

The inventor of the racing simulation game:  
Dr -Ing. Reiner Foerst



Sit up, put your lips together, chin up a bit and look intently at these words: It's time to be serious for a moment. There has been a sizeable in-justice in the world. You see for as long as you've been surfing, it has been held to be true that Night Driver from Atari was the first ever first-person perspective driving game. And frankly my dear racing game fan, that is just not true. And there's proof and everything...

Dr Foerst could correctly be described as the "Father of racing games displayed on a raster device". But such a wordy title would belittle his achievement. Plus, as bombastic titles go, it would doubtless win the 'most likely to fall into obscurity.' badge And he deserves better. Because his achievement is clear: He is the first person (on this planet) to make a video game in the 'driving/racing' genre with a first-person view. He started what you and I love today.

Work started in 1971, when the 38 year old Dr Foerst, already with a reputation as a simulation expert, joined a specialist wire manufacturing company called Trakus. As Director, his self-proclaimed goal was to provide the best simulators ever seen for driving instructors. To do this, he knew he would need to raise finance from video games. So video games is what he did. Opposite, you see his first machine. In his own words "*My invention of a driving simulator was not initiated by any interest in games, but rather an interest in Simulation theory and engineering.*" Indeed he had no interest and little knowledge of arcade games.

All racing games before N1 (Gran Trak, Speed Race) were birds-eye games, whereas Dr Foerst's Nurburgring was not to be so. His game had to have perspective and a first person view.

As with any competent engineer, the first thing to do was look at the competition and their patents. He found that BP (oil company) and Volkswagen both had their own simulators. BP and Volkswagen however were very large and expensive - using projection systems (BP) or a huge oscilloscope to view a moving image. This was clearly unsatisfactory as a gaming device and both were aimed at commercial environments. Little is known about the more advanced Volkswagen simulator, although I suspect it was created by Evans and Sutherland.

In the early seventies the mathematical transformation of road curves was designed and an unsatisfactory prototype N1 was put together using light bulbs (not a raster display TV/monitor). In 1973, the world's fascination with Pong didn't pass him by...he realised that the method of displaying the output of his electronics on a TV screen would be a brilliant solution. So he took a Pong machine to pieces and looked at the video chips and established how it would work for his own game.

By 1973 work started on what would become the first game in the Nurburgring series. By May 1975 the first machine was complete. Using a small black and white TV, the upright machine, in all its wood-grain glory was positioned in an arcade in Giessen, a German town, where you won't be surprised to learn that at least 1/5 the population are students of Fiessen University. Apparently income from the machine was high and Trakus, Dr Foerst's employer, agreed to put more money into the project. By March 1976, it was ready for 'production' and two had been made. Each used about 1,500 individual components, spread over 28 boards (measuring 10cm x 16cm each). They retailed around the USD 1,000 area.

The game itself had amazing audio. The engine sound was created from an analog saw-tooth generator. Dr Foerst says "*It was dependent upon the revolutions and the acceleration. Loud at high rotation, sharp with the gas pedal stepped down and hollow at engine braking. The driver should get a feeling for gear shifting.*" Amazing. And just as stunning for the period, he goes on to say "the whistling of air at high speed, crash sounds and the noise of drifting tyres were also simulated (using analog circuits).

