



**TQ4**  
TOP QUALIFIER

**TSM**  
TRAXXAS STABILITY MANAGEMENT

MODELS / MODÈLES 6507R, 6509R



**TRAXXAS**

OWNER'S MANUAL  
MANUEL DU PROPRIÉTAIRE

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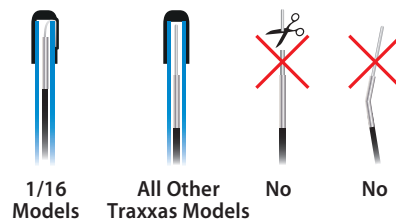
### 16 MENU TREES

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### Important Radio System Precautions

- For maximum range, always point the front of the transmitter toward the model.
- Do not kink the receiver's antenna wire. Kinks in the antenna wire will reduce range.
- DO NOT CUT any part of the receiver's antenna wire. Cutting the antenna will reduce range.
- Extend the antenna wire in the model as far as possible for maximum range. It is not necessary to extend the antenna wire out of the body, but wrapping or coiling the antenna wire should be avoided.
- Do not allow the antenna wire to extend outside the body without the protection of an antenna tube, or the antenna wire may get cut or damaged, reducing range. It is recommended to keep the wire inside the body (in the antenna tube) to prevent the chance of damage.

- **To prevent loss of radio range do not kink or cut the black wire, do not bend or cut the metal tip, and do not cut the white wire at the end of the metal tip.**



### Warranty Information

Traxxas warrants your Traxxas electronic components to be free from defects in materials or workmanship for a period of thirty (30) days from the date of purchase. Before returning any product for warranty service, please contact our service department at **1-888-TRAXXAS (U.S. residents only)** to discuss the problem you are having with the product. After contacting Traxxas, send the defective unit along with your proof of purchase indicating the date purchased, your return address, e-mail, a daytime phone number, and a brief description of the problem to:

**Traxxas, 6250 Traxxas Way, McKinney, Texas 75070**

**Phone:** 972-549-3000 **Internet:** Traxxas.com **E-mail:** support@Traxxas.com

### Detailed Limitations for Electronic Components:

- Allowing water, moisture, or other foreign material to enter the component or get onto the PC board.
- Exceeding the maximum input voltage of the electronic component.
- Reverse voltage application.
- Incorrect installation or wiring.
- Components worn from use.
- Splices to the input or switch harnesses.
- Disassembling the case.
- Excessive force when adjusting, pressing, or turning any of the controls.
- Tampering with the internal electronics.
- Incorrect wiring of an FET servo.
- Allowing exposed wiring to short circuit.
- Any damage caused by crash, flooding, or act of God.

### Limitations

Any and all warranty coverage does not cover replacement of parts and components damaged by abuse, neglect, improper or unreasonable use, crash damage, water or excessive moisture, chemical damage, improper or infrequent maintenance, accident, unauthorized alteration or modification, or items that are considered consumable. Traxxas will not pay for the cost of shipping or transportation of a defective component from you to us.

### Limitations of Liability

Traxxas makes no other warranties expressed or implied. Traxxas shall not be liable for any special, indirect, incidental, or consequential damages arising out of the assembly, installation, or use of their products or any accessory or chemical required to use their products. By the act of operating/using the product, the user accepts all resulting liability. In no case shall Traxxas' liability exceed the actual purchase price paid for the product. Traxxas reserves the right to modify warranty provisions without notice. All warranty claims will be handled directly by Traxxas. The Traxxas warranty gives the customer specific legal rights and possibly other rights that vary from state to state. All dollar amounts stated are in United States

dollars. The term "lifetime" shall refer to the product's production life at Traxxas. Traxxas is not obligated to provide upgraded products at a reduced rate when a previous product's production cycle has ended.

*Traxxas encourages you to register your model online at [Traxxas.com/register](http://Traxxas.com/register).*

#### **Traxxas Lifetime Electronics Warranty**

After the expiration date of the free warranty period, Traxxas will repair electronic components for a flat rate. The electronic products covered by this extended service plan include electronic speed controls, transmitters, receivers, servos, and battery chargers. Motors, batteries, and mechanical speed controls are not covered. The covered repairs are limited to non-mechanical components that have NOT been subjected to abuse, misuse, or neglect. Products damaged by intentional abuse, misuse, modification, or neglect, may be subject to additional charges. Visit [Traxxas.com](http://Traxxas.com) or call 1-888-TRAXXAS (1-888-872-9927) for details on extended warranty service and rates.

#### **FCC Compliance**

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, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**Note:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**WARNING:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

#### **Canada, Innovation, Science and Economic Development (ISED) CAN ICES-3 (B)**

This device contains license-exempt transmitters that comply with Innovation, Science and Economic Development Canada's license-exempt RSS(s).

Operation is subject to the following two conditions: 1. This device may not cause interference. 2. This device must accept any interference, including interference that may cause undesired operation of the device.

#### **Radio Frequency (RF) Exposure Statement**

This equipment complies with FCC/IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

# TRANSMITTER AND RECEIVER

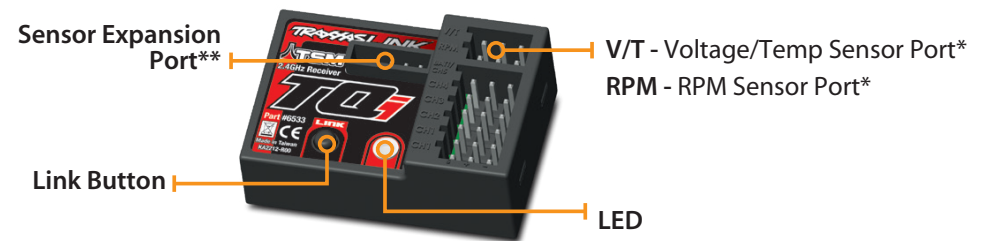
## #6507R - 4-channel with Traxxas Link Wireless Module



## #6509R - 2-channel, Traxxas Link Enabled



## #6533 - TQi Receiver



#6507R Transmitter contains FCC ID: XVE-TRX1018, IC: 8668A-TRX1018 Wireless Module

\*Accessory sensor ports for use with standard voltage/temperature and RPM telemetry sensors.

\*\*Accessory sensor expansion port for use with the Telemetry Expander Module (see [Traxxas.com](http://Traxxas.com) for more information).

## GETTING STARTED



### Traxxas Link Wireless Module and Traxxas Link App

A Traxxas TQi transmitter with the Traxxas Link™ Wireless Module installed is required to set up Traxxas Stability Management (TSM) for your specific vehicle model using the Traxxas Link App. The Traxxas Link Wireless Module (part #6511) is included with the #6507R TQi transmitter (available separately for easy installation in the #6509R TQi transmitter). The Traxxas Link App is available in the Apple App Store™ or on Google Play™.

If you do not have the Traxxas Link Wireless module installed, then you will not be able to use the Traxxas Link App to access the specific software for your model. TSM will function, but it will not be optimized for your model and you may experience some unexpected behavior from the vehicle. If you do see undesirable effects, turn the multi-function knob counterclockwise to reduce TSM's assistance until you are satisfied with the performance or turn TSM completely off (see page 8 for additional information).

### TQi Radio System Basic Adjustments

#### Steering Trim

The electronic steering trim located on the face of the transmitter adjusts the neutral (center) point of the steering channel.

**Note:** Traxxas Stability Management (TSM) must be completely turned off while adjusting steering trim. See page 8 for TSM adjustments.



#### Multi-Function Knob

The Multi-Function knob can be programmed to control a variety of functions. From the factory, the Multi-Function knob controls Traxxas Stability Management (TSM). For more detail on TSM, refer to page 8.



#### Throttle Neutral Adjustment

The throttle neutral adjustment is located on the transmitter face and controls the forward/reverse travel of the throttle trigger. Change the adjustment by pressing the button and sliding it to the desired position. There are two settings available:

50/50: Allows equal travel for both acceleration and reverse.

70/30: Allows more throttle travel (70%) and less reverse travel (30%).

*We strongly recommend to leave this control in its factory location until you become familiar with all the adjustments and capabilities of your model.*

**Note:** 50/50 is the default factory setting and the required setting for Traxxas nitro models. To change the throttle neutral adjust position for an electric model, turn the transmitter off before adjusting the neutral position. **You will need to reprogram your electronic speed control to recognize the 70/30 setting.** See your speed control's instructions.

#### Receiver Installation

*For best performance, it is recommended that the receiver be installed in the same orientation as the original receiver (with the label facing upward).*

Refer to the vehicle owner's manual for additional information, wiring diagrams, and detailed instructions on maintaining a watertight seal.

**Use double-sided adhesive foam tape to install the receiver into the receiver box. Once installed, plug the wires into the receiver.**

### Installing Transmitter Batteries

Your TQi transmitter uses 4 AA batteries. The battery compartment is located in the base of the transmitter.

1. Remove the battery compartment door by pressing the tab and sliding the door open.
2. Install the batteries in the correct orientation as indicated in the battery compartment.
3. Reinstall the battery door and snap it closed.
4. Turn on the transmitter and check the status LED for a solid green light.



If the status LED flashes red, the transmitter batteries may be weak, discharged or possibly installed incorrectly. Replace with new or freshly charged batteries. The power indicator light does not indicate the charge level of the battery pack installed in the model. Refer to the Troubleshooting section on page 14 for more information on the transmitter status LED codes.



### Use the Right Batteries

Your transmitter uses AA batteries. Use new alkaline batteries.

Do not use rechargeable AA cells to power the TQi transmitter, as they will not provide sufficient voltage for optimum transmitter performance.

Caution: Discontinue running your model at the first sign of weak batteries (flashing red light on the transmitter) to avoid losing control.

Caution: Risk of explosion if batteries are replaced by an incorrect type. Dispose of used batteries according to the instructions.

### Selecting Your Model Profile

The Traxxas Link App includes model profiles and customized Traxxas Stability Management (TSM) settings for each Traxxas model. Download the Traxxas Link App to your Apple® iPhone®, iPad®, iPod touch®, or Android™ device and select your model from the *Home* screen (see page 12 for additional information).

If you do not have the Traxxas Link Wireless Module installed, then you will not be able to use the Traxxas Link App to access the specific profile for your model and the servo direction will need to be set manually. Follow the instructions on page 16 to change these setting(s) to suit your model.

### Using the Traxxas TQi Radio System with non-Traxxas Models

The TQi radio system can be used with all popular servos in any hobby-grade RC vehicle. Follow the instructions on page 16 to change the servo setting(s) to suit your model.

## USING THE RADIO SYSTEM

Before installing the TQi radio system in your model, make certain the steering trim knob is centered. After you have installed and bound the radio system, confirm the steering servo and throttle servo (if installed) operate properly: turning the steering wheel right makes the front wheels turn right (and vice-versa), and pulling the trigger to the grip opens the throttle of your nitro engine. If either control operates “backwards,” follow the menu tree on page 16 or use the Traxxas Link App to reverse the servo’s operation.

After confirming correct servo operation, turn off TSM (see page 8) and use the TQi’s steering trim knob to center your model’s front wheels so it drives straight with the steering wheel at its neutral position; then, return the multi-function knob to the desired TSM setting.

If there is not enough adjustment to achieve this with the steering trim knob, reset the steering trim to its center position, then remove and reinstall the servo’s steering horn to center the steering system as close as possible. The steering trim knob can now be used to make the final adjustments.

Repeat this process for the throttle servo. To access throttle trim, follow the steps in the menu tree on page 16.

If your model is equipped with an electronic speed control, it will have to be calibrated to the TQi radio system. Follow the instructions included with your vehicle or your speed control to calibrate it properly.

### Range-Testing the Radio System

Before each running session with your model, you should range-test your radio system to ensure that it operates properly.

1. Turn on the radio system and check its operation as described in the previous section.
2. Have a friend hold the model. Make sure hands and clothing are clear of the wheels and other moving parts on the model.
3. Walk away from the model with the transmitter until you reach the farthest distance you plan to operate the model.
4. Operate the controls on the transmitter once again to be sure that the model responds correctly.
5. Do not attempt to operate the model if there is any problem with the radio system or any external interference with your radio signal at your location.

### Higher Speeds Require Greater Distance

The faster you drive your model, the more quickly it will near the limit of radio range. At 60mph, a model can cover 88 feet every second! It’s a thrill, but use caution to keep your model in range. If you want to see your model achieve its maximum speed, it is best to position yourself in the middle of the model’s running area, not the far end, so you drive the model towards and past your position. In addition to maximizing the radio’s range, this technique will keep your model closer to you, making it easier to see and control.

**No matter how fast or far you drive your model, always leave adequate space between you, the model, and others. Never drive directly toward yourself or others.**

### TQi Binding Instructions

For proper operation, the transmitter and receiver must be electronically 'bound.' **This has been done for you at the factory.** Should you ever need to re-bind the system or bind to an additional transmitter or receiver, follow these instructions. **Note:** the receiver must be connected to a 4.8-6.0v (nominal) power source for binding and the transmitter and receiver must be within 5 feet of each other.

1. Press and hold the transmitter's SET button as you switch the transmitter on. The transmitter's LED will flash red slowly. Release the SET button.
2. Press and hold the receiver's LINK button as you switch the model on. Release the LINK button.
3. When the transmitter's and receiver's LEDs turn solid green, the system is bound and ready for use. Confirm that the steering and throttle operate properly before driving your model.

### TRAXXAS STABILITY MANAGEMENT (TSM)



**Your radio system is equipped with a new feature, Traxxas Stability Management or TSM.** TSM allows you to experience all the speed and acceleration that was engineered

into your Traxxas model by helping you to maintain control of the vehicle in low-traction situations. TSM helps provide straight ahead full-throttle acceleration on slippery surfaces, without fishtailing, spinouts, or loss of control. TSM also dramatically improves braking control. High speed cornering and control is also made possible as TSM makes corrections for you, without intruding on your fun, or creating unexpected side effects.

The Multi-Function knob on the TQi transmitter has been programmed to control TSM. The recommended (default) setting for TSM is to rotate the knob to the 12:00 position (the zero mark on the dial).

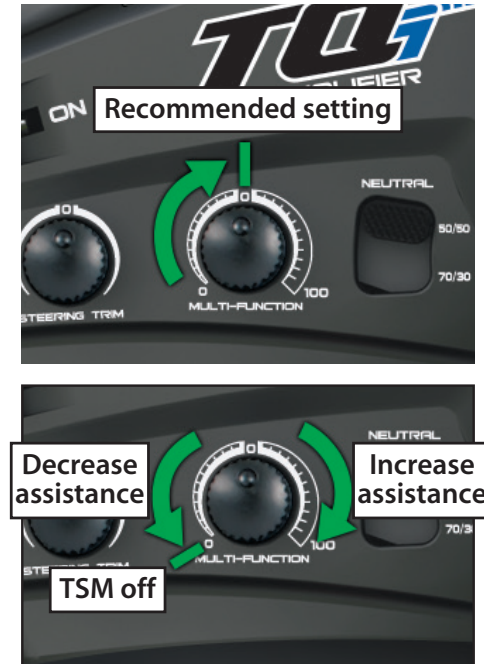
Turn the knob clockwise to increase assistance; turn the knob counterclockwise to decrease assistance. Turn the knob counterclockwise to its stop to turn TSM completely off.

**Note:** TSM is deactivated automatically when driving or braking in reverse.

When driving on surfaces with some traction, decrease the TSM setting to allow the vehicle to feel more "loose" for power sliding, drifting, and so on. On surfaces with very little traction (loose dirt, smooth concrete, ice/snow), increase TSM to maximize acceleration and control.

Drive with TSM on and off to test how it is making your control of the vehicle easier and more precise. For more information, visit [Traxxas.com/tsm](http://Traxxas.com/tsm).

**Note: TSM must be completely turned off while adjusting steering trim.**





## ADVANCED TUNING GUIDE

### Available Tuning Adjustments

All the features described below may also be accessed using the menu and set buttons on the transmitter and observing signals from the LED. An explanation of the menu structure follows on page 16. The following items can be adjusted most easily using your mobile device with the Traxxas Link Wireless Module and the Traxxas Link App (see page 12).

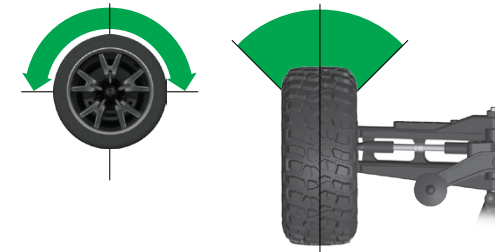
Your Traxxas transmitter has a programmable Multi-Function knob that can be set to control various advanced transmitter functions (set to Traxxas Stability Management (TSM) by default, see page 8). Experiment with the settings and features to see if they can improve your driving experience.

### Steering Sensitivity (Exponential)

The Multi-Function knob on the TQi transmitter can be set to control Steering Sensitivity (also known as exponential). The standard setting for Steering Sensitivity is “normal (zero exponential),” with the dial full left in its range of travel. This setting provides linear servo response: the steering servo’s movement will correspond exactly with the input from the transmitter’s steering wheel. Turning the knob clockwise from center will result in “negative exponential” and decrease steering sensitivity by making the servo less responsive near neutral, with increasing sensitivity as the servo nears the limits of its travel range. The farther you turn the knob, the more pronounced the change in steering servo movement will be. The term “exponential” comes from this effect; the servo’s travel changes exponentially relative to the input from the steering wheel. The exponential effect is indicated as a percentage—the greater the percentage, the greater the effect. The illustrations below show how this works.

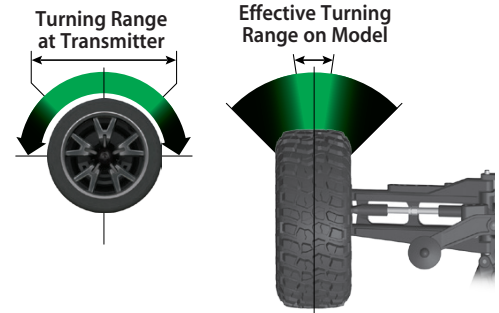
### Normal Steering Sensitivity (0% exponential):

*In this illustration, the steering servo’s travel (and with it, the steering motion of the model’s front wheels) corresponds precisely with the steering wheel. The ranges are exaggerated for illustrative purposes.*



### Decreased Steering Sensitivity (Negative Exponential):

*By turning the Multi-Function knob clockwise, the steering sensitivity of the model will be decreased. Note that a relatively large amount of steering wheel travel results in a smaller amount of servo travel. The farther you turn the knob, the more pronounced the effect becomes. Decreased steering sensitivity may be helpful when driving on low-traction surfaces, when driving at high speed, or on tracks that favor sweeping turns where gentle steering inputs are required. The ranges are exaggerated for illustrative purposes.*



### Throttle Sensitivity (Throttle Exponential)

The Multi-Function knob can be set to control Throttle Sensitivity. Throttle Sensitivity works the same way as Steering Sensitivity, but applies the effect to the throttle channel. Only forward throttle is affected; brake/reverse travel remains linear regardless of the Throttle Sensitivity setting.

### Steering Percentage (Dual Rate)

The Multi-Function knob can be set to control the amount (percentage) of servo travel applied to steering. Turning the Multi-Function knob fully clockwise will deliver maximum steering throw; turning the knob counterclockwise reduces steering throw (note: turning the dial counterclockwise to its stop will eliminate all servo travel). Be aware that the steering End Point settings define the servo's maximum steering throw. If you set Steering Percentage to 100% (by turning the Multi-Function knob fully clockwise), the servo will travel all the way to its selected end point, but not past it. Many racers set Steering Percentage so they have only as much steering throw as they need for the track's tightest turn, thus making the model easier to drive throughout the rest of the course. Reducing steering throw can also be useful in making a model easier to control on high-traction surfaces, and limiting steering output for oval racing where large amounts of steering travel are not required.

### Braking Percentage

The Multi-Function knob may also be set to control the amount of brake travel applied by the servo in a nitro-powered model. Electric models do not have a servo-operated brake, but the Braking Percentage function still operates the same way in electric models. Turning the Multi-Function knob full clockwise will deliver maximum brake throw; turning the knob counterclockwise reduces brake throw (**Note:** Turning the dial counterclockwise to its stop will eliminate all brake action).

### Throttle Trim

Setting the Multi-Function knob to serve as throttle trim will allow you to adjust the throttle's neutral position to prevent unwanted brake drag or throttle application when the transmitter trigger is at neutral.

**Note:** Your transmitter is equipped with a Throttle Trim Seek mode to prevent accidental runaways. See below for more information.



#### Throttle Trim Seek Mode

When the Multi-Function knob is set to throttle trim, the transmitter remembers the throttle trim setting. If the throttle trim knob is moved from the original setting while the transmitter is off, or while the transmitter was used to control another model, the transmitter ignores the actual position of the trim knob. This prevents the model from accidentally running away. The LED on the face of the transmitter will rapidly blink green and the throttle trim knob (Multi-Function knob) will not adjust the trim until it is moved back to its original position saved in memory. To restore throttle trim control, simply turn the Multi-Function knob either direction until the LED stops blinking.

### Steering and Throttle End Points

The TQi transmitter allows you to choose the limit of the servo's travel range (or its "end point") independently for left and right travel (on the steering channel) and throttle/brake travel (on the throttle channel). This allows you to fine-tune the servo settings to prevent binding caused by the servo moving steering or throttle linkages (in the case of a nitro model) farther than their mechanical limits. The end point adjustment settings you select will represent what you wish to be the servo's maximum travel; the Steering Percentage or Braking Percentage functions will not override the End Point settings.