the Ampeer

Review: aerofly RC 7
RC Flight Simulator for the Mac
Standard Version 7.0.7
Ipacs of Germany http://www.ipacs.de
By Ken Myers

With my left arm in a sling for at least six weeks, while recovering from rotator cuff surgery, I needed something to occupy my mind and time.

I remembered seeing an ad for the new aerofly RC 7 RC Flight Simulator on page 119 of the April 2014 *Model Aviation*. The interesting thing, for me, was that there was a Mac version.

I've owned, and used, four other RC flight simulators; the Dave Brown simulator for the Apple IIe/GS, MachineWorks NorthWest: CockpitMaster, Reflex XTR, and the free FMS flight simulator supplied with a Dynam USB 6-channel transmitter-type game controller purchased from NitroPlanes. The Dynam controller now comes with the ClearViewSE RC Flight Simulator.
http://www.nitroplanes.com/newrcte6chfl.html

I'm not a huge fan of RC flight simulators for learning to fly RC planes. NONE of the previously mentioned simulators provided the field of vision found at the flying field. The perspective is not correct and the peripheral objects, to help the pilot stay aligned with the runway at the real field, are not available on the virtual display.

After using the previously mentioned simulators, I believe that even the $20 NitroPlanes Windows based flight simulator, with the USB 6-channel transmitter-type game controller, is 'good enough' for RC flight training purposes.

Since I only am interested in non-rotary aircraft, I concentrated on the functions and features for them. Most RC flight simulators are good for learning the basics of rotary flight. Typically, RC rotary flight does not require as large a field of vision as airplanes.

A visit to the Web site listed in the ad, http://www.ikarus-usa.com, found all of the Mac versions listed as out of stock.

A Google search lead to the Mac App Store where aerofly RC 7 is available as a

download. The Standard version was listed for $44.99. With the MI sales tax added, it was $47.69.

The Google search also lead me to the aerofly RC 7 Web site, where they noted that the Mac version is available in the Mac App store.

http://www.aeroflyrc.com

There is a comparison chart on the aerofly Web site that compares the features of the Standard, Professional and Ultimate versions of the program.

http://www.aeroflyrc.com/compare.html

Using the aerofly compare page, it seemed that there was a difference in what was listed for the Standard Windows version and what I received as a download for the Mac.

http://www.ikarus.net/aeroflyrc7-versionen/?lang=en

The comparison page on the Ikarus Web site shows that the comparison page on the aerofly site is incorrect. It is shown correctly on the Ikarus site.

The search also lead to the download for the manual.

http://dl1.aerofly.com/aerofly-rc-7-manual-english.pdf

After checking the system requirements, it was downloaded onto my 17-inch, 2011, MacBook Pro. The manual also indicated that the Mac versions were available at the Mac App Store.

It was a good thing I downloaded the manual. There was no manual delivered in the HUGE download.

Version 7.0.7 was downloaded from the Mac App store on March 31, 2014. It is a HUGE application and took **many, many hours to download** using my very slow DSL connection.

A through reading of the manual was completed while running the program to learn each feature. The manual, covering all three versions, documents the Windows versions with no mention of Mac alternate keys.

For Example - from the manual "In order to achieve the different viewer positions in the multi-pano sceneries, press the Page Up/ Down keys. The keys 'V' and 'B' are only for switching between the different model positions."

There are no Page Up/Down keys on my MacBook Pro. One way that Page Up on the Mac is accomplished by pressing and holding the fn key and tapping the up arrow key. Page Down is

accomplished by pressing and holding the fn key and tapping the down arrow key.

The Page Up/Down keys are used to change to different flying areas in a multi-panorama scenery, which is a venue with more than one flying site, like the AMA site in Muncie, IN.

I also found several **undocumented features**. **They include:** Press the spacebar at any time to **return to the original take off position**.

Use the scroll wheel on the mouse to **increase or decrease the field of vision**.

For a hand launch, place the cursor over the aircraft until the cursor changes to an up arrow over a down arrow. Click and hold the left mouse button and move the aircraft off of the ground. Throttle up. Let go of the mouse button. Grab the transmitter stick and start flying. That is very much like hand launching by yourself. Also an aircraft can be hand launched from a 2 meter height by pressing the J key or 50 meters by pressing the H key.

The manual, on page 16, showing how to lift and lower the model off of the ground, has the cursor switched with the turn model cursor. The photos are reversed.

To use the **glider tow feature** requires a second controller to be set up and the two player splitscreen view to be used. The tow plane is not automatically programmed into the simulation and must be flown.

US units (Simulation, Simulation setting, language) don't appear to be activated in the Standard version. The aircraft descriptions remain in metric units and do not change when US units are chosen.

Setting Up the Program and Controller

There are a lot of choices for input/controller devices. The choices include your own transmitter via cable or wirelessly with your own wireless receiver and adapter and any brand of transmitter-like USB controller.

http://www.aeroflyrc.com/input-devices.html

Since a Dynam USB 6-channel transmitter-like controller was on-hand, it was attached to the laptop and the program started.

The manual noted, "If you connect an USB controller to your computer at the program start, which has not yet been calibrated in the aerofly-flight simulator, you will first be asked whether it is a transmitter, joystick or a gamepad."

That did not happen. I had to choose PPM from the Controller drop-down menu before the input device setup and calibration would start. Sometimes I also had to choose PPM from the Controller drop-down menu after the computer had been shut off over night before it recognized the transmitter-like USB controller again.

The controller calibration was easily completed following the on-screen prompts. I did have to return to a previous screen and recalibrate the elevator maximum throw.

The program did NOT have to be activated as noted in the manual. My guess is that activation is taken care of by downloading from the Mac App Store.

Once the transmitter was calibrated, a glow high-wing trainer, a Great Planes PT-40, was presented automatically and positioned on the default runway, Bennet Flying Field in Nevada, USA, with its engine running.

I could not resist taking the plane up for a short hop or two. I thought, "Wow! This is set to the best field of vision/view I'd ever seen." Landings from both directions were very realistic!

After using the simulator for several days, I thought that I was not satisfied with the location of the center of gravity (CG) and the preset throws on some of the airplanes' control surfaces.

Using dual rates tamed down some of the control surfaces for my type of flying.

Selecting Aircraft

Aircraft are selected from the main menu Aircraft, Load Aircraft or the Quick Launch menu.

There are several folders displayed in the Select aircraft window.

The Folders include; All models, Airplanes - Gliders or Jets, Helis, Gliders, Jets, Floatplanes,

True Scale, Favorites, Recently flown, Never flown, Pro, and Ultimate. Each of the folders is describe in more detail in the online version of this issue.

Other options on the Select aircraft screen include Display mode and Sort by.

The right pain of the Select Model window shows the model selected and information about it.

Other options that may be available in the right window pain, depending on the aircraft and program version. They might include the Paint scheme, and a Scaling feature. More information on each feature is included in the online version of this issue.

Scenery

Besides providing a place to fly, is the key that unlocks the special features of the program. There are six different venues included in the Standard version.

The differences between the three types of scenery are NOT described in the manual. I have provided the information on the types of scenery in the online version. The scenery types include; 4D Sceneries, Multi-Panoramas and Panoramas.

There are also folders for **Favorites** and **Recently visited** and preview folders for the scenery found in the Pro and Ultimate versions.

Four of the six fields provided with the Standard version have what the manual notes as 'contests'. I call them tasks or skill building experiences. They include; Balloon popping, Limbo flying, Pylon race, Air race, Landing contest, Autorotation landing. Only Balloon popping, Limbo flying, and Landing contest are available in some sceneries in the Standard version. There are also indicators as to whether a winch or helper is available to launch a sailplane. If a sailplane winch or helper is not available at a particular venue, the keys J and H can be used to launch a sailplane from two different heights or the mouse can be used to raise the aircraft to hand launch height.

Right clicking on any part of the active scenery brings up a **Quick launch menu** of the most frequently used functions available at that venue.

The Instruments and Information Window

This feature presents in-flight instruments and information in the form of small, relocatable,

transparent windows on the main screen. Sometimes their default placement makes them difficult to see.

In-flight Information includes; Binoculars, Transmitter, Model functions and a Console. They are explained in the online HTML version.

Instruments include the Compass/Wind direction, Variometer, Tachometer and Landing assist.

Point of View (POV) or **Various Camera Modes**

There are very good technical reasons for what the user sees on screen being called camera positions, but I find it easier to understand calling it the viewer's POV.

Your field of vision is what you see when you are looking at something. Your focus is best in the center of the field of vision and the diminishes on objects towards the periphery.

All of the following are found in the View menu or one of its sub-menus.

The field of vision, how large the area is that the user is focusing on, can be set in the sub-menu Camera Settings or by using specified keys to increase or decrease the field of vision. The scroll roller on a mouse can also be used to change the field of vision. This is NOT documented in the manual.

The V and B keys may be used to select alternate aircraft starting positions at a given venue.

There are several viewing modes. They include; Fixed view mode, Follow mode, Pivot mode, and Cockpit mode.

Camera Settings are found as a sub-menu of View.

Moving the POV and the Model

The POV can be changed by holding down the left mouse button and moving the mouse.

The aircraft's position can be changed by placing the cursor over the aircraft, notating the cursor change and then dragging the mouse. This is very handy for hand launching.

The Controller Menu

The Controller Menu sets up and calibrates the controller. The advanced options allow and assign functions to specific switches, buttons and sliders on the transmitter or keyboard. Dual rates and expo

can also be set up or the ones from a real transmitter used. Up to four different transmitter configurations can be saved.

There are special notes for using the throttle channel with helicopters and gliders.

For fun, a second controller can be attached. When a second plane is added, the default is to split the screen vertically. That can be changed to splitting the screen horizontally or having no split screen by selecting Menu View, Splitscreen, None.

Contests and Flight Training Modes

The **Extras menu** is used for selecting contests and flight training modes. The sub-menus include a 3D torque trainer and helicopter hover trainer in the Pro and Ultimate versions. The 'contests' or skills were previously noted in the scenery section.

The symbols on the scenery thumbnail denote what Extras are available at a given venue. The Winch launch or helper and Dynamic Soaring are available in the Standard version.

I found it easiest to get to the Setup screens using the Quick Launch method of right clicking on the scenery and choosing settings.

Simulation setup

The Simulation setup window allows control of the simulation speed, how long it takes before there is a restart after a crash, the reliability of the transmitter, the length of the glider tow rope and the winch start drag speed.

Conditions

The Conditions setup window is used only with 4D sceneries. It allows the user to choose the time of day, weather, visibility conditions, and cloud details.

Wind

The Wind window allows for independently setting the Average speed, Mean direction, Wind variation, Turbulence, and Thermals. Presets may also be selected. The wind field can also be displayed over the scenery. The Wind window can be opened directly in the Quick Launch menu.

Graphics Control

Window mode or Full screen can be toggled. All of the quality settings of the graphics may be adjusted in this window. High-dynamic-range

(HDR) rendering for the 4D sceneries can be toggled on and off here.

Other Graphics Settings

Show Clouds, Show Smoke, Show Sun Glare and Show Frames per Second (FPS) can be toggled on and off in the scenery screen's Graphics menu.

Extras Menu

There are two **grids** available, Virtual and Aerobatic, that provide a reference overlay in the background of a scenery for perfecting precision flying. Only Virtual is available in the Standard version.

There are two inflight positioning **indicators** available, Position and Flightpath, that provide a means of locating the plane. Only Flightpath is available in the Standard version.

The scenery screen's Extras menu is where the **available contests** are selected as well as **Glider Tow**.

Help Menu

The help menu contains a listing of the Keyboard Shortcuts and Tips. There are links to the aerofly site and information about aerofly.

Recording and Playback of Flights is not available in the Standard version.

Multiplayer mode is available in the Standard version but was not tried.

The Model Editor is not available in the Standard version. This was a HUGE disappointment! I really wanted to change the CG and the control surface throws on the powered airplanes as the preprogrammed ones needed tweaking to suit my preferences.

Conclusions and Recommendations

I have been a RC airplane pilot, model builder and designer for over 50 years. I have been a qualified RC airplane flight instructor and precision RC aerobatics pilot for over 40 years.

The graphics, flight physics and wind physics in this simulator are good and pretty much emulate the 'feel' of flying an RC airplane. This simulator still falls short in the area of **field of vision** compared to what is viewed, or viewable, at an actual flying site. For me, the field of vision that best approximated the real field vision was when 'Keep ground in

view' was selected from the View menu or by the Shift+G key combination.

I did not find the Landing Assist useful.

Landing practice could have been better implemented by setting up the limbo pole at the threshold of the centerline of the runway. Also, if the balloons, used in the balloon bust, were tethered to the center of the runway, they could have acted as a landing training guide.

A transmitter, with a USB-Interface-adapter or transmitter-like USB controller, is a must for learning to fly RC.

This simulator is as good at preparing someone to learn to fly RC airplanes as any of the Windows RC flight simulators I've owned, used or seen.

The absolute HUGE plus is that it runs well on my older (2011) MacBook Pro.

A minor glitch is that it occasionally 'hangs up' on exit and 'freezes'. I like to run the simulator in Full Screen mode. To make it easier to close if it 'freezes', I leave a folder open on my desktop. That allows me to do a command+tab key combination to return to the desktop where a Force Quit... can be accomplished.

The Standard version for the Mac is a good learning aid and good value.

Overall I give it a **4-Star out of 5-Star Rating**.

It is better than some of the Windows RC flight simulators and as good as most.

It runs on a Mac. What could be better than that?

Afterward

In the online afterward, I note some of the information that I've found online about this program. I also give my responses to some of the criticism, most of which were made by folks who didn't now what they were doing.

I also note more about one 'problem' that I have observed as well. The planes don't stall as expected. They tend to keep flying no matter how much elevator is 'pulled' at slow speed.

I believe that the planes could be 'made to stall' better, by moving the CG rearward and adding weight to increase the wing loading. I can't do it in the Standard version, so I'll never know.

http://www.theampeer.org/aerofly-RC-7/aerofly-RC-7.html

Above is a screen capture of a point roll in aerofly RC7 Standard.

Horizon Hobby - PRODUCT RECALL: Power Supply and 3S Li-Po DC Balance Charger Found In HobbyZone® Super Cub S RTF (HBZ8100) and BNF (HBZ8180) Products
From Jim Yuzwalk

Horizon Hobby Super Cub S Photo For Reference

Jim alerted me to this important recall via email.
Horizon Hobby has a .pdf of this notice on their Web site. It is dated December 8, 2014
http://www.hobbyzonerc.com/ProdInfo/Files/ HBZ1003_Recall_Notice.pdf

From the notice -
"**Defect Issue**: This product recall addresses a problem with the power supply and 3S Li-Po DC balance charger included in the Super Cub S RTF and BNF. There is a possibility that the power supply and charger could cause damage to products or start fires, which could result in injury. The affected power supplies and chargers are found exclusively in the HobbyZone Super Cub S RTF (HBZ8100) and BNF (HBZ8180) aircraft. Only power supplies and chargers without a green circular label are subject to this recall.
What To Do: Discontinue use of the power supply and charger immediately. Follow the steps below to identify and return the product to Horizon Hobby for a replacement charger."

If you have this product, check the charger and power supply. See the Horizon Hobby Web site for complete details.
http://www.horizonhobby.com/product/airplanes/ airplanes-14501--1/park-flyers-indoor/super-cub-s-rtf-with-safe-reg%3B-technology-hbz8100

Click on the Bulletins link on the right side of the page under Quick Support.

 Follow Horizon Hobby's instructions and stop using the charger and power supply immediately.

Thanks Jim for the quick heads up.

The December EFO Meeting

The monthly EFO meeting was held at Ken Myers' house on Thursday evening, December 11. The turnout was very good.

Hank Wildman recently acquired a Byron F-86. He is going to convert it to electric power using a 120mm fan and 12S LiPo.

He brought it to question the group about whether all of the 'cheater hole' in the bottom of the fuselage was going to be necessary for the conversion. Several members gave responses and once **Keith Shaw** arrived, he was able to help Hank with his questions.

Jim Young had several things to share with the group. He brought along the February 2015 *Model Airplane News* featuring his fantastic MiG-17 EDF model. It is available in short kit form from Jim through his T&J Models Web site. http://www.tnjmodels.rchomepage.com/tnjmig.php

He also shared his roughed up, ready for paint, F-18 Super Hornet. It uses the same power system as the MiG, but in a much easier to build design. It looks great. It should also be available from Jim after it is test flown in the spring.

He shared plans for an upcoming model. It is a Monocoupe 90 and the plans look fantastic. It is

The MAN Article and its author, Jim Young

Jim with his prototype F-18 Super Hornet.
EFO vice-president, Richard Utkan, to Jim's left.

going to be a very nice size; not too big and not too small.

Ken Myers shared the results of the voting for the Terry Awards Vendor category on RC Groups. EVERYONE was extremely surprised to find Armattan Quadrocopters with the most votes. It was surprising for two reasons; no one in the group had ever heard of this company before and it is a quad company in Taiwan run by a Canadian.

The times, they are a changin'.

Next Ken showed the video of the Scorpion Backup Guard, produced by Lucien Miller at Innov8tive Designs.
https://www.youtube.com/watch?v=6Vwq6xpRFD0

He also shared a very entertaining video product review from NODD RC for the Backup Guard.
https://www.youtube.com/watch?v=1tOE8CVj3y4

From the Innov8tive Designs Web site; "The Scorpion Backup Guard is a tiny, lightweight, self contained, Stand-by Power System for RC Helicopters and Aircraft. It works just like a UPS back-up power supply does to keep your computer running during a power outage. In the event of a failure of your BEC circuit in your speed controller, or loss of power from your on-board battery pack, the Backup Guard kicks in and provides 5 volt power to your radio receiver and servos so you can autorotate your helicopter, or dead stick your airplane, down to a safe controlled landing."

After watching the videos, Ken set up his Fusion 380 and did a live demo of his SBG. He'd purchased the SBG from RC Dude in October of 2014.
http://www.rcdude.com

He thought that it would be a good safety feature for his winter build, a SIG Four-Star Forty.

As he set up the demo, he noted that the radio output connector on his SBG was a Futaba style servo connector with the orientation rib, not the JR Servo style as noted on the Innov8tive Designs' Web site.

With everything hooked up and ready to go, he powered up the radio system by connecting the battery leads to the ESC and then turned on the SBG. He wiggled the rudder and elevator controls on the Tactic TTX 650 and then ran up the throttle to the motor. For safety reasons, the prop had been removed from the motor.

Next he removed the power leads from the battery and wiggled the rudder and throttle sticks and the system continued to function, as expected.

The surprise came when he ran the throttle up. The motor responded to the throttle stick movement. EVERYONE was quite astonished and

amazed. There were several comments made with the gist being, "That's not right!"

Ken noted that the unit acts the same even with a different ESC and power system. He'd tried it earlier that day using a Castle Creations ICE 50 with a 6S A123 2300mAh pack.

Ken had asked **Roger Wilfong** to bring over a multimeter, as his had recently 'given up the ghost'.

The multimeter was hooked into the system through an aileron extension with the black lead cut and the throttle applied again. A bit of current was noted on the analog meter. Next the prop adapter was held and the throttle was run up again. The current went up slightly and then the motor stopped. It appeared that the ESC had 'hit' the low voltage cutoff point.

After quite a bit of discussion, Ken said that he was going to use the SBG in the Four-Star, since a catastrophic failure of the ESC would cause the motor to stop in the air and even if the BEC in the ESC was not 'taken out' by the failure, the extreme drop in RPM would be noted. Also, since a catastrophic ESC/BEC failure would ruin the speed control, it would be best to have the backup onboard.

There are diodes between the SBG and receiver. This should prevent the malfunctioning ESC/BEC from affecting the SBG and keep the radio system running.

Ken's final conclusion was that it is worth a try.

After the SBG demo, the snacks were broken out and everyone had a good time chatting and discussing their latest projects and what we were looking forward to in the upcoming year.

As they say, a good time was had by all.

Follow up on the SBG

The following was not noted at the meeting, but is a follow up by Ken with more information regarding the Scorpion Backup Guard.

There is a thread on RC Groups that notes the motor running 'issue'. In the thread, there is no resolution or any conclusions reached.
http://www.rcgroups.com/forums/showthread.php?t=1891339&page=2
Post 16 Title Scorpion Backup drives prop?

The main thread is titled "Scorpion Battery Backup"

http://www.rcgroups.com/forums/showthread.php?t=1891339

E-mail to the guys on Sat. morning, Dec. 13
Hi Guys,

I did a couple of 'tests' of the Scorpion Backup Guard (SBG) this morning. That is the unit I demonstrated at the meeting Thursday evening.

I recharged the SBG LiPo for the tests.

I bought a new Fluke 115 multimeter yesterday as my 30 year old good multimeter 'died'.
http://en-us.fluke.com/products/digi...ultimeter.html
Merry Christmas Ken. ;-)

The numbers come from that.

First I set up the power system for the upcoming Four-Star Forty; Castle ESC ICE 50, Cobra 3525/12 and 6S A123 2300mAh pack. The SBG was connected to the aileron extension with the split black lead, for measuring the amp draw, and the extension plugged directly into the battery port on the TR-624 receiver.

I hooked everything up in the correct order by starting the BEC in the CC ESC by plugging in the 6S pack and then turned on the SBG. I ran the motor with an APC 12x8E prop on it for a few seconds. I closed the throttle and disconnected the 6S A123 2300mAh battery. I opened the throttle and captured 0.133 amps with the meter before the motor stopped. The motor stopped very quickly after the throttle was opened and significantly the amps did NOT go up with the motor stopped.

Next I did the same test using the Fusion 380's 3S A123 battery, Scorpion Commander V2 ESC, O.S. 3820 Kv 1200 outrunner and 12x8 Master Airscrew G/F 10x8 prop.

The motor ran a bit longer before stopping, but not very long, and the highest amp draw shown was about 1.4 amps.

I am satisfied this is going to work fine as a back up power system for the radio in the Four-Star. Just thought I'd give you a follow up,
Ken

A Quick and Easy Throttle Lock for Non-computer Radios and the Spektrum DX-6i
By Ken Myers

The following is NOT my original idea. I cannot remember where I first saw it, but it came in very handy at our flying field this past summer.

One of our young pilots had an incident when he retrieved his plane from the flying field. As he was walking back to the pit area, he accidentally bumped the throttle on his non-computer type radio with no throttle lock. The prop spun up and nicked his arm, causing a small gash.

Once I saw what had happened, and we'd applied some first aid, I grabbed some rubber bands and applied this method to all of the radios at the field that day with no throttle lock.

It was sort of like closing the barn door after the horse got out, but I now apply the rubber band throttle lock to all of my student pilots' radios, computerized or not, since most of them do not set up a throttle lock function.

Upcoming E-vents

Dec. 2, Tuesday, Skymasters' Indoor flying continues at the Ultimate Soccer Arenas, Pontiac, MI, 11 a.m. to 1 p.m.

Dec. 18, Thursday, Indoor flying continues at the Legacy Center, Brighton, MI, noon to 2 p.m.

Dec. 26, Friday, Indoor Flying Special Day at the Ultimate Soccer Arenas, Pontiac, MI, 11 a.m. to 2 p.m., three hours for $10, or use your season pass.

Jan. 2, Friday, Indoor Flying Special Day at the Ultimate Soccer Arenas, Pontiac, MI, 11 a.m. to 2 p.m., three hours for $10, or use your season pass.

Jan. 15, Thursday, EFO Monthly Meeting, 7:30 p.m., everyone with an interest is welcome, meeting at Ken Myers' house, 1911 Bradshaw Ct., Commerce Twp., MI 48390, Hope to see you then!

An interesting aside is that both the Scorpion Backup Guard and the DX-6i throttle lock problem happen to be mentioned in my friend's, Greg Gimlick, Electric column in the December 2014 *Model Aviation* column on page 95.

The Ampeer/Ken Myers
1911 Bradshaw Ct.
Commerce Twp., MI 48390
http://www.theampeer.org

The Next Monthly Flying Meeting:
Date: Thursday, January 15, 2014 **Time:** 7:30 p.m.
Place: Ken Myers' House (address above)