

AVSIM Commercial Aircraft Review

PBY Catalina



Product Information

Publishers: [Aerosoft](#)

Description: World War II-era flying boat.

Download Size: 308 MB	Format: Download or CD	Simulation Type: FSX (with SP2 or Acceleration)
Reviewed by: David Wilson-Okamura AVSIM Senior Staff Reviewer - June 16, 2009		

Introduction

2009, as I remarked in my last review, has already been a very good year for FSX models of World War II-era aircraft. So far we've seen fighters: a P-47 Thunderbolt and early variants of the Fw-190. But for more than two years now, Aerosoft has been working on a model of the PBY Catalina, a long-range flying boat that was in production for the whole duration of the war and served over three oceans in various capacities: scout, sub-killer, search-and-rescue.

The project got bogged down, and then restarted with a new modeling team. It's out now: very polished, with high frame rates and -- what's also important -- affordable.

Installation and Documentation

I tested the download version. Aerosoft's installer program is one of the easiest that I know of. You need to enter a serial number, which in turn is linked to your email address, but if you need to reinstall later you don't have to obtain permission from Aerosoft, as long as you keep the serial number.

That isn't something that you think about when you're installing the product for the first time, but if you ever suffer a hard disk problem, as I did last fall, you'll be grateful.

When everything installed, the free space on your hard disk will have been reduced by about one gigabyte.

The PDF manual is in English and runs to 440 pages. The first 28 pages are specific to this model and detail how to operate the various systems. The next 72 pages explain the modern avionics, which are licensed from Dr. Don Kuhn and feature the Bendix/King KLN-90B. This is the same GPS that was sold in Kuhn's version of the Pilatus PC-12 and, more recently, the Aerosoft Twin Otter. The KLN-90 is less intuitive than the default Garmin 500, but also, in some ways, more flexible -- hence the extra pages of documentation.

The rest of the manual -- 340 pages -- is reproduced from a real-world Pilot's Operating Handbook. This includes emergency procedures and more performance data (including numerous graphs and charts) than I know how to make use of.

Like most Aerosoft products, this one puts its manual on the product web page, where you can download it for free. I like this policy, because it gives the customer an opportunity to study the product -- and to find out about any known limitations -- before committing any money.

Test System
Core2Quad Q6600 @ 2.4 GHz 4 gigabytes RAM Nvidia 8800 GT (512 Mb) Samsung 20" widescreen LCD (1680 x 1050) Windows XP Pro SP2 TrackIR 3 with Vector Expansion CH pedals, yoke Saitek X45 throttle Sidewinder Precision Pro joystick Sound Blaster X-Fi XtremeGamer sound card Logitech X-540 5.1 speaker system
Flying Time: 15 hours

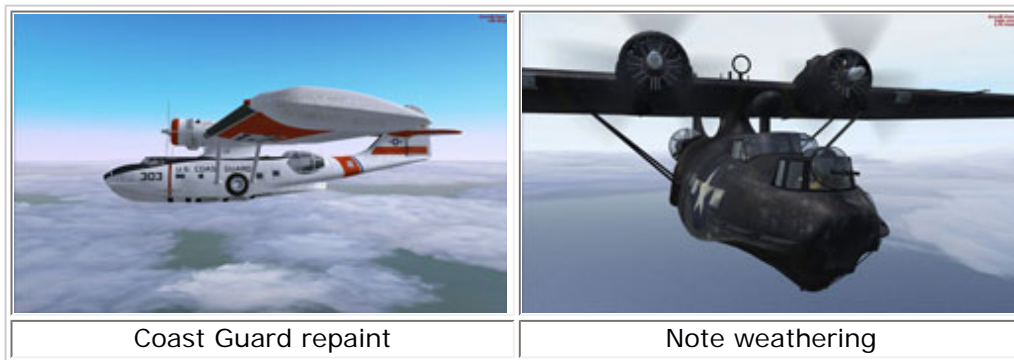
Exterior Model



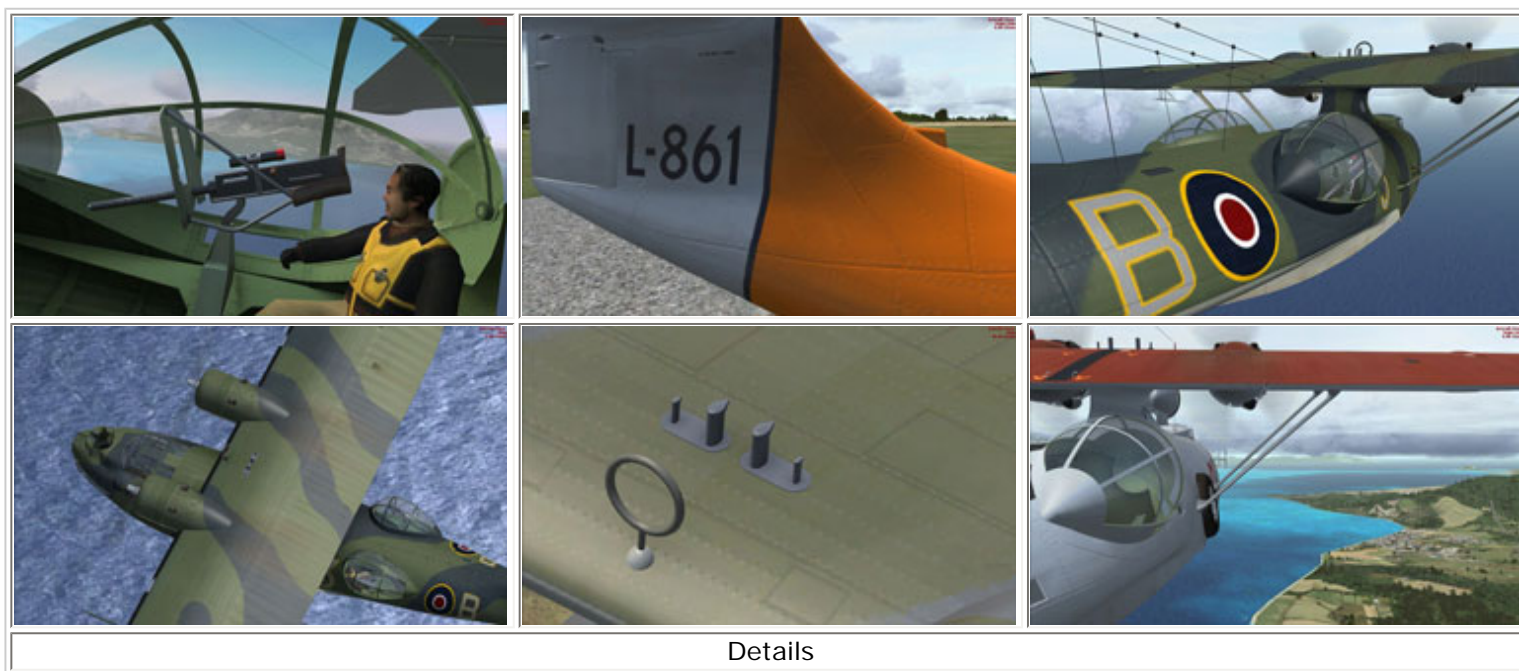
The package comes with six basic models, with some types having additional variants:

1. PBV-5: Floatplane only, with an option for non-retractable beaching gear for operations on land. Within this model there are four variants: for example, one variant has a radar dome over the cockpit; others have one gun in the bow turret instead of two.
2. PBV-5A Military: Includes retractable, tricycle-style landing gear (the A stands for “amphibious”). Within this model there are five variants; all have 1940s-era avionics, including a Sperry autopilot.
3. PBV-5A Civilian: Another amphibian, retrofitted with modern Bendix/King avionics. Includes waist turrets, but no guns or radar. The Catalina was produced in greater numbers than any other float plane in history. After the war, when fighters were getting scrapped, Cats were converted for civilian use and their services lives extended for several more decades.
4. PBV-6A Military: Another amphibian. To distinguish 6As from 5As, look for a narrower tailfin on the 6s. Within this model there are two variants; both have vintage avionics.
5. PBV-6A Civilian: Another amphibian. Within this model there are two variants, both with modern avionics, no guns, and no radar. One of these lacks waist turrets.
6. PBV-6A Danish: Gunless amphibian with 1940s-era avionics and a massive radar bulb over the cockpit. Used for search and rescue.

In addition to various types, there are also multiple liveries, not to mention user-contributed repaints.



The standard animations are all here, including multiple windows, cowl gills, and retractable floats (which become wingtips when they're retracted). Military versions have uniformed pilots and gunners in the waist turret; civilian crew members are dressed accordingly.



This brings us to a general point about the model as a whole: "I have," in the words of Shakespeare, "seen better faces in my time." Not that I'm complaining.

A lot of care has obviously gone into bump mapping the plane's surface (so that, for example, seams and rivets cast shadows in 3D) and weathering the textures. But the level of detail, both of 3D structures and of textures, is not uniform. I understand this to be a deliberate strategy and I wish more developers would adopt it.

As someone who likes to fly planes, as well as make screenshots of them, I want modelers to compromise. A model that

looks perfect but is unflyable because of low frame rates is, to me, a waste of money. With this model, Aerosoft has struck what I think is the right balance. Viewed from a distance of, say, one yard, some of the features look blocky: for example, in the waist turrets. But zoom out to a normal distance of, say, five yards and there's nothing to criticize: for example, when you're looking back at the nose or down at the wings.

Virtual Cockpit

This principle applies in the virtual cockpit (VC) as well. The things that you look at all of the time -- the instrument panels, the window frames, the throttle levers next to your head -- these are as sharp as you could ask for. There's less detail in the passenger cabin, but since this is Flight Simulator and not Passenger Simulator, who cares?

The military models all have a separate radio room, located in the wing pylon above the cockpit, where you can tune the various radios using custom, vintage-style gauges. If you tune one the right way, you can even listen to "Lili Marlene." But the rest of the room isn't modeled; again, this is for the sake of frame rates. Likewise, if you want to sit in the waist turrets, you'll need to do it from the exterior view (where the turrets are already part of the model) rather than the VC (where the turrets aren't needed).



The chief modeler on this project was Stefan Hofmann, who's Hughes Racer I reviewed about this same time last year. Everyone, I believe, agreed that the Racer had one of the better-looking cockpits of 2008; and everyone was doubly impressed by how high the frame rates were. It's still one of my favorite models, and a few months ago Aerosoft even lowered the price.

The Catalina has a larger, more complicated interior; but if anything, it looks even sharper than the Racer -- and it still gets high frame rates. The main innovation, compared with the Racer cockpit, is the use of 3D gauges that are built-in to the cockpit model. This is the same technique that was used in the A2A Thunderbolt and Classics Hangar Fw-190A that I reviewed this spring; it makes the gauges look better, move more fluidly, and (again) helps with frame rates.



Another feature that's new in this model is an interactive checklist. Aerosoft has been playing around with these for awhile. For example, its Beaver can recite the checklist out loud for you -- if you really want that. The new checklist seems more useful, because it checks what you're doing (something like a copilot). For example, if you check off "Check hydraulic pressure" on the Power Up checklist, and the hydraulic pressure is actually low, the checklist will indicate that visually.



There's a video on the product web page that shows how the checklist works. There's also a 3D look-around so that you can study the VC from the pilot's seat without actually buying the product. Pay special attention to the window latches overhead and to the electric motor behind the throttles; the modeling here is exquisite. (You can't zoom in close enough in the preview version, but if you do end up buying the Catalina, take a moment sometime to read the plate on the electric motor.)

Sounds

The sounds of the Catalina's radial engines are credited to Nick Schreger of Meatwater Studios. Rather than try to describe them, I refer the reader to YouTube, where you can search for the keywords aerosoft catalina and listen to them for yourself.

Sound cones are not implemented, but the product does include something called Aerosoft Sound Control (ASC). This feature (which we also heard on last year's Hughes Racer) increases the number of sounds that are possible, beyond what is normal for FSX.

So in this model, we have sounds for toggle switches, sounds for levers, sounds for engine death, sounds for the windshield wipers (which are animated in the virtual cockpit and can operate at two different speeds), sounds for the fuel selectors, sounds for the (non-functional) APU, sounds for the trim dials, and sounds for the water (when the Catalina is floating).

ASC is similar, in this regard, to the sound module in A2A's Accusim. The big difference I notice so far is that Accusim has a muffled engine sound when the canopy is closed.

Flight Model

With every aircraft review, I try to find a new way of saying it, but the unfortunate truth is always the same: I am not a pilot. My impressions, for what they are worth, can be summarized quickly. The real Catalina was slow: slow cruising, slow climbing, and slow turning. All of this is reflected in the flight model. Also reflected are the influence of floats and cowl gills on drag.



Since this is a float plane, prospective customers are going to want to know how it handles on water. The manual says, first, that FSX models this rather badly and, second, that this product improves water handling somewhat. I don't have the experience to evaluate either claim.

I did change my controller settings, so that left and right engines were controlled separately. I was hoping that this would give me better steering control on the water, but in practice I noticed little difference; this may be because the engines on a Catalina are both close to the center (which, for the purpose of turning, serves as the fulcrum of a lever). Again, I don't have enough experience to evaluate the results.



What does stand out is the attention to engine management. This was a feature of Hofmann's last project as well, the Hughes Racer. Again there is a parallel with A2A's Accusim (and before that, with Digital Aviations Dornier Do-27, which I reviewed here two years ago). If you run the engines too hard, they will quit on you. You need to monitor the cylinder head temperatures, open the cowl gills if temps get too high, and keep your oil temperature under 100C. Again, Accusim takes into account more variables, but both systems are converging on the same goal, which is greater realism.



You'll need to monitor engine temperatures

If you don't want more realism (or just don't have the energy for it on a particular flight), you can turn it off in the interactive checklist. The same is true for the startup procedures, which can take a couple of minutes, depending on several variables. (Again, there's a video on YouTube that will take you through the whole thing; search for the keywords aerosoft catalina.) With one click, you can reset the whole cockpit for a cold-and-dark start; or, with another click, you can be running and ready to fly in about five seconds. This level of flexibility is welcome.



Night lighting

Performance

I've commented on this a couple of times already. Frame rates for this product are on the high side: somewhat lower than the defaults, but higher than most payware, and very high for a model of this size and complexity. The one thing you seem to need is a healthy amount of memory.

I have 512 MB of RAM on my video card and about 3 GB of usable RAM on my motherboard: that seems to be enough. There is some texture lag, when I switch between exterior views and the virtual cockpit, but that only lasts a couple of seconds.



Brief texture lag when reloading VC

Conclusion

The download version sells for 28 Euros, the boxed version for 30. In US dollars, the price is about \$33 for the download (presumably because non-EU customers don't have to pay VAT).

If you don't mind slow -- and I'm referring to cruise speed, not frame rates -- this is a very attractive package. What sets it apart isn't any one feature -- other products have more detail, or more sophisticated engine modeling -- but the combination of features, performance, and price. It looks sharp, especially in the VC; it's smart about trading detail for frame rates; and it's affordable.

Another AVSIM Gold Star for the crew at Aerosoft.

What I Like About The PBY Catalina

- High frame rates
- Beautifully-rendered virtual cockpit, with 3D steam gauges and a choice of modern or vintage avionics
- Sophisticated engine modeling when and if you want it
- More sounds than the default system allows
- Lots of variations in the external model
- Extensive documentation
- Affordable

What I Don't Like About The PBY Catalina

- There's an art to flipping some of the cockpit switches

Printing

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Comments?

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