

JCRCC News January - February 2004

Volume 3, Issue 1

February 10, 2004

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BUS TRIP



We're trying to organize a bus trip to the new Air & Space Museum at Dulles Airprt in D.C. The date is Sunday March 21 and the cost is \$28/person. It would be an approx. 12 hr. day. (4 down, 4 at the museum and 4 back). We'll only commit to a bus if we have a minimum of 39 PAID travelers by the Feb. meeting (Feb. 19).

It's open to members, family or friends. Contact me for any questions.

Joe Mosso

Newsletter Content Wanted

To all JCRCC members. The newsletter has gone through some changes and I am now pretty comfortable with the format of it . I hope everyone is enjoying it and maybe even getting a little bit of use from it. I have been getting most of the tips and articles from research on the internet and am looking for something else now. The

newsletter is only as good as the content that is in it and I would like to get some content from our members. So if you have a story, tip, trick, cartoon, review, picture, caption, or anything else please get it to me and I will get it in the newsletter. Please be sure to include names with everything, even for people in pictures, I

do not know all the names of everyone in the club. You can submit your contribution using email, (Cuccurullo@act-ion.com) regular mail, or in person. I can scan pictures and text to get it in the newsletter so don't worry.

Tom Cuccurullo (Editor)

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Schedule of Events

- February 14th—Valentine’s Day
- February 16th—President’s Day
- February 19th— Monthly Meeting 8:00pm
- To add a club event or an area event to next months newsletter please send an email with all the details to:
- Tom Cuccurullo
TAC-001@att.net

Regular mail (see address on last page) and hand delivery are also accepted.

| February 2004 | | | | | | |
|---------------|-----------------------------|-----|-----|------------------------------|-----|------------------------------|
| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 <i>Valentines Daay</i> |
| 15 | 16 <i>Presidents Day</i> | 17 | 18 | 19 <i>Monthly Meeting</i> | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | | | | | | |

Classifieds

For Sale:

Eleven - COX .049 Engines, lots of parts and props - \$50.00

Tiger Moth - 72" with 25 cc engine, no radio or servos - \$160.00

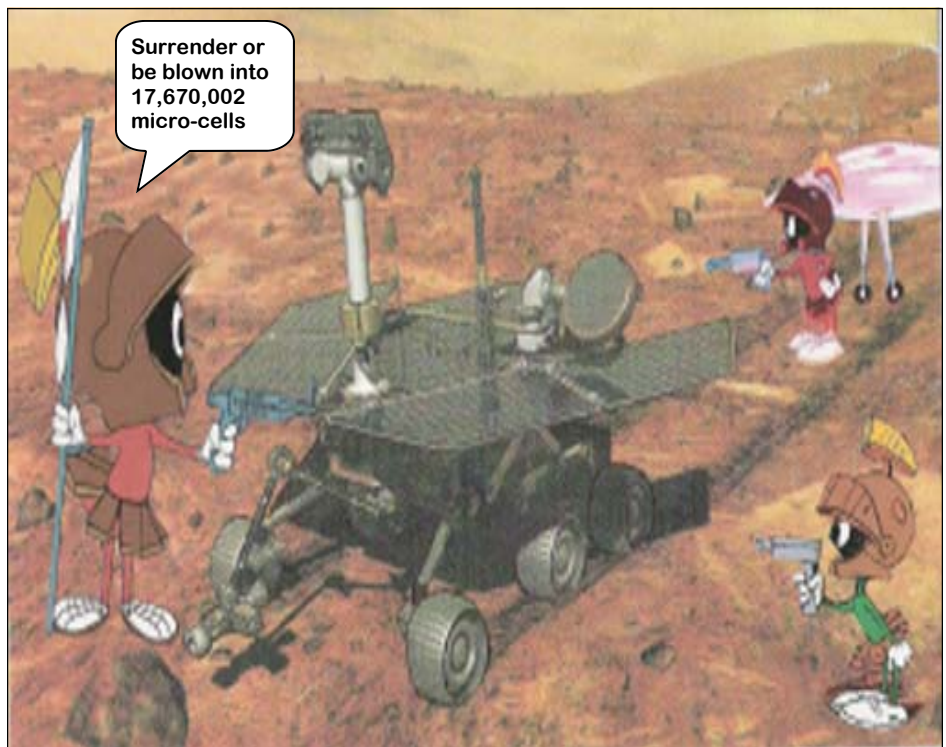
Call Harry, 732-255-5836

Wanted:

O.S. MAX 25 FX Engine with muffler

Call Harry, 732-255-5836

Cartoons



January Meeting Minutes

JERSEY COAST RADIO CONTROL CLUB

Meeting Held at:
Wall Municipal Building,
January 15, 2004

Members present 17

Called to order at 8:00 PM

Adjourned at 9:20 PM

Old business:

No meeting minutes read due to no meeting in December. Treasurer's report read for November and December. Motion to approve Pete Ellis second Tom Thomas. Final approval has been received from the AMA for us to host this years District fly-in. Tentative date is for the last week in September or the first week in October.

Safety:

No problems noted at the field. Pete Ellis advised to be careful when using after market servo arms.

Make sure that the splines are compatible with the servo that you are using. Improper match could cause the splines to strip under load causing loss of control.

Video:

No report.

Web-site: Nothing new but just a reminder to refresh the home page when you sign on to up-date to current information. Either click refresh on you browser or hit F-5.

Field report:

Field is OK. The temporary spectator fences have been destroyed by the bad weather. Repair or replacement delayed for better weather.

Contest committee:

SAM contests and Warbird events will be announced along with other events during the year. If anyone wants to run a contest contact Roy Hulse or the Executive committee.

Prospective new members:
Mike Dorrer.

New business:

Joe Mosso has a proposal to replace the temporary spectator fences with chain link. The proposal is to buy the fence needed and it will be installed at an equal cost. Approx. \$500.00 for material and \$500.00 for installation. Pete Ellis proposed that the club get a contract on installation specs and materials, and for us to purchase materials. Second by Tom Thomas, motion carried unanimously. A bus trip to Dulles Museum is planned for March 20. Cost is \$28.00 per person. If interested contact Joe Mosso.

Crasher of the Month:

None

Model of the Month:

None

Meeting adjourned at 9:20 PM

For those of you that did not receive this month's newsletter in the mail it is because I do not have you on the list to have it sent to you. If you would like to receive a copy in the mail please fill out

Please Fill Out And Return To Address On Last Page, Email Me, Or Give It To Me At The Next Meeting.

NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

E-Mail Address: _____

I wish to have a copy E-mailed to me.

I wish to receive a copy of the newsletter in the mail.

MEGA Review Page 1

RealFlight Deluxe Simulator

Reviewed by: by Matt Gilmore

I was very happy to be asked to do the review on RealFlight Deluxe. Now that helicopters have been added to this already famous simulator, I was even more anxious to check it out. I went in, however, rather sceptical. I had never seriously used the previous version of RealFlight either, but having seen it at trade shows and the like, I must admit to having a pre-assumption that it might just have too much flash and not enough substance. For me, a simulator has to bring a lot to the table. It has to have practical applications, so that what I learn and practice on the 17" screen relates well to what happens out at my flying field. Does RealFlight Deluxe measure up? Read on and see . . .

Hold It

The radio-shaped Hardware Controller is actually made by Futaba and is light-weight, with a rather hollow feeling, but thankfully the shape is quite accurate. The sticks certainly feel good enough for learning, although they are non-adjustable in height. The trim tabs feel light but considering their function I really don't think it has much of a negative impact. The connecting cord (which goes to the computer's game port) exits from the hole that is usually occupied by a radio antenna. It seems like a durable cable, but I believe it could use some stress relief around the exit hole, as it is a stiff, thick and somewhat inflexible type of cable.

The faux 'transmitter' feels a bit lifeless, especially since it has no LCD screens or lights. That being said, it provides more than 80% of the experience of a real transmitter, albeit not a top of the line model. A beginner is most probably going to find the difference negligible. I'd like to see labels for the various switches and even the sticks. This doesn't seem unreasonable to expect, especially since even regular R/C transmitters often label them. Besides, many times a simulator is going to the novice or beginning flyer, and those labels might just come in handy. If you are a beginning flyer, you may want to think about labelling your controls. Eventually, you won't need to think twice to find, for instance, the dual rate switch, but early on those kinds of reassurances can help. (Please note that the controls are assignable, so make your choices on where to assign functions before you do any labelling. Beginners may want to consult an experienced flyer to learn the more traditional control layouts.)

A purely cosmetic note: Watch for a very thin clear plastic sheeting that covers all of the silver parts of transmitter, and dulls the appearance quite a bit. It takes a fingernail to get it up from the corner, but once this protective covering is removed, the transmitter brightens up significantly.

The Install

The installation into the computer went without a hitch. For this review, I ran a 350 MHz Compaq Presario with 136 MB RAM, a 4 Gig hard drive, and a 24X CD-ROM drive. I had no problems as I followed the on-screen instructions, and the next thing I knew, I was into the program. The splash screen first shows an R/C Helicopter and a P-51 Mustang over a background of DaVinci flying machine drawings, which is very stylish and very colourful. However, don't take the pictured models too seriously, as their appearance is more detailed than the ones found in the actual program.

Unless you tell it otherwise, every time you fire up the program, a new window with hints and helpful tips appears. While sometimes annoying to close out this window every time you boot up RealFlight, I must confess that this feature has taught me some cool things about the program that I use frequently. I don't turn it off even though I can.

Simulator Settings

You can choose between Microsoft's directed and the program's internal 3D technology. Slower computers should use their internal 3D program. If you have a 3D accelerated video card and a fast computer than choose the Microsoft 3D program. Microsoft directed is almost getting photo-realistic at times. If you are good at suspending disbelief, you can almost convince yourself that the backgrounds and textures are authentic.

If you choose internal 3D you have either Gouraud or flat shading to choose from. If you have a slow computer, choose Gouraud for the better look. If you choose directed, you get the choice of drivers, however the program chooses the fastest driver for you, if you allow it. You then have a number of choices to make: directed settings, Gouraud shading, bilateral textures, dithering, specular highlights, 24 bit textures, MIP-mapped textures, transparency and texture mixing. Whew!

Please take note that RealFlight Deluxe's proprietary Photo Field technology, which assists greatly in the experiencing of realistic flight simulation, requires that texture mapping be on.

Resolution and Reality

As with many games and other graphics-intensive programs on the market today, you can choose the picture resolution you'd like to tax your system with. There are many choices available and rest assured they will most decidedly affect speed and smoothness of operation. The upper-end choices available will wear out even somewhat husky computers. I chose to burden my computer with production of 32 bit colour (8, 16, 24 bit colours are also available). I highly recommend choosing a screen size of 800 x 600 pixels, even if you can't get the 32 bit colour. You see a lot more of the field and it's a much better view.

RealFlight's Real Physics parameter makes it possible to alter reality to better suite your level of flying. At my level, I felt it was best to leave this percentage at 100%. Honestly, I think that I would at any flying level. After all, a simulator is doing its job best when it simulates the real world in a controlled environment. If you're utilising a simulator for R/C flying, one is to assume you are attempting to train yourself for real world R/C flights. Otherwise there are other available, mass-market flight simulators with premium graphics and more interactive play to use. Since you are training from a computer screen for real world flying, it is best to have things as close to the true experience as possible. However, should you choose to have assistance, various parameters are available including the all-important one which makes landings easier.

If you want thermal activity, or wind gusts, those too are available and adjustable. This is one area in which virtual reality is vastly superior to cold hard reality. Of course, if the weather were really adjustable, what would modelers have to complain about? And how would we get anything done around the house, I ask you? Still . . .

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Music/Sound

Noise problems at your flying field? Not this one. You can choose whether or not the flying experience includes engine sounds, using another one of Great Planes' branded and proprietary processes, Virtual Revolution technology. In the other simulators I have flown, I frankly couldn't stand to have the sound on. This program, on the other hand, has sounds that are actually useful, and not particularly annoying. In fact, in helicopter simulations especially, I found the sounds extremely helpful, supplying me with important feedback when I flew inverted or close to the ground. Contrary to what I would have thought going into this review, I recommend leaving the sound on. Nice job, GP!

You can also choose to play background music. I don't like it when people play music at the flying field, so I chose to turn music off while flying in my living room. (Note: I am a musician and don't oppose music in any way, but find I can't give flying my total concentration if there's music present.) To be fair, the songs aren't bad and if you like a little tunage while flying, you could do worse. A volume control is available for engine sounds and background music. I chose the engine sounds to be all the way up. If you choose music, the program comes with a list of songs to choose from.

%#@! Crashes

You can also choose to have crash sounds on or off. Once again, the sounds in this program are not as bad as other ones on the market. I surprised myself and left the crash sounds on. There are wind sounds available as well. Dialogue sounds by people at the field are available and I left it on at first until one particular chuckle-head drove me nuts so I turned it off. It is virtual reality after all, and at the field I'd either put up with it or go home. On computer screen, I can tell him to click off! There is an opening song that can be turned off. I turned it off as soon as I figured out how.

Choose Your Weapon

The Controller page allows you to choose your hardware interface. It defaults to what they call the RealFlight joystick, which is what I received for review, and have described to you. While I also received the optional transmitter interface, I spent most of my time using the supplied RealFlight transmitter. The interface worked well for my JR XP8103 and PCM-10SX, and I do recommend that you use this feature if possible. However, to be fair, I felt I should perform the bulk of the review with the supplied hardware, as that is what most users will experience. In addition, if you spend hours and hours flying on the simulator (colour me guilty) then the lighter pseudo-transmitter will be a blessing.

If you choose different controllers, time must be spent to calibrate them. If you purchase the optional transmitter interface, which provides up to 8 proportional control channels, you would also calibrate them from this page.

Odds & Ends

On the Miscellaneous page, you can choose the language of operation for this program. There are also cache settings to choose from. Setting higher values for the cache can reduce the stuttering that can occur during flight when the computer is accessing the CD-ROM. However, it can make the program more responsive, if the figures are higher. On a machine with 136 Meg of RAM, I set the value to 111 megabytes and had no difficulties to speak of.

On Airports and Machines

RealFlight Deluxe allows you to choose your model (and many things about the model) as well as flying fields and the weather/environment that it is in. If you choose, you can create what the program calls Flight Groups, which is basically fancy nomenclature for a memory location that holds a model choice, airport, and environment as a single preset. I don't recommend hitting this feature heavy right away, until you have established favourite settings. Then it is a handy and useful feature to utilise.

Aircraft Selection

While some of us 'rotor heads' seem uncomfortable with the term 'aircraft', it does accurately apply to helicopters. Therefore under the aircraft selection, you will find a list of all available model types - helicopters, airplanes and gliders. My sample program came with 11 helicopter program types, 4 low-wing airplanes, 1 biplane, 2 gliders and 3 high-wing airplanes. Most of these are based on available Great Planes models. The helicopters ranged from a fixed pitch electric, to a .30-size trainer complete with stick and ball training gear, to a four-stroke .30, to a .60 size performance machine and more. A fixed pitch .049 model as well as scale models of a Jet Ranger, a Schweizer model, and a French Ecureuil are available. Most of these helicopters offer a variety of colour choices ranging from simple to pretty darn amazing, including themes like flames, billiard balls and the American flag. I should mention that the clear canopies on the heli's are one of the coolest features I've ever seen in any simulator. They are a small and insignificant feature compared to many I could mention. But the see-through canopies provide a kick in the pants to my disbelief suspension, making it quite easy for me to forget that I sit in my living room as I fly my Dolphin .46 helicopter (alternate 1 trim scheme, please). The screen where you choose your model provides a very nice and succinct description for each model type. From this screen you can also edit your aircraft. (Ominous music, please.)

Editing Your Heli

Before you can edit an existing model, you must first make a copy as the program contains unmolested versions of each model type and won't let you change them. You can automatically make a copy by hitting the button mysteriously labelled 'Make a Copy', or go straight to the Edit button which will prompt you to make a copy before you can edit it. In any case, you need to name your copy. I chose to call my modified Dolphin 'Flipper 46' for even more mysterious reasons.

Here you can change the description, adjust the scale, and choose metric or U.S. standard units. (The description also features a list of various switches on the transmitter.) You can also choose the radio type: A software radio (the supplied faux transmitter) or your own transmitter. If you choose software radio, you can edit parameters such as flight modes, dual rates, expo, ATV, and subtrim. You can adjust the collective curve, throttle curve and tail rotor curve independently. You also have 3 mixes available, which can be assigned to any servos, the gyro, throttle and head speed governor. A heading hold gyro is what my program defaulted to, which I prefer anyway. A switch was automatically assigned to the gyro heading hold function. If you utilise your own computer radio, all the adjustments you make within the radio will apply to your virtual model.

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The Power plant

Under engines, you can choose whether your whirlybird is powered by an electric motor, or internal combustion engine. Should you choose electric, you can choose the number of cells and types of cells. Twelve choices of cells greeted me in this window: From JRR-1000AE to Sanyo N-1900SCR to Sanyo N-2500CR.

If you choose internal combustion engines, the options to decide fuel tank size as well as fuel consumption rates (in ounces per minute) are available. Also on the engine screen are parameters for sound profile, where you pick the closest engine to what your virtual machine has for a more accurate experience. For our purposes, this would be O.S. .46 Heli. My choices were rather limited, but more are available. Here you can also decide whether the head speed governor is functional and at what gain rate. Also available is the main engine order ratio and fan diameter. The last two parameters on this page choose the torque curve based on a number of popular engine and pipe combinations, and the torque percent.

The Fuselage

The fuselage page allows you to modify practically every dimensional aspect of your virtual model. This includes the size, weight, front & side drag coefficients, skid location and size as well as positional adjustments to centre of gravity. (Note: Unlike some other simulator programs, changes made here are not reflected in the appearance of the model on-screen, but they will affect the model performance. In other words, if you make your fuse twice as wide, you won't see a difference, but the model will fly much different.)

The Hub

The hub window first allows you to select the hub type (appropriately so). You can choose between dual flapping and solid axle. Solid axle has a fixed co-angle and the blades act on each other directly. This is also known as a 'teetering' or 'seesaw' hub. The dual flapping, or as it is known, fully articulated hub, allows both blades to flap independently. Next you may adjust the flap hinge to hinge diameter, the lead lag to lead lag, and the hub location on two axis, the X and the Y. You can also adjust certain parameters about the flaps, the static coning angle in degrees, and the delta off-set. You can also adjust the maximum flap angle in degrees. On the flaps, you can also adjust the weight in ounces, the deflection in inches, and the length of the arm in inches.

The Main Rotor

Here you can adjust the height in inches, the cyclic roll deflection in degrees, the cyclic pitch in degrees, the maximum collective in degrees and the minimum collective deflection in degrees. Then you can choose the type of blade you want your two-dimensional model to use. You can pick from the list that they supply you, which features (for me) 4 choices: 280 mm, 546 mm, as well as 680 regular blades and 680 mm carbon fibre blades, my personal choice. If you edit a blade, however, you edit that blade for all helicopters that use it, so make sure you have made a copy of that original blade to maintain your initial library and build from there. You can also change the blade sound. My system came only with a digital equivalent of .30 size rotor blade sounds. (I would assume you can download more sounds from their Website or purchase them directly.) In addition, you can adjust a control to balance the engine sound vs. the blade sound. It defaults to the middle, which I believe is a pretty good place to leave it.

The Paddles

On the paddles page, they wonderfully show you a side view, a cutaway view, of the airfoil panel and give you a list of 15 or 20 various airfoils you can choose. There are help boxes every time you stop on something that tell you so much about it... the airfoil description is wonderful. It tells you a little bit about it how the naming procedure is done and tells you how to choose the proper airfoil for your particular heli.

It's a wonderful thing! You can also manually adjust the attributes - everything from height to roll deflection, angle of incidents to pitch deflection, and so on. It is pretty amazing and far beyond what I certainly expected.

The Tail Rotor

For the tail rotor it is much the same. You get shown the airfoil - you can choose once again between a list of 15 or 20. You can choose your clock wise or counter clockwise rotation. You can also decide whether you would like a constant drive tail (for those of us not interested in aerobatic auto-rotations, not such a great choice.) You can choose everything on your tail rotor including the chord, main ratio, CW deflection and CCW deflection (both in degrees.) Very nice, very complete.

The Gyro

Like a modeller's dream workshop, here you can decide whether you want a piezo gyro, a heading hold gyro, a constant rate gyro or a dual rate gyro. I prefer a heading hold gyro so that is what I chose. If you choose a heading hold gyro, there are many things to change about it, including low and high ATV, the range, the pirouette rate, the gain, the mix, the rate gain and even the delay in degrees per seconds squared.

Clutches, Fins, & Servos, Oh My!

On the clutch page, you can choose whether it has a one way bearing to the main shaft. You can decide what the fully disengaged RPM will be, as well as the fully engaged RPM on the clutch. I left these on default and they seem to have a very realistic performance.

For tail fins, you can choose whether it has a horizontal tail fin, what its size is and where it is positioned. You can choose the same things for vertical fin. They assume you will definitely want a vertical fin. Under servos, you must decide whether you want these reversed or not, assuming you are using the software interface and not your own transmitter. If you utilise your own transmitter, you would perform this procedure from the transmitter itself. You can also adjust the servo speed in seconds per 60 degree.

On the Miscellaneous page, you can adjust the inertia, if you don't believe that Real Flight calculates things in a real world way, or want to alter reality a bit. Here you can adjust inertia on the three axis; pitch, roll and yaw. It also gives you a read-out of your model virtual performance, which

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at this point includes your fuselage weight, your fuel weight, your total wet and dry weight, your rotor and rotor disk loading, wet and dry as well. Very interesting information, especially as you design your own helicopter.

On to the Field

So now we can go into our 'airport' selection. My sample program gave me 6 different locations to choose from: Rainbow Canyon, Pendleton Station, Idaho Tower, Distant Hills, Columbia River Gorge and Adair at Corvallis. (I honestly don't know what the heck that means.) Basically these backgrounds are digital photos that have been mapped into a 360° environment to surround you with virtual walls that looks much like the surrounding location. Then 3D terrain is placed below this at ground level. Then objects are mapped to this. Then objects are placed on this, like runways, people, grandstands, helipads, buildings, or what have you. The background, trees and stuff, if it is in the far background, is fairly believable because as I said, it's really a photograph, or should I say many of them, digitised and stitched together to make a circular 360° environment. However, the trees and people on the field per sé are very, very basic and you have to use your imagination quite a bit to believe that they are real. In addition, you can fly right through them with no interaction whatsoever, other than they block your view as you pass through them. I wish they were 'solid' so to speak, as that would provide a greater challenge. I especially like flying around the water tower, and the heli pad is very nice as well.

You can choose from backgrounds that approximate farmlands, to what looks to be Arizona desert. I've even seen RealFlight environments that included school yards and football stadiums... even other planets. That's the nice thing about virtual flying... you can do it virtually anywhere! It really just depends on what they come up with as far as new environments, but this is one of the main factors in RealFlight Deluxe's appeal. The fairly realistic photo backgrounds combined with the 3D terrain that you fly over with mapped textures can definitely (especially while in motion) fool the eye to the point that you feel that much closer to real world flying.

You can choose to incorporate shadows or not, but of course anytime you choose another feature it slows down your computer. (They do add a lot, however.) Usually they warn you with a dialogue box when you will slow down your system. You can also use their PhotoField technology or 3D terrain. You can also choose different options for your field including other planes or traffic in the air, a parking lot, people, trees, grandstands, and wind socks. It is wonderful and makes for an interactive environment but puts more stress on computer.

View Master

There are several views available and you use the function keys to access them. They are very handy actually. The first view available to you is head height, standing by the field . . . this is the most normal and the one you would most expect to be available. You can also choose anywhere in the field simply by placing the model there and hitting the button; you will 'virtually' be where the model was, even if it is 500 feet in the air looking straight down. You can also put yourself within the model (cockpit view) like other full-scale flight simulators, but this one uses the controls of a R/C transmitter, so that can be quite interesting. If you've ever wanted to experience the view your model gets as you pull off your famous tail-first dive into the inverted somersault, now's your chance. Good luck.

Environment

As I mentioned earlier, you can choose to employ wind, up to and including whether it's a smooth or gusty day (or anything in between), as well as choosing the average wind direction (in degrees), the wind speed (in miles per hour), and gusts (also in miles per hour). You can decide whether there is high or low thermal activity (an especially nice feature for those soaring type modelers). When flying with wind, it is fairly realistic, except of course you don't feel the wind yourself so sometimes it is difficult to tell why the helicopter is doing what it is doing until you suddenly realise "It's the wind." You can turn on the wind sounds, but with the other sounds and engine noise, it can easily be masked. If you turn the other sounds off you don't feel like you are getting the feedback from the helicopter, so it's a real 'Catch 22'. In any case the wind is a nice little feature to have, if you fly like I do in the gusty American Midwest.

There is one final feature to mention that can help you get used to the program, but I find it takes away from the realism. That feature is called Auto Zoom on Plane (which, incidentally, includes helicopters as well). Basically, you set a minimum plane size, and no matter how far the model goes away from you on screen, you 'follow' after it. This makes it very easy to see the attitude of your plane at great distances. A lot of other simulator programs accomplish this by doing the binocular theory, or another window in the corner. It is very natural the way RealFlight Deluxe does this helpful procedure. The problem is that it is not at all like real life... in real life you wouldn't get that benefit. So I always tell people to fly with it for a little bit but eventually turn it off and do without it because no matter how small that sucker gets in the computer world, it will seem even smaller in real life.

You can also decide if the plane or heli can run out of fuel. At the regular time, or some type of stretch. So a helicopter that may only get 10 minutes in the air in reality, you can set to get 20 minutes of virtual flying time.

Time for Me to Fly

First Impressions

As you start to fly, the feeling that one is hit with immediately is that of realism... that I'm actually controlling the heli. It isn't like simulators I've used before - this one feels more authentic; the interactions between the backgrounds and the shading, the textures on the ground, the smoke coming out of the helicopter (when the smoke feature is selected with the tilde [~] key) all just bring together an incredible feeling. The smoke option does slow things down quite a bit and can obscure your vision, but to be fair in real life the smoke can impair vision as well.

Captains Log, Maiden Voyage, Flipper 46:

"As I first look at the helicopter sitting on the ground, I notice smoke and exhaust coming out. I see the blades and the paddles rotating over this well-defined rotor disk, as well as the tail blades spinning. I can see through the canopy, in fact I can see the shadows on the ground through the canopy. (!) The blades movements seem to correspond to the stick movements I'm inputting, and even to the sound I'm hearing which is very nice. The blades look very impressive on top of this rotor disk." "As I start to take off, the smoke obscures it just as it would in the real world. As the rotor

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disk speeds up, it gets more solid, more fan like, pulling the smoke through the blades. As the helicopter starts to get light on the skids, it 'feels' like it gets light on the skids. Unlike other simulators that lack that feel you get from a real helicopter, this one really has it. It has real life compromises; for example, in hover it even requires you to get the somewhat angled or 'leaned' attitude that a real model needs to maintain a hover in a fixed location, unlike other simulators that will let you hover in one place with the rotor disk parallel to the ground."

"I can feel the ground effects as I go lower. As I fly the helicopter faster, the smoke trail gets more spread out, longer and thinner, like it actually would. As I fly inverted, things feel much like I would expect, which in and of itself is quite amazing. As I crash I get that same sensation I always do, except that I don't have to fix that damn thing! (Nor explain to my wife why I keep charging parts and things at the local hobby shop.)"

"The reality of the canopy is astounding, it looks very authentic. Being able to see through the canopy as it comes close to me, (at an angle that I would never fly a real helicopter at incidentally), I can see inside the canopy and there are wires and servos and the receiver. Interestingly, the smoke even comes out of the motor exhaust. This is the level of detail that we are talking about."

Common Concerns

Now, I've heard many people complain about RealFlight because you can go outside the 'outer walls'. True enough, you can actually fly high enough that if you put yourself in the cockpit, you'll see the 'walls' of the environment like the stands of an arena. In fact, you start to feel a little like Jim Carrey in Truman if you're not careful. However, if you fly like you would at a real field, especially with the Auto Zoom feature off, and especially standing by the flight line, you aren't going to want to do go beyond the environment walls much anyway because they put them plenty far out. However, if you utilise the other views a lot, especially the in-cockpit view, this ability to go beyond the 'outer limits' can be very annoying. It seems like there ought to be a way around that, but perhaps it's a trade off of the process GP uses to grace us with such photo realistic environments. In any case, for those of you interested in using RealFlight as a true R/C training and performance-improving device, this 'Galactic Barrier' shouldn't be a problem.

Good Rotations?

I did several auto-rotations, and they felt to be rather accurate, although because of the limit of the screen size, it is very hard to get perspective enough to do one with a feeling of comfort. I did do some successfully but I didn't feel wonderfully about them. I felt that this was one spot that the program lacks a bit, but that is not due to the program so much as it is due to an inherit problem with simulators, and the size of the screen and the rate that you have to drop. Two-dimensional imagery and the necessities of perspective also mean that as your heli passes overhead, it is very easy to get disoriented as to what your attitude is relative to the ground. So a pass overhead can often lead to disaster, as it often can in real life.

On Crashing

Serious crashes are interesting. They've got smoke (2 colours), they've got flames, they've got a nice crunch sound. They are pretty realistic and very well done. Ouch. The interesting thing about certain low level, lean-over type crashes is that they don't look very realistic; it looks like the helicopter rotor disk slices into the ground, and then the heli sinks below the soil. Not that crash appearance should matter, right? 'Cuz we never see it anyway, right? Right? Help me out here...

Real Conclusions

If you are looking for answers as to whether I think the program is worth the money or not I can safely say that, "Yes, I think it is." I've already learned manoeuvres and methods on this program that I've successfully taken to the real world. I know people that have basically learned to fly on simulators, and this one is far better than the ones they have learned to fly on. As an overall concept, a simulator's potential benefits are undeniable to me. However, I have not often spent long periods of time using them. That said, I can gladly spend hours flying RealFlight. Other simulators tend to leave me a bit cold after a very short time. Risking a bit of over-enthusiasm, I must repeat that the realism of RealFlight Deluxe is truly amazing. Not perfect, no. Not as good as it will someday be. Not a Star Trek® holodeck yet, but certainly as close as 20th century technology is going to get us. Certainly fun. Addictive, even. One would think that with all the attention to detail that they spent on the appearance of things, as well as the mechanics of the program and the algorithms, that perhaps the feeling of flying might be overlooked. As I started this review in stating my fear of 'flash without substance'. But no matter what earlier programs and earlier versions you may have flown, this one is a true winner. This helicopter simulator satisfies! I plan on using it for the entire winter season. Come this Spring, you will see me on the field doing things I've never done before with more comfort than I've ever had before. What everyone needs is more practise and this simulator does it with more realism. For instance, as I bring the canopy past myself, I see the sun glint first off the clear Lexan® canopy, then the graphically painted side. I can see the rotor is changing colour as it gets shaded or hit with sun, both on top and bottom. Its truly amazing as the thing goes further away, it still retains its detail enough at incredibly far distances, so you can still make out things like both tail boom fins.



As you can no doubt tell, I am very impressed with this program. It's not the only heli sim out there, and the others are definitely worth a look. I know some 3D pilots that feel that others flight characteristics are more accurate than RealFlight's. Even if that's true, RealFlight's ability to 'put you in the field' and get you practising is undeniably exciting. And the fun factor is way up there. And after all, isn't that why we all got into R/C in the first place?

If you've been waiting for simulators to get better before you joined the bandwagon, it's time to stop waiting. (Although I must confess that I couldn't help the thought that if this is what they are like now, what will they be like in five years?) I highly recommend this program to anyone considering a simulator, and if you haven't considered a simulator I highly recommend this program anyway, it just might change your mind.



Review Courtesy of :

WWW.Greatplanes.com

*"The Modeler's Choice
in R/C Aircraft and Accessories"*

Landing Errors

Tips And Tricks By Ed Moorman

1. Landing every time. Don't tell yourself to touch down every time you make a landing approach. Force yourself to go around if the approach isn't a good one. A bad approach results in a bad landing 99% of the time. You should actually be practicing approaches, not landings. When you make a bad approach, go around, set up, and try it again. When you make a really good approach, then throttle back all the way to idle and land. Unless you are an expert, the approach determines the landing. When you have a good approach the landing will just about do itself.

2. Touching down before you pass in front of yourself. Have you ever done this? You become nervous to land because of wind or maybe it's just not one of your "good" days. To hopefully make the landing easier, you make a big pattern, dragging it out. You end up touching down way before you get back in front of yourself. Is this how the landing went? BAM, the main gear spreads out. BAM, the nose gear bends. BAM, the prop breaks.

Sound familiar? It's a very common landing error. Let's analyze the touch down location. There are three places you can touch down, before yourself, right in front and past yourself. Right out in front is best. You have the best view of fuselage angle and the descent rate. Past yourself is okay until you get way past. The airplane is directional—right is right and left is left. The further away you get, the harder it is to tell the descent rate, but you can still set the airplane up slightly nose high and let it touch.

Now, let's look at landing before you get to yourself. The airplane is coming toward you so steering is reversed. Being tense makes this worse. From a nose-on position, it's hard to tell the fuselage angle and the descent rate. This is the worst case for making a good landing. Even experts can't consistently make good landings far away from a nose-on position. When you are having a bad day, give yourself an even chance. You should be turning early, not late. Land a little past yourself. You can see everything better and judge the touchdown better.

3. Seeing the bottom of the airplane. If you can see the bottom of the airplane during a landing approach, the nose is too high. If you are set up on a final approach, the nose of the airplane should be down in a glide position. When you can see the bottom of the airplane, you are approaching a stall. You need to either add power and go around or use the elevator stick to lower the nose. Stand with a couple of good fliers and watch the airplane on landing. You won't see the bottom of the airplane.

4. Undershooting the runway. When you make a landing approach, you normally set up parallel to the runway on a downwind leg, throttle back, and turn to final approach. You can either make one big, sweeping base-to-final turn or you can square the pattern off with a base leg, then turn to final. Most beginners set up wide like they are going to make a square off pattern, then turn too tightly and angle in to the runway.

There are three ways to line up for final approach. One, the right one, is exactly in line with the runway. The other is to overshoot a little past the runway and angle back. The third is to undershoot and angle toward the runway. The last one is the most common and the worst. When you undershoot, the airplane ends up aimed right at you. Nose on is the worst position for control. It is hard to see small movements and to get the correct attitude for landing. Nose on is also the least safe direction. You are aimed at yourself and must make a turn or go around. Next, undershooting can put you high on final. Normally this wouldn't be too bad since most beginners land short, but it can put you in a position where you have to make a turn to keep from going over your head. This is a bad position for turning. You are low to the ground and staring at the nose of the airplane. All of these make undershooting the runway the worst position to land. Overshooting, while not perfect, is not that bad. If you overshoot, you will be angling across the runway away from yourself—a safe direction to be going. You can usually see the side of the airplane so making a turn isn't that hard.

The solution, if you like to make one sweeping turn, is to set up closer to the runway and vary your bank to roll out in line with the runway. Or, you can make a definite base leg and not turn until you are in line with runway.

5. Bouncing and porpoising. If a bounce isn't caused by a very hard landing where the springiness of the gear flings you back up into the air, it is caused by touching down on the nose gear first. Nose gear first landings guarantee a bounce or a series of bounces called "porpoising" for the sea mammal who seems to continuously leap up into the air and splash back down. Lack of concentration and inattention can cause you to let the nose gear touch first. When you get to a couple of feet from the runway, you should concentrate on getting the nose slightly high. If the nose wheel is higher than the main wheels, you can freeze on the controls and just let the airplane land itself. From a couple of feet altitude, you can't hurt it.

6. The "Slow Curve Error." I coined the name "Slow Curve Error" in a book I wrote on Radio Control back in 1980. You see this error all the time and normally don't recognize it. The airplane makes a slow, shallow curve away from the pilot usually ending up on the far side of the runway, maybe in the grass. Here's what causes it. Lack of experience and natural tenseness as you get low and close to the runway cause the pilot to make very small errors. You make a steering correction, but it is in the wrong direction. You can already land so the correction is small and you immediately notice the airplane is turning the wrong way so you level the wings. Now you make the steering correction again, and again it is in the wrong direction. This continues and the airplane nibbles away at a slow, curving path away from the pilot.

Watch for this and you'll see it at every field. To cure the Slow Curve Error, you need to practice some low approaches, flying the airplane low and slow past yourself while trying to keep it in the center of the runway.

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This Month's Meeting is February 19th

Upcoming Area Events!!!

February 2004 Events

2004 Auction

NY

02/22/04 -Lockport, NY (E) 2004 Auction. Site: South Lockport Fire Co., 5666 South Transit Rd. For info: Richard Battaglia, 6161 Shamrock Ln East Amherst NY 14051 PH:716-741-4875. Doors open 12 noon, auction starts 1PM. We will raffle a World Models F4U Corsair ARF, including Thunder Tiger Pro. Engine, Futaba 6YG6 radio w/ 6 servos and retractable landing gear.

Sponsor: NIAGARA COUNTY R/C MODEL FLYING CLUB INC

GSCB Swap Meet & MECA Collecto

NJ

02/29/04 -Wayne, NJ (E) GSCB Swap Meet & MECA Collecto. Site: Pal Hall, Parish Dr off Rt 23 Mountain View. For info: Tom Hampshire 430 Greenwich St Belvidere NJ 07823 PH:908-475-5787. Dealers 8AM, doors open 9AM. No advance table reservations, \$5 entry, \$10 table max 3.

Sponsor: GARDEN STATE CIRCLE BURNERS