AMIGOS

Deluxe Paint

Unbox the CD32

"ALIEN BREED"
Special

Plus News from March 1991

WELCOME

Welcome to the official Amigos podcast magazine. Utilising the 'Back in the day' Amiga magazines covering March 1991. This month we cover DeLuxe Paint, the classic Alien Breed game (Then to Now), a new feature for PD/Demo News and looking at the Publisher 'Argonaut Software'.

As usual your comments are always welcomed.
Neil Mansell aka Spyhunter (spyhunter@amigospodcast.com)

AMIGOS

RAM Disk

Workbench

Regulars

Clock   V2.1
PM

March 1991

Features

Hardware

Software

COMMODORE SALES

Commodore UK predict that they will sell 250,000 Amiga 500's during 1991. The target follows impressive sales figures for the three month run-up to Christmas, where 140,000 A500s were sold, bringing the total for 1990 to 200,000. The same three months saw sales of the C64 stand at 150,000 and 20,000 game systems, with the A500 clocking up 9,000 sales since its launch. No figures were available for the A2000 and A3000 machines.

MAY THE FORCE BE WITH YOU

Lucasfilm games and JVC Musical Industries are working on a new NES title based around the Star Wars movie. It will offer first-person 3D space flight and combat sequences ever.

Players will be able to control characters from the Star Wars universe, with each having unique strengths and weaknesses, making players learn which character is most effective in certain situations.

The four sections of the game are split between top-down and side-to-side scrolling displays with the ability of passwords that allow the player to start the game where they left off.

Soon to be released on NES and adaptions for the SNES and PC also being under consideration.
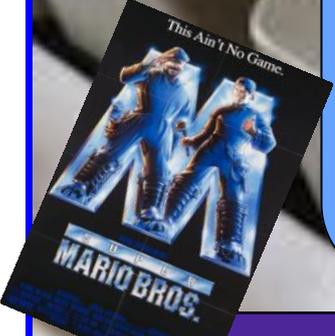
MARIO AT THE MOVIES

Danny DeVito is set to star in The Mario Bros live action movie. The video game from Nintendo has sold over 32 million games in the US since its introduction 5 years ago. Making him more popular than Mickey Mouse with the past 12 months sales revenues for Super Mario Bros III totally $427,334,000 - ranking it 2nd to ET.

Film production is expect mid-91 for a summer 1992 release and written by Barry Morrow, who scripted Rain Man.

FUTURE CAR

Mercedes Benz unveiled the 'car of the future' at the Detroit Motor Show last month. Everything new in this 6/8 seater is new. The drive sits in the centre of the vehicle, making it suitable or both left or right hand driving. Twin cameras provide excellent rear visibility and a radar warning system warns of other vehicles changing lanes or possible hazards ahead.

The F100 has a HUD-like central display screen which automatically priorities information. Running on either petrol, electricity or hydrogen is great but at present there are no plans to put the F100 into production.

CARTRIDGE ATTRACTIONS

Quicker loading times, better quality and distinct advantage of stamping out piracy, game cartridges are an attractive proposition to which **The Software Business** are giving a serious thought. Howard Newmark of The Software Business said "I would like to see an environment where there are only games cartridges in the near future".
He also added "They would completely cut out piracy".
A serious future proposition where cartridges would slot into the expansion slots of the A500 and A1000 giving games players reliability combined with convenience of having one cartridge to contain what is currently based on 5 or 6 disks.
With two or three games included on each cartridge, depending on the memory requirements. With the expected cost of the raw cartridges to be £9. Although he welcomes the chance to buy in bulk to cut costs once the market is penetrated.

TRUE MULTI-PLAYER GAMING?

Bullfrog are planning to enable future games to share data and talk to one another. If other software developers agree to join their revolutionary idea, players will be able to save data from one game and load them into another to play in a totally new environment.

Imagine flying the fighter of Xenon III over the lands of Populous or Sim City 2 into Populous. Molyneux added 'Obviously you can't do this with all games". Already having sat down with some developers, most think its a great idea but have yet to sown up.

STING-RAY

Logic 3, the new joystick company formed by Spectravideo are due to launch their first product - an ultra modern hand-held joystick called 'String-ray'.
With Boss Ashwin Patel seeing Logic 3 as the BMW of the joystick world, the Sting-ray looks like a futuristic space gun, designed to be easily held in either hand.
Manufactured in the YUK it includes durable micro switches and comes in different models: Standard Sting-ray costing £14.95 and with Auto-fire at £15.95

24-PIN REVOLUTION

According to Richard Scotto of Citizen, the 24-pin revolution for miga printers is set to grow. 24-pin sales currently representing 54% of the impact printer market in Germany, 40% in France and 38% in the UK.
The Swift 24 has recently reached the 100,000 sales barrier with the current Swift range still very strong.

PHILIPS LAUNCHES NEW AUDIO SYSTEM

Digital Compact Cassette (DCC) is a new sound medium developed by Philips and Matsushita that records and plays digital sound on new style Compact Cassettes but remains compatible with normal audio cassettes.

It will be introduced in 1992 with new pre-recorded DCCs available in parallel. The new cassettes are similar in size to the existing ones but have advantages of a track selection facility and standard auto-reverse. With a total playing time of 90 minutes and offering the benefits of digital sound quality they are sure to catch on.

With MD of Philips Audio, Wim Wielens expecting the DCC standard to become the new worldwide standard for this medium and Tandy the first licensee to take Philips up on their manufacturing licenses.

Digital Audio Tape (DAT) by Sony provides a longer play time than DCC but is not compatible with existing analogue cassettes.
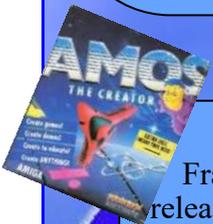
SERIAL AMOS

Francois Lionet (author of AMOS) has released a serial extension to the top package from Mandarin Software. It has been included on the v1.21 update disk which is available from Sandra Sharkey of the AMOS PD Library.

The extension gives AMOS direct control over the Amiga's serial port hardware, which is useful for players of multi-user games and provides 15 new commands.

IMPRESSIONS STRATEGY

The current marketing strategy of **Impressions** managing director David Lester is to listen to the market and move away from arcade action and towards strategy games.

"The move is a direct result of market forces" stated Lester, "with the response from consumers to our strategy games has been phenomenal, with far more praise and repeat sales than our arcade titles ever achieved".

With the next release from Impressions being 'Feudal Lords', a historic simulation of warring lords where economics and resource management play just as important part as military prowess.

The next games to follow with be Merchant Colony, Cohort, Africa Korps then Blitzkrieg May 1940. The price for each of these titles will be £24.99

WISH UPON A STAR

Star Printers have had a recent update to their range of 9-pin dot matrix printers. The LC-200, an 80 column parallel printer now offering 180 cps in draft mode and 45 cps in NLQ with a 16k buffer, with internal fonts and a push and pull tractor feed at a price of £199.

Also updated is the LC 24-200 Colour, 24 pin machine printing seven colours at a price of £299. Both come with a two year extended warranty.

COMMODORE DISCOUNT

Commodore Discount Owners of the A500 can upgrade to the A1500 with a discount of £200 off the £999 price of the A1500, thanks to a scheme launched by Commodore.
Traded machines must be in full working order and complete with original equipment except for bundled software.

CDTV LAUNCH

With no fewer than 45 titles planned (35 on show), the CDTV stole the show at CES (Las Vegas). With educational software among the titles, the new larger medium is a blessing for software houses who products are outgrowing the capabilities of floppy disks. Such companies as Sierra have to utilise eight floppy disks for its Space Quest III game but with the new media this can be stored on only one CD. Spectrum Holobyte's 'Falcon' will also be flying to the CDTV alongside other titles such as Battle Chess, Dominion, and Crisis in the Golf. Mystery adventures seem popular with 'Case of the Cautious Condor' showcasing over 3 hours of audio track.

The official US launch in Las Vegas will be reflected in a UK launch shortly. With 'Full-scale volume production' beginning at the end of March and we should see the machine hit the shops at the end of April, alongside 45 software titles set to be ready when released. Priced currently at $999 (US) and £699 (UK), although there is talk of Commodore reducing the price to £599 (UK), which could make a hell of a difference to sales. High street retailer Dixons agree the lower price would help as they will stock the machine in around 100 of its UK stores.
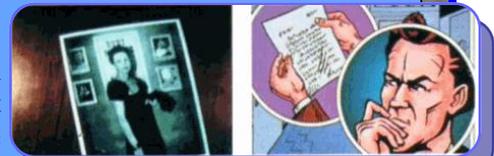
MIDI CODE

MIDI code will be included in forthcoming Warner audio CDs. This means that the instrumental track can be separated from vocals and drums.

KILLING PIRACY

Mail order firm Arcanum have suggested selling games at a very cut-down price (eg: £5.99) and protect it with their own lock system. Every time a player wants a game, he will have to phone a special number to receive a code.

With the call estimated to be £1 per minute you can see why the company wants to phase this method in. The benefits to the player, though, is the ability to try a game and pay no more if they don't like it. So cheap cost for the gamer player but maybe not so cheap for the parent who has to pay the phone bill. Still, an interesting idea.

CD RECORDER

Kenwood have been showcasing a record-once CD machine. Although the high cost of the discs ($90 each) may hinder the ability for anyone wanting to utilise this technology.

AMIGA CDROM

It appears plans will allow Amiga owners to benefit from the new CDTV titles with the Amiga CDROM player (still in late prototype). It will provide full CDTV capabilities, excluding the remote control.
It will be shipped in June, retailing at $699
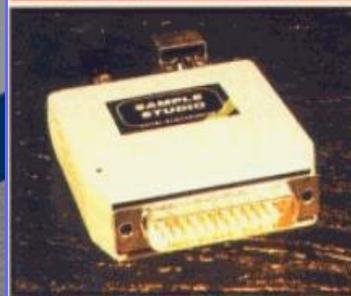
TECHNOPLUS BUNDLES

Techno Plus range includes an Amiga 500 RAM expansion board bundled with Dungeon Master or Kick Off 2 (1Mb version) for £49.99 (£59.99 with clock).

Other game bundles are Dragon's Lair or three Cinemaware games for £59.99 (£69.99 with clock).

Amiga external disk drives are bundled with Shadow of the Beast, RVF, Battle Squadron or Kick Off for just £89.99.

Or how about a high quality Amiga mouse bundled with Captive for £34.99.

MAGNETIC ATTRACTIONS

Magnetic Scrolls are re-releasing enhanced versions of some of their superb text and graphic adventures - Fish, Corruption and Guild of Thieves - and all in a single compilation package.
All three will utilise the advanced Windows systems (which was well received in Wonderland) and all boast more graphics and animation.

In addition to the games, the package will also contain a Fish identification chart, an audio tape and day planner (clues for Corruption) and a new cut-away map and huge manual for Guild of Thieves.
Priced at £29.99 appearing initially on PC in March followed by Amiga and Atari ST versions in April.
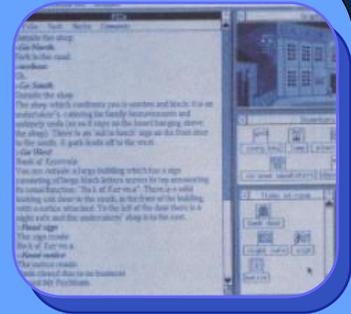
NEW NINJA

System 3 have begun touting their forthcoming release, **Ninja III**.
Hot on the heels of Last Ninja 2 and Ninja Remix it contains larger sprites and a greater emphasis on combat than before.

Most impressive though is the animation the aim to squeeze into each and very bad guy, with end-of-level bosses packing over 80 frames of action into their attacks.
    Prepare to do battle come mid-March.

HERO QUEST

Gremlin Graphics have announced their big Easter license for 'Hero Quest'.
It's M&B's bestselling fantasy board game and is one of those dungeon and goblin strategy games for up to 4 players (one player setting up the dungeon and controlling the little plastic Citadel monsters whilst the other players have a wild and mean quest inside it).

US GOLD GO US

US Gold has signed an agreement with Accolade to market its products in North America. Up until now, US Gold games have been marketed in the states by various American publishers on a product-by-product basis, this is the first time that the firm has signed an agreement with a single publisher (although US Gold used to distribute products in Europe for Accolade).
The first four games to be handled under the new agreement will be: International Soccer, Gold of the Aztecs, Vaxine and Rotox.

FISHY AT MILLENIUM

Something fishy is going on at Millenium as they are progressing to convert James Pond onto the C64. The Amiga's bond spoof was a simply superb underwater arcade adventure.

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ARGONAUT SOFTWARE

Jeremy San-Jez is known as 'Argonaut Software'.

The company now consists of 7 programmers and a few freelancers, but it wasn't always like that. Jez started with a Tandy TRS-80 when he was 13, although he can't remember his first Basic program, he does remember his machine code joystick reading routine.

He switched allegiance to the BBC Micro and earned some pocket money by working at Microage Electronics (first BBC Micro shop) and then freelancing for Acornsoft; Several Acorn games were protected with Argonaut disk protection routines.

It was more than a hobby as Jez programmed in school time and left before A Levels before joining **Silversoft**, one of he first successful software houses. There he worked on two projects: Labdis (a labelling disassembler for the BBC Micro) and Tac-Scan (Arcade game).

He has to program this from word of mouth descriptions from his boss at the time, Dougie Bern, who had once seen it in an arcade. Tac Scan was never finished.

Whilst at Silversoft he was one of the very first to order the 68008 based wonder known as the **Sinclair QL.**

Although Jez disliked the C64, he could see the Beeb's limited future. He and Fouad produced the Comms Zromm (BBC Micro) and Demon modem. With his understanding of the two machines he also acted as a coordinator for C64 game Elite (working with Telecomsoft). Although hearing of the Amiga only in magazines at the time he could see that the future lay with the 68000.

By the summer of 1985 he was commissioned by **Firebird** to produce a game in which you flew a spaceship from planet to planet without any power. The game was to be called **Starglider**. So he rented an Apple Macintosh and started working on the line drawing routines.

With the Atari ST and Amiga looming on the horizons he flew over to the

Commodore Conference to see the great machine.

"It was wonderful, everyone was so excited. The case was a little dull but the custom chips could do incredible things. The operating system was a programmers dream - they thought of everything" said Jez about the Amiga at the time.

With things previously only completed in software now being down by hardware; hardware fill, line drawing, sound described by the waveform, and multi-tasking.

The Amiga seemed advanced with the next machine codenamed **'Ranger'** and offered 68020, hard disc and the chips would be able to magnify sprites in hardware. Although Ranger became an unfulfilled wish and Commodore elected to cut the price by introducing the A500 (codenamed B52) and launch a more expandable machine, the A2000.

Jez was one of the first people in the UK to have an Amiga, and is the same A1000 he uses now; Albeit with an American voltage converter and a number of chip upgrades, couple of megabytes of RAM and a large hard disc.

Air to air and air to ground combat flight simulation

RAINBIRD

Jez San
MD at 21, he writes and designs ultra-fast graphics and maths routines.
Jez handles all the negotiations with outside companies and keeps things running smoothly.

Richard Clucas
Senior Programmer who coordinates projects, making sure subroutines written by different programmers will work together. Shares out the ram and restricts each programmer on maximum allowed to use.

Danny Emmett
Danny is part time, a physics student at Imperial College, he designed the alien graphics (Alien Breed) and the animation formulae.

Paul Gomm
Writes the fundamental graphics routines, his code has to run as fast as possible to make the game playable.

Chris Humphries
An Atari 800 expert he understands the Amiga's custom chips, especially sound routines. Responsible for the EA game artwork and the off-planet sequences in Starglider II.

Peter Warnes
EA's game strategy and gameplay man. In addition to writing flight simulation and 3D maths routines he is up to date with weapons technology and responsible for making sure the game is both accurate and playable.

Tim Watson
The flight dynamic expert, covering Newtonian laws. A IBM PC programmer at heart.

Alister Perrot
Looks after the strategy element within Starglider II.

Starglider was first shown at the PCW show in 1985. Being just a city of towers and a landscape running on an ST. Firebird split into two sections with Tony Rainbird taking the 16 but projects over to Rainbird. The company quote 18 months for taking Starglider to the finished project, but the crowd at Argonaut know it was closer to 2 years.

Starglider was a huge success, albeit late to the market. There was nothing to rival it, with thousands of Amiga owners taking on the role of Jaysan, the heroic Noviean as he battled against the evil Hermann Kruud and the Egrons.

The game had changed a bit with all the action now taking place on Novenia. Jez re-wrote the graphics routines numerous times (obsessed with frame rate), and tweaked the code which made Starglider so playable.

With profits of Starglider (excess of 100k worldwide) that Jez enlisted the help of the crew at Argonaut. It took on contract work and wrote hard disc routines for Cumana's Atari ST Drive. They also worked on another unnamed combat flight simulator for Electronic Arts.
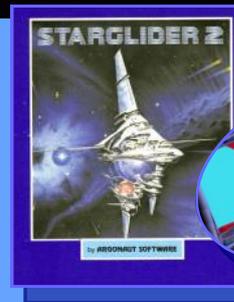
Starglider 2 arrived with the player flying perilously through narrow tunnels on planets alongside Iris shaped doors (timed movement required), barriers and tunnel aliens avoided.

Starglider was Jaysan's toughest assignment with the sound making use of clever spot effects (Title Music by Dave Lowe) and with the solid graphics not being able to impinge on any gameplay. Aliens are better animated and Towers (nicknamed Telecom towers) have multi-faced tops with rotate.

ARGONAUT DISK LOADING SYSTEM

With the lack of IBM PC disk support leaves manufacturers covering both 3.5" and 5.25" disks for their games.

During a meeting between Argonaut (Jez and Jacqui Lyons) and Firebird (Paul Hibbard) it was suggested that they put both Amiga and Atari ST disks in the same box. Jez then came up with the idea that both games could be put on the same disk.

With clever routines written to fool the machines into reading parts of the disk, which was harder on the ST because "the disc controller is dumb". Both versions used common data files but with marked differences when the games ran.

On an ST some routines will be slightly faster due to the higher clock speed, but this was balanced by speed improvements which resulted using blitter and sprites. Amiga sound was also much better alongside the wider colour palette.

The combined format meant the shops will be willing to stock the software for both machines, at one price, although will confuse the game charts.
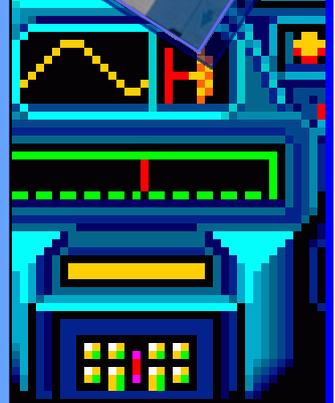
AMIGA TOP 10 (UK)

1. Robocop 2 (Ocean)
2. Fantasy World Dizzy (Code Masters)
3. Treasure Island Dizzy (Code Masters)
4. Powermonger (Electronic Arts)
5. SCI - Chase HQ 2 (Ocean)
6. Teenage Mutant Hero Turtles (Image Works)
7. Hollywood Collection (Ocean)
8. Fast Food (Code Masters)
9. Honk Kong Phooey (Hi-Teck)
10. F19 Stealth Fighter (Microprose)
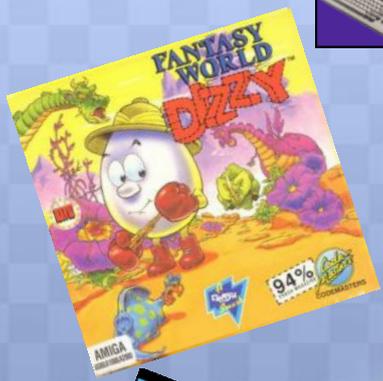
MUSIC TOP 10

	UK	US
1	Chesney Hawkes - The One and Only	Gloria Estefan – Coming Out Of The Dark
2	The Stonk - Hale and Pace and the Stonkers	Timmy T - One More Try
3	Rod Stewart - Rhythm of My Heart	Tracie Spencer – This House
4	Pet Shop Boys - Where The Streets Have No Name	Tara Kemp – Hold You Tight
5	Roxette - Joyride	Londonbeat – I've Been Thinking About You
6	Simple Minds - Let There Be Love	Mariah Carey – Someday
7	James - Sit Down	Wilson Phillips – You're in Love
8	Quartz ft Dina Carroll - It's Too Late	Enigma – Sadeness
9	The Clash - Should I Stay Or Should I Go	Oleta Adams – Get Here
10	Bee Gees - Secret Love	Tesla – Signs

As of 30th March 1991

FILMS

Top 10 Films based on Total Gross (£$ million).

1	Teenage Mutant Ninja Turtles II	$78.6
2	New Jack City	$47.6
3	The Doors	$34.4
4	The Hard Way	$25.8
5	Class Action	$24.2
6	Defending Your Life	$16.3
7	Shipwrecked	$15.1
8	The Perfect Weapon	$14
9	Career Opportunities	$11.3
10	Guilt by Suspicion	$9.4

Taken from Box Office Mojo figures

TEAM 17 FORM

A new team has formed -
Team 17. They will initially produce games for the Amiga only, mostly for machines with over 1Mb of RAM. With the first two titles being a Beat-em-up (Full Contact) and a Shoot-em-up (Alien Breed). With a proven track record of demo writers on the PD Circuit I can see them standing the distance.

NOVA OFFLINE

The PD library, Nova PD has ceased trading. Proprietor Philips Harris is attempting to honour his debts.

SPEEDY PD

Lorenzo's PD reckon they get 80% of orders out within two hours of receiving them. As part of their service they are now offering to send a disk with their catalogue, completely free to anyone who sends the coupon back from the Amiga Format Issue 20 magazine.

PD TOP 10

1   Total Recall
2   Laurel and Hardy
3   Bruce Lee Slideshow
4   Viz Slideshow (Adult)
5   Game Music Creator
6   Star Trek
7   Budbrain Megademo 2
8   Digi Movie (Adult)
9   Sound of Silents (Music)
10   Probe Demo

PD Top Ten (Compiled by Gallop, CUAmiga)

DEMOS OF THE MONTH

Trekkie Heaven with some excellent digitised images from the original Star Trek series. Alchemy presents **Star Trek Disk 2**.

More attractive hand-drawn graphics come from Virus Free Competition Slides (Disk 1030).

A tribute to the classic demo, The Juggler; **The Magician** was created by Michael Klein using Sculpt 3D and Animate 3D. The Magician juggles three silver balls with the action perfectly captured in a mirror behind him.

Budbrain Megademo 2
Graphics are top notch technically and the music is infectious.

HOW FLOPPY DISKS WORK
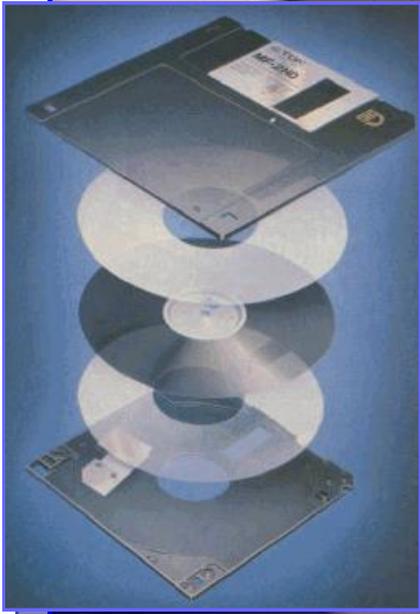
So what's inside a floppy disk. Well just separate the two halves of the outer plastic shell to take a look inside. You'll be looking at the actual floppy disk itself. That's all it is, a small flimsy piece of plastic in a disk shape. The two white fabric   pieces that the disk is sandwiched between are there to protect the magnetic surface. They facilitate smooth rotation of the disk and help to keep it clean and dust-free as well.

The small piece of metal is the auto shutter, which is spring operated so that when you insert the disk into the Amiga, it slides back to revel the disk's surface. After removing the disk, it snaps back into place reducing the risk of grimy fingerprints, which could lead to lost data.
There is also another piece of metal, which is called the 'lifter'. This keeps the disk firmly in place while it's being used and helps press the fabric liners onto the disk surface, thus aiding the cleaning process.

The disk itself consists of two layers; the bottom layer and a base film which provides a foundation for the magnetic surface. This surface is covered by millions of magnetic particles, each less than a micron in size and made from Gamma Ferric Oxide with a Cobolt Ion Layer.

What this means to me and you is that when you have a new unformatted disk in your hands, the particles lie on the magnetic surface in a random pattern. Formatting the disk moves the particles into ordered patterns, that can read by the heads of the disk drive.

Disk Quality

With high quality magnetic layers used to ensure the disk can be used repeatedly. Sony uses High-precision **VIVAS** particles, which reduce the interference that can lead to data errors.

TDK on the other hand use **Avilyn** particles to achieve higher reliability and claim their disks are tested to withstand more than 40 million passes per track.
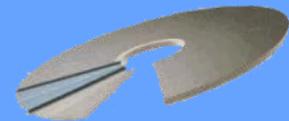
Storage

Single Sided   500k
Double Sided 1Mb
High Density   1.6-2Mb

These are unformatted capacities, the actual amount of data you can get on the disk depends on which type of computer you format the disks.

For example an Amiga can store 880k on a double sided disk, with extra high density disks are being developed which will allow in excess of 4Mb.

Disk Facts

Most disks contain a 'Clearance Protection Mechanism', meaning you can bend them and they will still work fine. TDK have developed an anti shrinkage treatment for their disks allowing them to withstand up to 60 degrees and still suffer virtually no thermal shrinking.

And also remember don't put anything vaguely magnetic (eg: Hifi Speaker) against your disks and never ever expose your disks to extreme temperatures.

ALIEN BREED SERIES

Alien Breed (1991)

Being the first alien shooter with a top-down view; for one or two players. Released by Team 17 in 1991 for the Amiga and 1993 for MS-DOS (Micro League).

Being heavily (unofficially) based on the Alien films and 8-bit games such as Laser Squad, Paradroid and some similarities with the arcade game Gauntlet it consists of the player(s) having to find the lift down to the next level (and sometimes setting the self-destruct for the level above), covering 6 levels. The player characters in this game named Johnson and Stone. In keeping with the Aliens theme, a female voiceover (the voice of Lynette Reade) provided warnings and other messages to the players.
It also had a 3rd 'story' bonus disk that was a slideshow showcasing the storyline.
CU Amiga awarded 90% and Channel 4's Gamesmaster gave it 70%.

Alien Breed: Special Edition '92 (1992)

More of an interim game (at a budget price) than a sequel and made by the same team as the original game (with some additional programming from Stefan Boberg).
Although the storyline was the same, a space research centre in the Intex network had stopped transmitting on Federation wavebands.
This game had 12 levels and featured the first so called 'DARK' levels. These were spooky and atmospheric and had the player running around in almost total darkness. Only the lights from the walls brightened the display. The aliens were invisible apart from the light in their eyes, which made the level very scary as you saw blue dots approach you from all angles.
It also introduced level codes, allowing you to start the game at a given level (rewarded every two levels you completed). It also featured a movie trailor style advert for the game 'Superfrog'. It was released on the Amiga as well as the CD32; as a double pack with Qwak.
It stayed in the UK charts for over a year, and was awarded a massive 87% in Amiga Format (AF43).
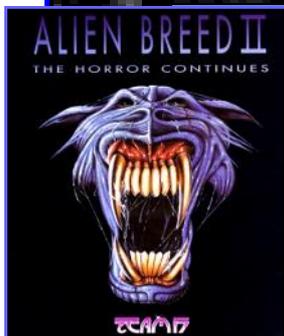
Alien Breed 2: The Horror Continues (1993)

The full-blown sequel, set on Federation Colony Alpha Five which had been transmitting an emergency SOS for the past few hours.
It's been nine long years since the original outbreak at ISRC4, and since then, the threat of war no longer hangs over the Federation. The IPC had expanded, mainly due to the alliances of the six races inhabiting the Federation colonies. The SOS calls together the four strongest members of it's squads (Johnson and Stone, the heroes who battled the original Alien Breed, Ruffertoo (a lizard-like creature with very high intelligence and a Triple Laser), and Zollux; a tough IPC war robot.

This is without a doubt the hardest of the series; with unrelenting aliens which can get infuriating at times, but it still makes you want to come back for more. No matter how many times you get killed, you just want to come back for more. This game sees you battling through 17 levels and upgradable weapons via the various terminals scattered throughout the levels as per previous games. Although level codes existed, you were only given a code every 7 levels making it a very challenging game.

Amiga Format rewarded 80%.

Alien Breed: Tower Assault (1994)

This is the last 2D game in the series. It is a modified version of that used in AB2. One significant change is the inclusion of multiple exits for each level, making it much less linear than its predecessors, with more than 276 possible ways of completing the game.

Other improvements include Retreat Mode, which allows the player to shoot one's weapon and walk backwards at the same time, although at a slightly slower speed.

The story is of a deep space barracks receiving yet another distress signal from a science facility on an otherwise uninhabited planet. With no idea what to expect, a small troop of soldiers are sent to search the planet for survivors and neutralize any threat. Once the ships near the facility, however, automated security lasers begin attacking, picking the ships off one by one. Only two soldiers survive, crash-landing in the outer perimeter of the facility. The player takes control of the characters there as the game begins.

Amiga version
Spread across three 3.5" disks (disks are Rob Northen PDOS protected, each one using long tracks with 12 sectors per track and 980 KB per disk), while the cracked version is spread over four disks (AmigaDOS standard)
Once installed on a hard drive, either in ECS or AGA version, the executable checks from where the game is launched, and if it detects a launch from the hard drive, it will ask for the original

Disk 1 (this is the copy protection when installed).

CD32 version
This version adds on a full motion video intro and the AGA version of AB2.

PC version
Two versions of Tower Assault for the PC: a floppy version and a CD-ROM version. Both were ported by East Point Software.

The floppy version is quite different from the Amiga release, since it doesn't retain the non-linear architecture of the levels.
The CD-ROM version retains the non-linear level structure as well as the FMV intro and outro sequences from the CD32 version. However, it does not include Alien Breed II, contrary to the claim on the packaging.

Rico Holmes Interview

Interview with Rico Holmes (Team 17) (Taken from web.archive.org, 19/11/01)

Rico:
Back in the days before multiple production teams we all had multiple roles. Alien Breed was a game I'd always wanted to do (ever since playing the incredible "Laser Squad" on the Spectrum many years before). I was the artist, animator, and designer on Breed. The term "bedroom programmer" couldn't have been more true at the time - I'd just moved to Sweden and was living in my girlfriend's bedroom at her parents place!

The games "Laser Squad" and "Paradroid" were enormous influences. I wanted to do something along those lines, a real-time action strategy with a believable atmosphere. Bear in mind that this was WAY before the advent of Doom and plausible first-person 3D.

I had an enormous amount of blind faith in the game right from "word go". There were no disagreements in the design process so I knew I was getting exactly the game I'd envisaged without any compromises. It was the game I'd wanted to play myself for years.

Alien Breed 3D (1995)

The game is set on Azarin 2E, in a military research unit. The aliens spore ship had landed on Azarin and planted the egg that would start the Alien Breed. For years the aliens bred without the humans knowing they were even there, feeding on rats and other vermin. Eventually, the aliens invaded the military research unit. The base sent out an SOS, heard by the Dreadnought Herona. Which sent 10 dropships to the planet only to find 9 were destroyed by the base's defences. And guess what; this dropship contained two rookies, Jordan and Nash.

It brought the Alien Breed series into a new era. Previous games were top-down shoot-em-up's, but this game shattered that trend in spectacular style and made everything three dimensional. Now you could see ALL of the Breed, not just the tops of their heads. You could see their torso's, their legs, their arms, and their guns. It required an AGA Amiga and 2Mb of memory minimum. This game is very atmospheric, mostly due to the fact that you really feel like you are there. The sound is superb, the graphics are excellent (running relatively smoothly on even a basic A1200) and when played through a Hi-Fi at high volume, the game is really genuinely scary. It featured a huge sixteen levels, five weapons and special effects like water and lifts.

This was also the first game in series to be programmed by a different team (Andy Clitheroe) to that of the original 1991 game. Although the title music was not included with the game because of disk space limitations.
Amiga Format gave this game a whopping 93% in issue 78.

Alien Breed 3D II: The Killing Grounds (1996)

The final game in the series on the Amiga. With the story continuing on from AB 3D; After your escape from Osiris III, you are rescued by an Earth Force battlecruiser. Unfortunately, a huge alien ship also hears the signal; Cloaked and invisible to sensors. The crew are taken by surprise and they board the vessel and take over.

Waking up in the surroundings of the medical bay, you have no idea where you are, but you can see that the door lock to the medical bay has been shot out, isolating you from the rest of the ship. You take a pulse rifle that the unfortunate dead trooper was carrying, and head off into the same nightmare for a second time..

This far more advanced version included different viewing modes (1x1, 2x2), sizeable screen, 10 weapons, many different alien encounters from the "horror hounds" (seen in the first game) to the almighty priests. Not forgetting the big mutha of a beasty on the final level. You also have lighting effects, which add a lot more to the atmosphere (Just fire a plasma bolt down a darkly lit corridor lights up the surroundings as it moves).

Although not without its problems; the first is the speed of the game (or lack of it) with a cut down version available for 2Mb machines. Lowering the res to 1x2 or 2x2 makes it look blockier. Another issue is that aliens are not treating as solid objects so you can walk through them in cornered situations.

Apart from this the game plays well offering 6 levels and a Level Editor (that required a later released patch to get it working). Alien AI is superb with them doing their best to get to you when you give away your position and even appear to communicate with each other to form gangs against you. This adds an element of playability previously unseen in any 3D game.

Amiga Format gave this game the highest ever mark for the Alien Breed series, scoring an absolutely incredible 96% (Issue 88).

Alien Breed: Evolution (2009)

A top-down shooter set on-board futuristic space craft. In each level, the main character, Conrad, is set a series of tasks, such as collecting key cards, restoring power, or escorting innocents, which he must complete before finding that level's exit in the form of an elevator. Standing in his way are several different types of aliens.

The camera angle can be rotated manually in 45 degree increments. There are also several data pads to collect, which provide information on the different alien species that Conrad encounters throughout the game, back story information on the game's characters, and additional information on the game's locations.

Released on Xbox Live Arcade in December 2009.

Alien Breed: Impact (2010)

Evolution was released on PSN and Steam, renamed Alien Breed: Impact. This version was expanded to include redesigned aliens and an Upgrade Shop.

Alien Breed 2: Assault (2010)

Released on Steam, PSN and Xbox Live Arcade in September 2010.

Assault is an immediate sequel to Evolution and a third person shooter set in a futuristic spacecraft and played from an isometric perspective. The player controls the main character Conrad across a series of levels and is tasked with a series of missions to progress in the story, and finish each level. Whilst accomplishing these missions, the player will find a variety of alien enemies who will attack on sight. To fight these aliens, the player is provided with a set of different weapons and tools, which can be improved. Ammunition and items such as med kits can only be obtained through computer terminals, which also serve as save points.

Conrad attempts to restart the engines of a hostile, alien-infested ghost ship that has crashed into his ship dragging them both towards the planet's surface. When this fails, the android Mia boards the ghost ship, and upon connecting to the ship's main computer, is killed by the ship's AI. Revealing itself to be the ships chief science officer, who became the AI to achieve immortality.

It is then revealed that the ship is a 300-year-old science vessel from earth that went missing and that the chief science officer is responsible for the creation of the aliens. Conrad then sets out to destroy the AI in order to restart the engines. The game ends here on a cliff-hanger.

You can move freely in all directions; the camera can also be rotated at will by the player. You can also be affected by the environment (receive damage if hit by explosions, fires, electrical disturbances, and enemy turrets). Every level has an amount of data pads, which contain relevant information about the game's story. Assault includes a survival mode that puts the player to fight as much aliens as possible before being taken down. It can be player in both single-player and multi-player modes.

Alien Breed 3: Descent (2010)
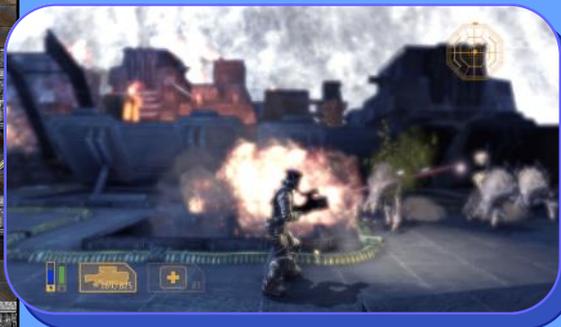
Descent is the sequel of Assault and the final instalment of the episodic remake of the Alien Breed series. It was released in Nov 2010.

Much like Evolution and Assault, it is a shooter set on board a futuristic spacecraft. In each level, the main character Conrad is given a series of tasks which must be completed before finding that level's exit in the form of an elevator.

You can again, run and shoot in all directions, and can collect a number of different weapons and items as well as purchase additional ammunition, items, and upgrades from shops found at computer terminals which also function as save points.

The camera angle can be rotated manually in 45 degree increments. Data pads are spread throughout the game, which when collected, reveal information on the various

alien species encountered throughout the game and provide back stories for the game's characters.

The game features a "survival" mode in which players might survive for as long as they can against waves of aliens while using whatever weapons and items they can find around the area. This mode is available in single-player and co-op modes.

Alien Breed for Tablets/Phones (2012)

Alien Breed for smartphones & tablets was released for both iOS and Android devices in 2012. It is the remake of the classic from 1991.
It had many features such as:-
   Classic Mode – Play using the original graphics, music and controls.
   Enhanced Mode – Featuring enhanced graphics, audio and controls.
   4 New Levels – entirely new levels that intersect with the original.
   6 original Alien Breed levels
   12 Alien Breed Special Edition levels
   Gree leaderboards and awards
   Gametel support

This played much like the original Amiga version albeit using onscreen controls.

Enhanced Mode – Featuring enhanced graphics, audio and controls

4 New Levels – entirely new levels that intersect with the original Alien Breed story

6 original Alien Breed levels, 12 Alien Breed Special Edition levels

TEAM 17 AMIGA GAMES

1990
Miami Chase
Parachute Joust (17-Bit Software)
Airport (Magic Arts, 17 Bit Software)
Empire (H. Thoerngren, 17 Bit Software)
Skate Tribe (J. M. Wood, 17 Bit Software)
Karaoke for Kids (Mike Archer, 17 Bit Software)
Colour It (Andy Paul, 17 Bit Software)
The Bible (Premier Software, 17 Bit Software)

1991
Full Contact
Alien Breed

1992
Alien Breed Special Edition
Project X
Assassin (Psionic Systems)
Waggle-O-Mania!
F.R.A.C. (Derek Whiteman, 17 Bit)

1993
Alien Breed 2 - The Horror Continues
Superfrog
Project X Special Edition
Body Blows
Qwak (Jamie Woodhouse)
F17 Challenge (Holodream Software)
Apidya (Kaiko)
Cardiaxx (Eclipse Design)
Overdrive (Psionic Systems)
Soccer Cards US 94 (Stephen Corry, 17Bit)

1994
Arcade Pool
Body Blows Galactic
Apache
Super Stardust (Bloodhouse Ltd.)
Assassin Special Edition (Psionic Systems)
Manga Hot Numbers (BZZ Soft, 17 Bit)
The Travel Guide (Softart, 17 Bit)

1995
Kingpin - Arcade Sports Bowling
Worms
Speris Legacy, The (Binary Emotions)
ATR - All Terrain Racing (Jamie Woodhouse)
Arcade Snooker
Team17 Collection Volume 1
Doctor Strange 2 (Ouija Board, 17 Bit)
Screech!! (Insane Software, 17 Bit)

1996
Alien Breed 3D II - The Killing Grounds

Unreleased / TBA
Final Over Cricket
Team17 Pinball
Witchwood
King of Thieves
Pussies Galore

Deluxe Paint was created by **Dan Silva** for the Commodore Amiga 1000, and released in November 1985 by Electronic Arts.

It began as an in-house art development tool called Prism and then developed as a showcase product to coincide with the Amiga's debut in 1985. Upon release, it was quickly embraced by the Amiga community and became the de facto graphics (and later animation) editor for the platform. The first version was released at the same time as the Amiga at the end of 1985 at an introductory price of $79.95, and was sold later for $99.95.

Commodore later commissioned EA to create version 4.5 AGA to bundle with the new Advanced Graphics Architecture chipset (A1200, A4000) capable Amigas. Version 5 being the last release after Commodore's bankruptcy in 1994.

With the development of Deluxe Paint, EA introduced the ILBM and ANIM file format standards for graphics. While widely used on the Amiga, these formats never gained widespread end user acceptance on other platforms, but were heavily used by game development companies.

For example LucasArts used it to make graphics for their adventure games such as Monkey Island, and is the source of the name of the main character in the Monkey Island series, Guybrush Threepwood - the character's name derived from a particular filename used to store his image data, which was named "guybrush.bbm".

Early versions of Deluxe Paint were available in protected and non copy-protected versions, although the copy protection scheme was later dropped.

Deluxe Paint was first in a series of products from the Electronic Arts Tools group - then later moved to the ICE (for Interactivity, Creativity, and Education) group - which included such Amiga programs as Deluxe Music Construction Set, Deluxe Video, and the Studio series of paint programs for the Macintosh.

VERSIONS

➢ Deluxe Paint I (1985)

➢ Deluxe Paint II (1986)
   Apple IIGS version was developed by Brent Iverson and released in 1987.

➢ Deluxe Paint II (1988)
   PC Version, requiring MS-DOS 2.0 and 640k RAM.
   Supporting CGA, EGA, MCGA, VGA, Hercules and Tandy IBM-compatible PC graphic cards.

➢ Deluxe Paint III (1988)

➢ Deluxe Paint II Enhanced (1989)
   PC version requiring MS-DOS 2.11 and 640k RAM.

➢ Deluxe Paint ST (1990)
   Support features such as the STE 4096 colour palette.

➢ Deluxe Paint IV (1991)

➢ Deluxe Paint 4.5 AGA (1993)

➢ Deluxe Paint II Enhanced 2.0 (1994)
   PC versions, compatible with ZSoft's PC Paintbrush PCX image format file.
   Compatible with all previous cards and Super VGA modes, enabling it to support resolutions up to 1024x768.

➢ Deluxe Paint V (1995)

The sister product Deluxe Paint Animation (only for 320×200 pixels and 256 colors) was widely used, especially in the videogame industry.

Unlike modern graphics editors, such as Adobe Photoshop, most Amiga graphics editors were heavily oriented towards the bitmapped and bit-planed display modes of the native Amiga chipset, and in Deluxe Paint this was most prominent. The Amiga natively supports indexed colour, where a pixel's colour value does not carry any RGB hue information but instead is an index to a colour palette (a collection of unique colour values). By adjusting the colour value in the palette, all pixels with that palette value change simultaneously in the image or animation. Creative artists could use this in their animation by using colour cycling.

Deluxe Paint III added support for Extra Halfbrite. New editing modes allowed one to stencil certain colours, and perform blurs on the stencils to produce an effect that could be made to look similar to light-sourcing in a 3D program. Deluxe Paint III added the ability to create cel-like animation, and anim brushes. These let the user pick up

a section of an animation as an "animbrush", which can then be placed onto the canvas while it animates. Deluxe Paint III was one of the first paint programs to support animbrushes. This is similar to copy and paste, except you can pick up more than one image.

Deluxe Paint IV, which did not include Silva as the lead programmer, was significantly less elegant and crashed more often than the predecessors, though it did offer significant new features like non-bitplane-indexed Hold-and-Modify support. Version 4.5 AGA appeared

the following year, addressing the stability issues and providing support for the new A1200 and A4000 AGA machines and a revamped screen mode interface. It appeared in both standalone and Commodore-bundled versions.

The final release of Deluxe Paint, version 5, supported true 24-bit RGB images. However, using only the AGA native chipset,

the 24-bit RGB colour was only held in computer memory, the on-screen image still appeared in indexed colour.

The reliance on an indexed

colour model allowed for a different way of working, not found on many paint programs since. The intimate linking of palette and image data made DPaint an excellent tool for creating bitmapped icons, animation and game graphics before true colour images became commonplace.

For example, transparency was obtained as simply as selecting a background colour index (a single right click on the palette GUI to change). Colours could be locked from editing by use of a stencil (a list of colour indexes whose pixels should not be altered in the image data). And simple colour-cycling animations could be created using contiguous entries in the palette. It was easy to change the hue and tone of a section of the image by altering the corresponding colours in the palette.

DPAINT FACTS

- The music video for the 2003 single "Move Your Feet" by Danish alternative dance duo Junior Senior was created entirely using the Amiga version of Deluxe Paint by the art collective Shynola.
- The webcomic "Unicorn Jelly" by Jennifer Diane Reitz was completed over the course of three years using Deluxe Paint 2, one panel posted every night at midnight.
- British author and artist Molly Cutpurse used Deluxe Paint to create the video graphics for the 1989 film Murder on the Moon, starring Brigitte Nielsen.
- With the permission of Electronic Arts, Inc. the Computer History Museum is pleased to make available, for non-commercial use, the source code to DeluxePaint version 1 (1986). There are 89 files of C language source, comprising almost 17,000 lines of code in about 474k of text.

DAN SILVA

Dan got into computer graphics in not the most direct way. He actually started out in mechanical engineering, originally at Stanford — there wasn't any computer graphics department. He got into using computers in mechanical engineering to synthesize three-dimensional kinematic linkages, which sounds pretty complicated but actually involved many of the same concepts that you use in computer graphics. He then worked for NASA Ames doing scientific programming – doing everything he could to get his hands on equipment that could create computer graphics with; he wasn't into programming in the abstract.

In 1978 Dan worked for Xerox doing user interface design for the Xerox Star computer. Then he spent a year at the newly-formed computer group at Lucasfilm, where he designed a video editor. He returned to Xerox, where he worked with Bill Bowman to create a black and white paint program called Doodle for the Xerox Dandelion computer.

By the time he joined Electronic Arts in 1983, Dan had a clear idea of how the ideal paint program should behave. Like most programs that are plowing new ground, DeluxePaint started out modestly with the first version on the Amiga having no menus. It was basically a skeleton of the program, all keystrokes. With the first paintings done by Avril Harrison. As he recalls she did them without any menus, using the PICK command to pick colours out of the screen.

The released version had a menu system, but still allowed simultaneous keyboard commands, which was a productivity feature for power users. Even though DeluxePaint can be used with just menus and without the keyboard commands, the design is set up so that it's better if you know how to use the keyboard commands.

Although Silva wrote most of the original code, there were also contributions from Jerry Morrison and Steve Shaw for routines that transferred bitmaps to and from "interleaved bit map" (.LMB) files on the disk, and from Gordon Knopes for some of the early colour pixel processing.

Although MacPaint was released before DeluxePaint, there was little connection. Silva says, "I had developed most of the underlying functionality before I saw MacPaint, but I thought it was pretty cool. I think the positioning of the menu icons on the right side was probably influenced by MacPaint."

Dan Silva created DeluxePaint in 1985 at Electronic Arts, then in 1989, he left EA to join the Yost Group, which developed Autodesk's 3D Studio.

AMIGA MICE

The Commodore mouse is a sturdy beast, but using it can sometimes be a little like trying to kill a fly with a baseball bat. So why change the Amiga's rodent? With the many utilities such as Zoom and DMouse (PD titles) that can help speed up a slow mouse but you may want to seek an completely new alternative.

Truemouse

The cheap end of the market offers the Truemouse, but don't let that put you off. The Truemouse is an excellent product at a very reasonable price, albeit with no sign of a mouse mat included.

It works perfectly directly on the desk or any other surface. It is a sturdy little creature with a tough case and a refreshingly weighty ball.

With most mouse having sensitive buttons, which is a joy at first, with the novelty soon wearing off with the constant effort of suspending your tired figurers over them. The Truemouse costs £17.99 from Evesham Micros.

With the slightest relaxation almost certainly meaning an inadvertently opened window or worse. Although the resistance is just about right. It's easy to use, accurate and comfortable. With the whole experience generally a pleasure, fitting nicely in the hand while still being smooth and accurate.

One criticism is the low resolution. Identical to that of the Amiga mouse but when using a drawing freehand paint package, the combination of smoothness with minimal movement can in fact help rather than hinder. Add the fact of the exceptionally long, six feet of coiling cable that curls up under the desk.

Bettle Mouse
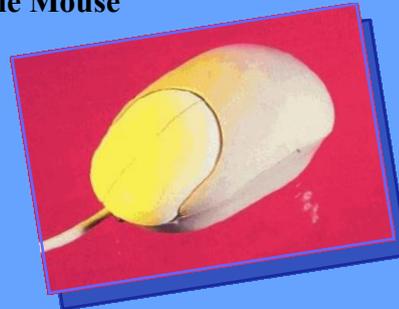
The other end of the market showcases the Bettle Mouse. The latest in designer rodents, featuring a range of 64 colour combinations. Looking like a giant ladybird, it fits perfectly in the palm of your hand with the buttons well positioned and just about perfect resistance. Although not appearing to be the sturdiest mouse on the market; it feels light in comparison with some of the others available.

The ball trapdoor is also unusual, using a slide fitting rather than the twist you're familiar with. The high resolution of 300dpi and the smooth acceleration is the best to date. It's like Marmite, you either love it or hate it although there is a price to be paid for all the glamorous styling; leaving the Bettle firmly in the designer label department. The Bettle costs £29.95 from Gasteiner and comes with a mouse mat.

Naksha

A favourite among graphic artists due to its smooth operation, and by far the most commonly used among the commercial sector. It provides a good combination of comfort and speed with the buttons well placed and weighed with acceleration similar to that of the Bettle. It's a little lighter for some tastes but after 10 minutes your tastes would almost certainly change for the better.

Optical Mouse

A mouse with no balls? That's were the optical mouse comes in.
No more scraping the ball clean makes maintenance a thing of the past.
Less friction also means more accuracy, not at all - it was found to make the pointer a little jerky. This may be due to the lower resolution of 250dpi. The mouse also feels a little strange, the absence of the ball makes it feel lifeless, although probably just a matter of familiarity.
The Optical costs £52 from Golden Image and comes with a mouse mat, manual, house and 3ft of cable.

Opto-Mechanical

This is not a true optical mouse. The way in which movement is read into the Amiga is exactly the same method that is used by every other mouse.
Light detectors count the rotations of the pinch roller bars.
The rotations are then simply added or subtracted from either roller to give an X,Y position.
With a resolution of 290dpi makes it not too far behind the designer market. Lightweight but actual movement can be a little harsh and can occasionally feel lifeless. The buttons are the biggest downfall. They are extremely sensitive, making premature actuation easy and that could open an endless series of errors and agony.
The Opto-Mechanical costs £26 from Golden Image and comes with a mouse mat, manual and 3ft of cable.
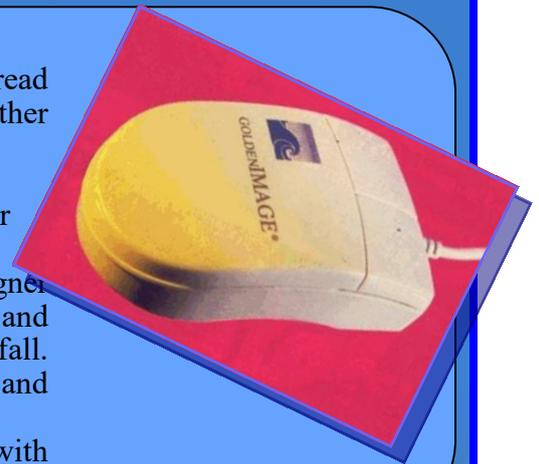
Marconi Trackball

The expensive end of the market and considering its size and weight its not surprising.
Boasting the heaviest ball in the business (adding to the substantial feel). A single flick sends the pointer sailing across the screen. Combine this with the lock feature, a window glides open without the need to keep in contact with the ball. The buttons have a long travel being some distance from the ball which makes it necessary to move your hand around in order to use both button and ball with ease. An excellent product for an acquired taste. It costs £54.95 from Silica Systems and comes with a 3ft cable.
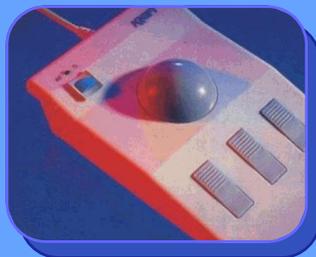
Kraft Tripletrack

With a slightly more pleasing appearance than the Marconi, it may well appeal to the more fashion conscious.
A built-in drag or automatic rapid fire makes a welcome appearance. The ball is quite a weighty beast but no means in the Marconi's league.
There is an extremely thoughtful extra button added for the left-handed users and once familiar with the odd arrangement of buttons could be a reasonable option. Costing £44.95 from Evesham Micros.

MC Track

Leaving the best to last. With Ergononics definitely one of its strong points, providing an ease of use not available from the opposition.
It has an original approach to some basic design problems associated with trackballs. The first improvement comes in button placement - they're situated either side of the unit with the ball placed between the two. This removes the need for hand movement, haunted by some of the competitors. One concern is the placement of the lock button, lying inconveniently at the bottom of the unit just where you'll want to rest the palm of your hand. It would be perfect placed at the top.
The MC Track costs £39.95 from Gasteiner.

AMIGA CD32

Styled 'CD32' and code-named "Spellbound" was the first 32-bit home video game console. It was announced at the Science Museum in London on 16th July 1993 and released in September of the same year with a significant amount of software available immediately, based on the Amiga 1200.

It was discontinued in April 1994 and had sold over 100k units in Europe only.
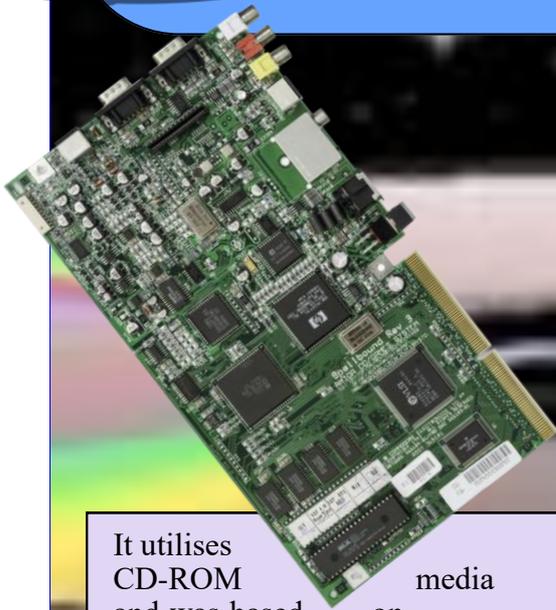
It utilises CD-ROM media and was based on Commodore's AGA chipset, with similar specification to that of the Amiga 1200.

It is possible to upgrade the CD32 with keyboard, floppy drive, hard drive, RAM and mouse; thus turning it into the equivalent of an A1200.
A hardware MPEG decompression module for playing Video CD was also released.

In the Christmas period following its launch it accounted for 38% of all CD-ROM drive sales in the UK, exceeding sales of the Mega-CD; however it was soon overshadowed by CD-ROM based games consoles from other companies, and was discontinued as Commodore went into bankruptcy.

Computer Gaming World reported that "It was planned to be launched in the US in February/March 1994, at the price of $399 with two pack-in games, Pinball Fantasies and Sleepwalker, as well as six separately sold launch games".

However, a deadline was reached for Commodore to pay $10 million in patent royalty to Cad Track (U.S. Patent 4,197,590) for their use of their XOR patent. A federal judge ordered an injunction against Commodore preventing them from importing anything into the United States.

By then Commodore had built up CD32 inventory in their Philippine manufacturing facility for the United States launch, but, being unable to sell the consoles, they remained in the Philippines until the debts were settled. With Commodore declaring bankruptcy shortly afterwards.

Thus the CD32 was never officially sold in the United States. However, imported models came over the border from Canada, and many stores in the United States imported units for domestic sale.

During the long bankruptcy proceedings, Commodore UK also provided some hardware components and software for the American market, including production of the MPEG Video Module that was not officially released by Commodore International.

On its release, the CD32 was marketed by Commodore as "the world's first 32-bit CD games console". Although it was indeed the first such machine released in Europe and North America, it was beaten to market by seven months by the FM Towns Marty, a console released exclusively in Japan.

Although the CD32 was more powerful boasting a 68EC020 processor with 32-bit data bus (internally and externally), while the 386SX in the FM Towns Marty only had a 16-bit data bus (externally).

Ultimately, Commodore was not able to meet demand for new units because of component supply problems. Sales of the CD32 in Europe were not enough to save Commodore, and the bankruptcy of Commodore International in April 1994, caused the CD32 to be discontinued only months after its debut. During the brief Amiga CD32 presence in the market, approximately 100,000 units of it were sold in Europe alone.
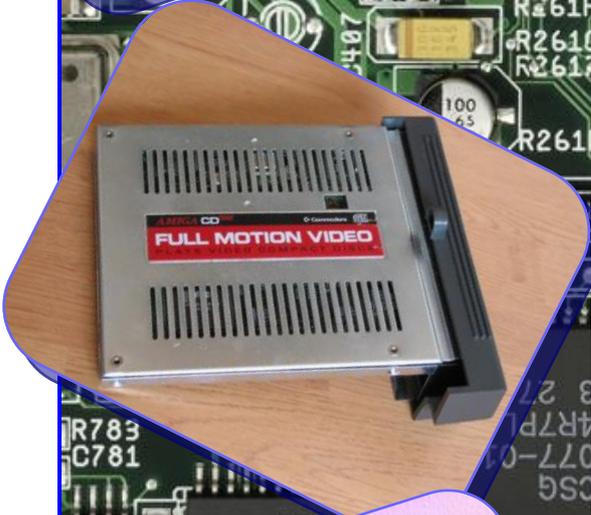
Amiga CD32 Specification:
- AmigaOS 3.1
    (Kickstart 3.1 and 1Mb ROM with CD32 firmware)
- Motorola 68EC020
- 14.18Mhz (PAL) / 14.32 MHz (NTSC)
- 2 MB Amiga Chip RAM
- 1 KB non-volatile EEPROM for game saves
- Advanced Graphics Architecture (AGA) Chipset
- Additional Akiko chip (CD-ROM controller and performs chunky to planar graphics conversion)
- 24-bit colour palette (16.8 million colors)
- (Up to 256 on-screen colours in indexed mode)
- Resolutions 320×256 to 1280×512i (PAL) / 320×200 to 1280×400i (NTSC)
- 4 × 8-bit PCM Audio channels (2 stereo channels)
- Double-speed (300 KB/s) CD-ROM drive
- Ports: 3.5mm Headphone Jack, 2 × Mouse/Gamepad ports (DE9M), RS-232 serial AUX port (6-pin mini-DIN)
- 182-pin expansion socket for official MPEG decoder cartridge or third party devices such as the SX-1 and SX32 expansion packs

There are some devices produced that can extend the capability of CD32, allowing it to utilize hardware such as an external 3.5" floppy disk drive, hard disk and IBM PC keyboard (a CD32-branded keyboard was officially released however, which used the AUX port on the left of the machine).

The CD32 can be turned into A1200 via the addition of third-party packages. The SX-1 appears to have been designed around Commodore's mechanical specs and not the actual production units – it did not fit very well and requires an internal 'modification' to equip it properly. Consequently, the SX-1 can be jarred loose if the console is not handled gently. The upgraded SX-32 expansion pack (which included a 68030 25 MHz processor) solves these problems.

Not wishing to repeat its earlier mistake of offering a way to turn a CD32 into an enhanced A1200 as it did with the A500-based CDTV, Commodore itself made no hardware available for that purpose.

One of its last hardware designs, however, was an external CD-ROM

drive for the A1200 that featured the CD32's Akiko chip, thus turning any A1200 into a CD32-compatible system.

In addition to its own special controllers, the Amiga CD32 is also compatible with most 9-pin D-Sub controllers from the '80s and '90s, including the Sega Mega Drive/Genesis controllers, Sega Master System controllers, and all Amiga/C64 joysticks as well as Amiga mice and paddles.

CDs created for the CD32 conform to ISO 9660 level2, mode1;
although the Rock Ridge and Joliet extensions are not compatible.

If the system is turned on without a CD, a splash screen with scrolling colours will appear and a tune will play. After this tune ends, the user can press the blue button on the game pad to enter a language selection menu. The user can also press the red button to access a menu where they can view the contents of the internal Flash ROM. Unlike most game consoles, this menu does not allow the user to delete items. Instead, the system will automatically overwrite the oldest entries when the memory runs out. The menu does however allow the user to "lock" files to prevent overwriting.

Launch Bundle
The CD32 launch bundle includes two games; Diggers and Oscar. A later pack includes the one-on-one fighting game Dangerous Streets (a poorly reviewed game).

The CD32 is capable of running most of the titles developed for the Amiga CDTV multimedia device, but differences in CPU speed and Kickstart version prevented some of the earlier CDTV titles from running. Most of the games released for the CD32 are simply ports of games that were already available for Amiga computers.[15] One benefit of this is that, when appropriate, many games retain the ability to use an Amiga mouse (in port 2) or Amiga keyboard (plugged into the AUX port).

Hidden Boot Menu

Like all later Amiga computers, the CD32 has a hidden boot menu that can be accessed by plugging an Amiga mouse into port 2 and holding both buttons down while turning the system on. Most of the options in this menu are not useful on a CD32, but from this menu the user can choose to boot in either NTSC or PAL mode. This is important, as there are some games that will not work if the system is in the wrong mode, and most games don't advertise what video mode they were developed for. Despite the naming, the menu really only allows a choice of 60 Hz or 50 Hz video output; a PAL system booted in NTSC mode will still output a video signal using PAL colour encoding, which will usually result in a black-and-white picture when connected to NTSC.
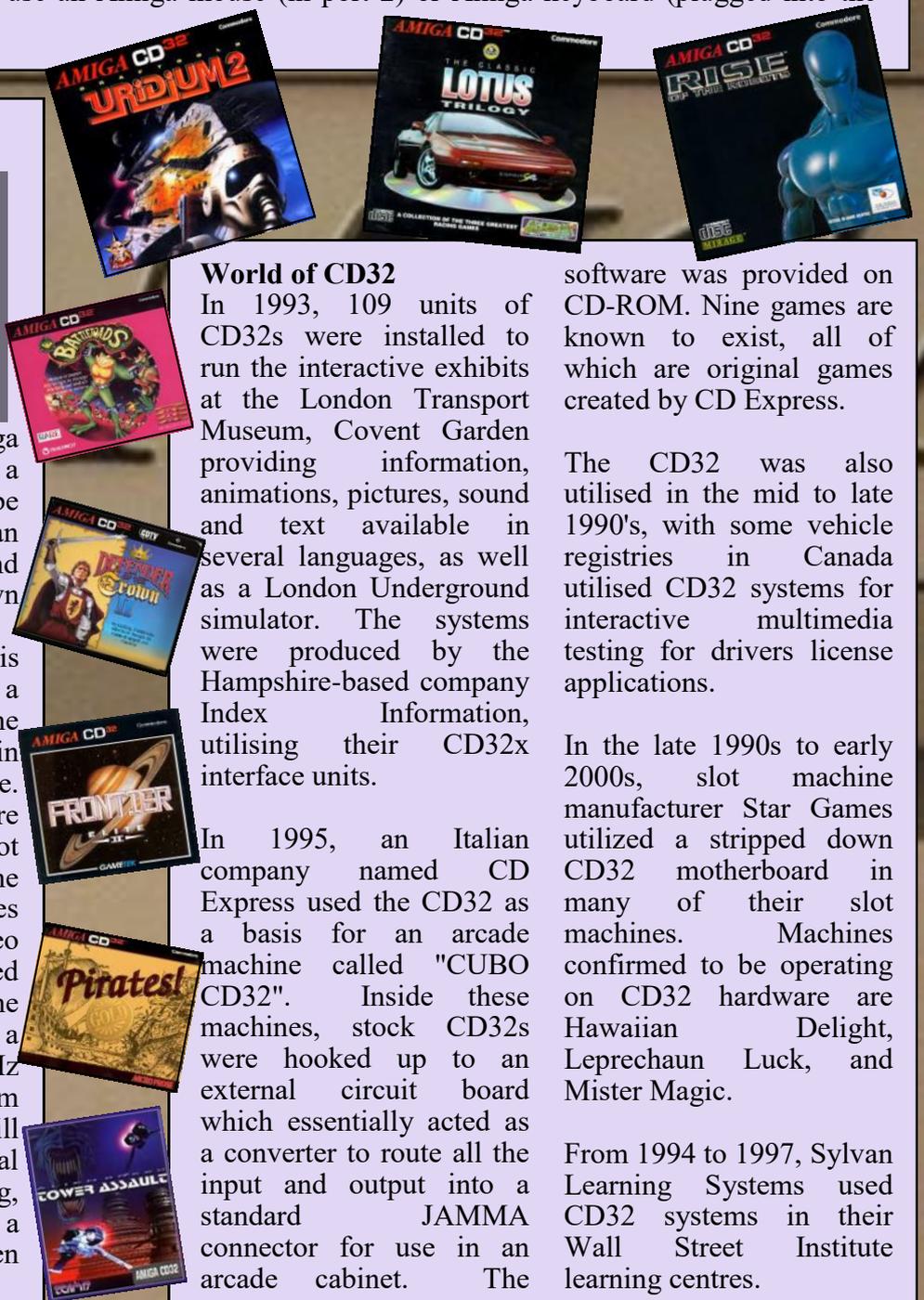
World of CD32
In 1993, 109 units of CD32s were installed to run the interactive exhibits at the London Transport Museum, Covent Garden providing information, animations, pictures, sound and text available in several languages, as well as a London Underground simulator. The systems were produced by the Hampshire-based company Index Information, utilising their CD32x interface units.

In 1995, an Italian company named CD Express used the CD32 as a basis for an arcade machine called "CUBO CD32". Inside these machines, stock CD32s were hooked up to an external circuit board which essentially acted as a converter to route all the input and output into a standard JAMMA connector for use in an arcade cabinet. The software was provided on CD-ROM. Nine games are known to exist, all of which are original games created by CD Express.

The CD32 was also utilised in the mid to late 1990's, with some vehicle registries in Canada utilised CD32 systems for interactive multimedia testing for drivers license applications.

In the late 1990s to early 2000s, slot machine manufacturer Star Games utilized a stripped down CD32 motherboard in many of their slot machines. Machines confirmed to be operating on CD32 hardware are Hawaiian Delight, Leprechaun Luck, and Mister Magic.

From 1994 to 1997, Sylvan Learning Systems used CD32 systems in their Wall Street Institute learning centres.
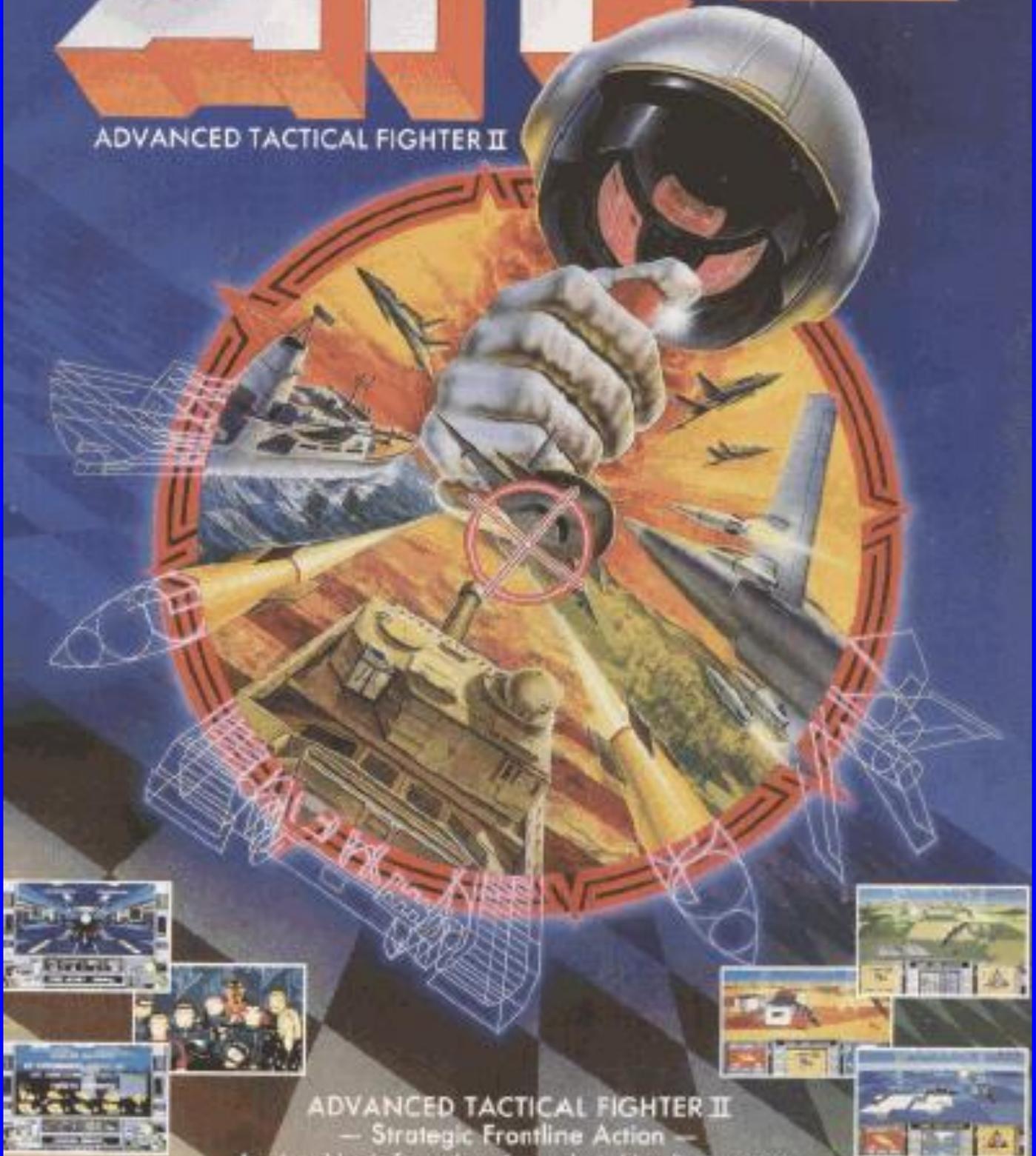
David John Rowe

David started illustrating for catalogues and painting from pets to pubs. He was at the forefront of the UK's and Europe's box art scene in the early 80's. Working for Spectrum studio Quicksilva he would, along with artists Steinar Lund and Rich Shenfield, pioneer the use of quality artworks used for games from 1982.

David's first would be The Chess Player (1982), he then followed it up with Ant Attack (1983). Sandy White's isometric adventure would be well complimented by Rowe's 50's B-horror movie style cover art, so much so that the game's sequel Zombie Zombie (1984) would also be a Rowe. These early box arts were a mix of airbrushed liquid acrylics, coloured pencil

Coming into the 90's, now an established box artist, he worked for various publishers such as Electronic Arts, Domark and Core Design, producing diverse cover arts from the fantasy laced Risky Woods (1992) to cartooned hijinks of The Super Aquatic Games (1992).

With much more detail when compared to his work in the 80's where functional and basic works such as The Way of the Exploding Fist (1985) gave way to creatively rich box arts such as Shadow of the Beast III (1992).

He would also move into the area of graphic design working on games such as platform hit Alfred Chicken (1993), and would be responsible for producing many magazine covers for Emap, Europress and Future Publishing. Not one to let any media left untapped, David would work within television with his greatest contribution being the interior perspective paintings for the popular ITV children's programme "Knightmare".
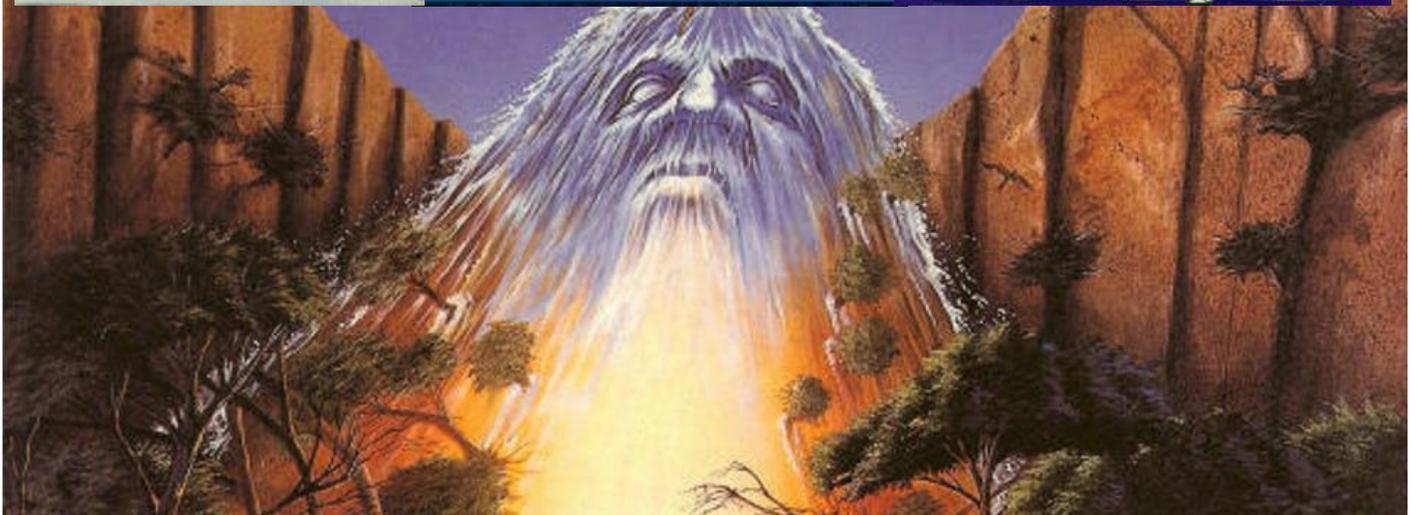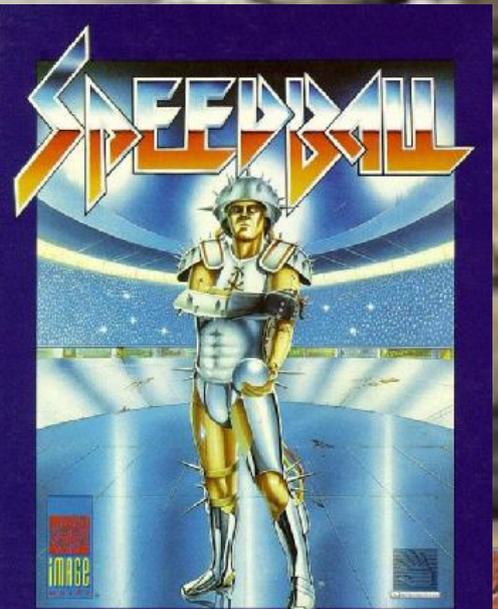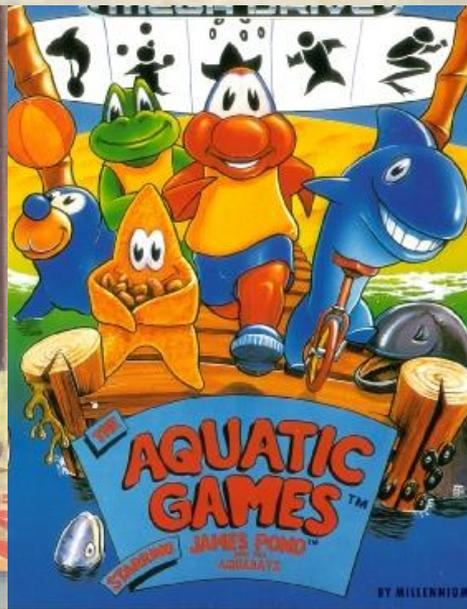
1982
The Chess Player

1983
Ant Attack
Frenzy

1984
Fred
Zombie Zombie

1985
Bounces
Glass
Way of the
    Exploding Fist

1986
Dante's Inferno
Infodroid
The Sentinel

1987
Delta
Dog Fight 2187

1988
Chubby Gristle
Speedball

Then & Now:
Shadow of the Beast

Publisher Lowdown:
DENTON DESIGNS

CDTV

Plus..
News from April 1991

Word of the Week: HAM

Hold and Modify. Special screen mode used by the Amiga to display 4,096 colours at once - yet using only a fraction of the amount of memory required by normal methods.
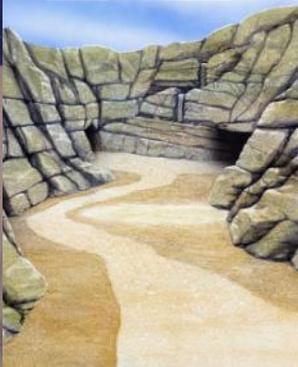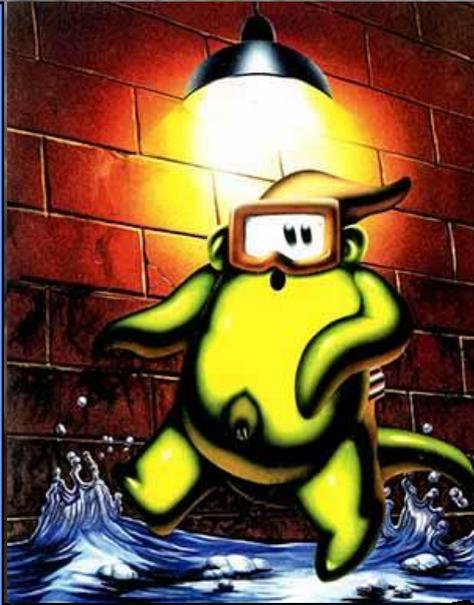
Sources of Information

This magazine would not be possible without
the original sources of information:-

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:> www.boxequalsart.com

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