



RADIOREVIEW

BY MIKE GANTT PHOTOGRAPHS BY JOHN REID

Weatronic 2.4 Dual FHSS Radio Control System

Making the connection

WITH SO MANY GREAT QUALITY guidance systems available today, deciding on one of them is often a bit more involved than deciding on, let's say, a servo, or a battery pack for that matter. The transmission to reception connection between pilot and aircraft is the most important link and should always be considered as such. Safety is always a concern, and no one wants to lose a model, especially one of your favorites. In our hobby, the engineers are constantly improving their efforts, and the guys at Weatronic have really raised the bar. Their 2.4FHSS is one of the best out there, and it is easy to convert some of the popular transmitters over to the 2.4 Dual FHSS radio control system. I tested the setup with my JR 9303; a module and receiver combo will transform your existing guidance management apparatus over easily. Their German facility produces the incredible 2.4GHz Frequency Hopping

Spread Spectrum (FHSS) components using state-of-the-art automation lines and then a thorough inspection and testing before any parts leave for distribution. This kind of quality control is great to see and goes a long way to putting aircraft pilots at ease. I tested the system in my baby, a 30% TOC Extra 260. The Weatronic setup is aimed at those with high-end aircraft who want the very best communication link between man and model.

A FEW FEATURES

- Transmits and receives on 81 channels continuously, hopping frequencies at a rate of 1/100 of a second. Transmitter module and receiver are synchronized and follow the same algorithm.
- 120 or more systems can be operated at the same time.
- Range is as far as your eyes can orient the aircraft.

SPECIFICATION

Name: Weatronic Dual 2.4FHSS (weatronic-usa.com)

Operating voltage: 6 - 9V

Channels: 10 in PCM-mode, 12 in PPM-mode

Servo outputs: 12/20/26, max. 8 servos per channel

Type of modulation: Futaba PCM 1024, Graupner/JR SPCM, PPM UNI, PPM-12, PPM

Data memory: SD/MMC card

Memory capacity: 8 h on 64 MB SD, 48 h on 512 MB SD

GPS data logging: Position, speed, altitude, distance, flight path recording

Micro receiver weight: 25 grams/ 0.88 oz.

Features: USB connection, programmable fail-safe, automatic frequency finding (no crystals needed), DDS Diversity Double Superhet Synthesizer

Price as tested: \$316



This lightweight unit sits atop your radio and has 1 button for range checking and 1 for binding. There are 3 different led lights which will illuminate and indicate a range check, bind, or interference encounter.

- Some receivers may allow you to plug in two batteries, but do the battery ports share the same power bus? The Weatronic receiver has two separate labeled battery ports that offer two completely different circuits. This is another cool safety feature, as it helps to create a truly redundant power supply.
- Sequencing feature available allows you to gang servos for complex functions. If you had a bird with retracts, and one valve opened and closed the door while another operated the landing gear, you could program both on one switch; and, get this, you could then slow down each servo to allow them to operate at the right time(s).

GIGA CONTROL

I hardly touched on GIGA Control with my plane, but I had to see what it was all about. The program is available free (!) on the Weatronic website, and after you download it and install it on your computer, it will allow you to do several things with the system. Some of these include letting you get updates to your firmware on the Weatronic system, program your receiver for different functions, and view information stored during flight such as error codes. You can also control the sequencing function, slow (servo) function, channel programming and much more, which is your PC, and an accessory kit is available online with everything you'll need.

- There is a programmable fail-safe for each channel.
- Firmware updates, data recording (via USB) and optional GPS add-on are available.
- Receivers can operate on 4 to 9 volts.
- Micro receivers weigh 25 grams and are available in 8-, 10- and 12-channel versions. Module/receiver sets are also available for most popular radios.
- Modules are available for different radio systems.

INSTALLATION

Installing the system couldn't be easier. First, with your transmitter, remove the existing antenna and install the supplied mast. There is a disc on top that mates

with an opening on the aerial module's body. The transmitter module looks a lot like your existing one in the transmitter. Just unplug it, and plug in the new Weatronic unit. A thin wire connects between the two, and I routed it through my transmitter's top handle so it would have less chance of getting hung up on anything. I



Weatronics has made the package as compact as possible and it is a simple plug and play.

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must admit, the new aerial is a departure from what you are used to seeing on top of your radio, but you will be looking up in the air and not at it! Mounting the little lightweight (25 grams) receiver in any aircraft is simple, too; I used a heavy-duty piece of Velcro with the hook side in my airplane. The thickness of the material helps with vibrations, and the holding power is perfect. It is recommended that you do not wrap the receiver in foam or other materials, as it needs good air circulation for proper performance. If needed, you could mount it atop a piece of foam and use a wire tie or hook-and-loop strap to secure it in a higher-vibrating environment.

BINDING

First off, it was cool to see that there are already videos on the Web demonstrating the Weatronic system in giant-scale planes. I have seen them in turbines, and there are



Swapping out your transmitter's existing module for the Weatronic unit only takes a second. The fit is perfect.

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also videos of the company showing how to bind the 2.4 FHSS system. The aerial itself is actually a small interface and has a pair of buttons on it: one for range checking and the other for binding. When you power on your transmitter, you will want to be at least 2 feet away from the receiver. Press the bind button until the module's green LED flashes steadily. Then power up the receiver, insert a small jumper, and when the green LED is solid, you're bound. When changing to a different model, you will need to "Quickbind" to that model's receiver. Since the module remembers every receiver it was ever bound to, this is, well, quick. Turn on the transmitter and receiver, press and hold the bind button for a few seconds until the green LED is solid. You are again ready for takeoff.

RANGE CHECK

Since I mentioned it, I had better tell you about the range-check button. When you turn on the transmitter and then the receiver, press and hold the range-check button for 5 seconds, or until you see the yellow LED flash consistently. You have 60 seconds to put distance from you and your



Plenty of room for servos! This sub-ounce receiver with 10 channels is perfect for almost any aircraft.

model, and 80 to 100 paces away are stated in the instructions. During this time, the transmitter decreases its signal output to 1mW instead of 100mW, yet you should continue to have a good link during the test. This will be confirmed by not seeing a red LED blinking, which indicates an

interruption of the link.

IN-FLIGHT RESULTS

I tested and trusted the Weatronic 2.4 FHSS in my 50cc TOC Extra 260 (Ace/Thunder Tiger). In flight, the system performed very well. My connection felt as solid as ever with no glitches and no fades or drops. Since the frequencies are always hopping at an incredible rate, chances are, you'll never encounter an issue. A 1024 resolution feels crisp, and my thumb inputs were answered quickly and precisely making for an easy-to-manage flight. Lightweight and rock solid, this system definitely gets a thumbs up.

CONCLUSION

This new guidance offering is unique, and the people at Weatronic have definitely responded to modelers' wants and needs. A host of programmable features, versatility and compact design definitely make it worth a second look. If you have a plane that requires a lot of programming or has some unique servo requirements, this is the connection you want to have between your transmitter sticks and control surfaces. ✈