

# HOBBY LOBBY Telemasters

## A FAMILY OF FUN



by Thayer Syme with David Baker

There are few models which reach legendary status in this hobby. Sure, there are some that are popular for a while and will appear at the field every weekend for a season or two. Rare is the model that soldiers on, year after year, often for decades or more. The Telemaster, designed in Germany in the 1960s by Karl-Heinz Denzin and originally marketed by Alexander Engel, is one of those classics. It borrowed heavily on the aerodynamics of popular free flight designs, wrapped up in the appearance of a more modern airframe.

The combination of stable flight and straightforward construction has proven irresistible for nearly forty years; the Telemaster is prized for its easy flying, and in the larger sizes, incredible load-carrying capa-

bility. These characteristics make the Telemaster a wonderful trainer, but it is equally at home dropping candy for the kids at a weekend fun fly, carrying aloft a parachutist, or simply floating about on a calm afternoon. Hobby Lobby has long offered Telemaster kits to the American market, and recently added ARFs for those who prefer to save some building time.

Here is a close look at three members of the Telemaster family. The Mini Telemaster is a conventional balsa built-up kit, while the Telemaster Electro and Senior Telemaster are both ARFs. These three models feature distinct differences, but in the end, they all share the common Telemaster DNA and are delightful flyers.

### CHOOSING YOUR PLANE

The first decision is which Telemaster to get. If you prefer park flyers, the three-channel Mini Telemaster designed by Tom Hunt is the way to go. This balsa kit is constructed traditionally over a full-scale plan and can be built up and readied for gear and covering over the course of a few evenings. A thorough manual means little guesswork over the building process, making this an approachable project for the budding modeler with a little experienced assistance.

The larger 73-inch Telemaster Electro ARF is designed expressly for electric power and features full house four-channel control plus flaps. The larger size and extra functionality make the Telemaster Electro more suited to windier conditions and larger fields.

This size airframe is also available as a kit or for flying with .40-glow power.

For those who prefer a larger model, the 95-inch Senior Telemaster might just scratch the itch. Like the Electro, it is an ARF with little construction required. At nearly eight feet, this model definitely qualifies for IMAA fly-ins, and its 11-pound flying weight retains the same light, floaty feel that is the Telemaster trademark.

Larger still is the 12-foot Telemaster. The domain of those who enjoy building, this kit's three-piece wing and 90-inch fuselage will consume most workshops. When you are done, though, this model will dominate the flight line at your club, and give you endless hours of the most relaxing flying available.

PHOTOS BY WALTER SIDAS

## TIPS FOR SUCCESS

**MINI TELEMASTER**

built by David Baker

This being my first “stick-built” kit, I wanted to make sure it was done right. I read completely through the instructions before I ever cut my first piece of balsa, and then started in with the wing. Cover the plans with



waxed paper or plastic wrap to prevent gluing the model to the plans as you build. Take your time and enjoy the process. I was somewhat intimidated, but love to create and build things, so I looked upon this more as an exercise in fun and learning than as a challenge. By following the directions carefully, I had a finished airplane after only three weekends.

I covered the Mini Telemaster with blue and white Oracover. This is an exciting part of the building process as the airplane comes to life, piece by piece. I read the covering material instructions, and tried a sample on some scrap balsa. Once I felt familiar with the process, I worked my way through the completed pieces. Covering was not quite as easy as I expected, but with a little effort, I felt gratified by the final result.

The plans detail the power and radio installations, and I found these final steps were relatively simple. Be sure to anchor

the pushrod guide tubes at each end. If you skip this step, air loads can cause the pushrods to flex and compromise your control. I mounted the rudder and elevator with strips of blue Oracover.

As a last step, be sure to check that the wing is straight on both sides. Initially I had

a bit of a warp that acted like right aileron. At slow speed, I had fine control, but as the model accelerated, the twist in the wing would overpower the rudder and try to roll the plane to the right. The only way to overcome this in the air was to slow way down and let the prop wash over the rudder to provide a righting force. Fortunately, it took only a few minutes with a heat gun to straighten the wings and restore the intended flying characteristics.

**TELEMASTER ELECTRO**

This kit has a great manual. Over 80 photo-illustrated steps lead you clearly through the entire assembly process. There are just a couple of points to watch. Most significantly, the AXI motor has a wheel collar that mounts to the rear shaft on the firewall mounting kit. The clearance hole in the wood motor mount is ever-so-slightly too small. The collar binds on the wood, so you will need to open up that hole a little with a Dremel tool or a few strokes with a round file.

The airframe comes covered, and only final assembly is required before you are ready to fly. I joined the wing panels with 30-minute Z-Poxy after installing the aileron and flap servos. You will need to remove a little covering material for a wood-to-wood bond while mounting the tail surfaces. Align the components carefully, and mark the areas to trim with a fine-point marker. Most instructions, these included, show using a hobby knife to trim the film without cutting the wood. I can't consistently guide a knife to a depth of just a few thousandths of an inch, so instead, I trim the film by melting through it with a hot pencil-tip soldering iron. This same technique works well for opening the pushrod exits and the wing hold down dowel holes. Clean any residual ink off the film with a wipe of denatured alcohol before gluing the parts together.

Be sure to glue the CA hinges completely. And while you are hinging the surfaces, don't leave off the optional flaps. The additional functionality will provide a lot of extra flying fun. The flaps are designed to hinge from the top with about 30 degrees total deflection. This creates extra lift for short takeoffs, and slowing down for landing, but I wanted more deflection for even more dra-

## SPECS

**PLANE:** Telemaster Mini, Electro and Senior  
**TYPE:** Electric sport flyers

**DISTRIBUTOR:** Hobby Lobby  
**FOR:** Anyone looking for an easy-flying, dependable favorite

**MINI TELEMMASTER**

**WINGSPAN:** 45 in.  
**WING AREA:** 325 sq. in.  
**WEIGHT:** 19.6 oz.  
**WING LOADING:** 8.7 oz./sq. ft.  
**LENGTH:** 31 in.  
**RADIO:** 3 channels required; flown with Hitec Focus 3SS transmitter, Hitec 555 receiver, Hitec HS-55 servos  
**POWER SYSTEM:** Uberall "Nippy Black" 1208/180 outrunner motor, APC 8x6SF prop, Jeti Advance Plus 18-amp brushless speed control, Kokam 2S 1250mAh Li-Poly battery  
**FULL THROTTLE POWER:** 10.54 amps, 69.8 watts, 3.56 W/oz., 57 W/lb.  
**TOP RPM:** 5,430  
**DURATION:** 12-15 minutes  
**MINIMAL FLYING AREA:** ball field  
**PRICE:** \$29.90  
**COMPONENTS NEEDED TO COMPLETE:** 3-channel radio, 60- to 75-watt motor with battery and speed control, speed control, propeller, wheels, covering material

**TELEMMASTER ELECTRO**

**WINGSPAN:** 73.25 in.  
**WING AREA:** 848 sq. in.  
**WEIGHT:** 96 oz., (6.0 lbs)  
**WING LOADING:** 16.3 oz./sq. ft.  
**LENGTH:** 53.5 in.  
**RADIO:** 5 channels required; flown with a Hitec Optic 6 transmitter, Hitec Electron 6 receiver, Hitec HS-322 servos  
**POWER SYSTEM:** AXI 2826/12 motor, APC 13x8 electric prop, Jeti Advance plus 40-amp brushless speed control, Poly Quest 3S 4400mAh Li-Poly battery  
**FULL THROTTLE POWER:** 26.9 amps, 283.6 watts; 2.97 W/oz., 47.5 W/lb.  
**TOP RPM:** 6,345  
**DURATION:** 15-20 minutes  
**MINIMAL FLYING AREA:** RC club field  
**PRICE:** \$149  
**COMPONENTS NEEDED TO COMPLETE:** 4- or 5-channel radio, 250-watt motor with battery, speed control and propeller.

**SENIOR TELEMMASTER**

**WINGSPAN:** 94 in.  
**WING AREA:** 1330 sq. in.  
**WEIGHT:** 179 oz. (11.2lbs.)  
**WING LOADING:** 19.38 oz./sq. ft.  
**LENGTH:** 64 in.  
**RADIO:** 5 channels required; flown with a Futaba 9C transmitter, Hitec Electron 6 receiver, Hitec HS-322 servos  
**POWER SYSTEM:** AXI 4120/18 motor, APC 14x10 electric prop, Jeti Advance Plus 70-amp Opto brushless speed control, Ultimate BEC, 16-cell 3300mAh NiMH battery  
**FULL THROTTLE POWER:** 35.4 amps, 517.6 watts; 2.91 W/oz., 46.5 W/lb.  
**TOP RPM:** 3,975  
**DURATION:** 15+ minutes  
**MINIMAL FLYING AREA:** RC club field  
**PRICE:** \$195  
**COMPONENTS NEEDED TO COMPLETE:** 4- or 5-channel radio, 500-watt motor with battery, speed control and propeller.

## SUMMARY

The Telemaster is a classic design available in a variety of sizes. It is tough to beat a Telemaster for fun flying on a lazy afternoon. It doesn't matter if you like building, or just want to assemble an ARF; Hobby Lobby has a Telemaster for you, from a simple three-channel park flyer up to a 12-foot, giant-scale monster.

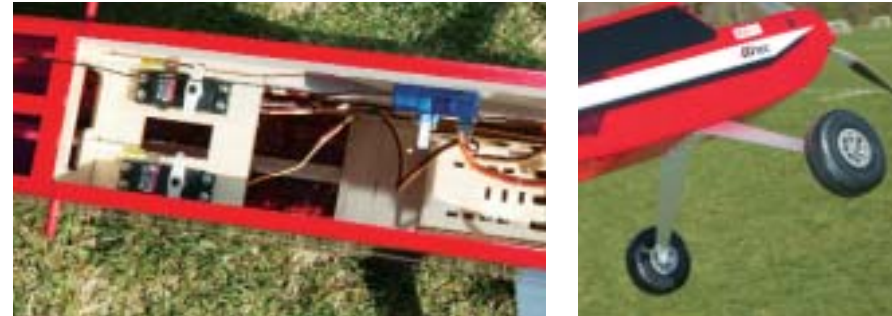
matic results. Hinging from the bottom allows as much deflection as you want. I cut the flaps free from the wing with a new blade and a straight edge. I squared off the factory bevel by gluing on some scrap balsa and shaping it with a few strokes of my Master Airscrew razor plane. I covered the raw balsa with some transparent red covering and hinged the flaps to the wing from the bottom using hinge tape. I installed the control horns backwards to give almost 90 degrees of throw.

As one last step, I upgraded the wheels. The 2.75-inch foam kit wheels looked too small for our grass field, and I don't want to worry about the tires developing flat spots from sitting too long. Hobby Lobby has some wonderful



four-inch, diamond-tread wheels from Kavan that are extremely light, large enough for rougher fields and much more robust. Some two-inch 10-32 socket head cap screws and nuts from the local hardware store replaced the kit axles. The larger bolts also required enlarging the hole in the gear strut.

When installing the flaps, you will have six servos running off a BEC-equipped controller rated for half that count. The servos don't get a tremendous workout, and according to Hobby Lobby, this has not been a problem. Our experience confirms that this works as well. If you prefer to play by the book, use the Jeti Opto controller and a separate flight pack or an Ultimate BEC.



Left: The radio installation for the Telemaster Electro goes very quickly. I simply screwed the two Hitec 322 servos in place, and mounted the Electron 6 receiver to the fuselage side with Velcro. The laser-cut plywood battery tray is quite long, letting you tailor the CG to your own personal feel, as well as use a variety of pack configurations. Right: Here are the four-inch Kavan wheels I used on the Electro. They are nearly as light as the smaller foam wheels in the kit, and much more appropriate for grass fields.

#### SENIOR TELEMASTER

Hobby Lobby has prepared a new manual for the Senior Telemaster that should be in all kits by the time you read this. The draft I was provided was very helpful, but assumes that you have previous modeling experience. This isn't a difficult model to assemble, but you do want to make sure you are proceeding in a logical manner.

While trial fitting the tail wheel bracket and vertical surfaces, I realized that the rudder hinges were not glued. I carefully cut small holes in the covering to discover a few small wood screws into balsa were all that was holding the rudder in place. I removed the rudder to make mounting the tail wheel

bracket easier, and to epoxy the hinges in place with 5-minute Z-Poxy. The ailerons and elevator were not glued either. Hobby Lobby confirmed that the hinges are only screwed in place, but that no problems have been reported. The kit does include a bit of extra covering if you want to glue the hinges, my personal recommendation.

The servo tray comes with four servo cutouts. Only two servos are needed in the fuselage for electric flying, so I cut the tray in half and installed it at the very back of the radio compartment. This allows as much room in the cargo bay as possible for future fun, but does mean reworking the preassembled pushrods. I used a heat gun to remove

the metal pushrod ends from the dowels. Once I had the servos and tail surfaces installed, I adjusted the pushrod lengths by re-bending the wire and reassembled the pushrods with 5-minute Z-Poxy and more heatshrink. The original split elevator pushrod came assembled with the wires at different lengths, so some sort of reworking is inevitable. Dropping a couple of pull threads through from the tail will ease threading the split pushrod through the tail.

The Senior Telemaster kit includes hardwood struts that brace the wing for aerobatics or heavy hauling. Brass strut anchors epoxy into the fuselage and wing. Attach pins screw into these inserts. I matched pins to inserts before installation and rotated the inserts before the epoxy set so that the pins would be appropriately aligned once installed.

Again, I felt the kit's foam wheels could use an upgrade. I selected a pair of five-inch Kavan air wheels and reamed the hubs slightly for the axles. To make sure that the wheels stayed attached to the model, I used my cordless Dremel tool to grind flat anchor spots on the axles for the wheel collar set screws, and used some Pacer Z-42 thread locker to keep them in place.



## AIRBORNE

### MINI

The Mini Telemaster is a light, three-channel park flyer, and as such, it is best suited to calmer wind conditions. The roll response is inevitably slower than with an aileron-equipped model. This is great for a beginner, but challenging when flying in rough air. In smooth air, it is a wonderful little flyer, and can cruise about for 20 minutes or more on a charge.

The Mini is also pretty peppy when you add power. We have had no trouble taking off from the grass on a typical sports field. In the air, you can do some basic three-channel aerobatics such as loops,

stall turns and spins. The rudder response is a little sluggish for rolls. If you really need to toss it about, you might consider increasing the dihedral a bit while building the wing, but this model is more suited to cruising and shooting touch-and-goes in the evening calm than finessing your aerobatic technique. Its light weight and slow flying speed also mean little inertia, offering a lot of durability. The Mini Telemaster will stand up to its fair share of bumps without bruising. If you are looking for a compact model for some basic, relaxing flying, the Mini Telemaster demands consideration.



### ELECTRO

The Telemaster Electro is a great everyday sport model that flies slowly but can still handle a breeze. The one-piece wing might be a little awkward for transport depending on your car, but once at the field makes for a rapid setup. Just plug in the servo leads and attach the wing with rubber bands.

Despite the apparent power limitation, the low wing loading helps this model really perform. Point the nose into the wind and throttle up, and the Electro will be in the air in a few feet. I am always amazed at how quickly it gets off the ground, especially with a little bit of flaps hanging down in the slipstream. The Electro really moves out with the flaps retracted. It will easily loop from level flight, and the ailerons have plenty of authority. Full house control gives you the opportunity for loops, rolls, Split-S's, Immelmans, spins, snap rolls, inverted flight, and more. The real fun comes when playing with the flaps, though.

I programmed the Optic 6 for 30 degrees of flaps with the right slider, and almost 60 degrees with the left. Both sliders give a total near 90 degrees. Anything beyond 30-40 degrees adds more drag than lift; perfect for making steep approaches into a small field. Set up high and drop the flaps to full deflection, and you will have to point the nose at the ground to keep some airspeed. Even full down elevator will not over-speed the Electro with the flaps out, allowing you to descend steeply while still maintaining complete control.

Add a bit of power as you pick up the nose for the flare to slow the descent rate. With practice you will be able to land on the proverbial



dime. If you decide to go around, reset the flaps to 30 degrees as you add power or you won't get the climb performance you expect.

### SENIOR

I set up the Senior Telemaster as a conventional four-channel model. The strip ailerons can be programmed as flaps, but the limited deflection restricts effectiveness.

Getting in the air couldn't be easier. Because of its size and power, takeoffs with the Senior Telemaster appear to happen in slow motion. As you throttle up and gather speed, the large lifting stabilizer raises the tail in only a few feet. With the big five-inch Kavan wheels smoothing out the field, it just rumbles along, all the while gaining speed. The big Telemaster gets light on its feet within 30 or 40 feet, and levitates into the air as gracefully as can be.

The light wing loading makes this a wonderfully relaxing plane to fly, yet it has plenty of power to loop from level flight, and the hammerheads couldn't be more graceful. The Senior Telemaster flies much like the Electro, without the flaps. You can still control the descent rate by cross-controlling rudder and aileron. The glide angle increases dramatically as you slip the fuselage sideways. Straighten it out as you pull up into the flare, and you can set the Senior Telemaster down in the lightest of three pointers. You can also roll it in on the mains, pinning them onto the runway with a touch off forward stick.

### CONCLUSION

The Telemaster family offers a lot of flexibility to suit any modeling or flying preferences. Whether you want a small, three-channel park flyer tucked in your car, or a larger model for more complex flying or load hauling, a Telemaster will provide endless fun at the field. This is one design that everyone should have in his or her hangar. 🌀

### Links

**Futaba**, distributed exclusively by Great Planes Model Distributors, [www.futaba-rc.com](http://www.futaba-rc.com), (800) 682-8948

**Hitec RCD USA, Inc.**, [www.hitecrcd.com](http://www.hitecrcd.com), (858) 748-6948

**Hobby Lobby International, Inc.**, [www.hobby-lobby.com](http://www.hobby-lobby.com), (615) 373-1444

**Master Airscrew**, distributed exclusively by Windsor Propeller Company, [www.masterairscrew.com](http://www.masterairscrew.com), (916) 631-8385

**ZAP and Z-Poxy** are manufactured by Pacer Technology, [www.zapglue.com](http://www.zapglue.com)

For more information, please see our source guide on pg. 177.