***Amiga Format*** reviewers have recommended Precision Software's *Superbase Personal* as a good basic program, and reckon that *Superbase Pro 4* is probably the best Amiga database program on the market, even though it costs upwards of £400. (See Database).

PRINTER DRIVER: A piece of code designed to produce hard copy on a specific make of printer. Without the right printer driver a program will either refuse to print out at all or else include lots of spurious and thoroughly annoying characters within the text or graphics. It's important to find out whether or not there's a driver for your particular brand of printer whenever you buy a new package. Often, the number of drivers supplied with a program tells you a lot about the quality of the program itself.

PRISM COMPUTER PRODUCTS: Software house that produced the *My Paint* children's education package. This outstanding program offers a palette of 12 colours, fill, symmetrical drawing, a rainbow brush, undo and clear screen. A special feature is a host of line drawings that can be loaded from disk. These can either appear as surprise pictures or be called up and coloured in as normal.

PRISMA SOFTWARE: Software house that released a Play And Read series of packages, one of which, *Prof Plays A New Game*, features the voice of actress Patricia Hayes. The program is aimed at encouraging children to read by matching words on the screen. The child guides figure around a few boxes using a joystick and/or the keyboard. The little man has to match up words by running up to a box to identify a word and then finding the duplicate word. Other titles include *Prof Hunts For Words, Prof Looks At Words* and *Pepe's Garden*.

PROFESSIONAL CALC: An impressive spreadsheet program from *Gold* Disk that makes full use of the Amiga's features and is one of the best programs of its kind for the Amiga. *ProCalc* is fast and makes good use of graphics enabling you to create excellent graphs and charts. Received a 92 per cent ***Amiga Format*** *Gold* rating in May 1992 (AF34). Release price £129.96.

PROFESSIONAL DRAW 3.0: An excellent structured drawing program , a sort of DTP program without the page lay-out facilities, from *Gold* Disk, the only disadvantage for many Amiga owners us that you must have a hard disk to get the most use from it. It achieved a 92 per cent ***Amiga Format*** *Gold* rating from *AF* reviewers in October 1992 (*AF39*). Release price £99.99.

Continued on next page

PROGRAMMER, WORLD'S FIRST: Was female. She was Countess Ada Lovelace, a colleague of Charles Babbage, she was also the wild Lord Byron's only legitimate daughter. She was a gifted mathematician who understood Babbage's Analytical Engine and devised a program for it in 1835. (See Lovelace, Countess Ada and Babbage, Charles.).

PROGRESSIVE PERIPHERALS: US-based hardware developers that produces the excellent 68040 accelerator for the A500. Unfortunately, Progressive peripherals most recent claim to fame is that a fire destroyed a vast amount of its stock in 1992. Contact: 938 Quale St, Lakewood, Colorado, Denver, Colorado 80204-5020, USA. Tel: 0101-303 238 555.

PROJECTYLE: A peculiar sport game from Electronic Arts with five pitches linked by tunnels. The idea is simply to score against the opposition, and anything goes in the effort to get the ball, or projectyle, into the opposition 'onion bag'. The five-pitch scenario seems complicated, but is surprisingly easy to pick up. The game is fiendishly addictive and earned a 90per cent ***Amiga Format*** *Gold* rating in August 1990 (*AF*13). Release price £24.99.

PROTEXT: Excellent word processor and text manager produced by Arnor. *Protext* isn't a WYSIWYG (What You See Is What You Get) program and as a result it offers greater speed and flexibility than its more glamourous competitors. *Protext* utilises control codes to instruct the printer or to alter the layout of text. It comes with a comprehensive dictionary and thesaurus. The *Protext* 5.5 version of the program is regarded as the best one for the Amiga, and it earned a 90 per cent ***Amiga Format*** *Gold* rating in November 1991 (*AF*28).

PROTOCOL: A transfer protocol is a method used to transfer software from the host to the remote computer, as with a Bulletin Board Service. Protocol is best thought of as a set of rules which determine the formats by which information can be exchanged between different systems.

PSYGNOSIS: Liverpool-based software house which will forever be associated with the Amiga. Shortly after the machine's launch the company released a beat-em-up called *Barbarian* which, although not a great game, set new standards in terms of graphics and sound and created a benchmark for other software houses to match. Ironically enough the company is perhaps better known for its extremely distinctive packaging. Its glossy boxes and air-brushed artwork haven't changed since the first release and you can guarantee that there's either a poster, some stickers, a T-shirt or all three in each box. Psygnosis' best known game to date is the famous *Lemmings*. This puzzle game which is four years old, first appeared on the Amiga and immediately created a stir because it was one of the few really original games to see a shop shelf in years. Of particular note are the recent games *Red Zone* and *Bill's Tomato Game*. The former is an innovative motorbike simulation which uses fast polygon animation to give a good impression of high speed motorbike riding. The latter is a peculiar puzzle game in which you need to transport a tomato across a screen using strange props such as trampolines and fans. Lately the company has been spending lots of serious money on a CD-ROM production system. It has two games going through the development process at the moment; namely *Microcosm* and *Dracula*. *Microcosm* is set inside the body of the President of the world's largest corporation. The idea is to neutralise an implant which has been injected into his body. The game promises to be the first decent CD-ROM game on the market, utilising acres of sound and graphics, and is co-sponsored by Commodore itself. Contact Psygnosis on 051 709 5755. Fax: 051–709 6466.



Liverpool-based Psygnosis has attempted most games formats on the Amiga scene. And *Leander* was its attempt at the slick platform game.

PUBLISHER, THE: Feature-packed DTP program from The Disc Company. *The Publisher*'s principle features include style sheets, a postscript interpreter, Adobe outline fonts, flexible text and graphic input and excellent block flow and manipulation capabilities. It also happens to be one of the cheapest DTP programs on the market, retailing at a very honest £49.95. Exceptionally good value for money. It achieved a 92per cent *Gold* rating in February 1993 (*AF*43).

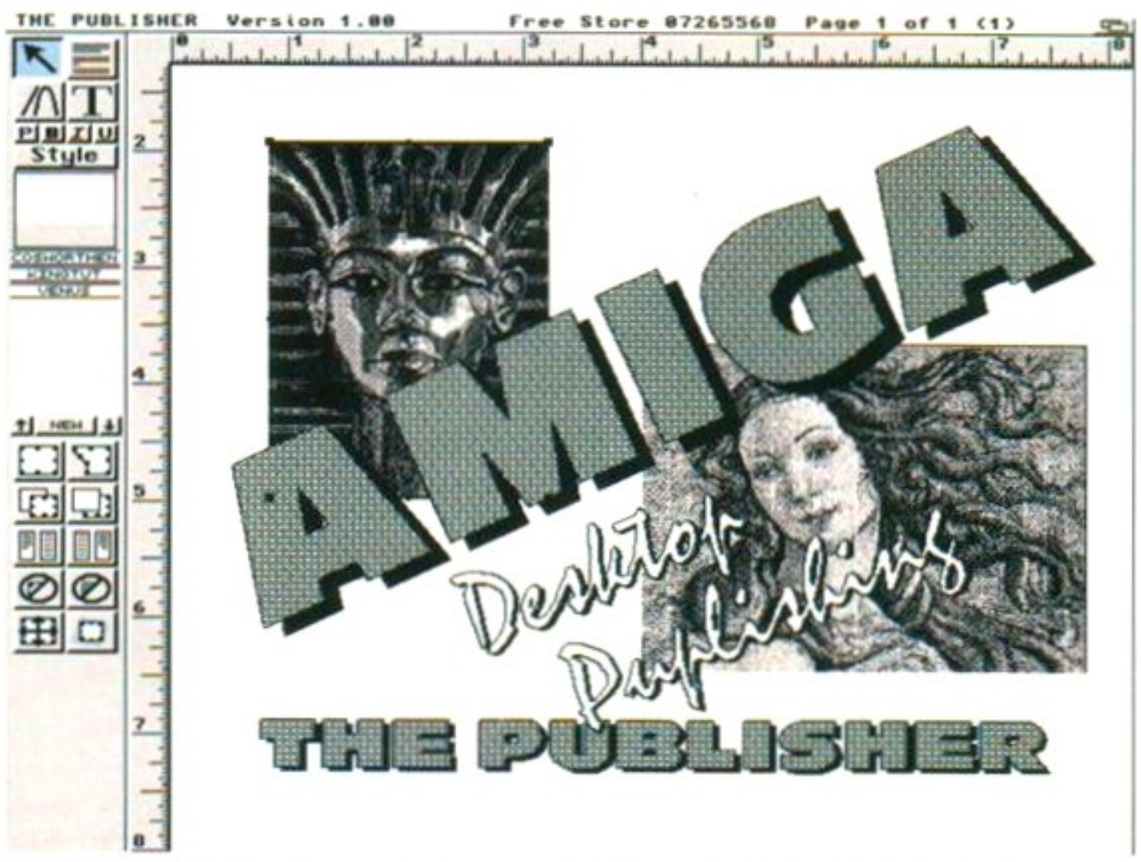
PULL DOWN MENUS: The list of functions and operations contained within the Workbench (or other programs') title bar. To access the Workbench pull down menus just hold down the right mouse button. This will make the menu headings visible. Then move the mouse pointer over the appropriate menu heading. You can then move down the list of menu items and select the function you want by clicking on it with the left-hand mouse button.

PUTTY: A strange squidgy platform game, the hero of which is Putty, an amorphous blue blob that bounces around various levels trying to help the 'Bots' build a tower from the planet Zid to the moon and so save the planet from the unwelcome attentions of Dazzledaze and Dweezil. The game features excellent graphics and many neat touches, which helped earn it a 95 per cent ***Amiga Format*** *Gold* rating in November 1992 (*AF*40). Release price £25.99.



QUENTIN BELL: Commodore UK's press relations company. Responsible for press releases and the occasional competition. Contact 071-379 0304.

QWERTY: Keyboard configuration deriving its name from the key combination on the top row of a keyboard. QWERTY was originally designed to slow typists down, because they kept jamming the metal bars on typewriters. During the early '80s a couple of alternative designs for keyboards, such as Dvjork, and 'Ergonomic' were put forward but quickly disappeared.



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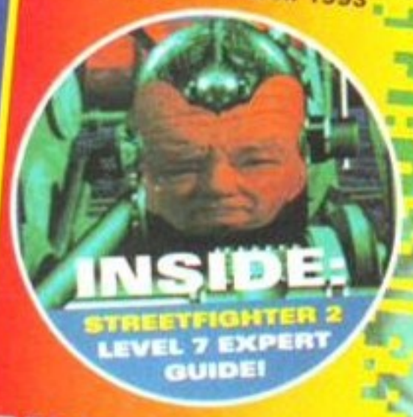
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Presented with the issue are a set of four *Streetfighter 2* postcards, each depicting a character from the mildly popular beat-em-up in a thrilling action pose. The cards are fully functional and can be sent through Her Majesty's Post. There are eight in the set, allowing much common-room swapping and bickering.

R-Type II to Rubber Banding, scrutinising *Rainbow Islands*, RAM, RGB and RPGS...

R-TYPE II: Superb conversion of the shoot-em-up coin-op from Activision which was released in mid-'91. The game includes huge sprites, loads of power-ups and some frantically tough action. It was awarded 88 per cent by ***Amiga Format*** and its release price was £25.99.

RACE TRACE: This program from RGB Software enables the user to smooth the jagged or bitmapped edges from 3D pictures. It does this by transforming them into vectors which can be enlarged or reduced with no loss of resolution.



The age of steam might not have been as romantic as Teledisc would have us believe. Look at all that horrible smoke.

RAILROAD TYCOON: Subtle strategy cum god-game based on the development of an American railway network. The idea of the game is to build up an entire railway system by laying down tracks and commissioning rolling stock to travel on it. Oh and you've got to make a profit from the entire enterprise as well.

You start out life as a humble investor with an easy life, but as you accrue money to become a mogul or a tycoon you'll find an inceasing number of obstacles coming between you and profit. As your railway network grows, so the problems involved in keeping it all running smoothly increase.

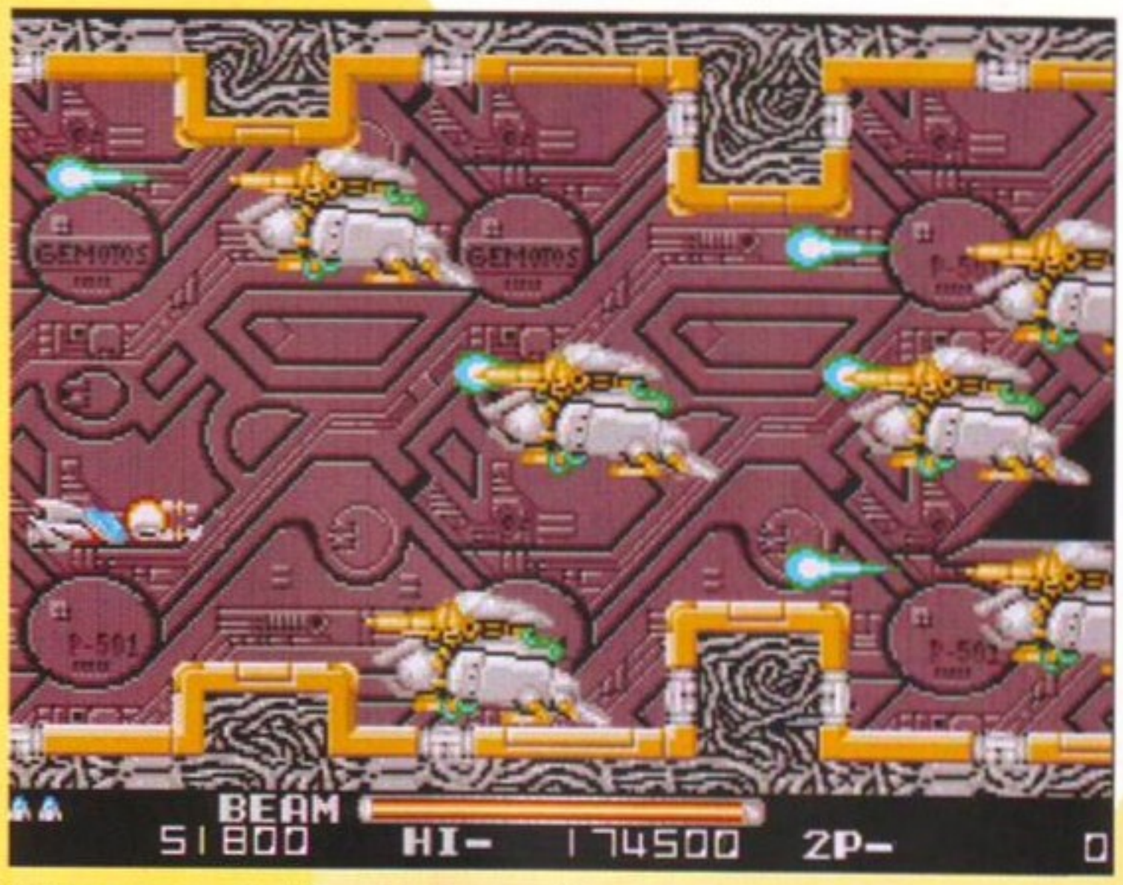
Natural disasters and the fickle nature of economics all conspire to make life hard for the aspiring Brunel. For instance, if you build a bridge across a river and it gets swept away then the public (unsurprisingly) aren't going to be very happy. Similarly, if a rival line starts hassling you and you enter a fare war then the local town council will decided who's provided them with the best service and insist that the other moves away. *Railroad Tycoon* is an engaging, surprisingly addictive and educational game. Recommended. Merited an ***Amiga Format*** *Gold* rating of 92 per cent in May 1991. Release price £29.99.

RAINBOW ARTS: Software production company, also known as IDG (Europe) Ltd, Warwick House, Spring Road, Hall Green, Birmingham, B11 3EA, Tel: 071 243 2878.

RAINBOW ISLANDS: Undoubtedly one of the best platform games ever written. Andy Braybrook and his team at Graftgold went to great lengths to faithfully recreate the arcade game on the Amiga and it shows. Although the game was released three years ago, it is still one of the best Amiga games around.

The game is played over a series of seven islands. Each of these islands is made up of three vertical levels which are completed by jumping to the topmost platform. Along the way there are tricky jumps and loads of mutant insects capable of clobbering the unwary Rainbow Islander. As a means of defence the player can zap rainbows across the screen, either trapping the baddies or clocking them on the head.

Lasting interest in the game is assured by the endless variety of secret power-ups and bonuses which need a considerable degree of cunning to be discovered. *Rainbow Islands* is pure, playable fun. It received an ***Amiga Format*** *Gold* rating of 95 per cent. Release price £24.99 (See Graftgold, Platform Games, Braybrook Andrew).



Makes you wonder if mankind ever will be faced with an *R-Type II* style onslaught of malevolent alien chaps with biker helmets.

RAM: Stands for Random Access Memory. This is memory that can be altered, unlike ROM (Read Only Memory). You can therefore write data to and read it from ROM. When you load a program it is stored in RAM, but because RAM needs a constant supply of electricity to retain the data contained in the program you lose the data when you switch off your Amiga. This is why you have to load programs every time you want to use them. If you own an A600 you've already got 1MB of RAM as standard. An A1200 comes with 2MB of RAM. The greater the amount of RAM, the faster your program will work. However, if you use your Amiga for memory intensive functions such as sampling, you may find that you need more RAM. This is achieved by installing a RAM expansion unit to your Amiga. When the Personal Computer Memory Card is fully developed, it should be possible to increase RAM simply by slotting the card into your Amiga, or into an adapter, linked to the Amiga.

RANGE: The spread of colours in a paint program from one shade to another, say red to blue through lots of shades of purple.



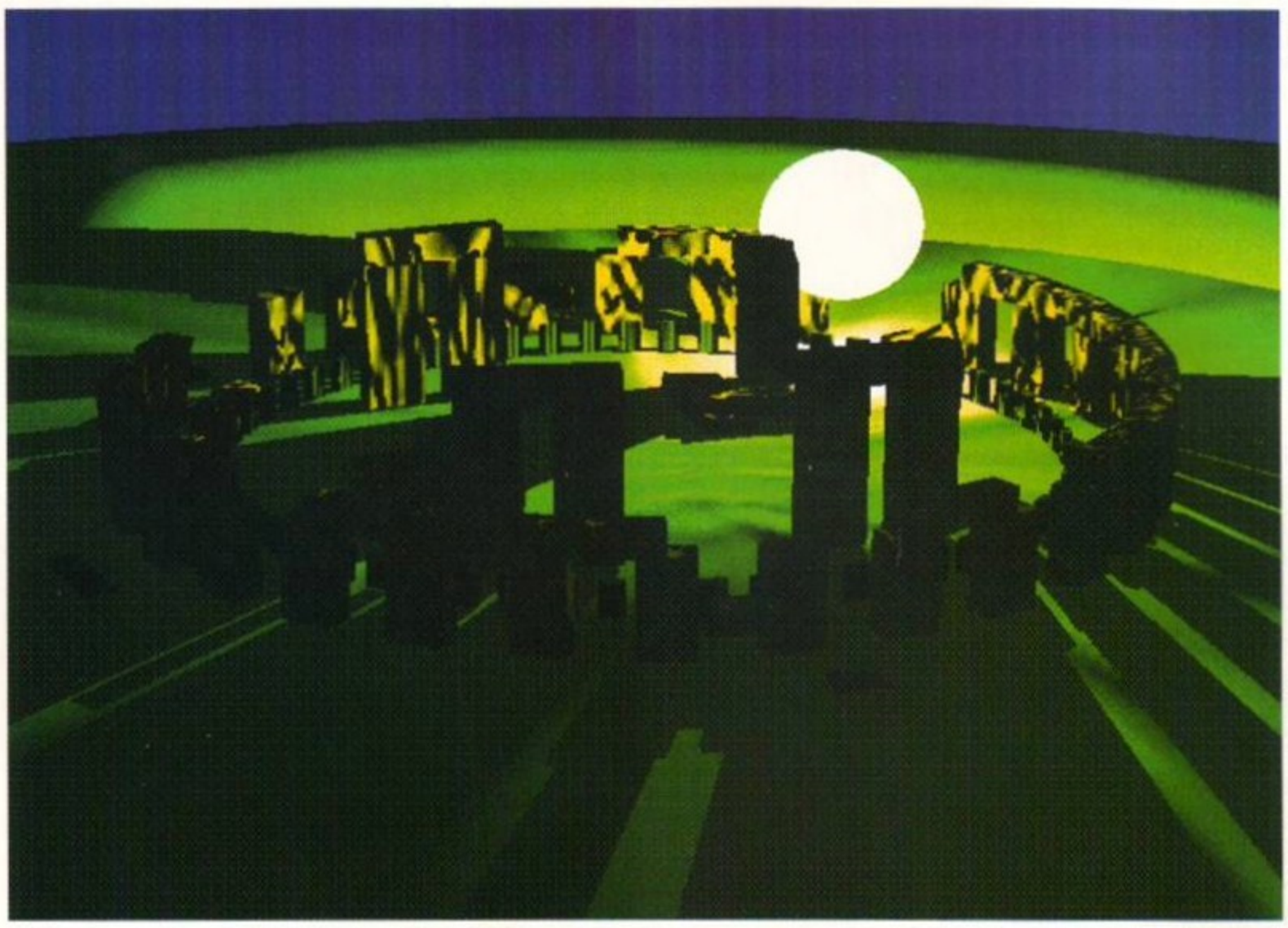
Up above the streets and houses *Rainbow Islands* climbing high. Everyone can see it rising over the sky. Paint the whole world with Dulux Peach Silk.

RAVING MAD: Highly rated (89 per cent) compilation pack from US Gold, comprising: *Rodland*, *James Pond - Robocod* and *Mega Twins*. It ws released at a price of £25.99.

REAL 3D: Art package from Activa which enables you to create stunning stills or animations based upon wire-frame 'primitive' shapes when used in conjunction with a 24-bit graphics card. The program was awarded a 95 per cent *Gold* rating by ***Amiga Format*** in February 1992. It includes an amazing variety of tools including tubing, spheres, cylinders, lathed objects, conical objects and curves or meshes. With these and the other drawing tools, it's possible to create enormously sophisticated landscapes quickly. Release price £310.

REAL THINGS: RGB Studio's selection of animated objects, animals and characters. When used in conjunction with Deluxe Paint, these can be placed on a suitable background and brought to life. The original *Real Things* package was *Gold*-rated at 90 per cent in the December 1991

REAL-TIME SOUNDS PROCESSOR: Utterly ancient program for creating music using the Amiga's built-in sound chips. The program was released in 1988 by Adept Developments and it looks it. Release price £84.95.



Rendering an image, like this one (created in *Real 3D)* is an excellent way to conceive fantastic structures and/or landscapes. Stonehenge has never looked so, like, ethereal man.

RECORD: If you think of a database as a traditional filing system, a record is the computer equivalent of a card containing information on a single subject, such as a customer. Perhaps the best way to think of a record is as a job application form. The form, or record, will contain separate boxes (known as fields in computer-speak) which hold individual items of information. If the record contains details of a customer, the fields would contain details such as age, address, income etc.(See Database).

RED LIGHTNING: Excellent if somewhat dated war-game. The Russians are marching on Western Europe and you've got to command the NATO forces who are holding back the 'red menace'. Hardcore war gaming fans are the only people who are likely to get anything out of the game. It was released in late 1989 for £29.99 and merited an ***Amiga Format*** *Gold* rating of 90 per cent .

RED STORM RISING: Game of the Tom Clancy book about submarine warfare between the yanks and the ruskies. The game is brilliantly atmospheric and carefully programmed by Microprose. Well worth checking out. Release price £24.99, ***Amiga Format*** rating 89 per cent , September 1990.

RELATIONAL DATABASE: A relational database program enables you to create two databases that are linked to one another. If you had a business with clients all over the world you could create one database with all the client details and another with a key field defining the country in which they live. When you type in Albania in the first database that would pull in all the information about clients in Albania from the other database. (See Database).

REMOTE: When you connect to a Bulletin Board Service (BBS) you are the remote terminal to the host because you are far away, in the same way that the remote control to a TV set is across the room.

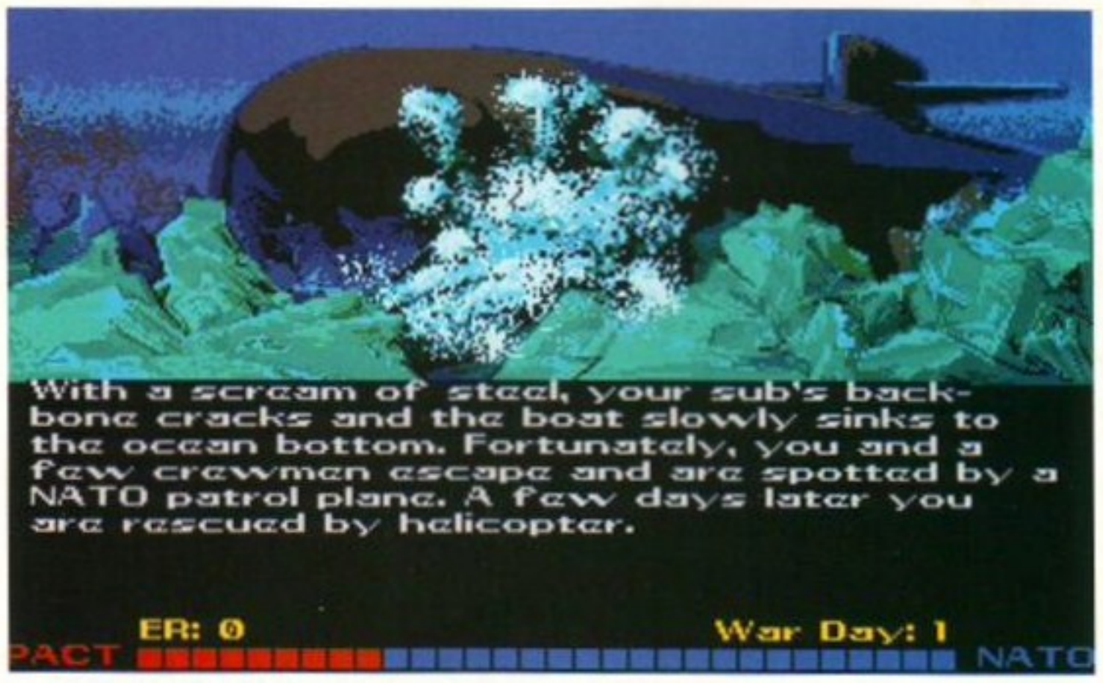
RENDERING: Also known as ray-tracing, this involves constructing a 3D colour picture using a grid created beforehand in two dimensions. Rendered pictures have a huge amount of detail, being created from formulae about light and reflection as well as about colour. The artist can specify where light is coming from, how large objects are and how reflective they are.

These objects can then be moved around to fit and when everything looks set, the picture can be rendered. Depending on how powerful your Amiga is, this process can take anything from between ten minutes and several hours.

The most useful feature of any rendering package is that buildings or landscapes can be viewed from any angle or position without actually having to build it or be there. Therefore architects and anyone involved in design work is like ly to find a rendering package of use. Architects could render a building, place it in the scenery it is intended for, light in a manner which it will be lit and then allow peole to to examine it. Often rendered images are run together in one go as animated films. The most recent example of this is the ballroom scene in the the Disney animated film, *Beauty and the Beast*. Here the cartoon characters were placed over the top of computer animation.

Video production companies have quickly latched onto the fact that the Amiga is a great cheap way of producing superior results. Thus rendered images have cropped up on a variety of television shows such as the *ITV Chart Show*. The introductory sequence of this show set in a strange desert enviornment was rendered on an Amiga.

As the Amiga range becomes increasingly powerful, so rendering packages will become even more accessible. The A1200 has already started this process of democratization with its 16.7 million colours and fast 32-bit processor. One of the best rendering package available for the Amiga is *Imagine 2* from Alternative Image. If you're skint though, check out the public domain program *C-Light*, available from most Amiga PD libraries.



Ironically enough, the collapse of communism in Eastern Europe has actually increased the likelihood of war. Even if it's not a *Red Storm Rising*.

RESOLUTION: Every kind of visual display device uses thousands of dots to display text and graphics. If you push your nose right up to a television you can see loads of red, green and blue dots. Monitors have these dots too and they are called pixels.

The number of pixels across by the number down is the resolution of a monitor, the higher the resolution the more pixels, the more pixels the better the graphics. A normal Amiga screen is a grid of pixels 320 pixels across and 256 pixels down, which works out at at a total of 81,920 pixels on the screen.

The Amiga has a variety of resolutions which it uses when performing different tasks. For instance the high resolution HAM mode is used when really fine colour detail is required. Most games don't require this kind of detail and so are created in a low resolution mode.

REVERSER: Quite expensive (£10) for a utility that renumbers animation sequences, but (hey!) someone's bound to need it. Released in mid-'92 by Alternative Image, Amiga Format rating 75 per cent .

RF: Radio Frequency. The method used to transmit combined video and audio signals from broadcaster to receiver. A technical compromise which achieves its goal at the expense of marked quality loss from the original source.



One of the more interesting features of *Road Rash* is the ability to kick, punch or otherwise prod people off their motorbikes.

RGB: Red, Green and Blue. The raw colours which are used to make up electronic (as opposed to printed or painted) images, such as colour TV or computer-screen images. The Amiga outputs RGB video as standard. Using an RGB monitor gives far crisper pictures than composite or RF video.

RICK DANGEROUS 2: Top-notch platform game from Microprose which was released in 1990. You control Rick, the dashing hero, faced with the task of saving London from a criminal takeover. The game is a pure and sweet platform puzzler with loads of lasting interest.

In the game, Rick is just on his way back home from defeating the Fat Guy in *Rick Dangerous 1* . As he wanders through the park he hears a strange noise and sees a fleet of saucers under the control of the despicable Fat Guy all on their way to Hyde Park. Rick immediately decides to stop the Fat Guy and his minions and so dons a laser weapon and superhero suit.

Each of the levels is set in a different geographic location: Hyde Park, the planet Freezia, the forest planet Vegetablia and the bad guys' s mud mines. Each location offers a different set of problems to be overcome and aliens to beat. These can be tackled with either a sliding grenade bomb or a laser shot, but obviously the difficulty level rises as the game goes on. *Rick Dangerous 2* was released at a price of £24.99, got an ***Amiga Format*** *Gold* rating of 92 per cent in November 1990.

RICOH LP1200: Highly rated (92 per cent ***Amiga Format*** *Gold* rating in December 1991) and remarkably cheap (£821) laser printer which produces superb results and comes with a plethora of fonts. Laser printers produce extremely high quality hard copy because of the resolution possible. The



***Rick Dangerous* is a suave, deadly and badly dressed secret agent with a natty line in capes, bad breath and a dog called Scotty.**

LP1200 is one of the very few laser writers which works with an Amiga and it comes complete with a printer driver for the Amiga and 2Mb of internal RAM.

RISE OF THE DRAGON: Almost as soon the Amiga appeared a new kind of game dropped into the scene too. These new 'interactive novels' combined superb graphics with a detective style of gameplay which meant that the player became incresasingly involved in the game's course of events.

Sierra-on-line got the formula for this kind of game very right when they created *Rise of the Dragon*, a brilliant futuristic adventure based in Los Angeles. The game is played out by searching out clues and following up leads. Thus if one person tells you a story, you can seek them out and see if it all pans out. This way little snippets of the big picture can be pieced together until finally you can solve the riddle.

The plot-line of this game is set in a very Blade Runner style city. The mayor's daughter has been murdered by a mysterious drugs cartel and you've been hired to find out why. The game is brilliantly atmospheric and well worth a look. It originally cost £39.99, ***Amiga Format*** rating 86 per cent .

ROAD RASH: Excellent motorbike racing game from Electronic Arts. You control a bike rider competing in a series of races on American roads against a foolhardy bunch of speed freaks. To win the race you can kick, punch or whack the other riders to get into the lead and win the cash prizes which can buy you a more powerful bike.

The idea of *Road Rash* is to be the best biker on the roads. This isn't as easy as it sounds because there are hard bikers,police and cars coming in the opposite direction which all conspire to stop you even finishing the first race, let along the last one.

Actual racing is played out in a fast 3D environment in which the dips, corners and bumps in the road are all faithfully simulated. There are also added obstacles such as fallen bikers, roadside bushes, rocks and signs and even the odd crossroads. Some of the neatest touches in the game are when your biker



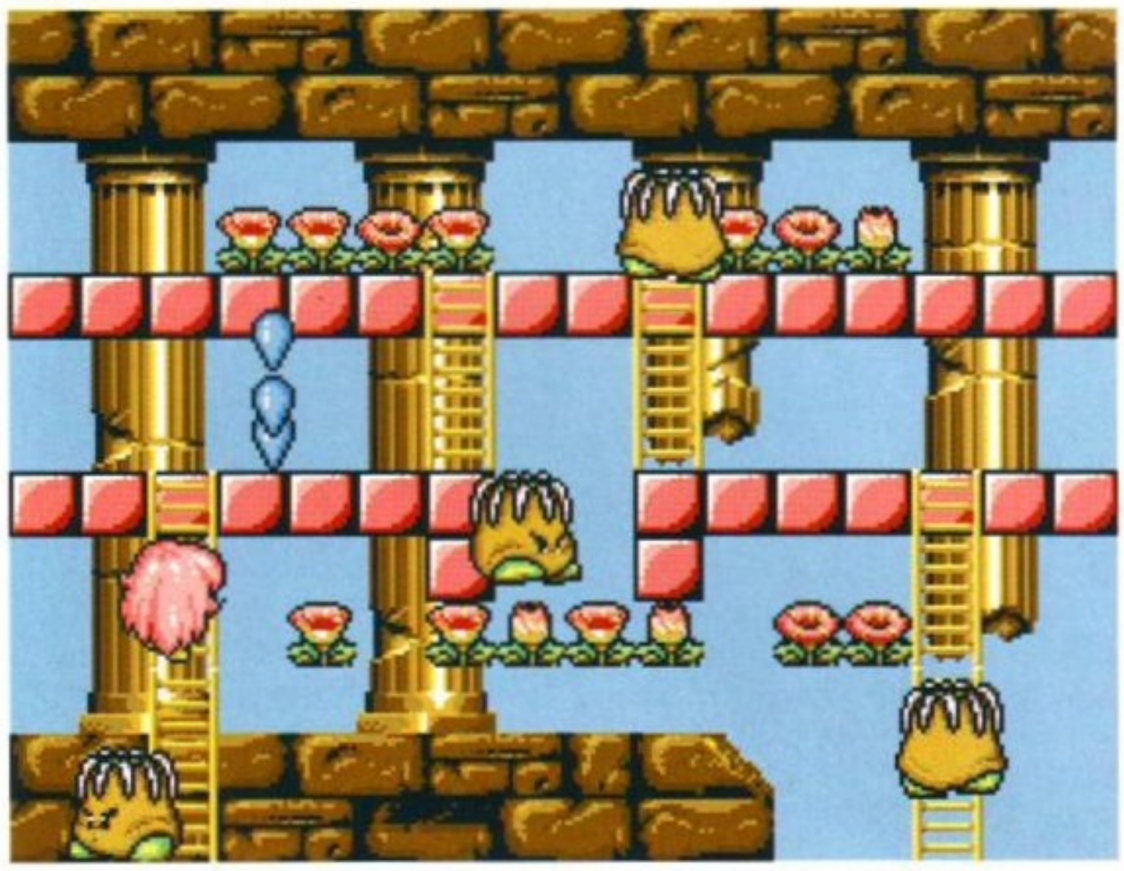
Yeah, like hello Terry. Listen, quick call just vidphoned to see if you were going to the parent's this Christmas. No? Me either. The *Rise of the Dragon*.

gets some airtime in on his trusty steed. This is always a dodgy manoeuvre because you don't know what you're going to land on.

Should your racer finish a race and get a high enough place he'll win some dosh which he can put towards buying a better bike . *Road Rash* is highly recommended. Release price £29.99, ***Amiga Format*** rating 84 per cent .

ROBOCOD: Brilliant platform game released by Millenium at the end of 1991. You control a robotic cod with some amazing talents, such as the ability to stretch to any height. This is an extremely playable game with lots of long-term cute appeal.

The idea of the game is to save lots of lost penguins. These are hidden away in the most inaccessible places on the screens and require Robocod to leap, float, fly and levitate to them. The sprites and animation within the game are both excellent, with large colourful creatures yomping up and down the screen with considerable panache. *Robocod* was released at a price of £25.99 and received an ***Amiga Format*** *Gold* rating of 91 per cent in December 1991.



Nope, not killer pineapples, but mutants loose in *Rodland*. The star of the game is that long pink-haired thing on the left.

ROBOCOP: Ignore the first two *Robocop* outings, they're bland platform games with all the style and fun of a Millet's anorak, take notice only of *Robocop 3,* one of the best licenced games ever. The game includes driving, flight simulation and stalking shoot-em-up sections and is brilliantly programmed.

Robocop gets called out on assignments all over the city to locations which test all his skills and his ability to uphold the three prime directives of protecting the innocent, serving the public trust and upholding the law. Thus he needs to ram terrorists off the road in his car, stalk muggers down dark alley ways and shoot down drug baron's helicopters.

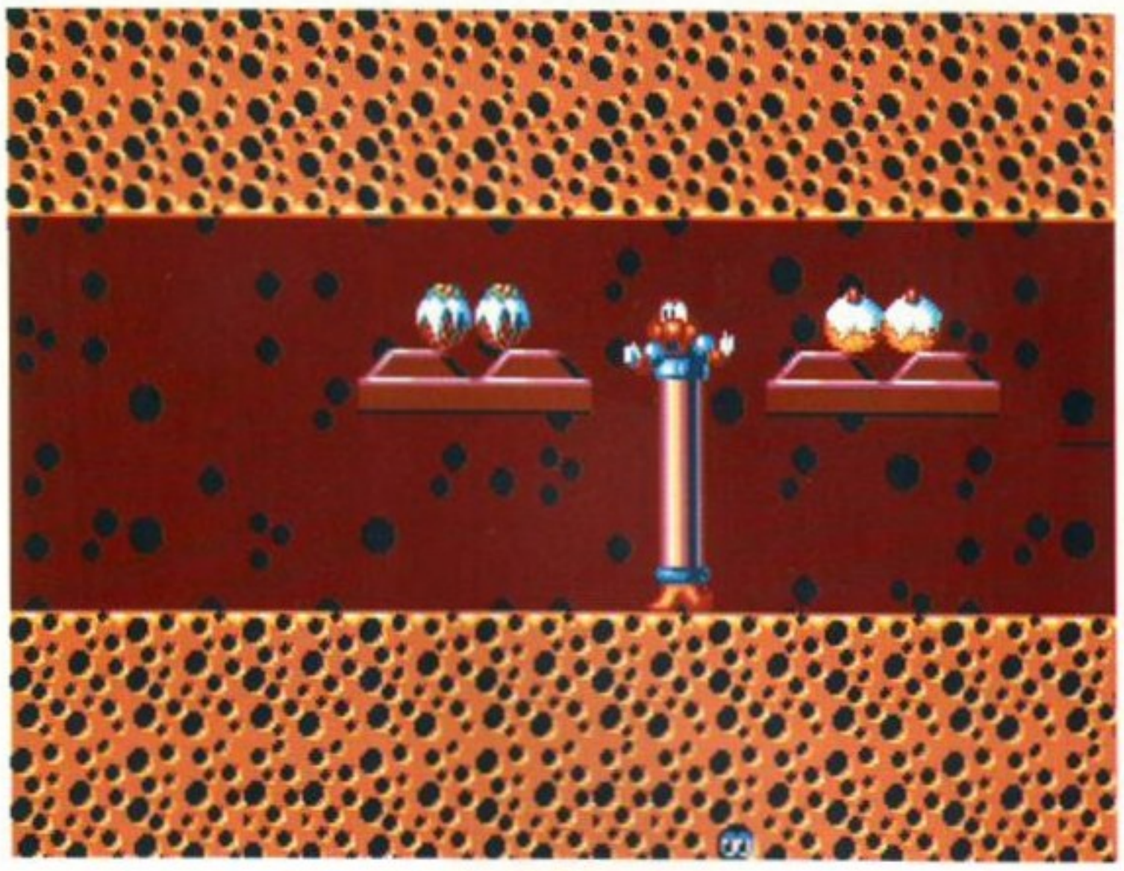
The whole game is represented in the kind of vision which Robocop himself sees, while his reactions are similarly tailored to the slow, deliberate movements of the metal and meat one. *Robocop 3* was released in early '92 for £39.95. It received a 91 per cent rating in ***Amiga Format.***

ROBOSPORT: Strategy cum shoot-em-up game which works best with more than one player. You control a fleet of robots which you program to do damage to other people's territory, while they do the same. Great fun which proves to be enormously addictive. Released at the end of 1992 by Ocean for £29.99. ***Amiga Format*** *Gold* rating of 90 per cent .

ROCKEY: Excellent chroma-keying unit which works in conjunction with a genlock. Chroma-keying differs from genlocking in that instead of removing the background colour from the Amiga image, it performs this operation on the 'live' video source.

This model comes with plenty of video functions such as overlay, luma-key, graphic sandwich, key sandwich, graphic windowing, key thru, graphic labels and key windowing. It's most likely to be of use to video production companies and the like. It was released in early '93 for £399 and received a 90 per cent *Gold* rating. (See Genlock).

RODLAND: Superb two player cutesy platform game. You control two little



Look *Robocod* I've told you before. You can't have any sticky buns and ice cream until you explain how you do that with your midriff.

spear carrying fairies who have to whap crocodiles and other unsuspecting creatures over the chops.

The game is played out over a series of platform levels with interconnecting ladders. The idea is not to get trapped before you have a chance to unleash a spark from your trusty rod. Given the fact that the graphics are nothing special, it's quite surprising that this game is as enjoyable as it is. *Rodland* was released in late '91 for £25.99, when it received an ***Amiga Format*** 88 per cent rating. (See Platform Games).

ROM: Read Only Memory. This is one of the two main varieties of silicon chip memory, the other being RAM (Random Access Memory). Read Only Memory chips have data blown onto them just once. This data is then always there whether a current is supplied to the chip or not; it cannot be erased or altered, it can only be read into RAM or examined.

ROM chips crop in all sorts of devices like microwaves or washing machines; in the Amiga they take care of very low level 'house-keeping' tasks such as checking that a key has been pressed on the keyboard or storing the Boot information which enables an Amiga to request that you insert a disk. (See RAM, and Memory).

ROOT DIRECTORY: The main directory on a hard drive or floppy disk. From this directory all the other sub-directories are accesssed. If the root directory goes a bit doolalley then you can say goodbye to all your data.



There are driving, stalking and flight simulator elements to Ocean's superb *Robocop 3* licenced game. Unfortunately there's no panic element.

RPG: Role Playing Game. In RPGs you can set up the attributes of a character or group of characters before embarking on your adventure. These hardy souls than wander around a fantasy landscape, solving logic puzzles, doing battle with nefarious nasty creatures and casting the odd spell.

The very first RPG was *Dungeon Master* by American software house Faster Than Light. This game pioneered the 3D dungeon look and also introduced the use of spells which require practise to cast correctly. Thus in order to defeat the early monsters you're only required to know simple fireball spells, but as the adventure wears on, so you pick up other spells and have to learn these in order to beat harder creatures such as the walking mouth monsters.

One common feature to all RPG games is that you have to map your progress. The landscape you wander through is never distinctly different enough to enable you to guess where you are and this can lead to real trouble if you end up in a maze.

The FTL team followed up *Dungeon Master* with *Chaos Strikes Back* which enabled the adventurer to import his band of four from the first game and use them again. The game included new graphics, tougher puzzles and a larger game world.

All was quiet on the RPG scene until SSI in America released their superb game *Eye of the Beholder*. This features a far more intuitive interface than the FTL games and far more cunning puzzles. The game is set in a fantasy world based on the proper Fantasy Role Playing rules.

However the ***Amiga Format*** games review team reckon that the best RPG ever is *Eye Of The Beholder 2* (SSI/US Gold, £35.99). *EOTB 2* gives you a team of four characters, each with their own skills and powers, such as magic, sword-fighting and healing.

You must guide the adventurers through a multi-level dungeon and forest slaying nasties, working out traps and making your way through puzzles in



No, go through the pink door. No, not the pink door, the orange one. The pink one leads to death at the hands of huge worms with bad breath.

your quest to find the source of some great evil which is playing merry hell with life overground. As with the *Dungeon Master* games, you could import your adventurers into the sequel, thus saving yourself lots of time training up a bunch of rookies. *EOTB 2* has got a marvellous creepy atmosphere and earned an ***Amiga Format*** *Gold* rating of 91 per cent.

The Ultima series of games which was released by the Origin team in the States is based very much on the traditional fantasy role playing board games which are all the rage. This requires that a strict rule book is followed, determining how many hit points a creature requires to be killed, how experienced you have to be to cast a particular spell, how long you have to rest to get your good health back and even small details like how far a particular spell's influence will spread once it has been cast.

There have been six of the Ultima games, each of them featuring increasingly better graphics and gameplay. Initially these were simple character graphics viewed from overhead, but of late the presentation has improved temendously. This type of game is still most likely to appeal to the more traditional RPG gamester.

Captive moved the genre in a very different direction by setting the whole



Everybody's getting sliced up by that ugly lizard dude. Another episode in the *Eye of the Beholder 2* saga.

game in futuristic world, rather than a traditional fantasy land. In the game you are the captive of the title and you've got to control four robots (for robots read adventurers) through the levels of your prison in order that they can free you. Instead of spell casting you need to teach each robot how to use weapons and instead of dungeon style puzzles you need to learn how to get through locked doors and access hidden rooms/levels.

Most recently the RPG genre has been grown with *Legends of Valor* (in which you're a peasant adventurer in a strange city) and soon with *Eye of the Beholder 3* which will feature far more animation and some colourful cinematic sequences. No doubt the game will only be of any real use to Amiga owners with hard drives. (See *Dungeon Master*, *Eye of the Beholder*, *Legends of Valor*, *Captive*, *Ultima*, Origin, Adventure Games)

RS-232: An interface lead popularised by the Spitting Image team who wrote a song about it based loosely on Status Quo's style. The RS-232 is a humble serial data convention which can connect printers or modems to the Amiga.

RTF: Rich Text Format. A text equivalent to IFF (Interchange File Format). Whereas IFF enables a variety of picture graphics and sound data to be exchanged into different programs, RTF does the same for text.

RUBBER BANDING: A paint package tool for drawing curves.



This is your enemy in FTL's *Dungeon Master* series of games. He can't half cast a mystic spell.

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SAINT SILICON: American loon or latter day visionary depending on your point of view. Head of the Church of Heuristic Programming. (See also C.H.I.P)

SAINTSOFT: The Saintsoft Computer Club appeared briefly at the beginning at 1991 with the promise that not only would membership offer you the chance to buy games at a discount price, but also that you could sell the games back to Saintsoft when you got bored with them for half the purchase price. Saintsoft billed itself as the club with a difference. One of the differences seems to have been that it hasn't been heard of since.

SAMPLER: Hardware device which enables an Amiga to record sound electronically. Samplers work by checking the voltage levels of sound thousands of time every second. The more times the voltage is checked then the better quality of the sound on playback. Compact disks store data digitally at 44.1kHz (that is 441,000 voltages changes a second) and so a sampler which can operate at 44.1kHz is said to work at CD quality.

Unfortunately, the higher the sample rate, the more memory space is required as there will be more voltage measurements. Many games use sampled sound to add some realism. The Amiga is particularly good at playing back these sounds and they can even be played together to create tunes.

SASSENRATH, KARL: One of the original team who invented and developed the Amiga. (See Amiga, History Of).

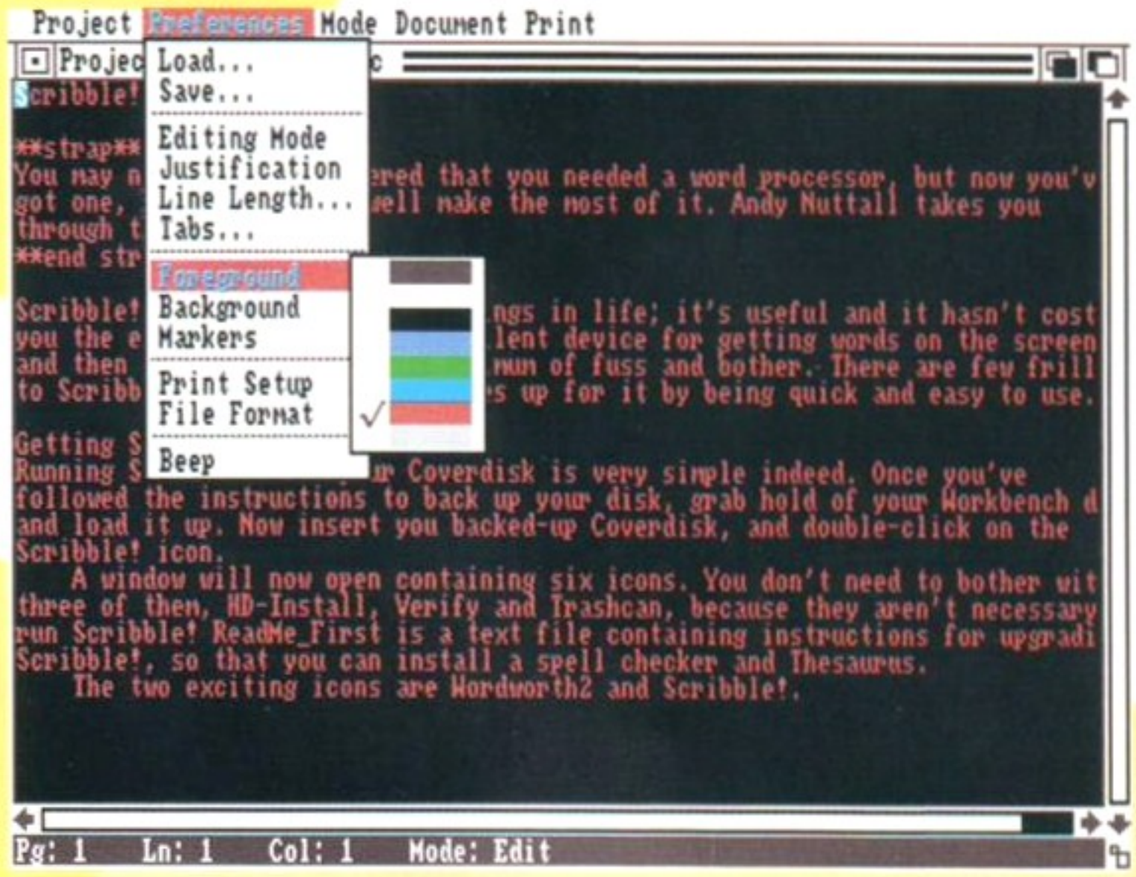
SAXON PUBLISHER: A powerful, but difficult-to-use Desktop Publishing program from Saxon Industries/Surface UK. Never really took off in a big way because there are other programs which are easier to use. Release price £199.

SCALA: The original *Scala* multimedia program (release price £249) was regarded by the ***Amiga Format*** reviewer as one of the easiest to use systems available on the Amiga. *Scala VI 1.2* is a desktop presentation system, a sort of cross between a desktop video package and an information presentation system, used mainly as a video titling system. It got an 86 per Cent ***Amiga Format*** rating and cost £264 when it was originally released.

Scala 500 (release price £99.95) is a dedicated video titling package which earned an 82 per cent ***Amiga Format*** rating. The *Scala MM 200* multi-media package enables you to combine music, graphics, laser disc video, and text into impressive presentations. It received an 87 per cent ***Amiga Format*** rating (release price £464.12).



It's not a DTP program, it's not a video package, it lies somewhere in between. *Scala* can make your presentations look wonderful.



If you fancy penning a missive or writing that great British novel, then *Scribble!* is one of your best bets.

SCANNER: Device for converting a still, flat image such as a photograph or newspaper cutting, into a computer image. Scanners are either hand held (you run them over the image) or flatbed (similar to a photocopier). Hand-held scanners are a lot cheaper than the flatbed variety (they start at around £99, but the quality of the image is not as high.

This is partly because hand-held scanners rely on the human hand to move the light sensitive head over the image – a wobbly hand equals a wobbly image. They are also less sophisticated in terms of DPI (Dots Per Inch), so the resolution of the image will not be as good. as with a flatbed. Almost all hand-held scanners are black and white, whereas many flatbeds are colour.

SCART: A 21-pin connector used by many modern VCRs and TVs to send video, audio, RGB and other signals to one single socket.

SCENE GENERATOR: Art package from American company Natural Graphics that enables you to create landscape scenes by using random fractal landscapes. The landscapes vary from simple foothills to mountain ranges and a limited number of other features can be included such as water, clouds, snow and beaches. (See Fractals).

SCENERY ANIMATOR: Software from American company Natural Graphics that enables you to create 24-bit scenery generation and animation at a budget price (£59.95, release price). The *Scenery Animator* was well-received by the ***Amiga Format*** reviewer who gave it a *Gold* rating of 91 per cent in December 1991. (AF 29).

SCHWARTZ, ERIC: Animator who uses an Amiga for all his work. Over the years, these slick cartoons have become extremely well known thanks to widespread distribution in the Public Domain. Nowadays a new Schwartz animation is eagerly anticipated. His most recent work is *At the Beach*.

SCRIBBLE!: Cheap and functional word processor which was given away on the ***Amiga Format*** Coverdisk on issue 41.

The program has all the standard editing and searching commands as well as a rudimentary WYSIWYG display. Graphics can be inserted into the text, though this isn't a very flexible option as it requires a considerable amount of guesswork to get the positioning right. *Scribble! Platinum* received a rating of 79 percent at a release price of £34.95.

SCRIPT FILE: a set of commands saved as a text file, that you would otherwise have to type in by hand. Traditionally public domain disks have script files from the author

SCSI: Small Computer Systems Interface (pronounced SCUZZY) A device that enables you to connect hardware, such as laser printers and disk drives, to your Amiga. But be warned, you need a separate SCSI for every piece of hardware. In recent years, Commodore has decided to drop the SCSI interfacing system in preference to the less expensive IDE (Intelligent Drive Electronics). The A1200 us the prime example of this, although you would also need to get an IDE hard disk if you wanted to turn you A600 into an A600HD. The only real advantage that SCSI has over IDE is the fact that you can connect a greater number of peripherals to a SCSI-compatible device than you can to IDE.

SDL: Otherwise known as Silica. This company is one of the largest distributors of Amiga products in this country.

SECRET OF MONKEY ISLAND, THE: A graphic adventure created by the American LucasArts company. When this game hit the scene in 1990 it created an incredible amount of interest due to the humour, graphics, slick user interface and incredible attention to detail.

Since then and despite other superb graphic adventures coming and going (a few of which have tried to emulate the style and flavour of this classic) *Monkey Island* remains one of the the best adventures ever written – in fact it remains as one of the best pieces of entertainment ever written, be it for computer or screen.

The game stars Guybrush Threepwood, a wannabe pirate who has to rescue his sweetheart (the Governor of a small island) from the dreaded, highly evil and most comic, pirate LeChuck.

It includes some brilliant comic moments, including subtle snipes at other software houses, a mad tribe of vegetarian cannibals, a talking mummified head, pirates who have given up pirating for the circus and a decidedly dodgy second hand galleon salesman. The game is witty, frustrating and fresh. It received a 92 per cent ***Amiga Format*** *Gold* rating in July 1991. (*AF* 24) Release price £24.99. (See LucasArts, Adventure Games.)

SECRET OF MONKEY ISLAND II, THE: Hugely successful sequel to the wonderful *Secret of Monkey Island* In this game you play Guybrush Threepwood, now a fully fledged pirate and braggart. The ghost pirate LeChuck has comes back from the grave to make Threepwood's life hard. So the junior bucaneer has to set off in search of Big Whoop a secret power which can rid him of LeChuck once and for all.

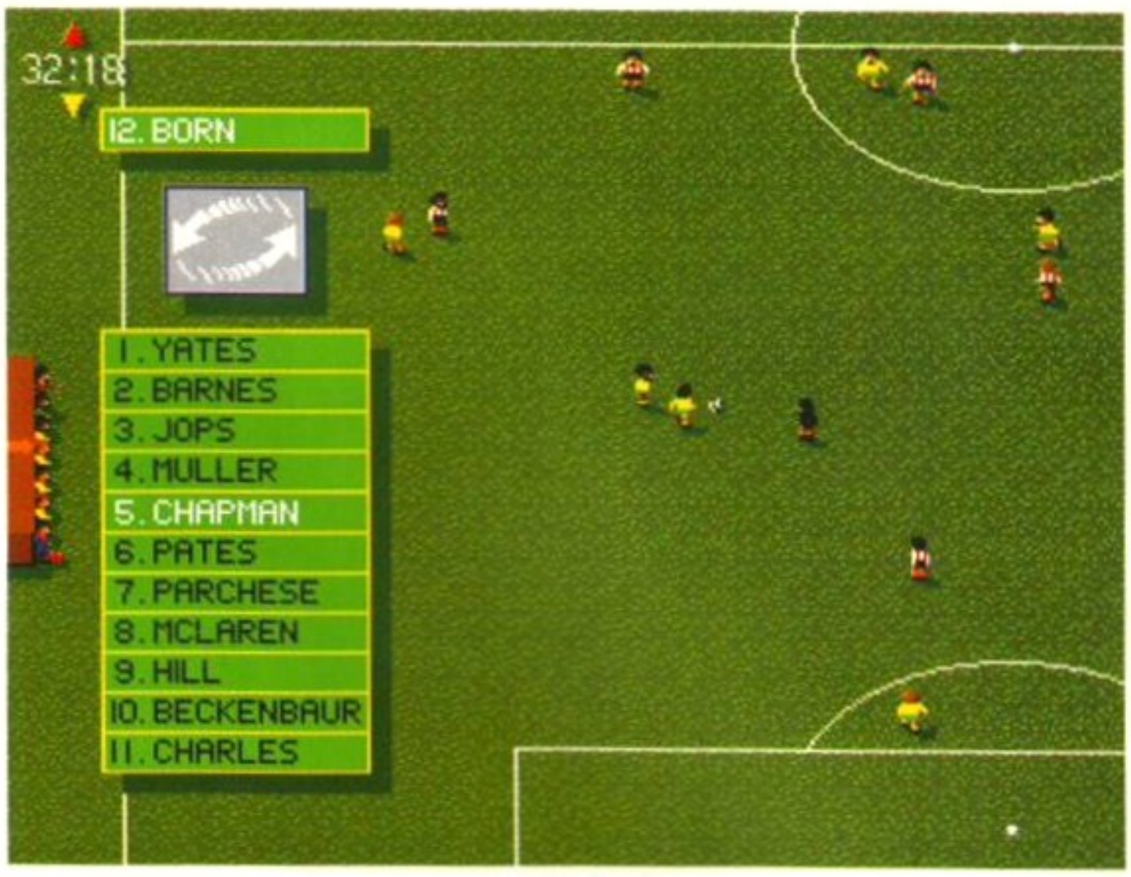
LucasArts, the producers, of the game reckons that the game will make you, "Laugh so hard milk will come out of your nose." We can think of no better way to describe it. It also has a special easy mode for reviwers – or so the packaging would lead us to believe. The game received a 95 percent ***Amiga Format*** Gold rating in October '92. (AF 39). Release price £37.99. (See LucasArts, Adventure Games.)



Bravely going where no Threepwood has gone before, *Secret of Monkey Island II* (right) is utterly mad, completely marvellous and very, very absorbing.



Life with the Fettucini Brothers in *Secret of Monkey Island* can be extremely lucrative but you need humour and logic to pass the interview.



The most confusing squad ever put together? Just one of the mad features of *Sensible Software*, a game written by footy lover for footy lovers.

SEIKOSHA SP2400: Nine-pin dot matrix printer that was well-received by the ***Amiga Format*** reviewer who gave it 89 per cent. Release price £235. (See Dot Matrix).

SELF-BOOTING DISK: A disk that starts up the Amiga of its own accord. Disks that are not self-booting have to be accessed from the Workbench program. The Workbench disk and most games disks are self-booting. (see Boot).

SENSIBLE SOCCER: Along with *Kick Off 2*, Renegade's *Sensible Soccer* is the top-of-the-table football game for the Amiga and merited an ***Amiga Format*** *Gold* rating of 91 per cent in July '92 (AF 36). Release price £25.99.

SENSIBLE SOFTWARE: Jon Hare of Sensible Software took time to respond to our request for company information. But instead of including a bunch of dry facts and some run-of-the-mill company advertising puffery (not that any other company did either, well...) he described his company history in the following tersms...

"Sensible Software was formed officially in March 1986 by Jon Hare and Chris Yates thanks to a government enterprise scheme. Previous to this we had both been working together for just under a year for a Basildon company known as LT Software where we produced the unknown *Sodor The Sorcerer*, and *Twister* on the Spectrum for System 3 software. (See Cale, Brothers and System 3, ed).

"Later on, our boss at LT changed from a man into a woman and from a Mike into a Patricia. Perhaps *Twister* really got to him. In March '86 we took a game called *Parallax* on the C64 to Ocean and it was signed up instantly.

We had a slap up meal in the BR Buffet on the train home to celebrate. Gradually the software we were creating began to take over from the music we had been writing for the band which we had formed in our school days together at Chelmsford.

We had a largely unsuccessful rock band which went through names such as *Zeus, Hamsterfish, Dark Goose, Amazing Technicolour Dreamglobe* and *Touchstone*, before finally petering out in 1990. The music journos thought it better to let this pass unnoticed.

"The next title was to be Sensible's first big hit, namely *Wizball* for Ocean. Sensible has, with the exception of *Sodor The Sorcerer*, always produced original games of our own design. After *Wizball*, came *Microprose Soccer* and *Shoot-Em-Up Construction Kit* (SEUCK) with (now sadly defunct and demised) Palace Software. It wasn't until June 1990 that we produced our first 16-bit game. That was *International 3D Tennis* for Palace Software. In 1991 Chris Chapman's first program with Sensible, *Mega-lo-Mania* was a big hit before Maxwell took a jump. "The next game was our biggest hit so far, namely *Sensible Soccer*. 1992 saw the release of our first sequel, the follow up to *Wizball:*, called *Wizkid*. 1993

Continued over

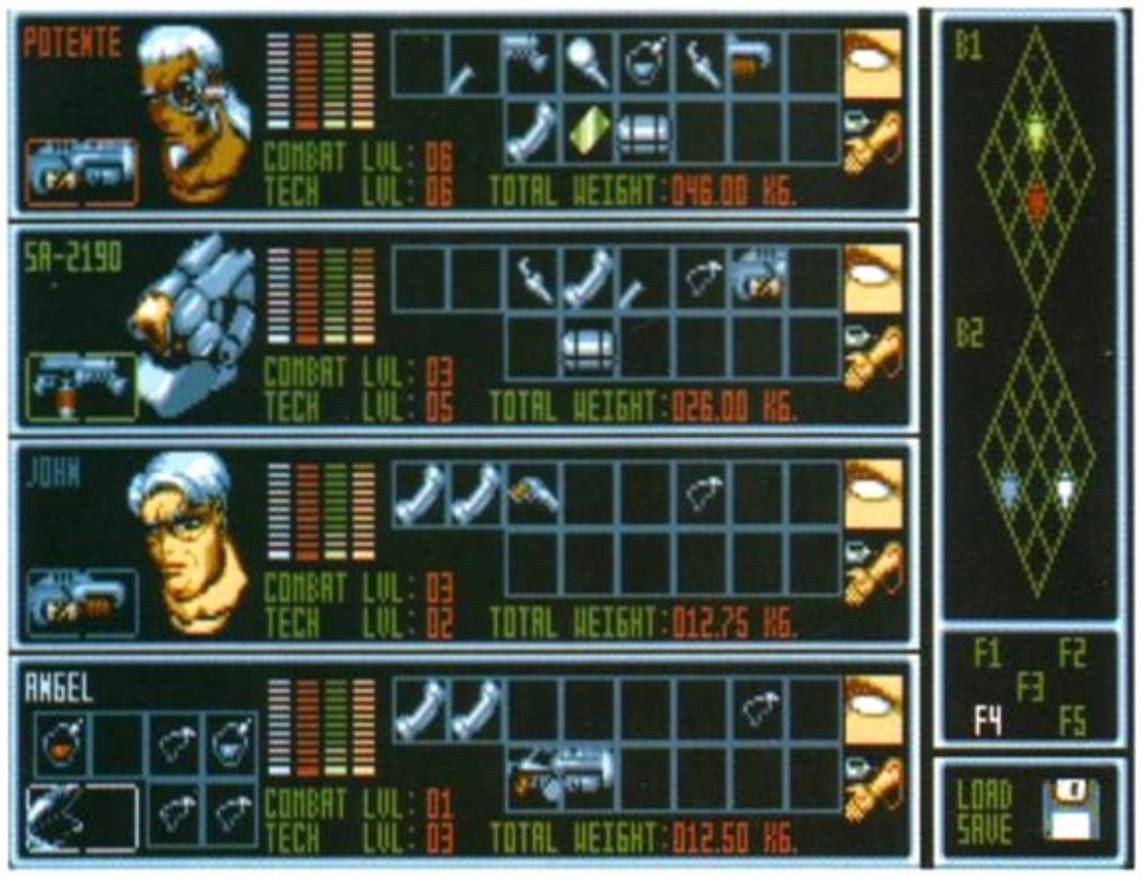
will see the release of *Cannon Fodder* and *Sensible World Of Soccer*. Our aspirations are fairly humble. They are: To continue to design and produce top notch games with as little interference as possible from anybody else. To work on whichever machines offer us the safest market for our software. To form strong and trusting relationships with our publishers. To make sure everyone involved in our small company earns the sort of money that people at the top of their trade deserve. To not ever feel we have ripped someone off. To never feel that we have been ripped off. To spit on the hideous commercial capitalist system that makes us money. To enjoy spending the money anyway, until the taxman comes. Oh dear." Contact: Sensible Software, 2 Station Approach, Station Road, March, Cambridgeshire, PE15 8SQ. Tel: 0354 51934. Fax: 0354 51934.



The *Shoot-Em-Up Construction Kit* had aspiring programmers up and down the country creating exactly the same game over and over again.

SEUCK: Stands for Shoot-Em-Up Construction Kit. This was created in 1988 by the Sensible Software team for the now defunct Palace Software. The program enables the novice user who is unfamiliar with programming to create a shoot-em-up game as simply as possible. This involves designing the sprites, the background, the attack waves, the sound and the general order of things. While the program is well designed, the actual games all have a very similar feel to them. Fortunately the shops were not flooded with back bedroom shoot-em-up efforts and Sensible Software got on with far better projects such as *Sensible Soccer*. (See Sensible Software).

SHADOWLANDS: One of the best role-playing games available for the Amiga. *Shadowlands* from Domark and programmed by the Teque team, is extremely atmospheric and is set in a huge network of underground passages with excellent graphics and realistic torchlight effects. The game enables you to split up up your party but still maintain control over them. Got an ***Amiga Format*** *Gold* rating of 93 per cent in April '92 (AF 33). Release price £29.99.



If you enjoy technical, cyberpunk style games then *Shadowlands* will appeal. It's a strategy cum RPG game set in space.

SHAREWARE: Software that is initially free but you are meant to pay the author some money if you like the program. A sort of "try before you buy" deal. (See Beerware).

SHARP: Large Japanese electronics company. It used to produce mainstream computers, but lately has concentrated on cash tills, printers and office hardware. The company gets its name from its first ever product, a micropoint mechanical pencil called the EverSharp pencil.

SHEET FEEDER: A device for automatically feeding fresh sheets of paper into a printer. This is one the most useful devices to have emerged from printer manufacturers since they started putting plugs on the end of the electrical power leads.

SHELL: An advanced version of the Command Line Interface (CLI) which allows you to type commands into the Amiga Disk Operating System (AmigaDOS) for operations such as copying files or getting a directory. (See AmigaDOS)

SHI: Safe Hex International (SHI) is a Denmark-based world-wide virus hunting organisation headed by Erik Loevendahl Sorensen. In December 1992 Sorensen estimated that there are 300 different Amiga viruses and the figure is quadrupling every year. SHI produces many virus killing tools and programs. Safe Hex has a British office that can be contacted on 0942-682205.



The Bitmap Brothers left the shoot-em-up with nowhere else to go after they created *Xenon 2*.

SHOOT-EM-UP: Whenever somebody who's not terribly au fait with the computer scene tries to deprecate a computer games player, they invariably mention *Space Invaders*. This is because it was the very first real coin-op and the one that caused the biggest stir. Ever since that day, people who use typewriters to write and wouldn't have a microwave in the house if it produced bank notes, have failed to notice the 15 years of development which have gone on since that crusty old machine hit the arcades and they will forever equate games playing with the first ever shoot-em-up: *Space Invaders*.

There is only one objective in a shoot-em-up and that is to survive for as long as possible by shooting aliens and avoiding their bombs. Software houses wrap the shoot-em-up in various disguises by redesigning the ships, aliens, bombs and landscapes, but basically they're all the same. All that really matters is your eye to hand coordination because the intricacies of the game usually take about 30 seconds to learn. For the simple reason that shoot-em-ups are so easy to program, they are one of the most frequently released types of game. In fact there have been so many Amiga shoot-em-ups that it's only worth mentioning the really good ones; the majority are tedious efforts which are best consigned to the page of history labelled: "Must try harder, see me."

Back in 1988 the average Amiga owner was having to make do with a load of decidedly rubbishy games. Software houses were experimenting with the platform and shoot-em-up genres and mixing the two, but most of the games on sale in your local computer shop (they used to have those in 1988) were turgid affairs with the gameplay of a lump of Blu-Tak. Then came *Virus*. Every now and then a programmer comes up with a game so inventive and addictive that it becomes an instant classic. David Braben did it once with *Elite* and then followed it up with *Virus*.

On the face of it this is a simple zapping game, but Braben included some innovative graphics handling routines and a ship which it took ages to learn how to fly. Always ahead of his time, Braben also gave the game an ecological bent by making you a kind of Captain Planet, destroying viruses on the land and at sea. The combination of the true perspective 3D imagery, the amazing inertia of your craft and the sheer addictiveness of the whole game make *Virus* a real gem.

The same year (1988) saw the release of a nifty shoot-em-up called *Xenon*. This blaster was written by the Bitmap Brothers, a group of programmers who have risen to prominence over the last few years to become celebrities. On the face of it there was nothing remotely innovative about *Leathernecks*, but it has some nice touches which warrant its inclusion in this history. The idea of the game is to move commandos (who you view from above) up a screen, shooting enemy soldiers. It was not the most brain taxing of game concepts, but *Leathernecks* had the edge over its competitors for two reasons. Firstly you can have up to four players rampaging their ways up the screen at the same time, all of which opens up a new competitive dimension of gameplay as you all try and get the power-ups. Secondly you can shoot your friends in the back. Whereas with most two or four player games you can happily shoot right through your partner, in *Leathernecks* you can blow them away.

The vast majority of shoot-em-ups find their way on to the Amiga via an arcade machine. What usually happens is that the coin-op creates a bit of a buzz and a software house (usually Ocean) buys the rights and commissions another



***Project X* shows its colours proudly. This is a shoot-em-up, nothing more, nothing less.**

software house to do home computer versions. The main problem with this is that the conversion is often a load of rubbish. This couldn't be said of *R-Type* which for its time was a fluid, competent game.

Psygnosis has had more than one bash at the shoot-em-up, but the first time it got it right was with *Blood Money*. This game was co-written by David Jones and Tony Smith. David rose to prominence later on in 1990 with the seminal puzzle game, *Lemmings*. *Blood Money* was excellent because it combined great two-player action with superb sampled sound effects and some absolutely gob-smacking graphics. In a very similar style and released at the same time was *Forgotten Worlds*. This also has simultaneous two player action and great graphics but it has the added twist of a weird eight direction firing system.

Xenon 2 is quite probably the most famous Amiga shoot-em-up. When it came out in late 1989 it leapt to the top of the charts and stayed there for nearly as long as Michael Jackson. The game takes the shoot-em-up to its logically absurd conclusion by exaggerating everything. For starters, when your ship is fully powered-up it covers practically the entire screen and can barely move. The sound includes a track specially written Bomb the Bass and the gameplay is tougher than a freeze-dried walnut.

From around the middle of 1990 new shoot-em-ups seemed to be appearing virtually every day. However, there are just four that are worth mentioning. The first of these was an inventive bit of programming called *Swiv* from The Sales Curve. This has a kind of small scale artificial intelligence; if you're doing really badly the game won't send quite as many bad guys down the pipeline, while if you're doing great it starts making your life a bit tougher.

In early '91 a veteran of the computer games industry, one Jeff Minter, released a program called *Llamatron*. The game is a commendable release because not only is it Shareware (you pay a fiver to register, but only if you like it), but it's also utterly addictive and totally mind-bending. In order to fight your way through the 100 levels you have to do battle with killer toilets, mad Mandlebrots and besotted camels. Mad and magnificent. Which more or less brings us up to date.

Mid '90 saw the release of *Project X* which is a very tough but strangely rewarding shoot-'em-up and then in '92 we get the jolly clever *Apidya*. which replaces your ship with a wasp, sets the game in a garden and changes the bad guys into other mutant insects. It's a big hit partly due to its inventiveness, but also because it has that one-more-go edge which marks out the great games.

SHOWMAKER: Ground-breaking video processor program from Gold Disk that enables you to load set sequences of animations, stills and music, and by using a simple point and click method to sequence them together into whole productions. This can then be output straight to a VCR without the need for normal video editing. Heralded by an enthusiastic ***Amiga Format*** reviewer as: "launching the Desktop Video revolution," *ShowMaker* received a 92 per cent Gold rating in October 1991(*AF* 28).



***Leisure Suit Larry* (shown here in his fifth outing) is a very boring series of graphic adventure games. Soon to a be motion picture too. Oh well.**

SIERRA: Sierra On-Line was one of the first developers and publishers of home computer applications. The company was founded in Los Angeles by Ken and Roberta Williams in May 1980 and it has grown from a small family business into a large software company in the entertainment, education and business sectors.

Sierra is a pioneer in adventure gaming, releasing its first title *Mystery House* in 1980. The company was the first to feature adventure games that mix graphics and text. It also pioneered the inclusion of colour graphics within adventures. Unhappily for the Amiga world, Sierra seems to be fairly entrenched in the sad PC adventure game ideals of stodge and cheap humour.

In 1984 it launched its adventure design system, the *3D Adventure Game Interpreter*. This featured a main character that could manoeuvre freely through the graphics in 3D perspective. This innovative approach to adventure gaming is still being copied by other companies today. Sierra produced many of its games for the Amiga, including the latter half of the *Kings Quest* series and the *Police Quest* games. It also produced the particularly poor *Leisure Suit Larry* series of adventure games. Contact: Sierra, Unit 2, Technology Centre, Station Road, Theale, Reading, Berkshire, RG7 4AA. Tel: 0734 303171. Fax: 0734 303201.

Continued over

SILICA: One of the top two Amiga distributors in the country. Silica can be contacted at 1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX. Tel: 081-309 1111.

SIGNA PUBLISHING: Company responsible for distributing mainly American desktop publishing programs such as *Pagestream* in this country. Tel: 0252 370066

SIM CITY: One of the first and one of the best god games. In this minor classic from Infogrames you must build, control and administrate a city. It's a remarkably detailed game which involves setting taxes, organising power supplies, setting up police and fire departments and all the other bits and pieces you need to keep the metropolis running smoothly.

It received the highest possible plaudit when it gained an ***Amiga Format*** *Gold* rating of 92 per cent in January 1990 (*AF* 6). Release price £29.99. Building on the success of the original *Sim City*, Action Sixteen, released a series of new scenarios for the game including *Future Cities*, which has a Gotham City and Moonbase setting; *Ancient Cities* and *Sim City Terrain Editor*, which enables you to create your own maps on which to create the *Sim City* scenarios. Release price for all of these: £7.99. The CD version of *Sim City* features a few new historical scenarios and received a 75 per cent ***Amiga Format*** rating when it was reviewed in October 1992. The CD release price was £29.99.



***Sim City*: one of those groundbreaking games that had even the most serious Amiga user wondering how this much fun could be this taxing.**

SIMM: Single In-line Memory Management units. RAM usually comes in the form of SIMM cards which simply plug into the appropriate slot on the motherboard of the Amiga. (See RAM, Motherboard)

SIMPATICA: (Release price £1,795) hardware/software video editing package from Artbeat Graphics for creation of broadcast-quality Amiga graphics any video format. What made *Simpatica* so special when it was released in January 1991 was that it automated the process of editing animations and saving them to video tape. At the time no other program was capable of doing that.

SIMPSONS, THE: Characters often featured in Amiga demoes and in two Amiga games from Acclaim: *The Simpsons* got 82 per cent in September 1991 (*AF*26), *Krusty's Super Fun House* got 85 per cent in February 1993 (*AF*43).

SIMULMONDO: Italian software house based in Bologna who are responsible for *Dylan Dog – The Murderers*, *F1 Manager* and *Mille Miglia*.

SINGLETON MIKE: If nothing else (and he is a great deal more) Mike is proof positive that old programmers don't retire, they just move on to the next big thing; Mike made his name creating huge role playing games such as *Lords of Midnight*, on the 8-bit machines, before seeing the light and moving on to the Amiga.

Mike and his Maelstrom team have been responsible for some of the most engrossing games to grace a computer, including the superb *Midwinter* and its sequel *Flames Of Freedom*. These games prove Mike is a master of the whole-world game genre. (See Whole-world Games).



Mike Singleton's *Midwinter 2: Flames of Freedom* is another well-made sequel and it is highly recommended; if you own a hard drive that is.

SLQ: Super Letter Quality. A font available on some printers for producing finished documents of very high quality. Using the SLQ function will slow down the printer. (See NLQ).

SMITH, ANDY: Andy Smith was a member of the ***Amiga Format*** launch team and joined the magazine from ACE as reviews editor. Previous to that he worked in a pie factory. Andy is a 14-hour-a-day games player and blames his introversion on too much *Elite*.

SMITH, MATTHEW: Programmed the first ever platform game, *Manic Miner*. The game was originally written for the 8-bit Spectrum computer. It was converted to the Amiga in 1990 by Software Projects and received an ***Amiga Format*** rating of 25 percent.

SMITH, RT: Programmer best known for his work for the software house CCS. His most famous game is *Ancient Battles*. (See CCS)

SMITH, TIM: Editor ***Amiga Format*** *Specials*. Tim Smith worked as news editor on the now defunct *New Computer Express* before moving on to *PC Format* for a brief sojourn as features editor. He then moved over to ***Amiga Format*** in the same capacity. He took over from Karl Foster as *AFS* editor.

SNAPSHOT: This is a Workbench function that enables you to reposition icons and then permanently fix their new position so that they will appear there whenever you use your Amiga. This means that you can arrange the desktop to look the way you like it and then save the data so that whenever you boot up everything's where you need it.

SOFT STUFF: Software house that released a series of educational programs for children. The best of these is *Magic Storybook*, a program that encourages children to create stories using illustrations, animation and sound. Other *Soft Stuff* programs include *Let's Spell At Home* & *Let's Spell At Home/French*.

SOFT-LOGIK: Company responsible for the acclaimed DTP program, *Pagestream*. 11131 F S.Towne Sq. ST Louis MO 62123. Tel: 0101–314 894 8608.

SOFTVILLE: Public Domain company. This is a nice, big friendly family business which is usually in evidence at the various Amiga computer shows. It carries the Fish Disks, (see Fish, Fred) Amicus, PAN, Slipped Disk and FAUG libraries as well as their own SOF library. Contact Softville at 35 Market Parade, Havant, Hampshire. Tel: 0705 498199. (see Public Domain).

SOUND MASTER: A top-of-the-range sampling package from Aegis that received a 91 per cent ***Amiga Format*** *Gold* rating when it was reviewed in August 1991 (*AF* 25). Release price £129.95.

SOUND SAMPLER: A device for capturing cycles of sound and music forf use in a variety of Amiga programs. See Samplers, Demoes.

SOUTH, PHIL: Amiga author and freelance writer for ***Amiga Format***.

SPECTRAVIDEO: Joystick manufacturing company. Their best ever model is the Quickshot II, a micro switched 'stick with autofire and a pleasant grip.

SPEEDBALL 2: One of the best games ever released for the Amiga, certainly in virtually every gameplayers top ten. *Speedball 2* from Mirrorsoft is a futuristic, bruising American football game in which the players wear body armour, and crash into one another with bone-crunching realism. The scoring methods are intriguing and include bounce domes, which send the ball flying away and multiply your score, an electrobounce, which means the opposition players are tackled as soon as they try to pick up the ball, warp gates, that transport the ball to the other side of the pitch and much, much more. The game can be played in a number of ways. You can try to climb up from lower divisions, take the role of the manager and give training or coaching sessions, or you can play in a straight knockout to try to win the Speedball Players Association Cup. A wonderful game in every way especially as it brings out the rotten cheat in all of us. Received a 94 per cent ***Amiga Format*** Gold rating in March 1991 (AF 20). Release price £24.99.

SPELLICOPTER: A children's spelling program from ESP, which works by showing a picture of the object to be spelt and asking for the correct spelling. If the child gets the spelling right, time is added on to the end of level game. If the kid gets it wrong, the program displays the correct spelling and asks the child to try again. In the end of level game the child controls a helicopter and shoots at rapidly rising balloons. Received a 90 per cent Amiga Format rating in August 1991 (AF 13). Release price £19.95.

SPINDIZZY WORLDS: Regarded by many as one of the best games for the Amiga, *Spindizzy Worlds* from Activision is a peculiar but compelling game in which you control a spinning top (actually a space probe) called Gerald. (Geographical Environmental Reconnaissance And Landmapping Device), which zooms around exploring various worlds. Gerald is attacked by aliens and runs out of fuel if you don't collect more from diamonds scattered around



Speedball 2 **a sequel that was better than the original! The gameplay was improved, and the graphics – even in detail as shown here – were great.**



Mile High Stadium, Ibrox; the Amiga can also host any sport like these great stadia (see Sports Games). This is *John Madden's Football* by the way.

those worlds. Gerald travels between the different worlds via teleports, which are only accessible if you complete certain puzzles. *Spindizzy Worlds* earned a 94 per cent ***Amiga Format*** rating in January 1991 (AF 6) and cost £24.99 when it was released. Unfortunately *Spindizzy Worlds* may no longer be available as Activision went under and was bought out by The Disc Company.

SPLITTER: A device for splitting a video image into red green and blue image components (RGB) electronically rather than with a black and white camera and filters.

SPORTS GAMES: It all started with a sports game. The very first coin-op, a game which appeared in pubs up and down the country in the late '70s was *Pong*, a very simple tennis game with all the lasting interest of an ice cream. Over the years the sports game has evolved from cartoon graphic Olympic games to incredibly realistic car racing games. The Amiga has seen most of these changes. Initially it was golf games such as *Leaderboard* which scored highly. This was in fact, the first attempt to bring any sense of realism to the genre. Previously sports games simply involved a frantic waggling of the joystick but *Leaderboard* was great because, with its 3D graphics, you actually got a feel for the game of golf. Early athletics sponsorship deals include Daley Thompson, Eddie 'The Eagle' Edwards, and umpteen football tie-ins. Everyone from Wimbledon to Liverpool and back again has had a game created for them. Of course, the team name on the box is about all that they have to do with the game, bar the odd publicity shot of the celebs holding a joystick the wrong way round. Practically every sport in existence has been given the Amiga treatment during the last seven years. Rugby, Table Tennis, Baseball, Volleyball, Tiddlywinks, Surfing, Jet Skiing, Mountain Climbing, you name it, there's probably an Amiga game about it. During the last two years, the move towards a more realistic interpretation of sport has continued and there are now superb games for the better sports. If football is to your taste, then the *Sensible Soccer* and *Kick Off* are the best there are, while if you prefer footy in the American style then *John Madden's Football* from Electronic Arts is the only game you should bother with. Tennis is best computerised in UbiSoft's *Pro Tennis Tour 2*, golf in *Nick Faldo's Golf* and Snooker in *Jimmy White's Whirlwind Snooker*. If your tastes run more to the two or four wheel sports then you're spoilered for choice. Aspiring racing drivers should check out the superb *Formula One Grand Prix* from Microprose. Also of note is Electronic Art's *Indianapolis 500*, which simulates the peculiar American circuit racing matches. Motorbike fans should check out GBH's *Team Suzuki* or Psygnosis' *Red Zone*. If you're not into sports at all, but still like a giggle then try *MUDS* which is a hybrid of rugby and basketball blended with violence, the radical *Pinball Fantasies*, or the Bitmap Brothers' *Speedball 2*.

SPREADSHEET: A spreadsheet is best thought of as a large sheet of electronic paper divided into a grid. The boxes on the grid are called cells. Spreadsheets enable you to enter values or formulae into the grid and perform 'what if' calculations on them. They are therefore invaluable to businesses to store cashflow and cash projection information.The very first spreadsheet was called *VisiCalc*. Spreadsheet programs recommended by ***Amiga Format***

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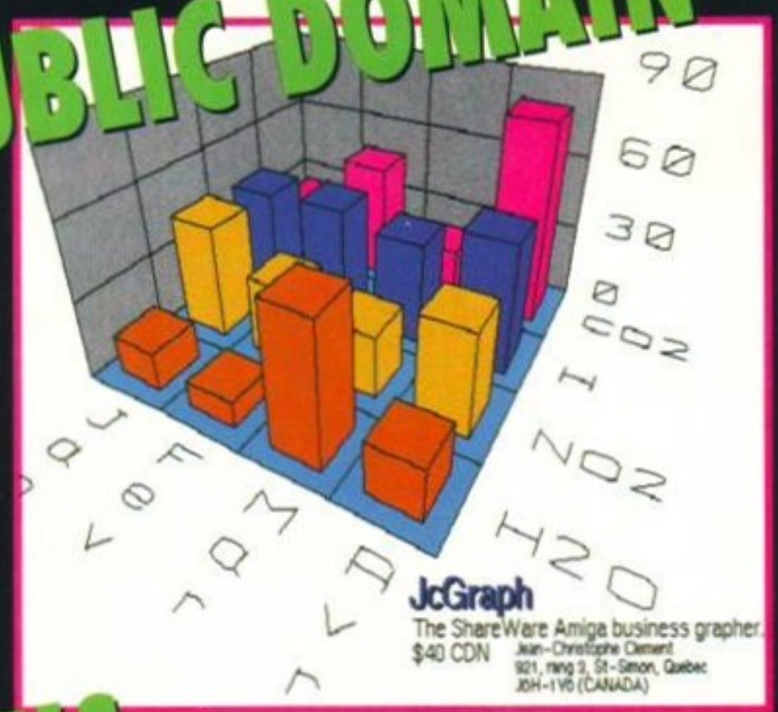
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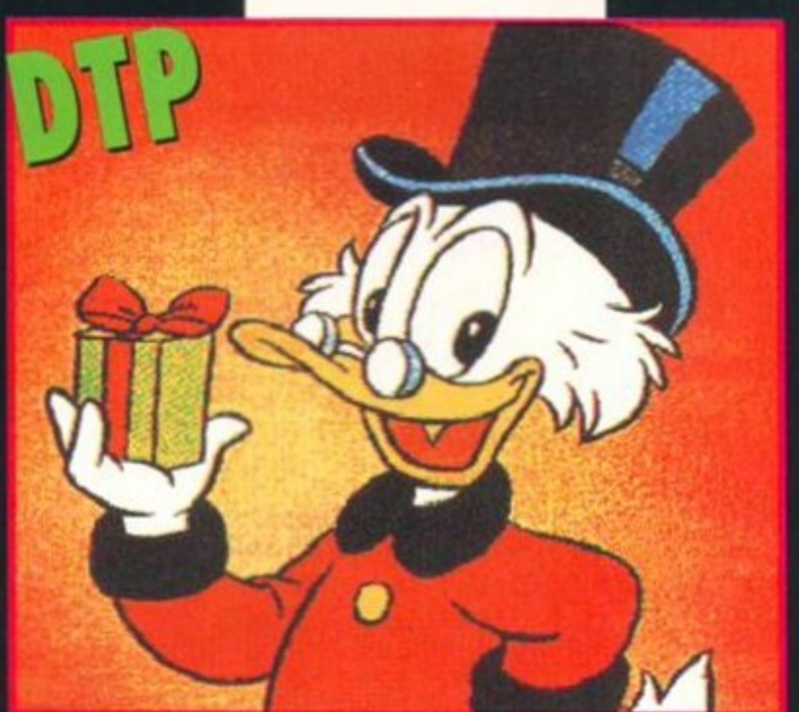
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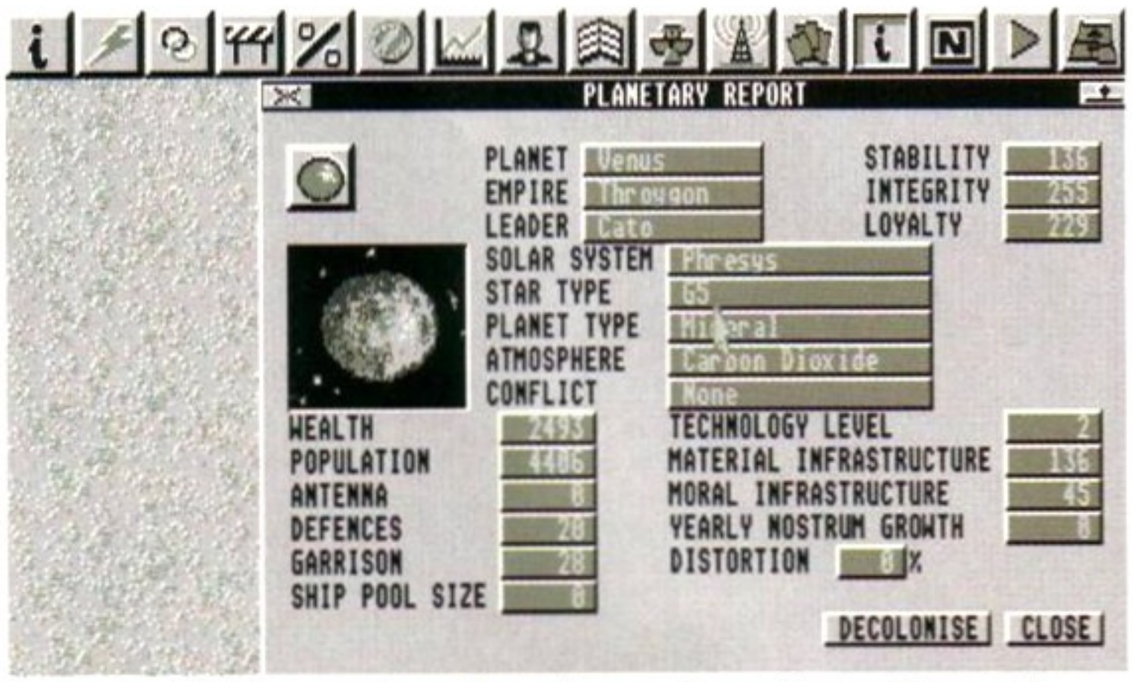
SSI: SSI is best known for its RPG games, and most notably *Eye e of the Beholder* and *Eye of the beholder II*.The latter is one of the most popular RPG games ever on the Amiga. Forthcoming games for '93 include Dark *Sun* (full screen RPG game featuring 200 spells and smooth animation)*Eye of the Beholder III* (called *Assault on Myth Drannor* this is 50 per cent bigger than the first two games, includes 35 different monsters, and enhanced graphics), *Tony LaRussa's Baseball* and new scenarios for their *Great Naval Battles* games.(See RPGs). Contact: Strategic Simulations Inc, 675 Almanor Avenue, Suite 201, Sunnyvale, CA, 94086, Tel: 0101 408 737 6800.

STAR PRINTERS: Star produces a wide variety of dot matrix, bubble jet and laser printers across the whole spectrum of prices. In an extensive ***Amiga Format*** printer test in October 1992 the Star printers shaped up as follows: Star LC20 nine-pin dot matrix, 65 per cent (release price £235); Star LC24-20 24-pin dot matrix, 85 per cent (release price £305); Star LC200 nine-pin dot matrix, 82 per cent (release price £259); Star XB24-200 24 pin dot matrix, 75 per cent (release price £586); Star LC24-200 24-pin dot matrix, 77 per cent (release price £305); Star SJ48 bubblejet, 65 per cent (release price £583); Star Laserprinter 4, 78 per cent (release price £1173).

STARGLIDER 2: A particularly good budget space shoot-em-up from Mirror Image. When the game was originally released it was highly rated due to the fast 3D graphics and excellent long term mission goals. It received an 88 per cent ***Amiga Format*** rating in February 1992 (*AF* 31). Release price £7.99.

STENCIL: An area of the screen in a paint package that is masked off so that you can't draw on it. Colour stencils are areas where you can't draw on a particular colour or set of colours. Area stencils describe drawing an outline around an area of the screen to protect it from being drawn over.

STEPHENS, ADRIAN: See Assembly Line.



Matthew Stibble, the creator of *Imperium* creates entire healthy worlds within his game. Your job is to keep them that way.

STIBBLE, MATTHEW: Programmed *Imperium*, a strategy game in which the player takes command of an imaginary galactic power based on a planet called Earth. By skillful use of diplomacy, economics and military force you must conquer and populate a small galaxy. Stibble also programmed *'Nam*, a game that fits into the history category. In fact history games are really strategy games set in a historical period or based on a historical character. They are usually very accurately researched and the strategy options open to you are based on real events. Stibble was well-placed to research *'Nam* as he was a history student at Oxford University, and became fascinated with the Vietnam War after seeing *Apocalypse Now*. *'Nam* is an incredibly complicated history-cum-strategy wargame in which you play the president of the United States and must oversee troop movements, funding for the war, keep an eye on public disquiet back home and sort out various political problems. Earned an 88 per cent rating in ***Amiga Format.***

STORM MASTER: Highly impressive game from Silmarils which combines strategy and arcade adventure. You can play in one of five war scenarios in a conflict between two islands and must use your administrative, tactical and



He looks on in awe at a half-decent footy game on the Amiga: *Striker* competes with the Two-Party system of *Kick Off* and *Sensible Soccer*.

fighting skills to defeat the enemy. Received a 90 per cent ***Amiga Format*** Gold rating in April 1992 (*AF* 33). Release price £29.99.

STORM: Nadia Singh, The Lombard Business Centre, 50 Lombard Road, London, SW11 3SU, Tel: 071 585 3308, Fax: 071 924 3419

STRACHAN, MARK: Mark Strachan and Dominic Wheatley are the two men behind Domark, one of Britain's biggest games software publishers. The word Domark is a contraction of Dominic/Mark. (See Domark).

STRIDER: An outstanding platform shoot-em-up from US Gold set in Russia in which you take on KGB agents, Siberian monsters and various end of level baddies. *Strider* doesn't exactly break new ground in the shoot-em-up genre, but it boasts excellent graphics, and is curiously addictive. It earned a 91 per cent ***Amiga Format*** *Gold* rating in October 1989. Release price £19.99.

STRIKER: An excellent football sim from Rage Software that received a 93 per cent ***Amiga Format*** *Gold* rating in July 1992. (*AF* 36). *Striker* has a simple control system, and features such as trapping the ball, the pace of a pass and general ball control are dictated by each team's skill level, leaving you free to concentrate on the finer points of the game. The game has 64 teams, all of which are seeded and given talents based on their performance in the 1990 World Cup, For example the Germans have the best ball control, team intelligence and speed, whereas Qatar are barely capable of running 10 yards without losing the ball. Release price £25.99.

STUNT CAR RACER: A simple but hugely enjoyable racing game from Microstyle, written by Geoff Crammond, who went on to create the outstanding *Formula One Grand Prix* and *Indianapolis 500*.All three of the games were awarded ***Amiga Format*** Gold ratings, *Stunt Car Racer* receiving 93 per cent in January 1990 (*AFS* 6). The idea of the game is to race a stunt car around death-defying tracks. You start in Division Four and the aim is to work your way up to Division One and win the championship. You, and the other cars, are awarded points for winning races and recording the fastest lap times and if you win the division you are promoted. Stunt Car Racer has excellent graphics and is fiendishly addictive. Release price £24.95. (See Crammond, Geoff).



16-cylinder engines propel your turbo-nutter mobile around a decidedly scary course in Geoff Crammond's still wonderful *Stunt Car Racer*.

Continued over on page 104

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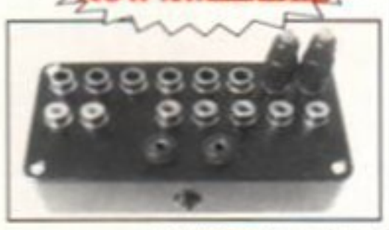
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SUMNER, KELLY: Managing Director of Commodore UK. Kelly started out on the engineering side of things, before joining the Amiga sales team. He has risen up the ranks of the company and recently took over from Steve Franklin as head of the British arm of the company. Sumner recently told Amiga Format readers that his main ambition for the company was to "...dominate the field of multimedia, through products like the CDTV and the Amiga's technology... we will ensure that it remains the smartest, fastest option for years to come..."

SUNRIZE: Music and video hardware company. Sunrize has been responsible for the music packages: Studio 16, Audition 4, Studio Magic and Perfect Sound. In terms of video hardware the company has produced: Color Splitter, Perfect Vision, Desktop Artists and City Desk. The company is keen to pursue only audio hardware now, particularly 16-bit technology. Contact: 295 S. Winchester Blvd., Suite 204, Campbell, CA, 95008, USA, Tel: 0101 408 3784 4962, Fax: 0101–408 374 4963.

SUPERBASE PROFESSIONAL 4: One of the best database programs available for the Amiga, or any other computer for that matter. *Superbase Pro 4* from Oxxi/Aegis is a flexible and powerful program that gives you easy access to your records and even comes with its own programming language that enables you to define your own search strings through a command language similar to BASIC. It's not a cheap program (release price £199.99) but it's one of the very best, and received an ***Amiga Format*** *Gold* rating of 90 per cent in October 1992 (*AF* 39).

SUPRA CORPORATION: Supra was formed shortly after high school graduation, in 1981, by John Wiley and Alan Ackerman in a 10-foot corner of a bicycle shop. As business took off, the two opened a shop, hired a manager to run it and went off to college. In 1982 the fledgling Supra company exhibited a printer solution at the West Coast Computer Fair and took orders for more than $80,000, an experience which convinced the entrepreneurs to move from retail into manufacturing. Despite nearly going bust in 1984, the company lived on and in 1987 it introduced its first modem product the SupraModem 2400. Thanks to the use of integrated chip sets, this modem was a good $300 cheaper than the opposition. The company has since produced a range of modems right up to 9600 baud standards. In the future Supra plans to introduce modems and fax/modems which have intelligent message displays, error correction mode for near-perfect fax transmission and hardware to differentiate between voice and fax transmissions. Forthcoming products include internal modems and voice messaging. Contact: 7101 Supra Drive SW, Albany, Oregon, 97321, USA. Tel: 0101–503 967 2401, Fax: 0101–503 967 2400.

SUPRA 9600: An outstanding modem from Supra Corporation via WTS, which received a 90 per cent ***Amiga Format*** *Gold* rating in September 1992 (*AF* 39). Costing £249 (release price), this is reckoned to be one of the best modems available for the Amiga. The only problem is that it can be a bit tricky getting hold of one (See Modems).



The SupraFax modem is an exceptionally useful piece of hardware. The ability to send faxes straight from the Amiga saves considerable hassle.



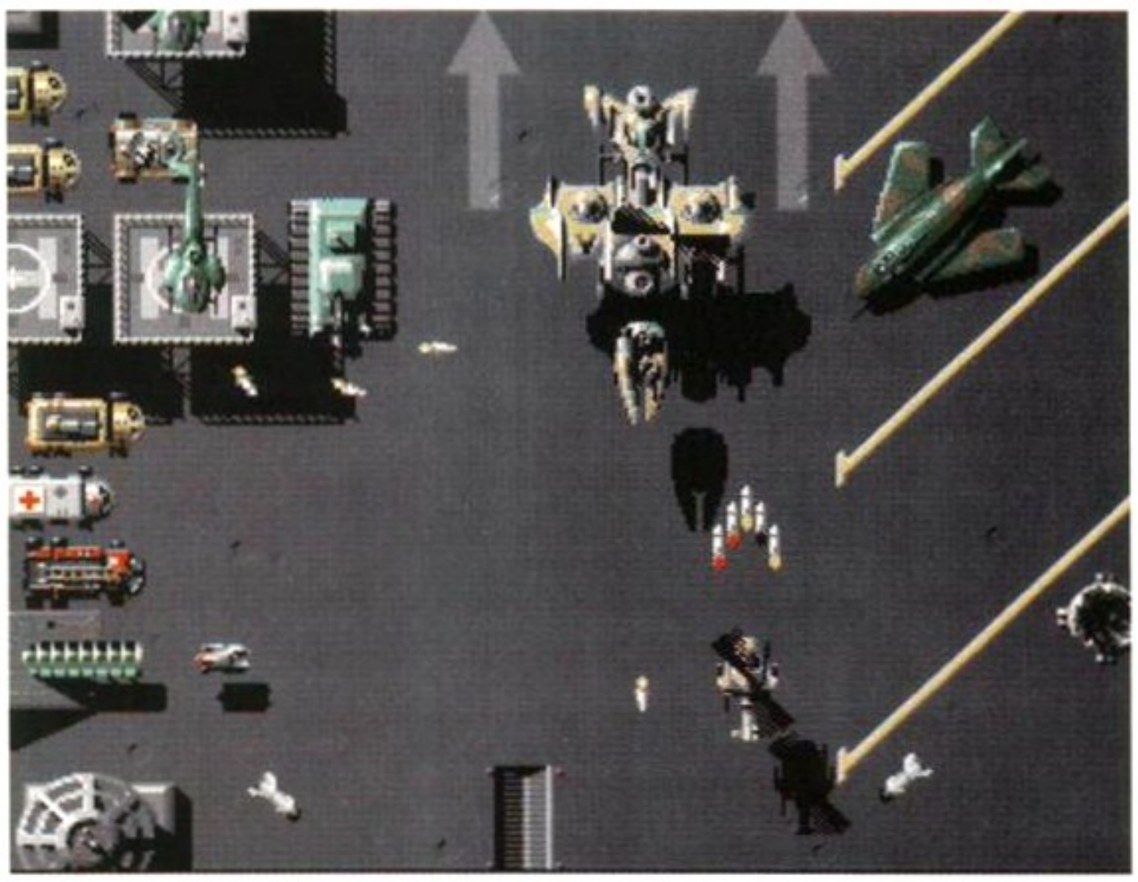
He looks like a zombie, but if you want to win at *Supremacy* you'd better be nice to him... and to his gun. You need brain and brawn for this one.

SUPRA FAXMODEM: An excellent modem from First Choice Computers which, as its name would suggest, also enables you to send and receive faxes. The SupraFAXmodem is small, fast, easy to use, and so impressed ***Amiga Format*** that it earned a 93 per cent Gold rating in September 1992 (*AF* 39) Release price £259. (See Modem).

SUPREMACY: A god game from Virgin in which you must populate and manage an entire solar system, rather than the more usual city, island or country. You start off with just one planet, and by combining good management with shrewd battle tactics against your four opponents you can build a solar empire. Excellent graphics and an addictive plot earned it an ***Amiga Format*** *Gold* rating of 90 per cent in October 1990 (*AF* 15). Release price £29.95.

SWIV: A highly-rated vertically scrolling shoot-em-up from Storm in which you control a search and destroy team which goes behind enemy lines to wipe out installations, and troops. Your means of transport are a helicopter or jeep and there are various air, sea and land battle scenarios. The graphics are amazing the sound is excellent and ***Amiga Format*** billed SWIV as: The most frantic shoot-em-up about for quite some time." when it was awarded a 92 per cent *Gold* rating in April 1991 (*AF* 20). The name *SWIV* stands for Special Weapons Interdiction Vehicle. Release price £24.99.

SYSOP: SYStems OPerator. It usually applies to the person who sets up a Bulletin Board Service and oversees its day-to-day running. On many bulletin boards the Sysop is seen as a deity whom it isn't wise to annoy. (See BBS).



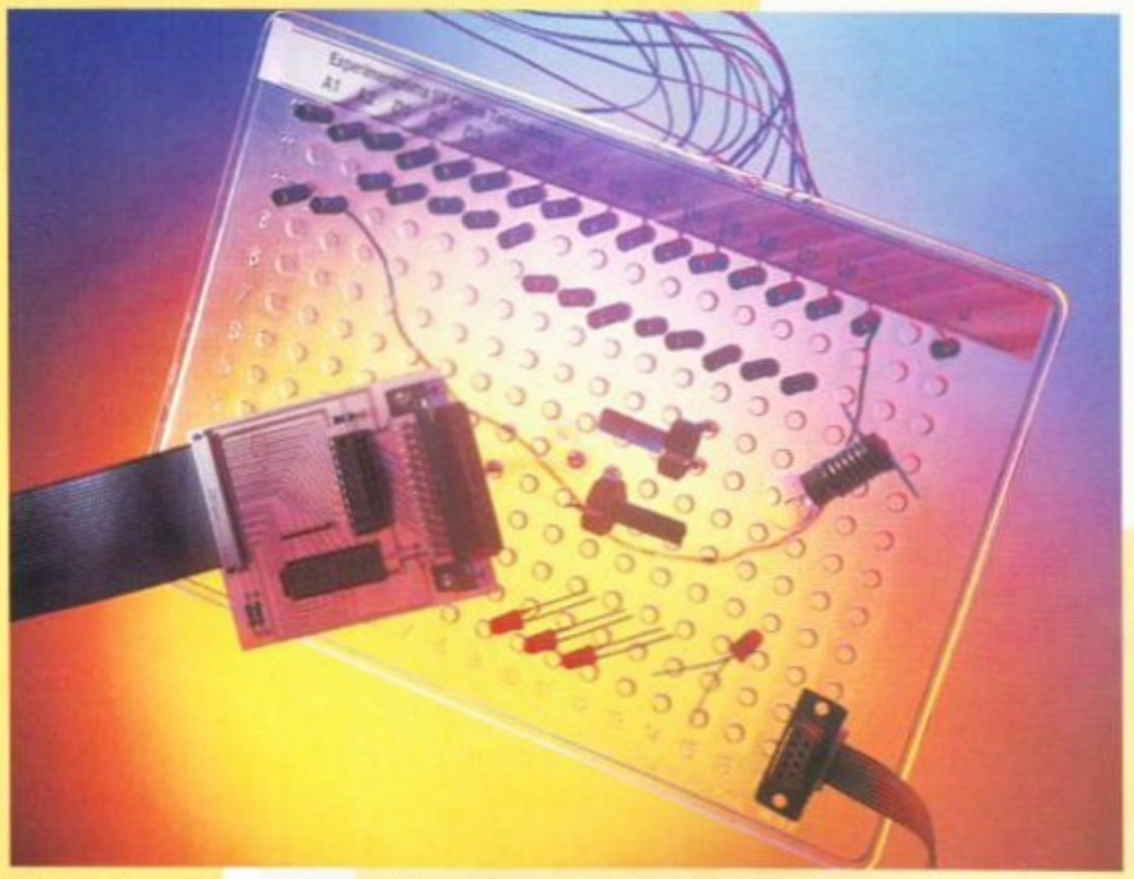
In *Swiv* you can control a jeep or a helicopter. Whatever your mate tells you, the 'copter is the best.

Including Team 17, *Their Finest Hour*, Jack Tramiel and a certain politician by the name of Margaret Hilda Thatcher

TEAM 17: Arising out of the busy Amiga PD scene, Team 17 was formed in 1990 by a group of demo programmers unhappy with the state of the software industry. They decided to start programming their own games based upon feedback from Amiga-owning friends and the result was their first game, a budget title called *Full Contact*. The game which first really got Team 17 noticed was the frantic shoot-em-up, *Alien Breed*, which was inspired by the film *Aliens* and was an overhead blasting game with great gameplay and some superb samples. However, it wasn't until Team 17 released *Project-X*, that people really started paying attention. The game was highly rated, due in no small part to the extreme difficulty it presented to all those who tried to beat it.

The success of this title has enabled the company to step up production. As a result it released *Assassin* and *Alien Breed 92* in the latter half of '92 and announced five new games for release during '93. These will include some A1200 and CDTV titles. Contact: Team 17 Software Ltd, Marwood House, Garden Street, Wakefield, West Yorkshire, WF1 1XX, Tel: 0924 201846, Fax 0924 201849. (See Shoot-Em-Up).

TECHNO AMIGA: Remember those weird Tandy 100-in-1 science kits in which you could make medium wave radios and flash the lights on an LED on and off? Well this is the 1990s version, a 100-in-1 which plugs into your Amiga. The actual unit comes in the form of a breadboard which plugs into the back of the Amiga and the appropriate electronic components are then slotted into place as and when they are required. The Techno Amiga package comes complete with a series of programs to read the data from the board, such as temperature monitors or alarm programs. This is a worthy educational device which would be beneficial at home or in the school. Received a 90 per cent ***Amiga Format*** *Gold* rating in December 1991 (AF 29). Originally cost £99.

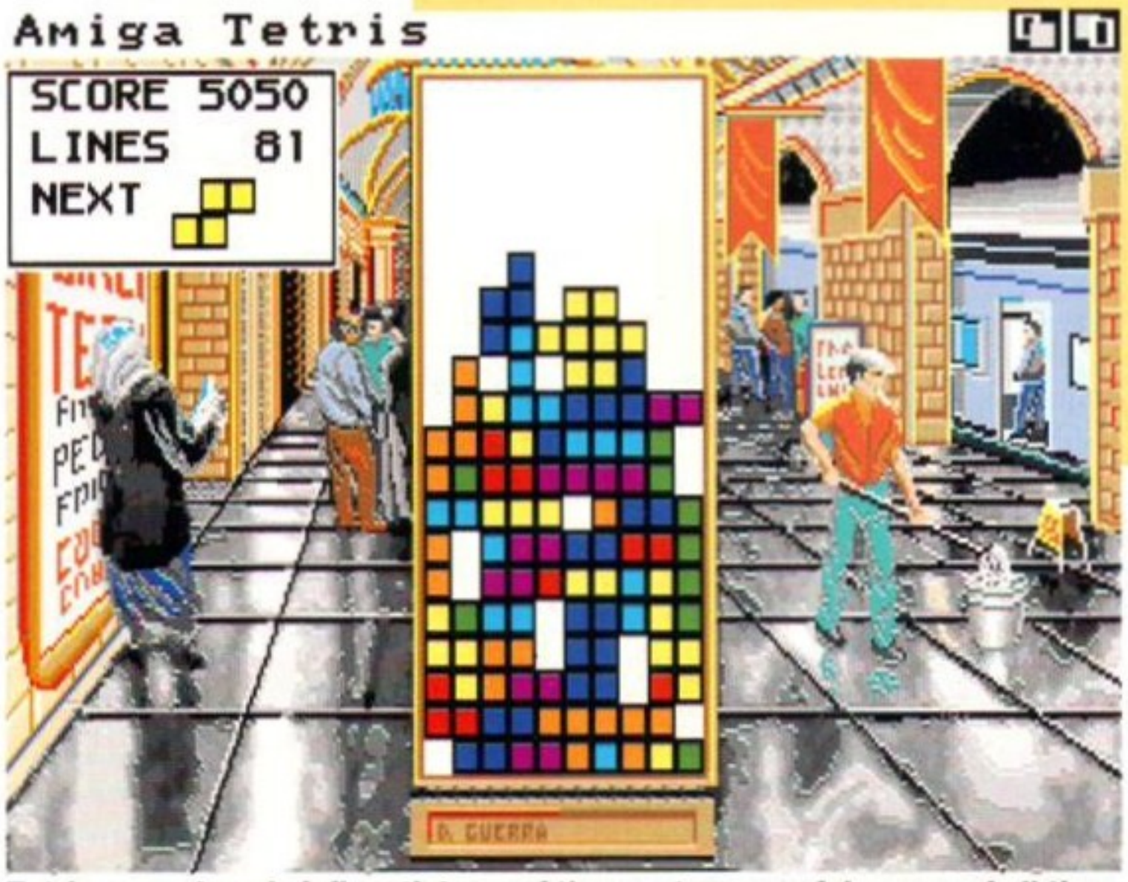


The Techno Amiga is a useful educational device which enables you to create things such as temperature monitors and read the results on the Amiga.

TEQUE: Programming team responsible for the excellent Shadowlands, and the not-quite-as-good *Shadoworlds*. (See Shadowlands).

TETRIS: As with all the best games, this is a terribly simple idea, brilliantly executed. *Tetris* was originally conceived by a Russian mathematician who wanted to write a game based around shapes and geometry. Somehow his invention crossed the Baltic and ended up on computers all over Europe, then Japan and finally America. It has gone on to become possibly the most successful computer game of all time.

The idea of *Tetris* is simple enough, a series of shapes, constructed of up to four little squares tumble down the screen. The player has to rotate and place these shapes so that no gaps are left at the bottom of the screen. The game quickens up to quite considerable speeds and is a mighty test of fast-thinking. Infogrames released the last Amiga version in mid-'91, though there are Public Domain ones available. Despite its worldwide success, *Tetris* remains something of a cult game, and perhaps because of this only received a 70 per cent ***Amiga Format*** rating in June 1991 (AF 23). The Infogrames *Tetris* originally cost £24.99. Infogrames follow up to *Tetris* was *Welltris* The idea of the game is to move three dimensional shapes of odd proportions down a three dimensional 'well' made up of 12 or more levels. The game is a test of timing and dimensional skills as you have to slot together each level perfectly so that it drops off the bottom of the well. Make too many mistakes and the well will slowly fill up giving you less time to judge where to slot a piece and more room for error. Although the game was highly rated at the time (***Amiga Format*** gave it 88 per cent in September 1990 (AF 14), it hasn't gone on to become a classic, whereas *Tetris* goes from strength to strength. Original cost: £24.99



Tetris was a hugely influential one of the most successful games of all time. It was originally conceived by a Russian mathematician.

TEXT EDITOR: Technical word processor. Programmers use these to create bits of code or to modify files, without having to resort to hacking tools. They usually include scientific calculators which can convert numbers between bases. Text editors aren't much use for word processing as they lack the sophisticated word oriented features of such packages.

THALAMUS: Thalamus was formed as the software offshoot of the publishing house Newsfield, which produced the early magazines for 8-bit enthusiasts, *Crash* and *Zzap!*. Newsfield no longer exists, but Thalamus is still going strong and has just recently released *Creatures* a cute platform game, which is a conversion of an old C64 game. Contact: Thalamus: 47 Grave Hill, Ludlow, Shropshire, SY8 1QS, Tel: 0734 817261.



Margaret Thatcher: immortalised in Domark's *Splitting Image*

THATCHER, MARGARET HILDA: Greengrocer's daughter, MP for Finchley leader of the Conservative party and former Prime Minister. Maggie is generally regarded, even by her opponents (of which there are many) as one of the most daunting British politicians of all time.
She was immortalised on the Amiga with the game *Splitting Images* from software house Domark. *Splitting Images* is a puzzle game, the aim of which is to create pictures of celebrities, and politicians from composite parts. The game also featured Mikail Gorbachev and Ronald Reagan (those were the days, eh?).

Continued Over



Their Finest Hour is a popular World War II flight sim which received a 90 per cent *Amiga Format* rating in June 1990.

THEIR FINEST HOUR: Well designed and popular WWII flight simulator and strategy game from Lucasfilm/US Gold. The game enables you to fly Spitfires or Messerschmitts and have an old-fashioned dog fight over the English Channel. You can also fly single or campaign missions for either side and pick your own wing men. Lots of thought went into this game and although it's three years old now, it's still a hell of a lot of fun. Received a 90 per cent ***Amiga Format*** Gold rating in June 1990 and cost. £30.99 when it was first released. *Their Finest Missions* which was released at the end of 1991 adds 23 new missions to the package for £19.99.



Helicopter flight sim Thunderhawk got a 90 per cent rating in 1991.

THUNDERHAWK: Superb helicopter flight simulator from Core Design. *Thunderhawk* manages to be both an impressive sim and a fun arcade game at the same time. It has a brilliant control system, six campaigns (each with individual missions), fantastic animation and a great blend of science fiction and helicopter fact. It received an ***Amiga Format*** *Gold* rating of 90 per cent in September 1991 (AF 26) Originally cost £30.99.

TIGER CUB: A small 12-track sequencing package from Dr T's with graphic and notation scoring and editing facilities. *Tiger Cub* is a simplified version of the *Tiger* graphic music editing system and offers full graphical manipulation of MIDI data, including notes, velocity, pitch bending, control changes and aftertouch. It cost £99 when it was released and got a highly-respectable 81 per cent ***Amiga Format*** rating.

TIPSTER: Efficient betting database and prediction program from Tam Marketing. Tipster enables the user to input horse, race course and conditions information into the database and horses performance based on this data is then predicted. Might not make you a million but could well point you in the right direction. Release price £29.95.

TITLE PAGE: Efficient and effective video titling package from Eschalon Developments. The program includes a variety of fonts and video effects for recording or genlocking title information on to tape. There again you'd expect that for £140.

TOROK, KARL: Worked alongside John Downie to develop the plotter, a device for outputting images (See Downie, John.)

TOWER OF BABEL: A highly-rated 3D puzzle game from Rainbird. In order to solve a level you have to make use of three robots: the zapper, the pusher and the grabber. Cerebral stuff which has a well-judged difficulty curve. *Tower Of Babel* Received an ***Amiga Format*** *Gold* rating of 95 per cent in June 1990 (AF 11). Release price £24.95.

TOWER, GARY: Programmer who produced the Public Domain program *Another Gary Tower Slideshow*, a collection of ray-traced and fractal images. Some of the pics are pretty impressive.

TRACK BALLS: A variation on the mouse. A track ball is a sort of upside down mouse, so instead of moving the mouse around the table to move the roller ball, the ball is on the top of the track ball and you move it with the palm of your hand. (See Mouse).

TRAMIEL, JACK: One of the founders of Commodore Business Machines. Jack Tramiel was forced out of CBM in the early 1980s in a fit of corporate politics (see Commodore History). Not a man to crumble in the face of this kind of political finagling, Tramiel promptly went out and bought Atari. He then made sure that Atari made an initial investment in the nascent Amiga team, only to find the finished machine snatched from his (and Atari's) grasp by Commodore Business Machines. Jack Tramiel is currently heading up Atari. (See Atari).

TRANSPUTER: In the mid '80s everybody became terribly worried that we'd exhaust the capabilities of the silicon chip within a year or two and thus lots of lateral research was started. One of the great white hopes of that era was the development of transputer technology.

This basically chained lots of processors together and thus instead of offering say 16 bits of information a cycle processing power, or even 32 bits of information a cycle, these units enabled you to process hundreds of bits of information a cycle. Since those scary mid-'80s days, we've realised that we've only just started really pushing 32-bit technology and thus there's no need to start worrying about processing power just yet.

TRILOGIC: Trilogic was formed in 1984 by the current directors and started off by manufacturing back-up utilities for the Commodore 64, including the much sought after Expert Cartridge. Trilogic now sells a host of Amiga hardware products and also manufacture some of their own hardware including a memory card, sound sampler, midi interface, mouse, joystick and ROM switch.

The company is also an Amiga hard drive specialist and prides itself on providing a fast mail order service and aiming to provide all popular and many specialist Amiga products at a discount price. Contact: Trilogic, Unit 1, 253 New Works Road, Low Moor, Bradford BD12 0QP. Tel: (0274 691115).

TRIP-A-TRON: Singularly brilliant light-synthesiser type program from Jeff Minter's (see Minter, Jeff, Llamatron) Llamasoft outfit. More 'trip' than 'tron'. The program is designed to be played in synchronisation with music. You can either use the music itself to trigger the weird and wonderful patterns or you can click the program into psychedelic gear yourself.

Endless varieties of patterns can be created such as strobes, graphic animations and loads of weird psychedelic effects. The program is just as much fun if left running while your *Orb* album is on, or if used at a club or disco. It is decidedly eccentric, but decidedly fun. And it works even now; Rave on.



Mmmm... puzzles galore from the late lamented Rainbow Arts. *Tower of Bable* had thousands of Amiga users cursing and enjoying at the same time.



Trojan horses are just one form of computer virus. Read *Amiga Format*'s informative and helpful article in issue 41 (in which this image featured) if you're at all worried.

TROJAN HORSE: Type of computer virus (a malicious program written by idiots, which we didn't want to glorify with an entire entry to itself), also known as a Trojan. Basically a Trojan is a computer program with a sting in the tail, often activated on a timebomb basis. As the name suggests, Trojan Horses come disguised as other, benign or simply harmless programs, only to unleash great damage on hard disks, or floppies that are loaded while the Trojan is resident in memory.

True Trojans are relatively rare on the Amiga because they take some skill to implement. Consequently, what generally appear to be Amiga Trojans are in fact genuine programs infected by a Linkvirus or Parasite. (see Linkvirus, Parasite). Getting a good virus checker, and taking care not to use copied, pirated or 'borrowed' software is also a very good way of avoiding any infection of your valuable data.

TRUE COLOUR: A term referring to photographic quality computer graphics. The A1200 has a true colour mode which applies to the 16.7 million colours it can display. It is mostly used in high end video/DTP applications.

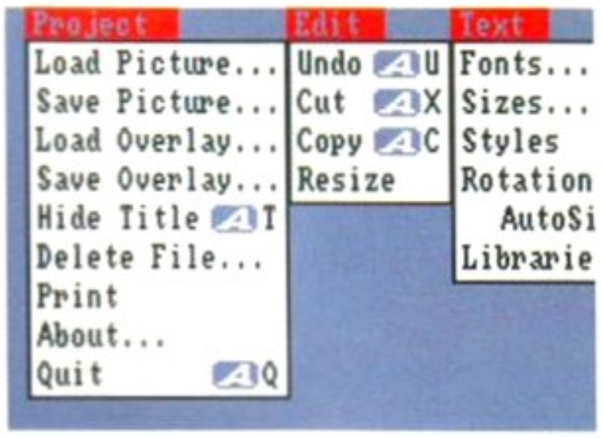
TURBOSILVER: TurboSilver 3 is a system for producing ray-traced and photo-realistic images. It also includes an animation package and a 3D editor. The TurboSilver setup is a package of six separate modules to expand the *TurboSilver 3* program. It gives the user greater flexibility and control over the *TurboSilver 3* program.

TURBOTEXT: This is a text editor from Oxxi/Aegis which received high praise and an ***Amiga Format*** *Gold* rating of 92 per cent in August 1991 (*AF* 25). A text editor is a simple but fast version of a word processor, which is used mainly for writing technical specifications and programs. When it was released, *TurboText* was reckoned to be just about the best program of its kind for the Amiga. Release price £40.00.

TURNER, BLANE: See Monumental Music.

TV*SHOW 2: Highly-rated desktop presentation system from Zuma which was released in June 1990. The program enables the user to create a list of events: animations, blends, wipes, fades etc which can be linked together and used for presentations or recorded onto video for titles and the like. An effective and easily learnt program. Release price £69.95.

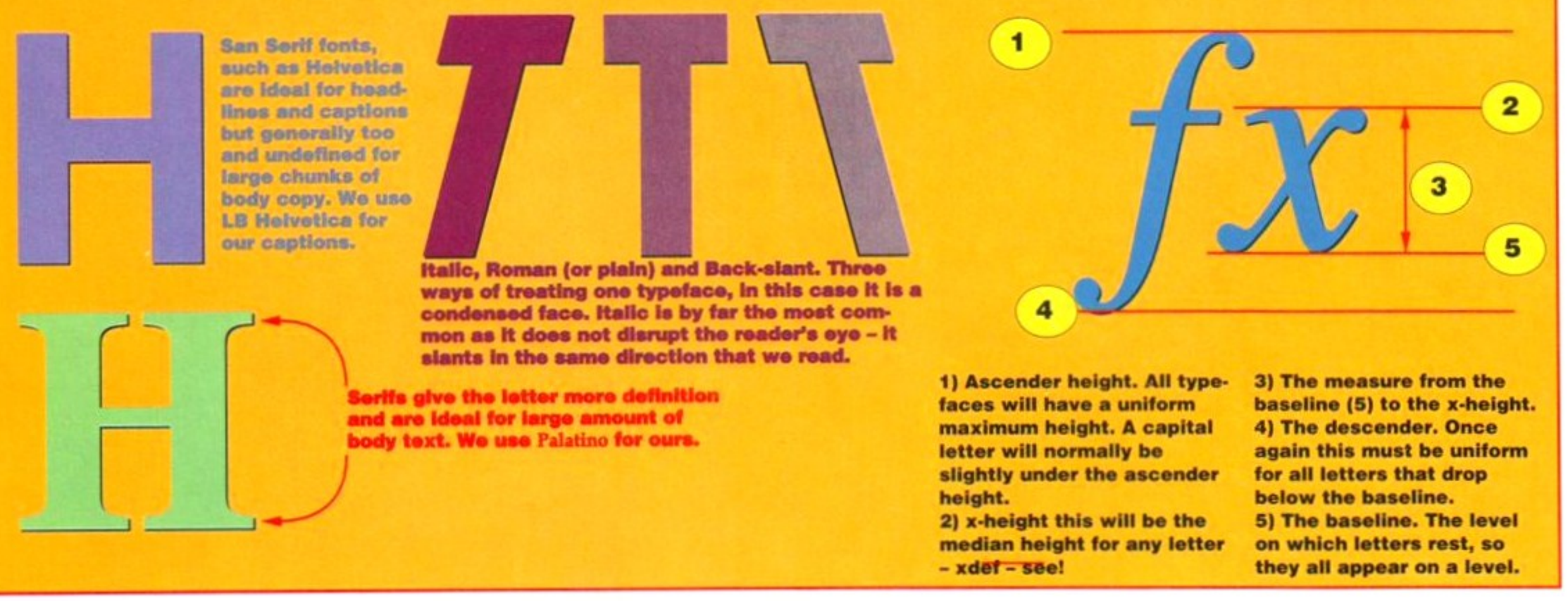
TV*TEXT PROFESSIONAL: Polished video titling program form HB Marketing which includes all the usual blends, wipes and movement effects which you'd expect to find. Cost £129.95 on release in May 1990. It's little brother, *TV*Text* was featured in Amiga Format's coverdisk on the December 1992 edition (issue 41).



TYPEFACES: It is important that you understand typefaces if you use your Amiga for Desktop Publishing. If you look at any printed material, such as a magazine, newspaper or leaflet, you will notice that the letters that make up the text the headlines and the captions, are probably of a different style in each of them. This is because they are all likely to use different typefaces.

For example the text you are now reading is printed in a typeface called Palatino. Other common typefaces include Helvetica, Times and Franklin Gothic. Can you see the difference between them? There are many hundreds of typefaces, but they are basically divided into two families. Serif and Sans Serif. Palatino and Times are both serif typefaces. Helvetica and Futura are both sans serif faces. The difference is that serif faces have little cross strokes at the end of each letter. Sans serif faces do not have these cross strokes. The reason the cross strokes are there goes right back to the earliest days of printing when each letter was individually carved by hand in stone. The stonemason put the cross strokes there to prevent the letters looking ragged. The difference between typefaces may seem like a small detail, but publishers spend ages agonising over which ones to use, and which combination of typefaces works best together. This is because they want their publication to look as attractive as possible and to be as easy to read as possible, as this obviously helps get across whatever message you are trying to convey. Incidentally, tests have repeatedly shown that people read serif faces much more quickly than sans serif faces. All of this is worth bearing in mind when you embark on Desktop Publishing.

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U & V From Ubi Soft to *Vroom* with a stopover at Urban Shakedown, Virgin Games and Viz

UBISOFT: A popular French software house, UbiSoft was formed in 1986 by Yves Guillemot. The company is part of a larger group including one of Europe's largest games distributors and it employs 50 people. All of the company's games are developed in France and they include *Pro Tennis Tour 1* and 2, *BAT*, *Battle Isle*, *The Perfect General* and *Dyna Blaster*. Of all its games, *Dyna Blaster*, is the best. The game is a superb multi-player affair that enables up to five people to potter around a *Pacman*-like maze blowing each other up. Contact: UbiSoft, Finchley House, 707 High Road, North Finchley, London, N112 0BT. Tel: 081–343 9055. Fax: 081–343 8544.

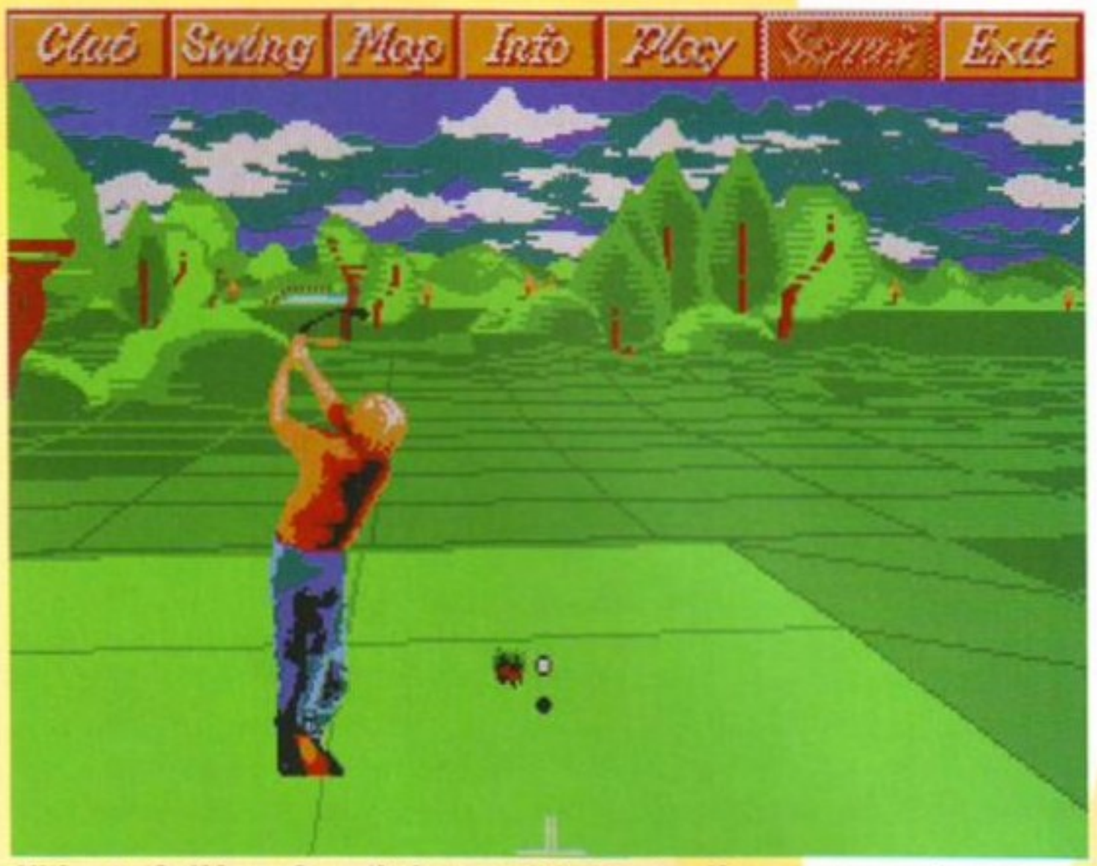
ULTIMATE GOLF: Launched initially by Gremlin for £24.99,this is one of the best golf games around, and got an ***Amiga Format*** Gold rating of 90 per cent when it was released for a budget £9.99 by GBH in March 1992. (AF 32) *Ultimate Golf* features tough obstacles, tricky greens and is frustrating and addictive.

ULTRACARD: The *UltraCard 1.5* from Intuitive Technology was the first Amiga Hyper-Media system when it was released early in 1990. It was described as: "a multi-tasking hyper-media information construction set." What all this means is that the UltraCard software enables you to bring together different sorts of data. For example if you have a database address book, running UltraCard enables you to click on one button to bring up the text address, click on another button to create a graphic representation and click on another to get a sampled voice of the person. *UltraCard 1.5* cost £39.95 when it was released.

ULTRADESIGN: The *UltraDesign* software from American company Progressive Peripherals and Software is a professional-standard Computer Aided Design package consisting of three separate programs: the *UltraDesign* editor a printing facility called *PasteUp* , and *CADverter*, which enables you to convert CAD files from other systems for use with *UltraDesign* – a particularly useful facility. *UltraDesign* cost £299.99 when it was released.

UNDERSTANDING IMAGINE: A reference book by Steven Worley that gives an explanation of the excellent *Imagine 2.0* 3D modelling and rendering system. The book (£15.95 from Alternative Image – 0533 440041) is a remarkably detailed and useful work for those who want to get the most out of the *Imagine 2.0* program, particularly as the program's manuals are not of the highest quality. Understanding Imagine received a 92 per cent ***Amiga Format*** gold rating in issue 43.

UNREAL: The team of writers and programmers who came up with *Cover Girl Poker*, a game described by the ***Amiga Format*** reviewer who awarded it 19 per cent as: "an all boobs and no brain strip-poker game." You play poker against a selection of eight Page Three girls who seem to have virtually no grasp of the game at all. You win, they remove an item of clothing. They win, the leggy lovelies put it back on again. *Cover Girl Poker* even comes with the particularly tacky facility of being able to zoom in on the models in all their digitised naked glory.



***Ultimate Golf* from Gremlin is one of the best golf games around... we especially like the flying divot, shown here in all its glory.**

UPLOAD: To transfer data to a host computer via a modem and a phone line. If you need to get a file of any description to a host computer then you'd use a comms package and a transfer protocol to zap your data elsewhere. This is a completely unmystical process which is easier than operating a hole-in-the-wall cash machine. (See Download, BBS)

URBAN SHAKEDOWN: Dance music duo who scored a chart success last year with the single *Some Justice*, which was created using two Amiga 500s, a *MED 3.0* tracker program *AudioMaster II* software, TechnoSound hardware, Newmark DJ mixer/sampler, a Phonic DJ mixer and a Zoom 9030 effects processor. Urban Shakedown are Gavin King and Claudia Guissani. They produce their tracks by using samples recorded from vinyl using *Audiomaster II* which are then constructed into songs using *MED 3.0*. To build up eight tracks they use the two Amigas in unison instead of the 8-track *OctaMED* software because they prefer the results that way. The Zoom 9030 is used to give extra depth to drum and other tracks. Mickey Finn, Marc Bolan's partner in T-Rex, was so impressed with Urban Shakedown's music that he contacted them and remixed a version of the *Some Justice* single. Urban Shakedown featured on the cover of Amiga Format issue 37.



Urban Shakedown: used their Amigas to create a chart hit *Some Justice*. The pop combo were featured on the cover of AF 37.

US GOLD: This is the largest software entertainment publisher in Europe. The company was started in 1984 by Geoff and Anne Brown who hit on the idea of releasing top notch American games in this country, hence the name of the firm. Initially it was American companies such as Epyx with superb games such as *Impossible Mission* which proved popular, but as the money rolled in, so US Gold started commissioning British programmers to produce home-grown fare. The company came to prominence in the early '90s by continuing to commission UK programmers while distributing foreign programs. As a result, American companies including LucasArts burst on to the scene with games such as *Monkey Island*, while previously unknown programming teams such as Delphine scored successfully with outstanding games such as *Operation Stealth* and *Another World*. These days US Gold has offices in the UK, Germany, France, Spain, Italy, the USA and Japan. US Gold has an equally large distribution division called Centresoft which controls the movement of software to over 4000

Continued Over

outlets from department stores to small independents. **Best US Gold Game Ever**: *Monkey Island*. **Worst US Gold Game Ever**: *Eswat*. **Best-Selling US Gold**: *Street Fighter 2*. Contact: US Gold, Units 2&3, Holford Way, Holford, Birmingham, B6 7AX. Tel: 021–625 3388. Fax: 021–625 3236.

V2000 BOARD: Bog standard 2Mb RAM upgrade board for the Amiga range. As this model, available from Virgo, cost £104.99 and was thus cheaper than most of the competition it proved to be a popular purchase for those with small memories.

VIDEO DIRECTOR: Brilliantly innovative video package which sums up what home computers are all about: bringing technology out of the studio, recording studio and workplace and into the home. Video Director is a home video editing kit which enables you to convert your muddled up home videos into slick, professional-looking films.

The whole package includes the appropriate leads to connect your video and camcorder up to the Amiga. If these are LANC compatible (that's like the video equivalent of MIDI) then your Amiga can have fine control over all the standard video functions (playback, record etc), but if you've got a bog standard model then you can train your Amiga to understand your remote control. Video Director has great documentation, loads of features and represents excellent value. ***Amiga Format*** was so impressed with Video Director it awarded it a 91 per cent Gold rating in March 1992 (AF 32). Video Director costs £149.95 and is produced by Gold Disk.

VIDEO STUDIO 3: Video titling and post-production package from Video Production Software. The program enables you to add text or pictures on to video when used in conjunction with a genlock. Title and end title sequences can be programmed in, along with flashy items such as Ident clocks or test cards. Pictures can be wiped or faded in and out and combinations can be recorded. The program is slightly lacking in terms of text quality but makes up for it slightly by having loads of features. It costs £149.

VIDI-AMIGA: Digitising package from Rombo. Although the quality of this real-time mono system isn't too brilliant these days, its animation features are still useful.

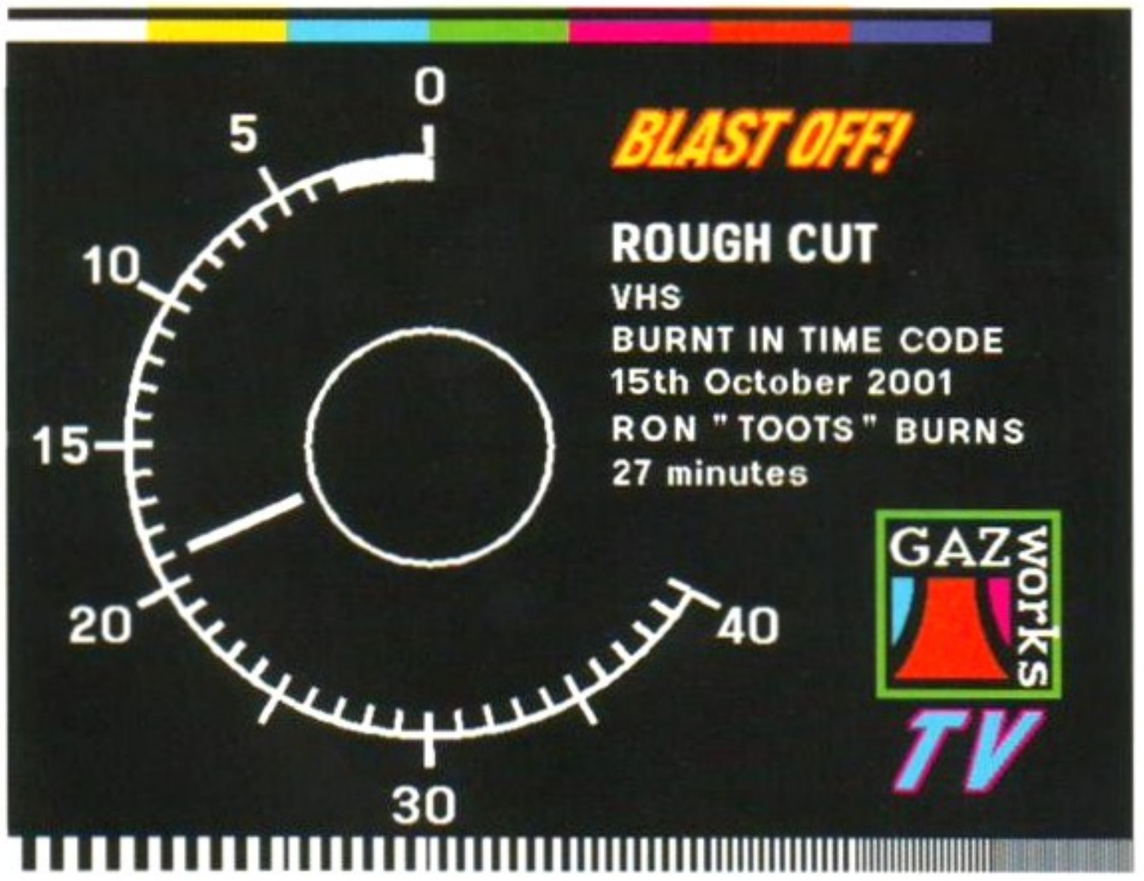
VIDI-CHROME: Colour upgrade package for Vidi-Amiga from Rombo. By using colour filters this program produces excellent HAM images, though it's worth stressing that it doesn't work in real-time.

VIDI COMPLETE COLOUR SOLUTION: A digitiser package from Rombo that received an ***Amiga Format*** Gold rating of 92 per cent in November 1992 (AF 40). The package comprises the basic VIDI Amiga, plus the RGB Colour Splitter and the *VIDIChrome* software that makes it all work. Release price £179.

VIEWDATA: A form of Bulletin Board Service that uses graphics similar to teletext on the TV. (See BBS).



The enormously technical, *Shuttle* is one of Virgin Software's best known Amiga games. The ashtray looks a bit full though.



***Video Studio 3* enables you to add all those 'professional' touches to your wedding, holiday or baby's first step videos.**

VIRGIN GAMES: Everyone knows the story of Richard Branson and how he started out flogging records in his back bedroom, but did you know that for the last couple of years, one of the most profitable portions of his recently sold empire was Virgin Games, the computer division? The games division of the Virgin group really came into existence in 1987, but it is only in the last three years that Virgin games added much dosh to the Branson dowry. Recent Virgin games to create a splash include *Shuttle*, *Jimmy White's 'Whirlwind' Snooker*, *Legend Of Kyrandia*, *Lure Of The Temptress* and *Reach For The Skies*. Of these the best are *Kyranida* and *Whirlwind Snooker*. The former is an excellent graphical adventure with excellent graphics, and the latter is a brilliant outing on the green baize. Contact: Virgin Games, 338A Ladbrooke Grove, London, W10 5AH. Tel: 081–960 2255. Fax: 081–960 9900.



The VR experience: helmet, gloves and poorly written games. Don't believe the hype, it'll be a long time before you can really get into VR.

VIRTUAL REALITY: Well, it's like this. William Gibson wrote a book called *Neuromancer* which was inspired by the paintings of one H.R. Geiger and this book sparked off a movement called Cyberpunk which is best typified by Ridley Scott's film *Blade Runner*. Got that? Good, because virtual reality is one of the main aspects of Cyberpunk. When asked recently what virtual reality was, Gibson replied that "..it's where your money is right now." Virtual reality is a computer world with which anyone can interface and explore (with the right equipment). In Gibson's books, the movement into the information age (the '80s and '90s) creates something called the Data-sea, a huge world of interconnecting computers and their data. Gibson theorised that in the future, this virtual sea could be represented graphically, with larger stores of information

being represented as large buildings and smaller stores of information being represented by smaller outcrops. Someone who wanted to access that information would simply move digitally to the appropriate store of information and have a wander around. The whole virtual reality concept has been blown out of all proportion recently by the media. Basically, the world which Gibson saw won't be around for a while yet, the closest we've got is a few virtual reality games. At least that's what they're called. They're not really virtual reality because they are entities unto themselves with no links to the outside world. The whole point of real virtual reality is that everything everywhere is linked up and can be accessed. What's more, in Gibson's virtual worlds, the data-jockey would get at the information by plugging the network straight into his brain, not via those very odd looking headsets. Although software companies might try to convince you that their games are set in a virtual reality, they're not really. If you plugged your Amiga into your brain and played a game with a friend doing the same then you might be half way there, but otherwise forget it. (See W Industries).

VISTAPRO: It's incredible the effect that the whole chaos theory has had on all aspects of life since it came into fashion in the late '80s. *VistaPro* is a Fractal landscape program from Virtual Reality Productions, recently updated to version 2 (release price £70). This superb package enables the user to conceive and render practically any kind of landscape in glorious 3D perspective using an enormous variety of controls. To render a landscape you can either use a computer generated map or input a number seed to randomly generate one from. Controls such as the position of the camera, the plant growth, the river formation, the lens size and the amount of illumination can be set as required and the whole image can then be rendered. It's probably of most use in schools.

VIVA: Stands for Visual Interface Video Authoring, a program from Michtron Inc of the USA, used to produce interactive video programs. Interactive video is a television program with which the user can interact as if it was a computer program. The difference is that instead of using computer-generated images, the VIVA-created program uses moving, real images. For example, the television could display a picture of a bird and ask you to identify it. A computer program could do exactly the same thing, except the picture would be computer-generated rather than videoed.VIVA cost £299.99 when it was released.

VIRUSES: (See also Trojan Horse, Parasite, Linkvirus. SHI). Computer viruses are basially malicious pieces of code written by even more malicious idiots for no real reason at all.

Viruses come from various sources and once on your Amiga they will move into RAM. From they will re-copy themselves and move on to disks (both hard and floppy versions). There are many different viruses and they all have their individual effects: some will print daft messages on screen, some will corrupt data stored on disks, some will corrupt screen images.

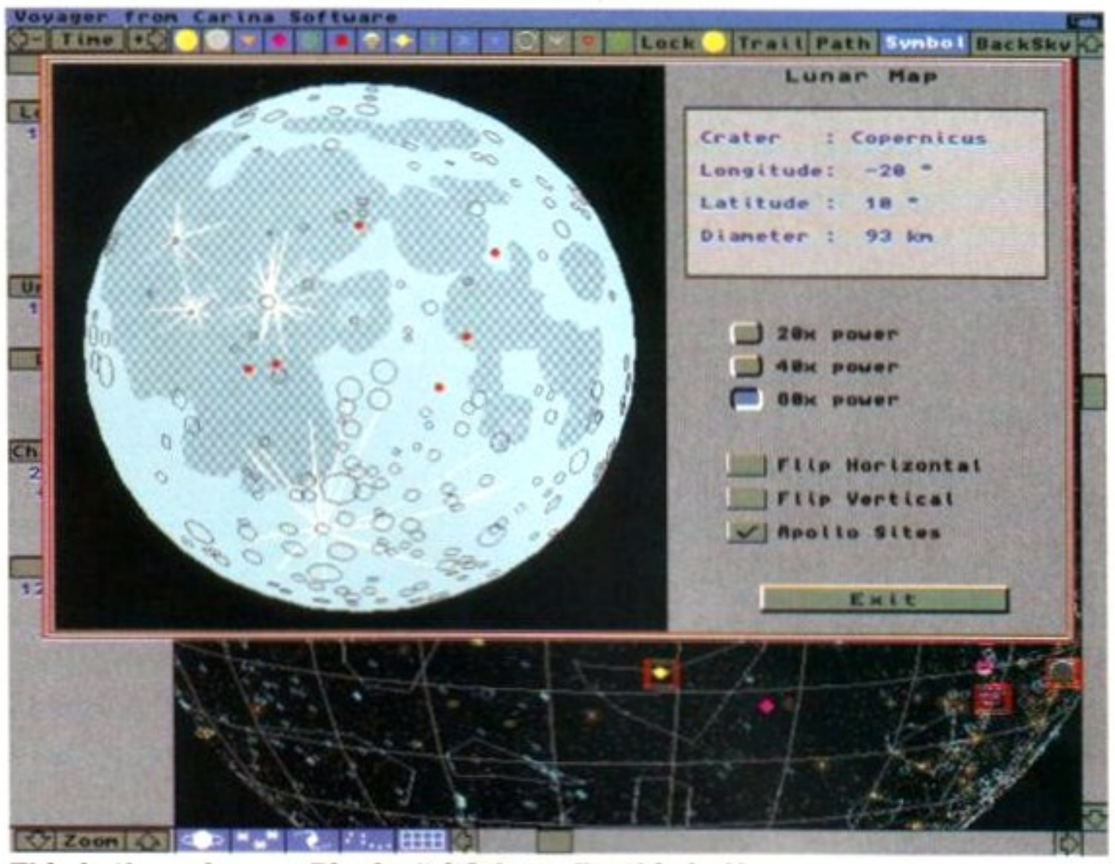
The best way to deal with a suspected viral attack is to switch your Amiga off for a minute (usually less, but this is extra safe) after having used a new disk. This will clear the memory registars.

Of course, the best way to deal with viruses is to lay hands on (something like *Virus X* which is public domain software) and regulary check your disk collection. Another good practice is never to use any 'dodgy' disks – these are borrowed disks, copied disks or disks that a friend says are really good! All of these are potential Amiga plague carriers. Always make back-ups of your important data as well. Viruses (or Viri is you want to be pretentious) serve no purpose whatsoever. but if you are careful and aware you should be able to avoid them.

VIVID IMAGE: Vivid Image Developments Ltd was formed in September 1988 by self-taught programmer Mev Dinc, programmer John Twiddy and graphics artist Hugh Riley. The company is responsible for the games *Hammerfist*, *Time Machine*, and *First Samurai* all of which were rated very highly by ***Amiga Format***, and is currently working on the eagerly-anticipated *Second Samurai*, which should be released shortly. Mev Dinc says that Vivid Image is: "aiming to remain as one of the finest and most innovative development houses in Europe. We will continue to produce quality games on the Amiga which we believe are of 16-bit console quality. Contact 9 Churchill Court, 58 Station Road, North Harrow, Middlesex, HA2 7FA. Tel: 081–424 2330.

VIZ DESIGN: Team of developers and programmers. (See Gonzo Games).

VLAB: Superb Zorro digitising card for the Amiga 1500/2000/3000 range available from Amiga Centre Scotland. This unit slots inside the case and



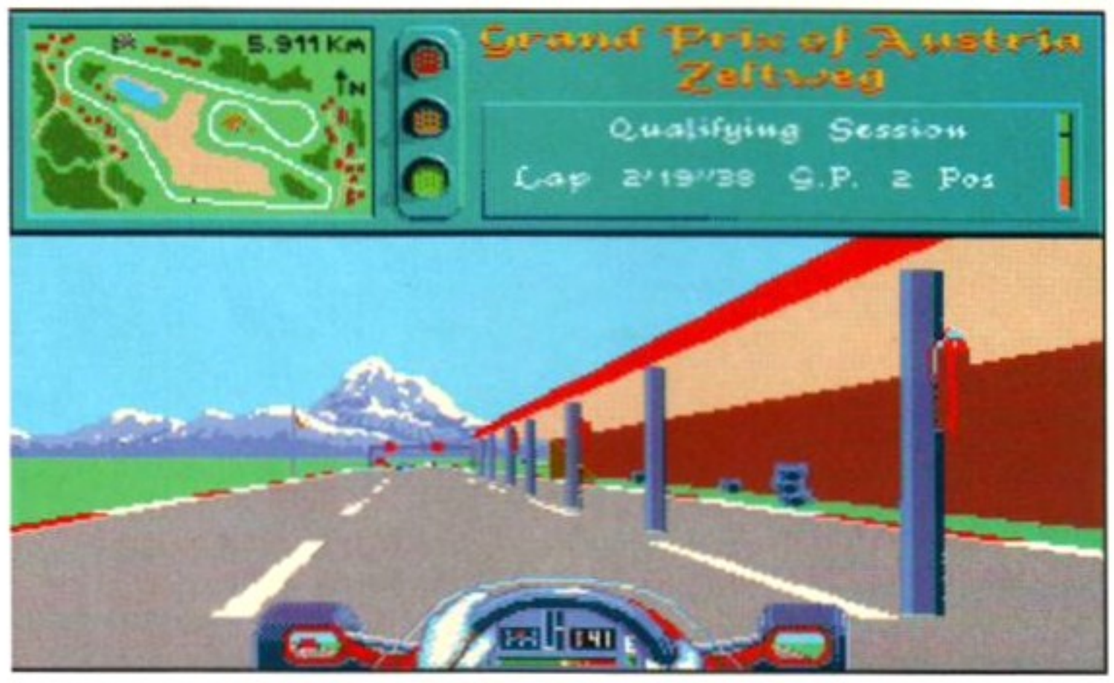
This is the universe. Big, isn't it? Actually, this is *Voyager* an astronomy program which includes thousands of heavenly bodies.

enables you to digitise YC format (combined Chrominance and Luminance) pictures which can be converted into 24-bit with minimal loss of resolution. The VLab is of most use to those involved in post-production video work, especially as it costs £299.

VORTEX ATONCE: PC Emulator card from the German company Vortex. This is one of the better emulators on the market, enabling you to transform your Amiga into an MS-DOS based PC machine. PC compatible programs can then be run exactly as you would on a PC. This type of hardware is of most use to you if you use a PC at work and need to run its mind-bogglingly boring programs at home too. (See Emulators).

VOYAGER: Astronomy program from Carina Software.which received a 92 per cent *Amiga Format* Gold rating in February 1993. Voyager aims to help the amateur astronomer get much more out of their hobby by pointing out and predicting astronomical events. The program is set up according to the time and your physical location. When the program knows where you are it can display the night sky and the terrestrial objects you can and can't see from earth. You can even view the earth or the heavenly bodies from a space craft or the moon. Release price £69.95.

VROOM: An impressive Formula One car racing simulator, *Vroom* is set around the Grand Prix series of races, released by Ubi Soft which received a 91 per cent ***Amiga Format*** Gold rating in May 1992 (AF 34). Although it's not the most accessible simulator Grand Prix fans who feel a need for gritty realism will get lots out of it. *Vroom* is notable for its outstanding graphics, and excellent sound effects The game was programmed by Geoff Crammond, a man who made his name creating 8-bit games for the Acornsoft label. The dynamics of the car have been carefully set up so that it corners and even crashes just like the real thing.



As driving games get increasingly realistic so gamesplayers come up with increasingly sophisticated excuses for failing to win at games like *Vroom*.



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PG011 ASI 4 Frogger Go Moku,Cracker Jumpy etc!+
PG012 ASI 5 Raid, Go Looly & Retaliator+
PG013 ASI 6 Pacman Downhillchallenge Welltrix etc!+
PG014 ASI 7 Moonbase, Trix,Nightworks Clauderunner!+
PG015 ASI 8 Airace2,Hball,Snakepit & Numberfumbler!+
PG016 ASI 9 Features Battle pong & Blizzard! +
PG017 ASI 10 Escape, Pipeline, Pickout & Sys!+
PG018 ASI 11 Dad, Connex,Reversi Towers & Trippin+
PG019 ASI 12 Llamatron, Car, Powerpong. Fab!!+
PG020 ASI 13 Twintris, Squamble,Block it,Ball etc!+
PG021 ATIC ATAC Really playable ! + Y
PG024 BLACKJACK Good card game !+
PG026 CASTLE OF DOOM Excellent! Get it + Y
PG028 COLOSSUS & WORLD Fab adventures !+ Y
PG029 CROSSWORD COMPILER As it says !+ Y
PG032 DRAGONS CAVE D&D style game Mega+ Y
PG034 ETERNAL ROME Strategy & DOMINOES+ Y
PG046 HACK Great text adventure-infocom style! +Y
PG047 HOLLYWOOD TRIVIA Nice Trivia Game! +
PG048 HOLY GRAIL One of the best Text adventures+ Y
PG051 KILLER CARS Great filled vectors game!+ Y
PG053 LARN A superb text adventure game + Y
PG059 LORE OF CONQUEST space trading D&D game Y
PG062 MENTAL IMAGE 1 Gridrunner invaders & rebound+
PG068 NO MANS LAND Hi tech war game-shoot em up. +Y
PG071 POM POM GUNNER Like beach-head on the 64+Y
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PG094 TRAIN CONSTRUCTION KIT make own tracks+Y
PG101 THE INSIDERS CLUB Stocks & shares game
PG105 WIZZYS QUEST Fab arcade adventure game!+Y
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PG110 SUPER SKODA CHALLENGE Nice car racegame!+Y
PG121 A500+ GAMES PACK 21 games to run on a plus+Y
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PG153 WAR very good strategy/arcade game+Y
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PG156 ASI GAMES 22 Lemmingoids,Wizzys quest Duel etc+
PG157 ASI GAMES 23 Quick money,BIP,Interferon Arcadia+
PG164 GAME TAMER 2.3 joystick tester & 268 cheats+Y
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PG170 ASI GAMES 25 Mr Brick,Copper,hemeroids,E Type+
PG171 ASI GAMES 26 Superpacman 92 Smash tv Ashido
PG172 ASI GAMES 27 Addictive card games. Really good!+
PG174 AMOS CRICKET Shareware cricket game,1 or 2plr+
PG175 SPACETRAX 2 player shoot each other up game+Y
PG176 TECHNOBAN GAME Quite a nice puzzle game! +Y
PG177 HELLZONE Stunning R-type clone-GET THIS! +
PG178 MENTAL IMAGE 2 Three Excellent new games +
PG180 SECTOR 1 A nice game similar to alien breed+Y
PG181 STRIKEBALL Baseball type game done in Amos +Y
PG182 ETHOS Simple graphical adventue Sinbad style+Y
PG183 CATACOOMBS great D&D style game. VG.GFX +Y
PG184 FATAL MISSION Very good Shootemup game +
PG186 ASI 28 Doody, DrMario, Invaders2, Madbomber2+
PG187 ASI 29 DOG, Rome, Nova, B-Bal, Atax, Quadrix+
PG188 ASI 30 Bounce & Blast, Total Fire Tank attack!+
PG189 SPACE RESCUE Super scramble like shoot em up!+
PG190 TOP SECRET An exellent quality platform game!+
PG191 ACT OF WAR New space strategy game! +Y
PG193 MASHIE NIBLICK Yes,a golf game for your Amiga+Y
PG195 KLAKTRIS Suberb quality tetris type game!+
PG197 ANDYS AMOS GAMES 6 good games on here!+Y
PG198 AIRPORT Now you control an airport! +
PG199 CASHFRUIT Nice fruit machine game! +Y
PG200 ALL ROUNDER CRICKET New cricket game!+Y
PG201 APPLE CATCHER Simple fruit collection!+Y
PG202/3 IRON CLADS Good strategic war game!(2)Y
PG204 THRALLBOUND Text adventure with graphics!+Y
PG205 SOCCER CARDS Football managing game!+Y
PG206 ASI 31 Arazmaz,Crazy pipe, revolution etc!+
PG207 ASI 32 Blob, Sector one & Firefighter! +
PG208 ASI 33 Hyperball & War! +
PG209 ASI 34 Trailblazer, Yelp, Qbic Rushour! +
PG210 ASI 35 Poing, Snakepit, Cybernetix etc!+
PG211 ASI 36 Mother lode, Wonderland, Kong etc!+
PG212 ASI 37 Klaktris, Ghostship, Paccer etc!+
PG213 ASI 38 One on One,Baldy,Skyflyer2,Transplant!
PG214 LEGEND OF LOTHIAN Superb Ultima type game!!+Y
PG215 ASI 39 Lots of card games on this disk! +
PG216 ASI 40 Disk full of sliding puzzle games!+
PG217 ASI 41 Pacman deluxe, Hellzone Leap II etc+

EDUCATION

All ok on A1200!
PE001/5 EDUCATION SET science programs for ages 11+ +
PE006 KIDSPAINT Fab little talking colouring book+
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PE016 COLOUR THE ALPHABET learn letters & colours! +
PE018 TYPING TUTOR, Superspell Budget & Mscalender! +
PE019 DUNKS DTP A sort of DeskTopPublisher for kids +
PE020 MATHS DRILL Good maths disk for the young! +
PE021/4 SCIENCE Very good four disk set!+ (4)

BUSINESS

All ok on A1200 except PB006!!
PB001 AMICASH bank management program+
PB002/3 ANALYTICALC Superb spreadsheet!+ (2)
PB004 ASI LABEL PRINTERS 3 of the best+
PB005 BANKIN control your cheque book! +
PB006 BUSINESS CARD MAKER Nice program+
PB007 CLERK Complete accounts package+
PB008 DESKTOP PUBLISHER Simple to use +
PB009 FLEXYBASE DATABASE Address keeper+
PB010 JOURNAL Keep track of finances
PB011 MISC.BUSINESS Geotime, Grocery list, Calc
PB012 QBASE Simple 8 field database
PB013 QED Simple & effective text ed+
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PB019 BUSINESS LETTERS contracts, letters + more+
PB020 TEXT ENGINE 3.4 NEW Version !!! +
PB021 AMIBASE PRO. Powerful easy to use Dbase +
PB022 BBASE II v5.5 A fast & easy to use database+
PB023 FORMS REALLY UNLIMITED form creation prog+
PB024 LAST WILL & TESTAMENTS Just in case !+
PB025 EDWORD Brand new wordpro - V.good +
PB026 AGRAPH Superb Program graphing data +
PB027 BOILERPLATE Business letters & Wordpro +
PB028 LITTLE OFFICE Intergrated Wpro,Sst,Dbase,Gfx+
PB029 ADDRESS PRINT Good label printing program! +
PB030 THE MONEY PROGRAM Home accounting! +

UTILITIES

(Note: "Y" = ok on A1200!)
PU002 A-GENE Good geneology program + Y
PU004a/b A64 EMULATOR NEW VERSION 2.0 (2)
PU005 AMATEUR RADIO 1 Interest to radio hams + Y
PU010 ARP 1.3 Amigados replacement project! +
PU012 ASI GRAFFIX UTILS graphics convertors etc+Y
PU013 ASI BOOT UTILITIES bootblock utilities + Y
PU015 BIORYTHMS, STARCHART 2 Good programs+ Y
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PU022 CHEMESTHETICS molecule displayer + Y
PU036 CURSER BASIC COMPILER Just what you need!+ Y
PU037 D-COPY The best PD disk copier & more + Y
PU039 DBW The foreunner to Skulpt 3D !!! + Y
PU040 DEMOLISHER 168 UTILTIES - MEGA !+ Y
PU047 DOPE INTROMAKER Make your own intros+
PU048 DYNAMITE FONTS II CutNPaste fontscreens Y
PU049 DYNAMITE FONTS More CutNPaste Fonts Y
PU055 ELECTROCAD DEMO circuit designer +
PU056 EXILE FONTS Excellent CnP fonts+
PU058 FONTS AND RAM MANAGER BIG video fonts+
PU059 FONTS & SURFACES Backdrops & fonts+ Y
PU062 GRAPHICS UTILITIES Various misc. programs+Y
PU063 HAMLAB Convert VGA PC >IFF/HAM + Y
PU064 HARDDRIVE UTILS MRBackup & FixDisk & more+Y
PU065 ICONMANIA Program icons & more !+ Y
PU066 ICONS Cramm packed with icons !+ Y
PU067 IMPLODER V4.0 Megacrunching Util+ Y
PU071 JR COMM 1.02 Modem users comms package Y
PU072 METALLION UTILS Font Editors & more utils+ Y
PU073/76 KING JAMES BIBLE Old&New testaments (4)+ Y
PU078 M-CAD Hires design package. Excellent + Y
PU080 MESSY-SID Read/Write PC Files, Brilliant!+ Y
PU083 MORSE PROGRAMS for the radio hams. Y
PU086/7 NORTH C 1.3 (2) Complete C compiler & libs+ Y
PU088 NORTH C 1.3 This is the packed 1 disk version!+Y
PU089 PASCAL COMPILER needs good CLI knowledge+ Y
PU091 PENDLE 200 MEGAUTILS An essential collection+ Y
PU095 PRINTER DRIVER GENERATOR & new drivers+ Y
PU096 PRINTER DRIVER UTILITIES Various utils etc. Y
PU097 PRINT STUDIO V1.25 Prints pics & text etc.+ Y
PU108 ROT A simple 3D drawing package.Very popular.+Y
PU109/10 (2 disk) Structured clipart for Ppage + Y
PU112/3 SOMETHING FOR NOTHIN Video Utils&Fonts+ Y
PU115 ST EMULATOR Run Atari ST software !! 2 Drives
PU117 SUPERKILLERS Virus Killers! You need this! +
PU121/2 TV GRAPHICS Dpaint backdrops&Fonts+(2) Y
PU124 ULTIMATE ICONS Iconmaster,Iconlab,+ Y
PU129/30 VIDEO APPLICATIONS Video utilities+ Y
PU136 ZX SPECTRUM EMULATOR Now with sound +
PU139 GRAPHICS CONVERTERS PC>AMiga gfx Converter
PU140 LITTLEBENCH File copier & utils Dos2 only
PU141/2 TAROT II Learn about your stars !+ Y
PU143 OPTIUTILS 1 Crammed full ! Get it+ Y
PU144 OPTIUTILS 2 Get this disk too ! + Y
PU145 OPTICOMMS 1 Ncomm 1.921 Lharca, Zoo Arc+ Y
PU149 ELECTRONIC PROTOTYPER Veroboard designer Y
PU150 FOOTBALL LEAGUE ED Update league positions Y
PU151 BROTHERHOOD UTILS 1 Dcopy,Scenery,Qed +Y
PU152/66 CLIPART SET: 15 Disks of the BEST clipart +Y
PU167 MULTI-PLOT Superb data plotting program ! +
PU169 GELIGNITE FONTS CutNPaste fonts+
PU170 P-SUITE Disk magazine maker+Y
PU171 OPTICOMMS 2 Ncomm 2 & more +Y
PU172 WORDPOWER Solve Anagrams/Crosswords+ Y
PU174 ASTRO 22 professional astrology program! +Y
PU175 GELIGNITE FONTS II Excellent IFF fonts+Y
PU176 GELIGNITE FONTS III More of above!!+
PU177/8 BENCHMASTER Windowsbench & Messysid!!
PU182 STOCK ANALYST Technical analysis program+Y
PU183 AMYGEN Excellent geneology program+Y
PU184 PROCALC V1.0 professional calculator!
PU185/8 COSMOPOLITAN FONTS (4) Packed with fonts+Y
PU189 TRONIK VIRUS KILLERS 21 virus killers & docsY
PU191 LANDBUILDER fractal land generator+Y
PU192 SID 2 Get this ! directory util !!! MEGA!+Y
PU197 MOBED 2 Dpaint for Sprites & bobs+Y
PU198 VIDEO WIPES Masks & fades Dpaint 3/4 +Y
PU201 MALICE FONTS Excellent tiny fonts for Dpaint+
PU202 CYCLOPS Weird Plasma/fractal creator ! +Y
PU203 SCOPE 184 utils & clips for Ppage Y
PU205 PC TASK Wicked PC Emulator Get it !!! +Y
PU207 MULTISID Combine SID2 & Multidos(PC>AMIGA)+Y
PU208 ASI HANDYTOOLS 3 mega compilation of utils Y
PU209 FRED FISH CATALOGUE contains FISH 1 - 680 +Y
PU210 PCQ PASCAL Latest version of Pascal compiler+Y
PU211 AMIGA PUNT A horse race predicting program!+Y
PU212 PERM CHECK PLUS a pools prediction prog Y
PU213 RACE RATER Another horse racing program!! +Y
PU214 DIR WORK A Sid type file copying program! +Y
PU215 CAPTIONATOR Superb shareware video titling!+Y
PU217 BROTHERHOOD UTILS 2 utilities for the plus!+ Y
PU218 ORDER Excellent demo of commercial Dbase+Y
PU219 WBHACKS+ collection of hacks for + owners+ Y
PU221-225 8 COLOR ICONS Hundreds of new icons +Y
PU226/7 C-EYES FONTS For use in Dpaint, WB, etc.(2)+Y
PU228 PROBABLY RIPPER Create disks easily with this!+Y
PU229 JPEG 24 bit graphics compression util disk! +Y
PU230 MORE PRINTER DRIVERS new printer drivers!+Y
PU231/5 PAGESTREAM FONTS 5 disks super fonts!+ (5)Y
PU236/7 SCOPE197/8 Adobe type fonts, 2 disks full! +Y
PU238/9 M.O.R.C. Mouse operated rune caster,oracle !+
PU240 FREECOPY V1.4 powerful disk copying program!+Y
PU241 CALORIE BASE Useful for people on a diet!+Y
PU242 TEXTPLUS PROFESSIONAL 4 needs hard drive!+Y
PU243 ASPICE Circuit analysis program!+Y
PU244 BON APPETIT This is a recipe database program!+Y
PU245/256 C MANUAL Latest version on 12 disks! (12) +Y
PU257/61 PAGESTREAM FONTS 2nd set of fonts!+Y
PU262 RICHARD SMEDLEY COMP II Mortgages etc!+Y
PU263 LYAPUNOV Fabulous & unusual fractals!!+Y
PU264/8 OUTLINE FONTS For Pro pagev3 ONLY!!+Y

ANIMATIONS

PA031 BASKETBALL A basketball player 1 Meg! +Y
PA039 ERIC-S AMY VS WALKER Cute & sexy! 1.5M Y
PA040 ERIC-S BATMAN vs JOKER Very funny!!!+Y
PA042 ERIC-S COYOTE STRIKES BACK 1mg too! +
PA043 ERIC-S MORE AEROTOONS Very witty !!!+ Y
PA045 ERIC-S STEALTHY II Mig-29 vs Stealthy !+Y
PA046 FRANKLYN THE FLY Day in the life of a fly! +
PA048 GYMNAST ANIM Gymnast swings on bars! +Y
PA053/4 LIGHT CYCLES (2) Tron animation+
PA056 MAGICIAN II Good RT animation+Y
PA060 NEWTONS CRADLE RT animation +
PA065/68 REAL 3D (4) Superb of the program+ Y
PA072 THE JUGGLER A classic amiga demo!+ Y
PA074 THE WALKER vs The Helicopter - Mega !+ Y
PA075 THE WALKER vs A2000 A classic ! + Y
PA082 TIN TOY ANIMATION Ray traced tin soldier! +Y
PA085 JET ANIMATION Fractal Flight but better! +Y
PA086 FRACTAL ANIMATION full screen low flying anim+Y
PA090 TOO MUCH 3D Ship flys out of monitor!! + Y
PA091/3 GAS TURBINE, STEAM & PETROL ENGINE (3)+Y
PA094 AMY JOGS,WALKS & SNEEZES by E Schwartz! +Y
PA095 HOW TO RUN INTO A WALL by Eric Schwartz! +Y
PA097 SMALL STATION AT KHERNE New 1mg version+Y
PA098 EASTER ISLAND ANIM A nice fractal animation!+Y
PA099 ATF AGILITY new ES anim, very witty as usual+Y
PA100 VTOL CONTEST Check out this new ES anim ! +Y
PA101 DOLPHIN DREAMS Great Dolphin anim! + Y
PA102 BATTLE OF BRITAIN Amusing short anim!+ Y
PA103/4 KINGFISHER 2 Superb bird animations!+ Y
PA105 TOR ANIM Dog jumps out of screen!+ Y

AGATRON

All ok on A1200!
AGA01 RED LOTUS Spinning down the road. Fantastic !+
AGA03 STAR TREK - Shuttle fly past - Great ! 1m +
AGA09 STAR WARS - Fighter fly by, impressive 1m +
AGA10 STAR TREK - Enterprise in dry dock. Incredible+
AGA20 Huey 2 A helicopter leaving a landing pad.+
AGA21 ENTERPRISE DOCKING WITH SPACE STATION+
AGA22 ENTERPRISE APPROCHING stunning anim ! 1M +
AGA23 FLEET MANOEVRE Stunning animation! 1m +
AGA24 KULI PEN animation & Ping pong. Great! 1m +
AGA25 THE RUN , a suberb car chase 1mg +
AGA31 PORSCHE anim rising out of table 1 mg. +
AGA33 PROBE Bird of prey animation & Klingonhit! 1m+
AGA35 SPACE PROBE, great anim of probe zooming off!+
AGA36 BIRD OF PREY, loop the loop animation 1m +
AGA37 TOBIAS GOES KNACKERS - Check this out ! 1m +
AGA38 TOTALLY WICKED ! Shuttle & Enterprise (2 MEG)

POWERANIMS

PP001/2 ANTI LEMMINGS (2) This is Brilliant! 2M
PP003 AT THE MOVIES Cute anim of Amy squirrel 1.5M+Y
PP008/10 BUZZED (3) Great anim of wasp crashing! 2M
PP011/12 DATING GAME (2) Very witty!, Get it. 3.5M!
PP016 GULF WAR Another ES production! Good 2M! Y
PP021/24 LANDING (4) Tobias Richter poweranim 4M!
PP025/27 STATION AT KHARN (3) Incredible 2M demo Y
PP040/43 AT THE MOVIES II (4) Hilarious ! 1mg>3mg
PP044/45 AMY V WALKER II (2) Another witty ES demo 3M
PP046 SWEET REVENGE Coyote vs Roadrunner ! 1.5mg+Y
PP048/9 A DAY AT THE BEACH Stunning ! 2 Mg
PP050 UNSPORTING Wicked aerotoon by Schwartz+ 2M Y
PP051/2 CHARLY CAT Super Shwartzlike cartoon! 2mg.Y
PP053/4 CHARLY CAT AT THE BEACH 2nd fab anim 2mg!Y
PP055/6 APC MISSION Superb walker & tank battle 3mg!
PP057/9 CHARLY CAT CATCHES A CANARY Fab! 3MG.
PP060/3 CHARLY CAT MOUSTERMIND Great! 3.5MG.
PP064 DUNCAN DUNG BEETLE Unusual 2mg animation! Y
PP065/6 CHARLY CAT SNOWJOKE Latest anim 2mg.+ Y
PP067/9 SPEED LIMIT 3mg motorcycle race! + Y (3)

DEMOS

PD005 AMOS 3D DEMO Shows some great effects!+ Y
PD018 CHAOS ROCK Fab light show with fractals!+
PD068 PHENOMENA ENIGMA Absolutely brilliant!+ Y
PD076 PLASMUTEX Good plasma & great music +
PD094 SCOOPEX MENTAL HANGOVER A classic+
PD097 SILENTS GLOBAL TRASH Incredible!!+
PD130/34 ALCATRAZ ODDESSY Awesome!! Ok on 500+!
PD139 TRACKERS POWER & AGONY Unusual vectors! +
PD142 FINAL CONFESSION Music & Plasma effects!+ Y
PD143 CAT Silents & Crionics demo for cat club +
PD159 ANARCHY IN THE KITCHEN Some good FX Fab!+
PD162 ALCHEMY MARCHWITH Very good new demo+
PD164 DESIRE MENACE Good Psycho rave demo + Y
PD165 DARK DEMON Mega new demo .... get it+ Y
PD170 PIECE OF MIND Good 3D vector effects. +
PD171/2 SILENTS EXPOSE(2) Incredible Get it !+ Y
PD175 REFLECT SOUND VISION Super effects & music!
PD176 CHAMELEON DEMO Very nice vector demo!+ Y
PD177/8 TRSI TIME ZONE New, some good effects!+Y

MUSIC DISKS

PM001 100 GREATEST 64 TUNES 100 fab 64 tunes!+
PM010 AMEGA PARTY WINNERS Four WICKED songs+ Y
PM012 AMIGADEUS CLASSICAL Eine Kleiner etc. + Y
PM013 ANARCHY CAPTURED IMAGINATION Nice music!+
PM016 BEATLES SONIX Nice music + Y
PM018 BEATMASTER I LOVE TECHNOLOGY Rave disk+
PM019 BRUNO's MUSIC BOX II Superb jazz funk music+Y
PM020/21 BRUNOS MUSIC BOX III Jazzfunk. Get it +Y
PM022/23 CLASSICAL MUSIC Bach, Handel etc +Y
PM027 D-MOB MUSIC 3 House music remix, good! +
PM030/34 DIGITAL CONCERTs 2-6 Excellent house/dance
PM035 DIGITAL DEBUSSY Fab Rob Baxter conversions!+Y
PM036 DIGITAL DEBUSSYII classic Debussy music!+ Y
PM058 MAG FIELDS CHIP FESTIVAL Full of chip music!+Y
PM059 MANIACS OF NOISE This is brilliant!+
PM082a/82b VIVALDI - FOUR SEASONS (2) V.Good !+ Y
PM090/91MOZART HORN CONCERTO 4 by H.Gammon+
PM092 PIANO TUNES Nine piano songs- good + Y
PM096 STAIRWAY TO HEAVEN Rendition of the song+ Y
PM105/6 KEFRENS MEGAMIX Fabulous dance music+
PM114 UPROAR SPLIT BEAVER MIX rave megamix + Y
PM115a/b CHROME Brilliant music disks ! Y
PM121 NIGHTBREED MUSIC DEMO8 Rave music demo+
PM122/4 PLAYSID 2 (3) You must get this !!!!! +Y
PM125 PLAYSID inc.RobHubbard, ManiacsOfNoise + Y
PM134/5 SOUNDS OF SCIENCE (2) Brilliant!+ Y
PM137 KEFRENS MEGAMIX II Very good !! dance music!+
PM141 HARDLINE MUSIC 7 groovy synth-style tracks+Y
PM150 DESKTOP HARPSICHORD RECITAL Classics! + Y
PM152 PARADISE: NO BRAIN NO PAIN Good for ravers!!
PM153 BIZE: KILL DA BABE 6 tracks of rave music!! +
PM154 PULSE Yes, pulsating rave music again!! + Y
PM155 VINE G-RAVE 5 more good rave tracks!!! +Y
PM157/8 HEATBEAT UPDATE 9 great songs here!+ Y
PM159 DECIBEL OVERLOAD 5 different tunes!+ Y
PM160 FUSION MATRIX 5 rave type tracks!+ Y
PM161 CYBERNETIX 19 songs packed on 1 disk!+
PM162 MORE MED TUNES Fab tunes by Alex Starrex!+Y
PM163 OCTASTUFF Some good 8 track tunes! + Y
PM164 OCTAROCK 3D More 8 track & 3d graphics!+Y
PM165/6 NUTCRACKER SUITE Super rendition!+ Y

SLIDESHOWS

PS002 ADVANCE HAM Really stunning !+ Y
PS008 AIRCRAFT SLIDE Pics of fighter aircraft!+Y
PS009 ASTRONOMY SLIDE very impressive !+Y
PS013 BORN TO BE FREE wild animals +Y
PS033 GERMAN RAY TRACE Superb See these !+
PS045 KELLY S/S Some quality HAM pictures.+Y
PS056 NEWTEK DYNAMIC HAM 640x512 4096 color pics+
PS062 NW DYNAMIC HAM Nik Williams Superb quality.+
PS067 RICK PARK'S ART Dpaint hires pics! + Y
PS072 SUPER HAM CARS This is a must-Mega!+ Y
PS086 SONIC 5 Superb D-HAM 4096 colour pics+
PS090 FRACTALGEN Incredible fractals etc + Y
PS091/2 FRACTAL MOUNTAINS Excellent stuff!+ Y
PS093 VANISH 3D Awesome 3d ray traced +Y
PS094 INVISIBLE WORLD II Yuk Bedbugs And more!+Y
PS101 ANALOGUE SLIDE Ray traced space pics + Y
PS102 ACCESS DESIGN Ray traced space pics +
PS103 DYNAMIC HIRES 2, 4 fantastic quality pictures!+
PS104 VGA PICS Some exellent quality pictures here!+Y
PS105 SCAN PICS Exellent quality pictures!+Y
PS106 BAHRAIN SLIDES Pics from the middle east!+
PS107 ALCATRAZ MUSEUM 18 super quality drawings!+
PS108 SANITY COMP WINNERS 10 Superb drawings!+ Y

MUSIC UTILS

PT001 ALGORYTHMS Create weird midi tunes
PT002 ART OF MED Excellent !+ Y
PT005 CASIO CZ EDITOR 250 patches ! +
PT006 DELUXE MUSIC DATA Midi music+ Y
PT009 K1 IFF SAMPLES Fabulous samples +
PT011 KAWAI K1 editor for patch changes!
PT012 KAWAI K4 editor as above!
PT013 MED 3.2 Excellent music seq. + Y
PT014 MED MUSIC DISK As it says !+ Y
PT015 MIDI DISK Various midi stuff +
PT020 ST-01 - ST-10 Samples--Ring for details
PT021 SOUNDTRACKER 2.6 Excellent, ok plus!+Y
PT022 SOUNDTRACKER COMPILATION Several versions!
PT025/6/7/8 ST-90-93 SAMPLES Studio quality+ Y
PT029 YAMAHA DX7 VOICE FILER for DX7 synths!
PT030 YAMAHA DX7 VOICE SORTER for the above !
PT031/2/3 ST-87 - 89 3 disks full !+Y
PT034/5 ST-97 & 98 More samples !+Y
PT037 PROTRACKER 2.2 THE LATEST VERSION!!
PT038 YAMAHA DX100,TX81Z, DX27,DX11 & FB01 editors
PT040 OCTAMED V1 8 channel MED sequencer!+
PT041 NOISEPLAYER 4.0 Multitasking module player+
PT042 START IFF SAMPLES Superb ! Get this disk!+Y
PT043/5 HOUSE SAMPLES 3 disks full of house samples!

AMOS PD

APD036 AMOS UPATER Latest updater !!! v1.34 + Y
APD115 BALLOONACY Bomb the buildings !+ Y
APD237 SHAPES Excellent kids game !+Y
APD257 CASSETTE LABELLER + MIXED SOURCE+Y
APD271 WIZARDS DOMAIN graphical adventure+Y
APD292 WAR OF THE FOUR graphic adventure game+Y
APD329 FRUIT MACHINE Good for the gamblers !+Y
APD347 NOTEBOOK & SHOPPING LIST Easy to use !+ Y
APD363 FAMILY HISTORY DATABASE Latest version!+Y
APD373 COMPILER 1.34 UPDATE Amos compiler !+

NEW!

PU269 CONSTELLATION Demo of shareware program!+Y
PU270 STARCAT2 Easy to use cataloge maker!+ Y
PU271 CLUMPY ICONS A disk crammed with icons+ Y
PU272 GOLF RECORDER Database for golf scores!+ Y
PU273 PC<>AMIGA Similar to Messysid, + docs!+ Y
PU274 TRONICAD V1.0 Electronic circuit design!+Y
PU275 FLIT Convert Autodesk anims to IFF+
PU276 BBBS A Bulletin board system! + Y
PU277 PROTEUS BBS Another comms program! + Y
PG218/9 CLASH OF THE EMPIRES Super strategy!+ Y
PE025 FRACTIONS & SILHOUETTES Good maths tutor+
PE026 WW II FACTS Good historical program!+ Y
PE027 AMIGA BEGINNER Learn to use your machine+ Y
PD179/80 HALF BRAINS SUNSTORM Very good demo!+
PM167/8 JESUS ON E'S Crazy rave music demo!+ (2)
PS109 NAM VIETNAM Black & white slides! + Y
PS110 MIRAGE FORGOTTEN PICS Nice pictures!+ Y

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REMEMBER: We stock Fish 1-760, Tbag 1-63, Amos, Scope, Snag, Amicus, Amigos & lots more superb PD disks!!

PLEASE NOTE:
All disks on the advert should work on the Amiga 1.2/1.3 dos systems unless otherwise stated! All disks with a "+" sign should work on the Amiga 500+ & 600 machines! However there are so many different setups now in use it is becoming impossible to test for every possible variation, so please use some caution especially with A1500/2000 with various dos systems, CDTV and of course the new Amiga 1200 & 4000 systems. Disks marked with a "Y" should be okay on the A1200 / 4000 though obviously not yet extensively tested. Please take care!

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P S D

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CLE01 TOTAL CONCEPTS DINOSAURS Have your children ever wanted to know about the ancient world of the dinosaur ? If so, then this is for you - an interactive encyclopedia covering jurassic, triassic & creataceous periods complete with pictures and information. This program is plus compatible and comes on 2 Disks. £4.50 +

CLE02 TOTAL CONCEPTS GEOLOGY Thit title is the second in the series of quality programs by Chris hill, using the GoldDisk Hyperbook system, it will guide you and your children on an interactive guided tour through the incredible world of volcanos, rocks and minerals. the program is very simple to use !
Geology is on 2 Disks £4.50 +

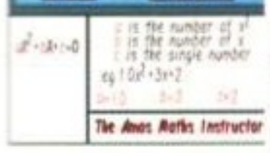
CLE03 TOTAL CONCEPTS SOLAR SYSTEM Now our most popular title ! This one invites you to learn all about the solar system, with information on all of the planets & systems with pictures supplied by Nasa, this is a superb educational package for children & adults. This title is so big it is supplied on Three disks and is priced at only £4.99. +



CLE04 KIDDIES COLOURING PAD This is a colouring book for young children and they wont get in a mess using it ! It is very simple to use with full instructions with the program. Simply pick a picture and colour it in ! Includes a save option, so once you have coloured you picture you can save it out to a disk to print out using Dpaint etc. Price £3.50 +



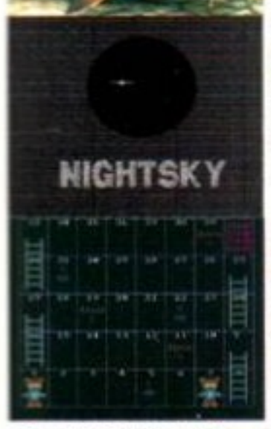
CLE05 A-CHORD So you want become the next Eric Clapton then this is just what you need ! This program will teach you nearly every single guitar chord including fingering techiniques, it will even *play* the chords using the amigas built in sound chip. A must for every single guitar player beginner and experts alike. Price £3.50 +



CLE06 THE AMOS MATHS INSTRUCTOR, A superb maths tutorial covering all sorts of mathematical subjects including trig, Quadratic, Simultanious, Inequalities, Volumes, Area, Vat & Interest and more. an excellent aid for GCSE students. Price £3.50 +



CLE07 TOTAL CONCEPTS FRESHWATER FISHING The latest in the seriies from Chris Hill, and the first in the hobbyist series, this super title describes baiting Perch Roach, Rudd, Carp, Bream & many other common freshwater fish. Ideal for the beginner or the hobbyist with many useful diagrams included! A superb title, on 1 disk Price 3.50+



CLE08 NIGHT SKY A superb introduction to the constellations, this program featurues over 1500 stars, and the sun moon stars & planets can be displayed as seen from any part of the Earth! Large scrolling screen, mouse or keyboard controlled, click on any displayed object for information. This superb title Comes on 1 disk & is priced at 3.50!+

CLE09 WORDS & LADDERS An exellent spelling program for 1 or 2 players, each player has a few seconds to spell a word correctly, the player who reaches the top of the ladder is the winner. The program has 10,000 words so some words can be quite long, however you can select the level! Will also provide printed output to a connected printer, 3.50!+



CLE10 BASICALLY AMIGA This is a 3 disk set for the new user! An extensive guide through the use of Amigados. Covering Hardware, Software, Graphics, Sound, the Workbench, Viruses and much much more,you will soon wonder how you did without this useful utiliy pack! For young and old users alike.
3 disk set priced at 4.99! +

CLE11 LET'S LEARN V1.1 For children of about 5 to 7 years of age, each part progresses through five levels of difficulty, when a level is satisfactorily completed then a picture of a farmyard is displayed & a new animal introduced! Try Sums, Tunes, Codes, (numbers) , Opposites & Squares! The program also has a print option! 1 disk 3.50. +

CLU01 VIDEO TITLER is a program that will allow you to create smooth scrolling video titles with the greatest of ease, programmed by Darren Mccaul, whose Starbase is due out soon, the program lets you use any amiga bitmap font, of which several are supplied, and scroll in any colour vertically up the screen. Essential for all video enthusiasts. £3.50 +



CLU02 FISH INDEXER If you have ever wanted a program, but have never been able to find it ANYWHERE chances are it's probably in the fish library, but rather than having to rake through thousands of lines of text, why not use the Fish indexer, a superb database of the entire Fred Fish library, with full search, print and more.Price £3.50+

CLU03 TYPING TUTOR A program here now for all you budding office clerks, learning to type can be a real pain, lessons cost a fortune, but not when you have an amiga ! This program will take you step by step through a full typing course, showing where to place your fingers and lots more. Before long you'll be able to type as fast as I can ! Price £3.50 +

CLU04 ALPHA GRAPH This is an extemely useful program for the production of pie charts, bar charts, Block scatter etc, very useful in conjunction with spreadsheets & other business programs, this program comes on one disk and is priced at 3.50!+



CLU06 SUPER SOUND III This is a superb program which can manipulate samples in almost any way you please, special effects such as reverb, tremelo, phasing, phlanging, echo are just a few of the things which are easily accomplished,the equal of expensive commercial software! Price 3.50!+

CLU10 POWER ACCOUNTS This is an accounting package for keeping check on your bank account, and is capable of generating account statements and income & expenditure reports. The program will also allow you to "password protect" your data files! An invaluable program for all of your finances, comes on 1 disk , price 3.50. +

CLU11 CALC V1.3 A nice spreadsheet program which works on any Amiga! A spreadsheet is an electronic version of the traditional method of performing complex calculations using rows & columns of figures. In the same way a wordprocessor allows rearranging & editing before printing, so a spreadsheet allows figures & calculations to be constantly changed! 3.50. +



CLU12 VIRTUAL WINDOWS V1.0 Collectively a suite of very useful programs, all on one disk! Features Notepad, Address book, Desk diary, Software VHS inventory & an Amigados survival guide.
All can be accessed from a menu system with the mouse & are very easy to use.
Price 3.50. +

CLU13 DATOS A powerful easy to use database with many features: audible tone, keyboard/mouse control, template feature, cut & paste with mouse, help features, rearrange/add fields even after creation, warning messages, can print down or across the page to save paper, many more features too numerous to list. Price 3.50 +

CLG05 TRUCKIN ON This is a new version of a PD game that was originally bugged to hell, the programmer has taken all the main elements of the game and re-programmed it in C, so its now fully playable truck driving simulation and management program. TO is a must for all you truckers out there and is supplied on 2 disks & needs 2 drives! 4.50.



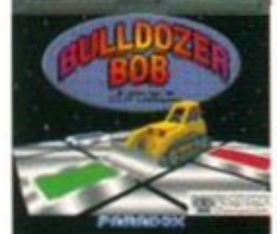
CLG08 DRAGON TILES This is an excellent puzzle game you have a huge stack of different icons which, using the mouse you must match up to make a level disappear, sounds boring but its actually very addictive, I was playing it for hours ! A Vast improvement on the PD version, Dragon tiles is well worth anyones couple of quid ! Price £3.50 +



CLG09 MOTOR DUEL Now this is just fabulous ! Martin would not leave this game alone for days, its a 3D car racing-chasing-shooting game, with guided missles and lasers, its by the same programmer as the PD game Battlecars, but its a lot better, play the computer (Mega difficult) or link up to anoth amiga for 1 on 1 action ! Price £3.50 +



CLG011 ALL GUNS BLAZING This is a two player car racing game viewed from overhead. You can also blast the other player's car with missiles, lay mines, oil slicks and smoke. There is also a facility to design your own tracks to your own satisfaction. Price 3.50! +



CLG012 BULLDOZER BOB The object of the game is to clear the screen of coloured blocks by pushing them together. Once they touch they disappear! You have a limited number of moves to clear the screen, and the difficulty increases with each level. This is definitaly a game for puzzle fans! Price 3.50! +



CLG013 PARADOX Yes- another good puzzle game, similar to Bulldozer Bob, but Mr Cool head is doing all the pushing! Push the coloured balls till they touch & disappear! There is a time limit for each screen & a variety of objects to collect but beware of traps! Very addictive game. 100 levels of gameplay! Price 3.50! +

CLG015 SPLODGE THE ESCAPE Great platform game. Splodge was going on holiday to Ganymede when the spacebus on which he was travelling was hi-jacked by Big hairy monsters! He was imprisoned in an old house behind a Rongart spaceport building! You must guide Splodge, solving puzzles & collecting coins to buy a ticket home to Jupiter. Price 3.50 +

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ART06 WOMEN 2 disks full of women clips!+
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ART08 BUSINESS Disk full of office clipart!+
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ART11 SALETIME Many useful logos etc!+
ART12 XMAS 3 disks of Xmas related pics!+
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ART14 ANIMALS Fantastic quality pictures!+
ART15 CATS Only 12 pics but super quality!+
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ART27 ART NOUVEAU FLOWERS Floral art!+
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ART39 FLORAL 14 very detailed pictures!+
ART40 MYTHS Mythical images + zodiac!+
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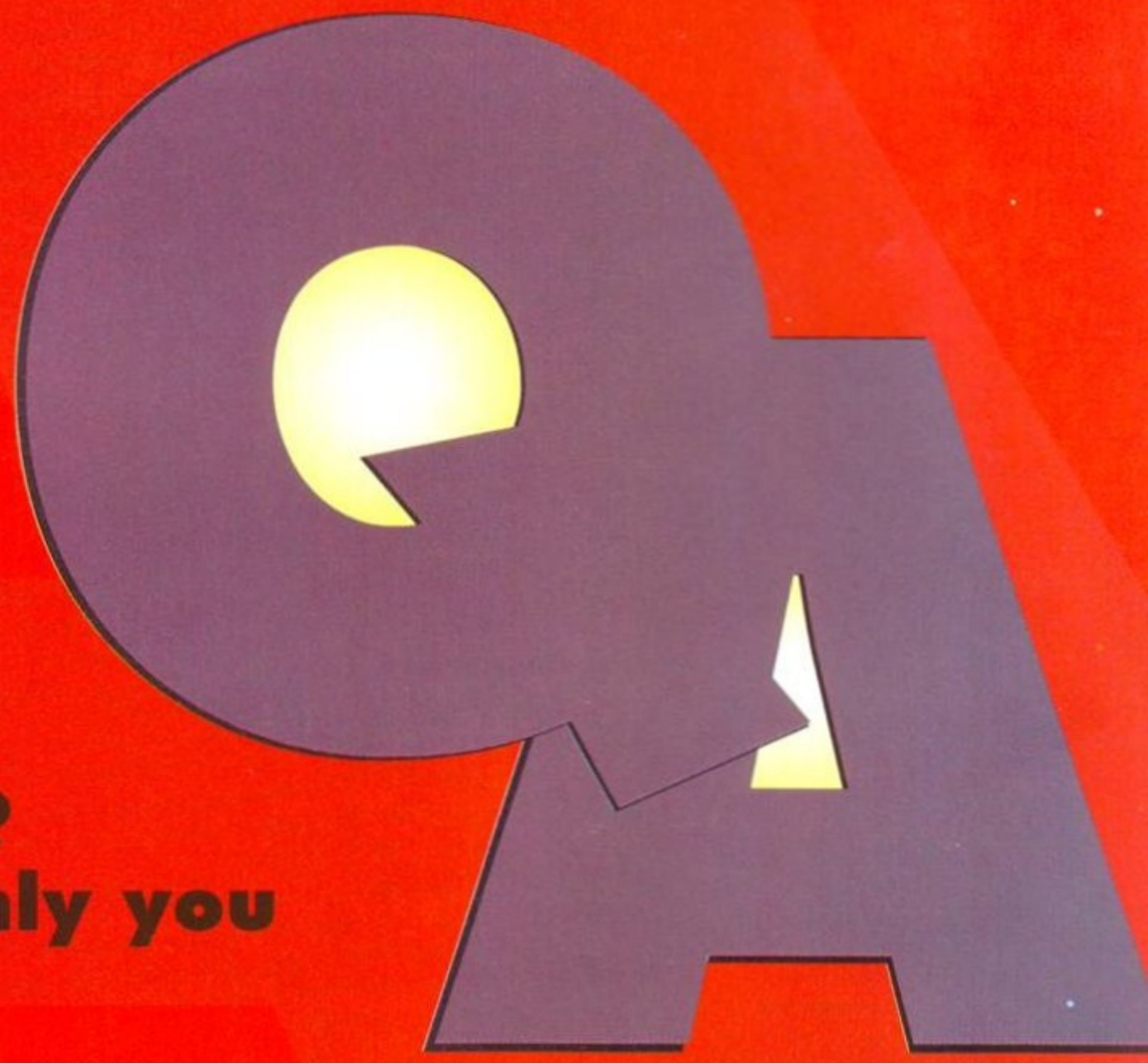


Questions, questions, questions... Will there ever be CD-ROM for the A600? What's the difference between 32 and 16-bits? Do I *really* need an A4000? How can I upgrade my Kickstart? How much RAM do I need to play *Links*? What is the best monitor for my needs? QUESTIONS! QUESTIONS! QUESTION!

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If you have any Amiga-related questions you would like answered, write to the editor, *Amiga Format Specials*, 30 Monmouth St, Bath Avon BA1 2BW. Make sure your letter arrives before Monday April 12th.

on sale from Thursday May 6th priced at £3.95.

W

From Warhol to, Whole-world games Wild cards and Wysiwyg. Read all about them on the following pages

W INDUSTRIES: Company responsible for those odd looking arcade games in which you pull on a heavy black helmet and look completely ridiculous. W Industries developed that helmet, called a Visette, to enable the game player to look around the game world by moving his or her head about. Quite obvious when you think about it, but it's actually a very hard thing to create, because you need lots and lots of processing power. Nobody has created a Visette for the Amiga yet, but the day can't be far off. (See Virtual Reality).

WADE, BOB: ***Amiga Format's*** launch editor. Bob (aged 28) had previously worked for *Amstrad Action* and *ACE*. He left ***Amiga Format*** in the capable hands of Damien Noonan. Bob then launched *Amiga Shopper*, *PC Format* and *Future Music* magazines. He is currently Special Projects Editor at Future Publishing. He owns a Tempest arcade machine and it's broken.

WANG: Wang is a multi-national company which made its name manufacturing dedicated word processors for the business community. The company has now moved into the computer repair business, and has gone into partnership with Commodore for repair of the Amiga range.

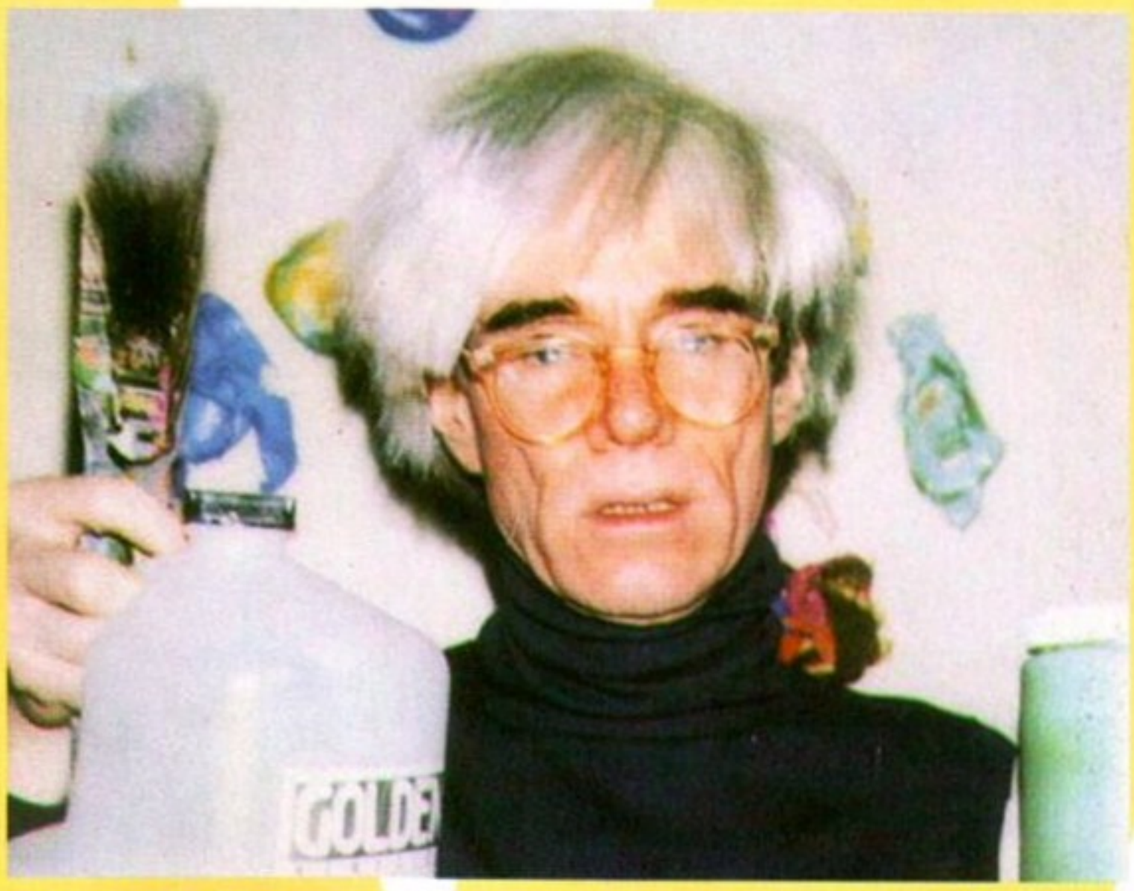
WARD, DAVID: Managing director of Ocean. (See Ocean).

WARHEAD: The game *Elite* has had a huge effect on the software industry. It was so innovative that other software houses have copied the idea and brought out their own 3D space games. Activision's attempt at the genre was *Warhead*, an extremely atmospheric game backed up by brilliant graphics and a superb sampled soundtrack. The game is set in the 21st century when the planet Earth is under attack from a particularly aggressive insect-like alien nation from a neighbouring star system. The idea of the game is to complete more than 30 missions in your spaceship. These vary from simple escort duties to taking on a massive, seemingly indestructible, monstrous space lifeform. *Warhead* is a challenging space sim that combines elements of strategy with plenty of arcade action. It received an 88 per cent ***Amiga Format*** rating in May 1990 (AF 10). Original cost: £24.99. (See Activision)



Warhead **is a compelling space sim that combines arcade action with a strong element of strategy and tactical awareness.**

WARHOL, ANDY (1928-1987): One of the leading figures in the pop art movement, friend and mentor of The Velvet Underground and possibly the most influential figure in Twentieth Century art. Warhol is best known for his statements about American society in the form of large paintings of Campbell's tomato soup cans, dollar bills, Coca-Cola bottles and his work that combined huge newspaper cuttings of bizarre events or accidents with paintings. Warhol's association with the Amiga is that he was one of the celebs who attended the launch party for the original A1000 in 1984. He began experimenting with creating work using paint packages and the Amiga, but died before the work came to fruition.



Pop artist Andy Warhol was one of the celebrities at the launch of the Amiga and experimented with the machine for computer art.

WATERLOO: Excellent strategy wargame from PSS based on the Battle of Waterloo, and programmed by Dr Peter Turcan. You play either Napoleon or Wellington and issue orders to your subordinates via messengers. To familiarise yourself with the state of the battle you can also view the action through the eyes of your commanders. The game is one of the most realistic in the wargame genre and offers an enormous challenge. *Waterloo* got a 92 per cent ***Amiga Format*** *Gold* rating in October 1989 (AF 3). Original cost: £24.99.

WATSON, TOM: See Renegade and Bitmap Brothers.

WEBB, TRENTON: Reviews editor, ***Amiga Format***. Trenton started his career on 8-bit classic magazine *Amstrad Action*, before joining ***Amiga Format*** in 1991. After a successful career with *AF*, Trenton moved on to edit the world's best-selling magazine for the C64 (see Commodore History), *Commodore Format*. He regularly freelances for *AF*, and supports Bristol Rovers.

WEBER, MIKE: See Brincken, Bernd Von Den.

WHEATLEY, DOMINIC: Dominic Wheatley and Mark Strachan are the main men behind games software publishers Domark, one of the biggest companies in the UK market. The name Domark is a contraction of Dominic/Mark. (See Domark).

WHITE, SUE: Art editor, *Amiga Format*. A swift promotion from *AF*'s art assistant's chair, saw Sue take over as art editor on issue 43. A vegetarian, Sue owns a Ford Fiesta and likes blues music.

WHITTAKER, MARIA: Well-known model, often to be seen bearing her chest in daily newspapers in the late 80s. Maria's breasts were also used to publicise the game *Barbarian* when she appeared on posters and packaging for it. (See Beat-em-Up).

WHOLE-WORLD GAMES: If the idea of a computer game is to escape into your own little world, then this type of game is the logical direction in which recreational software should be heading. These games create a whole (usually

hostile) environment complete with its own citizens which you have to explore and overcome. The whole-world game is a weird combination of strategy, arcade and adventure elements.

The game which started the ball rolling is David Braben's seminal space trading game, *Elite*. This game is outstanding because it places you in a virtual universe which you feel is almost limitless. Essentially the game is a lesson in the facts of life because you get a job and then endure hardships as you fight your way up the ladder of achievement in your chosen profession.

The combination of the whole in *Elite* delivers amazing graphics, a huge universe in which to play and more to the point a long-term goal which will take months and months to reach. Hundreds of little Britons grew up knowing that *Elite* means patience. When *Carrier Command* arrived in 1989 it also created a huge stir. The game is essentially a strategy contest against the computer in which you control an enormous aircraft carrier called ACC Epsilon. The computer has exactly the same kind of boat and the idea of the game is to take over a series of islands, setting up supply chains and eventually going into battle against the computer's ship.

Graphically *Carrier Command* is superb, but it's the depth of the game which really appeals. Not only do you have full control over the many functions of the aircraft carrier, but you also have aeroplanes called Mantas and amphibious vehicles called Walruses which you can either control yourself or send out on a prearranged mission.

Star Glider II was released at about the same time as *Carrier Command*. This game is set in space and the idea is to save your planet from destruction. On the face of it *Star Glider II* is a 3D shoot-em-up, but the search and destroy elements, combined with the amazing size of the universe make it a brilliant whole-world game. In a very similar vein is the near legendary *Mercenary* (88per cent in September 1992, issue 38) This involves chasing clues around a solar system, dealing with transportation problems and getting to know the locals. Again, it's the enormous size of the virtual world in *Mercenary* which makes it stand out.



***Armour Geddon*: a futuristic flight sim that features a sizeable game world.**

One man who knows more than most about creating virtual worlds is the programmer Mike Singleton. Mike earned his stripes programming fantasy games such as *The Lords of Midnight* on the 8-bit computers. His first major success on the Amiga was the futuristic whole-world game, *Midwinter* (92per cent in July 1990, issue 12).

The plot line in *Midwinter* suggests that after a nuclear war the polar ice caps melt and the existing continents all end up with a drastically improved view of the ocean. The idea of the game is to survive in arctic conditions on an island where two rival factions are fighting each other. The gameplay itself involves everything from skiing and driving a snowmobile to bribing guards by using your sex appeal. What's more it combines this with atmospheric graphics and an involving storyline. *Midwinter* is a superb game because you feel that you're part of the game world, which is what whole-world games are all about.



***Star Glider II*: on the face of it just another shoo-em-up, but the search and destroy elements make it an excellent whole-world game.**

At the same time that *Midwinter* was wowing the virtual junkies everywhere (July 1990), a tongue in cheek whole-world game was quietly winning itself lots of friends. The game, *Resolution 101*(87per cent in July 1990, issue 12 and 82per cent in March 1992, issue 32 a a budget release) is set in the drug-addled future. You control a cop who's on the trail of drug dealers. However, the game is raised above the level of the shoot-em-up by blending in a chase for the drug baron and a spot of ship embellishing for yourself.

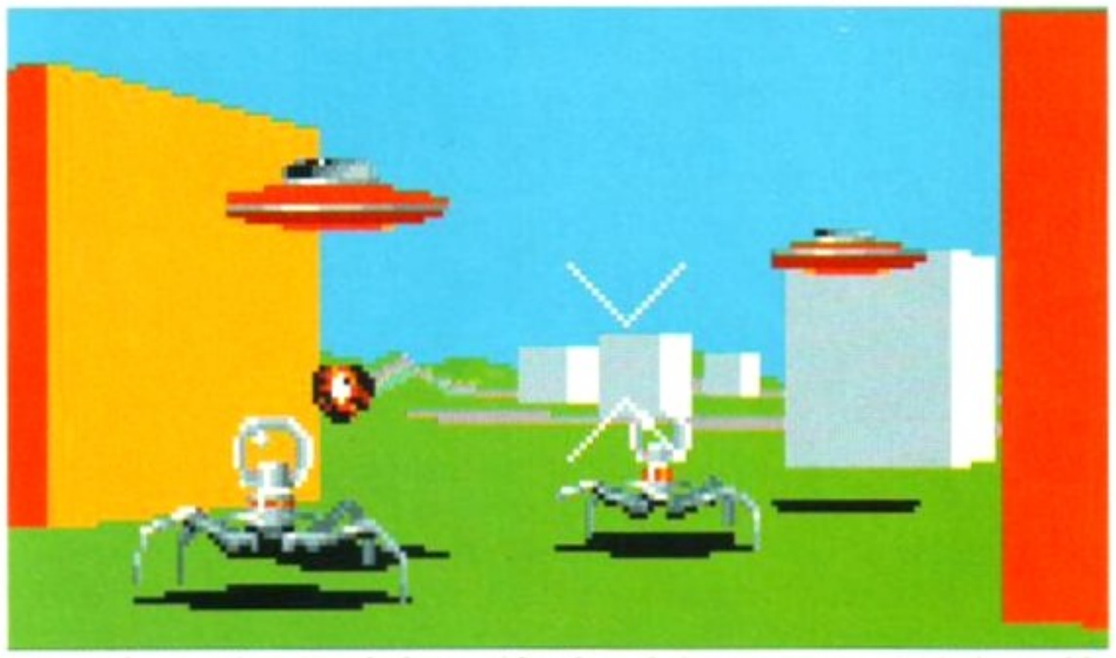
As the skill of programmers has grown, so the size of the games they produce has mushroomed. Psygnosis produced two excellent (and jolly large) whole-world games in the early '90s: *Infestation* (89per cent in May 1991, issue 22) and *Armour Geddon* (85 per cent in May 1990, issue 10). *Infestation* starts off in top gear and stays that way. The game is atmospherically creepy, due mainly to the brilliant sampled breathing sounds which carry on right throughout the game.



***Battle Command*: a test of close-combat fighting skills and planning abilities.**

Armour Geddon is a futuristic flight simulator in which you control a selection of air and land craft and do battle with an aggressive alien nation. Both of these games feature sizeable virtual game worlds and the kind of long term objective which makes this genre one of the most enjoyable on the market. Science fiction is the foundation on which many whole-world games are built; witness the three best games of

Continued over



***Resolution 101* is a futuristic combination of shoot-em-up and whole-world game in which you control a cop on the trail of drug dealers.**



***Cybercon*: a whole-world game in which the aim is to battle your way past the computer's defence system. One of the best recent whole-world games.**



***Mercenary* is a near-legendary whole-world game, the aim of which is to chase around the universe dealing with a host of tasks on the way.**

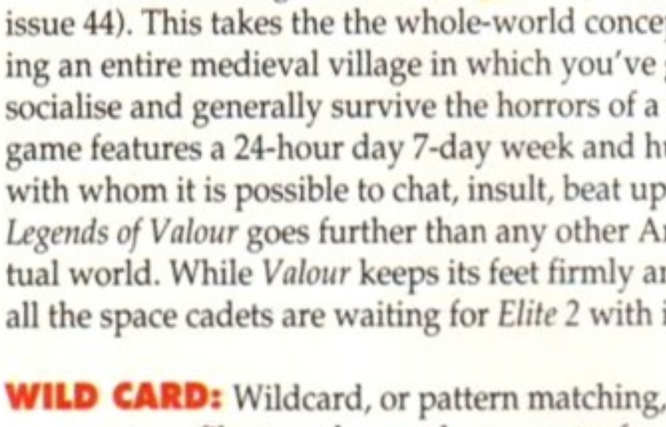
the genre from late '91 – '92. *Cybercon 3* (90per cent in June 1991, issue 23) *Battle Command* (90per cent in February 1991, issue 19) and *Hunter* (86per cent in March 1991, issue 20).

The idea of *Cybercon* is to battle your way past the computer's defence and treat its semi-conductors to a bit of high voltage. The programmers utilised a similar look to that of *Infestation* in that your view of the virtual world is from a helmet. The game itself is a test of shooting, strategy and exploration. *Battle Command* is the follow up to 1989's *Carrier Command*. The game is a test of close-combat fighting skills and planning abilities set in a futuristic tank. The virtual battlefield in which all this takes place is enormous. Getting used to a hostile environment is only a small element of *Hunter*, a virtual world with some extremely hostile natives. The object of the game is to retrieve certain objects in predetermined order and this involves nipping around between a cluster of islands. To get between islands you can commandeer any of the vehicles which are left scattered around or swim for it.

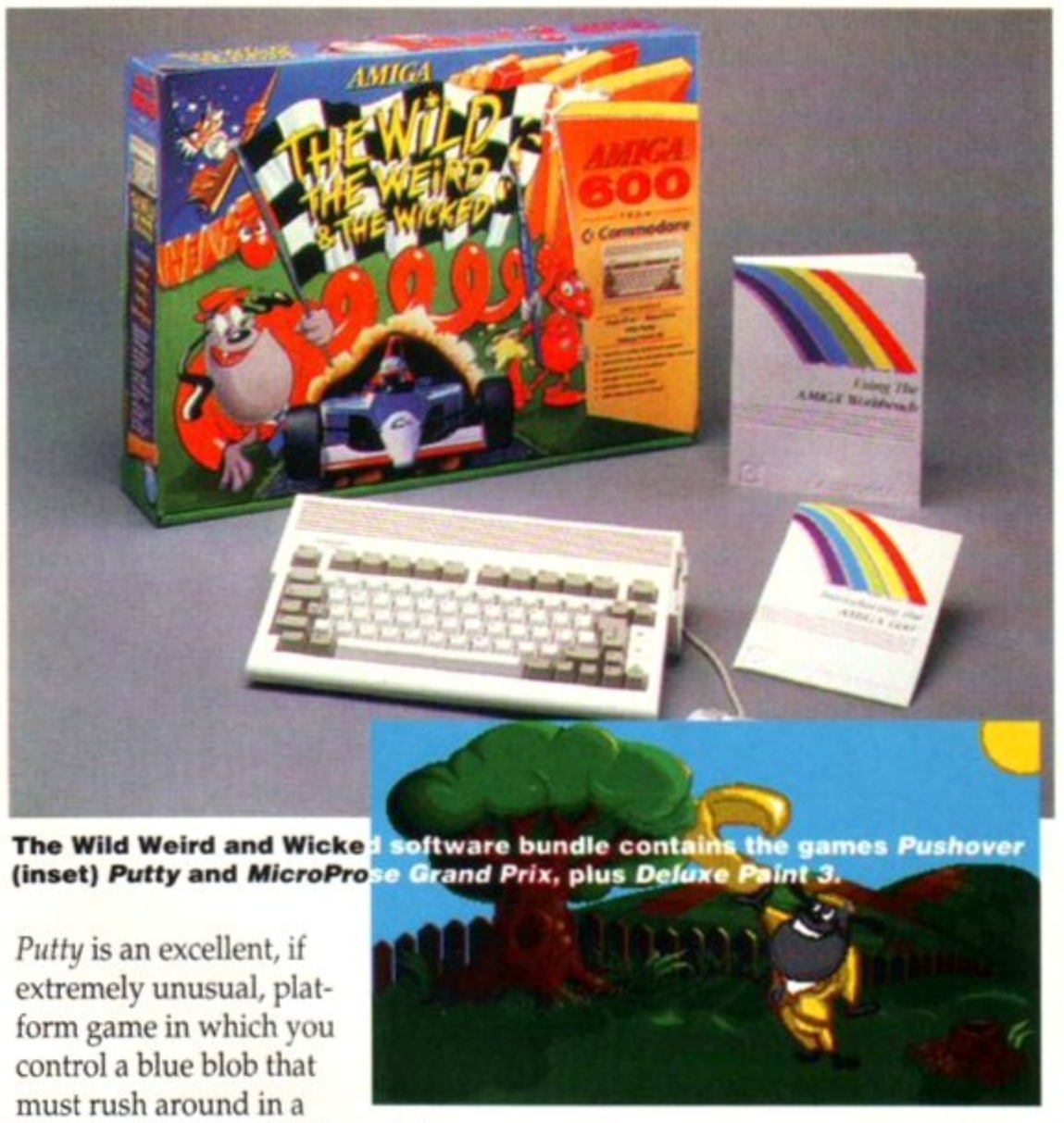
The *Hunter* world is populated by various interesting citizens including a morose looking Death and a family of hungry sharks who like ramming your boats.While the geographic limits of the game world aren't enormous, the detail and scope for activity within that world are huge. In early '93, a company called DCD announced a game called *Legends of Valour* (91per cent in March 1993, issue 44). This takes the the whole-world concept one stage further, by simulating an entire medieval village in which you've got to eat, sleep, work, fight, socialise and generally survive the horrors of a wattle and daub life. The game features a 24-hour day 7-day week and hundreds of interesting characters with whom it is possible to chat, insult, beat up, rob or probe for information. *Legends of Valour* goes further than any other Amiga game yet in creating a virtual world. While *Valour* keeps its feet firmly and happily on the muddy floor, all the space cadets are waiting for *Elite 2* with its entire universe to explore.

WILD CARD: Wildcard, or pattern matching, is a Shell function that enables you to group files together, and carry out a function on all of them at the same time. For example, if you wanted to delete a large number of files, instead of deleting each one individually you could specify a group of files based around a selection criteria, such as all files that start with the letter P and end with an .IFF extension.

WILD, WEIRD AND WICKED: Bundle of software packages that was released to go on sale with the A600 towards the end of 1992 at an all-in price of £349.99 (the retail price of the A600 is £299). The Wild,Weird and Wicked bundle replaced the previous Cartoon Classics Amiga package, and contains the games *Pushover* from Ocean, *Putty* from System 3, *Grand Prix* from MicroProse and Electronic Arts' *Deluxe Paint 3* paint package. *Pushover* is a puzzle game based on the knocking over lines of dominoes theory, except in *Pushover* you control an ant which bundles over rows of bricks. Sounds simple, but it's a strangely addictive game.



***Putty:* the unlikely hero of this Wild Weird and Wicked game is a blue blob.**



The Wild Weird and Wicked software bundle contains the games *Pushover* (inset) *Putty* and *MicroProse Grand Prix*, plus *Deluxe Paint 3*.

Putty is an excellent, if extremely unusual, platform game in which you control a blue blob that must rush around in a blue blob-like way dealing with a variety of threats and menaces. *Grand Prix* is a first-class racing game, while *Deluxe Paint 3* is a completely wonderful paint package. (See *Deluxe Paint*).

WILLIAMS: American company responsible for classic games such as *Defender*, *StarGate: Defender 2* and *Robotron* as well a host of brilliant pinball tables. RJ Mical, one of the inventors of the Amiga, worked for Williams before moving on to the Hi Toro team. (See Amiga).

WILLIAMS, GLYNN: Author of the excellent action and strategy space sim *Warhead*. (See Warhead)

WIMP: Stands for Window Icon Menu Pointer. Back in the early days of computers, the only way to input commands was with the keyboard. This meant you had to be fluent in a strange mathematical computer language and therefore computers remained in the domain of boffins. Then, one day back in the late 70s somebody at Xerox's Palo Alto Research Laboratories came up with the idea of the WIMP system.

The idea behind the Window Icon Pointer Menu system is that if you don't understand computer language you can still communicate with the machine by pointing. Obvious really.

Let's take an example of how pointing can make your life a whole lot easier, even though it's traditionally considered rude to point. Imagine that you're in an Albanian cake shop, but you don't know the Albanian for: "I would like one of those large cream cakes smothered in cherries". You could try one of the following: (a) say something that sounded like Albanian, (b) scream at the shop assistant in English, (c) point at the desired cake.

Research has shown that pointing is the most successful means of getting the cake. So the theory behind the WIMP system is that instead of typing in complicated computer commands, Amiga users can control their computers by moving an on-screen pointer (using a mouse) to select the desired option by pointing at a window or icon or selecting it from a menu.

WINDOWS: The name given to the frame on the screen that contains a disk's icons. (See Icons).

WIZKID: Every now and then a game comes along which is so completely peculiar that no-one know quite what to make of it. *Wizkid* (93per cent in August 1992, issue 37) the follow-up to *Wizball* is just such a game. It was designed by the team at Sensible Software and defies categorisation. However, the basic idea of the game is to collect ten cats. You do this by bouncing various objects (penguins, bricks, marbles etc) off butterflies' heads. You also have to

Continued on page 128, after the map on pages 124-125

AMIGA FORMAT Live '93

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What's happening at Wembley a week before the Cup Final - and is even more exciting?



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Answer your questions and help you out with any specific Amiga problems. A special Sound and Vision area will concentrate on Amiga graphics and music, and how they can be used in making your own videos. The experts from Camcorder Plus and Future Music magazines will be able to give you the benefit of their advice. For gamesplayers, there's the Amiga Power arcade where you can see - and play - all the latest top game releases. And you can experience Virtual Reality for yourself, too. The place is Wembley Exhibition Centre - a prestige central London site - and the time is Friday May 7th to Sunday May 9th. Much more has yet to be revealed about what new products will be launched at the show, and other special events, so keep an eye on the news pages of your favourite Amiga magazine.

But what's certain is that it's going to be quite an event. If you've got an Amiga, you really ought to be there. Make sure to get it arranged right now, and we'll see you there!

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AFS04

We felt that because no encyclopaedia would be complete without a map, we'd include one here. So, we proudly present The World Of Amiga, packed with interesting information collated by our team of globe-trotting news hounds



WORLD OF AMIGA

Since the Amiga was created back in 1984 it has been slowly spreading its influence all over this mighty (if somewhat polluted) globe of ours. As you sit there tapping away at your trusty Zorro descendant (look it up) millions of other human beings around the world are creating or simply having fun on their own Amiga. From the Philippines to Stockholm, A500s, A3000s and CDTVs are entertaining people. As we compiled this encyclopaedia it became apparent to us that the Amiga is one of the few truly global computers. While other machines exert a small influence over a bit of the world, the Amiga touches practically every corner of the globe in some way or another. America has become known for its high quality video and art packages, Britain for its superb games, Germany for technical programs, Scandinavia for ground-breaking demos, France for weird games and Russia for original, inventive programs. Cast your eyes over our lovely map and see just how far the Amiga has come...

1: West coast America

LucasArts: Situated on George Lucas' huge ranch in California.
SSI: RPG specialists located in Sunnyvale, California.
Electronic Arts: Famous for John Madden's American football.
Soft-Logik: Residents of California and creators of Pagestream.
Digital Creations: Company responsible for DCTV the digitising package.
Oxxi Aegis: Producers of Presentation Manager and VideoStage.
Virtual Reality Labs: Creators of Distant Suns, Vistapro, Terramorph.
Amigas: Considering that only 250,000 Amigas have been sold in the States. A lot of excellent software is produced in the USA.

2: Canada

Commodore: Canadian headquarters at Agincourt, Ontario.

3: East coast America

Commodore: Main headquarters at West Chester, Pennsylvania.
Commodore: Marketing division, New York.
Microprose: Headquarters of Wild Bill's outfit of top notch coders.
GVP: Producers of video hardware and software such as *CineMorph*.
Octree: Creators of Caligari 2 and Caligari Professional.
Scala: Company responsible for the Scala multimedia package.

4: South America

Llamasoft: Home of the llama, Jeff Minter's reason d'etre.

5: Ireland

Sullivan Bluth: Producers of *All Dogs Go To Heaven* and the *Dragon's Lair* series.

6: France

Delphine: Producers of *Another World*, *Cruise For A Corpse* and *Flashback*.
Ubi Soft: Producers of the BAT series.
Infogrames: Producers of the excellent *Sim City*.
Coktelvision: Most recently produced *Ween*.
Amigas: Home to 250,000 of Commodore's finest.

7: Great Britain

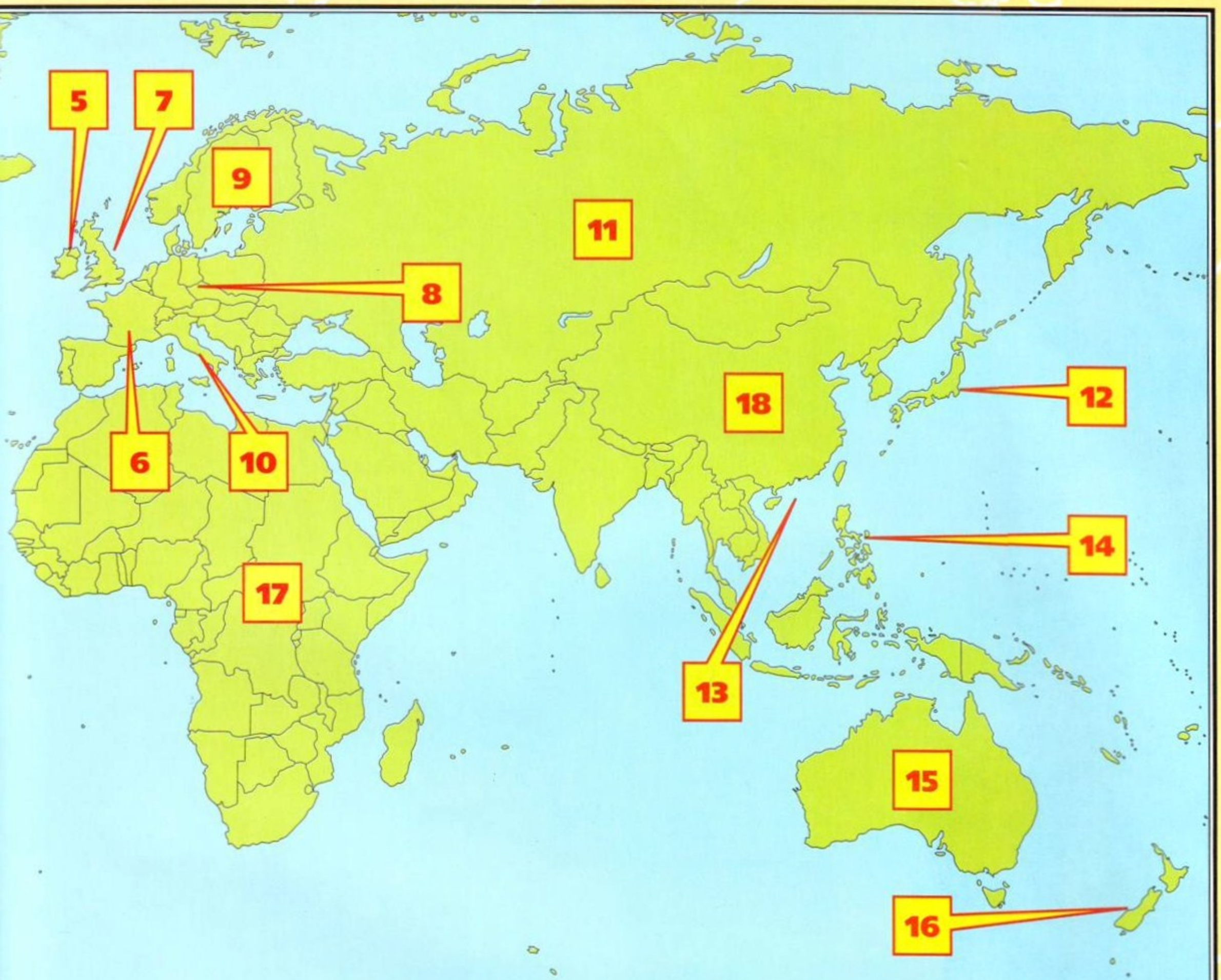
US Gold: Publishers of *Monkey Island*, *Street Fighter 2* et al...
Ocean: Publishers of *Sleepwalker*, *Universal Monsters* et al...
Bullfrog: Molyneux's *Populous*, *Powermonger* team.
Sensible Software: Hare & Co's soccer mad coding team.
Renegade: *Speedball*, *Chaos Engine*, *Xenon II*. The Bitmap Brothers' creations.
Psygnosis: Most recently responsible for *Lemmings 2*.
Amigas: Home to 1,200,000 of the blighters.
Amiga Format: Based in Bath, produced by Future Publishing, it's the world's biggest and best-selling Amiga magazine.
Chart Show: An Amiga is used to create these 'interesting' facts which are genlocked over the tops of the videos.

8: Germany

Thalion: Ex-coders turned programmers responsible for *Amberstar*, *Lionheart*.
Rainbow Arts: Produced *Turrican* and *X-Out*.
Starbyte: Programmed *Rolling Ronny*.
Amigas: Home to 1,300,000. The greatest number of machines in one country.

9: Scandinavia

Linel: Most recently responsible for *Traders*.
Terramarque: Based in Helsinki, Finland, Terramarque produce non-violent games such as the 1992 release *Galactic*.



Demos: Nobody knows why it should be, but it's an inescapable fact that many of the best demo coding groups come from these Nordic countries.
Amigas: Home to 80,000 machines.

10: Italy

Simulmondo: Programming team responsible for *Dylan Dog* and *F1 Manager*.
Amigas: Home to 600,000 machines.

11: Eastern Bloc

Tetris: Quite possibly the most famous computer game ever.
Artgame: Based in Budapest and responsible for *Abandoned Places*.
Amigas: Home to 30,000 machines.

12: Japan

Fanclub: An Amiga Fan Club in Japan has around 200 devoted members.
Amigas: Home to a couple of hundred lonely machines.

13: Hong Kong

Commodore: Local headquarters in Kwai Chung, New Territories.

14: Philippines

Commodore: Land of the cheap labour source. One of the Amiga's biggest manufacturing plants is based here.

15: Australia

Commodore: Local headquarters in Lane Cove, New South Wales.
Amigas: Home to about 75,000 machines.
Neighbours: Followers of the goings-on in Ramsay Street will be thrilled to know that an Amiga 2000 made an appearance on the show in Paul's office.

16: New Zealand

Commodore: Local headquarters in Auckland.
Amigas: Home to about 25,000 machines.

17: Africa

Comic Relief: Profits from the sale of *Sleepwalker* from Ocean will go to charities working in the African continent.
Mauritius: Annual sales of Amigas on this island are about 200 a year.
Malawi: One small trading company has an import deal with Commodore for a few Amigas a year.

18: China

Heart of China: Superb oriental graphic adventure from Sierra the aim of which is to rescue a woman from a Chinese warlord.
Amigas: Not too many around. Residents seem more keen on getting washing machines, radios, Remmington Fuzzaways and democracy before investing in state-of-the-art computer kit.

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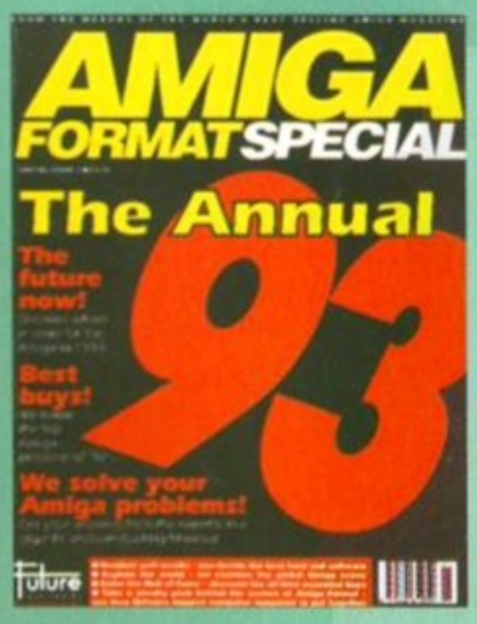
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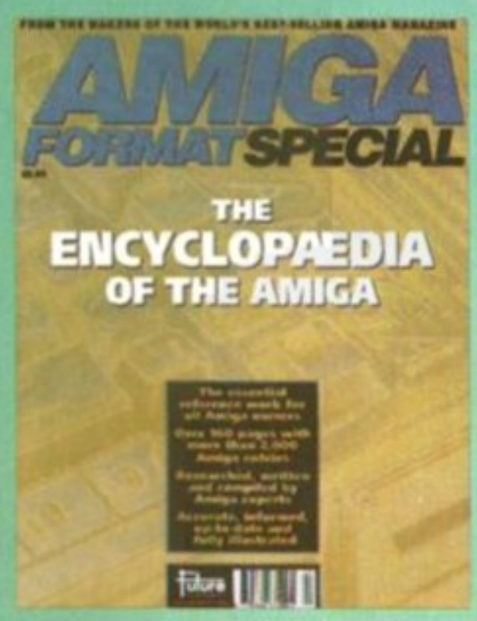
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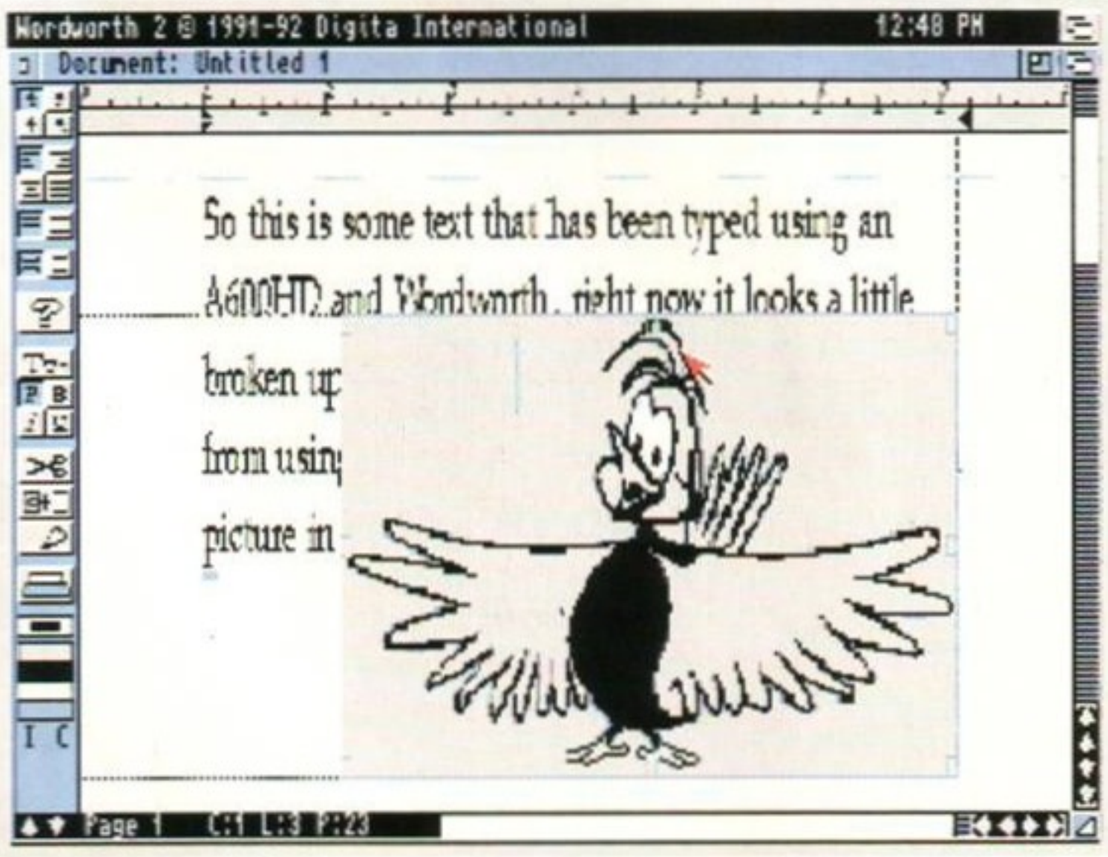
***Wizkid* from Sensible Software is a highly original game that involves bouncing nuts off people's heads, and using penguins for a similar purpose. The game is the follow-up to *Wizball* and received a highly impressive 93 per cent rating from the *Amiga Format* team when it was released in mid-'92.**

solve the odd weird puzzle and collect enough colours to buy objects to solve other puzzles. There, told you it was peculiar. Anyway, *Wizkid* is strangely compelling stuff and a worthy sequel to one of the best games of all time: *Wizball*. *Wizkid* was well-deserving of its 93 per cent ***Amiga Format*** *Gold* rating in August 1992 (AF 37). It originally cost £25.99. (See Sensible Software)

WORKBENCH: The front end of your Amiga which enables you to access its inner functions. Workbench is essentially an operating system loaded from disk. If you want to format a disk, examine directories or run or delete files then you do so from the Workbench.

WOODROFFE, MIKE: Games writer, designer and programmer best known for his work on Accolade's *Elvira II: The Jaws Of Cerebus*, an RPG very much in the *Dungeon Master* mould. Perhaps the most notable thing about the game is that its heroine, Elvira Mistress Of Darkness, has a remarkably large chest.

WORDWORTH: Acclaimed Amiga-only word processor. The program includes the ability to import D-Paint images onto the page and flow text around them. The program is fully WYSIWYG, showing typeface, style, colour, headers and footers, page breaks. It can support up to 255 screen fonts and pages up to A3 size. *Wordworth* has comprehensive editing facilities, text formatting, support for over 400 printers, a 110,000 word dictionary, thesaurus and even a screen saver. It is just about the most comprehensive word processor pound for pound which you can get. Highly recommended. *Wordworth 1.1* received a 90 per cent ***Amiga Format*** *Gold* rating in October 1992 (AF 39) and cost: £129.99. *Wordworth 2*, got a 91 per cent ***Amiga Format*** *Gold* rating in December 1992 and also cost £129.99. (See Word Processor).



***Wordworth 2* is a word processing program that also enables you to import images from *DPaint*. It received a 91 per cent *Amiga Format* rating.**

WORKBENCH: The Graphical User Interface (GUI) that makes the Amiga far easier to use than other 'type in commands' computers. Workbench is currently up to version 3 (the early version 1.3/1.3.2 appeared in 1988, version 2.04 appeared in 1991). Workbench enables you to use your mouse pointer to click on icons, pull down menus, and generally control your Amiga without having to learn long, complicated command syntaxes. It is also known as a WIMP system (see WIMP). On non-hard disk Amigas, Workbench is loaded from floppy disk at the start of a session. Consequently it is always a good idea to make up a back-up version of your Workbench disk as soon as possible. Then put the original away and use the back-up. Upgrading Workbench is a good idea purely because many user-friendly changes have been made to it since 1988 – contact Commodore for upgrade details.

WORLD OF COMMODORE: A major UK computer show which shows off the full range of Commodore's products, with the Amiga traditionally the point of greatest interest. In 1992, Amiga Format stepped in as a major sponsor for the WOC, when it was held at Earls Court. (See ***Amiga Format***).

WORST AMIGA GAMES EVER: What makes a game truly dire is obviously a subjective judgement. We all know that a good game will get an ***Amiga Format*** *Gold* rating of 90per cent or more. But there are those games that have been met with universal scorn and derision, and achieved incredibly low ***Amiga Format*** ratings. On the basis of these ratings, the worst Amiga games are: *Flight Path*, a tedious flight sim which got 10 per cent; *Thai Boxing*, a laughable oriental beat-em-up (16 per cent), and *Protector*, (13 per cent) a particularly awful space shoot-em-up, based on the classic coin-op *Defender*. All the above were featured in issue 25 and were released by the same software house, Pocket Power, and at least had one saving grace in that they only cost £2.99. The other notable entry in this category is *Classic Invaders* (Supernova Software, release price £14.95), a clone of the original coin-op *Space Invaders*, which was so unspeakably poor it received a nine per cent ***Amiga Format*** rating in August 1989, the very first issue. This was the lowest rating ever given for full-price software.



***Thai Boxing* wasn't a big hit with *Amiga Format* and one of the worst ever ratings: 16 per cent.**

WRIGHT, ANDREW: Marketing manager at Virgin Games who was closely involved with the launch of the company's budget label. Something of a veteran and a highly-respected member of the computer games industry.

WYSIWIG: Stands for what you see is what you get (pronounced wizzie-wig). This describes a program in which the screen display gives an absolutely accurate representation of the printed end product. Applies to word-processing and DTP packages.

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The program used to be called *X-Copy*, but Siren changed the name because it could have given the impression that it was a pirating package, to be used for copying copyrighted disks, which is strictly illegal. Advertisements for *X-Backup Pro* now carry a disclaimer the wording of which goes something like this:

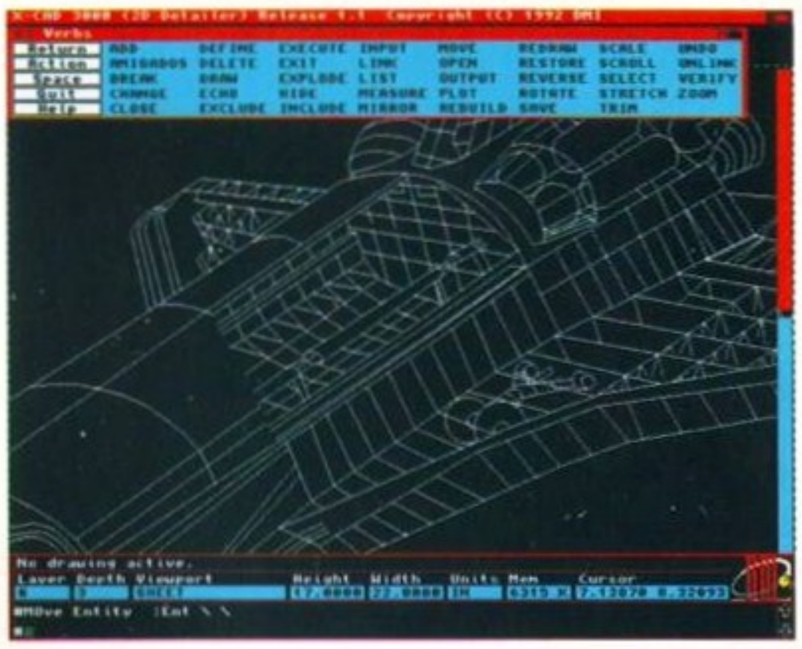
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X-CAD: A range of Amiga Computer Aided Design software. The programs include the powerful *X-CAD Professional* (release price £399), the *X-CAD Designer* for use by beginners or semi-professionals (release price £115), and most recently the *X-CAD 2000* (£129.95, 88 per cent in November 1992, issue 40) and the more advanced version the *X-CAD 3000* from Digital Multimedia). All the *X-CAD* programs have been consistently recommended by ***Amiga Format*** for their exceptional quality and good value for money.

X-SPECS 3D: Produced by Haitex in 1990, these were one of those quirky attempts to achieve the utterly pointless, for no conceivable reason, but they looked like great fun. The idea was to create 3D graphics on the Amiga screen by getting the user to wear a pair of special glasses.

The 3D specs worked, but relied on having the necessary software to be of any use, and that software was never developed beyond a few prototype versions and at about £150 a pair, Haitex's X-Specs 3D became an expensive novelty only fit to mention as a curio in Amiga history.

XENON TECHNOLOGY: Back in the late 80s and early 1990s, company after company was set up in order to sell the ever-growing range of computer (mainly Amiga) products available to a very eager general public. Among these firms was Portsmouth-based Xenon Technology. This seemingly innocent little firm went broke leaving behind it unpaid bills, uncompleted orders and some very unhappy customers. Nowadays this would not seem to be much of a



XCAD2000 **brought high level computer aided design to the Amiga just when everyone thought that this hi-tech world was the preserve of the IBM PC and compatibles.**

claim to fame until you consider that Xenon Technology was run by a 17-year-old schoolboy called Steve Lowe. Until the Xenon crash, the computer leisure industry had been more than used to precocious youngsters (see the Darling Brothers for one example) but this had been in the creative side rather than the commercial. The Xenon disaster proved that the leisure industry had to grow up if it was to be taken seriously by the buying public and the rest of the world.

XENON 2: A five-stage vertically scrolling shoot-em-up from (the now demised) Mirrorsoft and programmed by the Bitmap Brothers that earned a 93 per cent ***Amiga Format*** Gold rating in October 1989 (AF 3).

You control the spaceship Megablast and must find and destroy five time bombs that the evil Xenites have planted at various stages in the history of your civilisation. During the journey through time the Xenites go through an evolutionary process from cavemen to futuristic space warriors.

Xenon 2 featured outstanding graphics, and a sound track specially produced for the game by Bomb-the-Bass (and sounding very much like the theme tune from John Carpenter's *Assault on Precinct 13*). *Xenon 2* was (and is) highly addictive. Release price £24.99.

Unfortunately *Xenon 2* was not so warmly received when it was transferred to CD, even though the soundtrack was tweaked up for the format, and its ***Amiga Format*** rating plummeted to 32 per cent. The CD release price was £29.99. The game did however introduce Amiga games to a wider world of pop music (Bomb-the-Bass) and helped the Bitmaps on their way towards forming the Renegade label. (See Bitmap Brothers).

XETEC: Range of hard drives from the American company Third Coast Technologies. They come in a variety of sizes with prices ranging from under £500 to over £1,700. High quality hardware at a price.



Xenon **(above) and** ***Xenon2*****: Not for the first time, the Bitmap Brothers took a simple idea (the shoot-em-up) and turned it into something special.**



Z-Out **was an** ***Amiga Format Gold*****-rated game way back in the early part of 1991. It followed in the tradition of** ***X-Out*** **and even** ***R-Type*****.**

Y/C VIDEO: Also known as S-Video. Using separate C (Chrominance) and Y (Luminance) signals increases the quality of the image and alleviates many of the problems associated with normal video (composite) signals. It is used on SVHS, High band 8mm and some professional U-Matic video recorders.

Z-OUT: Horizontally scrolling shoot-em-up from Rainbow Arts. which got a 90 per cent ***Amiga Format*** *Gold* rating in February 1991 (AF 9). The game continues the story from Rainbow Arts' previous shoot-em-up release, *X-Out*.

The enemy forces on the Alpha Centauri moon have been destroyed and their invasion plan thwarted, but signs of heavy military movements on the surface of the planet itself are detected and you must head a Z-Out attack team to travel to the planet surface and wipe out the enemy forces once and for all.

As you go deeper into enemy territory you collect various power-ups to add to your ship's defensive and attacking capabilities. Although this is all fairly standard progressive shoot-em-up fare, what makes *Z-Out* worthy of its Gold rating are the brilliant graphics and its addictive gameplay. (Its release price was £24.99).

ZAPPO: Zappo is the trade name of various hardware add-ons from Zappo Computers Limited (ZCL), which is itself more commonly known as Zappo.

ZCL was originally an importer and distributor of computer hardware but has now started up as a producer.

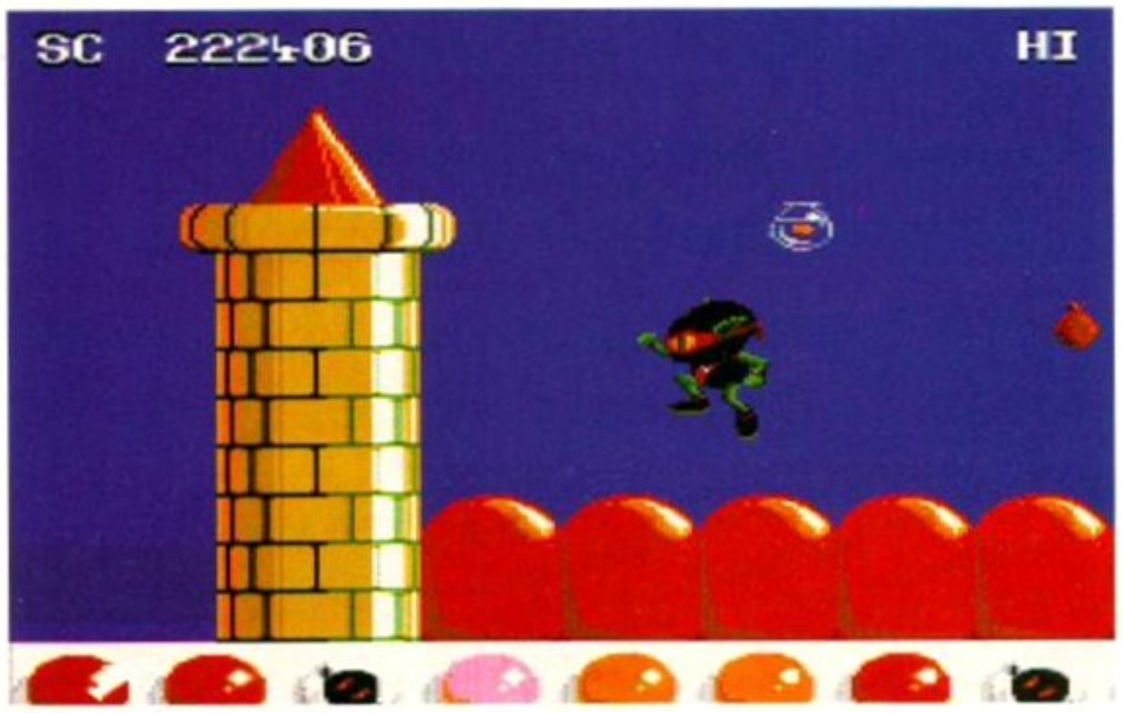
The latest hardware from ZCL is a Zappo external disk drive (£54.99, 85 per cent ***Amiga Format*** rating) and a hard drive, (£299.99, 87 per cent ***Amiga Format*** rating). ZCL produces other hardware products under the Zappo name and also have a nifty little line in something called the Zapsac, a special Amiga carrying case in yellow and blue, and matching Zappo T-shirts.

ZEPPELIN: Budget software house formed in Newcastle in 1987 by Dr Derek Brewster, Martin O'Donnell and Brian Jobling. Although Zeppelin is best known for its budget releases, it has also produced full-price games, the first of which was *Kenny Dalglish Soccer Manager* (31 per cent in March 1989, issue 8) released in conjunction with Impressions in 1990.

Zeppelin currently operates three labels: Zeppelin Games (budget 8-bit games), Zeppelin Platinum (budget 16-bit products), and Zeppelin Premier (full price games). Zeppelin is one of the most prolific publishers in the UK and regularly releases more than six titles a month, making it one of the top five UK budget software houses in terms of market share. Zeppelin now employs 13 staff as well as numerous freelance programmers, artists and musicians.

The managing director is Brian Jobling who says his claim to fame is that he went to school with Paul Gascoigne. Operations director Darren Jobling, once worked as a Butlin's Redcoat and played guitar for Rolf Harris, and head of development Gareth Briggs is a programmer who worked on *Diplomacy* and *International Ice Hockey*. He was a goat breeder before entering the wonderful world of software development.

Zeppelin budget games released for the Amiga include: *Edd The Duck, Arnie, F1-Tornado, Frankenstein, Neighbours, Titanic Blinkey, Blade Warrior, and American Tag Team Wrestling*. Forthcoming Amiga budget releases include *Doc Croc's Outrageous Adventure, Edd The Duck 2, International 5-A-Side Soccer*, and *International Golf*. Contact: Zeppelin, 28 Osbourne Road, Jesmond, Newcastle-upon-Tyne, NE2 2AJ, Tel: 091-385 7755.



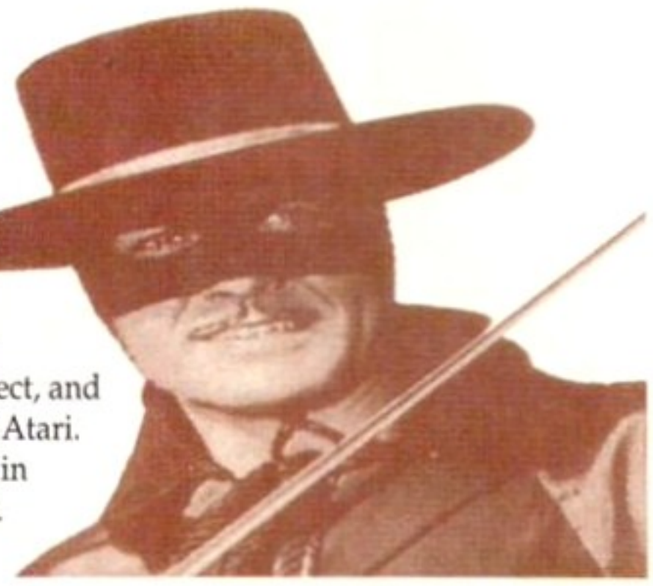
***Amiga Format Gold*-rated *Zool* cheered the Amiga community up no end in 1992 and proved that the Amiga could more than contend with consoles.**

Zappo: not one of the forgotten Marx brothers, but a range of new hardware for the Amiga from one of the Amiga's best-known distributors.

ZONE DISTRIBUTION: One of the UK's leading distributors of music software and hardware. Telephone: 071-738 5444.

ZOOL: All was quiet on the mega-game front until Gremlin announced its very own *Sonic/Mario* basher, *Zool* (95 per cent, October 1992, issue 39), designed to compete with the colourful, fast and noisy console games and it does so brilliantly. *Zool* himself is a Ninja from the nth dimension, a hapless castaway in a weird land. The idea of the game is to scrap your way through six levels, avoiding the snares and sentries posted to make your life hard. There are secret rooms and bonuses scattered around the place and the game gets progressively harder as you go on. *Zool* has incredible graphics, with each level having a different theme from rock music to sweeties. *Zool* is magnificently animated and moves with an eye catching ease which puts console games to shame. It received a 95 per cent ***Amiga Format*** *Gold* rating when it was released in October 1992, release price £25.99. The follow-up to *Zool* is due out in mid-'93.

ZORRO: The name given to the prototype Amiga by the development team of RJ Mical, Jay Miner, Dave Morse and Karl Sassenrath. They took Zorro to the Consumer Electronics Show in Las Vegas in 1984 to try and get cash backing for the project, and did indeed receive funding from Atari. A year later Commodore moved in and bought up the whole project. (See Amiga, History Of).



ZUSE, KONRAD: Commodore was the first company to market calculators in the US, and Zuse was the man behind the calculator. It was the development of rockets which led Zuse to start his own development of a programmable calculator. The calculations he was involved in were needed to determine the stresses being placed on wings during high speed flight.

Previously this involved weeks of work by many people using slide rules and simple mechanical adding machines. The first machine he came up with was a mechanical device called the Z1 which could perform sophisticated functions such as the conversion of decimal numbers to binary notation. Unhappy with his machine he set about developing the Z2, an electromagnetic machine.

However, it wasn't until he created the Z3 that the first real computer was born. In comparison to an Amiga this wasn't exactly stunning, but for its time it offered huge processing power. It could store 64 words, each of 22 bits length and manipulate these words, displaying the results on a series of lamps. The Z3 was destroyed during the saturation bombing of Berlin in 1945. But without Zuse, there would have been no home computers as we know them today, so it is more than just to finish these entries with this man's name.

NEWS QUIZ: THE ANSWERS

Nobody said it was going to be easy, but many of you erudite souls entered the most taxing Amiga quiz ever – featured in *The Amiga Format Annual 1993*. Here we present the answers and the winners of ten free subscriptions...

Cast your mind back to the ***Amiga Format*** *Annual* '93. We invited anyone who could afford a stamp to jot down the answers to the 101 Amiga and general knowledge questions we set. The prizes were 10 free subscriptions to ***Amiga Format***. We've been sifting through the entries to the competition and we are pleased to announce that we have ten winners. But first we have the 101 answers...

1 We asked which game this rude 'lamp' shot comes from? **The answer: *The Secret of Monkey Island II*** ☛



2 We asked what the maximum data storage capacity of a Compact Disc was? **The answer: 650Mb.**

3 We asked which film had a similar theme to the forthcoming, any day now, soon to be out *Microcosm*? **The answer: the distinctly unsettling *Fantastic Voyage*.**

4 We asked who was the last British driver, prior to Nigel Mansell, to win the Formula 1 world championship, then announce his retirement from the sport? **The answer: James 'Over to you Murray' Hunt.**

5 We asked which model we had pictured pictured here. **The answer: The A3000.**

6 We asked which superb software package was given away with Issue 36 as part of the ***Amiga Format Collection?*** **The answer: *CanDo*. The multimedia program.** If you missed that issue turn to page 126, to order your back issue.

7 We asked how many copies *Amiga Format* officially sells on average each month? **The answer: 161,256.**

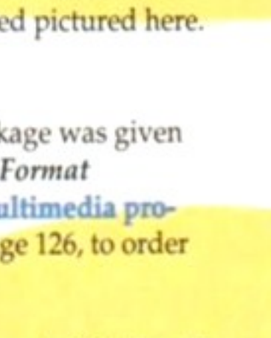
8 We asked how many gold medals Great Britain managed to pick up at the '92 Olympics Games? **The answer: an awe-inspiring five.**

9 We asked in what capacity Steve Franklin of Commodore was working at the time of the quiz? **The answer: marketing CDTV.**

10 We asked you to name the countries in which Commodore manufactures the Amiga? **The answer: Scotland, Phillipines and Hong Kong.**

11 We wanted to know what *Psycho Killer, Snoopy, Barney Bear* and *Asterix the Gaul* have in common? **The answer: they are all CDTV titles.**

12 We asked you to name the game from which this segment of a screenshot comes? **The answer: Populous** ☛



13 We asked you to name this game. ☛ **The answer: Deuteros, the strategy space exploration game.**



14 We asked what former Tory MP Chris Patten was up to having lost his parliamentary seat at the general election? **The answer: He's the Governor of Hong Kong.**

15 We asked what the significant difference between the two Commodore A600s launched in '92 was? **The answer: a hard drive.**

16 We asked for the names of the A600's custom chips. **The answer: Super Fat Agnus, Denise, Gayle and Paula.**

17 We asked which EC institution Great Britain pulled out of in September? **The answer: The ERM.**

18 We asked what the British Home Secretary didn't do for Derek Bentley in '92? **The answer: pardon him.**

19 We asked the name of Commodore's A500 CD-ROM unit? **The answer: A570.**

20 We asked what the subject of the (then) next *Amiga Format* Special would be? **The answer: *The Complete Beginners' Guide*.**

21 We asked what Commodore's proper company name is? **The answer: Commodore Business Machines.**

22 We asked what CDTV stands for? **The answer: Commodore Dynamic Total Vision.**

23 We asked what the letters CLI stand for? **The answer: Command Line Interface.**

24 We asked which Dutch company pioneered the compact cassette and the Compact Disc? **The answer: Philips.**

25 We asked which issue of ***Amiga Format*** provided 'your guarantee of *Lemmings*? **The answer: Issue 30.**

26 We asked what GVP's full name is? **The answer: Great Valley Products.**

27 The dashing young chap pictured with Steve Franklin? **The Answer: MD of Future Publishing, Chris Anderson.**

28 Todd Rundgren produces his rock videos using Amigas. We asked what the name of his former band was? **The answer is Utopia.** Not Prodigy.

29 Anyone who has used a graphics program or paint package will have come across the letters IFF. We asked what they stand for? **The answer: Interchange File Format.**

30 Electronic Arts' *Deluxe Paint* series features the death mask of a famous former Egyptian king. We asked what he has in common with Batman? **The answer: Batman had an enemy called King Tut.**

31 We asked what the American version of PAL was? **The answer: NTSC.** (not Pedigree Chunks).

32 We asked you to name this game ☛ **The answer: *Railroad Tycoon*.**



33 The A600 features a PCMCIA card slot in the side of the casing. We asked what PCMCIA stands for? **The answer: Personal Computer Memory Card International Association.**

34 We asked why Spaniards would look at you strangely if you said you'd been up all night playing with your Amiga? **The answer: Amiga is Spanish for girlfriend.**

35 We asked what effect Robert Maxwell's lack of buoyancy had on the software world? **The answer: his company Mirrorsoft went belly up.**

36 Comedian Frankie Howerd died in '92. We asked what character he played in the hit TV series *Up Pompeii*? **The answer: Lurcio.**

37 The *Amiga Format* cow which is writer Brian Larkman's pet way of demonstrating the amazing 3D modelling capabilities of the Amiga was featured on the cover of issue 35.

38 The KLF disbanded in typically peculiar circumstances in '92. We asked what KLF stands for? **The answer: Kopyright Liberation Front.**

39 The clock speed, usually measured in MegaHertz, is the speed at which the Amiga's CPU can process data. We asked what the speed of a standard A500 CPU is? **The answer: 7.14MHz.**

40 Future Publishing, the company that brings you *Amiga Format* each and every month, is based in Bath. We asked which Bath-based travel firm went bust in '92? **The answer: Land Travel.**

41 We asked which graphic, found on Workbench 1.3's 'insert disk' screen is missing from Workbench 2? **The answer: the hand.**

42 We asked for the name of Urban Shakedown's Amiga-aided hit single? **The answer: *Some Justice*.**

AMIGA FORMAT SPECIAL
THE ENCYCLOPAEDIA OF THE AMIGA

COMPETTITION ANSWERS

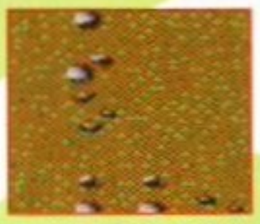
43 We asked what the name of a popular printer was. **The answer: The Epson EPL4000.**

44 We asked what hardware you need to link your Amiga to a video signal source? **The answer: A genlock.**

45 Who said the Lord's Prayer at Freddie Mercury's memorial concert? **The answer: David Bowie.**

46 We asked which program was awarded *Amiga Format*'s highest-ever rating of 97 per cent in the November 1992 issue. **The answer: AMOS Professional.**

47 We asked for the game from which this segment of a screenshot comes? ☛



The answer: SimAnt.

48 Which virus activated on March 6 '92? **The answer: Michelangelo.**

49 We asked what the A570 CD-ROM drive was originally to be called? **The answer: A690.**

50 We wanted to know what the A600 was originally going to be called? **The answer: The A300.**

51 We asked what Andy Nuttall, *Amiga Format*'s staff writer's nickname was? **The answer: Nutts.**

53 We asked which BBC soap opera is set in a Mediterranean holiday resort? **The answer: Eldorado.**

52 We asked the name of Ocean's software development manager? **The answer: Gary Bracey.**

54 We wanted to know which Formula One driver offered to race for the Williams team in '93 for no money. **The answer: Ayrton Senna.**

55 We asked where The Future Entertainment Show held on November 5-8 1992 took place? **The answer: Earl's Court II.**

56 We wanted to know what mathematical shapes made up a pyschedelic image? **The answer: Fractals.**

57 We asked for the name of the chap who developed Elite and Elite II? **The answer: David Braben.**

58 We asked what the letters NLQ, stand for when applied to printers? **The answer: Near Letter Quality.**

59 We asked what PD's Mr Fish's first name is? **The answer: Fred.**

60 We asked from which team Blackburn Rovers manager Kenny Dalglish signed star striker Alan Shearer? **The answer: Southampton.**

61 We asked which (dead) film star graced the cover of *Amiga Format* in 1992? **The answer: Marilyn Monroe.**

62 We asked you to name the game that this screenshot is taken from ☛



The answer: Pushover.

63 We asked what frequency of laser light is used to read information from a Compact Disc? **The answer: Infra Red.**

64 We asked which developers produced the fabulous dungeon adventure *Eye of the Beholder*? **The answer SSI.**

65 We asked you to name the female who replaced Gary in the A600? **The answer: Gayle.**

66 We asked you which First Division football team is sponsored by Commodore and is also Prime Minister John Major's favourite team? **The answer: Chelsea.**

67 A famous cartoon cat was used on the cover of *Amiga Format* issue 33 – an animation special. We wanted to know its name: **The answer: Felix.**

68 TV show *Gamesmaster* has proved such an enormous hit that Future Publishing has launched an eponymous magazine to go with the programme. We asked what the name of the show's Scottish presenter is? **The answer: Dominik Diamond.**

69 We asked you to name the person who's credited with programming Virgin's remarkably realistic snooker simulation *Jimmy White's Whirlwind Snooker*? **The answer: Archer Maclean.**

70 We asked which State the American presidential candidate Ross Perot comes from? **The answer: Texas.**

71 Three letters were used to replace four in the new A600. If the four were SCSI, we wanted to know what the three were? **The answer: IDE.**

72 We asked what Eric Schwartz, Tobias Richter and Walt Disney have in common? **The answer: They're animators.**

73 We asked you to put a name to a picture of an Amiga artist? **The answer: Julie Myers.**

74 We asked who Jimmy Connors' beat in an unusual 1992 tennis match? **The answer: Martina Navratilova.**

75 We asked who the Rexxons are? **The answer: The bad guys in *Epic*.**

76 We asked you to name the game from which this segment of a screenshot comes. **The answer: Crazy Cars** ☛



77 We asked which county Ian Botham played for in the 1991-92 season? **The answer: Durham.**

78 We asked in which film Harrison Ford played a former CIA man being hunted down by a gang of renegade Irish terrorists? **The answer: *Patriot Games*.**

79 The group of researchers who have been busy pioneering the development of video on CDTV are known collectively as MPEG. We asked what those initials stand for. **The answer: Motion Picture Expert Group.**

80 Product placement has been creeping into video games recently. We asked which well-known product forms part of the scenery in Millenium *James Pond 2: Robocod*? **The answer: Penguin bars.**

81 We asked you to name this game ☛



The answer: *MegaFortress* and not *Elite* as most people guessed.

82 We asked you to name the actress with whom David Mellor, had an affair. **The answer: Antonia De Sancha.**

83 We asked you to name the head of Commodore worldwide. **The answer: Irving Gould.**

84 Former bench engineer Kelly Sumner is now the managing director of Commodore UK. We asked which computer he first worked on? **The answer: Vic 20.**

85 We wanted you to name an innovative designer (he was responsible for Civilization). **The answer: Sid Meier.**

86 We asked which businessman had the extremely dubious honour of being declared the UK's biggest-ever bankrupt. **The answer: Kevin Maxwell.**

87 We asked what the initials FAST stand for and what the purpose of the organisation is. **The answer: Federation Against Software Theft.**

88 We asked which Italian football club bought Paul Gascoigne from Tottenham Hotspur for £5 million+, even though he had badly injured his knee ligaments. **The answer: Lazio.**

89 MIDI is a standard code by which MIDI-equipped devices can communicate with each other (like a computer and a synthesiser). We asked what the letters MIDI stand for. **The answer: Musical Instrument Digital Interface.**

90 We asked who took over as captain of the England football team after Gary Lineker? **Answer: Stuart Pearce.**

91 We asked you who or what FMG was and what or who replaced them? **The answer: They used to repair Amigas. Wang do it now.**

92 We asked you to name the game this screen shot comes from? ☛



The answer: Legend.

93 We asked you to name the 'The Sinner From Pinner', the actress dubbed such by the tabloid press for her steamy performance in the erotic, but otherwise fiendishly boring, film *The Lover*. **The answer: Jane March.**

94 We asked which national football team were last-minute entrants for the European Football Championships and ended up winning the competition after all? **The answer: Denmark**

95 We asked what percentage rating we gave Gremlin's *Zool*. **The answer 95 per cent.**

96 The Steven Spielberg film and Ocean game *Hook* are both based on a famous book. We asked who the book's author is? **The answer: J M Barrie.**

97 We asked for the name of the film in which Madonna plays a member of an all-woman baseball team? **The answer: A League Of Their Own.**

98 We asked you to name the top American hardware manufacturer that makes the extraordinary 68040 accelerator for the A500, and lost a huge amount of stock when a fire recently destroyed its warehouse? **The answer: Progressive Peripherals and Software (PPS).**

99 We asked which former Olympic middle distance medallist was elected as a Conservative MP in 1992? **The answer: Seb Coe.**

100 Christopher Columbus is generally held responsible for discovering America. We asked when he did it? **The answer: 1492.**

101 We asked what the name of this Greek character Ω is. **The answer: Omega.**

If you managed to wade your way through all those answers then congratulate yourself, you know a lot about the Amiga and even more about football. We've been sorting through the answers to this compo for the last week and believe you me, it hasn't been fun. The funniest replies we saw included Terry Wogan for Q68, Ermintrude for Q61, "Because you should be out getting merry" for Q34 and Una Stubbs for Q82.

The ten winners are Dave Chadwick from Liverpool, Chris Millar from Dumfries, Joseph Durrant from Luton, Mr D Lawrenson from Cirencester, David Hazeldean from Aberdeen, Grant Boyd (one winner per household was enough) from Belfast, Alan Clark from Camberwell in London, Carl Thompson from Gateshead, Andrew Seal from Wednesbury and finally, Graeme Snell from Liverpool. Congratulations to you lot, subscriptions will be entered in your name. Commiserations to the unlucky losers.

Every product ever rated...

in *Amiga Format* since issue one way back in August 1989. Software, hardware, even the occasional book, it's all here, absolutely every product ever reviewed...

Over the next 12 pages you will be able to draw on the compiled and alphabetically ordered listing of all the products, games, books, hardware, and 'serious' software ever reviewed at any great length in ***Amiga Format***.

This means that we've listed more than 1,400 products from the annals of ***Amiga Format*** history. So if you have all the back issues, or even just a few, you will be able to use these pages as a complete index to your collection. If you are new to the magazine and to the Amiga itself, you will be able to use the list as your guide to what some of the best Amiga-journalists in the world think about products as diverse as platform games and hard disks. We are also using a strict system for the compilation of all this valuable information so that it is easy to read and quick to use as a valuable reference guide: the most obvious point is that everything is in alphabetical order to make them easy to find. The second most obvious point to note is that all the ***Amiga Format*** *Gold*-rated products – that's products that scored 90 per cent or higher – are marked clearly in gold! We have opted to print the initial release prices (if they were stated in the original review) so that you can make comparisons with second-hand or sale-priced items today, but pricing does lead to what looks like an anomaly. If you look at *Double Dragon II* you will see it reviewed twice; once at £19.99 in issue six, and once at £9.99 in issue 32. This is because of its budget-price release (you'll also notice that its rating rises as its price falls!). This happens quite often throughout this list. You will also notice that in some cases, we don't even print ratings for products, this is because back in the early days ***Amiga Format*** there were no percentage ratings for hardware – new readers will be pleased to know that this lack of system has now changed, so at least not all changes are for the worst after all .

Finally, when you come across a product listed as *AmigliaTech* (in italics), it means that the product is software-only. If product is listed in plain print – 'AmigliaTech' for example – this means that it is either hardware (such as a hard disk) or a hardware/software combination (such as DCTV). We hope this huge chunk of reference material proves to be useful to you...

1st Division Manager	£7.99	AF34 P86	66%
20-Card, The	£349	AF11 P153	
3D Construction Kit	£50.99	AF24 P129	
3D Construction Kit 2	£49.99	AF42 P140	78%
3D Professional		AF23 P129	
3D Text Animator	£49.99	AF25 P157	63%
4D Sports Boxing	£25.99	AF30 P119	79%
4D Sports Driving	£25.99	AF33 P61	33%
500 Indianapolis	£24.99	AF17 P64	93%
5th Gear	£19.99	AF8 P46	42%
688 Attack Sub	£24.99	AF10 P56	86%
7 Colours	£25.99	AF29 P126	64%
7CM3209	£429.99	AF38 P124	76%
A Bun for Barney	£ 34.99	AF39 P49	79%
A Long Hard Day at the Ranch	AF39 P49		64%
A Prehistoric Tale	£24.99	AF21 P96	49%
A-10 Tank Killer	£24.99	AF22 P97	75%
A-MAX Emulator	£134	AF1 P64	
A-Max 2	£150	AF27 P134	85%
A1500	£30-450	AF11 P82	
A5000	£295	AF20 P132	
A590 Hard Disk	£445	AF2 P13	
AEHD Disk Drive	£140	AF22 P145	
ALF3 Hard Drive	£299.99	AF30 P196	82%
AMINet	£59.99	AF37 P170	85%
AMOS 3D	£34.99	AF26 P116	82%
AMOS Compiler	£29.99	AF26 P115	85%
AMOS Professional	£69.95	AF40 P178	97%
Allex-II Plus	£324.99	AF38 P128	91%
APB	£19.99	AF5 P64	81%
ATF II	£24.99	AF18 P102	74%
AV8B Harrier Assault	£39.99	AF43 P65	60%
AVideo	£600	AF38 P 148	80%
Abandoned Places	£29.99	AF31 P92	80%
Aces of the Great War	£34.99	AF23 P59	65%
Action Replay II	£59.99	AF20 P111	
Action Replay III	£59.99	AF38 P152	90%
Action Stations	£24.99	AF23 P87	70%
Addams Family	£25.99	AF35 P66	78%
Advanced Destroyer Simulator	£7.99	AF35 P95	67%
Advances Destroyer Simulator	£24.99	AF21 P99	68%
African Raiders	£19.99	AF1 P54	68%
Afrika Korps	£24.99	AF24 P105	64%
Agony	£25.99	AF35 P87	60%
Air Bucks	£29.99	AF38 P81	72%
Air Support	£25.99	AF41 P137	62%
Air, Land & Sea	£34.99	AF30 P148	73%
Airbus A320	£29.99	AF31 P98	78%
Alcatraz	£25.99	AF35 P86	76%
Alfa Data Optical Mouse	£35.95	AF38 P159	64%
Alfa Data Scanner	£335	AF40 P164	79%
Alfa Data TKB-MT	£29.99	AF28 P193	71%
Alfa Data TKB-MT-A	£39.99	AF28 P193	86%
Alien Breed	£25.99	AF29 P126	74%
Alien Breed Special Edition	£10.99	AF43 P111	87%
Alien Legion	£24.95	AF3 P 45	52%
Alien Storm	£25.99	AF31 P107	59%
All Dogs go to Heaven	£34.99	AF39 P49	25%
Alpha Waves	£24.99	AF23 P101	70%
Altered Beast	£24.99	AF5 P63	33%
Altered Destiny	£29.99	AF28 P74	54%
Alternative 3D Textures	£40	AF38 P155	75%

AMAS 2	£99	AF36 P161	78%
AMAS 2	£99.95	AF32 P132	78%
Amazing Spiderman, The	£24.99	AF17 P74	77%
Amberstar	£29.99	AF42 P128	81%
American Vista Atlas & World Vista Atlas	£54.99	AF39 P45	85%
American Heritage Illustrated Dictionary	£49.99	AF39P42	45%
Amiga Action Replay	£59.99	AF12 P88	
Amiga BASIC – A Dabhand Guide	£15.95	AF36 P154	75%
Amiga Desktop Video Power	£23.45	AF36 P154	80%
Amiga Encounter	£20.42	AF24 P80	79%
Amiga Logo		AF7 P101	
Amiga Phazer	£39.99	AF25 P93	
Amiga Printers Inside & Out	£29.95	AF22 P153	
Amiga Pro Sample Studio II	£69.99	AF24 P138	
Amiga Tutor Video	£19.99	AF18 P248	
AmigaDOS Inside & Out	£19.99	AF36 P154	55%
Amnios	£25.99	AF30 P84	61%
Amos	£49.95	AF13 P75	
Amstrad SM 24000	£125	AF38 P137	77%
Anarchy	£7.99	AF35 P94	76%
Ancient Battles	£24.95	AF20 P64	69%
Animals in Motion	£29.99	AF39 P50	55%
Another World	£27.99	AF31 P62	82%
Antago	£19.95	AF14 P42	65%
Apache Flight	£7.99	AF35 P94	69%
Aquatic Games, The	£25.99	AF40 P94	86%
Aquaventura	£25.99	AF37 P98	73%
Arcade Quiz	£24.99	AF21 P94	38%
Arcade Trivia Quiz	£7.99	AF26 P88	57%
Archer MacLean's Pool	£25.99	AF40 P100	
Armada	£29.95	AF7 P49	82%
Armalyte	£25.99	AF26 P88	51%
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If you can spot anything which we might have missed in what we are sure is a comprehensive list of *Amiga Format* reviews, please write and tell us. Write to: The Editor, Amiga Format Specials, 30 Monmouth St, Bath, Avon BA1 2BW. There may well be a prize if you're correct.



THE WORLDS MOST POWERFUL

JUST LOOK AT THE UNMATCHED RANGE OF FEATURES

SAVE THE ENTIRE PROGRAM IN MEMORY TO DISK
Special compacting techniques enable up to 3 programs to fit on one disk. Now saves directly to disk as Amiga Dos - reloads independently of the cartridge - even transfer to hard drive! Works with up to 2 Megs of Ram - even 1 Meg Chip Mem (Fatter Agnus).

NEW **SUPER POWERFUL TRAINER MODE-**
now with DEEP trainer. Even better than before - allows you to generate more or even infinite lives, fuel, ammo. Perfect as a Trainer Mode to get you past that "impossible" level. Easy to use.

IMPROVED SPRITE EDITOR
The full Sprite Editor allows you to view/modify the whole sprite set including any "attached" sprites. PLUS A RANGE OF IMPROVED FEATURES.

VIRUS DETECTION
Comprehensive virus detection and removal features to protect your software investment. Works with all presently known viruses.

NEW **BURST NIBBLER**
Now this super disk copier program is built into Action Replay Mk III. Just imagine a superfast, efficient disk copier program at the press of a key - no more waiting.

SAVE PICTURES AND MUSIC TO DISK
Pictures and sound samples can be saved to disk. Files are saved directly in IFF format suitable for use with all the major graphic and music packages. Samples are displayed as screen waveform.

NEW **PAL or NTSC MODES SELECTABLE-**
Useful for removing ugly borders when using NTSC software. (Works only with newer Agnus chips).

NEW **SLOW MOTION MODE**
Now you can slow down the action to your own pace. Easily adjustable from full speed to 20% speed. Ideal to help you through the tricky parts!

MANY MORE INSTANT CLI COMMANDS-
like Rename, Relabel, Copy, etc.

NEW **RESTART THE PROGRAM**
Simply press a key and the program will continue where you left off.

FULL STATUS REPORTING
At the press of a key now you can view the Machine Status, including Fast Ram, Chip Ram, RamDisk, Drive Status, etc.

POWERFUL PICTURE EDITOR
Now you can manipulate and search for screens throughout memory. Over 50 commands to edit the picture plus unique on screen status "overlay" shows all the information you could ever need to work on screens. No other product comes close to offering such dynamic screen handling of frozen programs!!

JOYSTICK HANDLER-
allows the user to select Joystick instead of Keypresses - very useful for many keyboard programs.

MUSIC SOUND TRACKER
With Sound Tracker you can find the complete music in programs, demos, etc. and save them to disk. Saves in format suitable for most track player programs. Works with loads of programs!!

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FREEZER-UTILITY CARTRIDGE

AUTOFIRE MANAGER
From the Action Replay III preference screen you can now set up autofire from 0 to 100%. Just imagine continuous fire power! Joystick 1 and 2 are set separately for that extra advantage!

NEW **IMPROVED RAM EXPANSION SUPPORT**
Now many more external Ram Expansions will work with all Action Replay III commands.

DISKCODER
With the new "Diskcoder" option you can now 'tag' your disks with a unique code that will prevent the disk from being loaded by anyone else. "Tagged" disks will only reload when you enter the code. Very useful for security.

NEW **SET MAP-**
allows you to Load/Save/Edit a Keymap.

PREFERENCES
Action Replay III now has screen colour preferences with menu setup. Customise your screens to suit your taste. Very simple to use.

DISK MONITOR
Invaluable disk monitor - displays disk information in easy to understand format. Full modify/save options.

IMPROVED PRINTER SUPPORT-
including compressed/small character command.

NEW **DOS COMMANDS**
Now you have a selection of DOS commands available at all times - DIR, FORMAT, COPY, DEVICE, etc.

NEW **FILE REQUESTER-**
if you enter a command without a filename, then a file requestor is displayed.

DISK COPY
Disk Copy at the press of a button - faster than Dos Copy. No need to load workbench - available at all times.

PLUS IMPROVED DEBUGGER COMMANDS-
including Mem Watch Points and Trace.

NEW **BOOT SELECTOR**
Either DFO or DF1 can be selected as the boot drive when working with Amiga Dos disks. Very useful to be able to boot from your external drive.

PLUS A MACHINE CODE FREEZER MONITOR WITH EVEN MORE POWER!!

EVEN MORE FEATURES INCLUDING 80 COLUMN DISPLAY AND 2 WAY SCROLLING:-

- Full M68000 Assembler/Disassembler
- Full screen editor
- Load/Save block
- Write String to memory
- Jump to specific address
- Show Ram as text
- Show frozen picture
- Play resident sample
- Show and edit all CPU registers and flag
- Calculator
- Help command
- Full search feature
- Unique Custom Chip Editor allows you to see and modify all chip registers - even write only registers
- Notepad
- Disk handling - show actual track, Disk Sync. pattern etc.
- Dynamic Breakpoint handling
- Show memory as HEX, ASCII, Assembler, Decimal
- Copper Assemble/Disassemble - now with suffix names

REMEMBER AT ALL TIMES YOU ARE INTERROGATING THE PROGRAM IN IT'S "FROZEN" STATE WITH ALL MEMORY AND REGISTERS INTACT - INVALUABLE FOR THE DE-BUGGER OR JUST THE INQUISITIVE!

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