



FLAPPING MARVELLOUS!

Is it a bird? Is it an insect? No, it's a new range of ingenious R/C model ornithopters from Flying Toys Ltd.

Small, ready-to-fly radio-controlled models have come a long way in a very short time. Recent years have brought us many EPP foam twin-pusher prop models, single and twin-rotor helicopters galore and now, inexpensive RTF ornithopters. This review compares two such products at the less expensive end of the market, in order to assess their aerodynamic abilities, practicality and fun factor, indoors and out - with a possible view to a recommendation for the Christmas stocking!

Having always had a fascination for all things flying, both living and mechanical, I have been intrigued by model ornithopters for several years and have marvelled at the ingenuity of the few

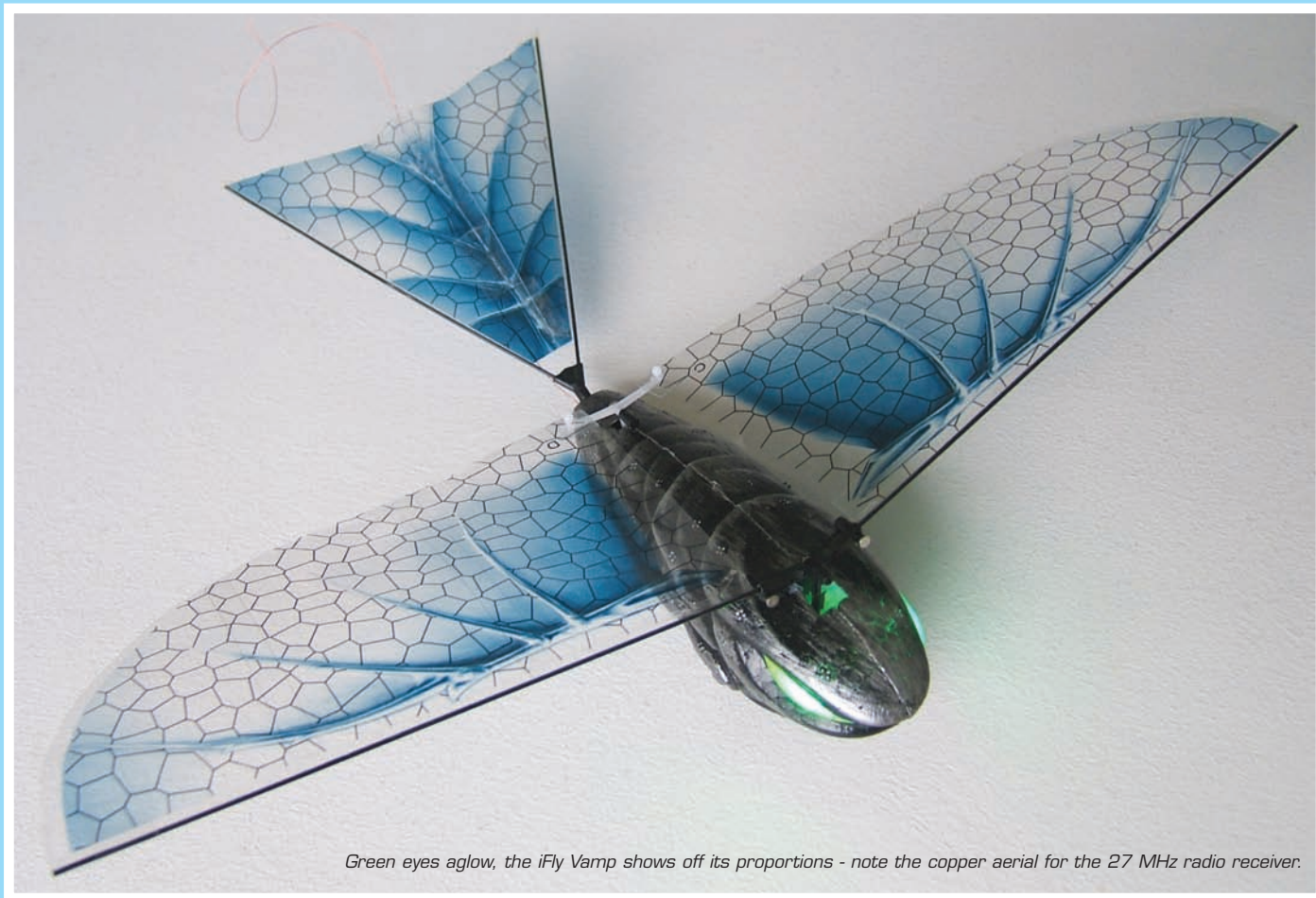
that I have seen actually flying. The models under review, courtesy of Flying Toys Ltd., come from two established manufacturers of RTF models - Silverlit and Interactive Toy Concepts. The Silverlit Wingsmaster range comprises three very similar models, the i-Bird, i-Wings and i-Fairy, while the Interactive Toys iFly series has two equally similar Vamp models. There is also an iFly Wasp listed in the catalogue. All five models are superficially very much alike, one of the main differences being infrared-control in the case of the Silverlit models and radio-control in the iFly Vamps.

Silverlit Wingsmaster Series

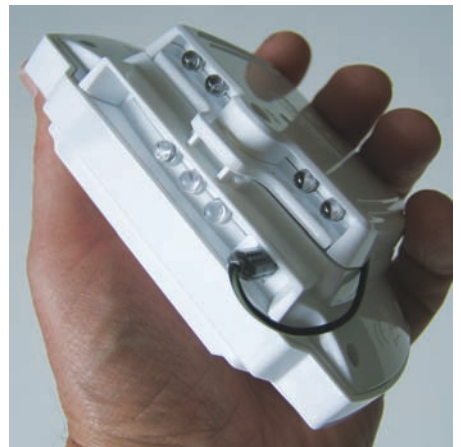
Inside the usual large, tough, see-through Silverlit packaging the i-Bird has a durable lightweight

EPP foam fuselage housing the electronics plus foam tail surfaces. The Wingsmaster models have two sets of flapping wings (with carbon leading edges and Mylar film flying surfaces), just like a dragonfly. One wing on each side is always on a power downstroke. Dihedral is built into the wing joiners.

Elevation and forward propulsion are controlled by the speed of wing-flap; steering is by a conventional rudder, controlled by a magnetic actuator. The models are finished off with colourful graphics. An on/off micro-switch is underneath, plus glowing LED eyes that flash to indicate that the switch is 'on!' The instructions are useful, with safety, operation, charging and flying hints covered via monochrome line-drawings.



Green eyes aglow, the iFly Vamp shows off its proportions - note the copper aerial for the 27 MHz radio receiver.



ABOVE LEFT: The Wingsmaster infrared controller, together with the £4.99 IR booster available separately. **ABOVE RIGHT:** The business-end of the controller with the IR booster attached, showing four extra LEDs.

Looking at the other two models, the iWings is a representation of a butch-looking rocket man with wings, and the iFairy - well, there inside the brilliant pink box is a representation of the mythological creature, complete with flowing golden EPP locks, pink sparkly wings and a bust! Mind you, I understand that Marilyn Monroe was the inspiration for Walt Disney's Tinkerbell so perhaps that 'figures'. Actually this could well be a great way to introduce younger female family members to our hobby.

Using the transmitter and charging the i-Bird

The Wingsmaster infrared transmitter is the same unit which controls the Silverlit Palm Z and other models. The white plastic Tx is totally dissimilar to anything you have flown with before! There is a three-way selector for the plane's infrared 'band'; left and right trim buttons; LEDs indicating charging and power on, plus a three-position switch for Off/On and Charge. The throttle setting is controlled by the left-hand button which has a sliding action and a spring return, whilst the right lever is a rocker switch for steering control. A charging socket on the front for the model is supplemented by a small socket on top, which is for the IR range-booster unit, sold separately. As one of these was available (it replaces the Tx rear battery cover) and the intention was to fly in a very large indoor arena, this was tested at the same time as the i-Bird. IR control is via a row of white LEDs on the top of the Tx unit. All three models in the series are available on IR bands A, B or C.

The ornithopter slots into a groove on the front of the Tx for charging. Silverlit have provided a slot on the transmitter which allows you to hang up both model and Tx on the wall! Using new copper-top alkaline cells I was able to charge the model from the Tx in around 15 minutes - the LED then stops flashing. RTF!

Interactive Toys iFly series

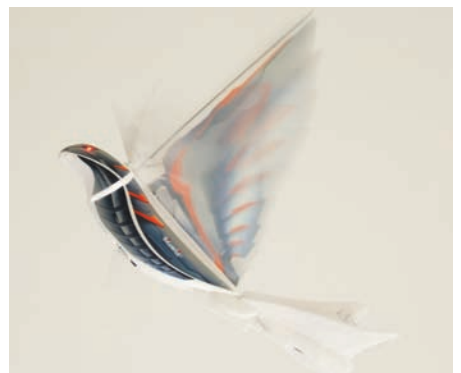
The iFly Vamp is supposed to be bat-like, but looks a bit like a flying trilobite! (Extinct shelled sea-creature - Ed.) Again there is sturdy, colourful, see-through packaging and a useful four-sided monochrome instruction/flying tips/safety pamphlet. The design is extremely similar to the Wingsmaster's - EPP body and carbon/Mylar wings (only one pair this time) plus similarly-shaped tail surfaces in Mylar and celluloid rather than foam. The fin is fixed and steering is achieved by movement of the inner trailing edge of the wing which is under transmitter control. The on/off switch and charge socket are underneath, and again we have glowing LED eyes - excellent. Graphics are confined to fine printing on the Mylar wing and black/silver paint on the body, giving quite a menacing look to the beast.

iFly transmitter and charging

The rugby ball-shaped iFly Tx is certainly different - I think it's supposed to look like an insect. Control



This shot shows the four-wing arrangement of the Wingsmaster series and a fully-deflected rudder.



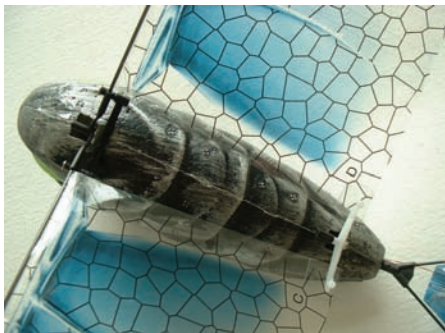
ABOVE LEFT: Charging the i-Bird on its controller - the double rocker mechanism and pushrods operating the wings are shown. **ABOVE RIGHT:** The i-Bird flaps its way towards the coving like a homesick angel. **BELOW:** The amazing Midland SpeedDome in Perth, WA, home of the newly formed Perth Indoor Flyers and venue for the first test flights of the two breeds of ornithopter reviewed here.





LEFT: Charging the Vamp on the 27 MHz transmitter/charger. The Tx has a jack plug which slots into the underside of the ornithopter.

BELOW LEFT: Controls emerge from either end of the carapace of the model - at the front controlling wing flapping and wing warping for steering at the rear.



is via chubby, sprung joysticks for 'throttle' (flaps?) and turn, and LEDs indicate power and charging. The important thing is that control uses 27.145 MHz radio rather than infrared, via a 60 cm telescopic aerial. Charging on the Tx took 15 minutes.

Flying the i-Bird and Vamp

The arena for first flights was a huge velodrome venue in Perth, Western Australia, home of the new Perth Indoor Flyers. The iBird was chosen as representative of the Wingsmaster range (you didn't think I was going to take a pink fairy to a hall full of Aussie blokes, did you?), together with one of the iFly Vamps.

From a hand-launch the i-Bird climbed strongly, its four wings beating madly, in a nose-up attitude. Turns were more positive in one direction

than the other, not fully addressable with the trim buttons, but it was not difficult to keep the little bird pointing in the correct direction and in the right bit of airspace (i.e. away from the 3D fiends!) The transmitter, fitted with its infrared booster, was fully able to cope with the big space available as long as one remembered to keep it pointing at the model. The glide is a very steep 45 degrees or so but the model bounces happily on landing, or is easily caught.

The Vamp also flies quite nose-up, and a little more sedately than the i-Bird. Turns using the wing-warping mechanism are positive, again stronger in one direction. The glide was slightly flatter due to less extreme dihedral. Here too, the model could be kept within the required (small) airspace but could also be flown safely at greater distances and remain under control.

Duration was greater than the Silverlit model.

Conclusions

The two models are extremely similar in almost every way; the few extra pounds for the Vamp includes a 27 MHz radio, or buys an infrared booster for the i-Bird. Both are robust and cleverly engineered. In flying ability the i-Bird perhaps has the edge - both its climb and turn were slightly better. It was, however, more difficult to correct a lazy turn in one direction than was its rival, which has better range and duration. Their natural habitat is a large room or classroom where lazy figure-of-eights are easily achievable. Do not expect fixed-wing performance from these small ornithopters but do relish their uniqueness - in innovation, high-tech construction and lifelike 'bio-engineering' propulsion system. ■

Specification

Silverlit Wingsmaster series:

EPP and Depron ornithopters with four Mylar flapping wings; steering via magnetic actuator on rudder; control by two-channel infrared transmitter via wing-beat speed and rudder. Single LiPo cell. Flying weight 11.7 grams. Span 29 cm. Length 22 cm. Infrared booster module available separately.

Interactive Toys iFly series:

EPP ornithopters with two Mylar flapping wings; fixed Mylar tail; control by two-channel 27.145 MHz transmitter via wing-beat speed and wing-warping. Single LiPo cell. Flying weight 12.3 grams. Span 30 cm. Length 23 cm.

In brief

Things I liked about these models:

Small size/ portability, innovation, clever engineering, high-tech construction and lifelike propulsion system.

Things I didn't like about these models:

Absolutely nothing - both do exactly what it says on the box.

Contacts

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Competition...WIN ... An i-Fly Vamp plus Silverlit i-Bird

Flying Toys have kindly donated five complete two-model gift sets for lucky AMI readers to win. Simply answer the following three questions correctly and we'll put your name in the hat. The five lucky winners will be announced in February '09 issue, on sale from December 22nd. Closing date for entries is December 5th

Question 1 - What is meant by the term 'Ornithopter'?

Question 2 - Which two materials are employed for the Wingsmaster wing construction?

Question 3 - Which Ornithopter reviewed here flies on 27MHz?

Answers to: Ornithopter Competition, MODEL ACTIVITY PRESS LTD,
5 Chiltern Business Centre, 63-65 Woodside Road,
Amersham, Bucks, HP6 6AA.