# THE MAKING OF…
## TEMPEST 2000

Discover why Tom and Jerry had such an influence on one of the most cherished shooters ever
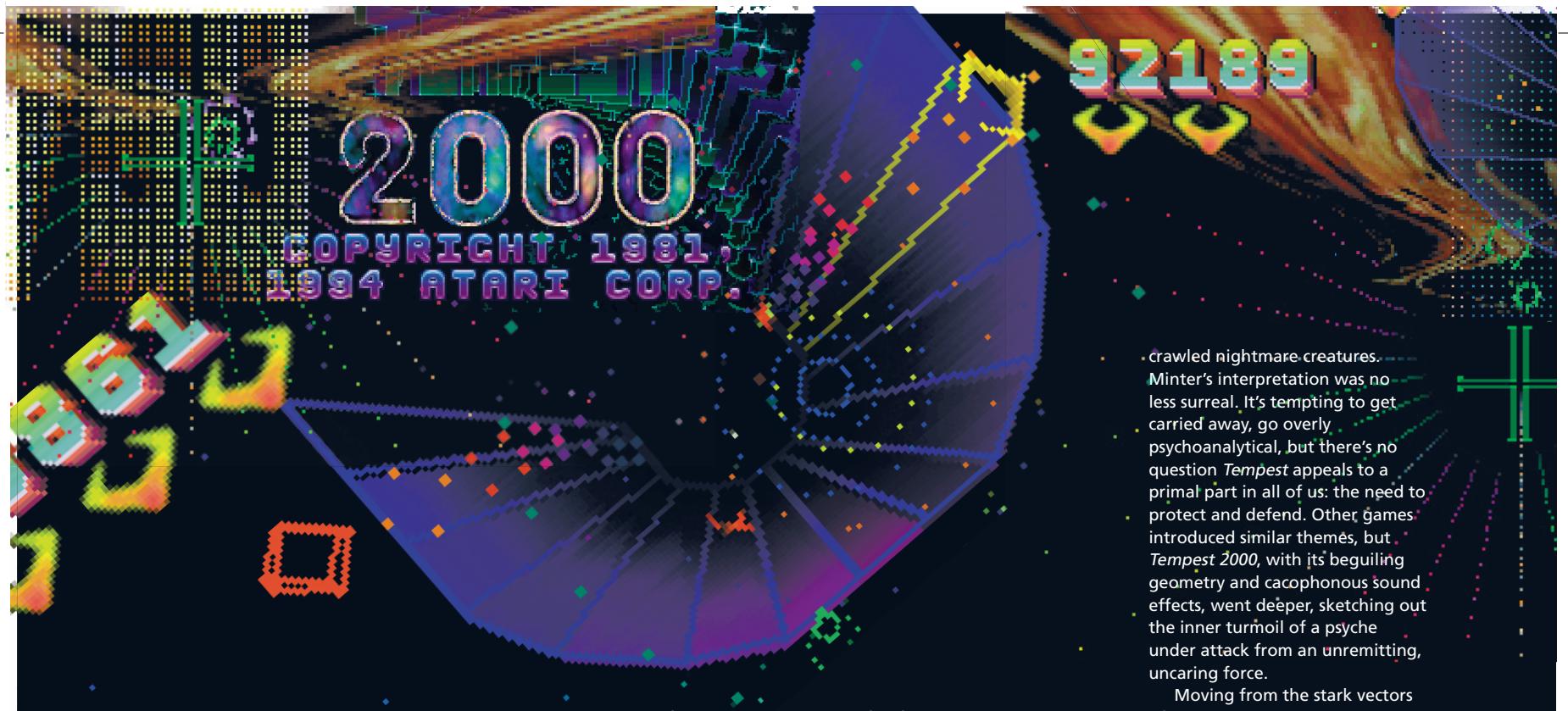
ORIGINAL FORMAT: **JAGUAR** PUBLISHER: **ATARI** DEVELOPER: **LLAMASOFT** ORIGIN: **UK** RELEASE: **1994**

**U**nforgivably labelled a curio by some, *Tempest 2000* is often cherished for the wrong reason – namely that it's one of the few decent Atari Jaguar titles. To own the game is a kind of badge of honour among archivists, but how many have bought the game only to tuck it away until it realises higher prices in the future? Played in its day, *Tempest 2000* was a prismatic whirligig of sound, colour and kinetic destruction. Played now, it

**Tempest 2000 was a prismatic whirligig of sound, colour and kinetic destruction. Played now, it has lost none of its mesmeric charms**

has lost none of its mesmeric charms or raw spirit.

Indie coder **Jeff Minter** was given the task of converting Dave Thuerer's 1981 arcade classic to Atari's new console. With the benefit of hindsight it was a perfect match, but the original deal was struck in a ludicrously casual manner. "I'd been doing some work for Atari UK," explains Minter, "stuff like *Defender II* and *Atomic Tadpoles Vs Savage Mutant Weirdos From Basingstoke* [released as *Photon Storm*], and I'd already done a couple of months' work on the Panther system that never got released. Anyway, Atari held a devcon to introduce the Jaguar system in one of those hotels near Heathrow Airport and

**2000**
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crawled nightmare creatures. Minter's interpretation was no less surreal. It's tempting to get carried away, go overly psychoanalytical, but there's no question *Tempest* appeals to a primal part in all of us: the need to protect and defend. Other games introduced similar themes, but *Tempest 2000*, with its beguiling geometry and cacophonous sound effects, went deeper, sketching out the inner turmoil of a psyche under attack from an unremitting, uncaring force.
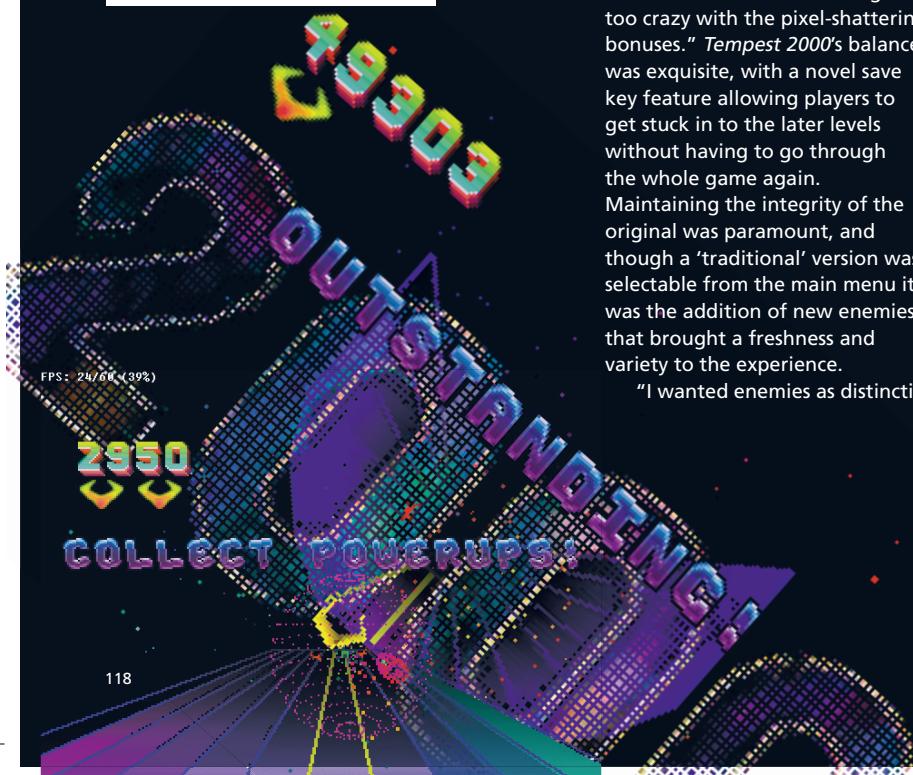
Moving from the stark vectors of the original to Gouraud-shaded polygons was the biggest challenge, but Minter found Atari's new console surprisingly versatile. "The Jag hardware was cool to work with – you had the 68K, of course, but much of the interesting coding was done on the two RISC coprocessors, Tom and Jerry," he recalls. "Most of my work was on Tom, Jerry being the domain of the audio programmers. You also had a versatile blitter that you could coax into doing interesting stuff.

## A DAY IN THE LIFE

During the development of *Tempest 2000*, Minter would typically wake up in the morning, smoke cigarettes, drink tea (at least two cups), read the newspaper, then feed his sheep before sitting down at his workstation. Coding would usually go on until 10pm, when he would embark to the local pub. In the latter stages, however, the routine altered somewhat to allow for an unusual QA process: "The daughter of the landlord of the pub used to frequently visit in the afternoons. At first for SNES *Street Fighter II* sessions – she was Chun-Li and I was Blanka – and as things progressed with *Tempest*, as an unofficial gameplay tester. Her sister had done pretty much the same thing during the development of *Llamatron*."

during the course of the devcon we were all told about the Jaggy and shown some demos, most notably the rotating cube with a jaguar on. In due course they announced a list of titles to which they owned the rights and for which they were looking for people to convert. *Tempest* came up and I stuck my hand up and said I'd like to do it. I'd never done any 3D at that point and never so much as touched a polygon."

Minter's working relationship with Atari was a joyful one as he was given free reign over the creative content and mechanics of the game, only nudged in certain directions when he "got too crazy with the pixel-shattering bonuses." *Tempest 2000*'s balance was exquisite, with a novel save key feature allowing players to get stuck in to the later levels without having to go through the whole game again. Maintaining the integrity of the original was paramount, and though a 'traditional' version was selectable from the main menu it was the addition of new enemies that brought a freshness and variety to the experience.

"I wanted enemies as distinctive

and fearful in their own way as the Fuseballs and Pulsars were in the original game," says Minter. "Pulsars in particular make you change the way you play the game when they appear – you can no longer just run around the rim of the web with impunity, you have to time your motions and attacks. The idea with Mirrors and Demon Heads was to break up the flow of play in a similar way – with Mirrors around you couldn't just 'fire and forget', you had to nip

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smartly out of the way to avoid the reflection of your own shots. And the Demon Heads would throw their horns at you, and the horns couldn't be destroyed, so you had to shoot, avoid horn, shoot again, avoid horn, then shoot once more to kill. I wanted to introduce things that would force players to change their playing style as the levels evolved."

**Visually, *Tempest 2000*** was a bewitching kaleidoscope of shapes, colours and hardware effects. Webs would whirl out of space in vermilion and blue, and soon swarmed with strange malignant enemies: Spikers, Fuseballs, Pulsars, Flippers, Tankers. Theurer once said of his creation that it came to him in a dream, a dark hole out of which

One of the hardware designers later told me off for running the chip 'backwards'. I used address generators meant for traversing textures internally for texture mapping for writing to the screen instead – in order to create the shattering of bitmaps used a lot in the game. It was a more complex beast than I'd programmed before and I enjoyed getting to grips with it, and also enjoyed the opportunity to learn some very

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Some of the more trippy feedback effects were created when Minter fed an entire previous frame into his own sprite scale-and-rotate code. It was christened Melt-O-Vision, but the sluggishness meant that it could only be used effectively on the game over and menu screens

basic 3D skills and how to draw polygons from first principles. Even today it still feels a bit like cheating the way you simply ask for a textured triangle and, lo and behold, it appears."

Minter's penchant for psychedelic visuals and trippy audio had already been established with games like *Attack Of The Mutant Camels*, but *Tempest 2000* took it further: "The audio guys were simply great. All I did was send them a videotape of me playing *T2K* with the kind of music that I enjoyed playing the game to. A fair bit came from a compilation of industrial/techno stuff called Below San Onofre that one of the guys at Atari had given me because his band featured on it. The bands had names like Sweat Engine and Tit Wrench, and a few weeks later they came up with those awesome tunes. At first they sent me an audio tape and I remember listening to it in my kitchen and thinking that the demo tunes they'd sent must have been made on proper synths and that the tunes on the Jag wouldn't sound nearly as good. But then they sent me the audio code and I dropped it into the game – it sounded every bit as excellent as the demo tapes. I was well happy with it."

**A great deal** of *Tempest 2000*'s charm – and it's here where the game differed most obviously to the original – was down to the warp bonus rounds. Replacing the pumping techno and screeching death throes of Spikers with chilled-out tunes was a stroke of genius adding contrast to a game that might otherwise have overloaded the senses. These tranquil breathers were reminiscent of Stanley Kubrick's spellbinding infinity effects from 2001: A Space Odyssey, albeit interpreted for a console, and could only be accessed by collecting three warp power-ups. The warp bonus rounds also gave players the opportunity to bag up to 20,000 points and jump five levels ahead.

It's hard to imagine the game getting anything but praise from both publisher and public alike, but *Tempest 2000* wasn't always considered the jewel in the Jaguar's crown. "I was gobsmacked at its popularity because I'd had a knock-back at the Jaguar launch in New York," remembers Minter. "During a drunken talk with one of the Jaguar designers he'd been quite scathing about the then-unfinished *T2K*, saying that it didn't make good use of the hardware. He said Atari considered it to be nothing but a 'makeweight' title at best compared to the likes of *Trevor McFur In The Crescent Galaxy*. Of course, a lot more of the game was completed after that, but nonetheless I really thought my game would pretty much be the worst of the [launch titles] and worried whether it would even be considered good enough for release. When people came back from CES just after I arrived and started telling me it had got an award as one of the best games at the show I was rather relieved."

Though *Tempest 2000* received glowing reviews in the gaming press it did little to boost sales of the Jaguar which struggled to compete with both the SNES and Mega Drive, both of which boasted far larger software libraries. Minter remains philosophical about the

game failing to reach a wider audience (his Nuon version, *Tempest 3000,* would later suffer a similar fate) but is delighted that the Project Tempest emulator (http://pt.emuunlim.com/) is keeping the game alive for those who don't have space for another old console in their collection.

Yes, curio is a demeaning label for a game that can still hold its own next to any modern shooter. But as a paean to an extinct arcade era and a gift to rapid-fire enthusiasts everywhere, Minter believes there may be life in the series yet. "Imagine an updated *Tempest* on the PSP…" is all he'll say. We're imagining. We're imagining.

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