

TTX402

2.4GHz 4-Channel Spread Spectrum Radio

INSTRUCTION MANUAL

The Tactic TTX402 Micro airplane radio system uses an advanced 2.4GHz spread spectrum technology to prevent outside interference from interrupting control of your model, ensuring error-free flying and eliminating the need to obtain frequency pins before every flight. Tactic 2.4GHz transmitters and receivers are not compatible with other brands of 2.4GHz equipment.



For safe operation and best results, it's strongly recommended you read this manual in its entirety before use! Also read and understand the instructions included with the model. Damage resulting from misuse or modification will void your warranty.

FEATURES



- 2.4GHz frequency hopping spread spectrum technology
- Built-in charger for airborne 1S micro LiPo batteries
- Transmitter can bind to multiple Tactic 2.4GHz receivers
- Digital trims on all four channels
- Power status LED

TTX402 TRANSMITTER (Tx)



The TTX402 4-Channel Micro airplane transmitter can be configured to operate as a 3-channel or 4-channel Tx. When configured for 4-channel operation the controls function like a normal Mode-2 transmitter with aileron + elevator on the right stick, and throttle + rudder on the left stick.

Configuring the Tx for 3-channel operation can help beginners concentrate on throttle control with one hand and full airplane directional control with the other hand. Here, the right stick operates elevator + rudder while the left stick will control the throttle. The aileron function will still be active, and now be on the left stick, but aileron control is often not needed for 3ch aircraft. See the diagram above for details.

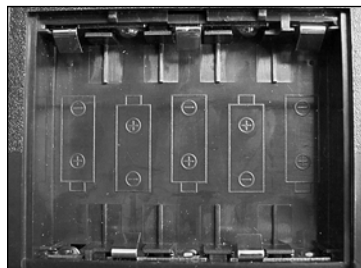
To change the TTX402 transmitter between 3ch and 4ch configurations:

1. Turn off the Tx power switch.
2. Move the right stick to the top-right corner, and the left stick to the top-left corner, and hold in these positions.
3. Move the Tx power switch to the On position. The power LED will flash, accompanied by three short tones from the Tx which indicates the Tx configuration has been changed.

Note that each time the Tx power switch is turned on you will hear either one short tone if the Tx is in the 3ch configuration, or two short tones if the Tx is in the 4ch configuration.

INPUT POWER

Five "AA" batteries are required to power the Tx (not included with individual radio systems). Non-rechargeable 1.5V alkaline, or 1.2V rechargeable nickel-cadmium (NiCd) or nickel-metal hydride (NiMH) cells can be used. Do not mix cell types, old and new cells, etc. See the **SERVOS AND ACCESSORIES** section on page 12 for optional products available at local hobby retailers.



Slide the battery door down, and insert the cells. Make sure to note proper polarity for each cell. Reinstall the battery door.

POWER LED, and LOW BATTERY ALARM

The power LED should light when the power switch is moved upwards to the on position. The Tx should have adequate power for flight when the LED is on constantly. Anytime the LED begins to flash, accompanied by an audible tone, the Tx battery voltage has dropped too low **and operation of the model should NOT be attempted!**



WARNING! Never operate an R/C model with weak Tx batteries! Reduced operational range and/or possible loss of control of the aircraft could result. Replace weak alkaline batteries, or re-charge NiCd or NiMH batteries before attempting a flight!

If during a flight audible tones sound and the power LED starts to flash the Tx batteries have become weak and the aircraft should be landed as soon as possible!

AILERON (CH1)

Controls the moveable surfaces at the trailing edge of the main wings to rotate the airplane about the "roll" axis (an imaginary line which extends from the airplane's nose to the tail). Since every airplane is different, the direction of movement for the aileron channel may need to be reversed so that moving the aileron stick to the right will cause the airplane's right aileron to deflect up, thus causing the right wing to drop and the airplane will bank to the right. Moving the aileron stick to the left will cause the airplane's left wing to drop and the airplane will bank to the left. This is one important method for turning the aircraft. When the Tx is set to the 3ch configuration the aileron channel will not be used.

ELEVATOR (CH2)

Controls the moveable horizontal surfaces on the airplane's tail to rotate the airplane about the "pitch" axis (an imaginary line extending through the center of both main wings, from one wing tip to the other wing tip). The direction of movement for the elevator channel may need to be reversed so that pulling the elevator stick back (towards you) will cause the elevator to deflect up, thus causing the nose of the airplane to rise. Pushing the elevator stick forward (away from you) will cause the nose of the airplane to drop.

THROTTLE (CH3)

Controls the speed (R.P.M.) at which the motor operates. Pushing the throttle stick forward will cause the motor's speed to increase. Pulling the throttle stick back will cause the motor's speed to decrease. Always place the throttle stick at the low position before switching on the transmitter.

RUDDER (CH4)

Controls the side-to-side movement of the airplane's tail and will rotate the airplane about the "yaw axis" (an imaginary line from the top of the airplane's fuselage to the bottom of the fuselage, located near the center-point of the fuselage). The direction of movement for the rudder channel may need to be reversed so that moving the rudder stick to the right causes the rudder to deflect to the right, thus causing the nose of the airplane to point to the right. Moving the rudder stick to the left will cause the nose of the airplane to turn left. When the Tx is set to the 3ch configuration the rudder will be controlled by the right stick. Otherwise, rudder is controlled with the left stick.

TRIMS

All trims are digital in function. Two trim buttons are included for each of the main controls, located adjacent to the respective stick. One trim button adjusts the servo's direction in one direction, and the other button to the opposite direction. Briefly pressing any trim button will adjust the center position of the respective servo output in the appropriate direction and will be accompanied by an audible tone. Pressing and holding any trim button will cause the servo output to move repeatedly. A unique tone will sound when the servo reaches either end of the trim limit, and at the channel's center point.

During a flight, when the main sticks are released and spring back to center position the aircraft should ideally not veer in any direction. If the aircraft does veer in a particular direction, press the respective trim button until the aircraft maintains a straight attitude on its own.

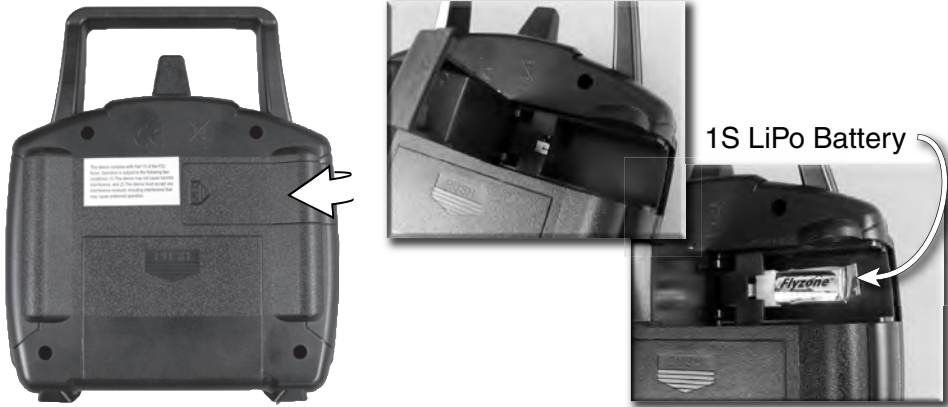
REVERSING CHANNEL DIRECTION

The direction of movement for any of the four channels can be reversed electronically. To change the direction of movement for any channel:

1. Switch off the Tx power switch.
2. Press and hold either trim button for the channel to be reversed.
3. Switch the Tx power switch on. The LED should flash to indicate the movement for that channel has been reversed.
4. Repeat steps 1-3 to reverse the direction of any other channel as needed.
5. Switch the Tx power switch off.

BUILT-IN 1S LIPO CHARGER

A 1S LiPo charger is built into the TTX402 transmitter itself. This charger is designed specifically for charging a micro 1S 3.7V LiPo cell having a micro connector. Charge current is rated at 250mAh, with a maximum charge voltage of 4.20V. Charging will begin automatically when the battery is connected, and automatically stop when full charge is detected. It is not recommended to charge a 1S LiPo while flying.



1. Make sure the Tx power switch is in the off position.
2. Looking at the rear of the Tx, slide open the charger door by moving it to the right.
3. Connect the 1S LiPo battery to the socket inside the battery door. When a proper connection has been made and the battery is being charged, the "CHARGE" LED will illuminate.
4. When charge is complete the CHARGE LED will turn off.

IMPORTANT WARNINGS REGARDING LIPO BATTERY USE!!



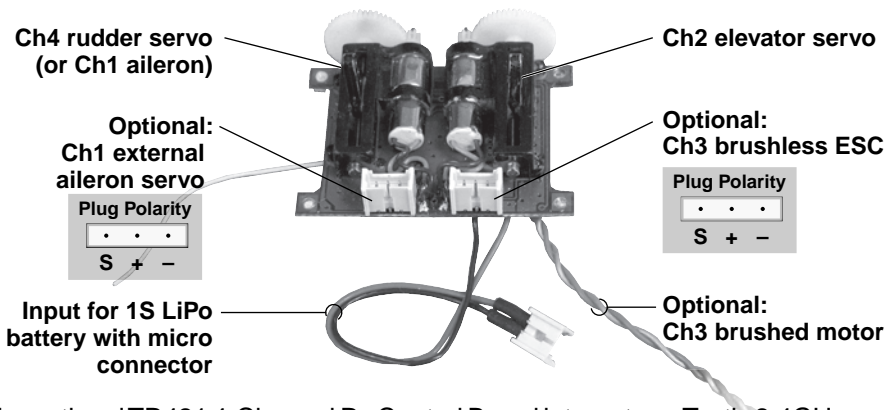
NEVER ATTEMPT TO CARE FOR LITHIUM-POLYMER (LiPo) CELLS IN THE SAME WAY AS OTHER BATTERY TYPES!

LiPo cells are much more sensitive and volatile than NiCd or NiMH batteries. Misuse and overcharge can quickly result in LiPo cells getting hot and/or swelling, which could lead to **VIOLENT EXPLOSION AND/OR FIRE** and serious personal injury and property damage.

- **NEVER** attempt to recharge other battery types except 1S LiPo cells with this built-in charger.
- **NEVER** continue to charge or use LiPo cells if they start to swell or become overly warm to the touch. Failure to follow this guideline could cause the battery to become hot and explode or ignite!!
- **ALWAYS** disconnect the battery from the charger immediately if the battery becomes hot! Allow the battery to cool before use.

- **NEVER** allow water, moisture or foreign objects into the Tx/charger.
- **NEVER** leave the room where a battery is being charged.
- **NEVER** place the Tx/charger or battery on a flammable surface or near a flammable object during the charge process. Keep away from carpets, cluttered workbenches, etc.
- **ALWAYS** have a “class D” fire extinguisher available when handling LiPo batteries.
- If a LiPo cell leaks fluid, do not get fluid on the skin, in the eyes or mouth, etc. If you make contact with fluid from a LiPo battery, rinse the affected area well with water and seek immediate medical care.

TR421 4CH Rx CONTROL BOARD



The optional TR421 4-Channel Rx Control Board integrates a Tactic 2.4GHz receiver, two linear actuation servos, and a 3A brushed ESC onto one device. Sockets are mounted on the board for connection of an optional servo actuator such as the Tactic TSX21 Linear Servo Actuator (TACM0021), and an external brushless ESC.

BIND THE RECEIVER TO THE TRANSMITTER

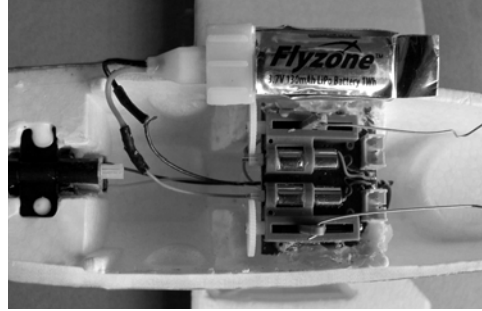
If included with the TTX402, the TR421 Rx will auto-bind with the transmitter once powered. This bind ensures sole communication between the two, and prevents other transmitters from controlling your model. If it's necessary to re-bind the board to the transmitter:

1. Switch on the Tx.
2. Connect the battery to the Rx Control Board. Only use single cell, 3.7V LiPo batteries with a micro connector with the TR421 Rx Control Board. See **SERVOS AND ACCESSORIES** on page 12 for recommendations.
3. The Rx LED on the bottom side of the board will turn on, indicating the Rx is bound to the Tx.
4. Test for proper Tx / Rx functionality in the next section. If the system did not become properly binded, repeat steps 1-3 above.

RECEIVER AND SERVOS

Mount the TR421 4-Channel Rx Control Board as specified in the model's instructions. The built-in receiver is compatible with Tactic brand 2.4GHz transmitters only. Make sure the airplane's control pushrods can easily reach the arms of the actuators, and are completely unobstructed.

To connect the airplane's control pushrods to the servo levers, first center the trims on the transmitter. Make sure the servo's arm is moved to a position that will allow for full control of the airplane's surface in both directions once the control rods are connected. This can be tested by moving the Tx sticks to maximum positions several times while observing the movement of the control surfaces.



If a servo is binding or sticks in flight, the pushrod must be re-adjusted so as not to drain excessive current from the battery and thus shorten flight time.

EXTERNAL SERVO CONNECTION

A socket is provided on the Rx Control Board for the addition of a separate servo (see picture on page 6). If the Tx is configured for 4ch operation, connecting a linear actuator servo to this socket will allow for control of an airplane's aileron surface (as well as elevator, rudder, and throttle). See your local retailer for Tactic's TSX21 Linear Actuator Servo (TACM0021), which connects directly to this slot.

BRUSHED ELECTRONIC SPEED CONTROL (ESC)

The integrated 3 amp ESC is designed for micro-size brushed motors only. Connect the Rx Control Board's two brushed motor leads to the brushed motor. To set up the ESC:

1. Turn on the TTX402 transmitter.



IMPORTANT! Always make sure that power is applied to the transmitter BEFORE applying power to the receiver and servos, and that the throttle stick is at minimum (idle) position. Failure to do so could result in the model becoming uncontrollable and cause a safety hazard.

2. Move the Tx throttle stick to the minimum position.
3. Set the Tx throttle trim to center.
4. Connect the battery to the Rx Control Board. Power will be confirmed by the Rx Control Board sounding one beep.
5. Arm the ESC by moving the throttle stick to full throttle, which will be accompanied by a single tone. Return the stick to the minimum position, which will be accompanied by two tones.
6. The ESC is now armed and ready for operation.

USING AN OPTIONAL BRUSHLESS ESC:

A socket is provided on the Rx Control Board for the connection of an external 1S brushless electronic speed control. To use the Rx Control Board with a brushless ESC instead of the on-board brushed ESC, simply connect the brushless ESC to this socket. The on-board brushed ESC will automatically be de-activated.

SYSTEM CHECK AND OPERATION



WARNING! During all pre-flight preparations with the aircraft on the ground, make sure the throttle stick remains at the minimum position and do not stand the Tx upright on the ground. Carefully lay the Tx on its back on the ground to prevent it from falling over and possibly dislodging the throttle stick from the low position which would create a safety hazard. Make sure all devices are properly mounted inside the model, and all wiring connections are secure to prevent them from easily becoming dislodged during flight. For safety it's best to check the system with the propeller removed from the aircraft.

1. Once all connections are made, check the general operation of the radio and all other components before attempting a flight.
2. Move the Tx throttle stick to the minimum (idle) position.
3. Turn on the Tx, and then the Rx.
4. Make sure all controls are operating in the proper direction. If any servo is turning in the wrong direction, change the reversing for that particular channel.
5. With both sticks at center position, move the trims for the aileron, elevator, and rudder channels so each respective control surface is perfectly aligned with the main surface. For example: When the aileron trim is at center it's best that the trailing edge of the aileron is aligned with the trailing edge of the wing itself (not above or below the wing's trailing edge).
6. Make sure that movements of the throttle stick result in an equal adjustment of the motor R.P.M. in the model.
7. Perform a "range check". The "range" is the safe operating distance from the Tx to the Rx, and should be 150 meters. With the assistance of another person, place the aircraft on the ground and walk 100 feet (30m) away from the model. With the Tx pointed directly at the model, operate the transmitter's controls, and ensure the movement of all surfaces is according to the movement of the transmitter.
8. Anytime power is to be removed from the radio system, it's important to shut down power in the aircraft first. Otherwise, the aircraft could become out of control and cause a safety hazard! Move the throttle stick to minimum position to shut down the ESC. Once the propeller has stopped rotating, shut off the ON/OFF power switch in the model, and disconnect the power battery from the ESC in electric airplanes. Then turn off the power switch in the Tx.

FLYING THE AIRCRAFT

1. Once all setup procedures have been confirmed, and power has been removed from the model and transmitter, re-attach the propeller to the model.



IMPORTANT: Be very careful to stay clear from moving propellers!!

2. Make sure the airplane's power batteries are fully charged.
3. Move the Tx throttle stick to minimum position, then switch on the Tx power switch. Turn on the power switch in the model.
4. During the first flight, it might be necessary to re-trim the aileron, elevator, and rudder channels to allow the airplane to sustain level hands-off flight. If further adjustments are required on the ground, beware that the on-board brushed ESC will still be active (if used).
5. When the flight is completed, remove power from the system as described before. Shut down power to the Rx Control Board first, then the transmitter.

SAFETY GUIDE

The Academy of Model Aeronautics (AMA) has established an Official Safety Code. Model flying **MUST** be in accordance with this Code in order for AMA Liability Protection to apply. All questions relating to the AMA Safety Code, liability insurance program, and other official AMA information can be attained from the AMA:

Academy of Model Aeronautics

5161 East Memorial Drive
Muncie, Indiana 47302

(765) 287-1256 – Business

(765) 289-4248 – Fax

(800) 435-9262 – Membership Services



<http://www.modelaircraft.org>

<http://www.modelaircraft.org/files/Memmanual.PDF>

The AMA's Official 2009 Safety Code includes the following regarding the use of model aircraft:

**2009 OFFICIAL ACADEMY OF MODEL AERONAUTICS NATIONAL MODEL
AIRCRAFT SAFETY CODE**

Effective January 1, 2006

GENERAL

1. A model aircraft shall be defined as a non-human-carrying device capable of sustained flight in the atmosphere. It shall not exceed limitations established in this code and is intended to be used exclusively for recreational or competition activity.
2. The maximum takeoff weight of a model aircraft, including fuel, is 55 pounds, except for those flown under the AMA Experimental Aircraft Rules.
3. I will abide by this Safety Code and all rules established for the flying site I use. I will not willfully fly my model aircraft in a reckless and/or dangerous manner.
4. I will not fly my model aircraft in sanctioned events, air shows, or model demonstrations until it has been proven airworthy.
5. I will not fly my model aircraft higher than approximately 400 feet above ground level, when within three (3) miles of an airport without notifying the airport operator. I will yield the right-of-way and avoid flying in the proximity of full-scale aircraft, utilizing a spotter when appropriate.
6. I will not fly my model aircraft unless it is identified with my name and address, or AMA number, inside or affixed to the outside of the model aircraft. This does not apply to model aircraft flown indoors.
7. I will not operate model aircraft with metal-blade propellers or with gaseous boosts (other than air), nor will I operate model aircraft with fuels containing tetranitromethane or hydrazine.
8. I will not operate model aircraft carrying pyrotechnic devices which explode or burn, or any device, which propels a projectile of any kind. Exceptions include Free Flight fuses or devices that burn producing smoke and are securely attached to the model aircraft during flight. Rocket motors up to a G-series size may be used, provided they remain firmly attached to the model aircraft during flight. Model rockets may be flown in accordance with the National Model Rocketry Safety Code; however, they may not be launched from model aircraft. Officially designated AMA Air Show Teams (AST) are authorized to use devices and practices as defined within the Air Show Advisory Committee Document.
9. I will not operate my model aircraft while under the influence of alcohol or within eight (8) hours of having consumed alcohol.
10. I will not operate my model aircraft while using any drug which could adversely affect my ability to safely control my model aircraft.
11. Children under six (6) years old are only allowed on a flight line or in a flight area as a pilot or while under flight instruction.
12. When and where required by rule, helmets must be properly worn and fastened. They must be OSHA, DOT, ANSI, SNELL or NOCSAE approved or comply with comparable standards.

RADIO CONTROL

1. All model flying shall be conducted in a manner to avoid overflight of unprotected people.
2. I will have completed a successful radio equipment ground-range check before the first flight of a new or repaired model aircraft.
3. I will not fly my model aircraft in the presence of spectators until I become a proficient flier, unless I am assisted by an experienced pilot.
4. At all flying sites a safety line or lines must be established, in front of which all flying takes place. Only personnel associated with flying the model aircraft are allowed at or in front of the safety line. In the case of air shows or demonstrations a straight safety line must be established. An area away from the safety line must be maintained for spectators. Intentional flying behind the safety line is prohibited.
5. I will operate my model aircraft using only radio-control frequencies currently allowed by the Federal Communications Commission (FCC). Only individuals properly licensed by the FCC are authorized to operate equipment on Amateur Band frequencies.
6. I will not knowingly operate my model aircraft within three (3) miles of any preexisting flying site without a frequency-management agreement. A frequency-management agreement may be an allocation of frequencies for each site, a day-use agreement between sites, or testing which determines that no interference exists. A frequency-management agreement may exist between two or more AMA chartered clubs, AMA clubs and individual AMA members, or individual AMA members. Frequency-management agreements, including an interference test report if the agreement indicates no interference exists, will be signed by all parties and copies provided to AMA Headquarters.
7. With the exception of events flown under official AMA rules, excluding takeoff and landing, no powered model may be flown outdoors closer than 25 feet to any individual, except for the pilot and the pilot's helper(s) located at the flight line.
8. Under no circumstances may a pilot or other person touch a model aircraft in flight while it is still under power, except to divert it from striking an individual.
9. Radio-controlled night flying is limited to low-performance model aircraft (less than 100 mph). The model aircraft must be equipped with a lighting system which clearly defines the aircraft's attitude and direction at all times.
10. The operator of a radio-controlled model aircraft shall control it during the entire flight, maintaining visual contact without enhancement other than by corrective lenses that are prescribed for the pilot. No model aircraft shall be equipped with devices which allow it to be flown to a selected location which is beyond the visual range of the pilot.

SERVOS AND ACCESSORIES

SERVOS

GPMM1190	ElectriFly® ES18 1.8G Micro Linear Servo
TACL0324	Tactic TR324 3-Channel Receiver
TACL0624	Tactic TR624 6-Channel Receiver
TACL0421	Tactic TR421 4-Channel Rx Control Board
TACM0021	Tactic TSX21 Linear Servo Actuator
FUTM4503	FPC10M Micro Servo/Battery Connector
FUTM4504	AEC-29 Micro Y-Harness 75mm, 3 in.

BATTERIES AND CHARGERS

FUGP7308	Fuji® AA Alkaline Batteries (8)
HCAA6309	Flyzone™ LiPo 3.7V 130mAh Micro RTF Battery

ELECTRONIC SPEED CONTROLS*

FPWM0206	FlightPower® 6A LiPo BL ESC BEC
FPWM0210	FlightPower 10A LiPo BL ESC BEC
GPMM1800	SS8 Brushless 8 AMP ESC
GPMM1810	SS12 Brushless 12 AMP ESC

* Input connectors on each ESC would need to be replaced with the appropriate micro connector

SPECIFICATIONS

TTX402 4-Channel Micro Transmitter											
Channels	4										
Frequencies	2.403 – 2.480GHz										
Modulation	FHSS spread spectrum										
Input power	Five “AA” alkaline, NiCd, or NiMH cells (4.0 – 8.0V, not included)										
Output power	< 3mW										
Power indicator	Red LED, with 4.5V low voltage alarm										
Audible tones	Low voltage alarm, trim lever adjustments, stick mode setting										
Servo reversing	All channels										
Stick modes	3-channel and 4-channel configurations										
Trims	Digital for all channels										
Built-in LiPo charger	<table> <tr> <td>Battery type and size:</td> <td>For external 1S LiPo battery</td> </tr> <tr> <td>Charge jack:</td> <td>Micro LiPo connector</td> </tr> <tr> <td>Output voltage:</td> <td>3.7V nominal, 4.0V maximum</td> </tr> <tr> <td>Charge current:</td> <td>250mA</td> </tr> <tr> <td>Backup safety timer:</td> <td>45 minutes</td> </tr> </table>	Battery type and size:	For external 1S LiPo battery	Charge jack:	Micro LiPo connector	Output voltage:	3.7V nominal, 4.0V maximum	Charge current:	250mA	Backup safety timer:	45 minutes
Battery type and size:	For external 1S LiPo battery										
Charge jack:	Micro LiPo connector										
Output voltage:	3.7V nominal, 4.0V maximum										
Charge current:	250mA										
Backup safety timer:	45 minutes										

Optional Tactic TR421 Receiver Control Board	
Input power	1S LiPo (2.90 – 4.20V, not included)
Input power connection	60mm lead with two-terminal 1S battery socket
Dimensions	0.98 × 0.95 × 0.47" (25 × 24 × 12mm)
Weight	0.15 oz (4.3g)
Receiver	Channels: four Frequencies: 2.403 – 2.480GHz Modulations: FHSS spread spectrum Antenna: 30mm external
On-board brushed ESC (Throttle)	Output: 3A Output connection: 55mm wire with cut ends, no connector On resistance: 0.05Ω Operating frequency: PWM 2kHz
On-board linear servos	Number: two Rated torque: 1.39 oz-in (100 g-cm)
Additional outputs	Output 1: for optional external aileron servo actuator Output 2: for optional external brushless ESC Connector type: pcb mounted three-terminal micro servo connectors (each)

IMPORTANT WARNINGS AND PRECAUTIONS



- **NEVER** allow water or moisture to make contact with the electronic components inside the transmitter, receiver, servos, etc.! This could lead to failure or improper functionality of components and poor control of aircraft which could pose a safety hazard.
- **NEVER** operate R/C model aircraft near power lines, radio or cell phone towers, roads or automobiles, buildings, or pedestrians. Be very careful in locations where many R/C aircraft are being used simultaneously.
- **NEVER** operate R/C equipment if you are physically impaired as it could pose a safety hazard to yourself or others in the area.
- **NEVER** allow small children to operate/control model R/C equipment without the supervision of an adult.
- **NEVER** allow the transmitter's throttle stick to accidentally be moved away from the "off" or minimum position while the model's engine/motor is moving.
- **ALWAYS** range check the radio system before use.
- **ALWAYS** make sure that all transmitter stick movements operate all servos properly in the model. Check the proper operation of control surfaces before and after starting the motor.
- 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.
- If NiCd batteries were installed in the transmitter, remove the batteries before placing the radio in long-term storage.

TROUBLESHOOTING

RANGE IS SHORT

Interference – check Rx antenna installation. Rx may need to be located to a different position in the model for better reception. Low Tx or Rx battery – replace the batteries or recharge if applicable. Crash damage – send the radio to Hobby Services for repair.

RUN TIME IS SHORT

Low Tx or Rx batteries – replace or recharge the batteries. Obstructed servo linkages causing excess battery drain – free the linkages / pushrods.

Tx POWER SWITCH ON BUT SERVOS DO NOT FUNCTION

Tx or Rx batteries are low – replace or recharge the batteries. Power is not applied to the Rx – re-apply adequate power to the Rx. Rx is not binded to the Tx properly – perform binding process again.

INTERFERENCE OR SERVOS GLITCHING

Out of range – operate the model more closely to the Tx. Outside radio interference from pagers, strong industrial or other commercial transmitters in the area - check your local R/C club regarding local operation.

CONTROL SURFACE MOVES IN THE WRONG DIRECTION

Reverse the direction of movement of the affected channel in the setup of the Tx.

INTERNAL CHARGER DOES NOT RECOGNIZE BATTERY

Make sure battery is connected properly. Check for faulty connection or wiring. Replace battery.

CHARGE DOES NOT STOP AFTER 45 MINUTES

Internal problem might exist. Disconnect battery IMMEDIATELY and contact Hobby Services.

BATTERY VOLTAGE LOW AFTER CHARGE IS COMPLETED

Battery might be defective and requires replacement. Backup safety timer might have expired before full charge was reached – disconnect, then reconnect the battery to complete the charge process.

EXTERNAL AILERON ACTUATOR SERVO DOES NOT FUNCTION

Connected to wrong input. See page 6 for proper connection. Incorrect servo plug polarity.

EXTERNAL BRUSHLESS ESC DOES NOT FUNCTION PROPERLY

Connected to wrong input. See page 6 for proper connection. Incorrect ESC plug polarity.

BRUSHED MOTOR RUNS BACKWARDS

Wiring to the motor is connected backwards. Reverse the wiring to the motor.

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.

FCC Rf Radiated Exposure Statement: The equipment complies with FCC Rf radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

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.

CE COMPLIANCE INFORMATION FOR THE EUROPEAN UNION

Instructions for Disposal of Waste Equipment by Private Users in the European Union:



This symbol on the product or its packaging indicates this product must not be disposed of with other household waste. Instead, it is the user's responsibility to dispose of their waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment.

The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or location where you purchased the product.

Declaration of Conformity:

Product: Tactic TTX404 2.4GHz 4-Channel Tx Rx

Item number: TACJ2404

Equipment class: 1



Tactic TTX404 transmitter and Tactic TR624 receiver:

The objects of the declaration described here are in conformity with the requirements of the specifications listed below, following the provisions of the European 2006/95/EC Low Voltage Directive:

EN 60950-1:2006

Safety

The objects of the declaration described here are in conformity with the requirements of the specifications listed below, following the provisions of the European R&TTE directive 1995/5/EC:

ETSI EN 300 328 V1.7.1 *Technical requirements for radio equipment*
ETSI EN 301 489-1 V1.8.1, *General EMC requirements for radio equipment*
301 489-17 V1.3.2

Tactic c/o Hobbico, Inc.
2904 Research Road
Champaign, IL USA 61826

CE COMPLIANCE INFORMATION FOR THE EUROPEAN UNION

The associated regulatory agencies of the following countries recognize the noted certifications for this product as authorized for sale and use.

UK	DE	DK	BG	SE	FI	
EE	LV	LT	PL	CZ	SK	HU
RO	SI	AT	IT	ES	PT	IE
NL	LU	MT	CY	GR		

1-YEAR LIMITED WARRANTY * U.S.A. & Canada

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 Ph: (217) 398-0007
3002 N. Apollo Dr., Suite 1 (9:00am–5:00pm CST, M–F)
Champaign, IL 61822

E-mail: hobbyservices@hobbico.com
Website: tactic.com

- This product is suitable only for people of 14 years and older. This is not a toy!
- **WARNING: CHOKING HAZARD** - May contain small parts. Keep away from children under 3 years. Please retain packaging for future reference.
- No part of this manual may be reproduced in any form without prior permission.
- The contents of this manual are subject to change without prior notice.
- Tactic is not responsible for the use of this product.