





Thank you for choosing our product!

To guarantee your safety, ensure the equipment functions properly, and provide you with the best user experience, please read this instruction manual carefully before initial use.

If you encounter any questions during operation, please refer to the relevant sections of this manual first. Should the problem persist, you may directly contact your local authorized dealer or reach our customer service team through the official website: www.sensehobby.com

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1 Safety

1.1 Safety Symbols

Please read the following safety symbols and their meanings carefully. Failure to follow the relevant operating instructions may result in equipment damage or personal injury.

DANGER – Failure to strictly follow the instructions will cause serious injury or even endanger the life of the operator or other persons.



WARNING – Failure to follow the instructions may cause moderate or severe injury to the operator or other persons.

CAUTION – Failure to follow the instructions may cause minor injury to the operator or other persons.

1.2 Safety Warnings and Important Notes

General Safety Principles

SAFETY NOTICE: Operating high-performance remote-control models involves inherent risks that may lead to serious property damage, severe personal injury, or even loss of life. This product is **not a toy** and is intended exclusively for users with full legal capacity who fully understand all associated risks. As the operator, you assume full legal responsibility for your own safety, the safety of bystanders, and the surrounding environment. Be sure to read and understand the entire contents of this manual before operation and ensure that your use fully complies with all local laws and regulations governing radio equipment and the operation of aircraft/vehicle models.

Safety Precautions

1. **Personal Condition:** Operation is strictly prohibited when tired, inattentive, unwell, or under the influence of alcohol or drugs (including prescription medications) that may impair judgment or reaction time.
2. **Environment and Location:**
 - Operation is strictly prohibited in adverse weather or low-visibility conditions, including **rain, snow, hail, thunderstorms, heavy fog, or dust.**
 - Operation is strictly prohibited in **damp, waterlogged, or flammable/explosive environments (e.g., near gas stations)** to prevent short circuits or fire hazards.
 - You must select **an open, unobstructed, dedicated area free of unauthorized people.** Operation near **residential areas, roads, sidewalks, schools, parks, or other crowded locations** is absolutely forbidden.
 - You must keep clear of all areas that may generate strong radio interference or present major safety hazards, such as **high-voltage power lines, substations, communication base stations, broadcast antennas, and airport runways.**
3. **Equipment Usage Norms:**

- **Line of Sight and Distance:** You must always maintain the model within your clear, unobstructed line of sight. Do not rely solely on first-person view (FPV) devices as the only observation method. Always monitor the control range; if the signal weakens, maneuver the model to return immediately.
- **Antenna Safety:** During operation, **gripping, bending, or obstructing the transmitter antenna in any manner is strictly prohibited.** Ensure the antenna is fully extended and perpendicular to the ground for optimal signal performance.
- **Hot Components:** After operation, the motor, electronic speed controller (ESC), engine, and battery may reach **extremely high temperatures.** You must allow all components to cool completely before touching or disassembling them to prevent severe burns.

Mandatory Pre-Operation Checks and Setup

1. **Mechanical Check:** Before each use, thoroughly inspect the chassis/airframe structure, wheel/propeller fasteners, and all linkages for **damage, looseness, or wear.**
2. **Electrical Connections:** Confirm that all battery connectors, servo connectors, and motor wires are **securely connected and free of insulation damage.**
3. **Radio System Check:**
 - **Frequency Binding and Channel Calibration:** If you change the model or replace the receiver, you must perform frequency binding again and calibrate the endpoints and neutral position for all channels.
 - **Fail-Safe Settings:** You must configure a fail-safe for the **throttle/power channel** and verify that it activates reliably upon signal loss, placing the model in a preset safe state (e.g., brake, idle, power cut-off).
 - **Servo Direction Test:** With the model safely lifted or securely restrained and unpowered, you must verify that the **response direction of all servos (steering, throttle, auxiliary functions) is correct** to prevent reversed control.
4. **Battery Safety:**
 - Use only chargers and batteries recommended or certified by the manufacturer.
 - Charging must be performed on a **fire/explosion-proof surface** under **direct supervision.** You must never overcharge or over-discharge the batteries. Do not store batteries at a full state of charge for extended periods.
 - Inspect the battery's appearance before use. If **swelling, leakage, or damage** is observed, stop using immediately and dispose of the battery properly.

Core Operating Norms

1. **Focused Operation:** Maintain a high level of concentration during operation, continuously monitoring the model's behavior and changes in the surrounding environment. Do not engage in distracting activities (e.g., using a mobile phone).

2. **Progressive Control:** For a new model or unfamiliar location, begin operation at low speed with small control inputs, gradually familiarizing yourself with its performance and response characteristics.
3. **Risk Anticipation:** Always anticipate the potential uncontrolled trajectory of the model and ensure that no persons, animals, vehicles, or valuable property are present in its potential path.
4. **Emergency Handling:** In the event of loss of control, fire, structural failure, or other abnormalities, the primary principle is to ensure personal safety. Prioritize moving to a safe location and only approach the model cautiously after it has come to a complete stop.

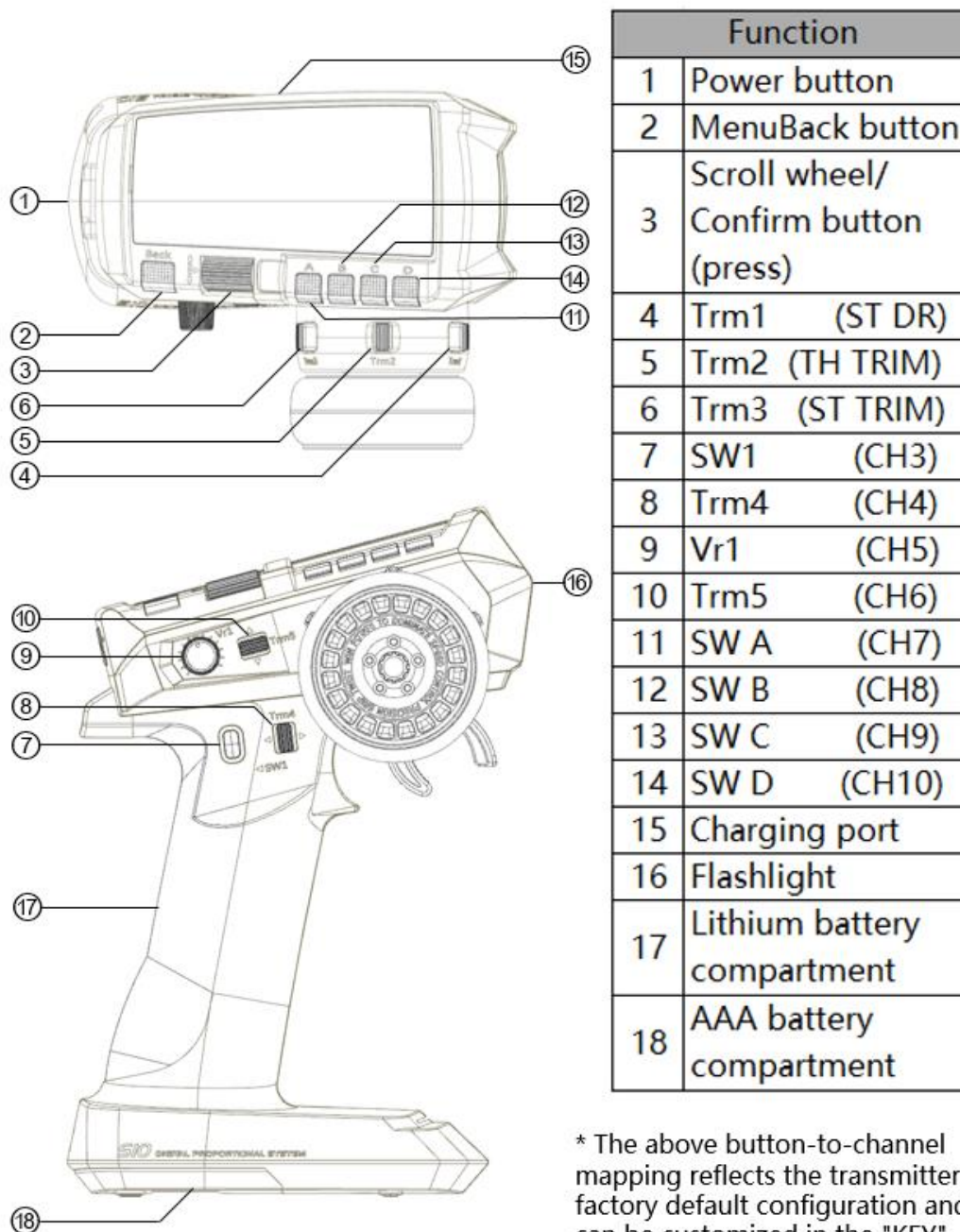
2 Product Introduction

This product employs a 2.4G Hz automatic frequency hopping digital system, consisting of the S10 transmitter and S10RX receiver. It supports up to 10 output channels, with 4 channels offering ultra-fast response capability. The S10 transmitter is equipped with a high-resolution display and a carefully designed UI interface, enabling menu configuration as well as real-time monitoring of user operations. The device incorporates multiple built-in preset model types (including Crawler, Nitro Car, Electric Car, and Boat), allowing for quick setup and easy operation.

2.1 System Features

Uni/Bidirectional Transmission	The system supports flexible unidirectional and bi-directional data transmission modes. In unidirectional mode, the receiver only receives control commands from the transmitter. In bidirectional mode, a full-duplex data link is established, enabling the receiver to not only receive commands but also transmit real-time status and sensor data (e.g temperature, voltage, attitude/acceleration, and vehicle speed) back to the transmitter, facilitating data monitoring and system feedback.
Built-in Data Passthrough	The dedicated transparent data link function is deeply integrated into the RF system. Using a single RF transceiver link, it supports parameter configuration and firmware updates for the receiver system, simplifying the overall architecture.
Independent Identification System	Each transmitter and receiver possesses a unique identification code. Successful binding establishes this identity link. During operation, the system first performs identity verification; operation will not proceed if verification fails, thereby enhancing the system's active anti-interference capability and operational stability.
User-Friendly Interface Design	The device features an intuitive interface and a high-resolution display. All function settings are clearly presented, device status is monitored in real time, and operation is smooth and convenient.
WI-FI Firmware Update	Supports over-the-air firmware updates for both the transmitter and receiver via WI-FI, enabling continuous access to new features and enhancing the product experience and long-term value.
Dual Battery Power & Backup	The system provides a dual power supply configuration utilizing both 18650 and AAA batteries, featuring seamless battery switching and backup functionality. This design effectively eliminates range anxiety and ensures extended operating time.

2.2 Transmitter Overview



* The above button-to-channel mapping reflects the transmitter's factory default configuration and can be customized in the "KEY" menu.

2.3 Model Function Presets

The transmitter comes pre-configured with a Crawler model. When creating a new model, users can select from the following types: **Crawler, Nitro Car, Electric Car, or Custom**. Each type includes a dedicated set of default parameter presets. Selecting the

target model icon completes the creation process and automatically switches to the new model, greatly simplifying initial setup.

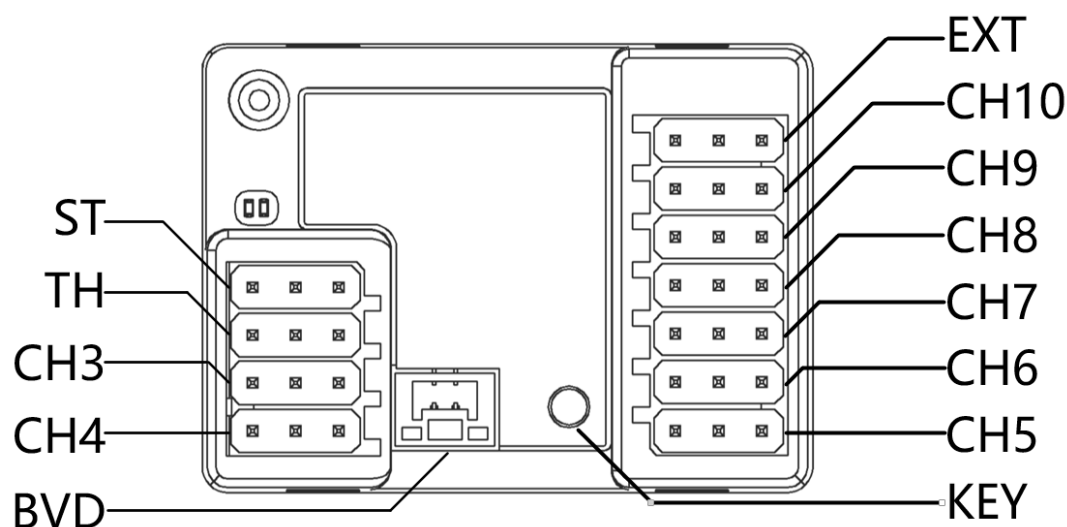
The table below specifies the default auxiliary-control function mappings for each preset model type:

	Crawler Mode	Nitro Car Mode	Electric Car Mode	Custom Mode
Trm1	Steering D/R	Steering D/R	Steering D/R	Steering D/R
Trm2	Throttle Trim	Throttle Trim	Throttle Trim	Throttle TRIM
Trm3	Steering Trim	Steering Trim	Steering Trim	Steering TRIM
Trm4	Diff Lock (CH4)	-	Diff Lock (CH4)	Custom 3-pos Trigger (CH4)
Trm5	Lights (CH3)	-	Lights (CH3)	Custom 3-pos Trigger (CH6)
Vr1	Winch (CH5)	Rx Gyro Gain	Rx Gyro Gain	Custom Proportional (CH5)
SW1	Sound (CH6)	Timer	Timer	Custom Trigger (CH3)
SWA	Cruise Control	Lights (CH3)	Aux Sound (CH6)	Custom Toggle (CH7)
SWB	Front Diff Lock (CH8)	Gyro On/Off	Gyro On/Off	Custom Toggle (CH8)
SWC	Rear Diff Lock (CH9)	ABS On/Off	NT-Brake On/off	Custom Toggle (CH9)
SWD	2-Speed Gear (CH10)	NT-Brake On/off	2-Speed Gear (CH10)	Custom Toggle (CH10)

* The key-to-channel mappings shown above represent the factory default configuration. All mappings can be fully customized in the Key Assignment menu.

* Default presets may vary between product batches as a result of software updates. Please refer to the actual product for the latest configuration.

2.4 Receiver Overview



2.5 Receiver Status Indicator LEDs

The Status LEDs indicate the receiver's power and operational status.

- Both LEDs off: Receiver power is not connected.
- Blue LED fast blinking: Receiver is in binding mode.
- Solid Blue LED: The receiver is successfully bound and has a stable link with the transmitter.
- Blue LED blinks briefly once every 3 seconds: The receiver is searching for the transmitter signal. This indicates the paired transmitter is powered off or is out of range (signal lost).
- Blue LED blinking irregularly: Warns of a weak transmitter signal with significant data packet loss.
- Red LED off: Receiver is operating normally.
- Red LED three flashes, one pause: Gyro and attitude calibration in progress.
- Red LED two flashes, one pause:

If occurring immediately at power-up: Receiver has entered recovery mode and requires firmware restoration.

If occurring during a receiver update: The process is paused, waiting for confirmation. Press the button on the receiver to resume the upgrade.

- Red and Blue LEDs flashing alternately: It indicates that the receiver firmware upgrade is in progress. Do not power off the device.
- Red and Blue LEDs blinking together (1 Hz): WARNING - Low BEC Voltage. All channel outputs are disabled. Replace the battery immediately.

- Red LED rapidly blinking: CRITICAL FAULT -A hardware fault is detected. Stop operating immediately and seek professional inspection and repair.

3 Getting Started

Before starting operation, please follow the sequence and instructions provided in this chapter to install the batteries and connect your equipment properly.

3.1 Transmitter Battery Installation



WARNING

- Use only the batteries specified by the manufacturer.



DANGER

- Do not open, disassemble, or attempt to repair the battery yourself.



DANGER

- Do not crush, puncture, or short-circuit the battery terminals.



DANGER

- Do not expose the battery to high temperatures or immerse it in liquid.



DANGER

- Take precautions to protect the battery from drops, impacts, and strong vibration.



DANGER

- Store the battery in a dry and cool environment.



DANGER

- If the battery is damaged, stop using it immediately.

The S10 transmitter uses a dual-battery system, ensuring a reliable and flexible power supply with built-in redundancy. The integrated 18650 battery in the handle is complemented by a base compartment that accommodates 4 AAA batteries, allowing for extended operation and flexible power management.

Default Power Source: The system is configured to prioritize the built-in Li-ion battery.

Optional Backup: Users can install AAA batteries as a backup power source. This system supports hot-swapping of the AAA batteries (they can be installed or replaced while the transmitter is powered on), enabling quick runtime extension when the built-in 18650 battery is depleted and cannot be immediately recharged.

Customizable Priority: The primary power source can be customized via the system menu. Navigate to Settings to freely select either the built-in 18650 battery or the AAA batteries as the primary supply. The system will immediately switch to and prioritize the newly selected source.

Automatic Switchover: When the voltage of the primary battery drops to a preset low-voltage threshold, the system will

automatically and seamlessly switch to the backup battery, ensuring zero-interruption to transmitter operation and power supply continuity.

Handle Built-in Battery Replacement Procedure:

WARNING: This procedure involves opening the transmitter housing. To prevent electric shock, short circuits, or damage to internal components, ensure you are working in a static-safe environment and have the correct replacement battery (1S Li-ion, specified voltage and connector type).

1. **Power Off: Completely power off** the transmitter.
2. **Removal:** Carefully slide the entire rubberized handle grip sleeve off the transmitter. The internal battery compartment will now be exposed.
3. **Battery Replacement:** Gently disconnect and remove the old battery, paying utmost attention to its **polarity orientation**. Insert the new battery, ensuring the **negative terminal faces down** and aligns precisely with the + /- polarity markings inside the compartment. Securely reconnect the battery connector.
4. **Reassembly:** Carefully slide the handle grip sleeve back onto the transmitter. Apply even, moderate pressure along its entire length until it is fully and evenly seated, taking care **not to pinch or tear the sleeve**.
5. **Verification & Test:** Power on the transmitter. Verify normal system boot and thoroughly test all key functions to confirm successful replacement.

4 Operating Instructions

Once the preparatory steps are completed, you may proceed to use the product by following the guidance provided in this chapter.

4.1 Power On

System Power-On Procedure:

1. Before starting, verify that: The transmitter battery has sufficient charge; The receiver is properly installed in the model and powered.
2. Press and hold the transmitter's power button, continue holding until you feel a vibration, the screen illuminates, and the startup tone sounds. Release the button. The transmitter is now on and ready for operation.

 WARNING	The system is now active and operational. Operate with extreme caution. Improper or incorrect operation may result in product damage, personal injury, or property damage.
 DANGER	For safety reasons, always ensure the transmitter's throttle trigger is in the neutral (mid) position.

4.2 Binding

The transmitter and receiver are pre-bound at the factory for initial out-of-box use. If you need to rebind them, please follow these steps:

1. Enter Receiver Binding Mode: Power on the receiver. Then, press and hold its button for approximately 3 seconds. Release the button when the blue LED begins to blink rapidly. The receiver is now in binding mode.
2. Initiate Binding from Transmitter: Power on the transmitter. Navigate to Model → Bind (or Receiver → Bind). In the binding menu, set the Protocol to SFHD-SD and select the Bind button. The screen will display "Binding Started".
3. Binding Completion: The binding process is complete when the transmitter screen displays "Bind Success" and the receiver's blue LED changes from rapid blinking to a steady, solid light. You may now exit the binding menu on the transmitter. The link between transmitter and receiver is established and ready for use.

4.3 Transmitter LED Ambient Light

The transmitter's LED ambient light supports the following operational states:

1. Normal Display Mode

- **Solid Color:** The user can choose one of **5 preset colors** as the constant light color during normal device operation.
- **- Off:** Turn off the ambient light to save power.

2. Charging Status Indication

When the device is connected to a valid power source for charging, the LED will automatically activate a **breathing light effect** to provide clear visual feedback of the charging status.

3. Low Battery Warning

When the device battery level falls below a critical safety threshold, the LED will automatically illuminate a persistent **red** light. This serves as a mandatory visual warning, indicating that the battery requires immediate charging or replacement to ensure continued safe operation.

4.4 Power Off

Please follow these steps to power off the transmitter:

1. Disconnect the receiver's power supply.
2. Press and hold the transmitter's power button. Continue holding until you feel a vibration, hear the shutdown confirmation tone, and the screen turns off completely. Release the button. The transmitter is now safely powered off.

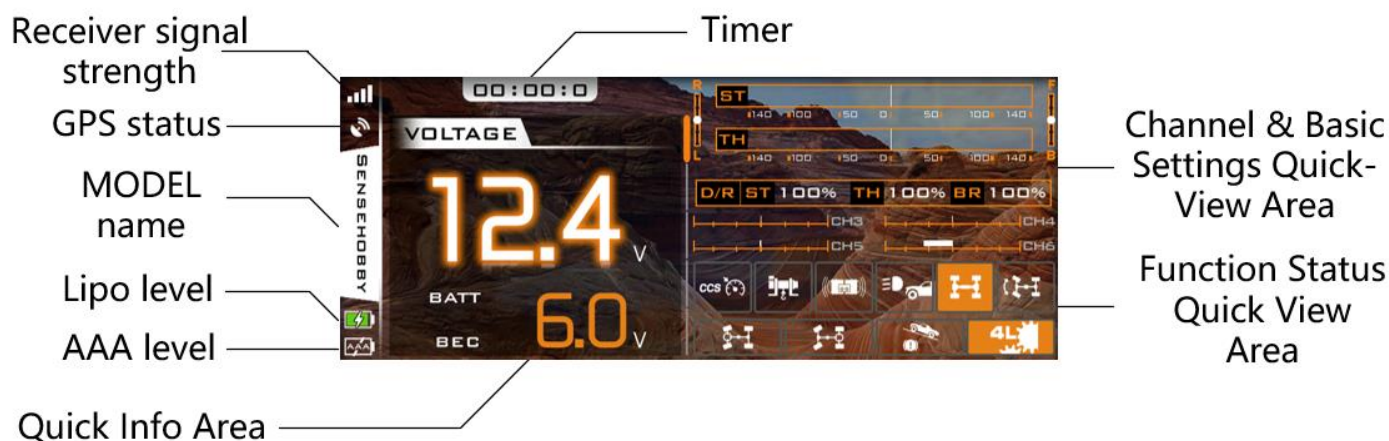
 DANGER	To prevent loss of control and serious injury, you MUST ALWAYS follow this exact shutdown sequence: First disconnect or power off the model (receiver) completely. Then power off the transmitter. Operating in reverse order (turning off the transmitter first) may cause the model to execute unexpected movements, leading to runaway, equipment damage, or severe personal injury.
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5 Main Interface and Menus

5.1 Main Interface

The main interface employs a clear three-column layout, designed to present all key status information at a glance and facilitate rapid situational awareness:

- **Left Status Bar (Fixed):** This persistent bar provides an immediate overview of the active model's name, transmitter battery level, and RF link signal strength.
- **Left Quick Info Area:** This dynamic panel displays real-time vehicle telemetry data transmitted from the receiver. It also integrates timer information.
- **Right Transmitter Info Area:** This area is dedicated to displaying the current status of the transmitter itself and the active states of key model configuration functions, allowing for rapid system status verification.



Receiver Signal Strength

It is used to monitor the quality of the wireless connection between your vehicle and the transmitter. Please ensure the signal strength remains at a good level at all times to guarantee stable control.

GPS Status

The GPS satellite signal icon indicates the operational status and satellite lock of the connected GPS module. The icon will only appear on the interface when a compatible GPS peripheral is successfully detected and connected to the receiver.

- **Searching for Satellites:** The icon , indicates that the module is actively searching for satellites and has not yet completed the satellite acquisition process to establish a valid positional fix.
- **Position Fixed:** The icon , indicating the system has obtained valid satellite data and can provide accurate information

such as position, vehicle speed, and heading.

Model Name

Displays the name of the current model. It can be modified in the Model → Name menu.

Battery Information

This interface displays the charge status of the built-in Li-ion battery and AAA batteries in real-time.

- **Green Battery Icon (Active Source):** Indicates that this particular battery is currently the active power source.
- **Red Battery Icon (Low Charge Warning):** Indicates the battery's charge has dropped to a low level. You should charge or replace this battery as soon as possible to avoid unexpected power loss during operation.
- **Empty Battery Icon:** Indicates that the corresponding battery is either not physically installed in its compartment, or is installed but not making a proper electrical connection to the system.

Steering/Throttle Settings & Quick Output Display Area

- 1) Real-time Output: Displays the real-time output of the ST (Steering) and TH (Throttle) channels.
- 2) Trim Display: Shows the TRIM values for ST and TH.
- 3) Dual Rate Display: Shows the ST D/R (Dual Rate), TH Forward D/R, and TH Brake D/R values.

NOTE: The core logic of the interface is to provide a **direct visual mapping** of your physical control input, and is unaffected by the "Reverse" setting within the channel configuration. The on-screen progress bar for each channel will always extend in the direction that **corresponds to the actual physical motion of its control**. For example, turning the steering wheel right extends the bar to the right; pulling the throttle trigger back extends the bar in the "forward" direction. This ensures the screen feedback is always consistent with your intent, eliminating visual confusion caused by "Reverse" setting alone.

CH3-CH6 Quick Output Display Area

Displays the real-time output of CH3-CH6.

To observe the output of CH7-CH10, go to the Channel Display (CH DISPLAY) menu to view the status of all channels.

NOTE: The same intuitive mapping principle applies to auxiliary channels (e.g., CH3-CH6). The on-screen progress bar for any channel will always reflect the actual physical displacement of its assigned control, independent of the channel reverse setting.

This ensures consistent, intent-based visual feedback across all controls.

Receiver Telemetry Information Area

This area centrally displays the key vehicle telemetry data transmitted from the receiver. The information is organized into five distinct data groups. You can cycle through these groups by scrolling the designated wheel:

1. Battery Voltage / BEC Voltage

2. Vehicle Attitude / Acceleration
3. Real-time Speed / Max Speed (requires external GPS module)
4. ESC Temperature / Motor Temperature (requires external temperature sensor module)
5. Lap Timer Statistics

This interface is designed to provide an immediate overview of your vehicle's key status. While core data is available by default, displaying certain advanced parameters (e.g., temperatures, high-precision RPM) requires the connection and configuration of the corresponding external sensor modules.

Function Status Quick View Area

This area allows for the intuitive management and monitoring of all custom functions. You can assign specific functions to physical controls (TRM1~TRM5, SW1, VR1) and freely arrange their corresponding icons within the layout. Each icon's visual state updates in real-time to reflect the on/off or active status of its assigned function, creating a personalized dashboard that provides continuous, clear system awareness.

SWA~SWD Function Display Area

This area is dedicated to the four physical switches (SWA - SWD). It provides independent function mapping and a real-time status display for each switch. Each switch is position-locked to a specific on-screen icon, establishing a clear and intuitive one-to-one spatial mapping. When a function is assigned, the corresponding icon visually reflects the switch's on/off (or active) state, providing immediate feedback for all switch-controlled functions.

Function Status Icon

These icons provide intuitive status indication through background color coding:

Transparent Background: Indicates the function is OFF or inactive;

Orange Background: Indicates the function is ON or active.

The specific functions corresponding to these icons are defined in the table below:

	Front Diff Lock (F-Lock)		Cruise Control
	Center Diff Lock (C-Lock)		Winch
	Rear Diff Lock (R-Lock)		Sound Simulator Control (Aux Sound)

	NT-Brake		Idle Switch
	Timer		ABS Brake
	4WS(Front Only)		4WS (Rear Only)
	4WS (Same Direction)		4WS (Opposite Direction)
	High Gear		Low Gear
	Neutral		Diff Lock Off (RWD)
	Diff Lock Off (FWD)		Diff Lock On (4WD)
	Steering Exponential Curve		Brake Exponential Curve
	Forward Exponential Curve		Receiver Gyro Stabilization On/Off
	User Custom		

5.2 Menu Operation



The transmitter menu has a clear three-level hierarchical structure. All navigation and selection are performed using the scroll

wheel for movement and the Back button for returning to the previous level:

Entering the Menu

On the main interface, press the scroll wheel to enter the primary menu.

Menu Navigation

Scroll Wheel: Browse and select options.

Press Wheel: Confirm selection / Enter sub-menu.

Back Button: Cancel / Return to previous level.

Parameter Setting

At the third-level menu, scroll the wheel to highlight the target setting, press the wheel to enter its adjustment mode, scroll again to modify the parameter value, and finally press the Back button to save the setting and exit the configuration.

5.3 Quick Operations

5.3.1 Switching Receiver Telemetry Display

On the main interface, you can scroll the wheel up or down to cycle through and select the different sets of receiver telemetry data available for display.

1. Battery Voltage / BEC Voltage



This page provides real-time monitoring of the vehicle's critical power supply voltages:

- **Battery Voltage:** Displays the voltage of the vehicle's main drive battery. To enable this reading, connect the receiver's BVD (Battery Voltage Detection) cable to the battery's balance port.
- **BEC Voltage:** Displays the regulated voltage supplied to the receiver and servos, typically provided by the ESC's Built-in BEC circuit. This value is monitored automatically and requires no additional wiring.

2. Vehicle Attitude / Acceleration



This page displays the vehicle's real-time motion data. The default view is preset according to the active model type:

- Crawler Mode: Attitude (Pitch & Roll Angles).
- Nitro Car / Electric Car / Custom Modes: Acceleration (X & Y Axes).

You can manually switch between the Attitude and Acceleration views via Receiver → GYRO FUCN → Display.

Data Reset Function: When the acceleration view is active, pressing the Back button resets the recorded historical maximum acceleration values, starting a new measurement cycle.

3. Real-time Speed / Maximum Speed (requires external GPS module)



This page displays the vehicle's real-time driving speed and the historical maximum speed recorded.

Prerequisite: This function requires an external GPS module connected to the receiver's EXT data port.

Data Reset Function: While viewing this page, press the Back button to reset the stored maximum speed value to zero, enabling you to begin a new top-speed recording cycle.

4. ESC Temperature / Motor Temperature (requires external temperature sensor module)



This page displays the operating temperatures of the ESC and motor in real time, enabling you to monitor the thermal status of the power system.

Enable This Function: To use this feature, you must connect a dedicated temperature sensor module to the receiver's EXT data port and properly install the module's probe at the corresponding measurement point on the ESC or motor.

5. Lap Timer Statistics



This page summarizes and presents detailed statistical data after the timer has been run in "Lap" mode:

- **Total Time:** The complete elapsed time from timer start to stop.
- **Total Laps:** The number of fully recorded valid laps.
- **Fastest Lap Info:** The lap number and its time for the fastest single lap.
- **Average Lap Time:** The average time per lap, calculated by dividing the total time by the total number of laps.

5.3.2 Throttle Safety Lock



This feature provides a critical safety lock to prevent accidental vehicle movement.

Activation: From the main interface, press and hold the Back button for 2 seconds to toggle the throttle lock on or off.

Effect: When active, the throttle channel is forced to output its neutral signal, rendering the vehicle unresponsive to any throttle trigger input. This is essential for safe debugging, battery changes, or when the vehicle is placed on uneven ground.

Visual Indication: On the main interface, the throttle channel status bar turns solid red as a prominent warning when the lock is engaged.

5.3.3 Flashlight Quick Toggle

From any interface, double-click the Power button to instantly toggle the built-in flashlight on or off. This provides convenient auxiliary lighting for vehicle inspection or temporary use in low-light conditions.

Power Management: The flashlight operates only when the device battery is above 30% and is automatically disabled in a low-battery state to preserve essential system power.

6 Transmitter Function Configuration

This chapter details the configuration and usage of the transmitter's advanced control functions.

6.1 Steering Configuration

6.1.1 Basic Steering Setup



Navigate to the ST → Basic menu. As you adjust parameters, refer to the steering channel status bar at the bottom of the screen. This bar provides real-time visual feedback of your adjustments, enabling rapid and precise endpoint, sub-trim, and dual-rate calibration.

Steering Dual Rate (D/R)

Sets the output ratio of the steering channel, symmetrically reducing the servo travel on both sides from the maximum endpoint value.

This function supports real-time mapping to the VR knob or TRM buttons, facilitating quick adjustment during operation.

Steering End Point Adjustment (EPA)

Left Travel (EPA L)

Independently sets the maximum left-side travel limit for the steering servo.

Right Travel (EPA R)

Independently sets the maximum right-side travel limit for the steering servo.

SubTrim

This function electronically corrects the channel's neutral point to align the servo's resting position with the vehicle's mechanical center, compensating for minor installation variances or linkage geometry.

Typical Use Case: When the transmitter's steering wheel is centered but the vehicle's wheels are not pointing straight ahead, use

SubTrim to electronically recenter the wheels without physically adjusting the servo horn or linkages.

Important: Before adjusting SubTrim, ensure the channel's steering direction is correctly set. Applying SubTrim with a reversed channel will worsen the misalignment.

NOTICE:

The SubTrim parameter cannot be mapped to a VR knob or TRM button.

To assign a knob or button for real-time steering adjustment, use the "ST TRIM" function in the Key → VR/TRM menus. The operational difference is:

- SubTrim: Permanently adjusts the channel's electrical neutral point, shifting the entire output range (including endpoints) synchronously. This is a calibration function.
- Steering Trim (TRIM): Provides a temporary, real-time offset to the control midpoint. It only affects the output signal while active and does not alter the preset left/right travel endpoints. This is an in-operation fine-tuning function.

Reverse

Used to switch the control direction of the steering servo.

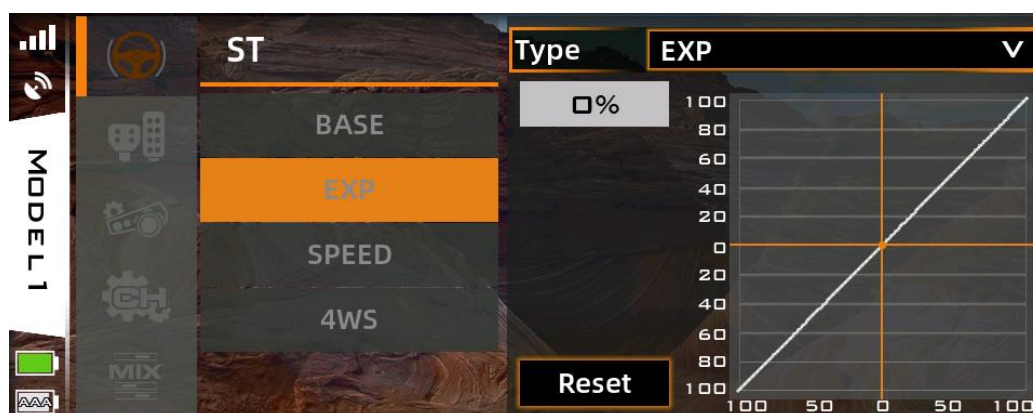
6.1.2 Steering EXP Setup

Configure the steering curve parameters in the **ST → EXP** menu. This function adjusts the data response characteristics of the steering channel to achieve different control feels. You can switch between **"EXP"** and **"CRV"** using the **"Type"** parameter.

The steering curve uses a symmetrical design, ensuring the vehicle has consistent control response and feel during both left and right turns.

During setup, you can click the **"Reset"** button at any time to restore the current parameters to their default state.

EXP Setup



This option applies a smooth, non-linear mathematical curve to the steering response. The Expo Value determines the sensitivity

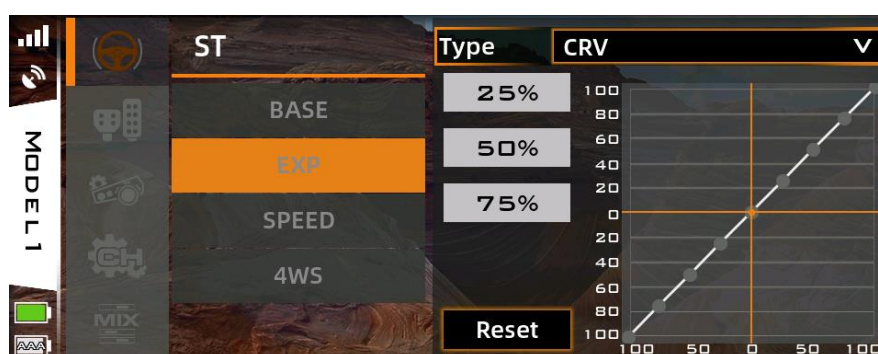
profile:

Positive Expo Value: Creates a softer response around the center for precise corrections, with sensitivity increasing progressively towards full steering lock.

Negative Expo Value: Creates a sharper response around the center for quick initial turn-in, with sensitivity decreasing towards full steering lock.

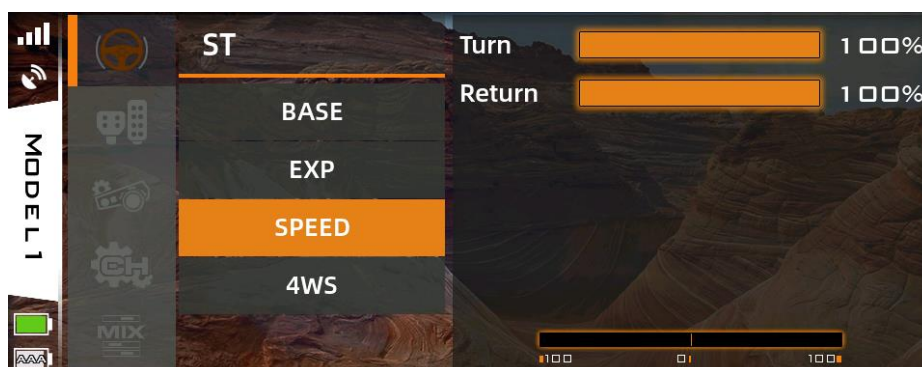
Assignable Control: The Steering Expo Value can be mapped in real-time to a TRM button, allowing for quick adjustment during operation without navigating menus.

CRV Setup



This mode allows for granular customization of the steering response by setting the exact output percentage at three defined input points: 25%, 50%, and 75% of the total steering travel. This enables precise tailoring of the steering feel—such as creating a dead zone, a progressive rate, or a specific on-center feel to match different driving styles or track conditions.

6.1.3 Steering Response Speed Setup



Configure the Response Speed in the ST → SPEED menu. This parameter controls the servo's execution speed for steering inputs:

Lower Value: Results in smoother, dampened steering movements for stable, precise control.

Higher Value: Delivers quicker, more immediate steering response for aggressive, direct handling.

Use this to match the vehicle's steering feel to different driving styles or surface conditions.

Calibration Aid: While adjusting, refer to the steering channel status bar at the bottom of the menu. It provides real-time visual

feedback of the speed setting's effect, enabling rapid and precise tuning.

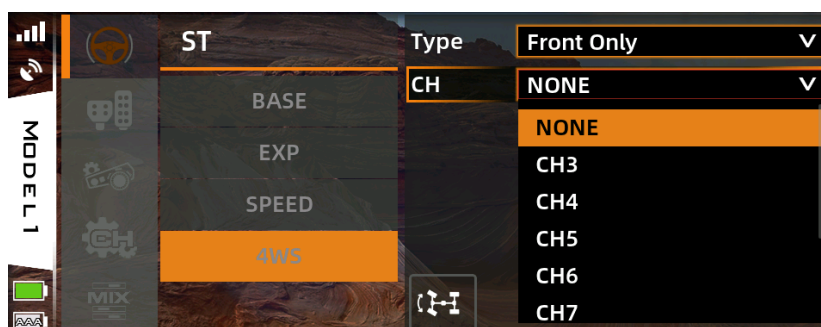
Turn

Sets the initial reaction speed when the steering wheel is moved away from the center position.

Return

Sets the return speed at which the steering wheel and wheels move back to the mechanical center position.

6.1.4 Four-Wheel Steering (4WS) Mix Configuration



Configure the steering mode and response for vehicles with front and rear steering axles in the ST → 4WS menu. This function distributes steering control between the axles and is primarily designed for models like crawlers equipped with dual-steering systems.

- Mix Type: Select from the following four steering modes:
 1. Front Only: Steering inputs control only the front wheels.
 2. Rear Only: Steering inputs control only the rear wheels.
 3. Same Direction: Front and rear wheels turn in the same direction, increasing agility.
 4. Opposite Direction: Front and rear wheels turn in opposite directions, significantly reducing the turning radius for tight maneuvers.
- Channel Assignment: You must assign a dedicated output channel to control the rear steering servo in the Channel parameter menu.

Assignable Control: Switching between 4WS modes can be mapped in real-time to an SW switch or TRM button, enabling instant mode changes during operation.

6.2 Throttle Configuration

6.2.1 Basic Throttle Setup



Configure the fundamental throttle parameters in the TH → BASE menu. As you adjust settings, refer to the throttle channel status bar at the bottom of the screen. This bar provides real-time visual feedback of your adjustments, enabling rapid and precise calibration of endpoints, sub-trim, and direction.

D/R F

Sets the absolute maximum forward output limit for the throttle channel. Use this to calibrate the full-throttle position and prevent over-travel.

Assignable Control: This function supports real-time mapping to the VR knob or TRM buttons, facilitating quick adjustment during operation.

D/R B

Sets the output ratio for the brake direction, proportionally scaling the braking response of the preset brake endpoint.

Assignable Control: This function supports real-time mapping to the VR knob or TRM buttons, facilitating quick adjustment during operation.

EPA F

Used to independently adjust the maximum travel amount for the forward direction of the throttle channel.

EPA B

Used to independently adjust the maximum travel (or output limit) for the brake direction of the throttle/ESC channel. This sets the absolute endpoint for maximum braking force.

SubTrim

The Sub-Trim function is used to correct the electrical neutral deviation of the throttle channel, ensuring the transmitter's throttle control commands align precisely with the mechanical neutral point of the ESC (or throttle servo).

Typical Use Case: When the transmitter's throttle trigger is centered, but the vehicle's motor still creeps (rotates slowly) or shows slight braking, use Throttle SubTrim to electronically calibrate the neutral point so the motor is truly stationary, thus eliminating the need for complicated mechanical adjustments.

Critical Pre-Check: Before applying Throttle SubTrim, you must verify that the throttle channel's direction (throttle forward vs. brake/reverse) is correctly configured. Applying SubTrim with an incorrectly reversed channel will worsen the misalignment.

NOTE:

The Throttle SubTrim parameter cannot be mapped to a VR knob or TRM button.

To assign a knob or button for real-time throttle adjustment, use the "TH TRIM" function in the KEY → VR/TRM menus. The operational difference is:

- SubTrim: Permanently adjusts the channel's electrical neutral point, shifting the entire output range (including forward/brake endpoints) synchronously. This is a calibration function.
- Throttle Trim (TRIM): Provides a temporary, real-time offset to the throttle control midpoint. It only affects the output signal while active and does not alter the preset forward/brake travel endpoints. This is an in-operation fine-tuning function.

Throttle Channel Reverse (REV)

This function inverts the control direction of the throttle channel.

Symptom & Correction: If pushing the throttle trigger forward causes the vehicle to brake or move backward, or pulling the trigger backward causes it to accelerate forward, it indicates the throttle channel direction is reversed. Use the Reverse (REV) function to toggle the direction, ensuring the vehicle's response matches your control input.

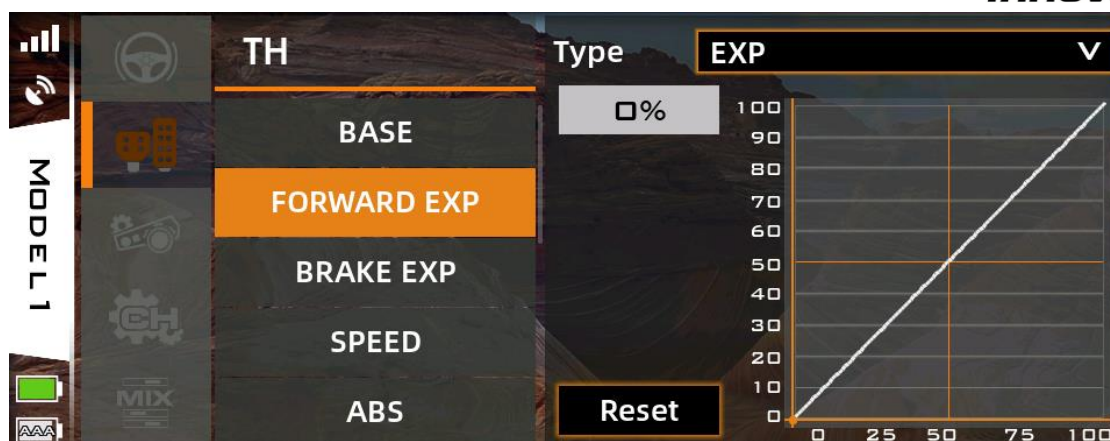
 WARNING	• Before performing this setting, be sure to confirm the vehicle is off the ground, or operate under safe conditions to prevent accidents caused by improper operation.
--	---

6.2.2 Throttle Forward EXP Setup

Configure the curve parameters for the throttle's forward direction in the TH → Forward EXP menu. This function adjusts the data response characteristics of the throttle channel's forward direction to achieve different acceleration feels. You can switch between "Exponential Curve (EXP)" and "Multi-Point Curve (CRV)" using the "Type" parameter.

Reset Function: Click the Reset button at any time to restore all forward curve parameters for the current type to their default state.

Throttle Forward Exponential Curve Setup (EXP)



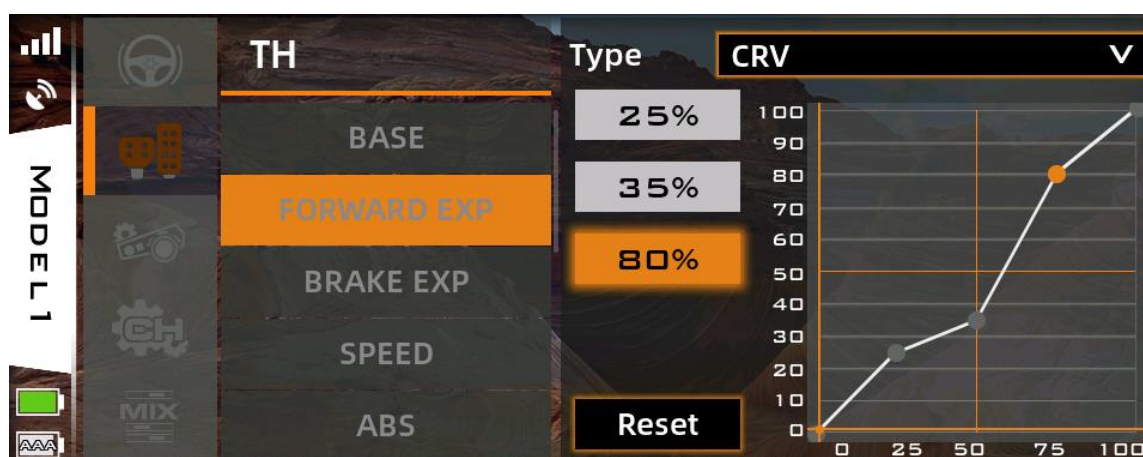
This option applies a smooth, non-linear mathematical curve to the forward throttle response. The Expo Value determines the sensitivity profile:

Positive Expo Value: Creates a softer response around the neutral point for smoother, more progressive acceleration, with sensitivity increasing towards full throttle.

Negative Expo Value: Creates a sharper response around the neutral point for aggressive initial acceleration, with sensitivity decreasing towards full throttle.

Assignable Control: This function supports real-time mapping to a TRM button, facilitating quick adjustment during operation.

Throttle Forward Multi-Point Curve Setup (CRV)



This mode allows for granular customization of the forward throttle response by setting the exact output percentage at three defined input points: 25%, 50%, and 75% of the total forward throttle travel. This enables precise tailoring of the acceleration feel, and matches different driving styles or track conditions.

6.2.3 Throttle Brake EXP Setup

Configure the braking feel and response in the TH → BRAKE EXP menu. This function modifies the input-to-output mapping of the brake channel to tailor braking characteristics. Select the desired profile via the Type parameter between "Exponential Curve (EXP)" and "Multi-Point Curve (CRV)".

Reset Function: Click the Reset button at any time to restore all brake curve parameters for the current type to their default state.

Brake Exponential Curve Setup (EXP)



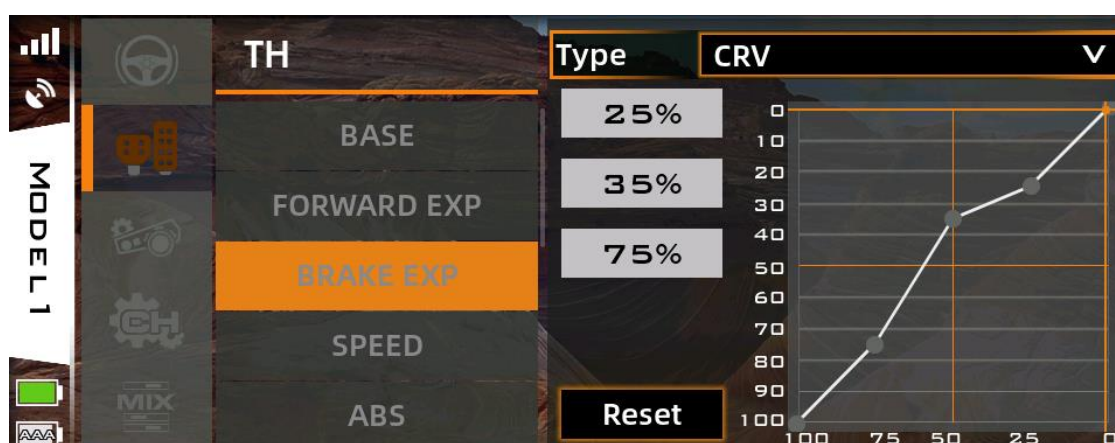
This option applies a smooth, non-linear mathematical curve to the braking response. The Expo Value determines the sensitivity profile:

Positive Expo Value: Creates a softer initial brake response for smoother, more progressive braking, with sensitivity increasing towards maximum braking force.

Negative Expo Value: Creates a sharper initial brake response or aggressive initial braking bite, with sensitivity decreasing towards maximum braking force.

Assignable Control: The Brake Exponential Value can be mapped in real-time to a TRM button, enabling quick adjustment during operation.

Brake Multi-Point Curve Setup (CRV)



The Multi-Point Curve mode allows for precise setting of the output value at 25%, 50%, and 75% of the throttle's brake travel. This enables fine-grained adjustment of the braking response characteristics to suit different control preferences or track conditions.

6.2.4 Throttle Response Speed Setup



In the TH → SPEED menu, you can independently configure the response speed for the "Forward" and "Brake" segments of the throttle channel.

The response speed parameter controls how quickly the motor responds to throttle commands. A lower setting results in more linear and gentle power output, providing smoother driving. A higher setting delivers more aggressive and direct power response, allowing it to match different driving styles and road conditions.

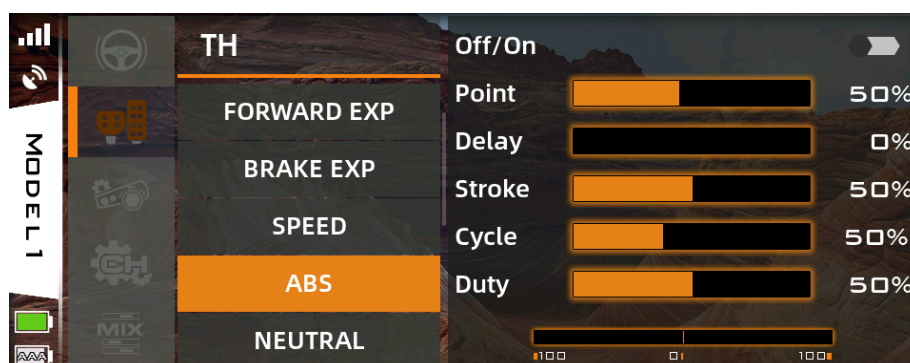
Calibration Aid: While adjusting, refer to the throttle channel status bar at the bottom of the menu. It provides real-time visual feedback of the speed setting's effect, enabling rapid and precise tuning.

Parameters:

Go: Sets the power response speed when the throttle trigger is moved from the neutral point into the forward segment or the brake segment.

Return: Sets the response speed of power decay when the throttle trigger is released from any position and returns to the neutral point.

6.2.5 Anti-lock Braking System (ABS)



Configure the Anti-lock Braking System (ABS) function in the TH → ABS menu.

This function prevents wheel lock-up by applying high-frequency, pulsating brake signals, improving braking performance and

cornering stability. It helps shorten braking distances, reduce skidding, and prevent skidding for a more controlled driving experience.

The ABS menu provides the following seven parameters for adjustment: 1) ABS Switch; 2) Trigger Point; 3) Brake Delay; 4) Brake Stroke; 5) Pulse Cycle; 6) Pulse Duty; 7) Steering Mix.

While adjusting parameters, observe the throttle channel status bar at the bottom of the menu. This status bar provides real-time feedback on the effect of your settings, assisting you in achieving quick and precise calibration.

ABS Switch (OFF/On)

The master switch for the ABS function.

Assignable Control: The ABS Switch can be mapped in real-time to a TRM or SW button, enabling instant activation or deactivation during operation.

ABS Point

Sets the brake input threshold at which the ABS system activates.

- **Range:** 10% – 100%
- **Default:** 50%

Description: This value represents the percentage of brake travel (from neutral = 0% to full brake = 100%) required to activate ABS. A higher value means the brake trigger must be pressed closer to the full brake position before ABS intervenes, allowing for normal braking during light application and reserving ABS for hard, emergency stops.

Assignable Control: The Trigger Point value can be mapped in real-time to a VR knob or TRM button for quick adjustment.

ABS Delay

Sets the time delay between initial brake application and ABS intervention.

- **Range:** 0% – 100%
- **Default:** 0%

Description: A higher value introduces a longer fixed time delay before ABS activates.

- At 0%, ABS engages immediately upon braking;
- At 100%, the delay is approximately 1 second. This allows for normal braking before ABS intervenes.

Assignable Control: The Brake Delay value can be mapped in real-time to a VR knob or TRM button for quick adjustment.

ABS Stroke

Sets the percentage of braking force released during each ABS pulse cycle.

- **Range:** 0% – 100%
- **Default:** 50%

Description: This determines how much brake pressure is momentarily reduced after a pulse. For example, a setting of 70% reduces the current braking force by 70% during the release phase.

Effect:

- A lower value provides smoother ABS operation with a less pronounced pulse feel, but may reduce anti-lock effectiveness;
- A higher value is more effective at preventing lock-up but creates a more noticeable pulsation.

Assignable Control: The Release value can be mapped in real-time to a VR knob or TRM button for quick adjustment.

ABS Cycle

Sets the total duration of a complete ABS pulse cycle (application + release).

- **Range:** 20% – 100%
- **Default:** 50%

Description: This controls the frequency of the ABS pulsation. A higher value means a longer cycle and lower frequency.

- At 100%, the duration is approximately 1 second;
- At 50%, it is 0.5 seconds.

Effect:

- A lower value (higher frequency) provides finer, more subtle ABS control, ideal for high-grip surfaces;
- A higher value (lower frequency) helps prevent sustained lock-up on low-grip surfaces.

Assignable Control: The Pulse Cycle value can be mapped in real-time to a VR knob or TRM button for quick adjustment.

ABS Pulse Duty

Sets the proportion of brake release time within a complete ABS pulse cycle.

- **Range:** 10% – 90%
- **Default:** 50%

Description: This defines the duty cycle between brake application and release. A setting of 50% means the release phase occupies half of the cycle time. A higher percentage means a longer release time and shorter application time.

Effect:

- A higher value prioritizes quick wheel lock-up release but reduces sustained braking force.
- A lower value provides stronger, more sustained braking but requires careful tuning to avoid lock-up.

Assignable Control: The Pulse Ratio value can be mapped in real-time to a VR knob or TRM button for quick adjustment.

Steering Mix (ST Mix)



Configures the automatic enabling or disabling of the Anti-lock Braking System (ABS) based on the steering input. Find this parameter at the bottom of the ABS menu's third-level page.

- **Options:** 100%N~ 10%N~Off~ 10%E~ 100%E
- **Default:** Off

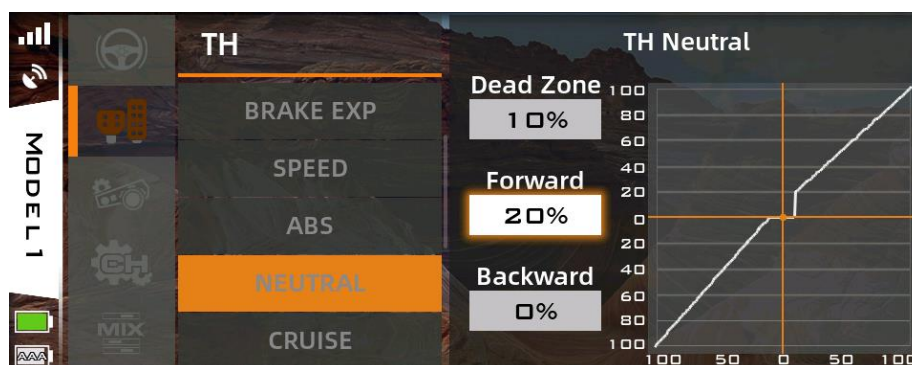
Parameter Definition:

- **E (Inner):** Represents the inner side of the steering wheel turn (towards the turn's center).
- **N (Outer):** Represents the outer side of the steering wheel turn (away from the turn's center).
- **Percentage:** Represents the proportion of the steering wheel's travel.

Function Logic:

- When set to an **N**-series value (e.g., 50%N):
 - ABS is enabled when the steering wheel is turned beyond 50% on the outer side (50-100% N).
 - ABS is disabled within the 0-49% range of total steering travel.
- When set to an **E**-series value (e.g., 50%E):
 - ABS is enabled when the steering wheel is turned within 0-50% on the inner side (0-50% E).
 - ABS is disabled when the steering wheel is beyond 51% of its total travel.

6.2.6 Throttle Neutral Point Configuration



In the TH → NEUTRAL menu, you can finely configure the dead zone and initial points for the throttle channel.

Dead Zone

Sets a non-responsive buffer area around the throttle trigger's neutral position. Within this zone, the throttle channel maintains a stable neutral output, ignoring minor trigger jitter to prevent unintended vehicle movement.

Default: 0%

Forward

Sets the initial throttle output value when the trigger moves forward out of the dead zone. The output jumps directly to this value, enabling an instant response.

- **Effect:** A higher value produces a more aggressive, jump-off-the-line start.

Backward

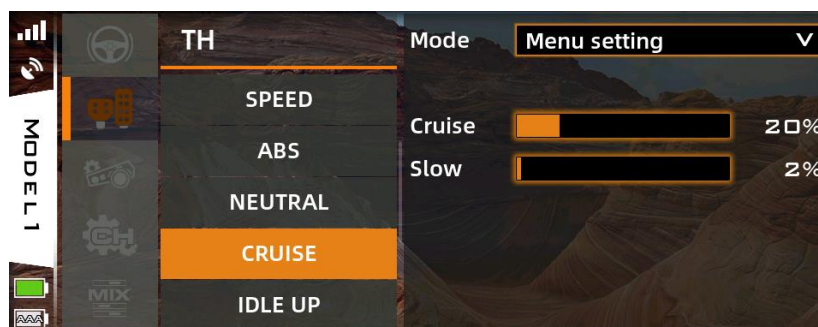
Sets the initial output value when the trigger moves backward (brake/reverse) out of the dead zone. The system engages braking or reverse directly at this level.

- A higher value results in stronger initial braking or reverse force.

6.2.7 Cruise Control

Configure the cruise control function in the TH → CRUISE menu. The system provides two operational modes, selectable via the Mode parameter.

Menu Setting Mode



In this mode, the cruise control maintains a fixed, pre-defined target speed set in the menu.

- **Function Switch**

The cruise control on/off switch can be mapped to a TRM or SW button for quick activation/deactivation.

- **Cruise Speed:**

Sets the target speed for cruise control. This parameter can be mapped to a TRM button or VR knob for real-time adjustment while driving.

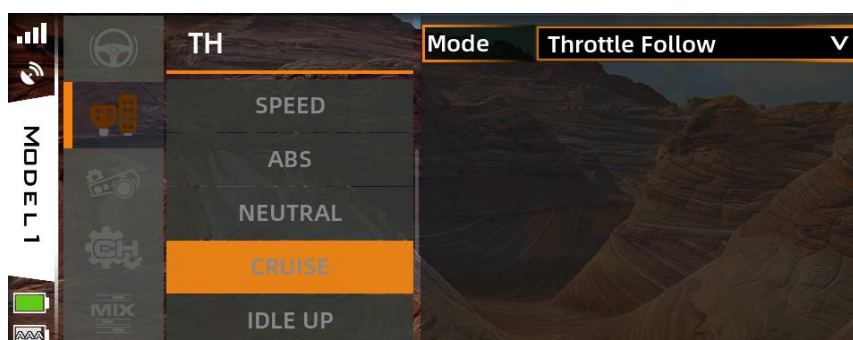
- **Smooth Acceleration**

Adjusts the rate at which the vehicle accelerates from its current speed to the set Cruise Speed after cruise control is engaged. A lower value results in a smoother, more gradual acceleration.

- **Operating Logic:**

- After cruise control is engaged, if the current throttle input is below the set Cruise Speed, the vehicle will accelerate to and maintain that set speed.
- If the current throttle input is above the set Cruise Speed, manual throttle input takes priority, allowing for temporary speed increases (e.g., for overtaking).
- Once the throttle trigger is moved into the brake segment, the cruise control function automatically disengages.

Throttle Follow Mode



In this mode, the system records the throttle input value at the moment the cruise control is activated and uses that as the target

cruise speed.

- **Function Switch:**

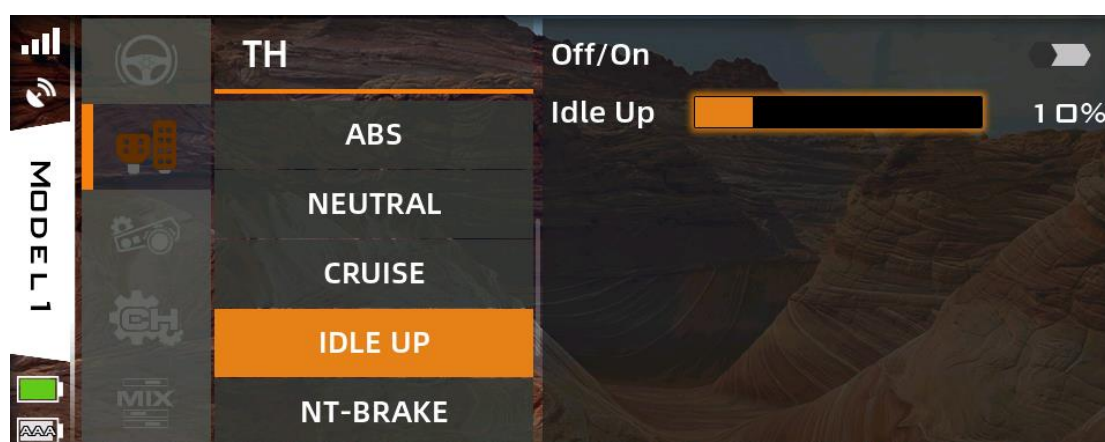
Map a TRM or SW button to the cruise control switch for quick operation.

Note: In Throttle Follow mode, cruise control can only be activated when the throttle trigger is within the forward travel range. It cannot be activated when the trigger is at the neutral point or within the brake travel range.

- **Operating Logic:**

- After cruise control is engaged, if the current throttle input is below the recorded speed value, the vehicle will maintain that recorded speed.
- If the current throttle input is above the recorded value, manual throttle input takes priority, allowing for temporary speed increases to overtake.
- Once the throttle trigger enters the brake segment, the cruise control function automatically disengages.

6.2.8 Idle up



Configure the throttle idle function for nitro-powered models in the TH → IDLE UP menu. This function sets the throttle's baseline output to maintain a stable engine RPM when the throttle trigger is in neutral, aiding in engine warm-up and preventing unexpected stalls.

Switch

The master on/off control for the idle function.

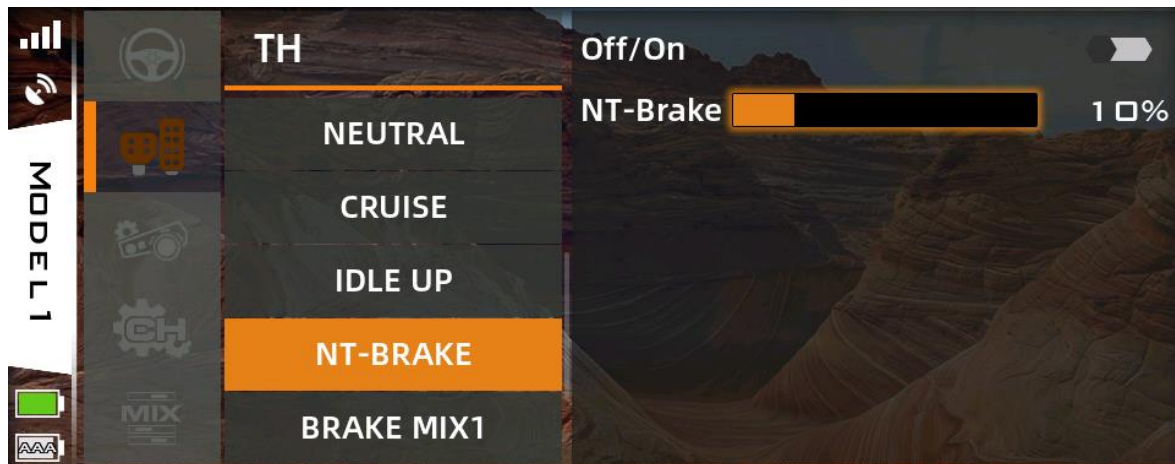
Assignable Control: The Idle Switch can be mapped to a TRM or SW button, allowing quick activation or deactivation during operation.

Idle Up Throttle

Sets the throttle channel's baseline output value when the idle function is active.

This corresponds to the engine's lowest stable RPM at neutral and must be fine-tuned according to the actual vehicle condition and engine characteristics.

6.2.9 NT-BRAKE



Configure the NT-Brake function in the TH → NT-Brake menu.

Switch

The master on/off control for the NT-Brake function.

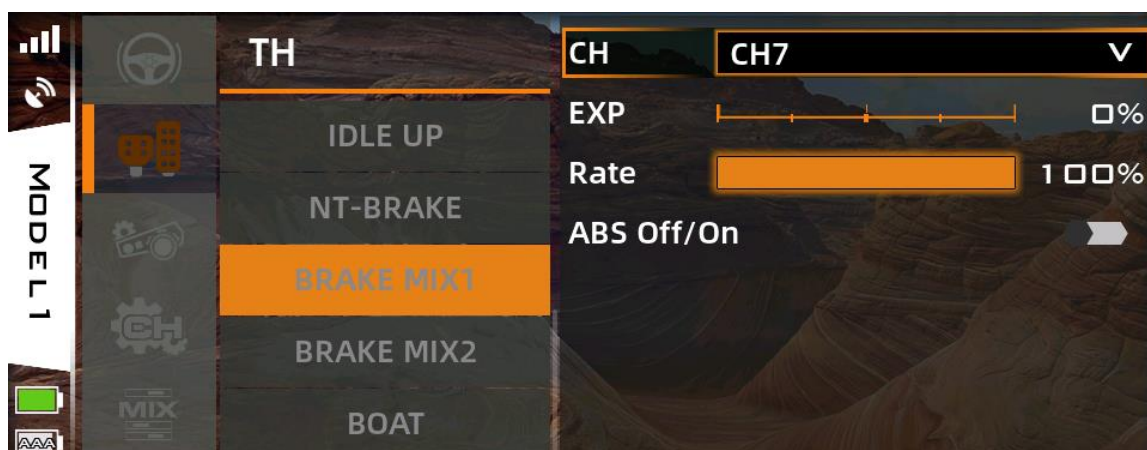
Assignable Control: The NT-Brake Switch can be mapped to a TRM or SW button, allowing quick activation or deactivation during operation.

NT-Brake

Used to set the baseline output value for braking when the NT-Brake function is enabled.

 WARNING	Please operate with caution. For ESCs that support the "Double-Click Reverse" feature, rapidly activating the NT-Brake function twice in a short period may cause the ESC to misinterpret it as a reverse command, potentially triggering unintended reverse movement.
--	--

6.2.10 Brake Mix 1/ Brake Mix 2



Configure the brake mix in the TH → BRAKE MIX 1 and TH → BRAKE MIX 2 menus.

The system provides two independent brake mix configurations (Brake Mix 1 and Brake Mix 2), suitable for models requiring multiple servos for separate brake control (e.g., front and rear wheel independent braking systems). Each mix can independently assign an output channel and adjust its braking characteristics.

Channel (CH)

Used to select the output channel for this brake mix signal.

Exponential Curve (EXP)

Used to set the response curve shape for this brake mix output, providing smooth, non-linear control feel.

Positive Value: Brake response is gentler at the start and more sensitive at the end, facilitating fine adjustment.

Negative Value: Brake response is more sensitive at the start and gentler at the end.

Rate

Used to set the proportional relationship between this brake mix's output amount and the brake input amount from the main throttle channel.

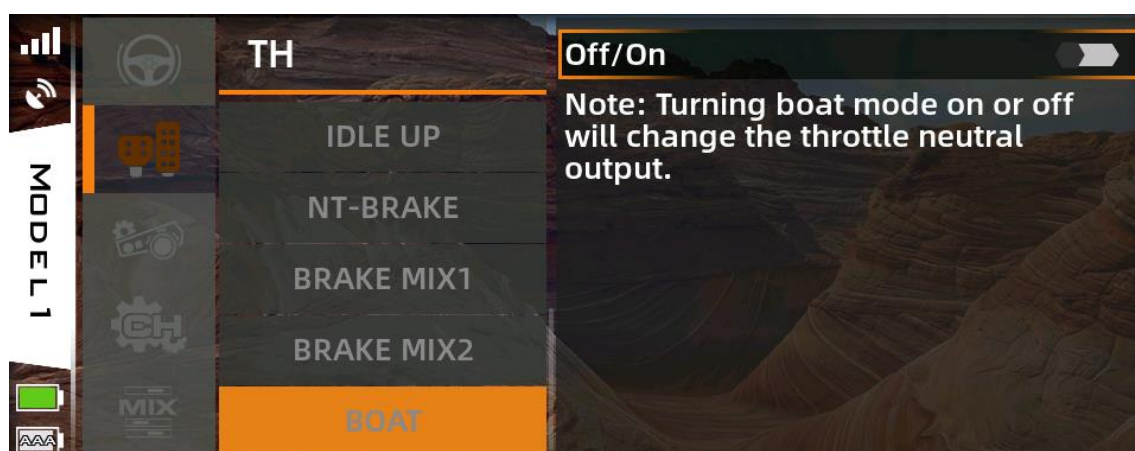
ABS Off/On

Enables an independent Anti-lock Braking System (ABS) function for this specific brake mix.

Once enabled, the following ABS parameters can be set independently for this mix: 1) Trigger Point; 2) Brake Delay; 3) Stroke; 4) Pulse Cycle; 5) Pulse Duty; 6) Steering Mix.

The setting logic for these parameters is consistent with the main ABS function (see Section 6.2.5 for details).

6.2.11 Boat



This mode is specifically designed for boat models that have only forward propulsion and no reverse function.

Function Description:

When Boat Mode is enabled, the system automatically adjusts the neutral point output logic of the throttle channel to accommodate a unidirectional power system. With the throttle trigger at the neutral position, it corresponds to zero power output. Pulling the trigger outputs forward power, while pushing the trigger forward has no effect.

 WARNING	Enabling or disabling "Boat Mode" will immediately change the electrical neutral output of the throttle channel. You must perform this operation only when the model is stationary and under no load, in an absolutely safe condition. Otherwise, the sudden change in neutral point may cause the model to unexpectedly receive high power output, leading to a risk of loss of control.
 WARNING	As the throttle neutral output characteristic has changed, you must reconfigure the fail-safe value for the throttle channel after enabling or disabling Boat Mode. This is to ensure the power system correctly returns to a safe state (i.e., zero power output) in the event of signal loss.

6.3 Auxiliary Channel Setup



Configure the parameters for Channels 3 through 10 in the CHANNEL → ChX menus. Each menu corresponds to the output settings for one auxiliary channel.

Calibration Aid: While adjusting, refer to the channel status bar at the bottom of the menu. It provides real-time visual feedback of the parameter effects, enabling quick and precise calibration.

Key Mapping

- This section displays the physical switches, knobs, or controls that are currently mapped to control this channel.
- Note: To modify the control assignment, please configure it in the main Key menu.

Right Travel (EPA H)

Independently adjusts the maximum output travel in the positive direction for this channel.

Left Travel (EPA L)

Independently adjusts the maximum output travel in the negative direction for this channel.

SubTrim

Adjusts the channel's electrical neutral point. This shift synchronously moves the entire output range, and the left/right travel endpoints will change accordingly.

Reverse (REV)

Inverts the control direction of this channel.

Go

Sets the output reaction speed when the control input moves away from the neutral position.

Return

Sets the output reaction speed when the control input returns to the neutral position from any location.

6.4 Key Assignment

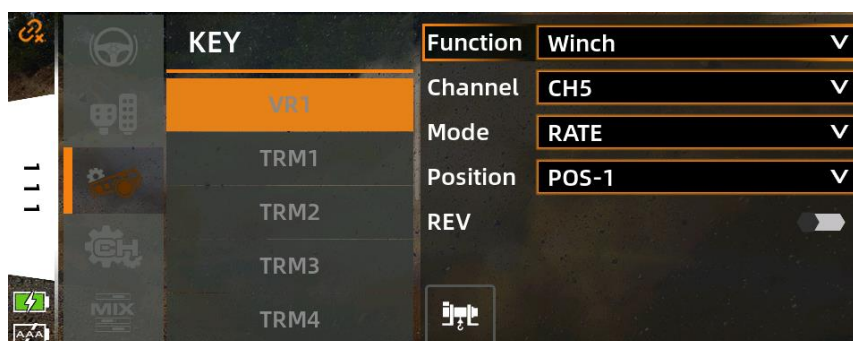
This function allows you to flexibly map various system functions or channel controls to designated physical controls. The S10 transmitter provides 1 VR knob, 5 TRM buttons, and 5 SW buttons for mapping. Through custom assignment, users can achieve quick switching of specific functions or real-time adjustment of parameters, adapting to different operational habits and scenario requirements, thereby enhancing control efficiency.

6.4.1 VR Knob (VR1)

Configure the function for the VR1 knob in the KEY → VR1 menu. VR1 is a mechanical knob with analog proportional output, capable of providing continuous, stepless control of an assigned channel or function. It is ideal for applications requiring precise, linear adjustment.

Function Selection: To configure the VR knob, you must first select a preset mapping target in the Function parameter. This parameter defines the type of function the knob controls (e.g., channel output, parameter adjustment) and is the primary step in completing the custom configuration.

6.4.1.1 VR Knob - Winch Function

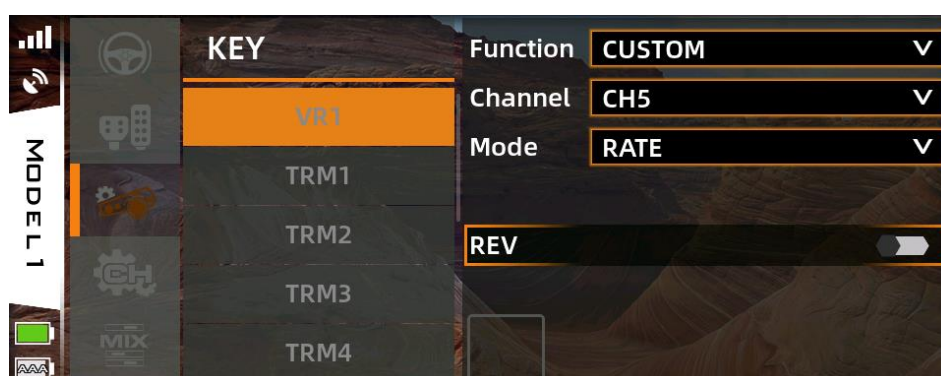


When the Function parameter is set to Winch, the VR1 knob can be mapped to the winch control channel, enabling linear

adjustment of the winch's retract/extend speed.

- **Channel:** Select the actual output channel that controls the winch operation.
- **Mode:** Fixed as "Rate" mode for this function. The knob's rotation angle has a linear corresponding relationship with the winch's retract/extend speed.
- **Position:** Set the display position of the winch function icon within the main interface's button function area.
- **Reverse (REV):** Switch the corresponding relationship between the winch's retract/extend direction and the knob's rotation direction.

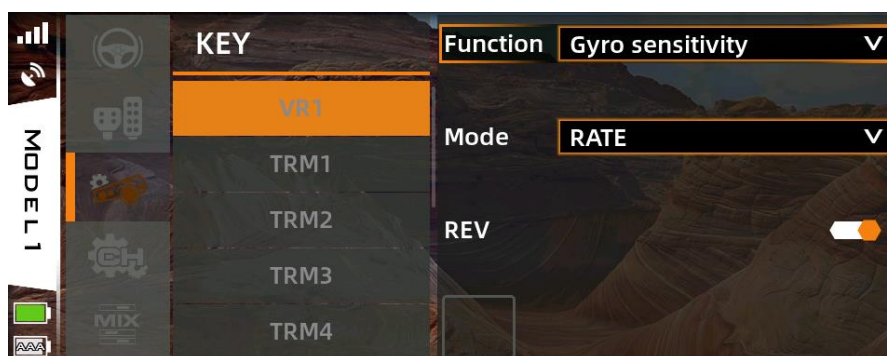
6.4.1.2 VR Knob - Custom Channel Control Function



When the Function parameter is set to Custom, the user can map the VR1 knob to a specified channel, enabling direct control over that channel's output.

- **Channel:** Select the corresponding channel to be controlled by VR1.
- **Mode:** Set the control logic of VR1 over the channel:
 - **Rate:** The knob position has a linear proportional relationship with the channel output.
 - **2POS:** Switches between two preset output states based on the knob position. The specific output values are determined by this channel's left and right travel parameters.
 - **3POS:** Switches between three preset output states based on the knob position. The specific output values are determined by this channel's left travel, neutral, and right travel parameters.
- **Reverse (REV):** Used to switch the output direction of the channel corresponding to VR1.

6.4.1.3 VR Knob - Parameter Quick Adjustment Function



The VR knob can be mapped to system function parameters that support continuous adjustment, enabling rapid linear parameter tuning. The following functions can be selected for configuration in the Function parameter: STTrim, TH Trim, ST D/R, TH D/R F, TH D/R B, Gyro Gain, Sub-Trim for Channels 3-10, Cruise Speed, ABS Point, ABS Delay, ABS Stroke, ABS Cycle, ABS Duty.

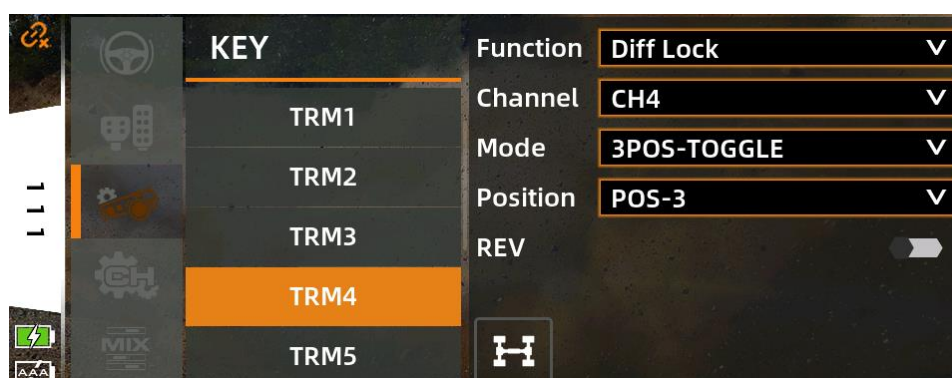
- **Mode:** For this type of function mapping, the operating mode is fixed as **Rate**, meaning the knob position has a linear correspondence with the parameter adjustment amount.
- **Reverse:** Used to switch the correspondence between the physical rotation direction of the VR knob and the direction of the parameter value change.

6.4.2 TRM Button Configuration

Configure independent functions for the 5 TRM (3-position) buttons in the Key → TRMx menus. TRM buttons support stepwise adjustment of assigned channels or parameters, and can also function as on/off switches.

Function Selection: To configure a TRM button, you must first select a preset mapping target in the Function parameter. This parameter defines the type of function the button controls (e.g., channel output, parameter adjustment) and is the primary step in completing the custom configuration.

6.4.2.1 TRM Button - Diff Lock Control Function



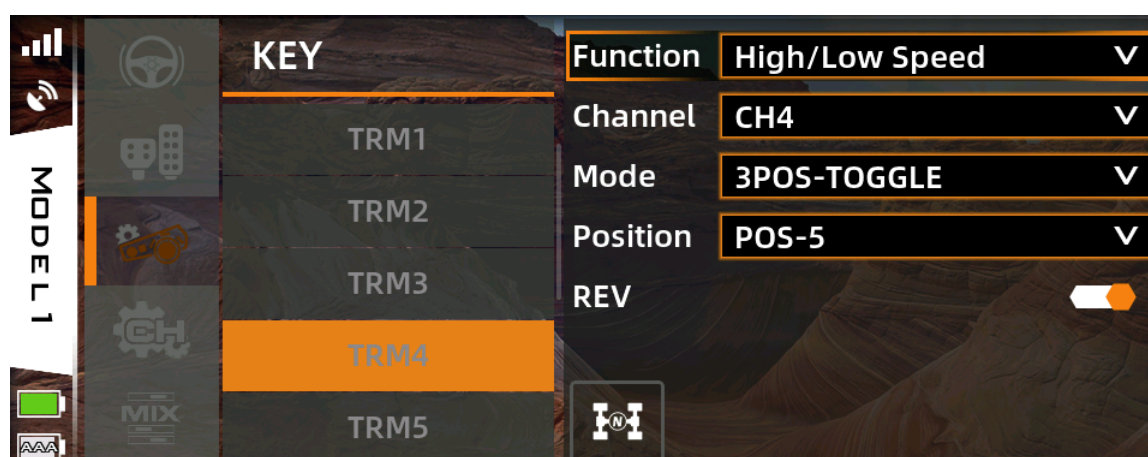
When the Function parameter is set to Diff Lock, the TRM button can be mapped to the channel controlling the vehicle's drive mode, enabling rapid switching between front-wheel drive (FWD), rear-wheel drive (RWD), and four-wheel drive (4WD).

- **Channel:** Select the output channel that actually controls the servo responsible for switching the drive mode.

- **Mode:** Fixed as "3Pos-Toggle" mode for this function. The three drive modes are switched by toggling the TRM button.
- **Position:** Set the display position of the Diff Lock function icon within the main interface's button function area.
- **Reverse (REV):** Switch the correspondence between the TRM button's toggle direction and the sequence of drive mode switching.

To adjust the specific working positions of the Diff Lock servo, modify the Left Travel, Right Travel, and Neutral Point parameters of the corresponding channel. This configuration method ensures accurate and positive switching of the drive mode.

6.4.2.2 TRM Button – High/Low Speed Gear Control Function

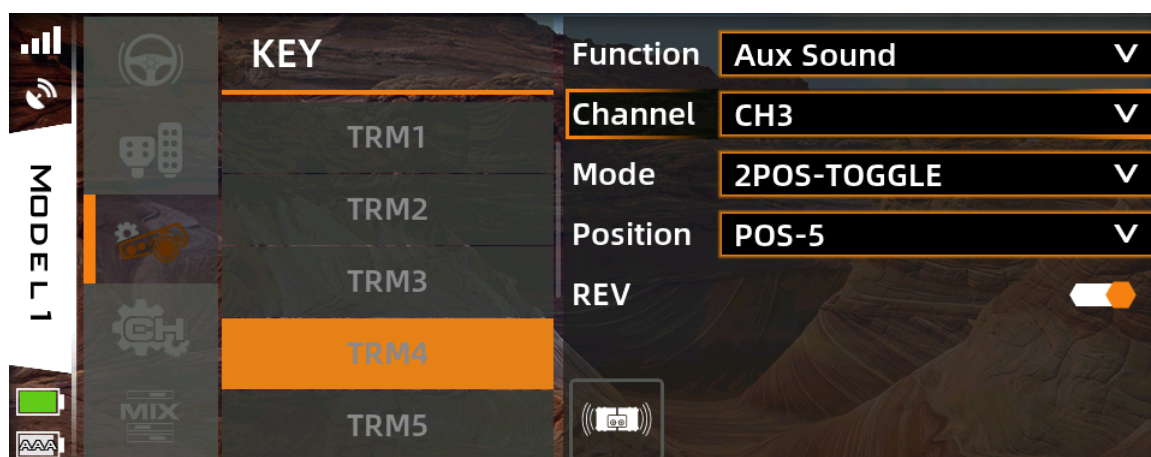


When the Function parameter is set to High/Low Speed, the TRM button is mapped to the dedicated 2-speed transmission control function, enabling rapid switching between Neutral (N), Low Gear (L), and High Gear (H).

- **Channel:** Select the output channel (e.g., CH4) that controls the servo responsible for switching the transmission gears.
- **Mode:** Fixed as "3Pos-Toggle" mode. Gear positions are switched by toggling the TRM button's three physical positions.
- **Position:** Sets the display position of the High/Low Speed function icon within the main interface's button function area.
- **Reverse(REV):** Inverts the correspondence between the TRM button's toggle direction and the sequence of gear switching.

Servo Endpoint Calibration: To adjust the precise physical positions of the gear shift servo, modify the Left Travel, Right Travel, and Sub-Trim (Neutral Point) parameters in the corresponding channel menu. This ensures accurate and positive engagement for all gear positions (Neutral, Low, and High).

6.4.2.3 TRM Button - AUX Sound Trigger Function



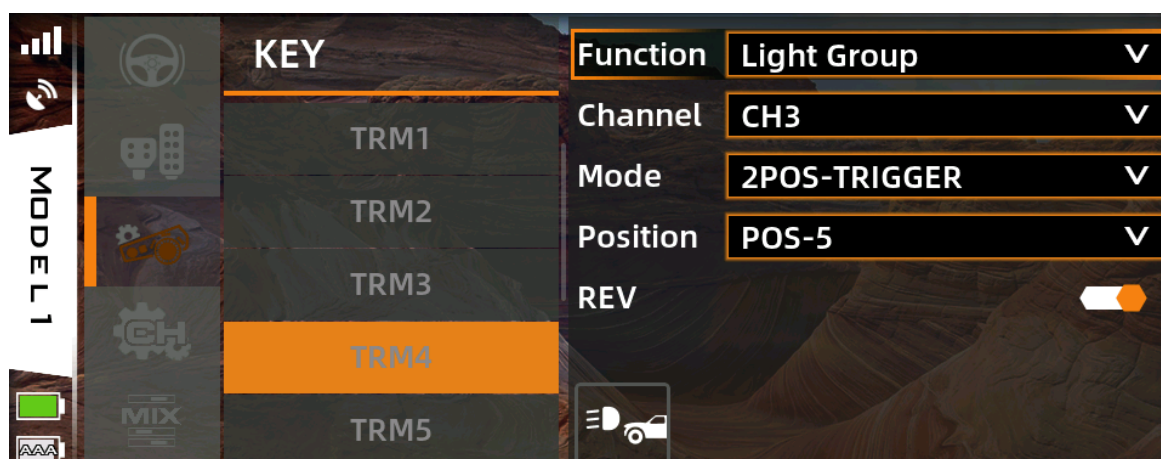
When the Function parameter is set to Aux Sound, the TRM button can be mapped to the channel controlling the auxiliary sound effects of a sound simulator, enabling the triggering and muting of specific sounds.

- **Channel:** Select the actual output channel that controls the sound simulator's AUX sound effects.
- **Mode:** Provides two operating modes: **"2-Position Toggle"** and **"2-Position Trigger"**
 - 2-Position Toggle: Toggle the TRM button to switch the channel output between the states correspond to left travel and right travel, and the state is maintained.
 - 2-Position Trigger: While the TRM button is held down, the channel outputs one state (e.g., right travel). Upon release, it automatically returns to the other state (e.g., left travel).

The left and right travel positions correspond to the sound effect being Off and On, respectively.

- **Position:** Set the display position of the Aux Sound function icon within the main interface's button function area.
- **Reverse(REV):** Switch the correspondence between the TRM button's toggle direction and the sequence of sound effect state switching.

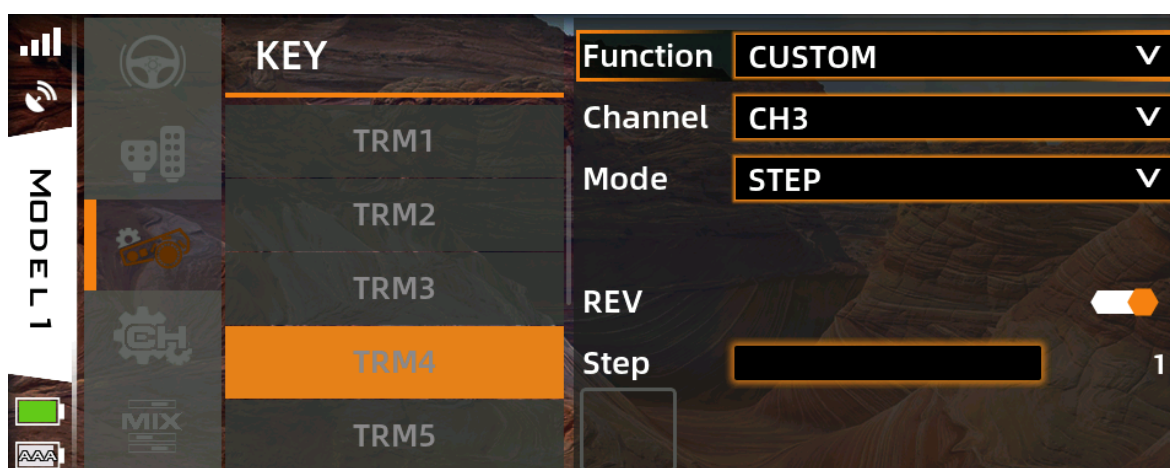
6.4.2.4 TRM Button - Light Group Control Function



When the Function parameter is set to Light Group, the TRM button can be mapped to the channel controlling the vehicle's light group, enabling rapid switching between different lighting modes (e.g., off, steady on, flashing).

- **Channel:** Select the actual output channel that controls the light group.
- **Mode:** Provides two operating modes: "2Pos-Toggle" and "2Pos-trigger"
 - 2-Position Toggle: Toggle the TRM button to switch the channel output between the states corresponding to left travel and right travel; the state is maintained.
 - 2-Position Trigger: While the TRM button is held down, the channel outputs one state (e.g., right travel). Upon release, it automatically returns to the other state (e.g., left travel).
- **Position:** Set the display position of the Light Group function icon within the main interface's button function area.
- **Reverse(REV):** Switch the correspondence between the TRM button's toggle direction and the sequence of light mode switching.

6.4.2.5 TRM Button - Custom Channel Control Function



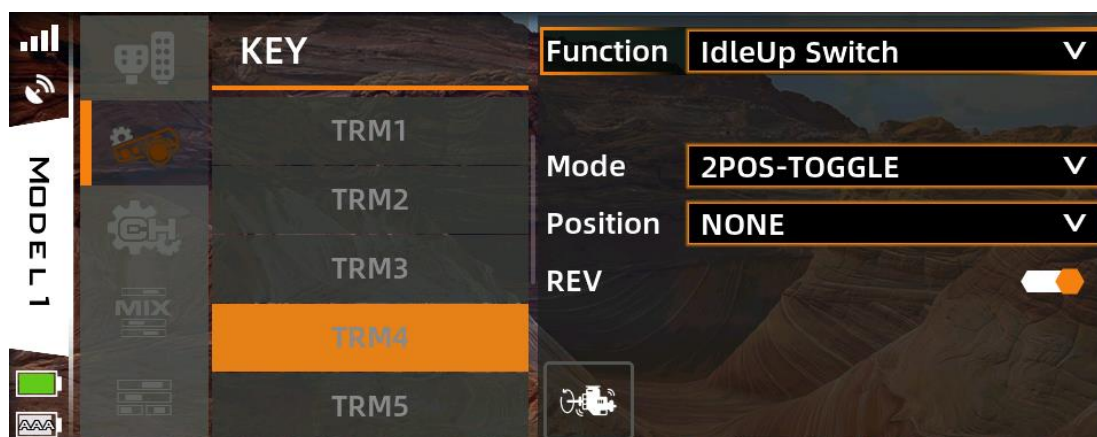
When the Function parameter is set to Custom, the TRM button is mapped to directly control the output of a specified channel (e.g., CH5).

- **Channel:** Select the corresponding auxiliary channel (CH3-CH10) to be controlled by the TRM button.
- **Mode:** Set the control logic of the TRM button over the channel. The available modes are:
 - **Step:** Each button toggle increments or decrements the channel output by a fixed Step Value. This mode is typically used for proportional adjustment of a parameter.
 - **2Pos-Toggle:** Toggle the button to switch between two fixed output states. The specific output values are defined by the channel's Left Travel and Right Travel parameters.
 - **2Pos-Trigger:** While the button is held down, the channel outputs one preset state (e.g., Right Travel). Upon release, it

returns to the other preset state (e.g., Left Travel).

- **3Pos-Toggle:** Toggle the button to switch the channel output between three fixed states: Left, Middle (Neutral), and Right. The endpoint values are set by the channel's travel parameters.
- **3Pos-Trigger:** While the button is held down, the channel output toggles between the left or right preset state. Upon releasing the button, the output automatically returns to and remains in the neutral state.
- **Reverse(REV):** Inverts the correspondence between the TRM button's toggle direction and the direction of the channel output change.
- **Step Value:** In Step mode, this parameter sets the fixed adjustment amount for the channel output value each time the button is toggled. It determines the adjustment precision and response speed. Set it according to the sensitivity of the controlled device and your operational requirements.

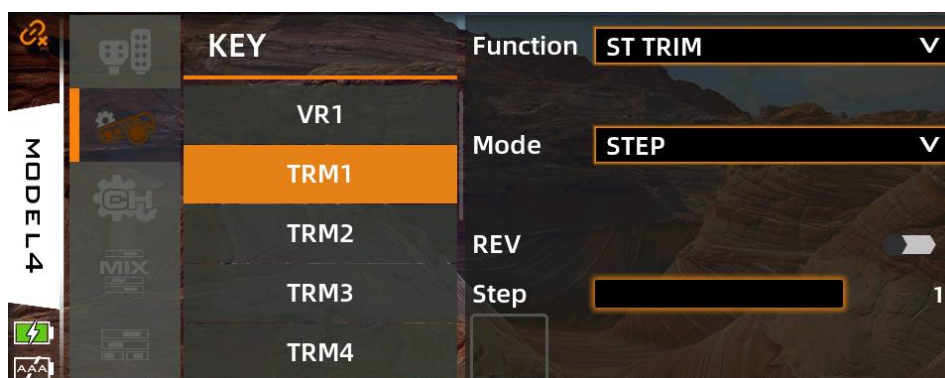
6.4.2.6 TRM Button as a Switch Function



The TRM button can be mapped to various functions within the system that support switch control, enabling rapid turning on and off of the corresponding functions. The following functions can be selected for configuration in the Function parameter: Idle Switch, N-Brake Switch, Cruise Control Switch, ABS Switch.

- **Mode:** For this type of function mapping, the operating mode is fixed as "2-Position Toggle", corresponding to the two states of the function: On and Off.
- **Position:** Used to set the display position of this switch function icon within the main interface's button function area.
- **Reverse:** Switch the correspondence between the TRM button's toggle direction and the switch state (On/Off).

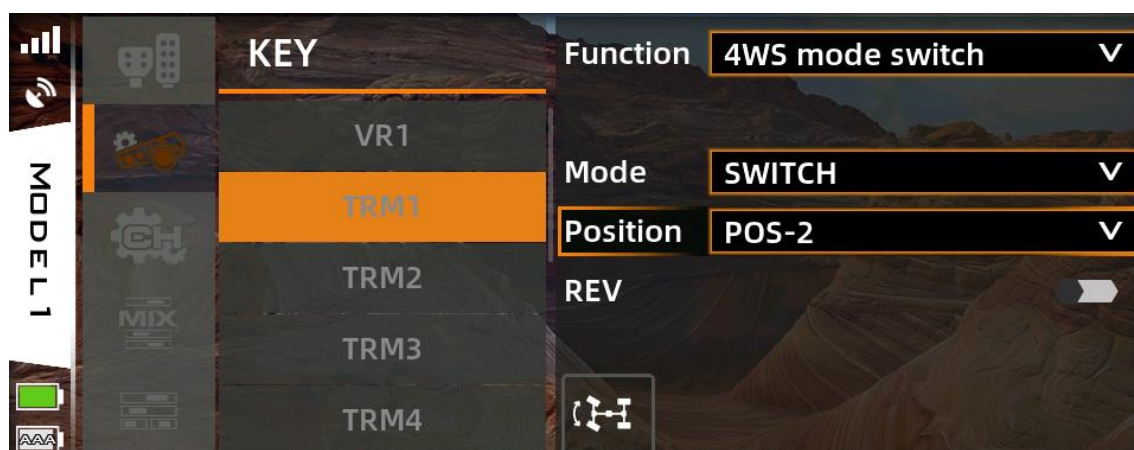
6.4.2.7 TRM Button - Parameter Quick Adjustment Function



The TRM button can be mapped to system function parameters that support continuous adjustment, enabling fast, precise step-by-step parameter tuning. The following functions can be selected for configuration in the Function parameter: ST Trim, TH Trim, ST D/R, TH D/R F, TH D/R B, ST EXP, Forward EXP, Brake EXP, Gyro Gain, Sub-Trim for Channels 3–10, Cruise Speed, ABS Point, ABS Delay, ABS Stroke, ABS Cycle, ABS Duty.

- **Mode:** For this type of function mapping, the operating mode is fixed as Step. Each time the TRM button is toggled, the parameter value will increment or decrement by a preset step value.
- **Reverse(REV):** Switch the correspondence between the TRM button's toggle direction and the direction of the parameter value change.
- **Step Value:** Sets the single-adjustment amplitude of the parameter value each time the TRM button is toggled. This value directly affects the precision and efficiency of parameter adjustment and should be reasonably set according to actual operational requirements and the sensitivity of the controlled device.

6.4.2.8 TRM Button – 4WS Mode Switch Function



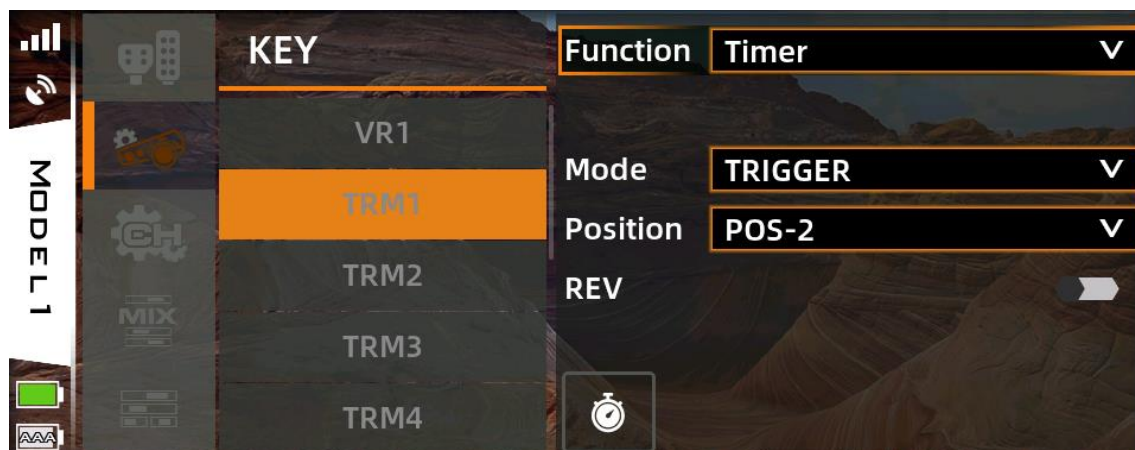
When the Function parameter is set to 4WS Mode Switch, you can toggle the TRM button to cycle the four-wheel steering mix function through its four preset modes in the following sequence: **Front Only** → **Rear Only** → **Same Direction** → **Opposite Direction**.

- **Mode:** For this function, the operating mode is fixed as SWITCH. Toggling the TRM button controls the direction and

sequence of mode switching.

- **Position:** Used to set the display position of the 4WS Mode Switch function icon within the main interface's button function area.
- **Reverse (REV):** Switch the correspondence between the TRM button's toggle direction and the mode switching sequence.

6.4.2.9 TRM Button – Timer Function



When the Function parameter is set to Timer, you can operate the timer by clicking and long-pressing the TRM button. For detailed timer operations, refer to [Section 6.8 Timer](#).

- **Mode:** For this function, the operating mode is fixed as Trigger.
- **Position:** Used to set the display position of the Timer function icon within the main interface's button function area.

6.4.3 SW Buttons

The S10 transmitter is equipped with a total of 5 SW buttons, arranged as follows:

- **SW1:** Located on the side of the handle.
- **SWA~SWD:** Four buttons located at the lower right of the screen.

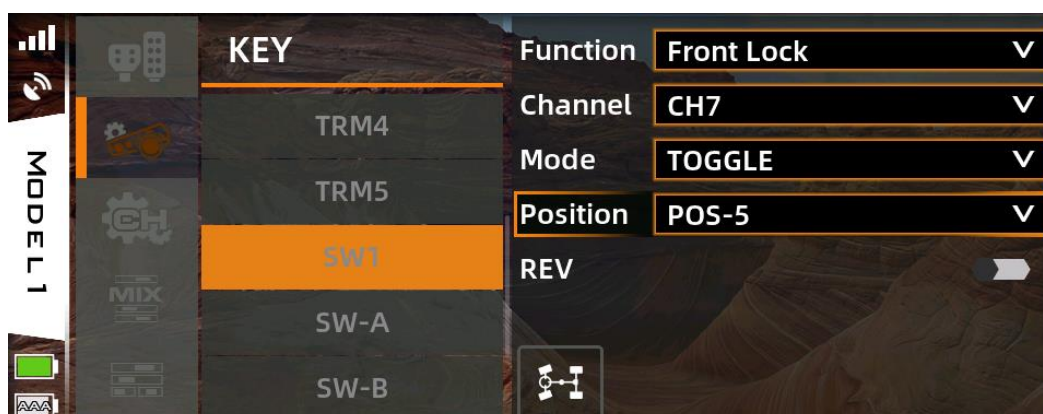
Interface Display and Physical Button Correspondence:

- The SW Function Display Area at the lower right of the screen contains 4 fixed icon positions, which strictly correspond to the physical locations of the SWA~SWD buttons.
- When a function is assigned to any of the SWA~SWD buttons, its corresponding icon will automatically appear in the fixed position; no additional setting is required.

Special Configuration Note:

- When assigning a function to SW1, if that function has a dedicated icon, you must manually specify its display position within the main interface's button function area using the Position parameter.

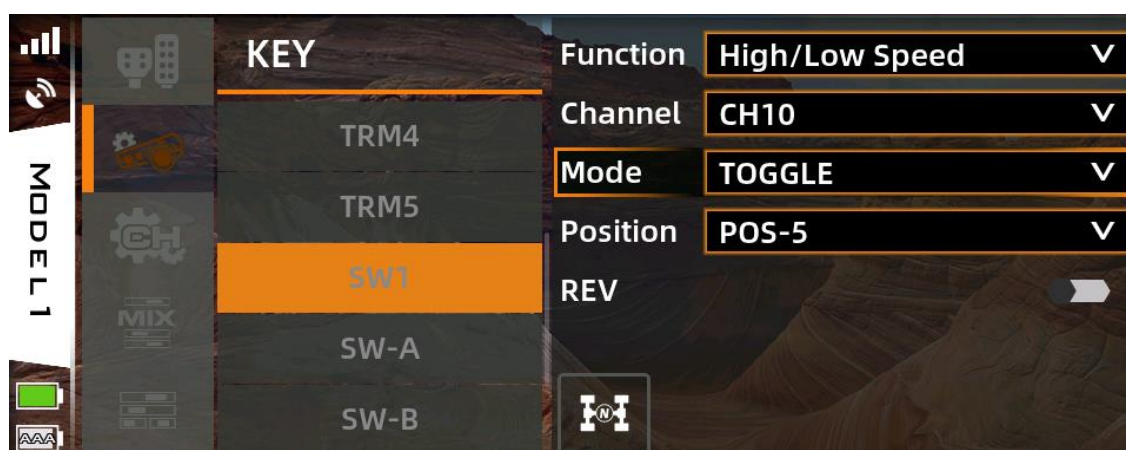
6.4.3.1 SW Button – Differential Lock Control Function



When the Function parameter is set to Front Lock, Middle Lock, or Rear Lock, the SW button can be mapped to the channel controlling the vehicle's differential lock, enabling locking and unlocking of the differential.

- **Channel:** Select the actual output channel that controls the servo responsible for engaging the differential lock.
- **Mode:** Fixed as "Toggle" mode for this function. Pressing the SW button toggles the differential lock between the "Locked" and "Unlocked" states, and the state is maintained.
- **Reverse (REV):** Switches the correspondence between the SW button operation and the differential lock state (Locked/Unlocked).

6.4.3.2 SW Button – High/Low Speed Gear Control Function



When the Function parameter is set to High/Low Speed, the SW button can be mapped to the channel controlling the vehicle's transmission gear position, enabling rapid switching between low gear and high gear.

- **Channel:** Select the actual output channel that controls the servo responsible for switching the transmission gears.
- **Mode:** Fixed as "Toggle" mode for this function. Pressing the SW button toggles the transmission between the "Low Gear" and "High Gear" states, and the state is maintained.
- **Reverse (REV):** Switches the correspondence between the SW button operation and the gear switching state.

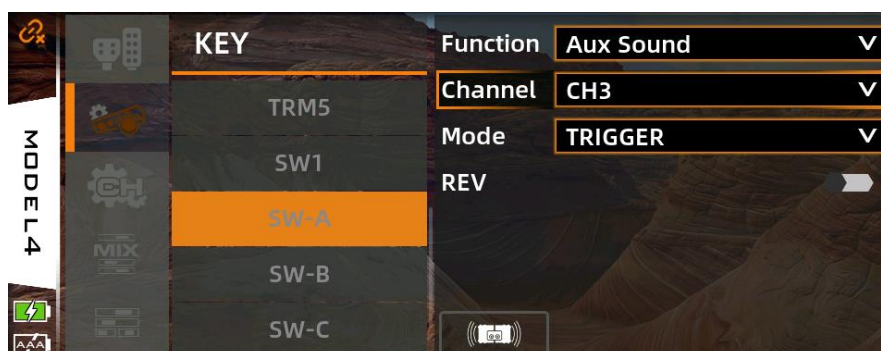
Comparison with TRM Button Control:

Both SW and TRM buttons can control the vehicle's High/Low speed gearbox. Their primary difference lies in the completeness of gear coverage:

SW Button: Provides direct switching between High and Low gears only.

TRM Button: Through 3-position step control, it additionally incorporates Neutral, forming a three-gear cycle switching structure of "High -Neutral -Low". This is suitable for realistic driving scenarios requiring precise control over power delivery.

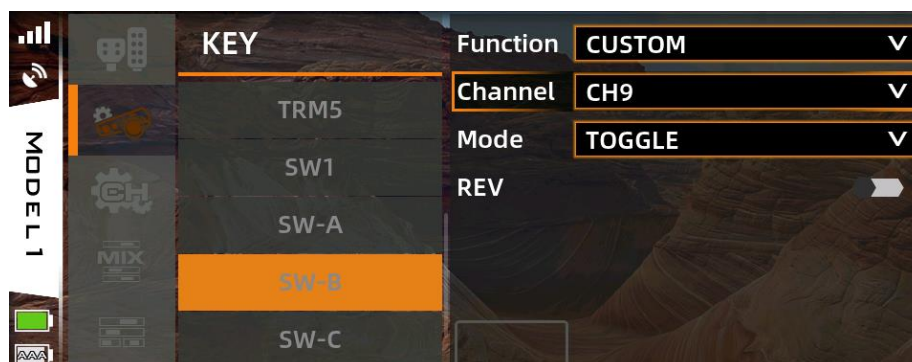
6.4.3.3 SW Button - AUX Sound Trigger Function



When the Function parameter is set to Aux Sound, the SW button can be mapped to the channel controlling the AUX sound effects of a sound simulator, enabling triggering and muting of specific sounds.

- **Channel:** Select the actual output channel that controls the sound simulator's AUX sound effects.
- **Mode:** Provides two operating modes: Toggle and trigger.
 - Toggle: Press the SW button to toggle the AUX sound effect between "Play" and "Mute" states; the state is maintained.
 - Trigger: While the SW button is held down, the AUX sound effect is in the "Play" state. Upon release, it automatically returns to the "Mute" state.
- **Reverse (REV):** Switches the correspondence between the SW button operation and the AUX sound effect state (Play/Mute).

6.4.3.4 SW Button - Custom Channel Control Function

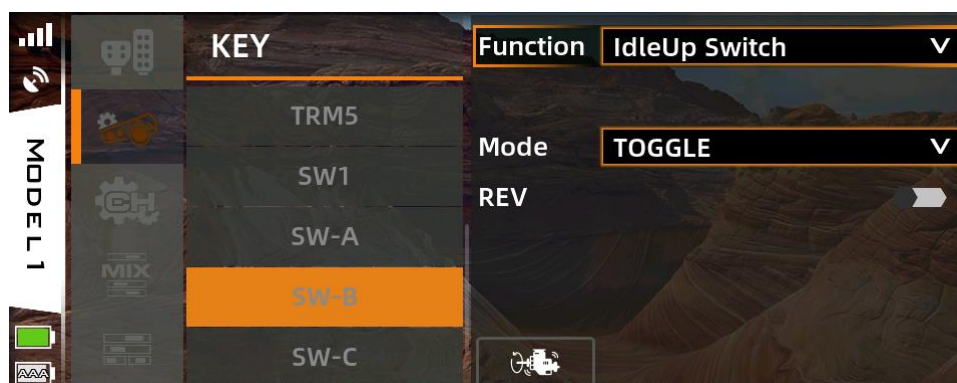


When the Function parameter is set to Custom, the SW button can be mapped to a specified channel, enabling direct control over

that channel's output.

- **Channel:** Select the corresponding channel to be controlled by the SW button.
- **Mode:** Provides two operating modes: Toggle and Trigger.
 - Toggle: Press the SW button to switch the channel output between the states corresponding to left travel and right travel; the state is maintained.
 - Trigger: While the SW button is held down, the channel outputs one state (e.g., left travel). Upon release, it automatically returns to the other state (e.g., right travel).
- **Reverse (REV):** Switches the correspondence between the SW button operation and the channel's output state.

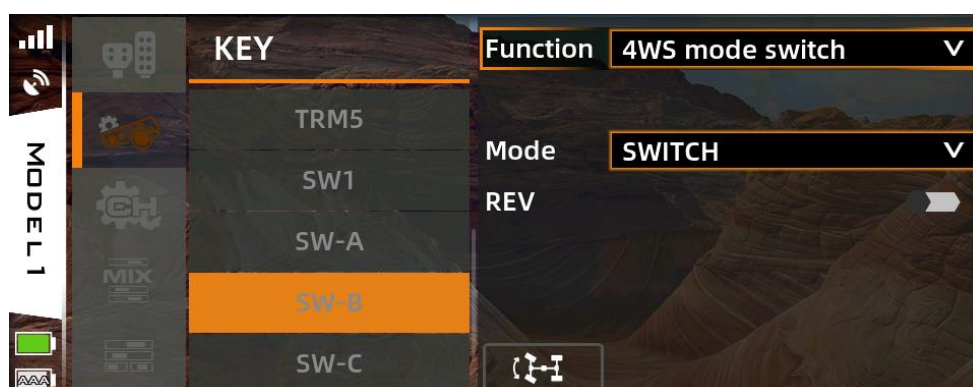
6.4.3.5 SW Button as a Switch Function



The SW button can be mapped to various system functions that support switch control, enabling quick activation and deactivation of the corresponding functions. The following functions can be selected for configuration in the Function parameter: **IdleUp Switch**, **NT-Brake Switch**, **Cruise Switch**, **ABS Switch**, **Gyro Stabilization Switch**.

- **Mode:** For this function, the operating mode is fixed as "Toggle". Pressing the SW button toggles the function between "On" and "Off" states, and the state is maintained.
- **Reverse (REV):** Switches the correspondence between the SW button operation and the function's switch state (On/Off).

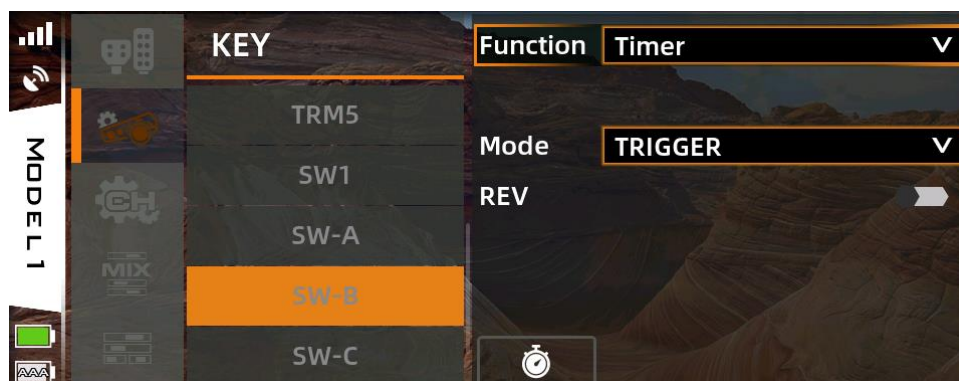
6.4.3.6 SW Button - 4WS Mode Switch Function



When the Function parameter is set to 4WS Mode Switch, pressing the SW button cycles the 4WS mix function through its four preset modes in the following sequence: **Front Only** → **Rear Only** → **Same Direction** → **Opposite Direction**.

- **Reverse (REV):** Switches the correspondence between the SW button operation and the mode switching sequence.

6.4.3.7 SW Button - Timer Control Function



When the Function parameter is set to Timer, you can operate the timer by pressing and long-pressing the SW button. For detailed timer operations, refer to [Section 6.8 Timer](#).

6.5 Mixing Function (MIX)



Mixing is one of the core functions of an advanced RC system. By intelligently combining and distributing control signals across channels, it enables a single control action to trigger responses on multiple channels, or multiple inputs to cooperatively drive a single actuator. This function breaks the limitation of the traditional "one channel, one function" paradigm, allowing users to customize complex and precise control logic for specific models. The S10 transmitter supports 8 independent, programmable mix configurations.

- **OFF/ON:** The master switch for this specific mix.
- **Master Channel:** Selects the active control channel that serves as the signal source. Its movements will affect the slave channel.
- **Slave Channel:** Selects the subordinate channel that receives the master channel's signal and executes the mixing action.
- **H Rate:** Sets the mixing effect ratio of the master channel on the slave channel within the range to the right of the master's neutral point. The ratio value can be positive or negative: a positive value indicates same-direction control, while a negative value achieves

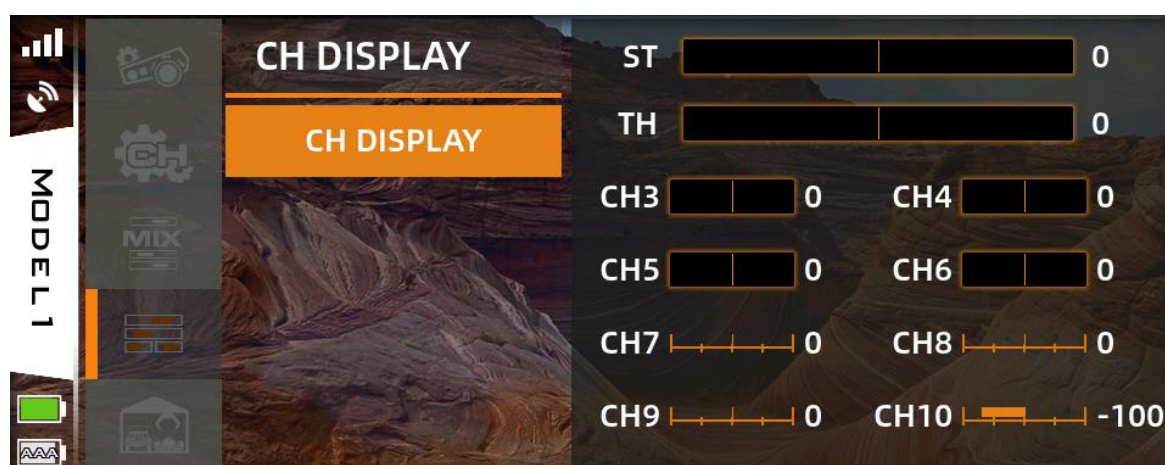
reverse mixing.

- **L Rate:** Sets the mixing effect ratio of the master channel on the slave channel within the range to the left of the master's neutral point. The ratio value can be positive or negative: a positive value indicates same-direction control, while a negative value achieves reverse mixing.
- **Offset:** Adjusts the baseline point offset for the action response between the master and slave channels, used for calibration or fine-tuning neutral alignment.
- **Reverse (REV):** Inverts the control direction of the master channel over the slave channel. When enabled, a movement of the master channel in one direction will cause the slave channel to move in the opposite direction.

Note: Both negative ratio values and the Reverse switch can achieve control direction inversion, but they operate at different levels:

- **Negative Ratio:** Achieves precise, adjustable-amplitude reverse control within that specific side's travel range (left or right). This is the most refined method for directional adjustment.
- **Reverse Switch:** Globally inverts the control direction of the entire mix. This is a "whole-channel negation" shortcut operation.

6.6 Channel Display



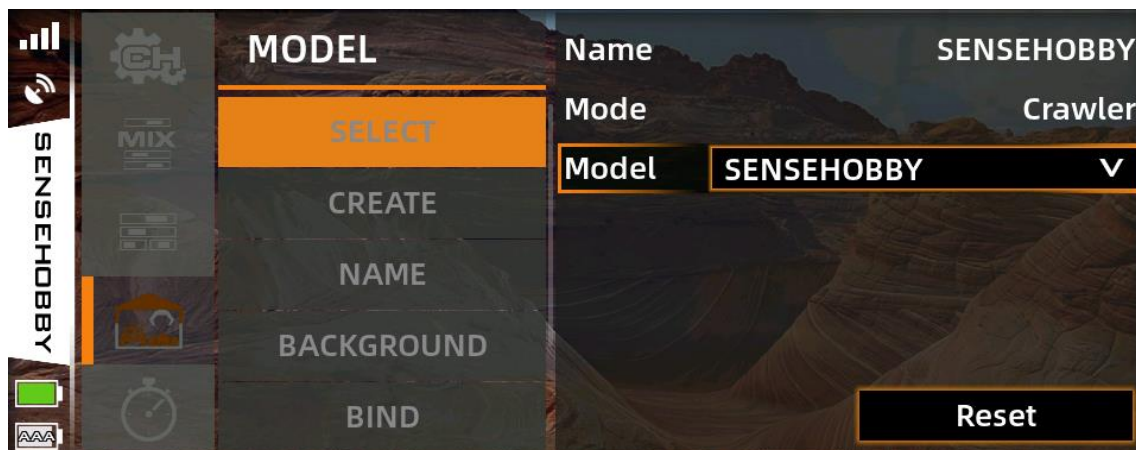
In the Channel Display (CH DISPLAY) menu interface, you can centrally and in real-time monitor the output status and specific values of all 10 channels. This function provides intuitive visual monitoring of the system's operating state, making it easy to quickly confirm whether each channel's commands are being output as expected. By observing channel responses in real time, it assists in performing precise parameter calibration and effectively verifies whether the function mappings of switches, knobs, and buttons are correctly activated. When control anomalies occur, this interface can serve as the primary diagnostic tool to help compare commands with actual behavior and quickly locate the root cause of the problem.

6.7 Model Setup

The Model Setup function is used to manage multiple model configurations stored in the transmitter. Here, users can create, name,

copy, and delete model profiles, and perform the binding operation between the currently selected model and its receiver. The S10 transmitter supports storing up to 40 independent model configurations, facilitating quick switching between custom settings for different vehicles or boats.

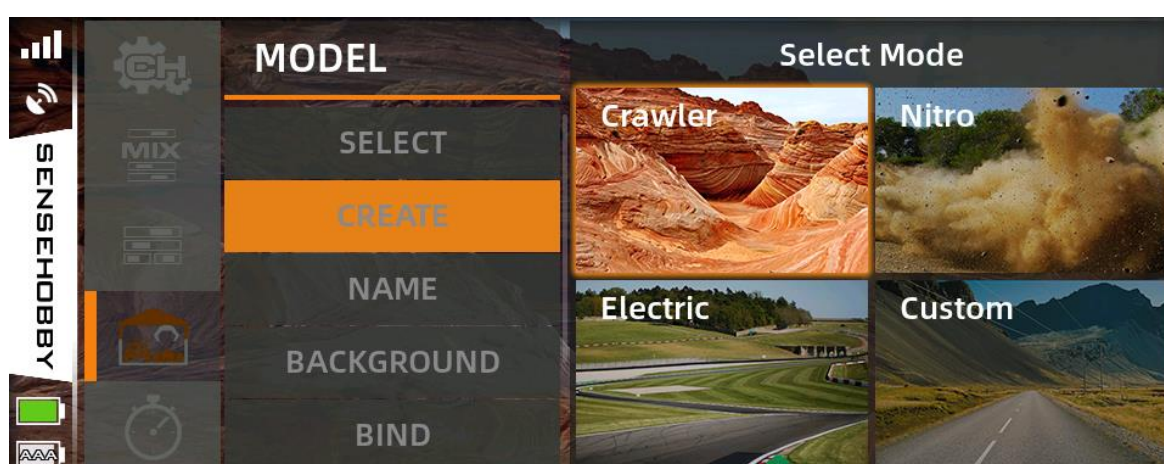
6.7.1 Model Select



In the Model → Select menu, you can browse and manage all stored model configurations.

- **Information Display:** The interface clearly displays the name and preset type of the currently active model.
- **Model Switching:** Use the Model dropdown list to select and quickly switch between multiple model configurations stored in the system. The list displays only existing models. The system supports a maximum of 40 model configurations.
- **Settings Reset:** Press the Reset button to restore all parameters of the currently selected model to their factory default state. This operation affects only the current model and does not impact other model profiles.

6.7.2 New Model



In the Model → Create menu, you can quickly create a new model profile. The system comes pre-loaded with four common model types: Crawler, Nitro Car, Electric Car, and Custom. Each type has its corresponding set of default parameter configurations. Simply select the target type icon to complete creation and automatically switch to the new model, greatly simplifying the initialization process and helping you get started quickly.

Crawler: Uses crawler-specific presets. The receiver telemetry area displays the vehicle's attitude.

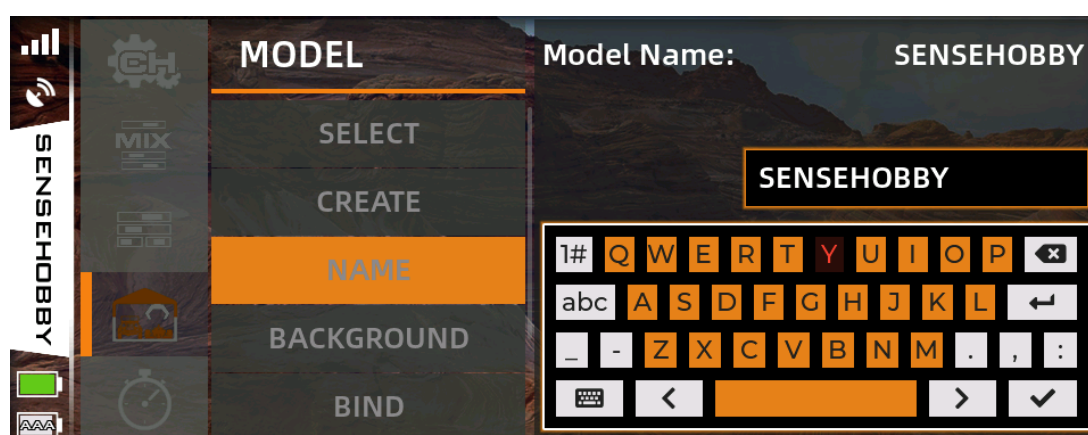
Nitro: Uses nitro car specific presets. The receiver telemetry area displays the vehicle's acceleration information.

Electric: Uses electric car specific presets. The receiver telemetry area displays the vehicle's acceleration information.

Custom: Features fully user-defined key and channel function assignments.

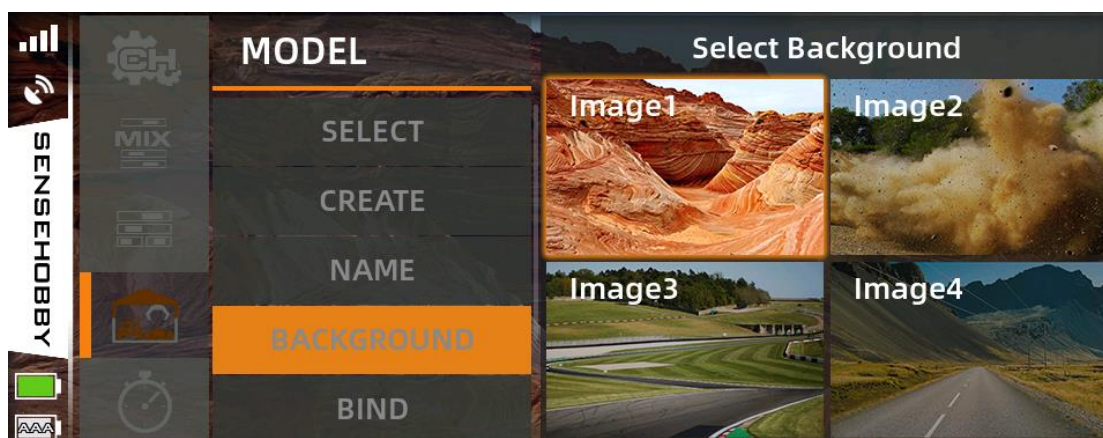
When switching to a model of the corresponding type, the system interface background automatically changes to a matching theme image. Users can also use dedicated tools to customize or replace the background image for personalized settings.

6.7.3 Model Naming



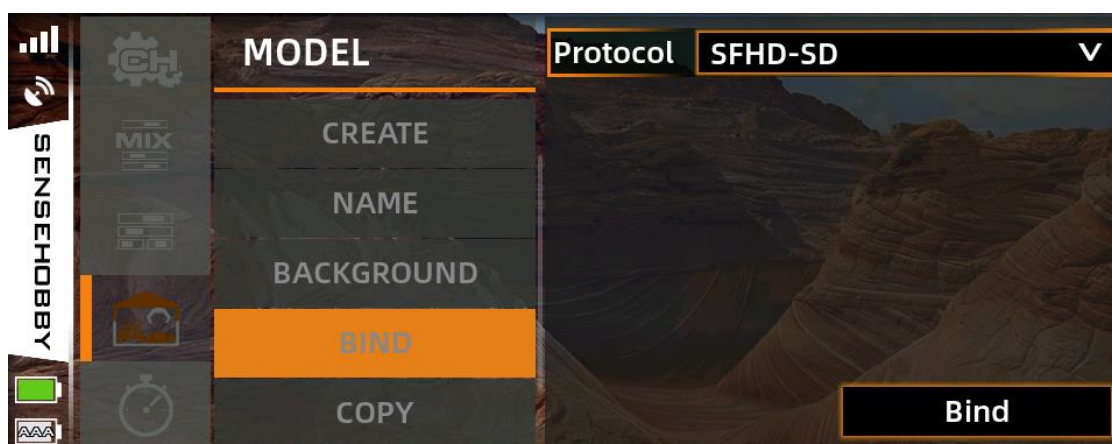
In the Model → Name menu, you can modify the name of an existing model. After the name is updated, the Model name display area on the left side of the main interface will refresh accordingly.

6.7.4 Background Switch



In the Model → Background menu, you can change the main interface background image for the currently selected model.

6.7.5 Receiver Binding

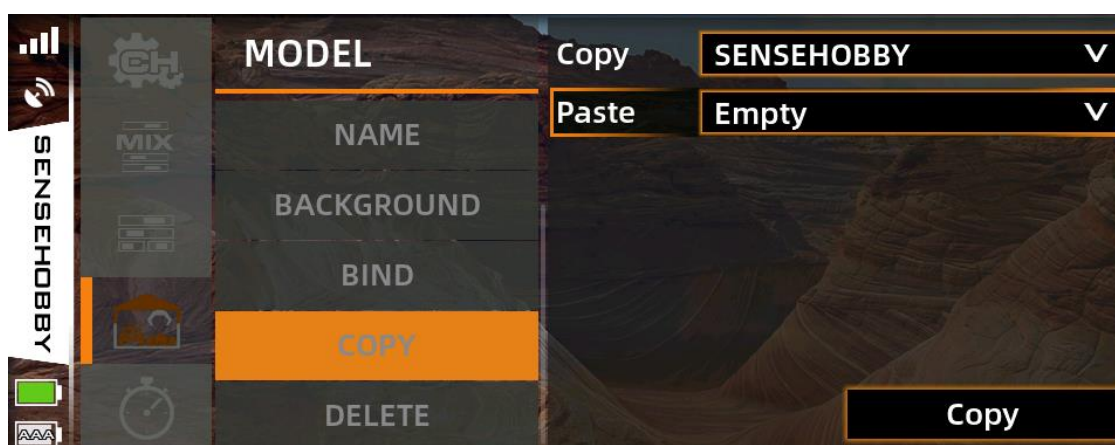


After creating a new model, you must complete the binding process with a receiver before it can be used normally. In the Model → Bind menu, you can bind the transmitter for the current model to a specified receiver.

Binding Process:

1. Power on the receiver. After power-on, press and hold its function button for approximately 3 seconds until the blue LED enters a rapid-blinking state, indicating the receiver is in binding mode.
2. On the transmitter, navigate to the Model → Bind menu. Select the communication protocol that matches the receiver from the Protocol dropdown list.
3. Press the Bind button in the lower right corner of the interface to start the binding process.
4. Observe the receiver's LED. When its blue LED changes from rapid blinking to a steady light, and the transmitter screen displays a "Bind Success" prompt, the binding is complete.

6.7.6 Model Copy



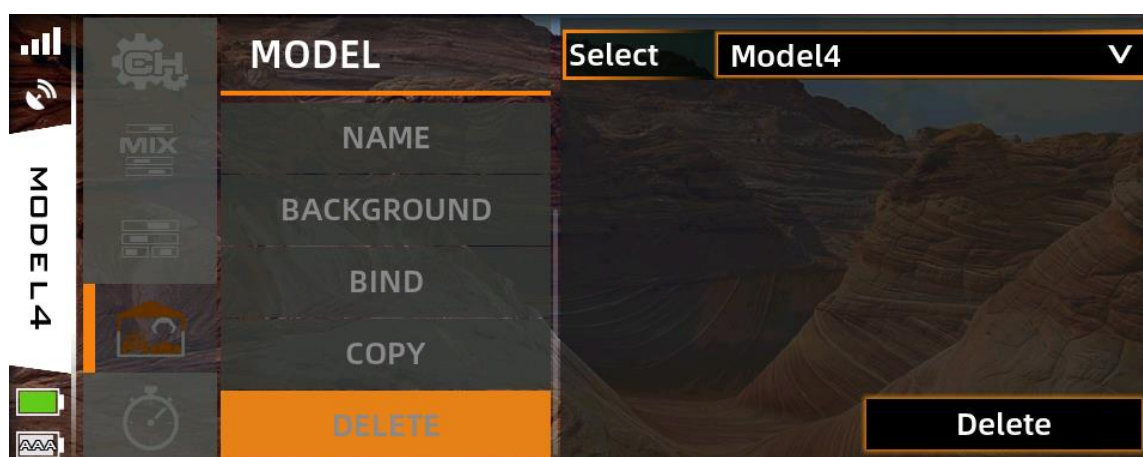
In the Model → Copy menu, you can copy the complete configuration of any existing model profile and overwrite it onto another model location, enabling quick reuse and backup of settings.

Operation Steps:

1. In the **Copy** dropdown list, select the source model you wish to copy.
2. In the **Paste** dropdown list, select the target model to be overwritten.
3. Press the **Copy** button in the lower right corner of the interface.
4. The system will display an operation confirmation prompt. Select **Yes** to complete the copy process.

Hint: The S10 transmitter supports storing a maximum of 40 model profiles. When you select Empty in the Select dropdown, a new model will be created and the source model configuration will be copied into it.

6.7.7 Model Delete



In the Model → Delete menu, you can delete existing model profiles.

Operation Steps:

1. In the **Select** dropdown list, find and select the target model you wish to delete.
2. Press the **Delete** button in the lower right corner of the interface.
3. The system will display an operation confirmation prompt. Select **Yes** to complete the deletion.

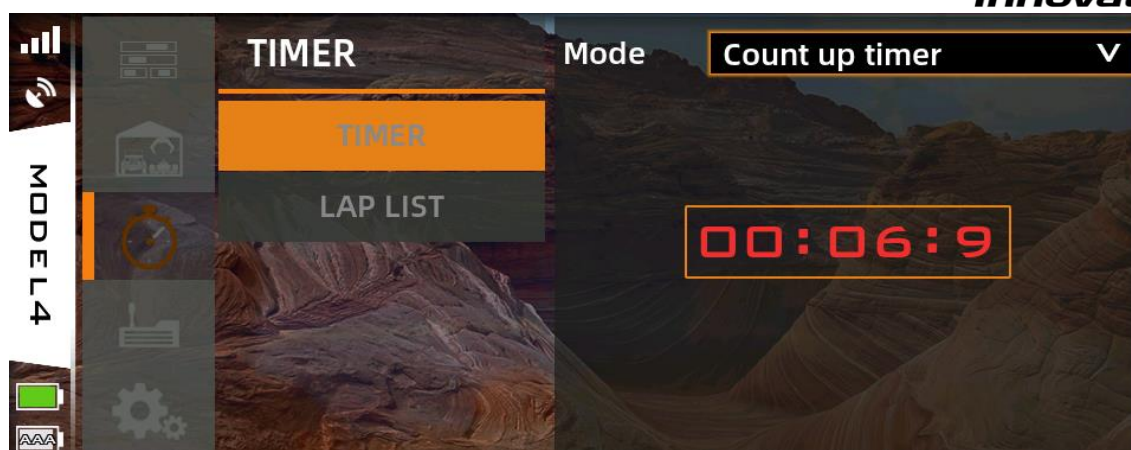
WARNING: Deletion is permanent and cannot be undone. Proceed with caution.

6.8 Timer

6.8.1 Timer Setup

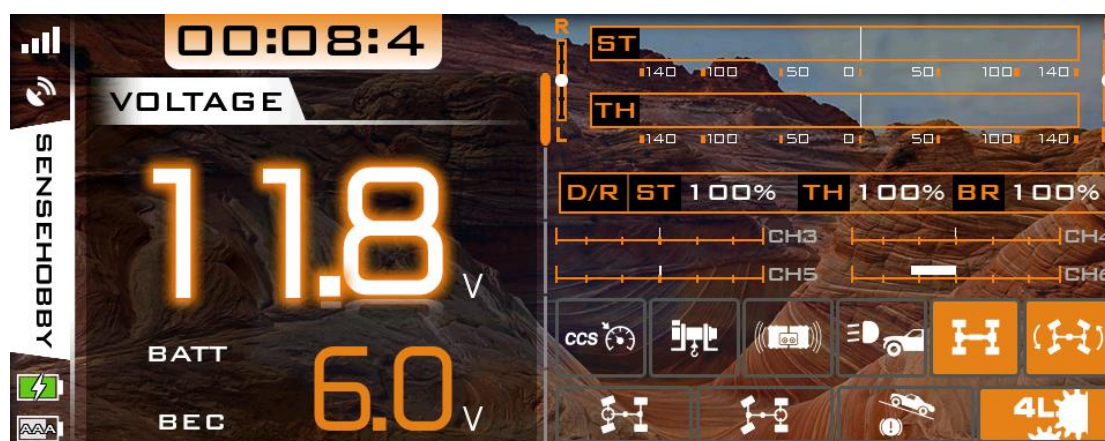
The S10 transmitter integrates three timer modes: Count-Up, Count-Down, and Lap Timer. These are suitable for scenarios such as recording total model runtime, competition time limits, or transmitter operating time. Users can configure the timer's working mode in the Timer → Timer menu.

The timer supports 3 operation methods:



1、 Menu Operation

- Enter the Timer menu and select the desired mode, then scroll down to the time display area (marked by a box).
- **Long-press the wheel** to enter the ready state; the time display will turn red.
- **Press the wheel** to start the timer. While the timer is running, pressing the wheel can perform mode-related functions such as pause or lap recording.
- **Long-press the wheel** to stop the timer. The screen will then display the total elapsed time for that session.



2、 Mapped Button Operation:

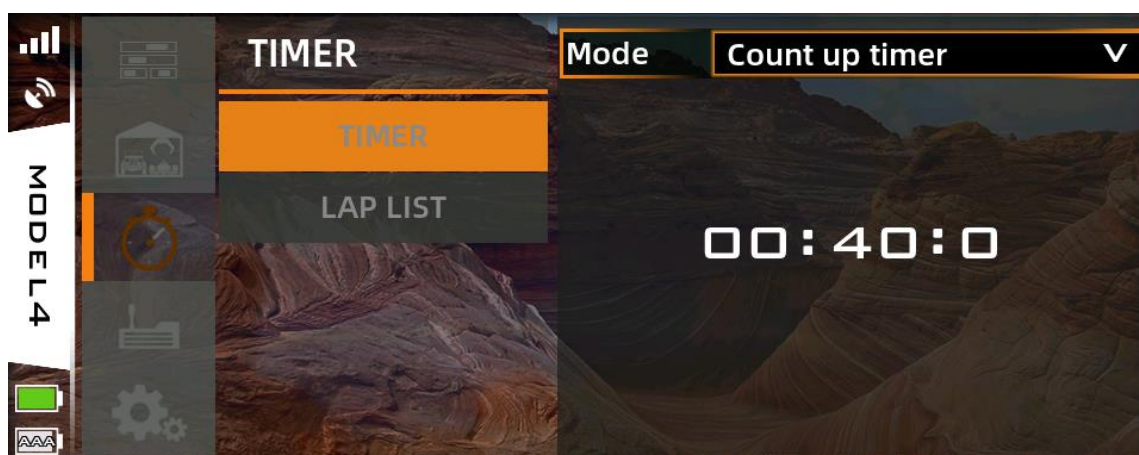
- Map the timing function to the TRM or SW button (see [Section 6.4.2.9 for TRM Timer Control](#) and [Section 6.4.3.7 for SW Timer Control](#)).
- On the main screen, **long-press the mapped button**. The timer window in the upper-left corner will enlarge and show an orange-white gradient, indicating it has entered the ready state.
- **Short-press the button** to start timing. While timing is active, short-pressing the button performs mode-related functions such as pause or lap recording.
- **Long-press the button** to stop timing. The window returns to its default size and color, and the total elapsed time is displayed.

3、Throttle-Linked Timing Operation

After putting the timer into the ready state (by long-pressing the wheel in the menu or long-pressing the mapped button), you can start timing directly by pulling the throttle trigger. This method ensures the vehicle's launch and the timer start are perfectly synchronized, making it ideal for racing scenarios requiring high precision on start timing.

Subsequent operations after startup, such as pause, lap recording, and stop, follow the same logic as menu and mapped button operations described above.

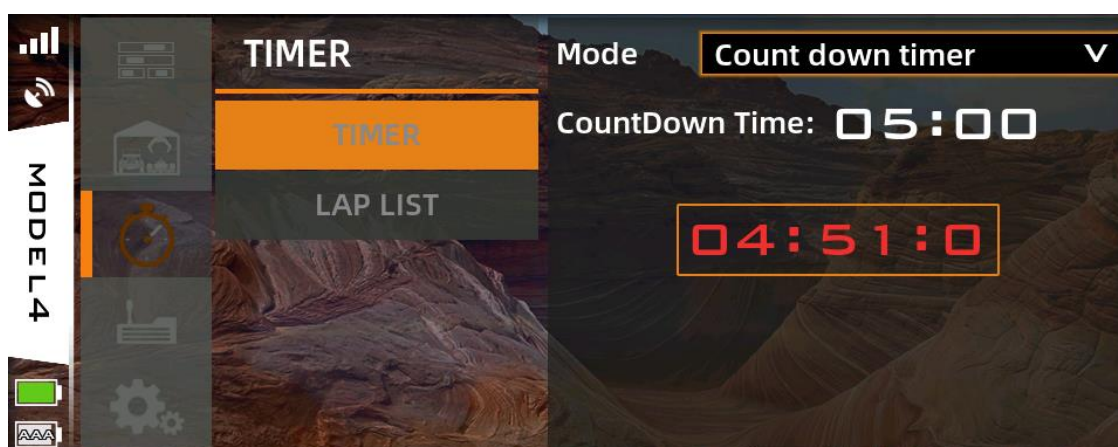
6.8.2 Count up timer



When the timer mode is set to Count Up Timer, the counter will accumulate elapsed time upward after starting.

- **Click the timer button:** While the timer is running, each click will **reset** the current timer and restart accumulating from the moment of the last button press.
- **Long-press the timer button:** **Stops** the current timing session. The screen displays the total elapsed time from start to stop.

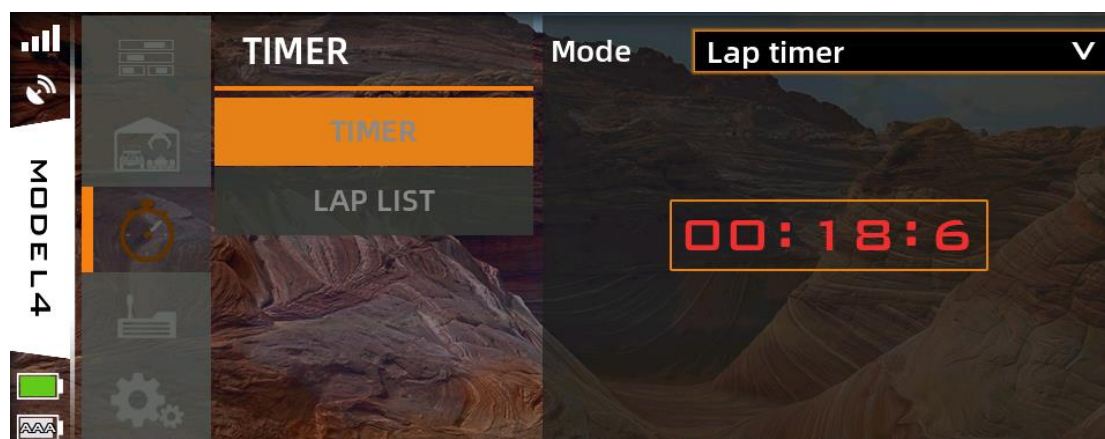
6.8.3 Count Down Timer



When the timer mode is set to Count Down Timer you must first preset the count-down target duration (Count-Down Time). After starting, the timer counts down from the set value. When it reaches zero, it triggers audible and vibration alerts and automatically switches to Count-Up mode to continue running.

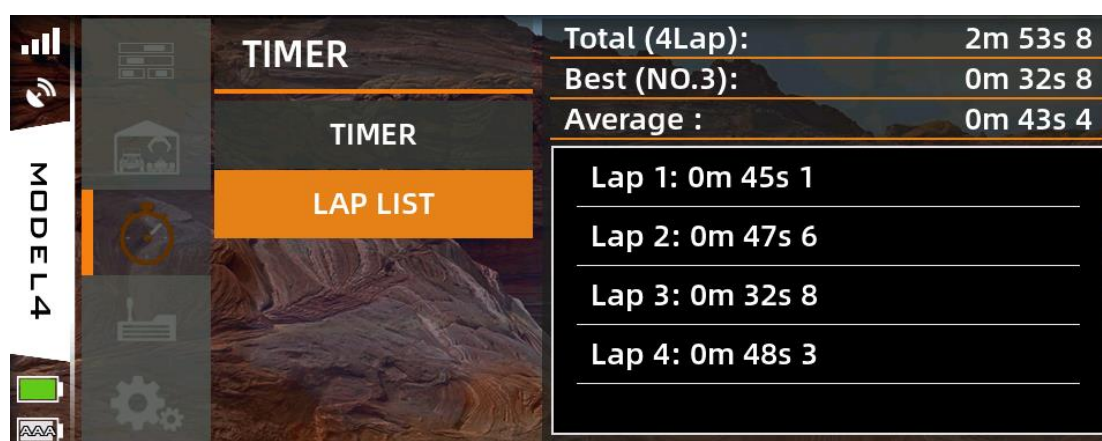
- **Short-press the timer button:** During either the count-down or subsequent count-up phase, pressing toggles the timer between **Pause** and **Continue** states.
- **Long-press the timer button:** Stops the current timing session. The screen locks and displays the current timer value.

6.8.4 Lap Timer



When the timer mode is set to Lap Timer, after starting, the timer will continuously accumulate the total elapsed time upward.

- **Click the timer button:** Each click will record the lap time for the current lap in the background, while the timer continues running and accumulating the total time. This operation is used to mark the end moment of each lap.
- **Long-press the timer button:** Stops the current timing session. The screen displays the total elapsed time from start to stop.

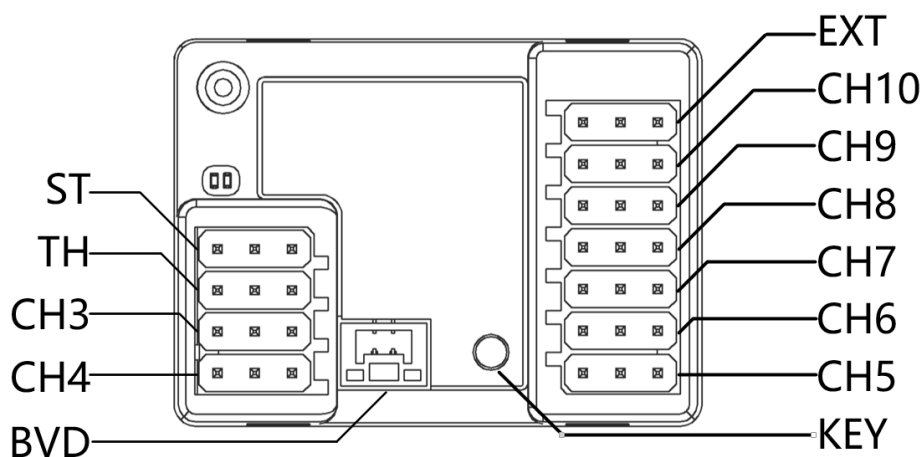


After the timing session ends, you can enter the Timer → Lap List menu to view detailed analysis data, including:

- **Lap Time:** The elapsed time for each individual lap.
- **Total Time:** The complete elapsed time from start to finish.
- **Best (NO.X):** The lap number and its corresponding time for the fastest single lap.
- **Average:** The average time per lap, calculated across all recorded laps.

7 Receiver Settings

This chapter details the functions and settings of the receiver.



7.1 Bind



In the Receiver → Bind menu, a binding function identical to that in Model → Bind is provided, serving as a quick operation entry for directly performing the binding operation.

Binding Process:

1. Power on the receiver. After power-on, press and hold its function button for approximately 3 seconds until the blue LED enters a rapid-blinking state, indicating the receiver is in binding mode.
2. On the transmitter, navigate to the Receiver → Bind menu. Select the communication protocol that matches the receiver from the Protocol dropdown list.
3. Press the Bind button in the lower right corner of the interface to start the binding process.
4. Observe the receiver's LED. When its blue LED changes from rapid blinking to a steady light, and the transmitter screen

displays a “Bind Success” prompt, the binding is complete.

7.2 Fail-safe



When the signal between the receiver and the transmitter is interrupted, the system will automatically trigger the fail-safe mechanism. The receiver will execute the corresponding fail-safe strategy for each channel based on pre-set configurations.

In the Receiver → Fail-Safe menu, you can independently configure the fail-safe behavior for each output channel. At the bottom of the menu, an All switch is provided. When enabled, you can set the fail-safe parameters for all 10 channels with one click.

Fail-safe Status Description:

- **Protection Off:** When the fail-safe switch for a channel is off and a fail-safe is triggered, the channel output will maintain the last signal received before the loss of signal.
- **Protection On:** When the fail-safe switch for a channel is on and fail-safe is triggered, the channel will output the preset fail-safe value.

Setting Procedure:

1. Enter the Fail-Safe menu and ensure the fail-safe switch for the target channel is in the Off state.
2. Manually operate the transmitter controls. The real-time channel output values are displayed as **white progress bars** on the left side of the interface. Adjust the channel output to the desired fail-safe state through operation (e.g., throttle to neutral or brake, steering to center).
3. Maintain that output state and **press the scroll wheel**.
4. The fail-safe switch for that channel will automatically change to the On state, and the channel indicator bar will change from white to **orange** and lock, indicating a successful setup.

 NOTE	• Even if the throttle channel's fail-safe function is set to "Off" in the transmitter menu, for safety reasons, the receiver's fail-safe mechanism will force this channel to output a 1.5 ms pulse width (neutral position PWM signal) when the receiver loses the transmitter signal (triggering fail-safe).
--	---

7.3 Interface Protocol



PPM Output Function

The receiver supports PPM (Pulse Position Modulation) signal output, which can be used to control external devices compatible with PPM input, such as light sets.

Configuration Path:

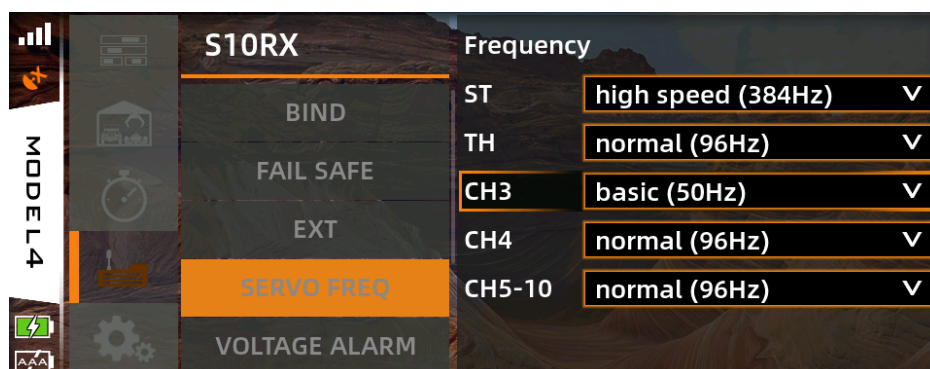
In the Receiver → EXT menu, you can designate the output channel for the PPM signal.

Supported Channels:

The first 4 channels of the receiver (CH1-CH4) can be configured for PPM output.

 WARNING	Before configuring any channel for PPM output, you must physically disconnect (remove) all servos or other loads that do not support PPM signals connected to that channel. Otherwise, the PPM signal may cause damage to the load device.
--	--

7.4 Servo Frequency



Servo Frequency setup

In the Receiver → Servo Freq menu, you can set the PWM frequency for each output channel of the receiver to match servos with different performance characteristics.

Frequency Presets

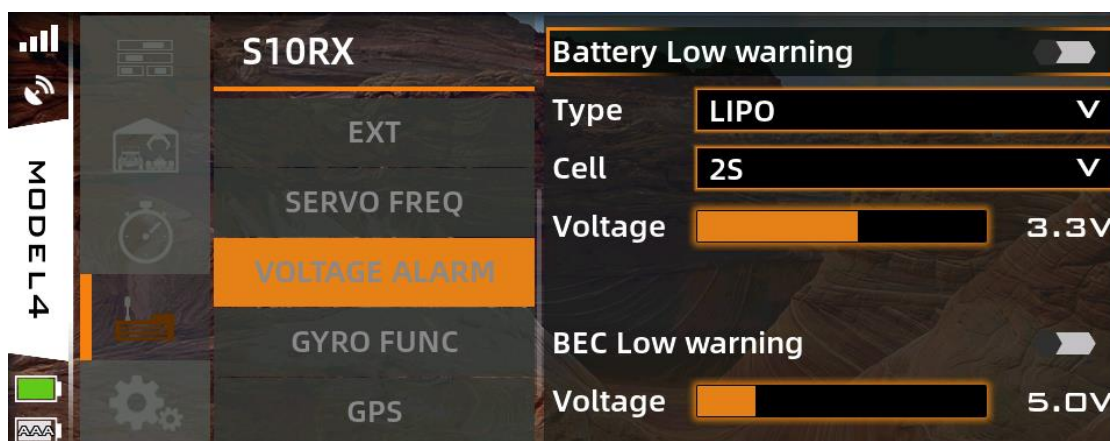
1. **50 Hz:** Suitable for traditional analog servos.
2. **96 Hz:** Suitable for standard digital servos.
3. **384 Hz:** Suitable for high-speed digital servos.

Channel Configuration Method:

- **CH1~CH4:** The frequency for each of these channels can be set individually.
- **CH5~CH10:** The frequency for these channels can be set uniformly as a group.

 DANGER	Before proceeding with the settings, you must confirm that the servo(s) you are using support the selected frequency. Using an incompatible frequency may cause the servo to malfunction, overheat, or even be damaged.
---	---

7.5 Low Voltage Alarm



When the transmitter and receiver are connected normally, the receiver transmits the model's power battery voltage and BEC output voltage back in real time. Users can set alarm thresholds for these two voltages separately in the Receiver → Voltage Alarm menu.

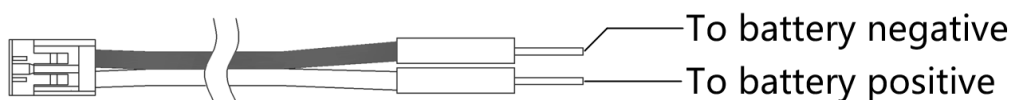
7.5.1 Battery Low Warning

When the Battery Low Warning function is enabled and the monitored power battery voltage falls below the set threshold, the transmitter will trigger a periodic alarm: the interface displays a "Drive Battery Low" warning, accompanied by simultaneous vibration and voice alerts.

Voltage Monitoring Connection Method:

The receiver must be connected to the power battery via a BVD (Battery Voltage Detector) cable to enable voltage telemetry. Insert one end of the BVD cable into the BVD port on the receiver, and plug the other end's connector into the balance port of the

power battery. After connection, verify that the transmitter interface correctly displays the power battery voltage.



Function Settings:

- The master switch for the Battery Low Voltage Alarm enables or disables this function.
- The alarm system supports two battery types:
 - **LIPO (Lithium Battery):** Requires setting the number of cells and the alarm voltage per cell.
 - **NiMH (Nickel-Metal Hydride Battery):** Directly set the alarm threshold for the total voltage of the battery pack.

 NOTE	• Ensure that a reliable common ground connection exists between the monitored battery and the receiver. Failure to establish a proper shared ground will result in severely inaccurate voltage readings.
---	---

7.5.2 BEC Low Warning

This function is used to monitor the receiver's power supply voltage (typically sourced from the ESC's BEC). An abnormal drop in BEC voltage may indicate that the power battery is depleted or that there is a fault in the vehicle's electrical system, requiring prompt inspection.

- **Function Switch:** The BEC Low Warning master switch enables or disables this function.
- **Alarm Trigger:** When the BEC supply voltage falls below the set threshold, the transmitter will periodically display a "BEC Voltage is Low" warning and simultaneously activate vibration and voice alerts.

7.6 Gyro Function



The S10RX receiver features a built-in 6-axis gyroscope sensor that can collect the vehicle's acceleration and angular rate data in real time and calculate its operating attitude information based on this data. All sensor data will be transmitted back to the transmitter interface in real time for display and monitoring.

7.6.1 Gyro Calibration

Step 1: Securely Mount the Receiver

- **Core Requirement:** The receiver must be firmly installed onto the main chassis of the vehicle.
- **Critical Importance:** Any movement, vibration, or displacement of the receiver during high-speed operation will severely degrade gyro performance, causing all gyro-dependent functions (such as attitude calculation and stabilization) to fail or behave erratically.

Step 2: Perform Gyro Calibration

After the receiver is installed on the vehicle, gyro calibration must be performed to eliminate data errors and allow the system to learn the receiver's mounting orientation.

Please follow this procedure:

1. **Preparation:**
 - Ensure the vehicle is **stationary** and **level**.
 - Confirm the transmitter and receiver are successfully bound and have a normal connection.
2. **Initiate Calibration:**
 - In the transmitter menu, navigate to **Receiver** → **Gyro FUNC**.
 - Tap the **Gyro Calibration** button at the bottom.
3. **Confirm Level Position:**
 - The transmitter will display a dialog prompt: "Prepare for gyro calibration. Whether the car is flat or not"
 - After confirming the vehicle is stationary and level, tap **Yes** in the dialog box.
4. **Lift the Front:**
 - A new dialog will appear: "**Please lift the front vertically**". Simultaneously, the receiver's LED indicator will enter a "three red flashes followed by one pause" pattern.
 - **Slowly lift** the front of the vehicle until it is nearly vertical.
5. **Complete Calibration:**
 - Calibration is complete when the receiver's red LED **turns off** and the transmitter displays a "Calibration Successful" dialog.

Step 3: Verify Calibration Results

- Return to the transmitter's main interface.

- Switch the receiver telemetry display area to **ATTITUDE** or **G-FORCE** mode.
- Observe and confirm that the vehicle **attitude** or **acceleration** data returned by the receiver is accurate and meets expectations.

Note:

- When performing gyro calibration, be sure to disconnect the fan. The continuous vibration generated by the fan can seriously interfere with the gyro's static acquisition environment, easily leading to inaccurate calibration data or calibration failure.
- During daily use, to maximize the accuracy of the gyro and the stability of attitude calculation, install the receiver as far away as possible from high-vibration sources such as fans and motors. It is strongly recommended to attach damping foam or a dedicated anti-vibration pad to the bottom of the receiver to effectively filter high-frequency vibrations and ensure the gyro maintains precise and reliable performance over long-term operation.

7.6.2 Gyro Stabilization Control

The receiver supports a gyro-based vehicle stabilization control mode. In this mode, the system performs corrective steering assistance based on real-time attitude data, effectively enhancing driving stability and suppressing unintended oversteer or excessive rotation.

Users can configure the following settings in the **Receiver** → **Gyro Function** menu:

- **Mode Switch:** Enable or disable the stabilization function in the Mode dropdown menu. Once enabled, adjust the Gain parameter to match different surfaces and driving styles.
- **Gyro Reverse (Gyro Rev):** This switch controls the direction of the stabilization effect. When enabled, the direction of the gyro's corrective steering adjustment will be reversed.
- **Steering Priority:**
 - **Off:** The gyro's stabilization adjustment is applied independently of the steering wheel position, maintaining the set assistance strength at all times.
 - **On:** As the steering wheel input increases, the gyro's stabilization effect **gradually decreases until it turns off**. This returns more control to the driver, suitable for scenarios requiring intentional drifts or rapid directional changes.

Quick Operation Support:

- **Function Switch:** Enabling/disabling the stabilization mode can be mapped to a **SW button**, allowing for quick toggling while driving.
- **Gain Adjustment:** The stabilization gain parameter can be mapped to a **VR knob** or **TRM button**, facilitating real-time fine-tuning of the control response.

7.6.3 Main Screen Telemetry Selection



In the Display dropdown menu, you can select whether the main interface's receiver information area shows Attitude or Acceleration data.

Default Settings by Model Type:

- **Crawler:** Defaults to displaying **Attitude**.
- **Electric Car, Nitro Car, Custom Model:** Default to displaying **Acceleration**.

Operation Tip:

When the interface is displaying acceleration information, pressing the Back button will clear the currently recorded historical maximum acceleration values, allowing you to start a new round of data recording and statistics.

7.6.4 Attitude Overrun Alarm



In the Receiver → Gyro Function menu, you can enable the Attitude Limit Monitoring feature. After turning on this alarm switch, if the vehicle's roll or pitch angle during operation exceeds a preset threshold, the S10 transmitter will periodically display a visual warning and trigger a voice prompt. This alerts the user that the vehicle may be in an extreme attitude or at risk of rolling over.

7.7 GPS



The S10RX receiver supports an external GPS module, which must be connected via the EXT port on the receiver. Once successfully connected, the system can acquire and display the following information: 1) GPS connection status; 2) Number of satellites in view; 3) Current time; 4) Latitude and longitude coordinates; 5) Real-time speed; 6) Maximum speed; 7) Heading Angle; 8) Altitude. Among these, the real-time speed and maximum speed can be prominently displayed in the main interface's receiver telemetry information area.

Usage Notes:

- Please use the GPS function in **open outdoor areas** to ensure signal quality. Indoor use or environments with severe obstructions may cause positioning failure or reduced accuracy.
- In a **cold start state** (powered on after being off for an extended period), the GPS module typically requires approximately 1 minute to acquire its first fix.

7.8 Updating Receiver Firmware

Users can update the receiver's firmware via WI-FI in the Receiver → Receiver OTA menu to access the latest features. The specific process is as follows:

1. Ensure a stable connection between the transmitter and receiver (indicated by a solid blue LED on the receiver). Navigate to the Receiver → Receiver OTA menu and tap the Search button in the upper right corner to scan for available WI-FI networks. (Note: The S10 transmitter does not support WI-FI network names (SSIDs) that contain Chinese characters.)



- After the WI-Fi hotspot search succeeds, select the target network from the WI-Fi dropdown list. If it is a hotspot you have successfully connected to before, the system will connect automatically; otherwise, you will need to enter the WI-Fi password.



- After successfully connecting to the WI-Fi, tap the "Upgrade" button in the lower-left corner. The system will automatically compare the firmware versions on the server and locally, and a confirmation pop-up will appear.
- After tapping "Yes", the interface will prompt "Please press the receiver's button." At this point, the receiver's blue LED will be solid, and its red LED will flash in a pattern of two flashes followed by one pause.
- Press the receiver's button. The firmware upgrade will begin. The receiver's red and blue LEDs will flash alternately, and the progress bar on the interface will update synchronously.
- Once the progress bar is complete, an "Rx update s uccessful" message will appear. The receiver will automatically restart. After restarting, a solid blue LED indicates that the upgrade is complete and the connection is normal.

 NOTE	Receiver OTA updates rely on a stable WI-Fi connection. If the update process fails, it is usually caused by an unstable network. Please try the operation again, or retry after switching to a more stable network environment.
---	--

7.9 Receiver Recovery

When the receiver powers on with its blue LED off and its red LED flashing in a "two flashes followed by one pause" cycle, it

indicates that the device has encountered an error and has entered Recovery Mode. In this state, you can attempt to repair it using the Receiver OTA function. If you encounter other unknown errors, you can also manually force entry into Recovery Mode: Hold down the receiver's button and then power it on. Keep holding the button after the blue LED turns off and the red LED remains solidly lit. Continue holding the button for approximately 10 seconds, until the red LED changes to the "two flashes followed by one pause" cycle. This indicates successful entry into Recovery Mode. You can then proceed to perform the firmware recovery operation.

Receiver Recovery Procedure:

1. With the receiver in Recovery Mode (indicated by the blue LED being off and the red LED flashing in a "two flashes, one pause" cycle), navigate to the Receiver → Receiver OTA menu on the transmitter. Tap the Search button in the upper right corner to scan for available WI-FI networks. (Note: The S10 transmitter does not support WI-FI network names (SSIDs) that contain Chinese characters.)



2. Once the WI-FI hotspot scan is successful, select the target network from the WI-FI dropdown list. If it is a hotspot you have successfully connected to before, the connection will proceed automatically; otherwise, you will need to enter the WI-FI password.
3. After successfully connecting to WI-FI, tap the Receiver Upgrade button in the lower-left corner. The system will display a pop-up message: "Receiver not connected. Are you sure you want update the receiver?".
4. After tapping Yes, the interface will prompt: "Please press the receiver's button".
5. Press the receiver's button. The firmware upgrade will begin. The receiver's red and blue LEDs will flash alternately, and the progress bar on the interface will update synchronously.
6. Once the progress bar is complete, an "Rx update successful" message will appear. The receiver will then automatically restart.



NOTE

- Receiver OTA updates rely on a stable WI-FI connection. If the update process fails, it is usually caused by an unstable network. Please try the operation again, or retry after switching to a more stable network environment.

8 System Settings

8.1 Calibration



When you notice that the steering wheel, throttle trigger, or VR knob has an inaccurate physical center position, exhibits dead play, or does not reach its full travel range, you can use the System → Calibration function to perform hardware calibration on the transmitter, restoring precise control feel.

If the real-time output indicator for the ST (Steering) or TH (Throttle) channel on the transmitter screen is not at the center position, and all trim settings have been zeroed, this usually indicates that the internal sensors require calibration. In this case, please prioritize performing the stick calibration procedure.

Operation Steps:

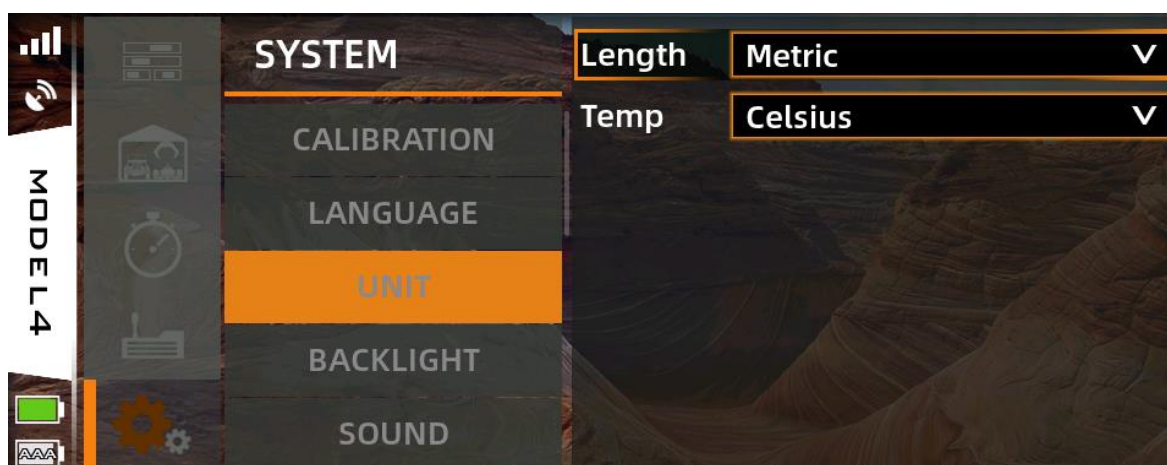
1. Move the **steering wheel** and **throttle trigger** through their full travel to the left/right and forward/backward limits respectively, then allow them to return naturally to their center positions.
2. Rotate the **VR knob** clockwise and counterclockwise to its extreme positions at both ends, then manually turn it back to the middle.
3. Press the scroll wheel. The screen will display a "Calibration OK" prompt and automatically exit the menu, completing the calibration.

8.2 Language



In the System → Language menu, you can switch the system language between Chinese and English.

8.3 Units



In the System → Unit menu, you can change the units of measurement for length and temperature used by the system.

- **Length:** You can choose between Metric (km/h) and Imperial (MPH). The system default is Metric.
- **Temperature:** You can choose between Celsius (°C) and Fahrenheit (°F). The system default is Celsius.

8.4 Backlight Adjustment

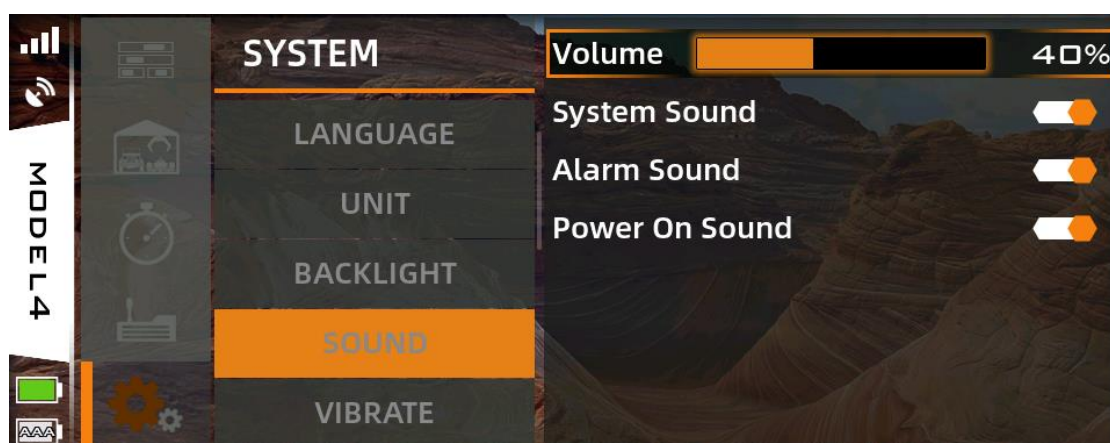


In the System → Backlight menu, you can configure the backlight parameters for the transmitter's screen.

- **Maximum Brightness:** Sets the highest brightness level for the screen backlight.
- **Minimum Brightness:** Sets the lowest brightness level for the screen backlight.
- **Backlight Delay:** Sets the idle time before the screen switches from maximum brightness to minimum brightness after no operation. Options include 5 seconds, 10 seconds, 30 seconds, 1 minute, or 2 minutes.

NOTE: Backlight brightness and delay settings directly affect battery life. Longer delays or higher brightness levels will increase power consumption and shorten usage time.

8.5 Sound



In the System → Sound menu, users can customize the on/off status of various prompt tones and the system master volume to suit different usage environments.

- **Volume:** Adjusts the overall output level for all prompt tones.
- **System Sound:** Enables or disables general interactive sound effects for interface operations and menu navigation.

- Alarm Sound: Enables or disables alert tones for various alarms and reminders.
- Power-on Sound: Enables or disables the welcome sound effect when the device starts up.

8.6 Vibration



In the System → Vibrate menu, users can customize the intensity and on/off status of various haptic feedback according to personal preference and environmental conditions.

- Level: Sets the intensity level of the vibration motor, with Low, Medium, and High options available.
- System Vibration: Enables or disables vibration feedback for interface operations and menu navigation.
- Alarm Vibration: Enables or disables vibration alerts for various alarms and reminders.

8.7 LED



In the System → LED menu, you can configure the display mode of the LED light strip and the flashlight function.

LED Light Strip

The transmitter's ambient LED strip supports the following operating states:

1. Normal Display Mode:

- **Solid Color:** You can choose one of **5 preset colors** as the constant light color during normal operation.
- **Off:** Turns off the ambient light to save power.

2. Charging Status Indication:

When the device is connected to a charger, the LEDs automatically switch to a breathing light effect to visually indicate charging status.

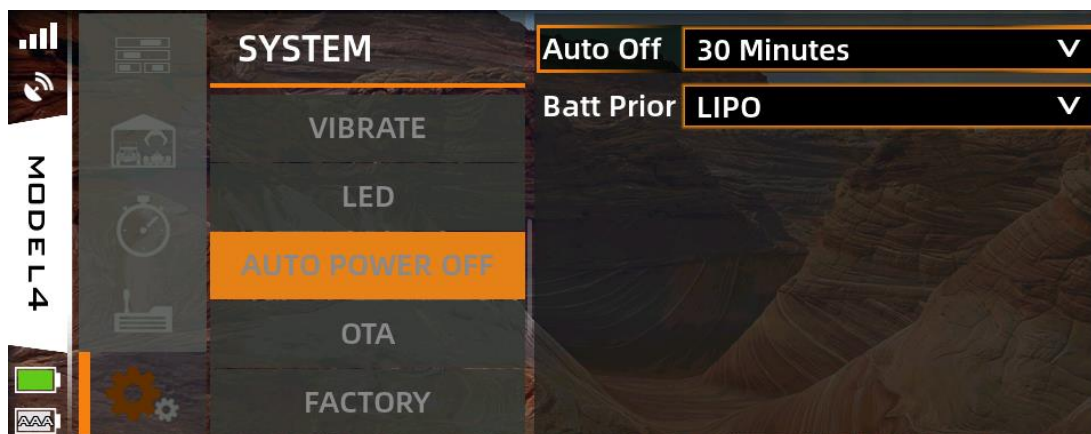
3. Low Battery Warning:

When the device's battery level falls below a safety threshold, the LEDs automatically switch to red to issue a low-battery warning.

Flashlight

- The flashlight at the front of the transmitter can be directly turned on or off via a menu switch.
- The flashlight supports quick on/off by **double-clicking** the power button.
- The flashlight function can only be activated normally when the device's battery level is above 30%. It is automatically disabled when the battery is low.

8.8 Auto Power Off



To optimize battery life and avoid over-discharge, the system will automatically shut down after a period of inactivity.

Users can set the idle time before automatic shutdown in the System → Auto Power Off menu. Options include: 5 minutes, 15 minutes, 30 minutes, or Never (Off).

8.9 Battery Priority Setting

The S10 transmitter features a dual-battery system designed to provide flexible power supply assurance. A built-in 1S lithium battery is housed in the grip, while the base battery compartment can accommodate 4 AAA batteries.

Under the default setting, the system prioritizes using the built-in lithium battery for power. Users can decide whether to install AAA batteries as a backup power source based on their actual needs. AAA batteries can be installed or replaced while the transmitter is powered on, facilitating a quick extension of usage time when the lithium battery cannot be charged.

Users can configure the battery usage priority in the System → Auto Power Off → Battery Priority (Batt Prior) menu, freely setting whether to prioritize the lithium battery or the AAA batteries. When the voltage of the prioritized battery becomes insufficient, the system will automatically and seamlessly switch to the backup battery, ensuring continuous and uninterrupted power supply.

8.10 Firmware Update (OTA)

Users can update the firmware of the S10 transmitter via WI-FI in the System → OTA menu to access the latest features.

Preparation for Update:

- Ensure the battery level is not below 30%, and do not cut power during the update process.
- Maintain a stable network connection during the update. It is recommended to stay close to the WI-FI signal source.
- The device does not support connecting to WI-FI networks with names containing Chinese characters.

OTA Update Procedure:

1. Tap the "Search" button in the upper right corner to scan for available WI-FI networks.



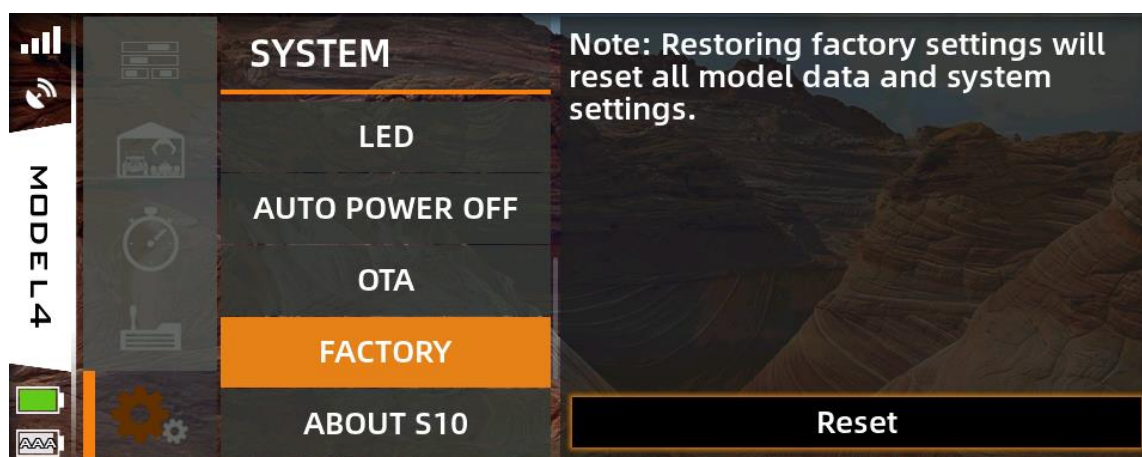
2. Once the WI-FI hotspot search is successful, select the target network from the "WI-FI" dropdown list. If it is a hotspot that was successfully connected to previously, the connection will proceed automatically; otherwise, you will need to enter the WI-FI password.
3. After successfully connecting, tap the "Upgrade" button in the lower-left corner. The system will automatically compare the versions of the Core and RF programs on the server and the local device, and a confirmation prompt for the upgrade will appear.
4. After clicking "Yes", the transmitter will begin the main controller upgrade (the screen may experience brief flickering during this process, which is normal).

5. After the main controller upgrade is complete, the device will automatically restart and proceed to complete the RF program upgrade.
6. Once all upgrades are finished, the transmitter will restart again and boot up normally.

Friendly Reminder: The OTA update process **does not** erase saved model settings or user data. You can proceed with confidence.

 NOTE	Firmware OTA updates rely on a stable WI-FI connection. If the update process fails, it is usually caused by an unstable network. Please try the operation again, or retry after switching to a more stable network environment.
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8.11 Factory Reset



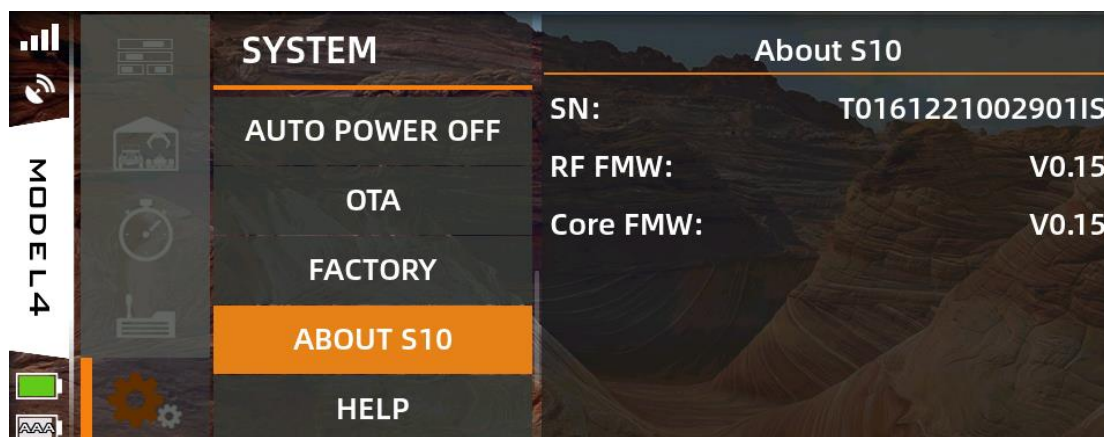
This function erases all user settings and data, restoring the transmitter to its factory default state.

Operation Steps:

1. Navigate to the System → Factory menu.
2. Tap the Reset button at the bottom of the interface.
3. Select Yes in the confirmation pop-up window. The system will immediately perform the reset operation.

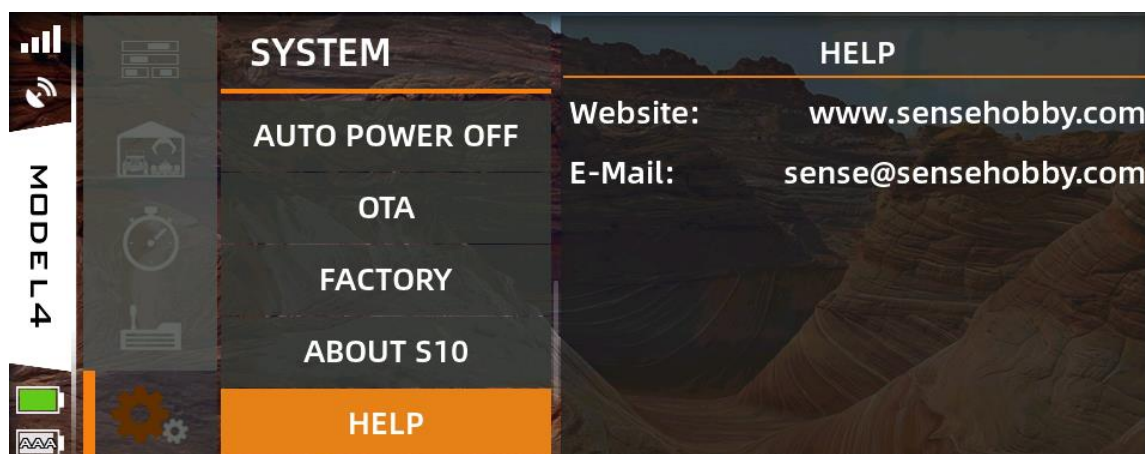
 WARNING	- This operation will permanently erase all model files, system settings, and user configurations, and cannot be undone. - To avoid accidental data loss, please use this function carefully when not in operation.
---	--

8.12 About S10



In the System → About S10 menu, you can view product information such as the serial number, Core version, and RF firmware version.

8.13 Help



In the System → Help menu, you can find the official SenseHobby website and the after-sales support email address. If you encounter any usage issues, product malfunctions, or have feature suggestions, you can contact us via this email for assistance.

9 Product Specifications

This chapter contains the specifications for the S10 Transmitter and S10RX Receiver.

9.1 Transmitter Specifications

Model	S10
Compatible Receiver	S10RX
Compatible Models	Car, Boat
Number of Channels	10
RF Frequency	2403 MHz - 2480 MHz
Transmit Power	<100mW
Wireless Protocol	SFHD-SD
Low Voltage Alarm	LiPO: 3.3 V; AAA: 4.25 V
Data Interface	USB Type-C
Charging Interface	USB Type-C
Antenna Type	Built-in Single Antenna
Display	3.13-inch, 376 x 960 full-dot matrix IPS screen
Channel Resolution	4096
Input Power	1S 2600mAh LiPo Battery + 4x AAA Batteries
Control Range	>200m (open, unobstructed ground distance)
OTA Update	Supported
Operating Temperature	-10°C ~ +60°C
Operating Humidity	20% ~ 95% RH
Dimensions	128 x 101 x 188 mm
Weight (without batteries)	370g
Certifications	CE-RED, FCC-ID, RoHS

9.2 Receiver Specifications

Model	S10RX
PWM Channels	10
RF Frequency	2403 MHz - 2480 MHz
Wireless Protocol	SFHD-SD
Compatible	S10

Transmitter	
Antenna Type	External Single Antenna
Operating Voltage	5 - 9 V DC
Data Output	PWM / PPM
Operating Temperature	-10°C ~ +60°C
Operating Humidity	20% ~ 95% RH
OTA Update	Supported
Dimensions	34.5 x 26 x 13.6 mm
Weight	10g
Certifications	CE-RED, FCC ID, RoHS

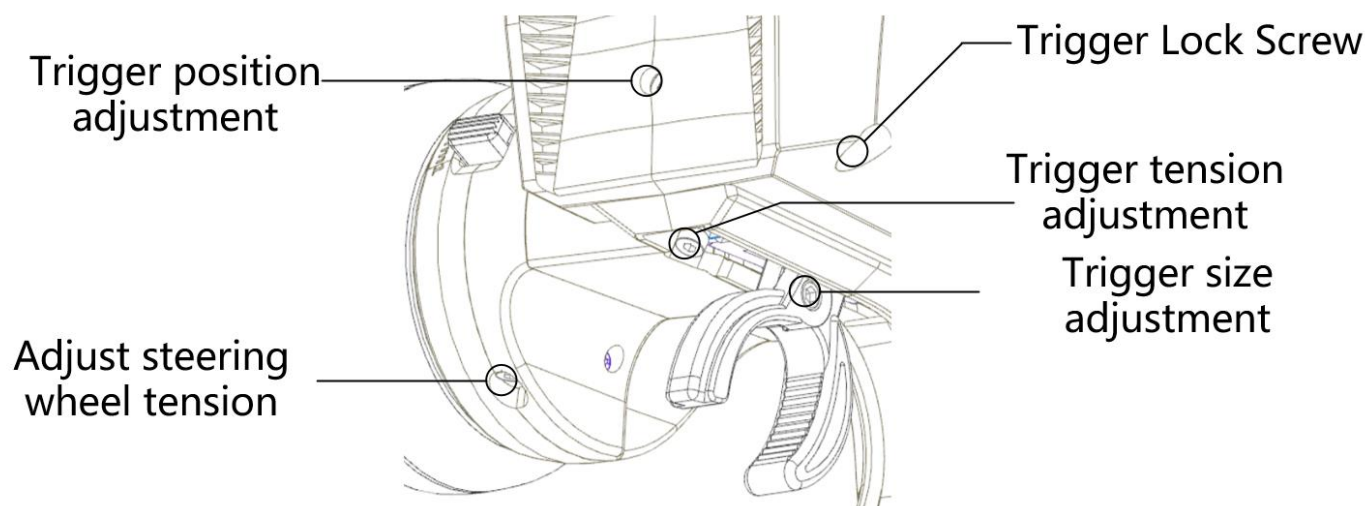
10 Packing List

Accessories included may vary depending on the product version. For specific details, please consult your dealer.

S10 Transmitter X1	S10RX Receiver X1
Quick Start Guide X1	18650 Lithium Battery (Pre-installed) x1
Type-C USB Cable x1	Small Size Silicone Grip (Pre-installed) x1
BVD (Battery Voltage Detector) Cable x1	Medium Size Silicone Grip x1
Wrist Strap x1	Receiver Antenna Protector x2

11 Documentation

11.1 Transmitter Grip Adjustment



1. Trigger Position Adjustment

- **Function Description:** This adjustment changes the overall fore/aft position of the trigger assembly within the transmitter, altering the straight-line distance between the **trigger contact point and the hand rest**.
- **Adjustment Effect:**
 - **Moving it farther away:** Better suited for users with larger hands or those who prefer to operate with their fingers extended.
 - **Moving it closer:** Better suited for users with smaller hands or those who prefer to operate with their fingers curled.
- **Operation Note:** Before making this adjustment, you must loosen **the trigger lock screw**. After adjusting the distance to the desired position, ensure you securely re-tighten the lock screw to guarantee the stability and safety of the trigger assembly during operation.

2. Trigger Size Adjustment

- **Function Description:** This adjustment directly changes the degree to which the **trigger itself (the ring structure for your finger)** is spread open or closed.
- **Adjustment Effect:**
 - **Increasing the opening:** Makes the trigger ring wider, suitable for users with thicker fingers or those operating with gloves, preventing a pinching sensation.
 - **Decreasing the opening:** Makes the trigger ring narrower, allowing for a tighter fit with slender fingers and

providing a more focused and precise control feel.

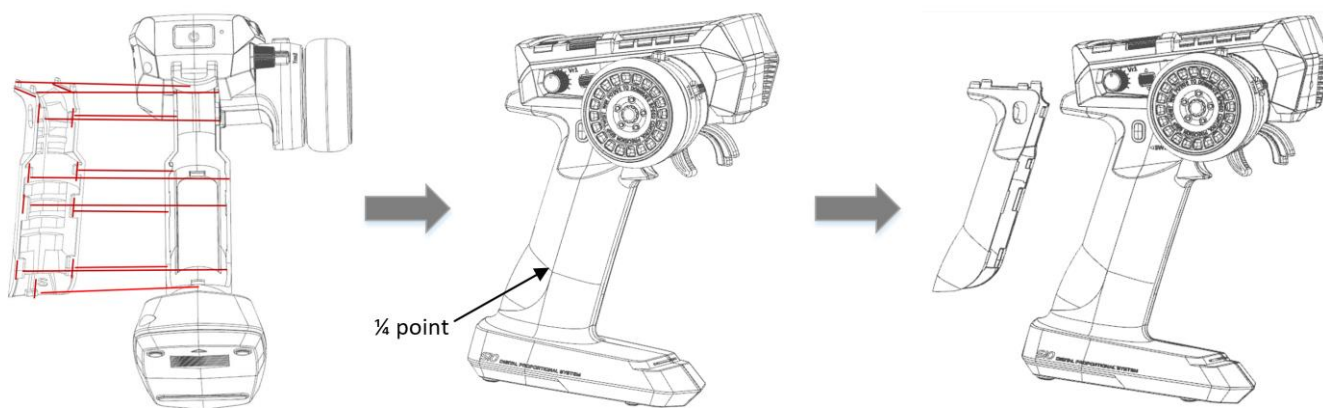
3. Steering Wheel Tension Adjustment

- **Function Description:** This adjustment changes the centering force of the steering wheel's rotary axis.
- **Adjustment Effect:**
 - **Tightening it:** Increases the wheel's centering force. The steering feels more substantial and “elastic” with quicker and more precise return-to-center. Suitable for high-speed driving, effectively suppressing vehicle wobble.
 - **Loosening it:** Decreases the wheel's centering force. The wheel turns more lightly and smoothly with less operational resistance. Suitable for long driving sessions or situations requiring frequent, rapid steering inputs (like off-road or crawling), helping to reduce hand fatigue.

4. Trigger Tension Adjustment

- **Function Description:** This adjustment changes the amount of force required to press the throttle trigger.
- **Adjustment Effect:**
 - **Tightening it:** Increases the force needed to press the trigger. This effectively prevents accidental throttle input caused by minor hand tremors, making throttle control more stable.
 - **Loosening it:** Makes pressing the trigger less strenuous and more responsive. This reduces finger fatigue during prolonged operation and is suitable for scenarios requiring frequent throttle adjustments.

11.2 Grip Cover Removal Instructions

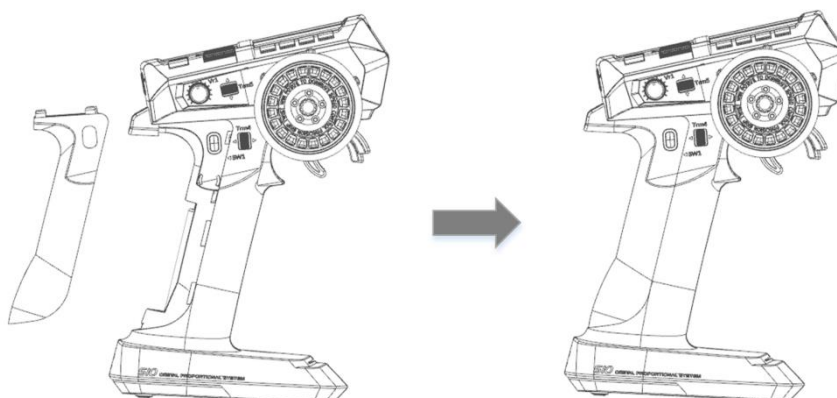


1. Locate all 11 clips

2. Starting from the 1/4 point of the grip cover, pry open the middle clip. Then, work your way around to detach the remaining clips one by one

3. The entire grip cover will then naturally detach and can be removed

11.3 Grip Cover Installation Instructions



1. Align the 11 clips of the grip cover with their corresponding positions on the handle

2. Slide the grip cover onto the handle. Using your thumb, press down on each of the 11 clip locations, applying gradually increasing pressure until the edge of the grip cover is fully and evenly seated against the plastic housing

12 Disclaimer

Functionality and Performance: The software of Sense Innovations' products is subject to continuous updates. Accordingly, product features, performance parameters, and the user interface may be adjusted. All product descriptions, specifications, and images are for reference only and may not reflect the latest changes. The actual product and the latest version of the manual shall prevail. **Sense Innovations** reserves the right to interpret all such changes.

User Responsibility: Users must operate this product in a safe, legal, and appropriate environment. **Sense Innovations and its affiliates shall not be liable** for any direct or indirect personal injury, property damage, third-party claims, or legal disputes arising from the user's failure to comply with these safety guidelines, any form of unauthorized modification, improper operation, negligence, or use of the product in an unsuitable environment.

Compliance: Users are solely responsible for understanding and strictly complying with all applicable laws and regulations in their country, region, and city regarding radio frequency usage, model operation, public safety, and environmental protection. Users shall independently bear any administrative penalties, legal proceedings, and associated liabilities resulting from their non-compliant operation.

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