COMPUTER GAMES
STRATEGY PLUS

IBM PC, Mac and Amiga

Issue 18 May 1992 $3.95
Canada $4.95

GLOBAL CONQUEST
Dan Bunten's modem mayhem

PLUS
Battlecruiser: 3000AD
Virtuality
Twilight 2000
Storm Master

STAR TREK
Klingon for dear life

STRATEGY PLUS
P O BOX 21
HANCOCK, VT 05748

BULK RATE
US POSTAGE
PAID
STRATEGY
PLUS

BATTLECRUI

Brian Walker talks to 'lone wolf' programmer Derek Smart

'Gone are the days when a single programmer can sit in his room and create all the design, code, artwork, sound and testing required to complete a product. Today's cutting-edge software product requires a team of 15-25 specialists working for 12-18 months...' – **Wing Commander** manual notes published by Origin Systems.

Origin Systems has apparently never heard of Derek Smart. Single handedly he's created one the most startling looking games seen for some time. In fact it would be more accurate to describe **Battlecruiser: 3000AD** as a game *system*.

As the title suggests this game is very much in the vein of **Wing Commander**, but with a much stronger role-playing element. What grabbed me was the sheer scale of the project – a vast universe with interlinking scenarios which will appear in the form of 'battlesets'. The game first came to my attention via a demo that Derek sent me – the demo itself is remarkable, at least thirty minutes long and with more digitized speech than is heard in entire games. To find out more I spoke with him at his Florida home.

'I've have been working on **BC:3000AD** on my own since late 1988, while I was working in London as a systems consultant. Two months ago I pulled a friend of mine on-board (Lloyd Pique) to help me because I wanted to finish it this year. I started designing **Battlestorm: The Aftermath** late last year,' says Derek.

Given today's growing development times that doesn't seem long, but Derek says: 'It has only taken this long because I was effectively "lone wolfing" it [a term

Flight simulation

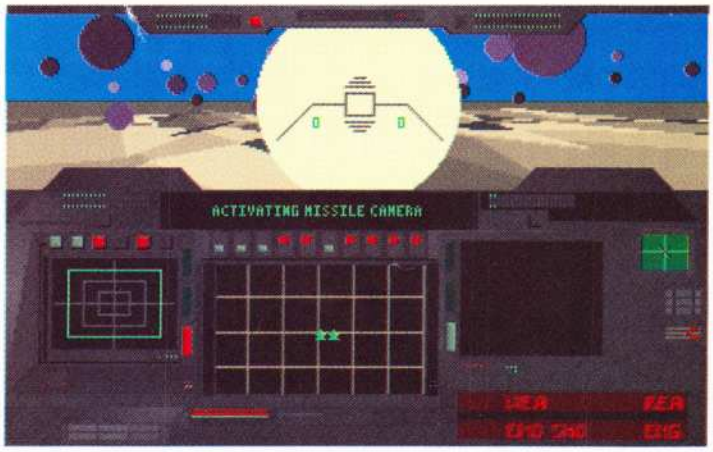
The system sports true 3D routines through a unique technology, 3DTEK. It is capable of generating not only high-speed solid-filled objects like normal 3D-based flight sims, but it can also generate a 3D fractal landscape at the same time.

The interceptor uses an 'infra-red' imaging sequence to view the planet's landscape (looks like wireframe). That landscape is actually a 3D fractal terrain generated at random! This guarantees that the terrain for every planet will be different.

It also guarantees that the terrain in different locations of the planet will be different based on your 'orbital entry profile'. The code is intelligent enough to position every 3D object correctly in the terrain even though the terrain is random.

In the final version of the program, Gourad shading will be implemented for smooth shading and to hide the rough surfaces/edges of polygons. Also, limited 'texture mapping' will be used instead of spheres for the external features of the planets. When the Earth is observed for example, from the cockpit, then what will be seen is a 'fractal generated' bitmap image mapped across its surface to make it look like a painting or much like what the astronauts expect to see from the shuttle.

Texture mapping will also be used for the external features of all star stations, asteroids, debris, meteorites and so on. The flight logic for the battlecruiser and the interceptor are very different. Where the battlecruiser is



SER 3000AD

used by the computing community for a programmer who designs, codes and produces a program single-handedly] it and I was also moonlighting – not a good combination.

'I only had about four hours each evening and most weekends to work on this project. I currently own practically every flight simulation and role-playing game ever written for the IBM platform, whether good or bad.'

So what was the philosophy behind this project?

'My aim was to write *the* best game and combine the features of flight simulation and role-playing. **BC:3000AD** is a true 3D flight simulation much like any other "true" 3D flight simulation, but it also incorporates

big with sluggish controls, the interceptor is very fast and sleek. Players are expected to have some problems with 'over controlling' when switching between flying the battlecruiser and the interceptor.

To further enhance realism, flight logic for space flight is different from that of planetary flight. This takes into account gravity, space-time continuum, aircraft weight and so on.

role-playing at a very low level, after all it is predominantly a flight sim.'

The artificial intelligence (AI) system must have been a nightmare to implement, not to mention all the bug checks. According to Derek, the AI shell for the program took six months to write and perfect.

'When I changed, enhanced or added a new feature,' he says 'I had to go in and make the necessary changes to the AI shell. Since I am a single programmer, I have to be very careful that the program is bug-free before I deliver it. I have an entire lab which includes over six different types of computers running different DOS versions with different configurations. If something is going to happen, I'll be the first to know about it.'

What is striking is the speed of the program, especially considering the graphics-intensive nature of the game. I asked how this had been achieved.

'Without revealing trade secrets, I can tell you our routines are very, very fast. The entire demo you viewed is written entirely in C++, and see the speed? Imagine what it'll be like when we convert everything to assembly. We'll make **Wing Commander** and **Falcon 3.0** look like prehistoric mammoths.

'Our routines still target the 286+ processor, minimum DOS memory and storage requirements. The final product will use less than 600k memory and less than 4Mb of disk space!

'On a final note, **BC:3000AD** will be the first game on the market for the IBM platform that sports 32-bit technology – we're talking serious speed and memory abundance.' ❑

***Battlecruiser:3000AD** should be published by a major software house later this year.*

Flight models

16-bit 286, 16-bit 286 + math co; 32-bit 386/486, and 32-bit 386 + math co

3D graphics

Gourad shading for all 3D objects (absent in demo), texture mapping for some 3D objects, fractal surfaces for external planet view instead of spheres as in the demo

Playability

Modem play via Sci-link. All 3000AD games, **Battlecruiser: 3000AD** and **Battlestorm: the Aftermath** (demo out soon), will interoperate via Sci-link. A player with **BC:3000AD** will fly missions with a player with **Battlestorm**