
TACTIC™

TTX440

2.4GHz
Radio Control System



I N S T R U C T I O N M A N U A L



The **Tactic TTX440** radio system replaces the radio system originally included with your airplane. Replace any instructions in the airplane manual that refer to the radio control system with these instructions.

The **Tactic TTX440** radio system uses 2.4GHz **spread spectrum** technology. While you're flying, spread spectrum automatically, rapidly and seamlessly changes between "open" frequencies in the 2.4GHz band, so it never operates on the same frequency long enough to receive interference. This assures that your receiver will always be reading commands **from your transmitter only**, eliminating errant signals which can cause unwanted servo movement or loss of control. Tactic 2.4GHz transmitters and receivers are not compatible with other brands of 2.4GHz equipment.

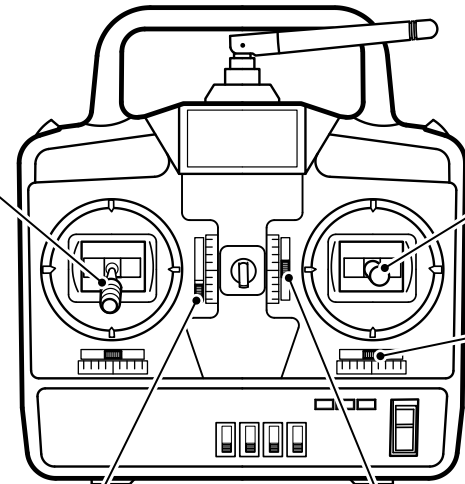
IDENTIFICATION OF CONTROLS

Take a minute to familiarize yourself with the transmitter's controls. The transmitters in the illustrations for both 3 and 4-channel are the same, but the servos are connected to the receiver differently depending on whether or not your model has ailerons.

FLIGHT CONTROLS

**LEFT
Control Stick**
(throttle-channel 3)

**3
channel**



**RIGHT
Control Stick**
(rudder-channel 1,
elevator-channel 2)

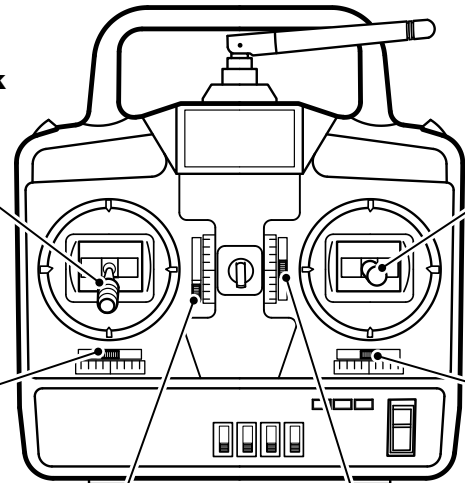
**Rudder
Trim Lever**

**Throttle
Trim Lever**

**Elevator
Trim Lever**

**LEFT
Control Stick**
(throttle-channel 3,
rudder-channel 4)

**4
channel**



**RIGHT
Control Stick**
(aileron-channel 1,
elevator-channel 2)

**Rudder
Trim Lever**

**Aileron
Trim Lever**

**Throttle
Trim Lever**

**Elevator
Trim Lever**

Trim Levers – The trim levers are used to make small, *in-flight* adjustments to the assigned control surface’s neutral position. When flying, adjust the levers as necessary to “fine-tune” the model’s flight path so it will fly straight-and-level when the control sticks are neutral (“hands-off”).

Right control stick (3-channel operation) – Controls the servos connected to **channel 1** and **channel 2** on the receiver (typically, for 3-channel models, the rudder and elevator). Pulling the stick back (toward the pilot) should cause the elevator to move up, pushing the tail down and pitching the nose upward (technically called “pitch” control). Moving the stick to the right should cause the rudder to move right, causing the nose of the model to turn to the right (technically called “yaw” control). The opposite should occur if the stick is moved the other way. Note that properly designed 3-channel (“rudder-only”) models have significant wing dihedral. This will allow the model to enter a bank with rudder control alone (simulating the effect of ailerons on 4-channel models).

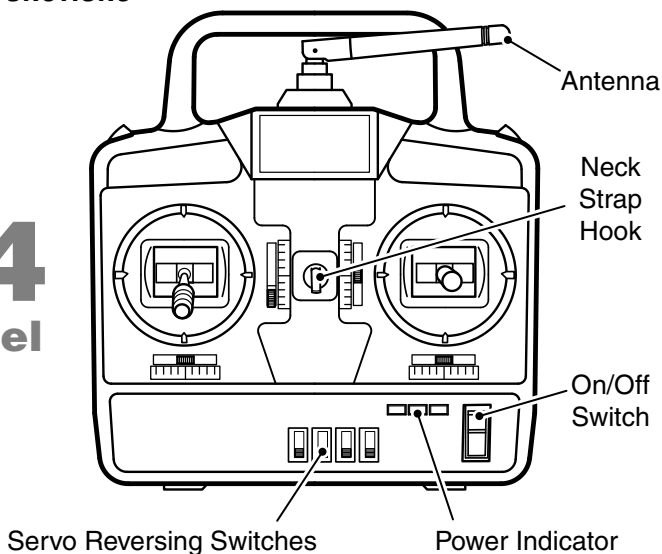
Left control stick (3-channel operation) – Controls the ESC connected to **channel 3** (throttle). Pulling the stick back (toward the pilot) should turn the motor off and moving the stick forward will advance the motor speed.

Right control stick (4-channel operation) – Controls the servos connected to **channel 1** and **channel 2** on the receiver (typically the ailerons and elevator). Pulling the stick back (toward the pilot) should cause the elevator to move up, pushing the tail down while pitching the nose upward (technically called “pitch” control). Moving the stick to the right should cause the right aileron to move up and the left aileron to move down, causing the model to enter a banked turn to the right (technically called “roll” control). The opposite should occur if the stick is moved the other way.

Left control stick (4-channel operation) – Controls the servos connected to **channel 3** and **channel 4** on the receiver (typically the throttle and rudder). Pulling the stick back (toward the pilot) should turn the motor off. Moving the stick to the right should cause the rudder to move right, causing the nose of the model to turn to the right (technically called “yaw” control). The opposite should occur if the stick is moved the other way.

ADJUSTMENTS/FUNCTIONS

3 & 4 channel



Antenna – The antenna pivots at the base and may be rotated downward for storage and transport. When flying, be certain the antenna is in the **upright** position for the strongest signal. The antenna is not removable.

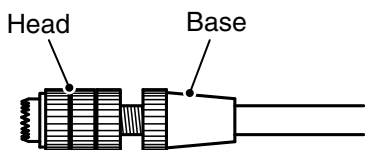
Neck strap hook – Some pilots prefer flying with the transmitter suspended from a neck strap. This is your option. A neck strap may be purchased separately.

On/Off switch – Develop the habit of turning on the transmitter **before** connecting the battery to the plane (or before turning on the receiver switch) and turning off the transmitter after disconnecting the battery. This way, the receiver will always be receiving signals from the transmitter.

Power indicator – Indicates transmitter battery condition. Refer to “**Install the Batteries**” below.

Servo reversing switches – Determines the direction of travel of assigned servos. For example: if, when pulling the elevator stick back (toward the pilot) the elevator moves down, change the position of the elevator reversing switch so the elevator moves up.

ADJUSTABLE CONTROL STICK LENGTH



Loosen the **head** from the **base**. Turn the head to the desired height that feels most comfortable to you. Securely tighten the base to the head with your fingers (tools are not necessary).

SET UP AND CHECK THE CONTROLS

INSTALL THE BATTERIES

1. Remove the battery cover from the transmitter by pressing on the cover and sliding it downward. Install four new AA batteries. Then replace the cover.
2. Turn on the transmitter. All three LEDs (light-emitting diodes) should light. If any of the lights do not illuminate, battery power is low. Replace the batteries. If, during flight, the green light goes out, power is getting low. This is not an emergency situation, but you should land the plane as soon as conveniently possible and replace the batteries before flying again. If both (green and yellow) lights are out, battery power is dangerously low and the model should be landed immediately before control is lost.

Three lights on: Battery power good—continue to fly.

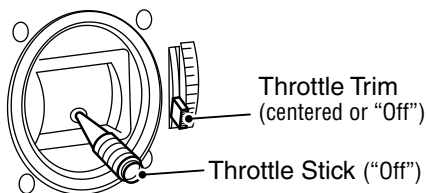
Two lights on: Battery power low—land as soon as convenient.

One light on: Battery power dangerously low—land as soon as possible.

MAKE SURE THE RECEIVER IS “BOUND” TO THE TRANSMITTER

The receiver must be electronically “bound” to the transmitter in order to “read” its signals. Your model should be supplied with the receiver already bound, but perform this quick check to make sure.

**Lower the Throttle Stick
and the Throttle Trim**



1. Center the aileron, elevator and rudder trims on the transmitter, but **lower the throttle control stick** all the way down to the “off” position and set the throttle trim to “off” or centered.



IMPORTANT! Even though the throttle stick and throttle trim lever are all the way down, **always be prepared for the propeller to turn as soon as the battery is connected** just in case something goes wrong. Hold onto the model or have an assistant hold the model while connecting the battery—especially for the very first time, until you are certain everything is working properly. Always connect the battery from behind the propeller. In fact, for models that have the propeller in front, it is a good idea to remove the propeller while setting up all the controls for the first time.

2. Connect the battery to the ESC (or turn on the receiver switch if your model has one). With the throttle stick all the way down, move the control sticks (but don't move the throttle stick, otherwise the propeller may turn). If the controls respond, the receiver is already bound and nothing else needs to be done. (The illuminated red light next to the "BIND" button in the top of the receiver also indicates that the receiver is bound.) But if the controls are not working and the red light is not on, then the receiver is not bound to your transmitter and cannot read its signals. Follow these steps to perform the binding operation.

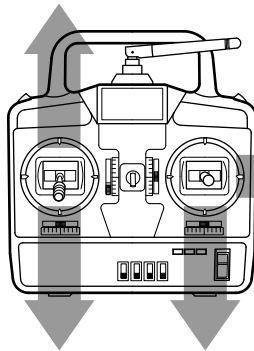
3. With the transmitter on and the battery connected, use a small screwdriver, a toothpick or a piece of wire to press and hold the "BIND" button down inside the hole in the top of the receiver. The red light should flash three times staying on the third time. (Also note that the first flash and pause will be longer than the next.) This should take about two or three seconds.

4. Release the button. The receiver should now be bound to the transmitter and all of the controls should be working. Note: If you ever purchase a new receiver as a spare or a replacement, it too will have to be bound to your transmitter.

CHECK THE CONTROL DIRECTIONS

Advance Throttle Stick
Motor runs full speed

3-channel



Move Control Stick Right
Rudder moves right

Lower Throttle Stick **Pull Control Stick Back**
Motor turns off Elevator moves up

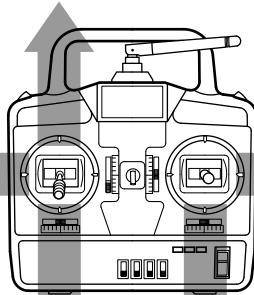
Advance Throttle Stick

Motor runs full speed

4-channel

Move Control Stick Left

Rudder moves left



Move Control Stick Right

Right aileron moves up,
left aileron moves down

Lower Throttle Stick Pull Control Stick Back

Motor turns off

Elevator moves up

1. Make certain all the controls respond in the correct direction when the control sticks are moved as indicated. **Note:** Some ESCs feature an “arming” safety procedure, where the motor will not turn the first time the throttle stick is advanced. Refer to the instructions for the ESC that came with your airplane to find out if your ESC has an arming feature.

If any of the controls do not respond in the correct direction, use the blade of a small screwdriver to move the any of reversing switches necessary to the other position. Confirm that the controls respond correctly.

If none of the controls respond, confirm that the transmitter is turned on and the motor battery is connected to the ESC. Also confirm that the battery is at least partially charged. If there is still no control response, the receiver may not be reading signals from the transmitter. “Bind” the receiver to the transmitter as described on page 5.

2. When you get to the flying field perform a “ground range check” to verify that the receiver will read the transmitter’s signals from a distance. This isn’t required before every flight, but should always be done before the first flight of the day. To do a ground range check, place the model on the ground and have an assistant hold onto it. With the system turned on walk away from the model while you operate the controls. Be certain to vary the motor speeds as well. As you continue to walk and operate the transmitter confirm that all the controls continue to respond correctly. Do this until you reach a distance as far away from the model as possible while still being able to clearly see it (approximately 100’ [30m] (fifty paces). If all the controls respond correctly the model is ready to fly. If any of the controls do not respond correctly **do not fly**. Refer to the TROUBLESHOOTING part of the manual below.

TROUBLESHOOTING

The transmitter is on and the motor battery is connected, but the servos do not respond

- Be certain the motor battery and transmitter batteries are sufficiently charged.
- The receiver may not be reading signals from the transmitter. Perform the binding operation as described on page 5.

Range is short or the plane behaves erratically in flight

If, while flying, you notice that the model doesn't seem to be responding to your control inputs as expected, this may be an indication of poor operational range or electrical interference. Perform the following checks:

- If the servo wires are not fully connected in the receiver, interference may result which can shorten operational range.
- Be certain the motor battery and transmitter batteries are sufficiently charged.
- Be certain the transmitter antenna is vertical.
- Occasionally range can be affected if the receiver is too close to other electrical components inside the model. Relocate the receiver to a different location in the fuselage.
- An extreme crash can damage the receiver even if it was well-protected and appears to be in good condition. Send the receiver to Hobby Services for repair if you suspect it has been damaged in a crash.
- Occasionally, signals from pagers, strong industrial or other commercial transmitters in the area can cause interference. Check with other pilots at your flying site or in your area who may be able to verify known radio problems, or find another flying site.

One servo responds erratically (or not at all), but the other servos are working fine

Occasionally, servos simply "wear out," especially if the model has crashed. If a servo fails, the best thing to do is simply replace it.

SPECIFICATIONS

TTX440 4-Channel Transmitter (TACJ0445)

- Channels:** 4
- Frequencies:** 2.403 – 2.480GHz
- Modulation:** FHSS spread spectrum
- Input power:** four “AA” alkaline, NiCd, or NiMH cells
(3.8 - 8.0V)
- Output power:** < 0.1W

TR424 4-Channel Receiver (TACL0424)

- Channels:** 4
- Receiving freqs:** 2.403 – 2.480GHz
- Modulation:** FHSS spread spectrum
- Input power:** 4.0 - 6.0V
- Dimensions:** 1.77 x 0.98 x 0.5” (45 x 25 x 13mm)
- Weight:** 0.25 oz (7g)

FCC STATEMENT

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions.

- (1) This device may not cause harmful interference.
- (2) This device must accept any interference received, including interference that may cause undesired operation.

NOTE: THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY RADIO OR TV INTERFERENCE CAUSED BY UNAUTHORIZED MODIFICATIONS TO THIS EQUIPMENT. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

IMPORTANT WARNINGS AND PRECAUTIONS

- **NEVER** allow water or moisture to contact the receiver, servos or electronic components inside the transmitter. This could cause those components to fail or cause improper operation and poor control of the aircraft, possibly resulting in a safety hazard.
- **NEVER** operate R/C model aircraft near power lines, radio or cell phone towers, roads, automobiles, buildings, or pedestrians. Use care where other R/C aircraft are being flown simultaneously.
- **NEVER** operate R/C equipment if you are physically impaired as it could pose a safety hazard to yourself or others.
- **NEVER** allow small children to operate/control model R/C equipment without the supervision of an adult.
- **ALWAYS** make certain all transmitter stick movements operate all servos properly in the model. Check the operation of control surfaces before—and after—starting the engine/motor.
- **ALWAYS** make sure the transmitter antenna is unfolded entirely so that it's pointing upright to ensure maximum range and control of the aircraft.
- Do not store your radio equipment in extremely hot or cold locations, in direct sunlight or in locations with high humidity. Store R/C equipment in cool and dry locations.
- Do not allow chemicals to come in contact with any parts of the radio system. Substances such as glow fuel, gasoline, CA glue, etc. could permanently damage plastic parts of the radio system.
- Remove the batteries from the transmitter before placing the radio in long-term storage.

WARRANTY AND REPAIR

1-YEAR LIMITED WARRANTY - *U.S.A. and Canada Only

Tactic warrants this product to be free from defects in materials and workmanship for a period of one (1) year from the date of purchase. During that period, Tactic will, at its option, repair or replace without service charge any product deemed defective due to those causes. You will be required to provide proof of purchase (invoice or receipt). This warranty does not cover damage caused by abuse, misuse, alteration or accident. If there is damage stemming from these causes within the stated warranty period, Tactic will, at its option, repair or replace it for a service charge not greater than 50% of its then current retail list price. Be sure to include your daytime telephone number in case we need to contact you about your repair. This warranty gives you specific rights. You may have other rights, which vary from state to state.

For service on your Tactic product, send it post paid and insured to:

HOBBY SERVICES

3002 N. Apollo Dr., Suite 1
Champaign, IL 61822

Tel: (217) 398-0007

(9:00am - 5:00pm CST, M-F)

E-mail: hobbyservices@hobbico.com



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