

The RealFlight R/C Simulator

By: *Edward Walker*

There are two difficult things about doing this review. The first problem is that this product has so many nifty features, it's hard to choose which ones to talk about and/or show. The second problem is actually getting myself to stop playing with it so I can get this done :-).

If you have tried some existing r/c simulators, you know that they all have one thing in common: primitive vector based graphics. There has never been a simulator for R/C with graphics/sound on par with today's "gaming software", until now. This product is the next generation in R/C simulators. An R/C simulator that actually belongs in the 90's. It's obvious that this software has no equal **but** you do need a fairly strong computer to take advantage of all of it's features.

Product Summary:

Product: Great Planes RealFlight R/C Simulator

Type of Product: R/C Airplane Computer Simulation

Software Manufacturer: Knife Edge Software

Distributor: Great Planes Model Manufacturing Company

Product Home Page: www.realflight.com www.knifeedge.com

Street Price: With controller: \$180, Software only: \$130 (can be used with joysticks of any type through standard joystick port)

To Purchase: RealFlight is available to buy at your local hobby store or hobby mail order outlets on the WEB.

Special Features:

- Select and customize any of 9 airplanes: Extra Special, Ultimate Bipe, P51, PT-40, Cessna, Easy Glider, Simple Flyer, Ultra Sport & Space Walker
- Depicts planes and scenery in full 3D, using actual photographs
- Full doppler stereo sound and sound effects
- Lets you customize plane designs, flying fields, wind speed, engine choices...over 200 options.
- Easy-to-install software comes on a CD-ROM, and is developed specifically for Windows 95.
- Just point and click to begin the simulation.

System Requirements:

- Windows® 95
- Microsoft DirectX compatible Graphics and sound card (most are)
- 30 MB available hard drive space
- 2X CD-ROM drive
- Super VGA Monitor
- Standard PC-style joystick or game-port style R/C transmitter (4-axis joystick/transmitter is preferred)

For Standard Graphics

Multimedia PC with 486 @ 66 MHz or equivalent

12 MB RAM

For Direct3D Graphics

Intel Pentium 90 or equivalent

16 MB RAM

Highly recommended: Microsoft Direct3D compatible accelerated video card

Ed's Opinion:

I liked:

- Hands down - there is no better R/C Airplane simulator.
- The graphics are finally on par with flight simulators.
- The physics feel real.
- The Futaba transmitter works well

- The sounds are outstanding
- There are more options than I'll ever have time for.

I would like:

- A ducted fan or jet model to be added to the fleet. The Cessna and PT40 are very similar.. lose the Cessna and put in an F18.
- With all the aircraft parameters available, when you really change things around you don't see the difference visually.
(For example if you setup the Ultrasport to have retracts, you don't see the wheels retract like on the P51.)
- Ground / prop collisions don't register properly (landing just a little too steep nose down, prop strikes, etc).
- Object collisions don't register - you can fly right through the water tower, buildings, and people without crashing. Only ground collisions cause crashes.
- An easier way of determining what features are going to effect my computer in what way. Maybe a performance tester that tells me what to turn off and on for best graphics with best performance.

Your Personal Virtual Airforce

There are nine planes to choose from: I've flown every model here in real life, and the handling characteristics of the simulator match very well. The big P51 is especially well done as it can be difficult to land if you don't work your throttle/rudder properly (The P51 also has functional retractable gear).

Where do you Want to Go Today?

(not to be mistaken for the Microsoft slogan...)

There are five flying fields to fly at. You'll probably find that you prefer one or two, but it is actually very good practice to fly at all of them. Why? Each has different backgrounds, different clouds, and different lighting! It actually helps you develop skills in controlling the model when you can't see it very well - a situation that can occur when flying R/C. You can fly at other fields with brighter backgrounds, or turn off the shadows altogether.

The backgrounds themselves are just that - backgrounds. You are flying within a "dome" universe. You cannot hit the trees in the background or the hills, they are just the edge of the virtual R/C flying field. They are flat "wallpapers" that you can fly upto and they just get grainier and bigger, but you cannot actually run into them. They are not actualy objects in the simulator (like the tree's, rocks, and other objects you can turn on - see below).

The clouds are very well done. Between the five fields, you've got a pretty good selection of clouds to work with - all looking very real.

RealPhysics: How does it Feel?

No matter how good a simulator looks, it's how real it feels that counts. The physics in this simulator are outstanding. It feels real. Examples:

- Take the Ultrasport and go vertical, as the speed slows, you kick in full rudder for a stall turn. The aircraft stalls and on the down line the tail wags back and forth showing that it was a full stall - just like the real thing.
- You take the Ultrasport and go vertical, as the speed slows, you kick in full rudder for a stall turn. You are too late on applying the rudder and have lost too much airspeed. The nose flops over in a full forward stall.
- You are learning to land with the PT40. You come in too fast and steep and bounce off the runway - 6 feet back into the air! 3 bounces later the model finally comes to rest. You didn't crash it.. but you came close.
- Landing time with the Mustang, you chop the throttle and it starts sinking like a rock (warbird!). You try pulling too much elevator on the flair. Tip Stall. Smash! You just learned how not to land a warbird.
- Flying the glider on the breeze, you detect some lift, you catch the thermal and climb back to altitude as you hunt for more.
- On the runway with the P51 and hit the retract switch? Crash.. the model falls to the asphalt.
- Land on one wheel and drag your wing tip. It starts pulling you around in a circle.

To Zoom or Not To Zoom...

One of the biggest problems/complaints with R/C sims is that it is difficult to see the model far away. It gets "lost in the resolution". If you've played with other R/C sims, you know that most of them have a "zoom" or "binoculars" feature which usually brings up a little box in the corner that shows you the plane's orientation. Nothing like real life.

The Zoom feature on this simulator is more of a "Focus". This simulator does the best job I've seen of zooming in and tracking the action. It's so well done and seamless that you don't even notice it happening. As the model gets farther away, the entire screen starts to follow/zoom in/focus on the model, and as you get closer you pan back to full view again.

I don't know if I can describe it any better, but you have to try it. If you've ever been annoyed by the fact that "on a simulator it's hard to fly far away", the problem is solved.

Do you have what it takes?

Your computer's processor and video card are going to dictate what you can and cannot do with this simulator. You can run it on a 486/66 with a standard video card.. but don't expect to see anything fancy. You will have to run it in Internal 3D mode and it will look very similar to the existing flight simulators on the market. The stronger the hardware that you have, the better the product gets. The minimum requirement for 3D (fancy) graphics is a Pentium 90 with 16 megs of RAM and some type of 3D accelerator card (there is a list of suggested ones on www.knifeedge.com).

Tip: When you first install, start by turning all of the options off. Then, one by one add features so you can see what sort of effect they have (both whether you like the feature and whether it slows you down too much).

I have the simulator running on a Pentium 166 with a Velocity 128 3D Card. The machine happens to have 256 megs of RAM in it, but I could change that to 32 or 24 and it would still run the same (processor and vid card matter more, as long as you have the base required RAM).

With my setup I can run in Complex 3D mode.. but I cannot turn on all of the optional graphic features (see below) before I notice a lag. I prefer to fly it in 800x600 mode, complex background, simple plane, and no field options or random sounds on. This gives me what I prefer: a smooth simulator feel. I prefer a higher resolution instead of having some of the "fun features" because I'm using a 21 inch monitor, low resolutions look grainier.

In simple graphics mode I can turn the resolution all the way up to 1280x1024 and it runs perfectly smooth and very realistic - far sharper image than the simple graphics of my other simulators, because even though they too use vector graphics, they do not support SVGA.

Configuration:

The simulator is very easy to run. You literally can just click on the plane you want, the field you want, and FLY NOW.

The real fun (other than flying) begins when you start customizing the simulator. For system performance, this is important. The first thing you want to do is to find out what your computer is capable of handling... i.e. just how many great features can you turn on without your computer running like molasses. You'd have to have a heck of a computer to actually turn all of the options on, but as you upgrade your machine over time, the simulator can then take advantage of your new faster hardware.

Some Fun Configuration Features to Toggle, Adjust, and Play With:

- Each field has its own graphic additions that you can turn off/on to add to the realism. For example: one field may have a water tower, another trees and a parking lot. I recommend turning on the wind sock if you are going to turn on the wind. Here are some samples:
- You can turn on other planes! They fly around and do stuff on their own while you fly. They do some cool things and some annoying things, just like the fliers at your field. Great way for beginners to learn to concentrate on their model.
- You can turn on sound effects.. not only music, engine noise, and crashing, but random sounds you might hear at the field. Stuff like guys yelling "Lower!" or "Bet you can't do that again!". Very cool.
- Each engine even has its own distinct sound - the burble of the P51 at idle, The scream of the glider's little engine climbing out. The 2 stroke OS going by.. they all sound real.
- You can fully edit the models. Move the CofG, change the wing chord, change the airfoil, change the control surface throw, change the servo assignment, etc etc etc!

- You can edit the engines and props! Do you have an Ultimate with a ST90 in it? Want to try a different prop? Want to try more horsepower and see how it flies?
- I could go on and on about these features... but there is far too many to deal with here. I don't even know if I've found them all yet.

By adjusting these features you can make the simulator smoother if your computer is having troubles keeping up. The more features that you turn on, the more power you need. As you go through the following screens, take a look at the details and options in each screen.

Point of View:

Another unique feature to this simulator is the ability to change viewing angle. You can stand at the field like you normally would, fly from inside the plane, follow behind the plane, watch someone else's plane (the computer flying), fly from the planes current location (i.e. move there then stay there), etc. This allows for some pretty neat perspectives. When you fly from within the plane, the graphics speed is very impressive as you zoom down the runway on take off. I actually made myself dizzy on several occasions.

Screen Shots:

A couple of screen shots. There are many more available online at both www.knifedge.com and www.realfight.com .