HM Review

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Eclipse 7

Sophisticated programming meets modest budgets in Hitec RCD's new seven-channel computer system.

Hitec's Eclipse 7 computer system has broken new ground, not merely in its many programmable features or its low price, but by marrying its numerous deep programming features with a surprisingly low price, both in the same high quality RC system.

Being relatively new to the hobby but a fast learner, I suddenly found myself in need of something more sophisticated than the basic four-channel systems I had learned with. I didn't have dual rate on my radios, and I wanted them. I wanted exponential, end points and aileron-rudder mixing. I also wanted to fly more than one airplane on one transmitter, quickly enter or change setups, and mix what I wanted, when and how I wanted it on each model.

Hitec's Eclipse 7 full system package includes the 7-channel computer transmitter, four HS-425 BB ball bearing servos and servo mounting accessories, the unique Spectra synthesized frequency module, eight-channel Supreme Super slim dual-conversion receiver, a 600mAH receiver battery, one heavy duty switch, a 12" aileron extension and an overnight charger. A "Smooth Click" throttle ratchet is included, as are Hitec's "Flight Preserver" wrap, warranty card and Eclipse owner's manual.

For the price of most radio systems with just dual rate and exponential, the Hitec Eclipse radio has all the high end features an advanced sport flier could ask for, including five different mixers that can be used to mix rudder and aileron, aileron and flap, flap and elevator, throttle and elevator and more. The glider mode is very interesting and complete, with more features than most power fliers would ever expect or probably ever use. I suppose it will be awhile before I'll need the system's helicopter features, but I'm grateful that they'll be available to me when I do.

Hitec's Spectra Module (#RCD4400) electronically synthesizes frequencies in the transmitter, making crystal changing a thing of the past. By removing the module from the rear of the transmitter and simply turning the two dials on the side of the module, modelers can transmit on any channel in the 72 MHz band.

Getting the Eclipse system into an airplane is no different than installing any conventional radio system. The difference between computer systems and non-computer systems is in the transmitter; the computer merely helps modelers set the customized parameters that will be sent to the receiver and the rest of the system's conventional airborne package.

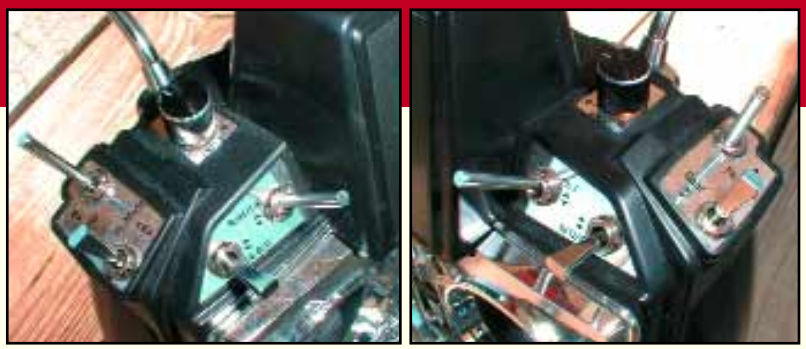
I tested the Eclipse 7 in a 40-size Dazzler. This is a wildly aerobatic ARF sport model from Great Planes, which I powered with an O.S. .46 FX two stroke. The Dazzler is a very hot airplane that will give me any maneuver I have the guts to try, including straight-up verticals.

Hitec's HS425BB Deluxe Servos are high quality ball bearing servos, with smooth operation and plenty of torque.

During the installation, I was pleased to note that the servo grommets slipped very smoothly in place over the servo mounting lugs. This feature makes servo installation literally painless; other sets can sometimes be a little hard on the fingertips when working the grommets and eyelets into the lugs. Servo mounting screws, all the grommets needed, as well as a choice of servo horns, are all included — even heavy duty arms for large aircraft linkages. Hitec pays attention to the details.

When it comes down to programming the Eclipse 7 system, getting it done is much easier than one might think. There are only a few important keys to understand, and every step of the programming exercise is shown clearly on the transmitter's large liquid crystal display panel.

Turn the transmitter on while holding the two edit keys down, and that brings up the menu with model select, reset and shift. This is the place where pilots will select their model's airframe mode — acro (airplane), heli or glider. It is also the place where each model's name and number are entered, with up to four letters and three digits each — up to seven models in all, and with up to seven characters for each model.



Left-hand transmitter switches include the trainer function, flight mode, dual rates for elevator and rudder, and VR1 for variable flap control and helicopter functions. Right hand switches select flight condition, landing gear, channel 7, dual rates for aileron and VR2 for other variable function controls. Digital trims are easy to use and easy to find.

Once the setup basics are chosen, the transmitter is turned off, then on again. Then, pressing the Edit and Display buttons at the same time will allow modelers to scroll through the various Eclipse 7 programming menus. The cursor buttons allow movement from one channel to the next — rudder aileron, elevator, throttle, retract and the others — then the desired travel values are entered for each function on each channel, all by number and pointer.

All in all, programming is so simple that I just got the manual out and followed the instructions. The up-front menu got me into the model type and name, and the main menu walked me through all the adjustment functions. The data keys, either negative or positive, allow the control surfaces to be set, usually in percentage increments. Once I set up the first couple of functions, I was able to get through the rest of my Dazzler's programming on my own, just like I'd been using the system for years; the system is that easy to use.

Enter the main menu with the two Edit/Display buttons, then use them to scroll through the trim, dual rate, mixing and other programming features. Use the cursor buttons to select the channel. Data buttons set travel, end point, exponential and more.

On the outside of the transmitter, the left side of the case carries the switches for rudder dual rate, elevator dual rate, flight mode, trainer and VR1. VR1 is variable for whatever function it's assigned. On the right, the transmitter case carries the switches for aileron dual rate, landing gear, channel 7 and two mixing circuits for landing configuration and flight condition.

The Eclipse 7 has every function imaginable for airplanes, sailplanes and helicopters, including dual rate, exponential, end point adjustment and so much more. It has five programmable mixers for customizing control surfaces to enable and enhance maneuvers. It also has full support for V-tail and elevon mixing. The large LCD is clear and uncluttered, and lets pilots know exactly where they are at all times during programming. While flying, it reports present voltage, elapsed time on the present charge, and it also signals low voltage with an audible alarm.

A throttle cut feature is provided on the transmitter face. With this feature, an engine can be shut down without disturbing the throttle channel's trim settings. The command is on a separate button. Next to it, another button locks the throttle response from the stick; you can't advance the throttle accidentally.

The standard Eclipse 7 transmitter comes with an FM frequency module, although Hitec also markets their amazing Spectra Module, which is a self-contained frequency synthesizer. With the Spectra option, modelers can change frequencies in just seconds, simply by unplugging the module and rotating the two dials on the side of the unit, then inserting the module back into the cavity in the back of the transmitter. The next time the pilot turns on the radio, it transmits on the newly selected channel.

In operation, the Eclipse has the same solid feel as many more costly radios. It's comfortable to hold, the gimbals are smooth and the sticks are adjustable. Digital trims allow for fine increments of adjustment very quickly.

Hitec's Eclipse 7 system is a radio to grow with. It's my first advanced radio, and one that I can recommend to anyone — as either a first or last computer radio. I showed the Eclipse to several friends at the field, then let them try it out. Most were amazed that a system this advanced could be so reasonably priced.

Hitec has a winner with their Eclipse 7. It's a professional, top shelf piece of RC equipment, as easy to program as it is to install. The Eclipse 7 transmitter is available in a complete system or by itself. The Spectra Synthesizer is available in either configuration, and the Eclipse comes with a two-year warranty.

For more information about the Eclipse 7 and the Spectra Synthesizer Module, circle #278 on the Reader Service Card, see their ad on page 81, or telephone Hitec RCD in California at 858-748-6948. **HM**

HM's Eclipse 7 system was flown with Great Planes' Dazzler, powered by the popular O.S. 46 FX. Guided by the Eclipse 7 radio system, the Dazzler and O.S. combination gives consistently smooth and precise performance, flight after exciting flight.