REALFLIGHT® EVOLUTION

RF TRAINER EDITION

REALFLIGHT®

RealFlight Help Guide

RealFlight Evolution

RealFlight Trainer Edition

RC Flight Simulator

Written and Edited by Horizon Hobby®

HORIZON HOBBY

Introduction

WELCOME TO THE REALFLIGHT RC FLIGHT SIMULATOR

The RealFlight RC Flight Simulator is, without question, the most advanced RC aircraft simulation available. It is so technologically advanced and so realistic, you'll find it hard to believe that it's only a simulation. The culmination of over twenty-five years of development and design, RealFlight offers advancements that will serve to fine-tune the flying skills of even the most seasoned RC veteran. If you're an entry-level RC-er, RealFlight is the ideal way to learn to fly, practice maneuvers, feel the effects of design modifications, or just have an incredible amount of fun. Thanks to the incorporation of groundbreaking Spektrum AS3X® and SAFE® stabilization technology, found in many of the additional Horizon Hobby aircraft, a better flying experience is available for a wider range of RC pilots.

RealFlight Evolution includes over 300 models that look and fly like the real thing, plus a multitude of flying sites (each with their own unique "feel" and distinctive characteristics). In addition, RealFlight Evolution offers its users the most powerful, flexible aircraft and flying site editors ever unveiled to the modeling community; allowing modelers to experiment with a virtually unlimited number of parameters. RealFlight Evolution enables you to change the look and feel of a flying site with nothing more than a few keystrokes, a click of the mouse and a little imagination. The integrated AccuModel™ aircraft editor makes modifying aircraft just as easy.

RealFlight Trainer Edition is built on the same software technology as RealFlight Evolution. It has a smaller content set, with 6 flying sites and over 20 trainer and next-step aircraft. While you cannot edit or add aircraft/flying sites in the RealFlight Trainer Edition, an upgrade to RealFlight Evolution is available for purchase when you are ready!

RealFlight also offers a wide array of tools to help you understand how to use the program and how to improve your RC piloting skills. This extensive guide explains every feature and option; as well as how to use them. We offer a number of training aids and assistance including updated flight training lessons to assist new airplane pilots in the enjoyment of the hobby! These helpful training aids provide on-the-fly learning opportunities, and we encourage you to take full advantage of them. No other RC simulator goes further to enrich your RC experience.

The following section briefly outlines some of the exciting features in RealFlight. Subsequent chapters will describe all RealFlight features in complete detail. We strongly suggest that you peruse this guide in its entirety, as it explains every feature and option, as well as how to use them.

Finally, we'd like to express our gratitude to you for purchasing RealFlight. We think you will be enormously pleased with RealFlight. Have fun flying!

Please note that while this guide has been written from the perspective of the RealFlight Evolution and Trainer Edition iterations of the software. If you are using a previous version of the simulation, most of the features and functions are still applicable as are the steps/procedures to access accordingly.

RealFlight Feature Highlights

This section briefly outlines some of the features included in the RealFlight RC Flight Simulator with the Spektrum® InterLink DX Controller.

USB Spektrum InterLink DX Controller

New to the RealFlight software is the recently developed Spektrum InterLink DX Controller. The multi-patented InterLink DX controller has been optimized for use within the simulation and incorporates a significant number of enhancements and improvements over previous RealFlight systems and control methodologies.

The InterLink DX Controller is a revolutionary device that offers you the following:

- A high-quality USB controller for RealFlight; backwards compatible to RealFlight 8 software releases, should you choose to do so.
- A built-in interface for (optionally) using your own RC transmitter to control RealFlight.
- QuickSelect™ Buttons—take control of RealFlight's menus and options from the InterLink DX without touching the keyboard or mouse.
- The InterLink DX Controller is fully **hot swappable—**you can connect and disconnect the InterLink DX or your own transmitter without rebooting your computer (or even shutting down RealFlight).
- 15 Channels- including two slider controls, 2 two-position switches, 5 three-position switches, 1 knob and 1 'Panic' button.
- High-speed response to control inputs.
- Digitally precise inputs with digital trims for unmatched control precision.
- A keyboard-free push button reset of the simulation.
- Instantly rewind your current flight and start over from any point.
- The ability to hand launch aircraft.

Horizon Hobby AS3X and SAFE Technology

RealFlight continues to expand the selections and offerings that include exclusive groundbreaking technology from Spektrum. Incorporating SAFE Select and AS3X in a multitude of models within this iteration ensures not only success for entry-level modelers but also a better flying experience for a wider range of pilots regardless of skill sets.

AS3X enhances the flight performance of models stabilizing the aircraft in whatever attitude the pilot commands. Countering external forces such as wind, torque, tip-stall, etc., our AS3X technology uses a combination of flight sensors to ensure a pleasant flying experience.

SAFE Select is a complementary technology to the AS3X flight performance. With the flip of a switch, SAFE Select is active and limits the pitch and roll angles keeping the aircraft airborne and eliminating any fears.

USB Interface

RealFlight is backwards-compatible for users that have purchased previously offered RealFlight interface options. These items offered a simple method to use your own transmitter without a lot of fuss. Like the InterLink DX, these interfaces are plug-and-play for quick installation. If you own one, the wired interface allows you to connect most popular transmitters through the trainer ports that are PPM compatible. Alternatively, there was also a wireless interface available. This wireless interface works perfectly with SLT transmitters, like Tactic® transmitters, or any transmitter utilizing the AnyLink adapter.

Spektrum users will appreciate the currently offered Spektrum WS2000 wireless simulator dongle (**SPMWS2000**), allowing modelers to control the action with a Spektrum DSM2 or DSMX-compatible transmitter. We will fully delve into the advantages and options with the WS2000 wireless simulator dongle elsewhere in this guide. If you'd like to use your Spektrum, or Spektrum-compatible transmitter with RealFlight, please refer to the applicable section of the guide for information on how to do so.

Menu-Driven Interface

RealFlight utilizes a menu-driven interface system. Created for ease of use and maximum flexibility, the menu system provides an interface familiar to even a casual computer user.

Additional Features: RealFlight Evolution

- **Virtual Reality –** RealFlight is compatible with the Oculus Rift and HTC Vive, popular VR Goggles. *VR is only available in RealFlight Evolution; it is not available in Trainer Edition.*
- **AccuModel™ Aircraft Editor –** RealFlight's aircraft editor is the most powerful and most flexible editor ever introduced in an RC simulator. AccuModel allows you to change virtually every aspect of your model with ease. It places over 1,500 airfoils at your disposal, a multitude of propellers, and much, much more! AccuModel brings up a wire-frame model for easy reference and highlights the editing area. Make a change and it's immediately reflected on-screen, ready for review and revision. *AccuModel Aircraft Editor is only available in RealFlight Evolution; it is not available in Trainer Edition.*
- **Quick Edit –** If you ever wish to make minor refinements to the aircraft, but don't wish to dive into the complexity of the full aircraft editor, the Quick Edit is the solution for you! *Quick Edit is only available in RealFlight Evolution; it is not available in Trainer Edition.*
- **Variable Pitch Prop –** Take 3D flight to 4D with the variable pitch prop. Select the FlatOut™ Extra 300S with V-Pitch and try amazing maneuvers you didn't think were possible with an airplane—like flying backwards. *Variable Pitch Prop is only available in RealFlight Evolution; it is not available in Trainer Edition.*
- **Grappling Hook –** Select the Skycrane heli to hook, grapple and drop objects. *Grappling Hook is only available in RealFlight Evolution; it is not available in Trainer Edition.*
- **Hovering Training Aids –** Learn to torque roll or hover a heli with RealFlight's Heli and Airplane Hover Trainer. For more excitement, try the Heli Orientation Trainer. Both are great training aids for anyone new to radio control. *Hovering Training Aids are only available in RealFlight Evolution; it is not available in Trainer Edition.*
- **FlexiField™ Flying Site Editor –** The FlexiField™ editor takes you beyond 2D scenes into a 3D environment rich in new objects and editing options. Customize an existing field with new foliage, different objects, or both. Create a new field with nothing more than a mouse, imagination and a few simple keystrokes. *FlexiField Flying Site Editor is only available in RealFlight Evolution; it is not available in Trainer Edition.*
- **Combat Events –** Compete in Streamer Cut, Paintball, Rocket and Machine Gun combat. Or combine racing and combat in an exciting match of DeadRinger™. Plug in a headset and microphone to your computer and chat live during these contests. *Combat Events are only available in RealFlight Evolution; it is not available in Trainer Edition.*
- **Aircraft Exhaust/Smoke –** You can control the color, density, "hang time," and other parameters related to airplane and helicopter smoke and exhaust. *Aircraft Exhaust/Smoke is only available in RealFlight Evolution; it is not available in Trainer Edition.*

- **Streamers –** Add streamers to any aircraft, to any location, in any color. Watch as they corkscrew behind the airplane during a roll or react accordingly to the wind and the propwash. *Streamers are only available in RealFlight Evolution; it is not available in Trainer Edition.*
- **Fully Editable Aircraft Paint/Decal Schemes –** Create customized trim schemes for your aircraft. To design your own paint scheme, you must use a third-party program that can edit TGA files. *Fully Editable Aircraft Paint/Decal Schemes is only available in RealFlight Evolution; it is not available in Trainer Edition.*

Additional Features: RealFlight Evolution and Trainer Edition

- **RealPhysics™ 3D –** One of the most ambitious models of flight in the world, RealPhysics 3D is unmatched in its ability to re-create the lifelike characteristics of model flying. RealFlight's physics engine has been tried and approved by Horizon Hobby's own world-class competition pilots like Ali Machinchy, David Payne, James Haley, Dustin Buescher as well as many others. Furthermore, aircraft in RealFlight behave with real-world predictability because they are carefully modeled using advanced methods and extensive real-world data. If it happens at the field or in the air, it's re-created with exacting detail in RealFlight!
- **Challenges –** These game-like events provide a fun way to test and develop your skills. Each has multiple levels. Difficulties increase as you move from one level to the next. Successfully earning a medal in each challenge unlocks new content.
- **Ghost Runs –** Compete against your bsest time in the Challenges with ghosted images of your flights, pushing you to complete each level faster.
- **Float Fly –** RealFlight offers a number of flying sites with water along with a variety of float fly aircraft. In fact, RealFlight even includes E-Flite's Habu STS 70mm EDF an incredible foray into EDF flight! Practice takeoffs and landings with this electric ducted fan without fear of crashing your R/C model.
- **Instant Rewind –** Test your pattern flying over and over again with the Rewind feature. Hold the Reset button and watch your flight rewind. Let go of the button at the point you wish to re-start your flight. Use the data lever on the controller to seek forward or backwards through your flight.
- **InterLink DX QuickSelect™ –** With RealFlight's InterLink DX controller, you're able to make quick changes such as, selecting a different aircraft or airport without touching the keyboard or mouse. First introduced in RealFlight Evolution, the scroll selection wheel which makes it even easier — and faster — to make your in-sim selections.
- **Quick Load –** Know the name of the aircraft or flying site you wish to use? Open the Quick Load gadget to quickly search and load the aircraft.
- **Training Videos –** Access the built in video player to training and feature videos. We've even expanded the Flight Training tutorials to ensure success for new modelers.
- **Real Rendering™ –** Taking advantage of cutting edge 3D graphics technology, RealFlight not only flies realistically; it also looks true to life.
- **Overhead View –** This on-screen gadget helps you find and line up to the runway for easier landings. Or use it to help find your friends during multiplayer sessions.
- **Sky Grid and Trails –** Practice your precision maneuvers with these graphical aids. Sky Grid will display a pattern in the sky for reference. Enable Trails and you will see where your aircraft has flown; allowing you to perfect your maneuvers.
- **Night Flying –** Just because the sun is down, doesn't mean that you can't fly. The same is true with RealFlight night flying. Pick a nighttime airport and watch as your aircraft lights up the sky.
- **PhotoFields™ –** RealFlight also includes ultra-realistic PhotoField airports. Using incredible high resolution digital images, RealFlight PhotoField airports are as real as it gets. In fact, RealFlight even includes Eli Field, home to the Monticello Model Masters, Horizon Hobby's annual RC Fest event and where many of Horizon Hobby's models are test flown and approved. New to RealFlight in this release is the ability to fly at the AMA (Academy of Model Aeronautics) headquarters in Muncie, Indiana. Further, the Import feature allows you to use your own panoramic photos to create new flying sites.

- **"Full Coverage" Collision Detection –** Instead of using sensors at only a few points along the aircraft, "Full Coverage" blankets the entire aircraft with detection points ensuring that every part of an aircraft will not only register a strike but, will react authentically. Contact can result in damage ranging from minor handling problems to spectacular crashes complete with realistic sound effects.
- **TruFlo Wind Dynamics™ –** RealFlight introduces modelers to RC's most realistic wind model. All the components of TruFlo Wind Dynamics work together to create the single most accurate wind field in any simulation. Wind impacts every facet of your flight, just as it would at the local field.
- **Flying Sites with Over 5,000 Square Miles to Explore –** RealFlight's TrueLife Terrain™ goes beyond the limitations of traditional simulator flight. Created and mapped from satellite imagery, RealFlight's landscape looks as "right" and richly varied as the view from your front door. Digital elevation data brings it all into accurate perspective.
- **A Living, Breathing Environment –** Everything in RealFlight's 3D world is as realistic as possible; complete with depth and details that transcend the traditional "billboard" look of other simulators. You'll see leaves and branches that dance in a passing breeze and clouds that roll by with the prevailing winds.
- **InterLink DX Controller –** Modeled after Spektrum transmitters, RealFlight's Spektrum InterLink DX controller functions as a controller, or an interface. This new unit is capable of resetting and rewinding the aircraft, or hand-launching a sailplane. Additionally, the InterLink DX is the key to navigating the QuickSelect menus – select alternative aircraft, flying sites and more, all from the controller.
- **VirtualRevolution™ Sound Technology –** Doppler-correct stereo sounds heighten the realistic effect with true sound recordings of 2-stroke, 4-stroke, turbine, electric, ducted fan and gasoline engines. As the aircraft crosses the field, the engine sound follows, just like its RC counterpart.
- **RotoSonics™ Technology –** Recreating distinctive engine/blade sounds with startling accuracy. The sounds are so lifelike, you'll swear you are at the field!
- **AFR (Advanced Flight Recorder) –** This feature allows the pilot to not only view prerecorded maneuvers, but also to record maneuvers of his/her own as well. RealFlight even allows you to record your own audio for personalized flight instruction. This feature also allows you to pause, speed up, slow down, and loop the performance. The pilot has the option to activate the digitized transmitter display, so that he/she can view the radio input while flying.
- **NavGuides™ –** Using the NavGuides, you can display a variety of heads-up on-screen information. Options range from altitude and airspeed to aircraft heading and engine RPM. This feature improves your ability to "see" what is going on in your virtual world.
- **Viewport –** You can open up a picture-in-picture display and treat it as an independent "window on the world." You can individually adjust each of the viewport's vantage points, zoom level, and direction of view.
- **Multiplayer –** You can fly with many other RealFlight owners. Participate in online competitions, or just enjoy the thrill of flying around with one another. This feature can also be used to learn new maneuvers from pilots across the street or around the world.
- **Animated Control Surfaces and Retracts –** Control surfaces, retracts, propellers, and rotor blades move for added realism.
- **Flight Failures –** RealFlight can simulate many common flight failures (radio interference, stuck servos, engine failures, etc.). Use this feature to prepare for emergencies at the field.
- **Extensive Help Materials –** RealFlight features extensive online tool tips and diagrams, a detailed guide, and technical support to enhance your enjoyment of the program.

How to Read This Guide

RealFlight is a menu-driven program, which allows you to make quick changes without having to reload the simulator each time. This guide will break out each main menu to its own chapter. This allows you to quickly find information on features and functions by the related menus.

In addition to this guide, a large RealFlight community is available online to help and discuss any topics with each RealFlight fan. This online support, in the form of a forum, can be found at **RealFlight Forums**.

Before You Begin

TO GET THE MOST OUT OF REALFLIGHT, IT HELPS TO FIRST UNDERSTAND HOW TO GET THE MOST OUT OF YOUR COMPUTER.

RealFlight is designed to work on a large variety of computer hardware. Similar to a car, if you want to go faster, you need a bigger engine. The same holds true with RealFlight. You'll be able to enjoy the simulator on most modern computers, but having the most up to date hardware for your computer will greatly increase your enjoyment.

System Requirements

You will find the suggested system requirements for RealFlight RC Flight Simulator listed below. The minimum recommended system requirements are the bare minimum PC configuration for installing RealFlight. Meeting the minimum requirements will allow you to enjoy RealFlight. However, in order to take complete advantage of the many features and functions offered by RealFlight, you should have a computer that meets or exceeds the specifications as specified in the optimum system requirements.

Minimum Recommended System and Other Requirements*

1. Desktop or laptop PC with:
2. Compatible controller/transmitter/interface, including one of the following:
    - Intel or AMD processor
    - Windows® 10 or 11
    - DirectX 11 capability
    - 4GB RAM
    - 15 GB Hard Drive space
3. Internet connection to download the Steam® Client and the RealFlight
4. Compatible controller/transmitter/interface, including one of the following:
    - Spektrum™ InterLink® DX Simulator Controller
    - Spektrum NX series transmitter and a USB to micro USB cable
    - Spektrum wireless simulator dongle plus a compatible DSM2/DSMX equipped transmitter, including
        - Spektrum DX-series transmitters
        - Spektrum NX-series transmitters
        - Spektrum iX-series transmitters
    - Spektrum MLP6DSM or SLT6 controller/transmitter and a USB to USB-C cable
    - RealFlight compatible controller or other compatible Gamepad/Joystick

Optimal System**

For best graphical performance:

- 8GB RAM
- Discrete graphics card (DirectX 11 compatible)

*some graphical features may be disabled; aerodynamic calculations remain high quality
**for best graphical performance, in addition to the minimum recommended system requirements

Multiplayer Requirements

- Broadband connection
- Computer microphone for voice chat

Virtual Reality Headset

Please refer to the system requirements necessary to support your device.

Video and Sound Cards

In order to achieve optimum performance and the best flying experience in RealFlight, there are two important components of your computer that deserve special attention: the video and sound cards.

RealFlight has undergone countless hours of compatibility testing and evaluation. As such, this software will adequately function with a variety of video cards—ranging from yesterday's favorites to tomorrow's hits.

While RealFlight works well on a wide variety of hardware configurations, it offers many features and functions that are designed to take particular advantage of the latest video technology. If you have an older computer, or a newer computer with a lower-end video card, you may want to consider purchasing a new video card to take advantage of these features and functions. This moderately priced upgrade can vastly enhance your enjoyment of RealFlight. Aside from increasing your satisfaction with RealFlight, a new video card will also work with many other games or simulators, improving their performance as well.

While not as important as the video card, upgrading your sound card may also improve your satisfaction with RealFlight. This is especially true if your computer uses an on-board sound card (a sound card affixed to the motherboard).

Getting the Most Out of RealFlight

We think you'll agree that RealFlight offers the finest set of instructions and practice tools of any RC simulator suited for both beginners and experienced pilots. Horizon Hobby is committed to the continual improvement of our products. When using the software, you should keep two things in mind:

First, similar to other pursuits, what you get out of RealFlight depends upon what you put into it. Mastering radio control requires a great deal of patience and practice. If you crash an aircraft in the simulation, take it very seriously. Crashing an actual RC aircraft can cost you a lot of time and money. Try to identify what you did incorrectly, and use the experience to avoid making the same mistake again.

Secondly, while the simulator is quite realistic and will assist you in learning many of the skills necessary to become a proficient pilot, there is no substitute for actual flying time at the field. A simulation can be a wonderful practice tool. However, no simulator, no matter how realistic, can completely replace a qualified, experienced, human flight instructor. If you are new to RC, no matter how accomplished you are on the simulator, we encourage you to work under the supervision of a qualified instructor when flying real RC aircraft.

Getting Started

A BRIEF OVERVIEW AND ASSISTANCE TO START YOU ON YOUR RC ADVENTURE.

This chapter covers the installation procedure for RealFlight, it describes the basics of running the program, and introduces you to some of RealFlight's frequently used features.

The first section, **Installing RealFlight**, offers a step-by-step approach to the installation procedure for both the program software and the controller.

The second, **Using Your Own RC Transmitter(s)**, offers the instructions you need if you intend to use your own RC transmitter to control RealFlight. If you only wish to fly with the InterLink DX controller, you may choose to skip this section.

Finally, the third section, **Exploring RealFlight**, offers a brief tour of the RealFlight program. You'll learn how to perform some basic functions, such as selecting the aircraft you wish to fly, performing simple edits to the flying field, enabling helpful gadgets, and manipulating viewports.

This chapter touches briefly on some of RealFlight's features. We strongly suggest that you also read the subsequent chapters, which describe the various features in comprehensive detail.

Installing RealFlight RC Flight Simulator

Regardless of whether you plan to use the InterLink controller by itself, or your own Spektrum transmitter through the built-in transmitter interface, follow the instructions on Program Installation in this section.

The InterLink DX controller's built-in transmitter interface also allows you to use your own Spektrum, or other, RC transmitter to control RealFlight should you opt to do so. To activate the interface adapter, you will first need to follow the instructions in the section below. This section explains how to use the transmitter interface option in the InterLink DX controller. Further, it might be necessary to purchase the optional transmitter interface cords (RFL1015) in order to utilize a Spektrum, or other such RC transmitter via the interface.

Program Installation

Accessing RealFlight via Steam requires the Steam client. If you do not have Steam installed:

1. In your internet browser, visit: store.steampowered.com/about/
2. Click the **Install Steam** button.
3. Install Steam using the downloaded file.
4. Run Steam when prompted.
5. Log into your Steam account. If you do not have one, click **Create a New Account…**

Installing RealFlight (assuming the key is purchased via Local Retailer, Tower Hobbies or Horizon Hobby)

Verify that the Steam client is running and that you are logged into your account.

1. Select the Games menu item.
2. Select **Activate a Product on Steam**.
3. When prompted, enter your RealFlight key into the Product Code field, exactly as it appears. You will receive confirmation that the RealFlight program is successfully activated.
4. Click **Finish**.
5. Steam will prompt you to install the software. Confirm your installation options, and click **Next**.
6. The installation dialog will close, and the RealFlight download will begin. Progress displays at the bottom of the Steam client.

Update Drivers

As mentioned above, before you begin installation, we strongly suggest that you update the drivers for both the sound and video cards on your PC. A driver is a software program that your computer uses to control hardware devices. Each card has its own respective driver. Most problems with installing and using RealFlight, as well as many other programs that use Microsoft DirectX, arise from using outdated video and/or sound card drivers.

If you are not sure how to update your drivers, it is suggested that you visit the support site associated with the manufacturer of the video and sound cards on your PC for information on how to do so.

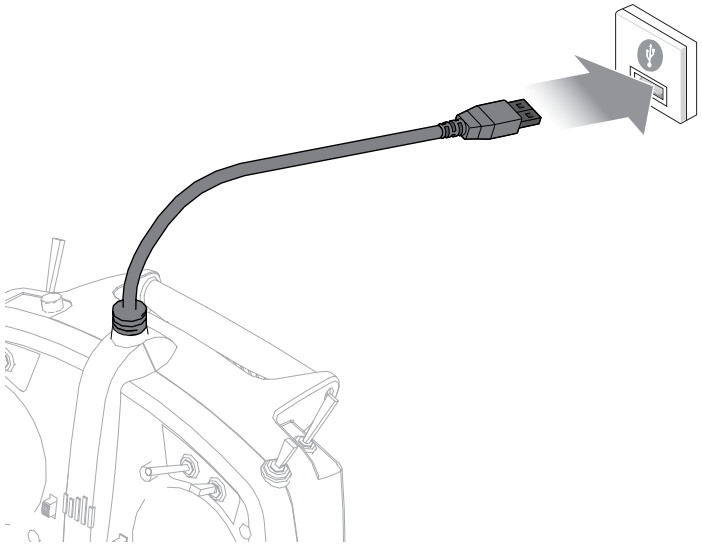
Connect the InterLink DX Controller or Interface

The InterLink DX controller and the Spektrum Wireless Simulator Dongle use the USB (Universal Serial Bus) port, so there is little to do in the way of setup. The Spektrum Wireless Simulator Dongle will be covered in a separate section of this guide. If this is the methodology that you have selected for use in controlling the simulation, please refer to this section accordingly.

It is imperative that you plug in your controller or interface into the computer first, before installing the RealFlight software!

1. With the software installation procedure complete, firmly plug into an available USB port on the PC. You do not have to shut the PC down to plug the controller in.
2. Shortly after plugging in, a dialog box should appear on the screen indicating that Windows has located a new device and will then automatically install the necessary drivers.

NOTE: It is possible that Windows will need to install the appropriate files for the InterLink DX or interface to function properly.



Changing the Throttle Stick Ratchet

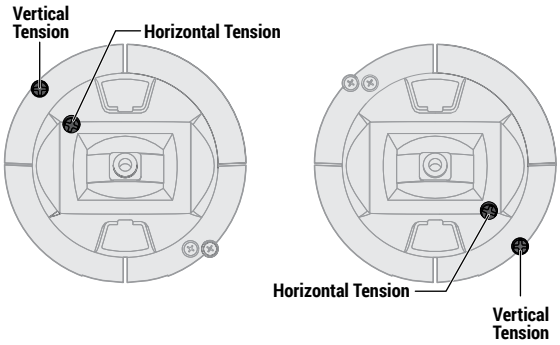
The InterLink DX incorporates a smooth throttle operation by default. This is the preferred methodology for many pilots. If, however, you wish to refine the controller to incorporate a ratcheted throttle, the Spektrum InterLink DX makes it easy to do so.

The InterLink DX has all the physical transmitter adjustments located around the gimbal face of each gimbal. This arrangement allows for quick and easy adjustments without taking the back cover off or removing any plugs to access adjustment screws.

Additional information pertaining to the Spektrum InterLink DX is found in Appendix A.

Available adjustments:

- Change the Throttle Ratchet
- Change the Throttle Tension
- Adjust Stick Tension



Ratcheted Throttle- Smooth Throttle Adjustment

RATCHET

- Locate the throttle strap adjustment screws on both gimbals. The ratchet screw engages a serrated section of the gimbal, while the tension screw engages a strap for smooth tension on the gimbal.
- To engage the throttle tension ratchet, turn the ratchet screw clockwise until the ratchet engages.
- To disengage the throttle ratchet, turn the screw counter-clockwise until the gimbal moves freely.

SMOOTH TENSION

- To engage the throttle tension, turn the respective screw clockwise until the tension engages.
- To disengage the throttle tension, turn the screw counter-clockwise until the gimbal moves freely.

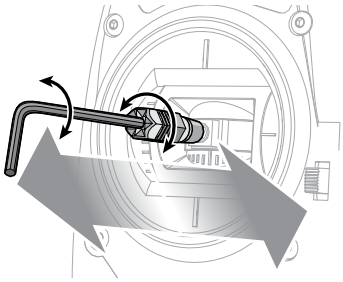
Adjust Stick Tension

Using a Phillips screwdriver, turn the screws clockwise a small amount to tighten the stick tension and counter-clockwise to loosen the stick tension.

NOTE: We strongly suggest testing the stick tension while turning these screws to ensure that stick tension is not too loose or too tight. Tightening a screw too much can damage the spring. Loosening the screw too much could cause a spring to fall off, possibly resulting in a short-circuit in the transmitter.

Control Stick Length Adjustment

- Using a 2mm Allen wrench, turn the screw in the stick counter-clockwise to loosen it.
- Make the stick length shorter by turning the stick clockwise, or longer by turning it counter-clockwise.
- After refining the stick to the desired length, tighten the screw in the stick clockwise.

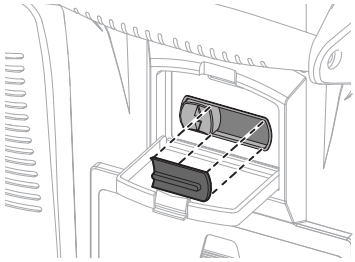


Mode Change Slider

The Spektrum InterLink DX Controller has a unique, patent-pending, slider located on the rear of the controller that allows for simple mode changes. This slider may also be used to change to the 'quadcopter' mode whereby the mode snaps both sticks to their centered position.

Safety Plug

The safety plug is installed in the transmitter to ensure the mode switch cannot be accidentally moved when in normal throttle mode (non-centered) positions.



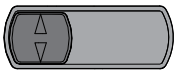
To remove the plug:

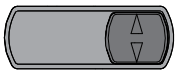
- Grasp the plug by the raised rib and pull straight out. Note: A small flat-bladed screw driver may be used to **gently** pry the plug out if necessary.
- Once the mode has been changed, reinstall the safety plug accordingly.
- Simply open the protective slider door and move the slider to the desired position. All changes happen automatically inside the transmitter.

Changing the Stick Configuration

- With the safety plug removed, ensure that both gimbal sticks are centered.
- Gently push the slider mechanism to the desired mode configuration as shown in the images to the right.
- Once the mode has been changed, reinstall the safety plug.

NOTE: It is necessary to edit the controller's operational mode, mapping the InterLink DX's profile within the simulation. Information on how to do so is found in the Select Controller section.


Mode 2, 4


Mode 1, 3


Mode 2, 4
Spring-Center Throttle


Mode 1, 3
Spring-Center Throttle

Starting RealFlight

1. Run the Steam client, select RealFlight in your library, and click the Play button. Select the launch option that best fits your needs. (If you elected to create desktop and/or Start menu shortcuts when installing, those will use the most recent launch option selected in the client.)
2. RealFlight will attempt to activate your software. The activation process must proceed in order to run RealFlight. If the computer is not currently connected to the internet, this activation process will fail to connect to the activation server and the following window will appear.

   If you do not have internet access on the computer which RealFlight is installed, follow the on-screen prompts. Write down the serial number, activation key, and Steam ID that appear. Alternatively, you may contact Software Support via email or phone.

   The RealFlight Trainer Edition does not require activation.
3. After activating successfully, RealFlight will start with the default aircraft and default flying site.

Using Your Own RC Transmitter(s)

The RealFlight interface requires you to fly in the simulator using your own RC transmitter.

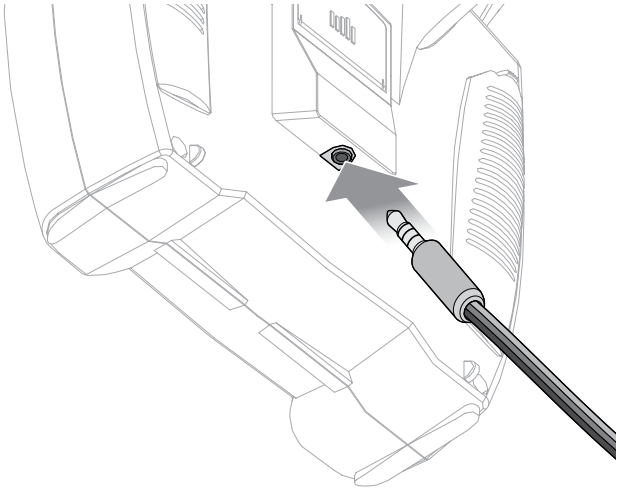
Alternatively, if you purchased the RealFlight InterLink DX controller, it offers several different modes of operation. By itself, it serves as a realistic 'stand alone' controller or joystick. Alternatively, it has a built-in interface that lets you use your own RC transmitter, such as a Spektrum transmitter, to control RealFlight.

Follow these instructions if you intend to use your own RC transmitter to control RealFlight. If you do not want to use your own transmitter, you may skip this section.

Connecting Your Transmitter to the InterLink DX

You can use your RC transmitter to control RealFlight by connecting it to the InterLink DX controller, 'buddy box' style (see diagrams). If you do not already own them, we offer adapter cords to enable you to connect many popular brands (including Spektrum) to the RealFlight simulation. These optional cords are offered as RFL1015 and may be found at your local retailer, or online hobby shop.

Locate the cable input port on the rear of the InterLink DX Controller. Plug one end of the interface connector cable into this port. Next, plug the other end of the adapter cable into the buddy box port (a.k.a. trainer jack) of your transmitter. The procedure for doing so depends on your transmitter:



- If your transmitter's buddy box port directly accepts the 1/8" stereo plug, insert this end directly into the transmitter(s). This works for many Spektrum® transmitter(s).
- If your transmitter's buddy box port requires the micro (square) connector, use the square adapter cord included with the optional interface adapter cord package.

Connecting Your Transmitter to the RealFlight Wired Interface

Some RealFlight users might have the previously available RealFlight wired interface offering. RealFlight is backwards compatible and will function adequately with this interface if so desired. The information that follows will facilitate the use of this interface. Again, it may be necessary to purchase the optional transmitter interface adapter cords to do so.

The USB end of the interface should already be plugged into the computer. Plug the other end of the interface cable into the buddy box port (i.e. trainer jack) of your transmitter. The procedure for doing so depends on your transmitter:

- If your transmitter's buddy box port directly accepts the 1/8" stereo plug, insert this end directly into the transmitter. This works for many Spektrum® transmitters.
- If your transmitter's buddy box port requires the micro (square) connector, use the square adapter cord included with the interface adapter package.

After you have connected your transmitter, you will need to perform a brief setup procedure before utilizing it with the simulation.

1. If applicable, make sure that the transmitter is in FM or PPM mode rather than PCM mode. Refer to the guide for your transmitter if you are unsure how to do this.
   NOTE: With many of today's 2.4GHz spread spectrum transmitters, this step is unnecessary and can be skipped accordingly.
2. If the transmitter does not power up when the interface cord is plugged into it, turn the power switch on at this time.
3. Next, click the **Simulation** menu and then highlight the **Select Controller…** menu item. Choose the correct **Profile** from the drop down option, or create a new one to match your transmitter. For more detail information about this dialog.

Binding your SLT Transmitter to the RealFlight Wireless Interface

As noted above, we have previously offered a wireless transmitter interface compatible with equipment that offered the SLT protocol. This was created to allow the use of Tactic® branded transmitters in the simulation.

If you own this piece of equipment and will be using a Tactic-branded transmitter, the wireless interface should already be plugged into the computer. With your Tactic® transmitter turned on, following these steps to bind your transmitter to the RealFlight RC Flight Simulator.

1. From the **Simulation** menu, click the **Select Controller…** menu item. The following window will appear:

2. With your Tactic SLT transmitter turned on, click the **Bind** button.
3. When the red light on the wireless interface turns solid, your transmitter is bound to RealFlight. You should not need to go through this process again, unless you choose to use a different transmitter.

It is possible that you may still need to edit the transmitter profile to work with the channel mapping of your transmitter. Please see **Select Controller…** for more information.

Exploring RealFlight

Now that you have completed the installation of the RealFlight program, it's time to begin exploring the program. The following sections will take you on a quick tour of RealFlight's most popular features, such as selecting an aircraft, choosing alternate flying locations, customizing the flying sites, and using the training aids instruction. Along the way, we will show you where to go for help and how to obtain additional information.

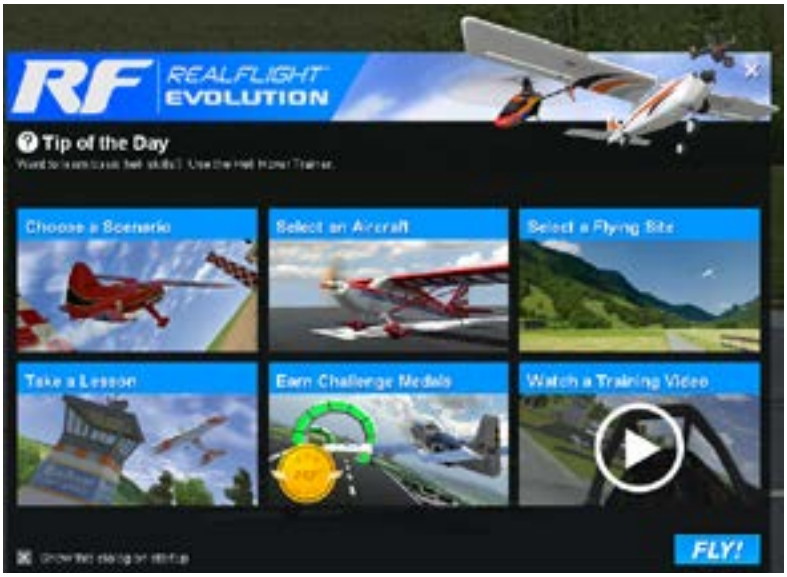
Even if you are familiar with previous versions of the RealFlight software, you should read this section thoroughly. Some features described here are either new, or have been completely revised for RealFlight Evolution and Trainer Edition.

Opening Menu

The program will start by displaying a Welcome Screen. The Welcome Screen allows you to select amongst a multitude of options which include, but are not limited to, choosing an aircraft, flying site or a scenario (a pre-selected combination of aircraft and flying site), receive a lesson, and/or earn challenge medals as desired. Additionally, at the bottom is a large button to allow you to jump directly into RealFlight and start flying immediately.

From the Welcome Screen, you can also access a number of helpful videos. The videos will walk you through some of the more popular features of RealFlight. For true beginners of RC, the training videos are a great place to start, teaching you the basic controls for flight.

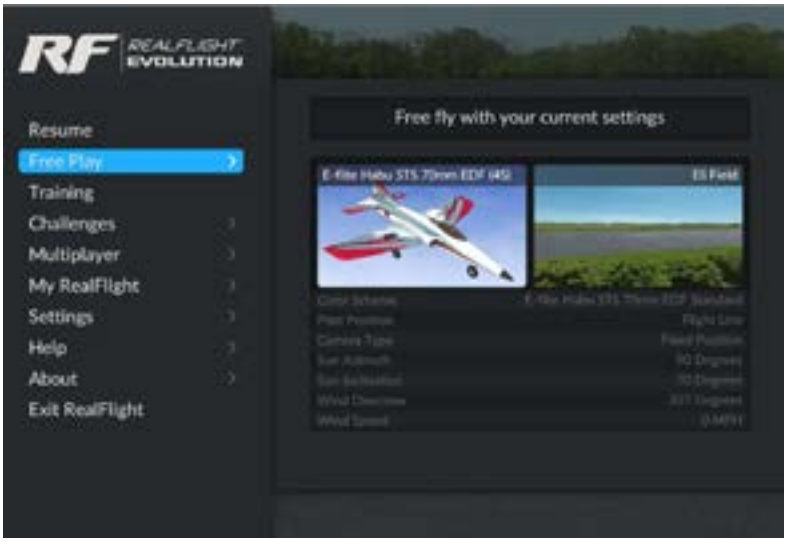
If you'd like, you can disable the Welcome Screen by unchecking the box labeled **Show this dialog on startup**. You may access the Welcome Screen at any time through the Help menu.



The Main RealFlight Display

Open the User Interface, which contains helpful tips throughout. The examples in this chapter only scratch the surface of RealFlight's unparalleled capabilities. We encourage you to explore RealFlight using some of the methods below.

- Browse through the menus. Many of the menus are self-explanatory, providing you with a more thorough look at the software. If you're adventuresome, dive right in and start making modifications to an aircraft or a flying site! It's a great way to learn more about what makes the RealFlight RC Flight Simulator tick!
- Use the Help option in RealFlight's **Help** menu.
- Talk to other RealFlight users at RealFlight Forums.



Resume
Press select to resume your flying adventure.

Free Play
Choose your aircraft, flying site, and conditions as you enjoy flying and build your skills. Select your airport, aircraft, color scheme, pilot view, environment, and scenario.

Training
Watch recorded flights by an instructor, then practice the techniques yourself.

Challenges
In these single player games designed to test and improve your piloting, fly for a maximum score.

Multiplayer
Fly with other RealFlight pilots in the multiplayer universe. Join or host network sessions. Fly for fun or compete against other players.

My RealFlight
Manage your files, export RFX packages, import custom content including 3D models, motor sound profiles, and panoramic images. You can also explore the Real Flight archives, as well as edit your current flights.

Settings
Configure the following settings within RealFlight:

- Audio
- User Interface
- Challenges
- Controller
- Graphics
- Multiplayer
- Physics
- Pilot Profile
- Simulator
- Wind

Help
Find manuals, videos, websites, and helpful tools.

About
Here you will find more information about this flight simulator.

Exit RealFlight
Exit this flight simulator and quit to Windows.

Keyboard Commands

Many options throughout RealFlight may be activated quickly by a simple press of a key on the keyboard. Below is a list of functions and their related keys. You may also access this list in the simulator by pressing '**H**' on the keyboard.

Virtual Channels	
Channel 5	Y
Channel 6	U
Channel 7	I
Channel 8	O
Channel 9	J
Gadget Commands	
NavGuide Gadget	1
Radio Gadget	2
Binocular Gadget	3
Viewport Gadget	4
Variometer Gadget	5
Multiplayer Gadget	6
Overhead Gadget	7
Timer Gadget	8
Heads-Up Display	9
Flight Modes Gadget	0
Console Gadget	~
Chat Gadget	Enter
View Commands	
Reset Aircraft	Space
Zoom Reset	Backspace
Zoom In	+
Zoom Out	-
Quick Look at Windsock	Up Arrow
Quick Look at Ground	Down Arrow
Fixed Camera	F1
Nose Camera	F2
Chase Camera	F3
Onboard Cameras	F4-F10
Set Viewport Camera	Ctrl+F1-F10
Change Camera Mode	C
Follow Camera	Shift+C
Pivot Camera	E
Orbit Camera	Ctrl+E
Select Next Pit Position	X
Select Previous Pit Position	Shift+X
Select Default Pit Position	Ctrl+X
Change Zoom Mode	Z
Change Movement Mode	Q

Movement Commands	
Move Forwards	W
Move Backwards	S
Move Left	A
Move Right	D
Move Slow	Ctrl
Move Fast	Shift
Move Very Fast	Shift+Ctrl
Environment Commands	
Increase Wind Direction	Home
Decrease Wind Direction	End
Increase Wind Speed	Page Up
Decrease Wind Speed	Page Down
Increase Turbulence	Insert
Decrease Turbulence	Delete
Increase Sun Azimuth	Shift+Home
Decrease Sun Azimuth	Shift+End
Increase Sun Inclination	Shift+Page Up
Decrease Sun Inclination	Shift+Page Down
Miscellaneous Commands	
Take Screenshot	Tab
Toggle Microphone On/Off	V
Kill Engine	K
Start/Stop Recording	R
Look at Next Aircraft	T
Look at Previous Aircraft	Shift+T
Look at My Aircraft	Ctrl+T
Remember Aircraft Position	P
Clear Position	Ctrl+P
Flight Failures	F
Quick Load Gadget	Ctrl+F
Quick Edit Gadget	Ctrl+Q
Mute/Unmute Audio	M
Toggle Full Screen Mode	Alt+Enter
View Keyboard Commands	H
Copy Messages to Clipboard	Ctrl+C
Game Commands	
Target Previous Aircraft	[
Target Next Aircraft	]
Clear Target	\
Toggle Padlock View	/

Controlling RealFlight

FLY WITH THE INTERLINK DX, YOUR SPEKTRUM DSM2/DSMX TRANSMITTER, OR WITH YOUR OWN TRANSMITTER.

The RC transmitter is a key component in all types of RC flying. This unique method of control is part of what separates RC from every other type of aviation. Consequently, a realistically simulated transmitter is an important key to an authentic simulation of the RC experience.

With this in mind, we at Horizon Hobby are proud to offer many choices to control the RealFlight RC Flight Simulator software. Our revolutionary USB InterLink DX (U.S. Patent #6,842,804 and #7,010,628) controller, is the most popular option. The InterLink DX controller was designed from the ground up to meet the needs of the RC purist. We believe that no other RC simulator control method goes further to enrich your RC simulator experience.

Wireless Simulator Dongle

The Spektrum WS2000 Wireless Simulator Dongle (SPMWS2000) is another popular option, enabling you to control RealFlight aircraft with your Spektrum DSM2 or DSMX-compatible transmitter.

The previously offered RealFlight SLT wireless interface option is also functional with RealFlight. This allows you to fly using your own Tactic SLT transmitter, or a transmitter equipped with an AnyLink/AnyLink2 adapter. This discontinued wireless interface is not compatible with the Spektrum SLT6.

Additionally, the previously offered, RealFlight wired interface option allows you to utilize RealFlight by connecting to your transmitter's trainer port.

Features of the InterLink DX Controller

- USB compatibility and convenience. The InterLink DX offers the "plug and play" convenience, "hot pluggable" installation and removal, as well as the high-speed digital performance made possible by Universal Serial Bus (USB) technology.
- High quality "mockup" 15-channel transmitter. Use the InterLink DX controller by itself as a pseudo RC transmitter, with the controls you expect in a standard RC transmitter. The mockup transmitter features two 2-position switches, five 3-position switches, a rotary knob, two sliders, a push-button, and knurled control sticks with adjustable length, tension and ratchet availability.
- Built-in transmitter interface. If you so choose, you can use your own FM or FM-compatible RC transmitter to control RealFlight, using the InterLink DX controller's built-in interface. You can even switch back and forth between the pseudo controller and your own transmitter! Interface adapter cords are available separately that are for use with most Spektrum, Tactic, JR and Futaba transmitters.
- QuickSelect menu controls. With the InterLink DX, you're able to make a variety of common adjustments to the simulator (such as selecting a different aircraft or airport) without having to touch the keyboard and mouse.
- Easy setup and use. Simply plug it in and go!
- Simulate sophisticated computer radios. The InterLink DX, used in conjunction with the RealFlight software, allows you to simulate the programmability (mixing, exponential, etc.) of sophisticated computer radios.

Features of the Spektrum WS2000 Wireless Simulator Dongle

- USB compatibility and convenience. The dongle offers the “plug and play” convenience.
- No wires to tether you to the computer. Complete freedom to sit back and enjoy the RealFlight experience with your Spektrum DSM2 or DSMX-compatible transmitter.
- Gain confidence in the programming of your applicable Spektrum transmitter.
- Become acquainted with not only the location of the respective switches, buttons, etc. found on your Spektrum transmitter but also the ‘feel’ of the transmitter in your hands.

Features of the RealFlight Wireless SLT Interface

- USB compatibility and convenience. The interface offers the “plug and play” convenience.
- No wires to tether you to the computer. Complete freedom to sit back and enjoy the RealFlight experience.
- Compatible with Tactic’s SLT protocol. Any transmitter using the Tactic SLT protocol will work perfectly with the wireless interface. Transmitters without SLT can utilize an AnyLink or AnyLink2 adapter. Spektrum SLT transmitters (like the SLT6) are not compatible with this interface.

Features of the RealFlight Wired Interface

- USB compatibility and convenience. The interface offers the “plug and play” convenience, “hot pluggable” installation and removal, as well as the high-speed digital performance made possible by Universal Serial Bus (USB) technology.
- Use your own FM or FM-compatible RC transmitter to control RealFlight. Interface adapter cords are included for most Spektrum, Tactic, JR and Futaba transmitters.
- Reset/Rewind – We brought the best function of the previous InterLink to the RealFlight interface with the Reset/Rewind button. With the interface near hand, there is no need to reach for the keyboard.

Start Flying!

When you start RealFlight for the first time, the software will automatically detect the InterLink DX controller. When you close the Welcome Screen, simply add throttle and start flying right away.

NOTE: In order to obtain the best flying experience possible, we strongly suggest that you calibrate the InterLink DX controller accordingly.

If you are flying with your own transmitter with the RealFlight interface, or through the InterLink DX, please refer to the Select Controller section.

QuickSelect

The InterLink DX also offers QuickSelect buttons located on the controller. These buttons allow you to make simple changes to the simulator without having to put the controller down and reach for the keyboard or mouse. This makes it convenient to change the current aircraft and airport, or display popular on-screen gadgets.

To access the QuickSelect tabs, press the **Scroll Wheel/Select** to display a number of tabs along the left side of the simulator. Roll the scroll wheel to rotate through these options. Pressing the **Scroll Wheel/Select** once again will select the highlighted tab. Pressing the **Cancel** button on the InterLink DX will exit out of the tabs and hide them.

Select Scenario

Select Aircraft

Select Airport

NavGuides Gadget

Radio Gadget

Binocular View

Viewport

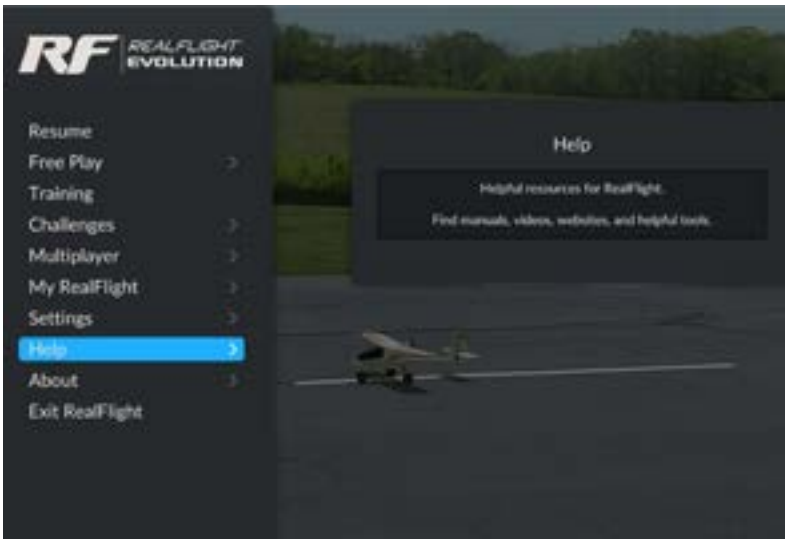
When using the QuickSelect buttons in the Select Aircraft or Select Airport dialog screen, press the **Scroll Wheel/Select** to select the highlighted item. Pressing **Cancel** on the InterLink DX will move you up a level, so you can quickly change folders. To exit out of these dialog screens without making any changes, simply press the **Reset** button.

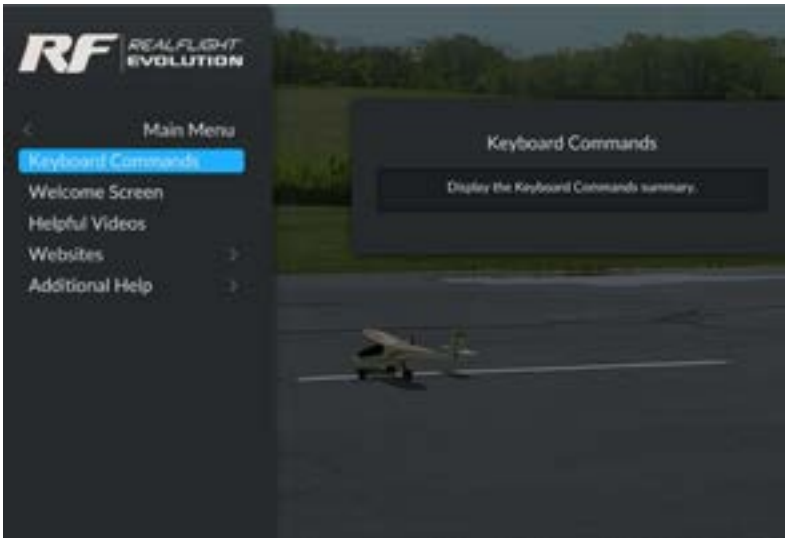
Help Menu

WHEN ALL ELSE FAILS, ASK FOR HELP.

This menu provides you with miscellaneous assistance and guidance with a variety of simulator-related issues.

To access the **Help** files, click on the **Help menu** item.





RealFlight Help Guide

This menu item accesses the RealFlight guide which you are reading now.

To access the **RealFlight Help Guide** file, and click on the **Help Guide** menu item. At any point, you can press ESC or Cancel on your computer to open the Main Menu.

Other Useful Help Links

- Talk to other RealFlight users at RealFlight Forums.
- Activate and install Real Flight on Steam
- RealFlight Knowledge Base

Spektrum WS1000/WS2000 Dongle Help

USB Spektrum Wireless Simulator Dongle

The Spektrum WS1000/WS2000 Wireless Simulator USB Dongles are compatible with any of the Spektrum transmitters that utilize the Spektrum DSMX or DSM2 protocols.

This interface unit allows modelers to wirelessly control the flight of their RealFlight models from the same transmitter that will be used to fly their actual models. There are several different modes of operation. For additional information on connecting the WS2000 and programming the transmitter (if applicable) please refer to the WS2000 sections within this guide.

Connecting your Spektrum Transmitter to the WS2000 Wireless Dongle

The WS2000 dongle allows the use of Spektrum DSMX and DSM2 compatible transmitters with RealFlight.

1. Select a new default (unused) model in your Spektrum transmitter.
2. Press and hold the bind button on the side of the WS2000 Spektrum wireless simulator dongle. This is the area with the Spektrum logo represented by the 'bars'. With the bind button depressed, insert the unit into a powered USB port. The wireless dongle should enter a bind mode indicated by a rapidly blinking light. If using the WS1000 wireless dongle, the bind button is located on the end of the dongle.
3. Follow the bind process/methodology for your transmitter, bind the wireless dongle to your Spektrum transmitter.

A solidly glowing light on the wireless dongle indicates that it is now bound to the Spektrum transmitter.

If you experience difficulty in binding to the wireless dongle, move the transmitter away from the dongle while attempting to bind. We suggest a distance between 1–3 meters.

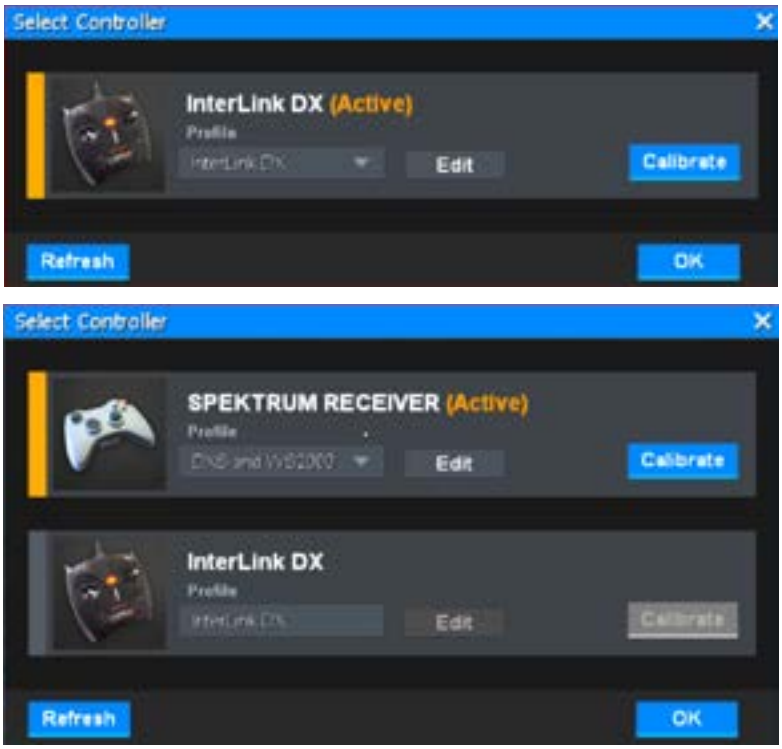
Implementing the WS2000 Wireless Dongle with RealFlight

Make sure that the dongle is inserted in a powered USB port and that the Spektrum transmitter is powered on and bound to the dongle as described above. For our example, we will be utilizing the WS2000 which is the most recent wireless dongle offered.

1. From the **Simulation** menu, click the **Select Controller…** menu item. The following window will appear:

2. If it not already selected, please select the Spektrum Receiver (WS2000) as the Active controller methodology. The controller/device that is currently in use (or 'Active') is indicated by the orange bar next to the name (as depicted in the image above). To do so, simply click anywhere in the box that denotes the controller type.

3. If the Spektrum Receiver/controller does not appear in the list of options, click the Refresh button. This will, as the name suggests, update the list of available controllers and the Spektrum Receiver (WS2000) should now appear amongst these options.



4. Click **OK** to accept the selected controller and return to the simulation.

Your transmitter's control inputs should function within the simulation at this point. Please verify by inputting commands from your Spektrum transmitter and viewing the aircraft's movement onscreen.

From here, we strongly recommend calibrating the Spektrum transmitter within the simulation. This will ensure that the models are trimmed properly and that the control input yields the desired output. For example, you want to make sure that the aileron stick not only moves the aileron but also that it moves it in the proper direction.

RealFlight also offers an incredible amount of flexibility and customization. This same level of flexibility is afforded to the control methodology as well. For example, it is possible to assign a different switch, knob, etc. to control a given function within the simulation to suit your personal preference.

Please refer to the applicable section of this guide for information on the profile, calibration, editing, etc. within the simulation.

It is possible that you may still need to edit the transmitter profile to work with the channel mapping of your transmitter. Please see **Select Controller…** for more information.

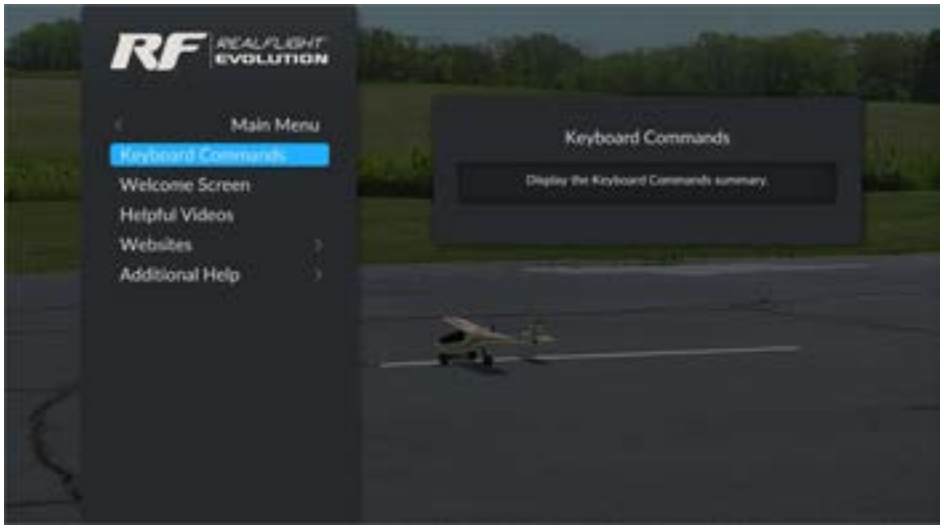
Keyboard Commands

RealFlight allows you to access menu and other commands from your computer's keyboard. A key that directly invokes a command is called a "quick key" or "hot key."

For example, pressing the **[+] (plus)** key on the keyboard's number pad incrementally zooms your view towards the aircraft. This is exactly the same result that arises if you select **Zoom In** from the RealFlight's View menu item. Consequently, we say that the **[+] (plus)** is a hot key for the **Zoom In** command.

To access the Keyboard Commands press the 'H' key on your keyboard or, click the **Help** menu item, followed by the **Keyboard Commands** menu item.

The following overlay will appear:



The Keyboard Commands screen contains all of the information pertaining to the hot keys. To view the entire list, drag the scroll bar on the right side of the Keyboard Commands screen down.

Clicking on the '**X**' in the title tab of the frame will remove it from the screen.

Welcome Screen

The Welcome Screen that appears when you first start RealFlight can be accessed at any time from this menu item.

The Welcome Screen gives you the ability to change aircraft, flying sites or scenarios. You may also select a most recently flown aircraft, earn Challenge medals, or open the video player window.

Video Player

RealFlight offers training videos to assist the first-time RC pilot as well as videos to highlight some of the more popular features available. Selecting the Video Player menu item will display the following screen.

Clicking a thumbnail will automatically start that video. To return to the video selection screen, simply click the **Choose Another Video** button found at the lower right corner.

The Video Player is also accessible from the Welcome Screen.

Websites

This menu item contains direct links to the RealFlight related websites. Please ensure that you are connected to the internet before making your selection. The options include:

Horizon Hobby, LLC

Publishers of the RealFlight RC Simulator. Visit their site for information pertaining to the many other Horizon Hobby exclusive product offerings.

RealFlight

Visit the RealFlight website for more information about the RealFlight family of products, search the knowledge base for technical support, or for information on how to contact our support staff if you have questions.

RealFlight Forums

Join the community of RealFlight users to discuss the simulator and get help with many issues.

Swap Pages

If you have created your own aircraft, flying site or recording and would like to share it with the rest of the RealFlight community, you can do so at the RealFlight Swap Pages. Or, visit the swap pages to download hundreds of aircraft, flying sites, etc. to add to your RealFlight hangar.

InterLink DX Controller

UTILIZING THE INTERLINK DX CONTROLLER TO IMPROVE YOUR FLYING EXPERIENCES.

Prior to picking up the InterLink DX controller and simply thrashing around the sky, it's beneficial to completely understand all that the InterLink DX controller has to offer as a controller and an interface as well.

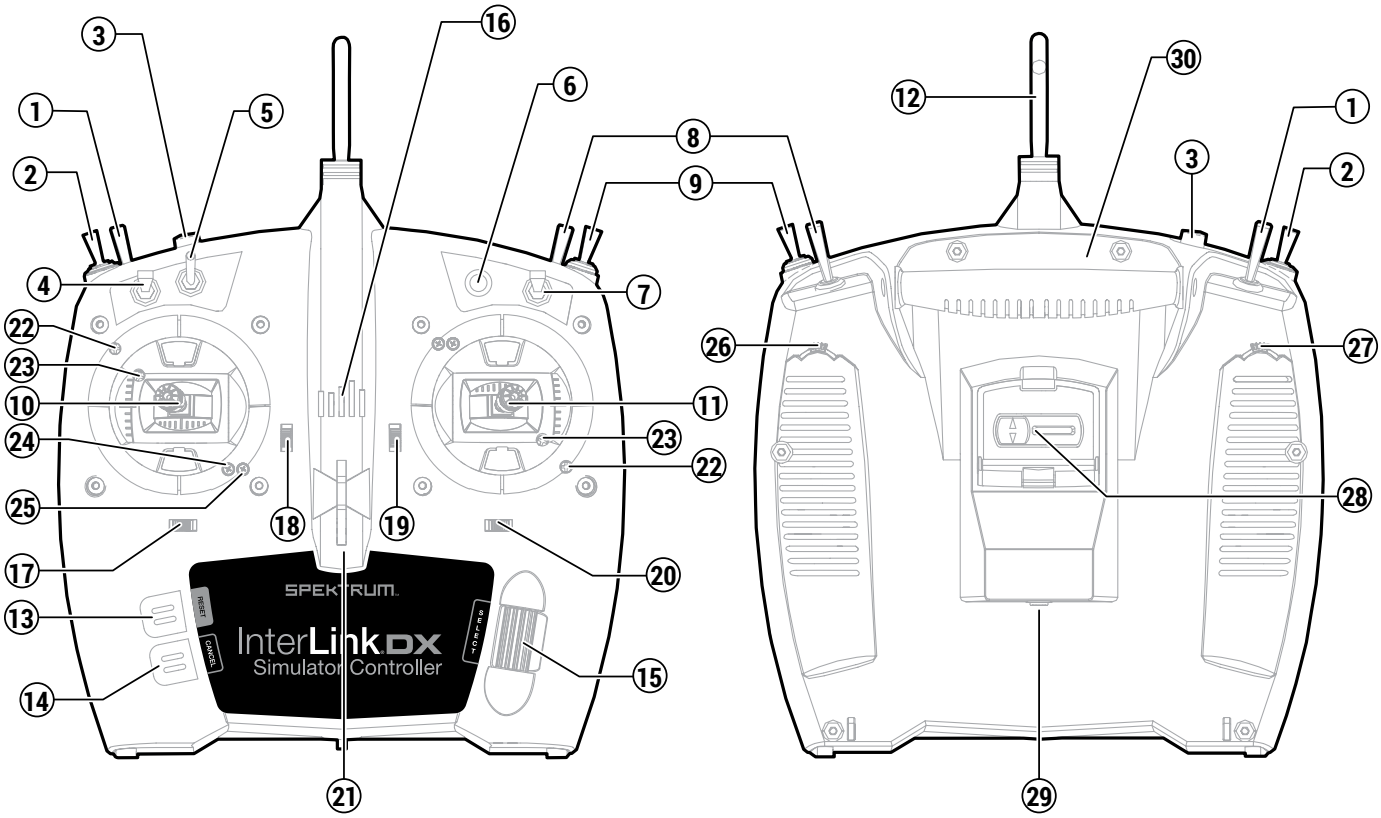
InterLink DX Layout

The InterLink DX unit offers two two-position switches, five three-position switches, a rotary knob, and a push-button, two horizontal sliders and two gimbal sticks to control the aircraft within the simulation. Our engineering staff have designed this controller, and the applicable functionality to mimic the typical input offerings from actual Spektrum transmitter offerings.

Additionally, the staff have incorporated the Scroll Wheel/Select button as well as the Reset and Cancel buttons to enhance the RealFlight experience.

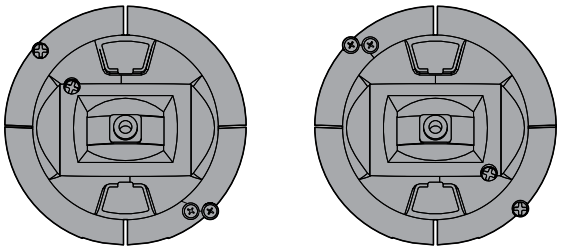
Below you will find the identification/layout of the switches, gimbals, etc. In subsequent areas of this Appendix, we will further explore the options, etc. that are offered by the newly developed Spektrum InterLink DX controller and from the RealFlight RC Flight Simulator accordingly.

As you'll see, this is much more than a simple joystick controller or gaming device, used properly the Spektrum InterLink DX controller and the RealFlight RC Flight simulator software will prepare you for many, many years of flying and complete enjoyment of the hobby alike.



1	Switch A (2 Position)	16	Power LED
2	Switch B (3 Position)	17	Rudder Trim (Mode 1, 2) Aileron Trim (Mode 3, 4)
3	I Button	18	Elevator Trim (Mode 1, 3) Throttle Trim (Mode 2, 4)
4	Switch C (3 Position)	19	Elevator Trim (Mode 2, 4) Throttle Trim (Mode 1, 3)
5	Switch D (3 Position)	20	Rudder Trim (Mode 3, 4) Aileron Trim (Mode 1, 2)
6	R Knob	21	Neck Strap Mount
7	Switch F (3 Position)	22	Gimbal Stick Tension Adjust (Up/Down)
8	Switch H (2 Position)	23	Gimbal Stick Tension Adjust (Left/Right)
9	Switch G (3 Position)	24	Throttle Tension Adjust
10	Left Stick	25	Throttle Ratchet Adjust
11	Right Stick	26	Right Rear Slider
12	USB Cable	27	Left Rear Slider
13	Reset Button	28	Mode Change Switch
14	Cancel Button	29	Trainer Port
15	Scroll Wheel / Select Button	30	Handle

Physical Transmitter Adjustments

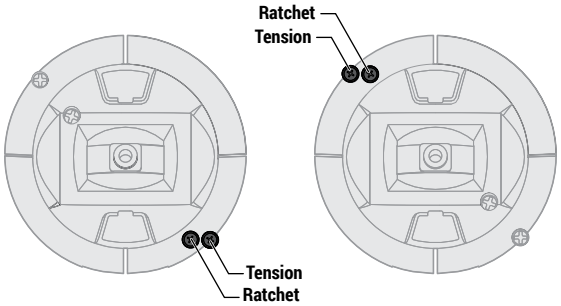


The InterLink DX Controller incorporates all of the physical transmitter adjustments located around the gimbal face of each gimbal. This arrangement allows for quick and easy adjustments without taking the back cover off of removing any plugs to access adjustment screws.

Available Adjustments:

- Change the Throttle Ratchet
- Change the Throttle Tension
- Adjust the Stick Tension

Ratcheted Throttle- Smooth Throttle Adjustment



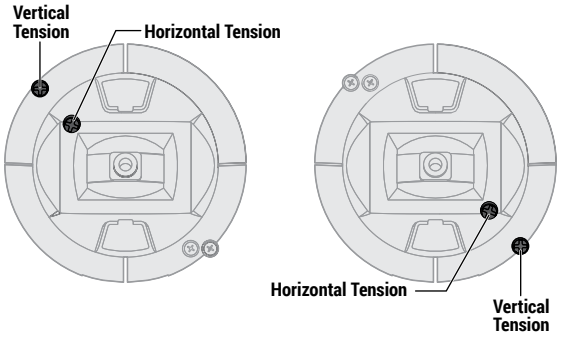
Ratchet

1. Locate the Throttle Strap adjustment screws on both gimbals. The ratchet set screw engages a serrated section on the gimbal for a ratcheted throttle, while the tension set screw engages a strap for smooth tension on the gimbal.
2. To engage the throttle ratchet, turn the ratchet screw clockwise until the ratchet engages.
3. To disengage the throttle ratchet, turn the screw counter-clockwise until the gimbal moves freely.

Smooth Tension

1. To engage the throttle tension, turn the Tension screw clockwise until the Tension engages.
2. To disengage the throttle Tension, turn the screw counter-clockwise until the gimbal moves freely.

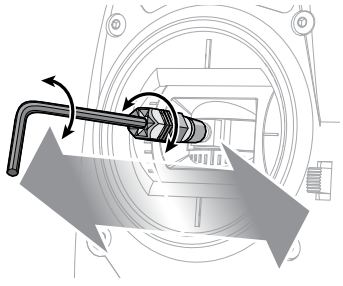
Adjust Stick Tension



Turn the screws clockwise a small amount using a small Phillips screwdriver to tighten the stick tension and counter-clockwise to loosen.

NOTE: Always perform a test of the stick tension while turning these screws to ensure that stick tension is not too loose or too tight. Tightening a screw too much may damage a spring. Loosening the screw too much may cause the spring to fall off possibly resulting in a short-circuit in the transmitter.

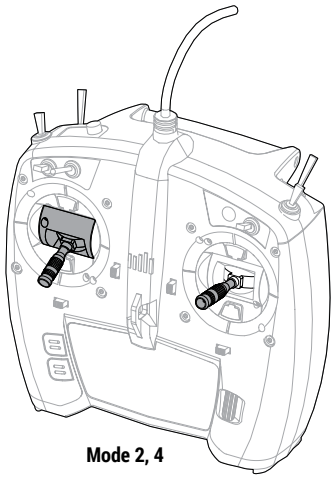
Control Stick Length Adjustment



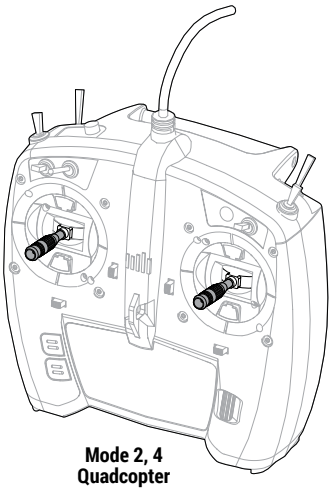
1. Using a 2mm Allen wrench, turn the setscrew in the stick counter-clockwise to loosen.
2. Make the stick shorter by turning it clockwise. To make the stick longer, turn the stick in a counter-clockwise direction.
3. After the adjustment of the stick lengths are completed, tighten the setscrew accordingly.

Mode Change Slider

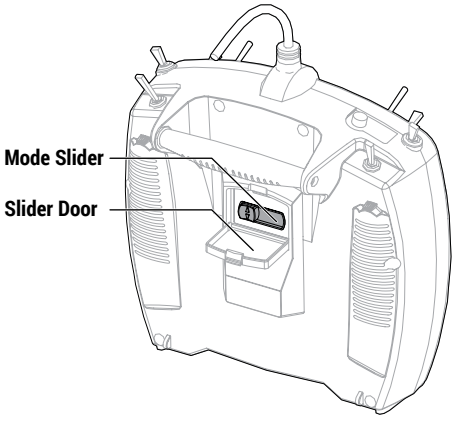
There is a unique slider located on the back of the InterLink DX controller that allows for simple mode changes. This slider can also be used to change each mode into a 'quadcopter mode.' This mode snaps both sticks to the center position accordingly.



Mode 2, 4

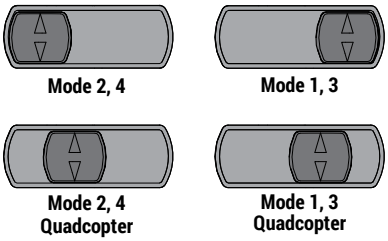


Mode 2, 4
Quadcopter



Safety Plug

The Safety plug is installed in the controller to ensure that the mode switch cannot be accidentally moved when in the normal throttle mode (non-centered) positions.



To remove the plug:

1. Grasp the plug by the raised rib and pull straight out.

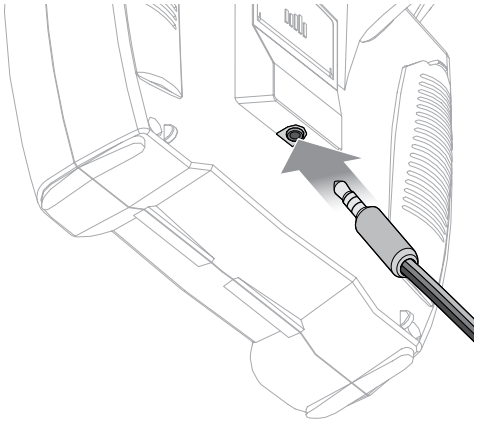
Tip: Use a small flat-bladed screwdriver to gently pry the plug out.

2. Once the mode has been changed, reinstall the safety plug.

Simply open the protective slider door and move the slider to the desired position. All changes happen automatically inside the transmitter.

Connecting Other Transmitters to RealFlight RC Flight Simulator

To connect other compatible transmitters to the InterLink DX controller, and to use them within the simulation, it is necessary to use the optional interface adapter cords (purchase RFL1015). Simply plug the appropriate cord into the port on the rear of the InterLink DX, as shown above. Plug the remaining end of the interface adapter cord into the trainer port of the transmitter. The InterLink DX is now enabled as a pass through/interface unit.



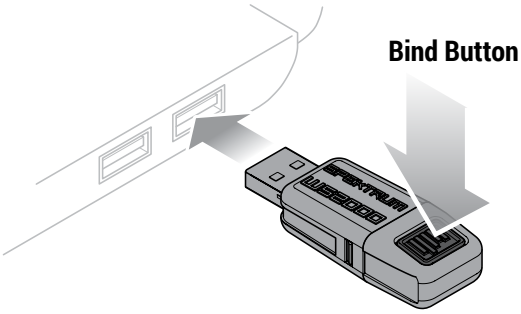
For additional information on using other transmitters with the RealFlight RC Flight Simulator, please refer to the Using Your Own RC Transmitter section.

Spektrum WS2000 Wireless Dongle

UTILIZING THE WS2000 WIRELESS DONGLE AND YOUR SPEKTRUM TRANSMITTER TO IMPROVE YOUR FLYING EXPERIENCES- END ENHANCE THE REALISM.

Connecting your Spektrum Transmitter to the WS2000 Wireless Dongle

The WS2000 dongle allows the use of Spektrum DSMX and DSM2 compatible transmitters with RealFlight.



1. Select a new default (unused) model in your Spektrum transmitter.
2. Press and hold the bind button on the side of the WS2000 Spektrum wireless simulator dongle. This is the area with the Spektrum logo represented by the 'bars'. With the bind button depressed, insert the unit into a powered USB port. The wireless dongle should enter a bind mode indicated by a rapidly blinking light.
3. Following the bind process/methodology for your transmitter, bind the wireless dongle to your Spektrum transmitter.

A solidly glowing light on the wireless dongle indicates that it is now bound to the Spektrum transmitter.

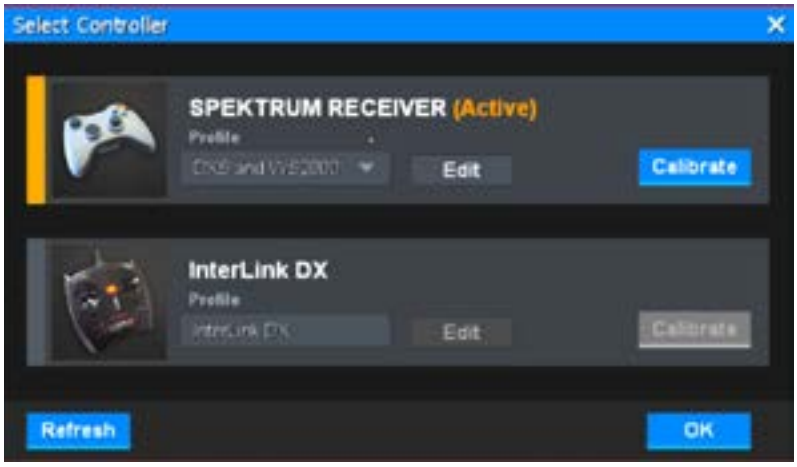
If you experience difficulty in binding to the wireless dongle, move the transmitter away from the dongle while attempting to bind. We suggest a distance between 1–3 meters.

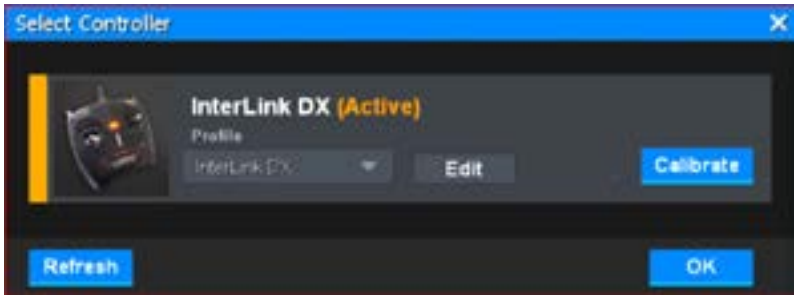
Implementing the WS2000 Wireless Dongle with RealFlight

Make sure that the WS2000 is inserted in a powered USB port and that the Spektrum transmitter is powered on and bound to the WS2000 as described above.

1. From the **Simulation** menu, click the **Select Controller…** menu item. The following window will appear:

2. If it not already selected, please select the Spektrum Receiver (WS2000) as the Active controller methodology. The controller/device that is currently in use (or 'Active') is indicated by the orange bar next to the name (as depicted in the image above). To do so, simply click anywhere in the box that denotes the controller type.
3. If the Spektrum Receiver/controller does not appear in the list of options, click the **Refresh** button. This will, as the name suggests, update the list of available controllers and the Spektrum Receiver (WS2000) should now appear amongst these options.
4. Click **OK** to accept the selected controller and return to the simulation.





Your transmitter's control inputs should function within the simulation at this point. Please verify by inputting commands from your Spektrum transmitter and viewing the aircraft's movement on screen.

From here, we strongly recommend calibrating the Spektrum transmitter within the simulation. This will ensure that the models are trimmed properly and that the control input yields the desired output. For example, you want to make sure that the aileron stick not only moves the aileron but also that it moves it in the proper direction. The calibration process passes inputs from the transmitter to the programming within RealFlight and is VERY important.

RealFlight also offers an incredible amount of flexibility and customization. This same level of flexibility is afforded to the control methodology as well. For example, it is possible to assign a different switch, knob, etc. to control a given function within the simulation to suit your personal preference.

Please refer to the applicable section of this guide for information on the profile, calibration, editing, etc. within the simulation.

It is possible that you may still need to edit the transmitter profile to work with the channel mapping of your transmitter. Please see **Select Controller…** for more information.

Virtual Channels

RealFlight is designed as a 15-channel transmitter system though many transmitters do not offer 15-channel functionality and/or has channels mapped non-sequentially. Additionally, it should be noted that the WS2000 Wireless Dongle mimics an 8-channel receiver.

Our developers have programmed RealFlight so that some channels may function with keyboard input.

Channel	Key	Type
5	Y	On/Off Switch
6	U	Knob
7	I	On/Off Switch
8	O	3-Position Switch

The on/off switches are very simple, pressing the key once toggles the switch from one extreme to the other.

Channel 6, the knob, functions differently though. A brief tap of the 'U' key moves the knob's position from one extreme to the other. Holding the 'U' key mimics a smoothly rotation of the knob.

Channel 8, a three-position switch, functions similarly to the knob in that tapping the 'O' key quickly toggles the switch between the low and high positions. Pressing and holding the 'O' key places the switch in the middle position.

RealFlight's Software Radio

The RealFlight program incorporates a sophisticated computer radio simulation programmed for each model; the 'Software Radio'. While many users find this convenient as it saves time and allows them to enjoy the simulation immediately without programming their own transmitter; others prefer to utilize their Spektrum transmitter to familiarize themselves with the programming and 'feel' of the transmitter that they will be using at their local field.

Three ways to use your transmitter within RealFlight RC Simulator:

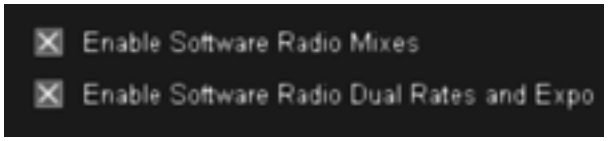
- Fully enable the software radio
- Utilize the rates and exponential programming within your transmitter- ideal for users with advanced skills that wish to use triple rates, exponential curves within their transmitter, etc.
- Create a custom model memory within the Spektrum transmitter for each model flown in the simulation. In doing so, RealFlight's Software Radio is disabled and all input/programming is done within the Spektrum transmitter

Fully Enable the Software Radio

As previously noted, RealFlight will utilize its sophisticated Software Radio to mimic a computer radio's rates, exponentials, and mixing functions. The program will automatically load the correct Software Radio settings for each individual model every time you switch aircraft.

Again, this is the easiest option- and is the default setting. It is imperative that the Spektrum transmitter send unmodified channel data to the simulation. Perform a complete data reset on a given model memory, or select an unused model memory within the transmitter. Prior to clearing any data, make sure that the model memory is available and is not used for any other models, etc.

Please ensure that the Enable Software Radio Mixes AND the Enable Software Radio Dual Rates and Expo are both checked- contain an 'X' as follows:

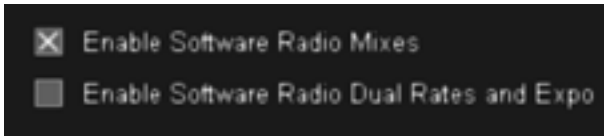


Again, when you bind your transmitter to the WS2000, ensure that the stick, switch and knob inputs function as desired. To do so, please refer to the **Select Controller…** section of this guide. We will cover Channel Mapping once again in a subsequent section.

Utilize the Rates and Exponential from the Spektrum Transmitter

Using the rates and mixes on your transmitter will enable you to use the advanced radio functionality of your transmitter.

The disadvantage in this methodology is that it's not tuned for each of the models individually. That is, all of the rates and exponential are identical for all models throughout the simulation.



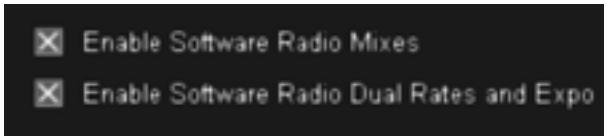
It is necessary to create a Radio Profile utilizing the Edit Profile screen. When you've done so, we suggest you name it something obvious to note that the mixes are active in the software. This will prevent any confusion, or difficulties, later when the profile is used in the software.

Fully Utilize Functionality from Spektrum Transmitter: Software Radio Mixes and Software Dual Rates and Exponential

This is the most advanced methodology as ALL functions are controlled from the Spektrum transmitter. That is, all flying and flight inputs are directly from the transmitter through the software- including any mixing as well as the dual rates and exponential functions.

The advantage in this method is that it's feasible to use one of the model memories from your field models and mimic flight within the simulation. All functionality is passed directly to the model from the transmitter.

The disadvantage is that it's necessary to create every function within the transmitter from the start- and you'll need a separate model memory for each model within RealFlight.



Basics of Flying

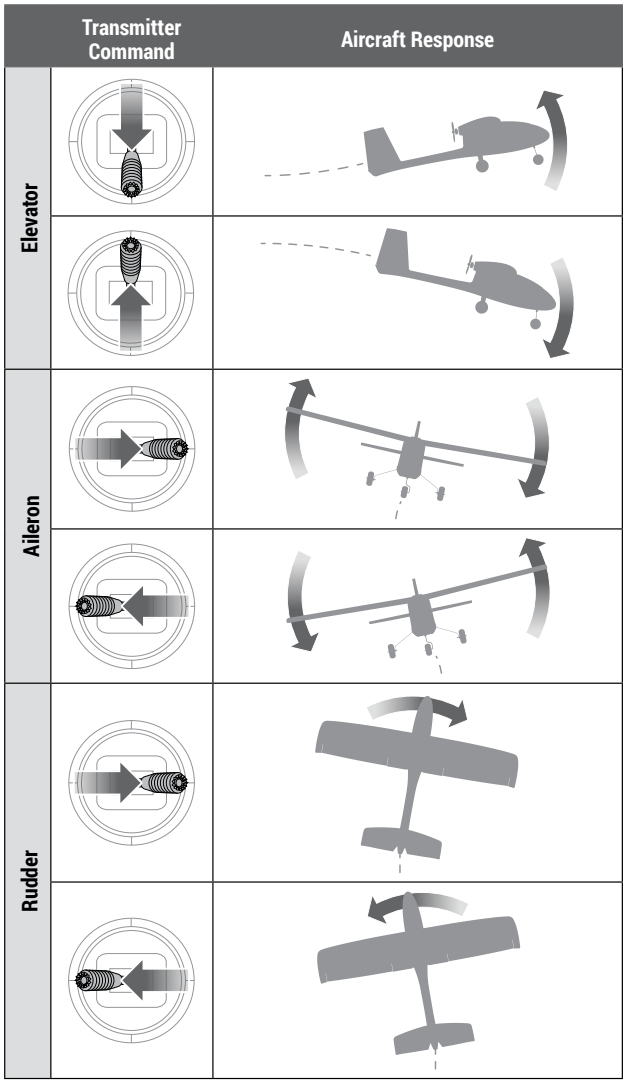
UNDERSTANDING THE FUNDAMENTALS OF RADIO CONTROL FLYING.

Before taking control of a transmitter, it helps to understand the basics of flight, and the functionality of the gimbals, sticks and switches to properly control the aircraft. This appendix reviews the basics of flying an airplane or a helicopter to help get you started down the right path.

Airplane Basics

Before you fly the plane, make sure all switches are in their off or low rates, positions. The switches may be assigned to different items depending on how you have configured your controller and which aircraft you are flying. If you are using your own transmitter to control RealFlight, please consult your transmitter owner's guide for more information.

The InterLink DX features digital trim tabs which are more precise and offer trim memory within the simulation. Trim tabs are the small slider controls on the controller (two per controller stick). They "trim" the aircraft so that it flies straight and level. For example, if an airplane has a tendency to veer slightly downward, you may need to add a slight "up" nudge to the elevator. You can do this by sliding the elevator trim, a click or two at a time, towards the bottom of the controller.



Flight Control

Flying Faster or Slower: When your aircraft is stable in the air, push the throttle stick up to make the aircraft go faster. Pull the throttle stick back to slow down. The aircraft will climb when the throttle is increased.

Elevator Up and Down: Push the elevator stick forward to make the aircraft go down. Pull the elevator stick back to go up.

Aileron Right and Left: Move the aileron stick right to make the aircraft roll or 'bank' right. Move the aileron stick left to bank left.

Tip: Always picture yourself in the aircraft when determining which way to bank the aircraft wings. When the aircraft is flying away from you, banking the aircraft to the right or left appears normal. When flying toward you, the aircraft will appear to bank in the opposite direction to the control input given. This will become more instinctual with experience.

Rudder Left and Right: Push the rudder stick left or right to yaw or point the nose of the aircraft left or right. The rudder stick is also used to steer the aircraft left and right while taxing on the ground.

Tip: Similar to aileron control, picture yourself in the aircraft to determine which direction to point the nose whether you are flying away from yourself or toward yourself.

Crashing

Takeoffs are optional, but landings are mandatory. For any type of aircraft or flying, successfully landing an aircraft is a crucial skill to master.

The key to a perfect landing is undivided concentration. Pay close attention to the altitude, orientation, and speed of the aircraft as it approaches the runway. Should you happen to crash, use each crash as a learning experience to perfect your approach and the landing.

RealFlight has tools to help you stay on top of things during approach and landing. See the "Landings" section below for some ideas.

Out at the field a crash might result in one or more of the following:

- Bruise your ego
- End flying for the day
- Cost you money
- Cost you time to rebuild
- Cause injury to yourself or a bystander
- Even win you a nice "best crash trophy!"

Of course, when you crash on the simulator, there is really no harm done. None, that is, except the bad habits you may acquire. We suggest that you take the crashes seriously and learn from each one. By doing so, you will be a better pilot out at the field.

Airplane Flight

The RealFlight RC Simulator very accurately simulates how RC aircraft really fly. This allows you to practice RC flight without worrying about expensive crashes. Additionally, RealFlight is ideal for practicing new maneuvers and experimenting with various parameter adjustments.

It is important to remember, however, that a simulator will only help you learn to fly if you let it. Otherwise, it is just a game. Learning to fly RC aircraft requires a commitment. One does not just grab the sticks and start dazzling the crowds. A methodical, patient approach will help you get the most out of this simulator.

This section is not designed to teach you how to fly. However, it will help you enhance your experience with the simulator and obtain the most from your experiences.

Takeoffs

When you are taking off, start with the throttle in low position and slowly increase throttle by pushing the throttle stick away from you towards the top of the transmitter until you are at about half speed. Stay in the middle of the runway (you can steer the plane using the rudder). When you have built up enough speed, gradually pull back on the elevator stick to climb off the runway. If the plane is tracking well, apply the rest of the power more quickly, climb out, and gain altitude.

Be careful not to veer off the runway. In a real plane, chances are that you would crash (or get stopped on the grass). Usually this means bent landing gear and a broken prop. If your plane has retracts, they could even be torn out of the wing.

Landings

It is very important to land on the runway, rather than veering off, or touching down before you reach the runway. Either of the latter usually produces a moderately expensive crash. If you "cartwheel" (wing tip hits the ground first), the wing can break, resulting in lengthy down time while you repair your airplane.

Start by aligning your plane parallel with the runway. Fly the approach normally, using your throttle to control the rate of descent. Try to land at the slowest speed possible. If your plane has flaps, use them to kill speed (but be careful; with flaps down your plane may try to pitch up and climb). If your plane has retractable landing gear, lower them. As you touch down, remember to keep your nose up!

Tip: While practicing landings in RealFlight, use the NavGuides during your approach to keep track of your speed, altitude, and distance above ,ground.

Aerobatics

When you practice aerobatics, the three important steps are:

- Start the plane **straight and level**, in a controlled situation
- Perform the maneuver
- Return to a straight, controlled situation

Anyone can give it full throttle, jam the sticks in all directions and watch the plane tumble and roll. However, this is **not** what you will do out in the field. Do this and you will not have control of the airplane!

The key to properly performing the maneuver is in the setup. Doing so will allow you to cleanly finish and your experience will be more rewarding as well as more realistic.

Concentrate on making the maneuvers "clean and crisp." If you are doing a roll, try to keep the plane on a straight line as you roll. If you are doing a loop, try to make a perfectly round circle.

Throttle Management

Avoid the temptation of giving the plane full throttle and keeping it there for hours at a time. This teaches you bad habits and makes even a good flier look like a rookie out at the field.

Many of the maneuvers require proper throttle management in order to make a maneuver look good. Loops, stalls, torque rolls, touch-and-goes are just a few examples. Try doing various maneuvers at differing speeds. Try performing a slow roll at medium throttle and keeping a perfectly straight line. This difficult maneuver will earn you more praise at the field than doing a full speed, full stick roll.

Rudder Management

Most airplanes can (more or less) be effectively flown with just the elevator and ailerons. Good pilots will tell you that the proper use of the rudder is just as important, however. Many aerobatic maneuvers require excellent rudder usage.

Rudder control is especially important when landing in a crosswind. Pilots that cannot use the rudder usually land in the tall grass (embarrassing!). Pilots that do use the rudder can land on the numbers almost every time.

Helicopter Basics

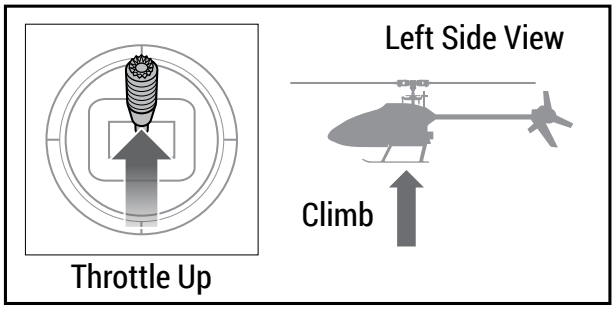
A model helicopter is a very complicated machine, which operates on the same aerodynamic principles as its full-scale counterpart. These principles are quite complicated to explain and understand. However, it is not necessary to understand all the underlying aerodynamics in order to successfully fly a model helicopter (or a computer simulation).

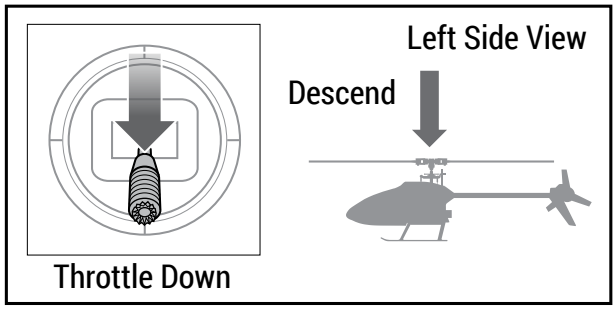
The following will help you to better understand the basics of helicopter flight, and the relationship between control stick movements and the actions of the machine. Refer to these instructions often as you become more proficient.

NOTE: The inputs below are shown using a Mode 2 transmitter.

Collective (Left Stick – Vertical Movement)

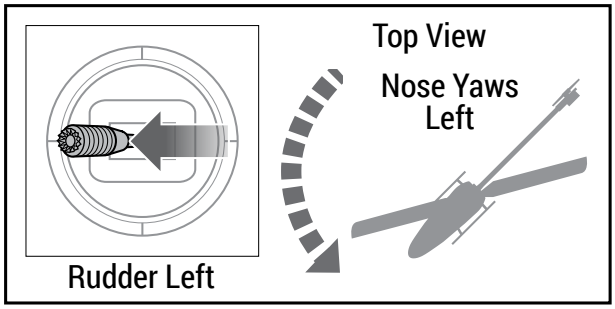
The spinning main rotor blades, which act like rotating wings, lift the helicopter into the air. Changing the pitch (angle of attack) and speed of the blades, using the "collective" and throttle causes the helicopter to rise and descend vertically. Adjusting "collective" increases and decreases the blade pitch. The "throttle" control increases and decreases engine RPM. On a model helicopter, the collective and throttle controls are mixed electronically, and controlled by the throttle stick on the transmitter or controller.

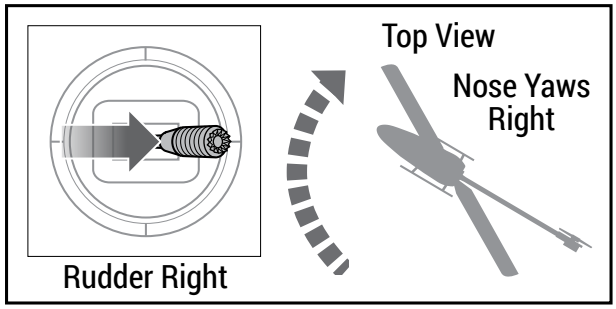




Rudder (Left Stick – Horizontal Movement)

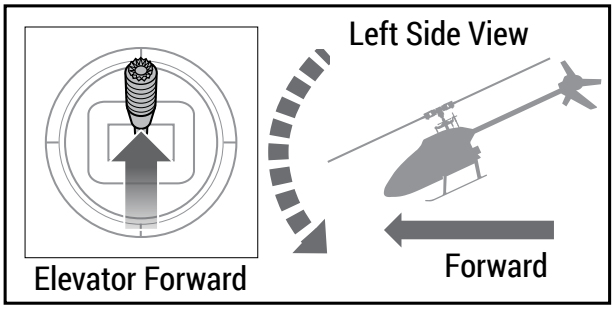
To turn the nose of the helicopter left or right, change the tail rotor pitch (by using the "rudder" control). Changes in collective stick movement will require changes in the amount of rudder input to maintain the desired heading.

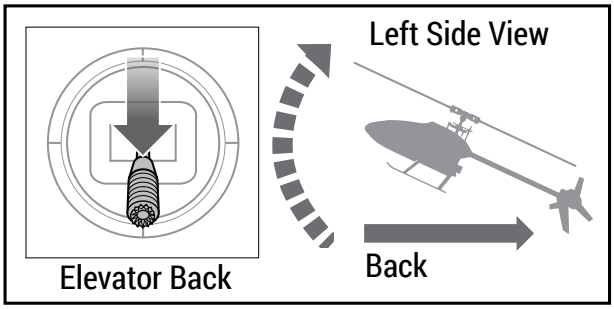




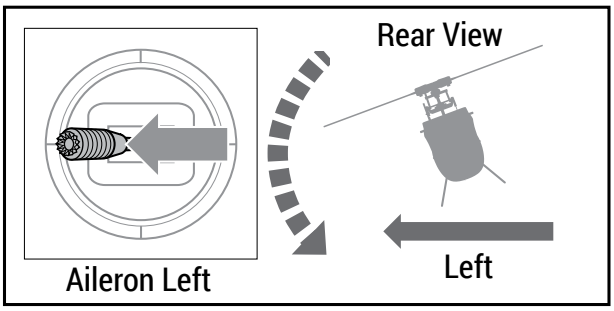
Cyclic Stick (Right Stick)

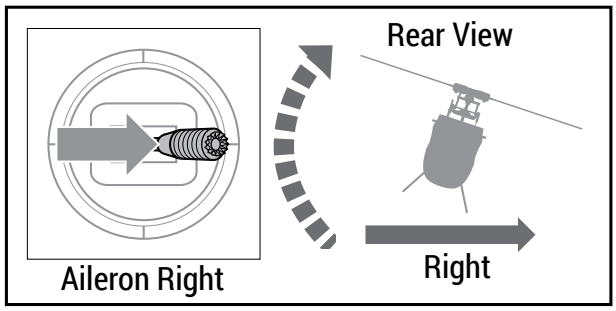
The cyclic stick replaces the "aileron" and "elevator" controls found on a fixed-wing aircraft. "Cyclic" is the term given to the control of the main rotor that allows the helicopter to fly forward, backward, left and right. Forward cyclic stick movement causes the helicopter to pitch forward, left cyclic causes the helicopter to tilt sideways to the left, on so on. You move the helicopter forward or sideways using a **coordinated** movement of both the cyclic and collective control sticks. Moving the cyclic stick to the right, while simultaneously increasing collective, will cause the helicopter to move sideways to the right. "Rudder" control is used to maintain the heading.





Aileron





Idle-Up

A switch on the controller actuates a special function, known as "idle-up." Idle-up offers an alternate throttle and pitch curve, different from the curves used for hovering. Idle-up is usually used for aerobatics, when the pilot wants engine power added when pitch is subtracted. For example, inverted hovering requires positive throttle and negative pitch. As such, pulling the collective stick back provides positive throttle AND negative pitch simultaneously.

Throttle Hold

Another special function is known as the "throttle hold." When activated, this switch sets your throttle to idle but allows the collective to function normally. This allows you to practice autorotations without shutting the engine off.

Gyro

Any sudden change to the torque of the main rotor, such as a quick change in RPM or a wind gust, can cause the helicopter to turn unintentionally to an unwanted direction. An electronic device known as a gyroscope (gyro) is used to "monitor" and correct for this by giving commands to the rudder control to help stabilize the machine.

Gyros come in a variety of types, each with different features. A normal gyro will not return the helicopter to its former heading; it will simply dampen the unwanted sudden movement. We recommend you start by using the heading hold gyro instead; it will maintain course and keep the nose of the helicopter pointed in the desired direction regardless of outside forces.

Helicopter Flight

Hovering

The machine hovers by adjusting the collective/throttle control to maintain altitude, the rudder to maintain heading, and minute adjustments to the cyclic controls to maintain location. Hovering is the most important aspect of helicopter flight to master, since every other movement of the machine begins and ends with a hover.

Forward Flight

The helicopter moves forward by changing cyclic (moving the cyclic control forward). This causes the rotor head, and thus the helicopter to tilt forward, resulting in a forward thrust. As the cyclic increases, the collective must also be increased to maintain the desired flight path. As forward speed increases, the collective can be reduced slightly.

Backward Flight

Backward flight is accomplished by moving the cyclic control aft, which causes the rotor head, and thus the helicopter to tilt backward. As the cyclic is moved aft, the collective must also be increased to maintain desired flight path. As backward speed increases, the collective can be reduced slightly.

Sideways Flight

Moving the cyclic control left will cause the rotor head, and thus the helicopter to tilt left. Add collective and left rudder to cause the helicopter to "slide" sideways to the left. As speed increases, it will require progressively more rudder to maintain heading.

To move right, simply follow the same procedure, but reverse the cyclic and rudder movements (move cyclic right, apply right rudder).

Turning

From Forward Flight

Moving the cyclic control left, while applying a small amount of aft cyclic and feeding in left "rudder," will cause the helicopter to make a coordinated turn to the left. Right movement of the cyclic and rudder sticks will cause the heli to turn to the right.

From a Hover

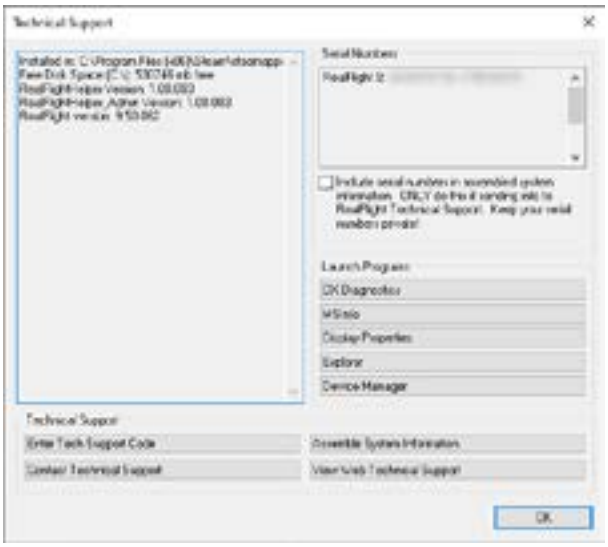
Use the rudder to rotate the nose of the helicopter in the direction you want.

Learning to fly a model helicopter is more difficult and challenging than any other genre of radio control modeling, but is also the most rewarding as you master the techniques required for sustained hover and forward flight. Computer simulation of model helicopter flight is an excellent tool for learning the basics and dramatically reducing the learning curve when you move on to the actual model itself.

RealFlight Technical Support Dialog

This dialog presents certain details about your PC and your installation of RealFlight. It also provides quick links to other useful options. It is accessible via the Technical Support Help menu item in RealFlight.

If you encounter any difficulties with RealFlight, this information can help you to resolve the situation on your own, or may assist Horizon Hobby's Support Staff to diagnose the problem for you.



System Information Panel

The panel on the upper-left portion of the window displays a list of the RealFlight information as it pertains to your system.

Serial Numbers Panel

The panel on the upper-right portion of the window displays a list of the RealFlight serial numbers for products that have been installed on your system.

Include Serial Numbers

This checkbox determines whether or not the serial numbers for the RealFlight items are included with the Assemble System Information when this information is sent to the Horizon Hobby Technical Support Staff.

This information will, of course, remain private between Horizon Hobby and the owner of the RealFlight software. We recommend enabling this in that situation as it can greatly assist in the identification and remedy of any difficulties that might occur.

Launch Programs

DX Diagnostics

This brings up Microsoft's DXDIAG utility. Using this utility can further help diagnose your system.

NOTE: If you send us information about your system to help us diagnose a problem, please **do not** use DXDIAG to generate that information. Instead, use the "Assemble System Information" option. The "Assemble System Information" output file contains more information than the DXDIAG output.

MSInfo
This option will run MSInfo. This will give you even more information about your system. This program is not always installed on a particular computer, but normally comes with programs such as Microsoft Office®.

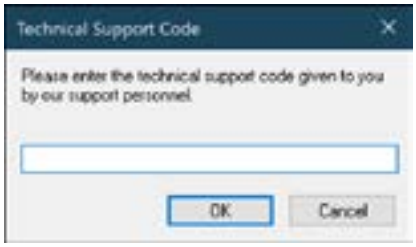
Display Properties
This brings up the display properties for your monitor. You can use this page to change the resolution of your desktop.

Explorer
This button launches Windows Explorer. This Microsoft Windows utility can help you locate, move and back up your files.

Device Manager
This button launches the Device Manager. This Microsoft Windows utility will help you determine driver dates, as well as installing and updating video and sound card drivers.

Technical Support
As the title suggests, the items in this section are designed to assist with any difficulties that might arise with the application of the RealFlight software on your PC. The buttons will efficiently and effectively gather necessary information and enable you to contact our staff accordingly.

Enter Technical Support Code
Choose this option to enter a technical support code. If you do encounter problems running RealFlight, our Technical Support team may supply you with a code to input here. Entering this code will help them diagnose or even resolve your difficulty.



Contact Technical Support
This opens the Technical Support contact form in your web browser (www.realflight.com/contact.php). You will receive an auto-reply message back confirming that Horizon Hobby's Support Staff received your message. If you do not receive the auto-reply message, please double-check that you completed all the steps correctly and/or try calling via the listed phone number.

Assemble System Information
Choose this option to collect critical information about your system, and about your RealFlight settings. You may find this information useful if you try to troubleshoot problems on your own. Moreover, if needed you can cut and paste this information into an email to Horizon Hobby's Support Staff.

View Web Technical Support
Choosing this option will open a browser window, and take you to a web site that contains the most up-to-date technical support information for RealFlight.

If You Experience Difficulties

TIPS AND TRICKS FOR SOLVING THE MORE COMMON PROBLEMS.

The RealFlight simulator is on the cutting edge of technology, and therefore operates using advanced hardware. Consequently, there is always the remote possibility you may experience a few slight difficulties. Should the need arise, we provide extensive resources to help.

Besides providing arguably the best RC simulator, we sincerely feel that we provide the best, most extensive product support of any RC simulator. Since cards, drivers, and operating systems are always changing, we work hard to keep our support team up-to-date on the latest information available to ensure that you have the most enjoyable experience possible.

This section begins with a summary of the various sources of RealFlight information including support and problem solving assistance. Then, we will show you some simple but powerful steps that can resolve or prevent most RealFlight difficulties. Finally, if these steps fail to solve your difficulty, we will explain the most effective ways to acquire additional assistance.

How to Get Help and Information

As a RealFlight user, you have access to an incredible amount of information about this product. Much of this information can help you resolve difficulties, or correctly access and use program features. Here is where you can find it:

- The Guide. Most common RealFlight difficulties can be resolved by following the instructions in later sections of this chapter; however there is also additional information throughout other chapters that may be of assistance.
- Visit our product **Knowledge Base**.

  This is a great resource and is an indexed, searchable collection of articles that describe solutions to almost every known situation with RealFlight and all of our other software products. In fact, this is the same information database used by our product support technicians.
- Visit the **RealFlight Forums**.

  RealFlight owners post questions, comments, and responses. Sometimes our Real Flight product support technicians and product developers post replies and announcements here. You may find a thread that discusses the same difficulties that you are experiencing.
- Contact our Technical Support department by email at: rfsupport@horizonhobby.com. Alternatively, our staff is also available via telephone or postal mail at:

  RealFlight Technical Support
  2904 Research Road
  Champaign, IL 61822 USA
  Voice phone: 877-504-0233

The product support teams are specially trained and have many resources to help you resolve problems RealFlight.

Before You Do Anything Else

If you are experiencing difficulties with RealFlight, you should always try these steps first. These steps really do cure most problems our users experience. Even if you are not having a problem, these same steps often assist in the operation of both RealFlight and your computer.

1. Update your video and sound card drivers (see instructions below).
2. Update to the latest version of RealFlight.
3. If these steps do not work, proceed to the next section.

Update Your Drivers

Before you do anything else, you should make sure you have updated your video and sound drivers. A large number of difficulties encountered by RealFlight users can be cured by updating drivers.

A driver is a software program that controls your video or sound card. Each card manufacturer provides drivers for its own cards. To operate correctly, RealFlight relies on your video and sound card drivers.

It is very important to use the latest available driver for your card. Card manufacturers frequently release updated drivers to fix problems that occur when the driver is used with programs such as RealFlight. The driver that came with your new computer, on your Windows disc, or on the disc included with the new card you bought, may not be the latest version.

If you do not know how to update drivers, you can find instructions in our Knowledge Base article **Q01-1038, How to Update Drivers**. This page will take you through the process step-by-step, and has links to driver download sites for most manufacturers.

Update to the Latest Version of RealFlight

As we regularly release program updates, the difficulty that you are seeing may already be fixed in an update. Even if you just bought RealFlight, you should update to the latest version. It's free and only requires a few minutes of your time. Steam will generally keep your software up to date, but you can make sure by completely exiting and restarting the Steam client.

If You Need Additional Assistance

You have updated drivers and updated RealFlight and you are still having problems. What next?

As a first step, we suggest checking our **Knowledge Base**. This is an easy to use, searchable database of known problems and solutions for various iterations of RealFlight as well as some of our previously released software such as RealRace. This is the same database that our Product Support technicians use when helping customers. We constantly update the knowledge base to address new problems as we discover them. In many cases, you will be able to find an article that gives clear, concise instructions for resolving your difficulty.

You may also want to check the **Real Flight Forums**. This is a place where owners of RealFlight and other Real Flight products post questions, comments and responses about problems. You may find a discussion thread about the problem you are experiencing.

You can also contact Technical Support at Horizon Hobby via email at: rfsupport@horizonhobby.com.

IMPORTANT: If you contact Technical Support, you can help us enormously by providing detailed information about your computer system. Since your problem may only occur on a particular video or sound card, particular driver version, etc., we may need this information to help us diagnose your problem. To compile your system information, use the **Technical Support** dialog. From within RealFlight, click the Help menu. Next, click **Technical Support…** and click **OK** when prompted. After the **Technical Support** dialog appears, click the **Assemble System Information** button. This will create a file called "helperoutput.txt," which contains your system information. See the dialog title bar for its location on your computer.

Attach this file to an email and send it to us at rfsupport@horizonhobby.com.

Examples of Common Problems and Solutions

If You Don't See Your Problem in This Chapter

This appendix contains a few examples of common difficulties and concerns that RealFlight users have experienced.

Remember that we can never provide a complete list of difficulties and solutions in a program guide. That's because RealFlight - and the computers, cards, and drivers it uses - are constantly evolving. As such, we maintain a detailed **Knowledge Base**. By keeping our **Knowledge Base** online, we can provide you with the latest information about resolving any difficulties that might arise. If you don't see your difficulty described in this appendix, please check the **Knowledge Base**.

In this appendix, we've tried to pick a fairly short list of the most asked about issues.

My Computer "Freezes" When I Run RealFlight

Sometimes, you may also notice sound skipping or repeating, or a computer reboot while flying. To resolve this type of problem, you must update the drivers for your video and sound cards. **THIS IS VERY IMPORTANT.** Card manufacturers regularly update their drivers to fix this type of problem. Even the driver that came with your new computer may not be the most recent.

Sometimes a card manufacturer will offer a choice between a "recommended" driver, and another driver (often called "special purpose," "alternate," or "beta" driver). If RealFlight "freezes" with the "recommended" driver, try using the alternate driver instead.

If you are sure that you are using the latest drivers, and have followed all the other steps in the previous section and are still having difficulty with your computer locking up while running RealFlight, please contact Horizon Hobby's technical support staff.

Improving RealFlight's Performance

During installation, RealFlight analyzes your computer's hardware specifications. RealFlight then tries to optimize its configuration to best take advantage of that hardware, and achieve the best possible performance.

However, if the performance is less than you desire, you can adjust some of RealFlight's settings to improve the simulation speed and frame rate:

- Ensure that the drivers for the video and sound cards are up-to-date.
- Turn off all other programs, especially virus checkers and network applications (such as Instant Messengers) while running RealFlight. Use **<CTRL-ALT-DELETE>** and check the **Task Manager** to verify that nothing else is running in the background.
- Reduce the texture, water, shadows and other graphics quality in RealFlight. This can have a profound effect on cards that do not have a high texture memory.
- Eliminate the items shown in the simulation. To do so, access the **View** menu title then, access the **Scenery** menu item. Click an item, type to remove it from the simulation. It may be necessary to eliminate several items before performance meets your expectations.
- Reduce the number of open Gadgets and Viewports. Click the '**X**' on each Gadget or Viewport that you wish to close.

Other Common Problems

Here are some other things you may want to watch for:

- Verify that all other programs are closed prior to starting RealFlight. RealFlight works best when it is the only program running.
- If all else fails, try rebooting your computer occasionally, Windows may become unstable after prolonged and continuous use. A simple reboot may clear up any difficulty.

Transmitter Modes

Throughout the world, pilots will fly using transmitters in different Modes. The Mode refers to the transmitter's gimbal stick assignments which determine the flight mode of your controller. There are two main modes of control. Mode 1, mostly used in Europe, and Mode 2 which is the predominant method of controlling aircraft.

Mode 1

A controller which is designated as **Mode 1** means that it contains the throttle and aileron on the right stick. The left stick will, therefore, control the elevator and rudder.

Mode 2

A controller which is designated as **Mode 2** will have the left stick controlling the throttle and the rudder. Conversely, the right stick will control the elevator and the ailerons.

Configure Real Flight

Once you have made the changes to your InterLink DX controller, you will now need to make some minor changes in RealFlight to match your controller's configuration.

First, adjust the channel mapping by editing the InterLink DX Profile.
See **Select Controller** section for more information about this process.

Last, make sure the on-screen **Radio Gadget** is also switched to **Mode 1**, found under the **Gadgets** menu.
See **Radio Mode** for more details.

REGISTERED VERSION: RealFlight(r) R/C Simulator

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late nights into the production of this product.

And To Knife Edge Mascots

The All-Seeing Gnome

LuLu, the Hula Girl

Aircraft and Other Textures

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F-86 — Michael Chan Su

Huey — Steve Stuart-Doig and Larry Jolly (www.ljmp.com)

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