

Flight simulator extreme

The private cockpit of Martin Maslaton, Part 2

In this magazine we have already informed about “non motion”-flight simulators several times. We are now continuing this loose series with the following report. Up to now, the flight simulators have been used by enterprises, but with this report Martin Maslaton informs about the building of his private-used simulator. The lawyer for the law concerning aviation and real pilot (MEP, IR, JAR) has realized his own and very special simulator within uncountable working hours.

In the last edition of FlightExpress the author described his way from the idea to the realisation of having an own cockpit of a DC-9 in the cellar of his house. Now, he is describing how the cockpit works with the simulators of Elite and Microsoft.

By the way, it is a pleasure for real pilots to sit in a simulator which contains all of the switches an airplane has, independently from the operation with Elite or FSX: from lights over the steering-wheel and the control panel for the autopilot up to the straps at the seat. The environment is also very realistic. It appears directly in front of the cockpit window and not only on a screen. A funny, but unpleasant trivial matter on the verge: As the moment of the first flights was reached, I wanted to see and try really everything. And I thought that the oxygen cylinders and fire extinguisher did not work anymore. This was the case for the oxygen cylinders but not for the fire extinguishers: Only one push and the consequences have been a total loss of my view and two days of cleaning.

Flying with Elite

The trainings gadget of Elite offers different modules. I really like the reproductions of the Socata TB-20 Trinidad, the Piper PA-34 Seneca and the Beech B200 King, because I am normally flying on these kinds of planes. Especially the so called “Turboprop” is a real fun and very close to reality. In this case, the concept of the simulator is a real advantage, because the cockpit procedure trainer (CPT) is connected to the hard and software of Elite, including the pedal of the rudder. A short comparison may clarify this: At the beginning of the start, especially with a tough “Turbo prop”, there is only a small effect of the rudder, typically with a corresponding effort. The pedals of Elite are set in a way that you have to make a considerable pressure which decreases with increasing speed.

The aileron/the elevator or to be precise the tuning of the control column could be a bit better. The reason for this could be seen in the fact that the lever of the real control column of the CPT is a very big one. That is why, the mechanism of the clips of the Elite ProPanel, which is integrated into the ground of the cockpit, could not convey the relative strength. I am thinking about using some special shock absorbers in the further.

The existing hardware is absolutely perfect for the B200 or to be precise for the “Turboprop”. I can say the same for twin-engined piston airplanes, for example the PA-34. The proportions between hardware and plane are rather defensible for these patterns. Unfortunately, I realised an imbalance of the hardware for the model TB-20. This plane does not have such a lot of systems, which necessitate this kind of hardware. But all in all you can say that three kinds of airplanes can be flown in an exceptional good way. Therefore, the integrated control panel of the autopilot is very good for practising: QNH, Hdg., Nav, Altpreselect as well as the VS are

adjustable before starting and they can also be flown after activating the autopilot, including the Flight Director. I can say the same for the GPS and the FMS (Garmin 430, which is available and fully functional).

Gen View and Real View

In the first part of this report, I have already said that I am using this simulator primarily as a training gadget, which makes it possible to practice real flights earlier. As I am only flying on IFR, the description of the environment is normally not so important for me.

But there is also a big and important exception, when there should be a change between the IFR- and the VFR-procedure during the flight. Despite a GPS-navigation, the approach has to be made according to the rules of visual flight – which is a requirement of the air and space law. Then it is important to know about the things that might happen – especially when the weather is “really VFR-suitable”. Therefore, Elite only offers the so called Gen View to show the surrounding, the only exception is Switzerland: the runway is existing and the surrounding is only mentioned schematically.

In principal the Real View-mode of Elite is the better one. The pictures of the environment are almost perfect. But buildings are missing in both modes. At least, there is one point which is very unfavourable – but unfortunately it is typical for Elite. They are announcing that Real View is offered for most parts of the world – especially for Europe. At the moment this is only a promise. This is the negative aspect of a normally positive one, which I really like: when they come out with something new, it works perfectly. About FSX and its add-ons you can unfortunately only say negative things.

Concerning the weather, both modes are very good and they are permitting a dynamic picture of clouds and weather, including influences of wind, freezing and turbulences, which is much more important for a real flight than any buildings or streets.

Elites ATC

Elite admittedly offers Air Traffic Control (ATC) but only for planned scenarios. You can work with it very close to reality. It has to be pointed out that the control screen for the “examiner” of my CPT is a separate one (in the middle, at the same time moving map and MFD). At the end of a flight you can reconstruct the profile of the flight in a tridimensional way. This is especially important for the annual IFR-check flight. You can also practise Holdings very well, which you only have to perform barely in the general European aviation. But in my opinion it is very important to be able to master them. I want to mention also that the sound is very realistic; it does not matter whether you want to disconnect the autopilot or whether you reach the warning limit of 1000 foot ahead of the chosen final altitude.

Flying with FSX

Flight Simulator X offers a lot of different patterns of airplanes. But I have chosen this simulator for another reason: For short distances and ordinary IFR-weather I am normally flying the Twin Star of Diamond. As you might know, this airplane is provided with Garmin 1000, including the Primary Flight Display (PFD) and the Multifunction Display (MFD) as

well as a corresponding Flight Management System (FMS). FSX offers the G1000 in a mode called "Beech Baron". The PFD and the MFD are working in an adequate way, so that it is possible to practice. It has to be pointed out in a positive way that FSX and Elite (including the hardware) are compatible for the pattern of FSX (in the case of the Beech Baron). Magnets, fuel pumps, starter and autopilot etc. can also be used in my CPT without any problems. Also the view on the runway is as real as it gets concerning the conditions of IMC.

A catastrophe is the FMS. Admittedly, it is possible to click on every switch of the FMS with the mouse. But the corresponding functions are either not able to be called up or there is no navigation software deposited. It is hard to understand why this data has not been bought. Today it is normal for a real flight and also for a flight under the conditions of IFR to enter a departure, an arrival or an approach by the PROC-switch. With the G1000-FMS of FSX this is just not possible. Even the Direct-to-function is only usable in a limited way because there are only a few Way Points available, especially within Germany. Elite would never ever launch such nonsense to the market. But probably you have to be Bill Gates to work like that. But there is also a big difference in the prices of Microsoft and Elite.

I was really lucky when I heard that Digital Aviation wanted to introduce the Cheyenne for FSX because normally I am using this pattern for longer distances. I also love the speed of this airplane, what makes the airplane demanding to fly. Just one example: When you are planning to descend a bit too late, the speed can not be reduced enough and a solid approach is barely possible.

After having received the software, which I already have been flown in the FS 9 with a propanel of Elite, the never-ending chaos began with the FSX: the Avoinik could not be controlled, the push lever had its own life, the engine on the left side could not be started, but only the one on the right side etc. Or to say it shorter: In my version (the so called uncomplicated interbreeding-mode of Elite and FSX) this add-on was useless at the beginning.

The next days were really frustrating and I spend a lot of time in fruitless enquiries to producers, developers and also to some fora in the internet. I got some advices from Elite even though they had nothing to do with my problem. After that I analysed the mentioned problems together with the help of the expert, who looks after the hard- and software in my company. It became more and more clear that the three different screens in my cockpit produced the problem. These screens are necessary for FSX and to create the environment. They are run with TripleHead2go and with a Multiplayer-mode.

But it is not possible to turn on these systems at the same time without causing the mentioned faults. Instead it is better to turn on the whole system without the Multiplayer-PC for the environment and to start the Cheyenne completely. After that it is possible to turn on the Multiplayer-mode and the environment.

Like this it is possible to fly the Cheyenne without the mentioned catastrophic faults. The add-on is very close to reality and it permits a perfect practise. Also the sound is absolutely perfect. Unfortunately, I have to handle all of the switches with the mouse, because they are not programmed to be a standard of FSX.

Presentation of the environment of FSX

That the presentation of the environment of FSX is better than the one of Elite is no surprise, especially for Europe (without regarding Switzerland). FSX and its add-ons are using the strength of an amateur. In the meantime I can say the same for my “Homebase Leipzig EDDT” – grace of an appropriate scenario. More visual reality is barely possible.

Regrettable, but also caused by the Multiplayer-system, is the missing of an AI-traffic. TrafficX (like every traffic software) does not work in this mode. But my system allows a real sidelong look so that it is a real pleasure to roll along DHL to the hangar at the runway 26 L after landing – including the attention handling of the “After Landing Checklist”.

Some of the other tools are working only partially in the combination with the Multiplayer. I think, I do not have to say anything about ATC. Flight Express has given detailed reports on this topic several times. I can only agree to the negative impressions.

It is really bad and very hindering that it is not possible to move the airplane freely in this mode. For example: When you have already flown your SID and you have reached the flight level, it is not possible to shorten the distance. But everything has its advantages – concretely there is one for my wife, because the airplane can fly on its own in the Heading mode until we have had dinner together. But seriously, I can not understand this mangle of the tool, especially because it works without any problems in the FS 9.

At the side of the co-pilot there is a new joystick now. New airplanes are operating with them and I want to use this aspect too. Unfortunately, I was not able to get a real Airbus-Sidestick. And now the question of all questions: How expensive was this all? Less than some of the commercial flight simulators, but – seen over a period of almost ten years – more than expected at the beginning.