

First Impressions – Aerofly FS 2 + Windows Mixed Reality

Hardware Used: Homebuilt with Asus Z170-E MB, 8GB DDR4 RAM, I5 6400 2.70/3.30 GHZ CPU (non-OC'd), GTX 1050 TI 4GB GPU OC'd to +220 CORE/+500 MEM, SSD SYSTEM DRV, 7200 PROG DRV, LENOVO EXPLORER WMR HEADSET, TM T16000M CONTROLLER. PASSMARK9 RATING: 3600, 3D GRAPHICS MARK: 7446.

FS2 = Aerofly FS 2; WMR = Windows Mixed Reality (MS version of VR); OC = Over Clock; FS = Flight Simulator

It should be emphasized that this is a "first impressions" review based on 10 hours of usage (per Steam). There is still a lot of learning curve ahead, but for those pondering the purchase of this product, perhaps this info will be useful. Some of my observations may be incorrect (like no ATC).

My FS Priorities: Software Stability, Flight Dynamics, Kinds of Aircraft, Scenery, Affordability (subjective), User Interface. My preference is to fly single engine aircraft, doing aerobatics and sight-seeing.

Objectives: Move to a WMR compatible flight simulator while minimizing costs.

Preface: While these comments focus on FS2, WMR is also involved. The Lenovo Explorer WMR headset was chosen because of its reviews, lightness/comfort, and affordability (\$244 at time of purchase). Know that all of the WMR headsets costing under \$300 (Amazon) provide a view that is focused at about 50% of the center, and loosing focus as you move to the edge. However the periphery vision not being sharp is tolerable in a FS. Fogging is also an issue, which I minimized by running a small desk fan. If you're willing to pop \$500 for a Samsung Odyssey your vision experience should be much improved. Somewhat related is that "under the VR hood" you can't see your keyboard or controller buttons. Your controller needs to allow you to fly using "braille" (plus as one experienced sim flyer put it – muscle memory). I've chosen a Thrustmaster T.16000m HOTAS FCS system (joystick plus throttle) which provides high resolution axis input and more buttons, switches, POV hats, sliders, etc. than you'll probably ever need, yet at \$100 (Amazon) is affordable. The controls on this FCS actually have braille bumps to facilitate VR flying.

Hardware Note: I have an I5-7600K CPU on the way from eBay, which I will OC to 4.5 ghz. I've been bidding on GTX 1060 6gb GPU's, but graphic card prices are insane right now due to cryptocurrency mining (no GTX 1060 6gb cards are in retail stock anywhere, at a price less than 2X MSRP). After these minor "torque" upgrades to my hardware, I expect higher FPS to be achievable (can run with Graphics set to High, and use scenery with photo quality and 3D structures). If you want to know if your hardware can support FS2 + VR, run the Windows Mixed Reality PC Check. Also the SteamVR Performance Test should be getting from the middle of the yellow upward.

And now about FS2...

= PROS =

+ Low hardware resources required to get a good experience. Non-VR (1680x1050 2D) my hardware easily provided a throttled 120 FPS. In VR, with the Graphics set to Medium, the FPS is 60-90 depending on activity and view. Photo quality scenery with 3D structures

drops the FPS further, but FS2 has good lower res scenery also. Setting the Graphics to High or Ultra resulted in juddering when in VR. Medium provides very smooth graphics with no juddering, and a very tolerable viewing experience, using my "medium torque" hardware.

- + Simple to use and fairly self-explanatory user interface. No issues doing what you want to do to customize your flying experience, even for a novice. Quite the opposite of the DCS World learning curve which runs into years!

- + Well modeled aircraft. Flight dynamics (aerodynamic forces and flight characteristics) are well done. High speed and tip stalls will occur (you can't yank up and do a loop, you have to do it properly). Right rudder is needed on take-off due to engine torque. Spins are accurate and recoverable using proper full scale flying methods. After 40+ years of flying RC airplanes, I'm having to relearn how to fly a real airplane like I did when I got my pilot's license circa 1970! FS2 won't let you get away with "yank and bank"! Those of you familiar with how much effort DCS World developers put into modeling their aircraft (which aren't free) will appreciate the work that went into modeling the FS2 aircraft (which are free). Not DCS World aircraft standards, but pretty darn good and plenty challenging.

- + Excellent software stability. The only crashes I've had were the result of pushing the graphics quality, under VR, higher than my hardware could support. I've never had a crash running VR at Medium graphics setting.

- + Good range of aircraft types. Currently there are 18 aircraft, including gliders, wide body passenger planes, single engine aerobatics, WWI and WWII fighters, modern fighter jets, twin-engine general/civilian aircraft. The venerable Cessna 172 is a good place to start if you are an FS novice. There's an excellent flight school for those who have never flown before (I couldn't pass it the first time through!).

- + Lots of well done scenery. Watch some FS2 YouTube videos ([like this](#)) to get an idea of quality. I love flying low over the edge of the Grand Canyon out into air! Well known FS scenery developer ORBX is providing more and more photo-quality-with-3D-structures scenery. The Monterey ORBX package is awesome! I can't wait until they come out with the Pacific Northwest package. These higher quality sceneries make for very entertaining and fun cross-country sight-seeing flights.

- + Relatively affordable solution. Considering the lower hardware requirements of FS2 and WMR, getting a VR flight simulator experience for the "working man" is more achievable than ever before.

- + Time, Winds, and Weather Conditions can be selected -- very easily.

- + Flight plans can be created and followed.

- + [FSWidgets](#) are supported. These add features to flight simulators.

- + There are developer tools for creating aircraft and sceneries. A few user created sceneries are available, but there are no user created aircraft (other than paint jobs). This may be because IPACS wants the models to be accurate in terms of flight dynamics.

= CONS =

Many of the following issues are being addressed by the development team. IPACS has a smaller development team than "the big boys", but they are talented and hard working, and anxious to make FS2 one of the premier flight simulators supporting virtual reality.

- + No ability to create an outside view window to place in your cockpit view. These are especially handy for learning take-offs/landings, practicing aerobatics, etc. There are a significant number of views available, including internal, follow, and outside views, but they can't be "nested" along with another view. To get around this I have my joystick thumb switch set to change views.
- + No ability to search or list locations. Let's say that you want to fly from an airfield you know about in Colorado – Green River. The only way to find it is to zoom out on the "Location" map and scroll to the general area. Nothing is labeled, not even the States, so you scroll the map to where there blue dots in what you think is probably about Colorado. Then you zoom in a lot until the airport names show up, and scroll around looking for the one you want. Then you click on that airport and an enlargement shows up allowing to you choose which end of the runway you want to take off on. Yes, this can all be done with a mouse while you are in VR, which is good. But wouldn't it be nice to also pop up your VR lenses, and search by keyboard for Green River, Colorado. Or say you want a list of all the airports in Oregon. Can't be done.
- + Air Traffic Control (ATC) is not yet supported.
- + There's no way to display keyboard shortcuts, either from within the program or in the documentation. I have created a "cheat sheet" that's been uploaded to the [IPACS Aerofly forum](#).
- + Documentation is at a wiki website. No help is available from within the program by pressing the F1 help key.
- + WMR hand controllers are not supported yet. You can leave your hand controllers off (and get better FPS?). "Magic Hands" are being worked on by the developer.
- + A nice "Flight Information" banner is available in 2D mode that is very useful (not resizable). However this banner is not available in VR mode. A HUD display is available in all modes, and can be resized, but it's color or text size can't be changed to make it more readable against various backgrounds.
- + Video Tutorials on getting started with FS2 don't exist. However there are numerous FS2 videos on YouTube, some covering "how to" things. There is "getting started" info in the wiki documentation.
- + Airplane data tables (containing things like stall speed) are not available within the program. However they are in the wiki documentation.
- + No settings of any kind can be saved. You can't deploy multiple versions of settings.
- + No multi-player capability.

+ "A man with one watch knows what time it is. A man with two is never sure".
Unfortunately (or fortunately?) there are two forums for FS2 – one on an IPACS website, and another on the Steam website. This is rather confusing and prone to missing info for those seeking answers.

= Ratings = (scale of 1 to 10) SUBJECTIVE!

Performance Requirements: **9** (works well on a "normal" gaming computer)

Overall Usability and Realism: **7**

Stability: **10**

Aircraft Range: **6** (I have high expectations after using FSX for many years – I want the Aeronce Champ I solo'd in!)

Aircraft Quality/Accuracy: **9** (includes flight dynamics)

Scenery: **9** (both medium and high resolutions available)

User Interface and Customization: **7**

Help/Documentation: **6** (thank heavens for the FS2 forum!)

= Summary =

After using/testing/reviewing FSX, Parpar3D, and X-Plane, I've committed to FS2 as being the "full scale" flight simulator that best meets the objectives stated at the top. For many years I have also used the Aerofly and RealFlight RC sims (in fact I tried using an RC transmitter for a controller for FS2). So I am somewhat familiar with flight sims. I am finding that FS2 has the best balance of features for my modest "flying for fun" needs. The accuracy of aircraft behavior, and ability to sight-see, make it both challenging and entertaining. The "affordability" factor is a big plus in my opinion. The software stability is icing on the cake.

FS2 has been called the "arcade" version of flight simulators, compared to others. From my perspective that is not at all true. But I am not trying to use a sim to get a job flying for an airline. I have discovered that FS flying in VR is totally awesome. There's no way I would go back to 2D monitor flying. It just can't compare to the realism and immersion of VR. When I fly through clouds I swear I can actually smell the moisture! What more can you ask?

P.S. By the end of 2018 the [FlyInside Flight Simulator](#) (FIFS) should have been shaken out and worthy of investigation/trial (current estimates are for a Spring 2018 "early" release). In terms of price/performance, this will probably be the closest competitor to FS2. It will be critical for IPACS to get a good installed base of FS2 users before FIFS gathers momentum.

- = Roy Pettit = -

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