# AVSIM Commercial X-Plane Aircraft Review

## Pilatus PC-12/47

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<th>Product Information</th>
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<td><strong>Publishers:</strong> Shade Tree Micro Aviation</td>
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<td><strong>Description:</strong> X-Plane aircraft add-on.</td>
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<td><strong>Download Size:</strong> Unknown</td>
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**Reviewed by:** Ted G - AVSIM Contributing Reviewer - April 4, 2011
Who is this guy writing a review?

Like many of you folks out there, I am an avid fan of flight simulation, run a reasonably modern PC system and have a main interest in prop-driven aircraft. In my case I started out with MSFS on a 9” black and white Mac Classic, progressed through the amazing Jane’s sims (especially Longbow Gold), EECH Commanche-v-Hokum, and IL-2. I was also lucky enough to work visual systems for WAC and Dome-based full Level-D FM simulations-mainly rotary wing.

Back in 2008 I got a copy of FSX after years away and was immediately hooked. It ran ok on my older Dual Core box and was hooked after getting setup with a virtual airline. Fast forward to the present and I am now active in a couple of excellent VA’s and VATSIM. With one exception the aircraft I fly are all props!

Ok I throw my hands up and confess to recently enjoying the odd heavy metal flight in a 757. But my most enjoyable time spent in front of the PC screen would be droning along in an ATR72-500, flying low and slow in a DH-6 Twin Otter, and-the subject of this review-the PC-12/47.

FSX vs X-Plane…not going there here:

Oh yes, why review this for X-plane? Simply put, I was recently convinced by a pioneering member of management at the EuroHarmony VA (Alexander EHM-1991) to give the current version of X-plane a fair shot. Why? Simply because I find FSX to be annoying in many respects.

The file structure, the mess it makes within the registry, and the fact that what is in effect 6 year-old legacy software runs like a dog on even the highest-end of modern systems. Heck you generally see more threads on fixing issues and getting the software to run properly than there are actual discussions of flight! The opposite seems to be true when browsing around the X-Plane community.

So being the daring type I ventured into the unknown and after a wee bit of guidance have X-Plane running with fluidity I do not see in FSX. In addition I honestly feel the flight modelling of X-Plane with regard to prop aircraft just “feels right” and not the sort of “on rails” feeling one can get under FSX.

Reviewer’s Note: I fly both simulation packages and enjoy each on its own merits.

Alrighty then, let’s chuckle and we can discuss the merits pro/con for the individual simulator software on the forums. After this sort of introduction cum soapbox non-rant it’s time to dive into the PC-12/47 and see what we’ve got here!

Meet The Developers:

Shade Tree Micro Aviation (or STMA) is a company that has a business goal of “….to have fun turning out quality X-Plane models. We build models for Precision Flight Controls, Inc, a leading flight simulator manufacturer.”

I don’t know about you, the dear reader, but I am personally always happy to check out an “about
us” page on the developer’s website and actually discover that real (and interesting sorts) folks that take a great deal of pride in the work produced are right there.

Another telling quote: “Shade Tree Micro Aviations Crew is made up of painters, designers, real pilots, and technical experts. We bring real aircraft into X-Plane using pilot operating manuals, aircraft operations manuals, and experience. This ensures our aircraft are as realistic as they can be within the X-Plane world.”

To be fair that’s a lot to live up to. STMA’s Jim McNeill (“Papa Mac”) has been quite open, responsive, and cooperative in answering my questions regarding the aircraft and this goes hand-in-hand with the expected support. The personal touch means a lot when one usually has to sign up for a forum, wait for admin approval, and then it’s a crap shoot of when/how the question might get answered. Score more for the little guy!

**Finally, the PC-12/47:**

I have enjoyed flying a rather nice freeware PC-12 in FSX. As the default aircraft within X-Plane are not the greatest (I am being charitable here) I looked around for a quality payware aircraft and after initially considering the MU-2, I settled on the PC-12 for familiarity’s sake.

The PC-12 is a single-engine high performance turboprop aircraft. In researching this review I discovered that the initial development of the PC-12 program by Pilatus was a direct response to the popularity and success of the Cessna 208B. As a little historical nugget, the launch customer for the aircraft was the Royal Flying Doctor Service of Australia, and STMA tips the hat to that history as we shall soon see.

Visually the PC-12 looks a Corvette to the pickup-truck style C208B. Sheer performance by the PC-12 matches the looks and the 12/47 (also known as the NG) version offers up-to-date avionics, improved flight handling, crew cockpit comfort improvements, a handy left side full-size cargo door, and a significant boost to MTOW.

**Purchase and Installation:**

Purchase is straightforward via the x-plane.org (“the org”) shop. Installation is a snap. For those not familiar with X-Plane there are no registry entries and aside from X-Plane itself no actual installers. Once purchased, I was immediately provided with a download link, unzipped the files, and dumped them into the airplane’s General Aviation folder. Job done.

Well…almost done. In a good way. There are a couple of plug-ins that needed installing for handling checklists and for interfacing with some neat gizmo’s that are part of STMA’s package. And again, installations are simply drag the folder to the right spot per the documentation and forget about it!
Reviewer’s Note - It’s a treat to just download things, chuck them in, and they just work without fiddling about. My fellow MSFS users who play with payware will understand the little nag in the back of the mind “umm, is this installing right? Should I defrag? Launch the default aircraft and load this over the top? Sacrifice a chicken?” This is one of the dubious “charms” within FSX I could do without!

**Visuals and Internal/External Eye Candy:**

Depending on how X-Plane is configured the PC-12 loads either ready to fly or in “cold and dark” mode. As you can see from the images, the wheel chocks, “remove before flight” flags, and intake cover are all present. The passenger door, engine compartment hatch, and main cargo door are all fully operational and can be triggered using the STMA Preference Dock accessed from the left side of the screen.
You can also change the configuration on the fly from luxury passenger to medical evacuation. The same goes for the liveries of which several are included. Some repaints might seem obnoxious to some but I like bright vibrant colors in my simulated aircraft. As mentioned earlier the RFDS livery is present and combined with the air ambulance interior option is a fine salute to the real world launch customer.

During flight the exterior model looks as it should and when the flaps are deployed they look correct in all aspects. The exterior lights are also fully modeled. I was puzzled about the taxi/landing lights turning off automatically when the gear was raised until in asking Jim McNeill I was provided with a real-world image showing yes both sets of lights are attached to the gear and do not turn on unless the gear is down.

The Office

I will say right off, that this is a split-personality of a cockpit. It is presented only as a VC with no 2D panels available apart from pop-up/zoom segments. In just looking at the panel, all instruments appear to be correctly modeled and closely resemble what is found in comparison images of real aircraft. A version of this model is used to train real world PC-12 pilots.
The instruments and avionics all appear to act and indicate as expected. The overhead panel is also fully modeled and in following the various procedural checklists, the gauges display properly. The one test that took me a little while and a visit to the support forum was the “pusher test”, a combination of button holding and elevator dragging on the stick. There is also some further external eye-candy involved here: when the external power is selected, a nifty start cart appears to starboard and plugs into the aircraft on the port side.

You will also notice the little STMA remote control unit attached to the left side window. This unit controls a neat little tug for pushback as well as more eye candy in the flavor of hangar door controls for your own personalized hangar.

While the weather radar implementation in X-Plane is “crude”, precipitation will be seen on the display if enabled (note the weather radar pod on the right wing).

The checklister plug-in is fully supported and detailed procedures are a click away. In addition, the aircraft download included multiple .pdf files covering the avionics, pilot information manuals, and a product overview guide specific to STMA.
I think the inclusion of a tutorial/quick start guide would have been helpful as not everyone wants to plough through the real world instrument manuals.

The cockpit is let down by the inclusion of some rather dubious visuals and the lack of 3D instrument eye candy. To be fair I don’t fuss much about that as long as instruments are pin sharp, easily readable and fully functional.

Introducing major 3D models will also hit frame rates. But I have to say the EFIS control unit is just nasty.

When I asked Jim McNeill about this he confirmed that this particular segment of the panel was not at its best, along with the lack of overall “crispness” to the gauge labels and displays and they would be looking to improve this in a future release.

Night lighting in the cockpit is fair. In my download version, the EFIS controller was not even backlit; however, this was quickly sorted out after a quick email to Jim and while that particular segment of the panel looks ugly it is now visible in a darkened cockpit. The overall level and control of the night lighting was improved somewhat at the same time. Again this would be an area that could use improving.
The avionics and AP work well within the current constraints of the X-Plane AP system. The altitude pre-selector is present and functional (this does take some getting used to). One area I find somewhat unpleasant, and this is an X-Plane issue, are the GPS/FMS units which hopefully will get a complete rework in X-Plane 10. They do the job but having the radios integrated in the twin GPS stack is not pretty on the eyes and the pseudo-FMS is functional in an annoying and ugly fashion.

I have been testing FS Commander via the XUIPC interface as an alternative but I don’t like having to pull my head out of the cockpit. Folks may complain about the default FSX GPS unit, but it looks and functions a ton better.

Having knocked the GPS/FMS stack I will say the ILS system and approach modes are excellent. During a recent VATSIM flight, the controller vectored me late to the feather and the approach mode caught the feather and fully locked it with no deviation. There is an AOA indicator in the VSI and combined with excellent H/V cues, instrument landings are a breeze.

Full ADF/VOR NAV functions are present with twin ADF’s. The transponder unit is also fully functional and for online flight controlled from the cockpit, switch to “ALT” mode when entering active runway.

**Flight Model**

I am not a real world pilot so this becomes a somewhat subjective exercise. I will say that it “feels” real to me and in looking over the data sheets and performance models compared to what happens during simulated flight, I would have to give the aircraft a “well done” in this category.

The engines act as expected, and you can expect a serious pull to the left on the ground and during climb out until the yaw damper is engaged. Be prepared to put input a lot of rudder to counter that powerful torque.

I tend to fly ”by the numbers” and have found the plane reacts well to this sort of handling. It is fairly easy to hand fly (once the YD is on!), can be a bit tricky to trim at times, and when it stalls it takes a nose down attitude and can turn VERY quickly to the left if uncorrected.
When in normal flight modes, the controls are very responsive and react quickly and accurately to input. When flying slow and on approach, the PC-12 is just a terrific handling machine. I found smooth landings to be plain easy and was interested to note in research that an Aviation Week test pilot found it much the same.

I found the aircraft’s sweet spot for cruise to be in the FL230-250 range where the performance seemed optimal along with fuel consumption. I did try to go for FL270 with a full load of fuel and cargo and while I got there, the plane was not too happy about it. Service ceiling is one thing, reality is another and according to Jim this is accurate behavior based on the PC-12 pilot involved in development of the model. And the PC-12 simply zooms in that FL230-250 sweet spot.

The PC-12/47 has reasonable short field abilities as well, although I would not consider this or treat it as any sort of bush plane. It does come to a stop very quickly and the takeoff run is reasonable at 15 degrees flaps and a full load.

I think the flight model will make any pilot smile.

Sounds

My overall impression of the audio environment is very favorable. The engine noise and pitch sound good, the flaps whine properly, the altitude callouts and glide slope warnings are accurate and not excessive. I did note that while using XSquawkbox I had to turn the incoming voice up quite a bit but that may have been the ATC controller’s microphone.

The “sink rate” call did make me chuckle. It comes on in the right place but the voice is different from those I have heard in the past. It’s sort of like the standard voice on helium...maybe you just have to listen for yourself.

Performance

One of the lovely aspects about X-Plane is the relatively easy scalability of the simulator to a given system. I run at fairly high (although realistic) settings even on my machine and did not notice any performance hit flying this aircraft.

To be fair once I set my preferences in X-Plane I turned off the FPS counter, installed the Clear Skies plug-in, and have not felt the need to check FPS since (unlike FSX where you might be happily zipping along at 30fps and for no apparent reason it starts fluctuating into the teens and high single digits despite no apparent change to the visual scene....you guys know what I’m talking about!).

Summary
X-Plane may be the subject of much debate within the flight simulation community. But it is undeniable that quality payware offerings are out there that will enhance any pilot’s hangar and enjoyment of flight. The current X-Plane v9.6.7 is mature code and with the likes of Carenado and Aerosoft crossing over in support the future is bright regardless of how long we have to wait for X-Plane 10.

And in the form of Shade Tree Micro Aviation we find an already existing product base with a communicative, involved, and responsive development team. Little gems included in the package (the STMA preference window and remote control to name a couple), and a frankly excellent value for money offering in the form of the PC-12/47 airplane.

Perhaps you have just picked up the X-Plane version of Air Hauler and are looking for the right plane with which to dominate the cargo world? Maybe you’re a VA looking for the perfect charter/small market feeder/special ops aircraft? Or maybe you just enjoy flying an accurately depicted aircraft out of sheer joy. Whatever the reason the PC-12/47 will fit the bill and I suspect will get even better in future releases.

<table>
<thead>
<tr>
<th>What I Like About The PC-12/47</th>
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<tr>
<td>● Flight and systems modeling</td>
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<td>● Procedural modeling</td>
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<tr>
<td>● External visuals and repaints</td>
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<tr>
<td>● Value for money</td>
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<tr>
<td>● Stability</td>
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<td>● Support</td>
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<th>What I Don't Like About The PC-12/47</th>
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<tr>
<td>● The ugly EFIS panel.</td>
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<tr>
<td>● The GPS units (although that’s more an XP issue).</td>
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Pilatus PC-12/47
(adobe acrobat required)

Comments?

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