THE STORY BEHIND...

OPERATION GUN ★ SHIP

■ We are here again with the Oliver Twins to ask them about another of their games — it's not a simulator or a Dizzy game this time, it's Operation Gunship.

Chris Wilkins: Would you like to quickly describe the game, for those readers who don't know it.

Philip Oliver: Of course, that seems like a good place to start. The player takes control of a helicopter and must fly it over five hostile islands to collect SAS Commandos — although in-game they were called prisoners. It's a simple arcade game viewed from above with an 8-way scrolling window. We created this in April & May of 1989 on an Amstrad and Spectrum and Codemasters published it in their classic budget range at £2.99.

CW: What inspired you to write this game?

Andrew Oliver: It started life as a simulator title. We'd made a few sports simulators but thought what would be cool for the players. We'd recently seen Rambo: First Blood Part II on VHS rental and the helicopter Gunship scenes were awesome. In addition, Airwolf had taken the popular Saturday tea-time slot and was really popular. So we had the idea that 'Helicopter Gunship Simulator' would have a lot of appeal. The next part was to design a game...

PO: And that came really easily, since there was a game we'd played a few years earlier on the Apple IIe called Choplifter. It was a pretty basic sideways scrolling game where the player had to pick up little guys from the land and avoid enemy fire and shoot at tanks and jets. Whilst extremely simple, it was good fun. So then the challenge was to take that premise and improve upon it as much as possible given the limitations of the Amstrad and ZX Spectrum.

CW: So describe the process of how you decided upon the final design.

PO: Well Choplifter was VERY simple. Hardly any interest in the background at all. So the main design decision was to do a top down scrolling map more like Xevious. But whilst Xevious was a great game it was an arcade linear game experience. We felt having full control to fly in all directions would make the experience a lot more interesting and lead to many player choices and strategies.

AO: We could achieve this by having a tiled map of the island. The next challenge was to work out what tiles we needed to allow for sea, coastal beaches, green lowlands and forests. On top of this, we wanted to add buildings, roads, bridges and fences.

PO: We made a map editor for placing these tiles onto

32

FUSION

a large grid, which would then save out a data file for the map. It was fun designing the tiles to seamlessly join together. We found brown worked better than yellow for the beach.

CW: Were there technical challenges to this tiled map approach?

AO: Absolutely. Both the Amstrad and Spectrum computers were very slow at moving pixels around. There was no hardware scrolling possible. So for each frame we had to draw the full

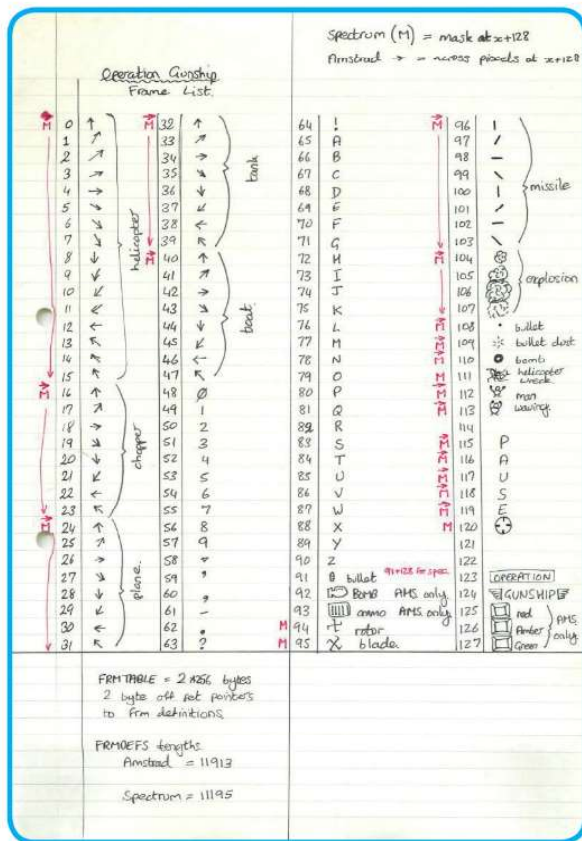**Below:** Original design notes for both versions of the game by the Twins.

background that appeared in the window then recalculate the positions of all the sprites over the top and print these too. Because we wanted pixel-level scrolling there were further complications in the way both computers stored pixel data in bytes. The Amstrad (Mode 0 - which gave 16 colours) had 2 pixels stored per byte. So we stored all the tiles and sprites twice — for even and odd positions. Sadly the Spectrum stored 8 horizontal pixels per byte meaning

Above: The home page of Operation Gunship on the ZX Spectrum.

there wasn't enough memory to store all 8 alternatives. Instead, the code had to deal with printing to any horizontal pixel position in real-time. That's a lot to ask of a Z80 processor — which both computers ran on. We decided not to attempt moving colour attributes, not only would this slow things down further, but there would be horrible colour clash all over the place.

PO: Becuase this was SO slow, the compromise was to reduce the scrolling window area. So we added a lot of relatively stationary info-graphics around the sides to make this look intentional. We showed the volume of bombs, bullets, fuel and armour and even had space to add an instruction window and two big logos! Even then the scrolling was too slow so we be reduced the size again and added the coordinate scroll

Above and Below: Spectrum graphics on an Amstrad disk and below the master tape of the Spectrum version.

chain reaction destruction. If you machine-gunned a building, it should weaken it with each bullet impact until it eventually imploded. If you dropped a bomb, it caused more damage, over a slightly wider area. Often a single well-placed bomb would take out a building in one go. To make all this work, every map tile on the underlying data grid had a strength. Background tiles were set to '0' meaning bullets would pass over them. The stronger the building the higher the number representing it's strength. Each impact reduced it until the point it reached zero when we'd swap the tile for a destroyed version and trigger an explosion. This is where the fun started since we made the explosion animations also deliver a destruction blast around them, in the same way, dropping a bomb would. By tweaking the strength of the buildings and blast damage we reached a nice point where players could create great chain reaction explosions. A fast fly-by strafing bullets across a large building followed by a single well-placed bomb would result in the entire building being raised to the ground! Very satisfying.

around the side too (this was much faster to print than the gameplay area. Even then the scrolling was disappointingly slow).

CW: What other challenges were there making the game?

PO: We loved the idea of

CW: Tell me about the enemies.

PO: We had gun turrets and lookout posts. These were built into the background graphics. As well as these, there were tanks and fighter jets. The tanks would move around the landscape, unable to move through the building and wooded areas. Whilst the

Above and below: The Amstrad full cassette inlay, and the ZX Spectrum full cassette inlay below.

jets would sweep across the map firing at your helicopter when in their sights. Sadly the artificial intelligence (logic as we called if back then!) of the pilots was fairly poor and they were often unable to turn fast enough after shooting to avoid flying directly into the helicopter. We put this down to them being kamikaze pilots!

CW: Were you happy with the finished game?

AO: Yes, it was pretty good fun, but would have been better with more speed. In recent years, some emulators allow you to run games at 2 or 3 times the original speed. It works so much better when you do!

PO: Yes, it was quite different, yet complementary to the other games we were

making and it reviewed pretty well. In fact, Crash gave it a Crash Smash with a 90% review! And sales were pretty good too, although it was released at a time when sales were starting to fall off for all 8-bit computers.

CW: Was that the end of Operation Gunship?

PO: No, we really liked the concept and whilst frustrated with the scrolling speed we

two of our first employees to convert Firehawk to the Amiga!

Both NES and the Amiga versions of Firehawk were great, but sales were low.

CW: Were you ever tempted to do a sequel?

AO: Sadly we fell out with the owners of Codemasters shortly after this and this put a stop to producing any sequels of our games with them.

PO: Although Electronic Arts did a great job of picking up where we left off with their 'Strike series'. Trip Hawkins the founder of EA had the same idea and in early 92 they released 'Desert Strike: Return to the Gulf' on the SEGA Genesis (Megadrive) to enormous critical and commercial success. The success of this series then spawned even more similar games.

CW: Sounds like you might be a little bitter?

PO: A little frustrated that had things been a little different that Operation Gunship could have been the start of something much bigger. It was a great concept.

AO: But we are proud of what we created.

CW: As ever guys, thank you for opening up and sharing your thoughts on another of your classic games!

wanted to revisit this game on more powerful computers when we could do the game more justice.

AO: About 6 months later we moved to making games on the 8-bit NES. Quickly we discovered how brilliant it was at scrolling tile-based backgrounds with a few foreground sprites. So after completing The Fantastic Adventures of Dizzy, we were keen to make Operation Gunship on the NES. We completed this around early 1991, but due to legal issues between Codemasters and Nintendo, the game wasn't released until Autumn of 92.

PO: Oh and we renamed it to Firehawk, a much cooler name. During the delay to publish the game, we'd rented an office and started employing people. So we asked