ABSIMA

Digital proportional radio control system

INSTRUCTION MANUAL

CR4T Ultimate

Digital proportional radio control system

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Absima GmbH

WARNING:
This product is only for 15 years old or above

15+

CE 0678 FC

2.4GHz AFHDS 2A

Thank you for purchasing our product, an ideal radio system for beginners or experienced users alike.

Read this manual carefully before operation in order to ensure your safety, and the safety of others or the safe operation of your system.

If you encounter any problem during use, refer to this manual first. If the problem persists, contact your local dealer or visit our website for help:

www.absima.com

Table of Contents

1. Safety

1.1 Safety Symbols

Pay close attention to the following symbols and their meanings. Failure to follow these warnings could cause damage, injury or death.

⚠️ **Danger**	•	**Not following these instructions may lead to serious injuries or death.**
⚠️ **Warning**	•	**Not following these instructions may lead to major injuries.**
⚠️ **Attention**	•	**Not following these instructions may lead to minor injuries.**

1.2 Safety Guide

🚫 Prohibited	❗ Mandatory

🚫	• **Do not use the product at night or in bad weather like rain or thunderstorm. It can cause erratic operation or loss of control.**
	• **Do not use the product when visibility is limited.**
	• **Do not use the product on rain or snow days. Any exposure to moisture (water or snow) may cause erratic operation or loss of control.**
	• **Interference may cause loss of control. To ensure the safety of you and others, do not operate in the following places:**
	• Near any site where other radio control activity may occur
	• Near power lines or communication broadcasting antennas
	• Near people or roads
	• On any pond when passenger boats are present
	• **Do not use this product when you are tired, uncomfortable, or under the influence of alcohol or drugs. Doing so may cause serious injury to yourself or others.**
	• **The 2.4GHz radio band is limited to line of sight. Always keep your model in sight as a large object can block the RF signal and lead to loss of control.**
	• **Never grip the transmitter antenna during operation. It significantly degrades signal quality and strength and may cause loss of control.**
	• **Do not touch any part of the model that may generate heat during operation, or immediately after use. The engine, motor or speed control, may be very hot and can cause serious burns.**

- **Misuse of this product may lead to serious injury or death. To ensure the safety of you and your equipment, read this manual and follow the instructions.**
- **Make sure the product is properly installed in your model. Failure to do so may result in serious injury.**
- **Make sure to disconnect the receiver battery before turning off the transmitter. Failure to do so may lead to unintended operation and cause an accident.**
- **Ensure that all motors operate in the correct direction. If not, adjust the direction first.**
- **Make sure the model flies within a certain distance. Otherwise, it would cause loss of control.**

2. Introduction

The CR4T Ultimate transmitter and R4WP receiver constitute a 4-channel 2.4GHz AFHDS 2A digital proportional computerized R/C system. It is compatible with cars and boats.

2.1 System Features

The AFHDS 2A (Automatic Frequency Hopping Digital System Second Generation) developed is specially developed for all radio control models. Offering superior protection against interference while maintaining lower power consumption and high reliable receiver sensitivity, AFHDS technology is considered to be one of the leaders in the RC market today.

Bidirectional Communication

Capable of sending and receiving data, each transmitter is capable of receiving data from temperature, altitude and many other types of sensors, servo calibration and i-BUS Support.

Multi-channel Hopping Frequency

This systems bandwidth ranges from 2.4055GHz to 2.475GHz. This band is divided in 140 channels. Each transmitter hops between 16 channels (32 for Japanese and Korean versions) in order to reduce interference from other transmitters.

Omni-directional Gain Antenna

The high efficiency Omni-directional high gain antenna cuts down on interference, while using less power and maintaining a strong reliable connection.
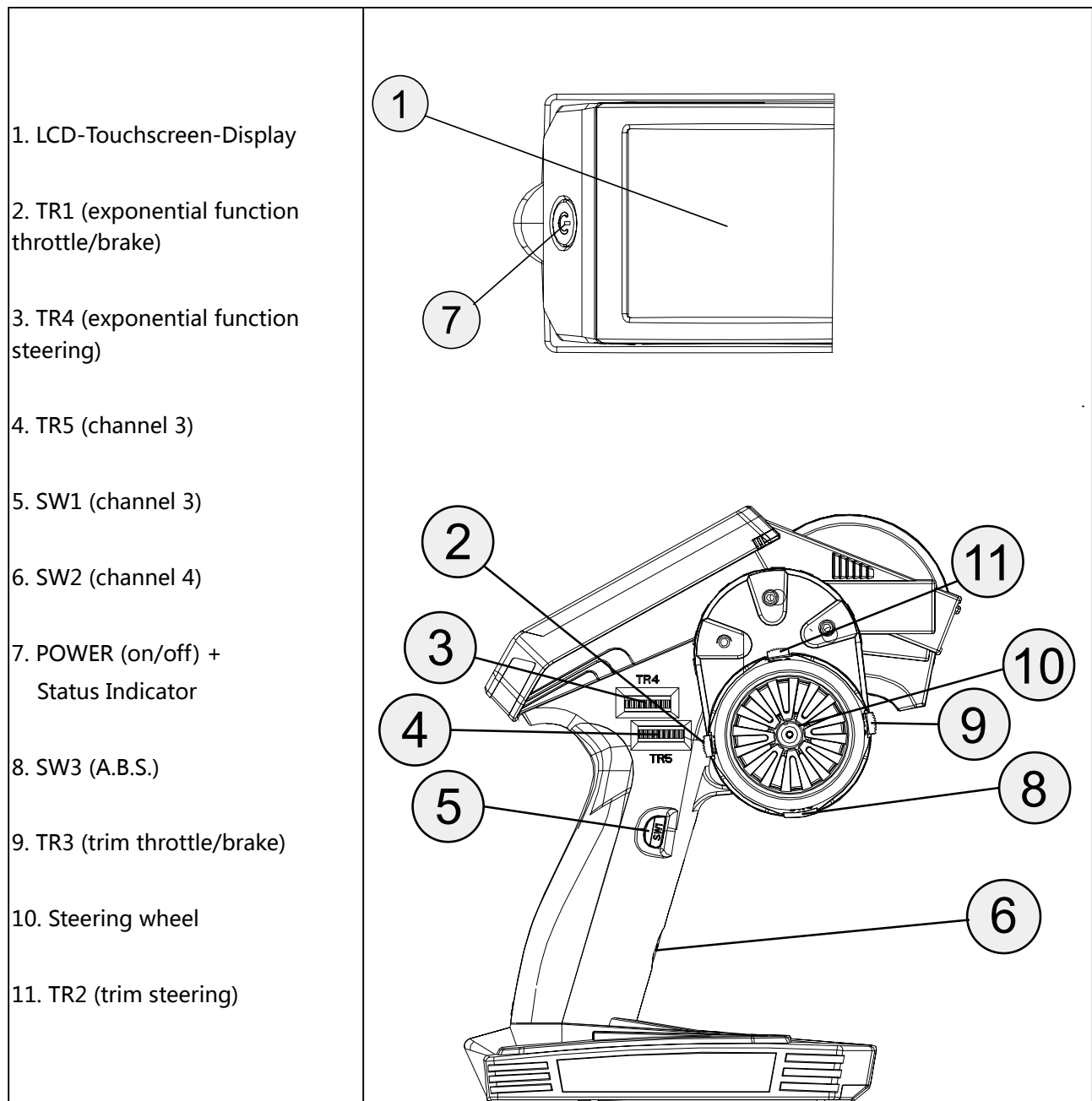
Unique ID Recognition System

Each transmitter and receiver has it's own unique ID. Once the transmitter and receiver have been paired, they will only communicate with each other, preventing other systems accidentally connecting to or interfering with the systems operation.
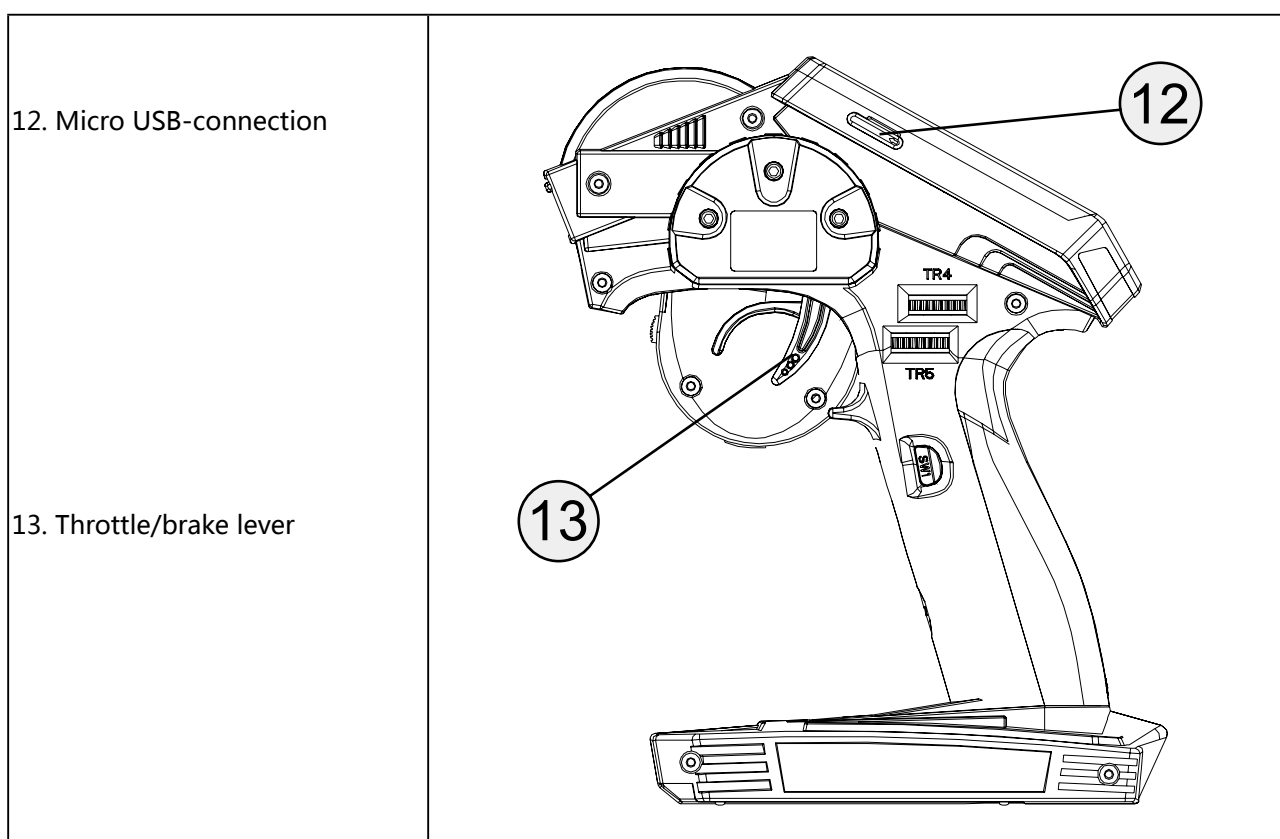
Low Power Consumption

The system is built using highly sensitive low power consumption components, maintaining high receiver sensitivity, while consuming as little as one tenth the power of a standard FM system, dramatically extending battery life.

2.2 Transmitter Overview

1. LCD-Touchscreen-Display

2. TR1 (exponential function throttle/brake)

3. TR4 (exponential function steering)

4. TR5 (channel 3)

5. SW1 (channel 3)

6. SW2 (channel 4)

7. POWER (on/off) + Status Indicator

8. SW3 (A.B.S.)

9. TR3 (trim throttle/brake)

10. Steering wheel

11. TR2 (trim steering)

12. Micro USB-connection 13. Throttle/brake lever	

2.2.1 Transmitter Antenna

Precautions:

- For best signal quality, make sure that the antenna is at about a 90 degree angle to the model. Do not point the antenna directly at the receiver.
- Never grip the transmitter antenna during operation. It significantly degrades the RF signal quality and strength and may cause loss of control.

2.2.2 Wheel and Trigger

The CR4T Ultimate has two main control inputs, the wheel and trigger.

- Wheel: Steering, used to control the direction of the model.
- Trigger: Used for acceleration, braking and reverse.
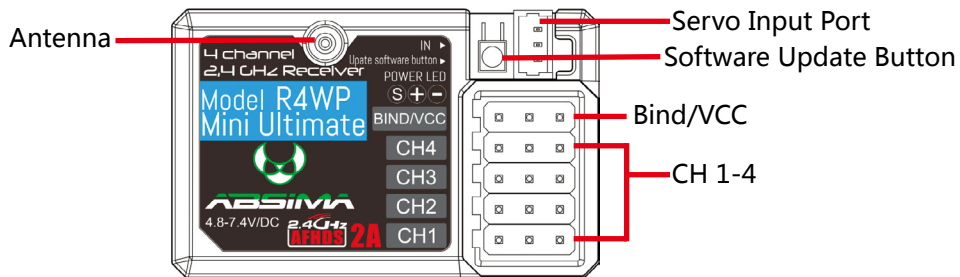
2.2.3 Status Indicator

The status indicator is used to indicate the power and working status of the transmitter.

- Off: the transmitter is powered off.
- Blue light: the transmitter is on and working.
- Flashing: low battery, signal or sensor alarms.

2.2.4 Trims

There are 2 trim switches affecting throttle (TR1), and steering (TR2). Each time a trim is toggled, the trim will move one step. You can hold the trim in the desired direction to make quicker trim adjustments. When the trim is changed the system will beep, becoming higher when going up and lower when going down.

2.3 Receiver Overview

Antenna
Servo Input Port
Software Update Button
Bind/VCC
CH 1-4

2.3.1 Receiver Antenna

⚠️ **Attention**   • **For best signal quality, ensure that the receiver is mounted away from motors or metal parts.**

2.3.2 Status Indicator

The status indicator is used to indicate the power and working status of the receiver.

*   Off: the power is not connected.
*   Lit in red: the receiver is on and working.
*   Flashing quickly: the receiver is binding.
*   Flashing slowly: the bound transmitter is off or signal is lost.

2.3.3 Connectors

The connectors are used to connect the parts of model and the receiver.

*   CH1 to CH4: used to connect the servos, power or other parts.
*   BIND/VCC: used to connect the bind cable for binding, and the power cable during normal operation.
*   SERVO: used to connect i-Bus module and extend channels.
*   SENS: used to connect all kinds of sensors.

2.3.4 USB Simulator Mode

The system may be used as a HID controller when connected to a computer via USB. When connected to a computer the function is activated automatically and will be recognized by windows as a game controller.

To calibrate or test the system in windows:

*   1. Type "RUN" into the search bar and select the program.
*   2. Type "joy.exe" into the "Open:" box and press enter.
*   3. Select the system and open properties within the game controller menu.

    *   Note: any changes made to trims within the system will take effect in the USB mode. If the system is not responding as expected, reset to factory settings in the system menu.

3. Getting Started

Before operation, install the battery and connect the system as instructed below.

3.1 Transmitter Battery Installation

⚠ **Danger** • **Only use specified battery.**

⚠ **Danger** • **Do not open, disassemble, or attempt to repair the battery.**

⚠ **Danger** • **Do not crush/puncture the battery, or short the external contacts.**

⚠ **Danger** • **Do not expose to excessive heat or liquids.**

⚠ **Danger** • **Do not drop the battery or expose to strong shocks or vibrations.**

⚠ **Danger** • **Always store the battery in a cool, dry place.**

⚠ **Danger** • **Do not use the battery if damaged.**

Follow the steps to install the transmitter battery:

1. Open the battery compartment.
2. Insert a fully-charged battery into the compartment. Make sure that the battery makes good contact with the battery compartment's contacts.
3. Replace the battery compartment cover.
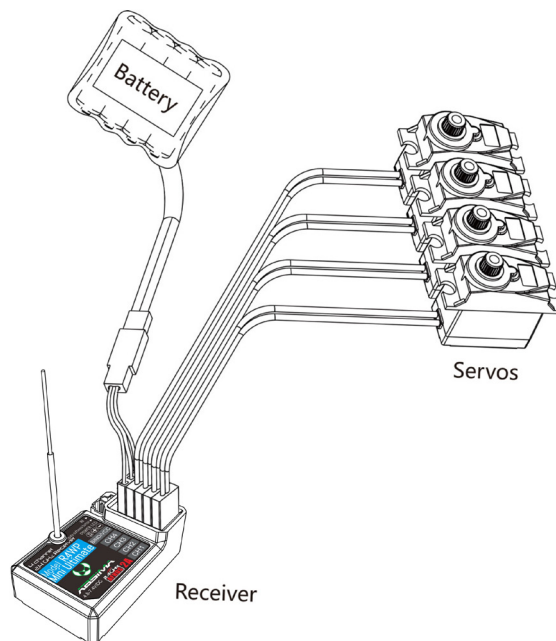
3.2 Connecting the Receiver and Servos

Connect the receiver and the servos as indicated below:
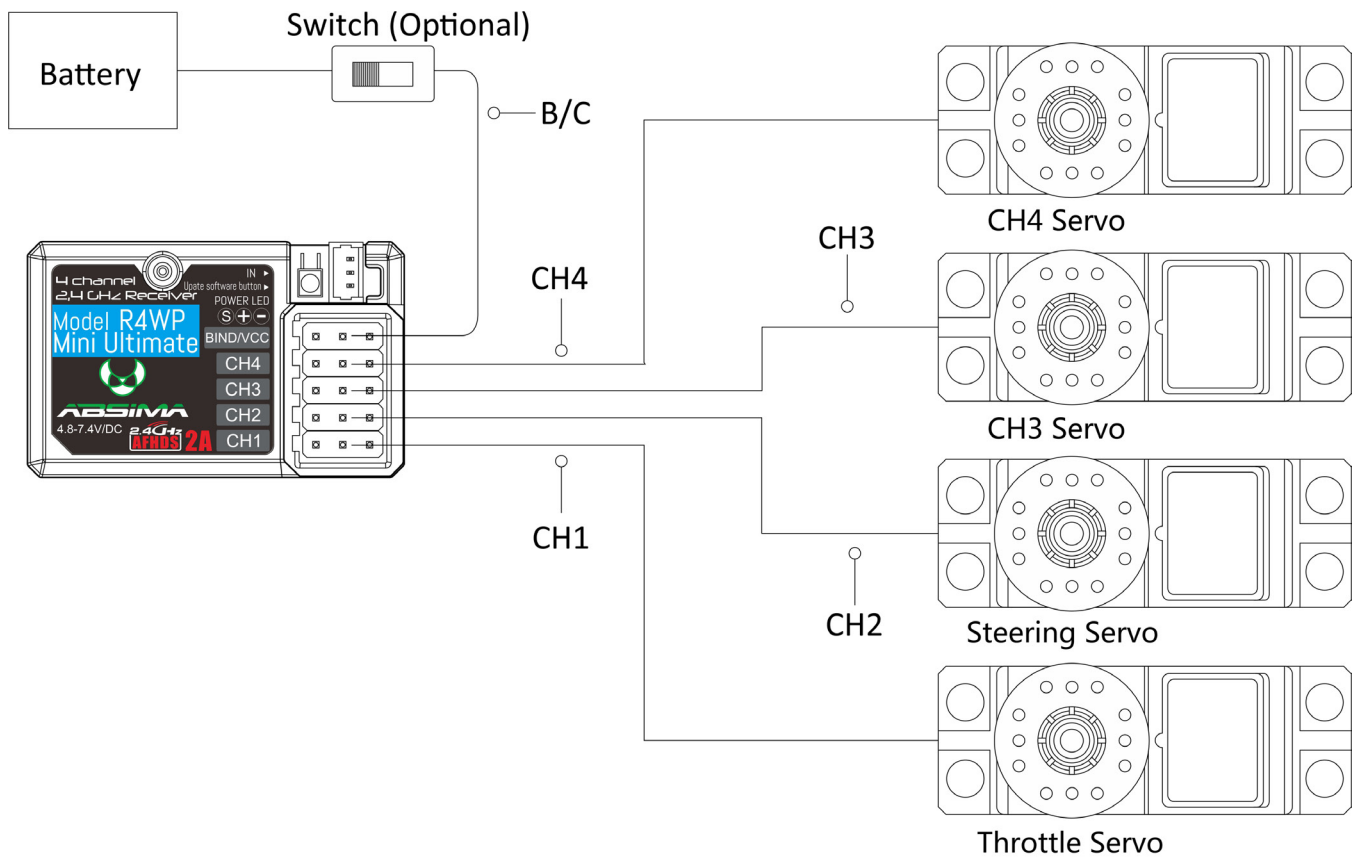
4. Operation Instructions

After setting up, follow the instructions below to operate the system.

4.1 Power On

Follow the steps below to turn on the system:

1. Check the system and make sure that:
   - The battery is fully charged and installed properly.
   - The receiver is off and correctly installed.
2. Hold the power button until screen lights up.
3. Connect the receiver power supply to the **BIND/VCC** port on the receiver.

The system is now powerd on. Operate with caution, or serious injury could result.

4.2 Binding

The transmitter and receiver have been pre-bound before delivery. If you are using another transmitter or receiver, follow the steps below to bind the transmitter and receiver:

1. Turn the transmitter on, press , and swipe from right to left on the screen and then select [**RX Setup**].
2. Check the currect [**RF std**] and receiver type according to the table below. If you need to change the standard, select [**RF std**], and [**Yes**] in the confirmation box, and then the desired standard.
3. Select [**Bind with a receiver**] and press [**Yes**] to enter bind mode.
4. Connect the bind cable to the **BIND/VCC** port of the receiver.
5. Connect the power to any other port. The indicator will start to flash, indicating that the receiver is in bind mode.
   - For [**AFHDS 2A 2-way**], once binding is complete, the transmitter should exit the bind menu automaticlly.
   - For other protocols, select to exit the bind menu.
6. Remove the bind and power cable from the receiver. Then connect the power cable to the **BIND/VCC** port.
7. Check the servos' operation. If anything does not work as expected, restart this procedure from the beginning.

4.3 Pre-use Check

Before operation, perform the following steps to check the system:

1. Check to make sure that all servos and motors are working as expected.
2. Check operating distance: one operator holds the transmitter, and another one moves the model away from the transmitter. Check the model and mark the distance from where the model starts to lose control.

⚠ Danger	•	**Stop operation if any abnormal activity is observed.**
⚠ Danger	•	**Make sure the model does not go out of range.**
⚠ Attention	•	**Sources of interference may affect signal quality.**

4.4 Adjusting Wheel Position

The position of the wheel can be adjusted from the right side to the lift side.

1. Use an allen key to remove the allen screws on each side of the controller.
2. Remove the plastic cover from the left side and the wheel from the right.
3. Put the cover and wheel on the opposite side and retighten the screws.

⚠ **Attention** • **The max rotation is about 45°. Attempting to push beyond the max rotation can cause damage to the transmitter.**

4.5 Trims

Trims allow you to change the centre point of the steering, throttle, channel 3 and 4. For example, if a model that always turns slightly left, the steering trim can be used to correct the problem.

The System has 2 groups of trim switches located behind the steering wheel.

4.6 Power Off

Follow the steps below to turn off the system:

1. Disconnect the receiver power.
2. Hold the transmitter's power button to turn off the transmitter.

⚠ **Danger** • **Make sure to disconnect the receiver power before turning off the transmitter. Failure to do so may lead to damage or serious injury.**
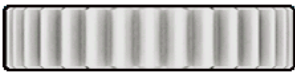
5. Home Screen

The home screen diplays useful information about your model, including sensors and function status etc.

1. Receiver signal

2. Profile

3. Radio contorl battery

4. Receiver battery

5. Receiver status

6. Settings

7. Radio control status

8. Help

9. Main menu
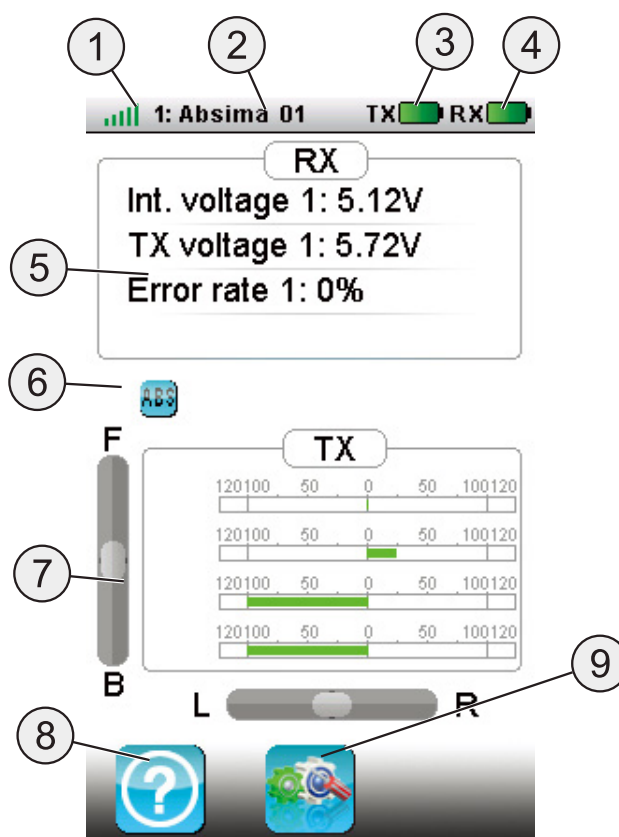
The system's navagation is designed to be easy and quick, using both a stylus and fingers.

| Icon	Function	Discription
	Main Menu	Opens the main menu.
BACK	Back	Returns to the previous menu.
	Activate/Deactivate	Acitivate or deactivate the current function.
	Reset	Resets the current function to its default settings.
	Help	Accesses the onboard help files.
	Control	Changes values within the current function.

6. Function Settings
6.1 Reverse Function

The Reverse function is used to correct a servo or motor's direction in relation to the systems controls. For example, if a steering servo is mounted upside down in order to fit inside a model, when the system's steering wheel is turned, the servo will move in the oppisite direction. To fix this, all we need to do is reverse CH1.

To reverse a channel:

Touch the channel in the list. When reversed, the slider will be at the [**REV**].

Select the [icon] icon to return to the previous menu.

Select the [icon] icon to reset the function.
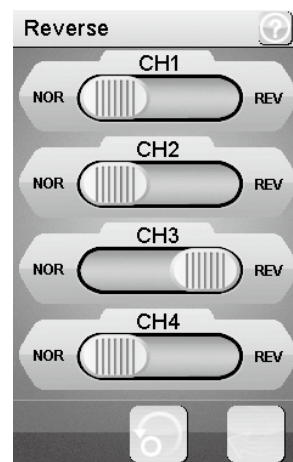
6.2 End Points Function

Endpoints are the limits of the channels' range of movement. There are two endpoints, one is the low endpoint and one is the high end point.

To set an endpoint:

1. Move the desired control surface in the direction you wish to change. The currently selected endpoint will be highlighted in yellow.

2. Touch the channel you wish to change. The setup menu for the selected channel displays.

    *   At the top of the current channel, the selected endpoint and percentage are shown.
    *   The endpoints location is shown as a bar and needle.
    *   The red needle indicates the current setting for the selected side and channel.
    *   A real time readout of the channels position can be seen in this menu as a green bar.

3. Move the wheel at the bottom of the screen left to reduce the value or right to increase the value.

Select the [icon] icon to return to the previous menu.

Select the [icon] icon to reset the function.
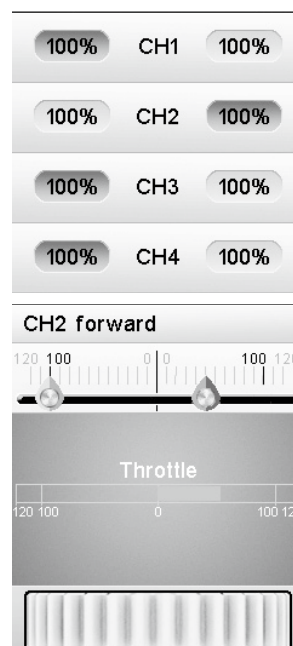
6.3 Subtrim Function

Subtrim changes the center point of the channel. For example, if a car's wheels are slightly out of alignment, the sub trim could be used to fix this.

To set the subtrim function:

1. Select the desired channel from the list. The setup menu for the selected channel displays.
    *   At the top of the current channel, the selected channel and percentage are shown.
    *   The center point location is shown as a bar and needle.
    *   The red needle indicates the current setting for the selected channel.
    *   A real time readout of the channels position can be seen in this menu as a green bar.
2. Move the wheel at the bottom of the screen left to reduce the value or right to increase the value.
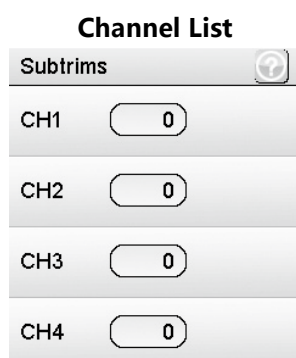3. Select the [BACK] icon to return to the previous menu and save.

*   To restore default settings of a single channel, select the [icon] icon within its subtrim menu.
*   To restore the entire function to default, select the [icon] icon in the channel selection menu.

| Channel List	Subtrim setting and channel's current position

6.4 Steering Exponential

This function changes the steering channel's response curve. There are 2 main parameters:

- Rate: Changes the outer limits of the steering, the default is 100%. Rate cannot be more than 100%.
- Exp. (Exponential): Changes the steering curve, which changes the response of the steering wheel. The exp setting can be positive or negative.

Changes to the rate and exponential can be seen on the graph located in the center of the screen. The system also gives a real-time readout of the channel's current position.

Note:

The system gives a real time readout of the channels position, not the wheels position. The wheel will not correlate with the graph if the rate is under 100% ,or another function like trim has made changes to the channel's movement and/or outer limit.
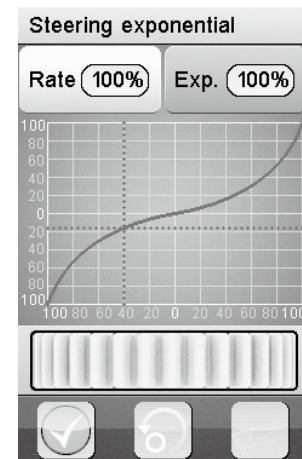
By changing the steering curve we can make the wheel more or less sensitive in different areas of its range of movement, for example, reducing sensitivity at the middle for more control when making fine adjustments.

This function must be set as active before use.

To activate the function, make sure that the ✅ icon is displayed in the bottom left corner. If not, press the 🚫 icon to enable.

6.5 Steering Speed

This function changes the speed in which the steering travels. If the car's wheels are turning too fast, it could lead to loss of control. On the other hand, if they do not change position fast enough, the car will become sluggish and slow to make turns. This function is also used to simulate a realistic for scale models.

There are two variables:

- Turn speed: Sets how quickly the wheels turn from their starting position, to the position the system's control indicates.
- Return speed: Sets how quickly the wheels turn back to their center position.
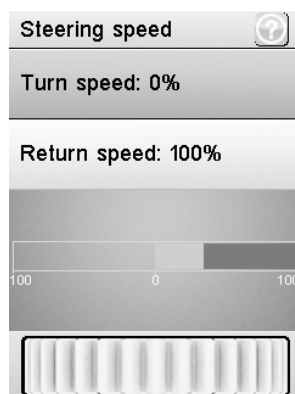
To set the steering speed:

1. Select a parameter to change, [**Turn speed**] or [**Return speed**].
2. Move the wheel at the bottom of the screen left to reduce the value or right to increase the value.

Select the icon to reset the function.

Select the icon to return to the previous menu.

6.6 Steering Mix

This function changes which wheels are involved in steering, front, rear, or 4 wheel steering. It is set to [**Standard**] by default, which means front wheel steering.

If want to change the steering mode, select [**Crawler mode**]. Note that in crawler mode, CH3 cannot be controled independently.

To enable this function, select [**Crawler mode**] from the functions main menu.

6.7 Throttle Neutral

This function sets a "dead zone" for their throttle control, which means that the throttle will not function while still within the dead zone. You can set up the initial amount of throttle that will be applied when the throttle leaves the dead zone, for driving forward and backward separately.

To set the throttle neutral:

1. Select [**Forward**], [**Dead zone**] or [**Backward**].
2. Move the wheel at the bottom of the screen left to reduce the value or right to increase the value.
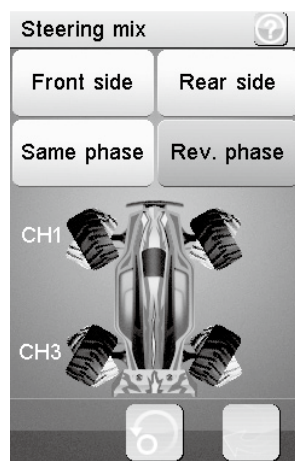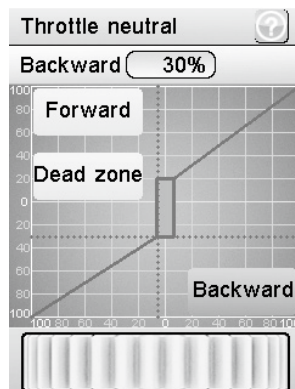
Select the [ ] icon to reset the function.

Select the [ ] icon to return to the previous menu.

6.8 Throttle Exponential

This function has two variables:

- Rate: Reducing the rate shrinks the outer limits of the curve. As the rate drops below 100%, the graph will update in real-time. The maximum is 100%.
- Exp. (Exponential): Exponential adds curve. It is possible to move to +-100% creating opposite curves.
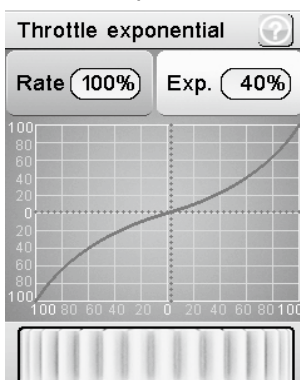
Select the [ ] icon to reset the function.

Select the [ ] icon to return to the previous menu.

This function can be toggled using a switch/button, this is assigned in the [**Keys function**].

6.9 Throttle Curve

This function is used to add a curve to the throttle response so that the throttle will respond differently throughout its range of movement.

This function must be activated and can be assigned to a button (See [**Keys Function**]).

To set the throttle curve:

1. Activate the function. Make sure that the ✅ icon is displayed in the bottom left corner. If not, press the 🚫 icon to enable.
2. Select an adjustment point, [**L**], [**2**], [**3**], [**4**] or [**H**].
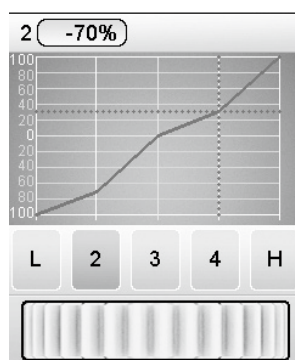3. Move the wheel at the bottom to change the curve. All changes will be shown in real-time on the graph. If the trigger is moved, the graph will show the current throttle position.

Select the 🔄 icon to reset the function.
Select the 🔙 icon to return to the previous menu.

6.10 A.B.S.

A.B.S. stands for auto breaking system. This function is used to stop the wheels from locking which can lead to loss of control or a skid. A.B.S. manages this by regulating the amount of pressure the breaks use, which is done by pumping the breaks on and off rather than a constant force.

There are six sub menus for A.B.S. function setting, [**Brake return**], [**Delay**], [**Cycle length**], [**Trigger point**], [**Duty cycle**], and [**Steering mix**].

In the submenus, pulses are shown as a square wave, the peaks indicating brake on, and troughs indicating reduction in braking. As the value changes, the square wave will change to represent the function's current settings.

The trigger point is represented as a white line on the graph.

Below the graph is a bar that shows the real-time braking position. When this function is active and the brake is applied, the green bar will oscillate in real time showing the A.B.S. in action.
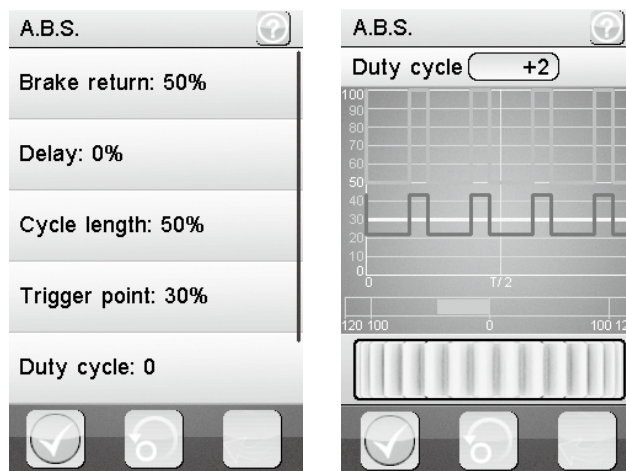
Break return

Controls the reduction of braking during each pulse. If set to 60%, when the brakes are active, the system will remove 60% of the brakes strength on each pulse.

Delay

Determines how long it takes for the A.B.S. system to take effect. At a setting of 0%, the A.B.S. system will take effect as soon as the brake is applied. The higher the value, the longer it will take for the A.B.S. to function.

Cycle length

Increases or decreases the time between pulses. The higher the value, the longer the pulse

Trigger point

Configures the point at which the A.B.S. starts to function. The higher the percentage, the further the trigger has to be moved to activate the A.B.S.

Duty cycle

Changes the length of each pulse and the gap between them. As the value changes, the length of the braking waves peaks and troughs will change independently of each other and will no longer be symmetrical.

Steering mix

A.B.S. can be reduced automatically while turning. This function mixes braking and steering to turn reduce the A.B.S. or replace it with a constant braking pressure.

To have constant braking unless turning simply move the wheel the opposite direction so that the header shows %E.

To set the functions:

1. Select the desired submenu.
2. Move the wheel at the bottom of the screen left to reduce the value or right to increase the value.

Select the [icon] icon to reset the function.
Select the [icon] icon to return to the previous menu.

6.11 Throttle Speed

This function changes how quickly the throttle will react, both when pressed and released. This is useful to emulate different models such as big trucks, which in real life take longer to get up to speed and slow down.

There are 2 main settings in this function:

- Go: Sets how quickly the throttle applies acceleration.
- Return: Sets how quickly the throttle backs off.

To adjust these settings:

1. Select the desired setting, [**Go**] or [**Return**].
2. Move the wheel at the bottom of the screen left to reduce the value or right to increase the value.

The lower the percentage the longer it will take for the throttle to catch up with the trigger movement.

The bar in the middle of the screen will show the throttle's current position in real time. When the bar is red, it is showing the triggers' position on the throttle position. When the function is active, the red line will move first, followed by the green line as it catches up with the trigger position.
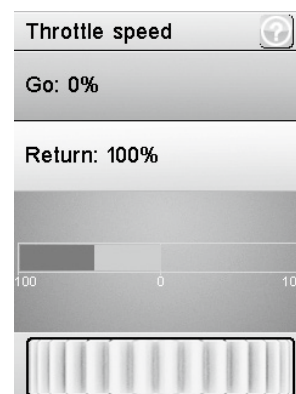
Select the [icon] icon to reset the function.

Select the [BACK] icon to return to the previous menu.

6.12 Throttle Middle

This function changes the midpoint of the throttle, and could be used to correct the servo position. If the servo position is wrong, the model may move as soon as it's turned on.

To change the midpoint, move the wheel at the bottom of the screen, and the current position will change in real time on the screen.
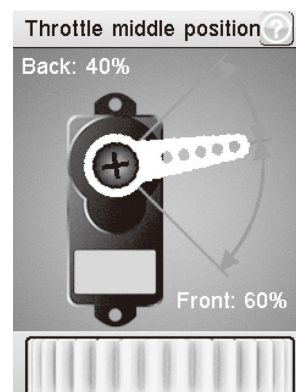
Select the [icon] icon to reset the function.

Select the [BACK] icon to return to the previous menu.

6.13 Throttle Idel Up

This function is used for models that use a fuel based engine that will stall if left at 0 throttle. Idle up makes sure that the engine always has some throttle in order to keep it from stalling.

This function must be assigned to a switch/button in order to be activated (See [**Keys Function**]). If not, the function cannot be activated.

When finished using this mode, you can press the assigned button to bring the throttle to 0, effectively cutting the engine, although this is usually done using the engine cut function.
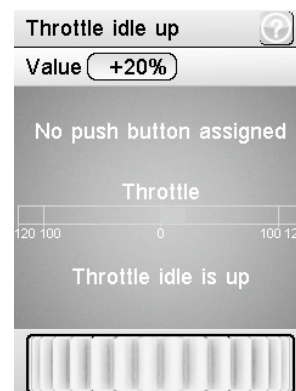
To set this function:

1. Assign this function to a switch/button in the [**Keys function**] menu.
2. Press the assigned button to activate the function. Make sure that the ✅ icon is displayed in the bottom left corner.
3. Move the wheel at the bottom of the screen left to reduce the value or right to increase the value.

Select the 🔄 icon to reset the function.
Select the 🔙 icon to return to the previous menu.

6.14 Engine Cut

Throttle cut is used for fuel based models and is used to cut the throttle, essentially cutting the engine. To edit the settings move the wheel at the bottom of the screen. When active the function will stop the throttle droping below the defined point. For help setting up your model's engine consult the model's user manual.

This function must be assigned to a switch/button to be activated. If not, the function cannot be activated.

To set this function:

1. Assign this function to a switch/button in the [**Keys function**] menu.
2. Press the assigned button to activate the function. Make sure that the ✅ icon is displayed in the bottom left corner.
3. Move the wheel at the bottom of the screen left to reduce the value or right to increase the value.

Select the 🔄 icon to reset the function.
Select the 🔙 icon to return to the previous menu.
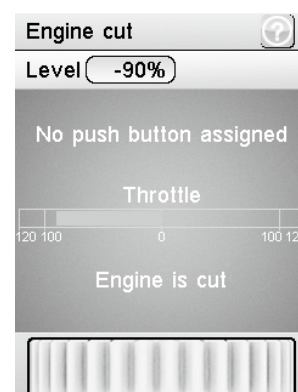
6.15 Boat Mode

This function is used only when you are using a model boat. When this function is active, the throttle channel is set to its lowest position and the brake functionality is disabled.

To toggle this function, select the box beside [**Normal mode**]. When the function is active, the text beside the box will change to [**Boat mode**].

Select the ⟳ icon to reset the function.
Select the ⟵ icon to return to the previous menu.
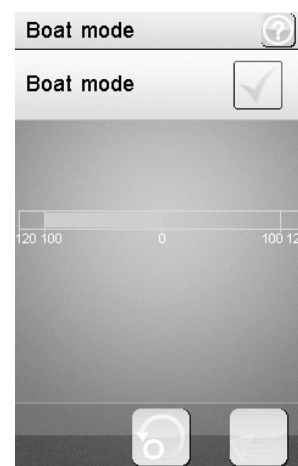
6.16 Brake Mixing

This function enables you to use models that require more than one braking channel, for example a model that has separate brakes for front and back braking.

If your model uses extra channels for braking, each channel can be controlled separately and are slaves of the throttle channel.

To set the function:
1. Select [**CH3**] or [**CH4**] for braking.
2. Set the [**Exponential**] and [**A.B.S.**] functions as described earlier.

Select the ⟳ icon to reset the function.
Select the ⟵ icon to return to the previous menu.
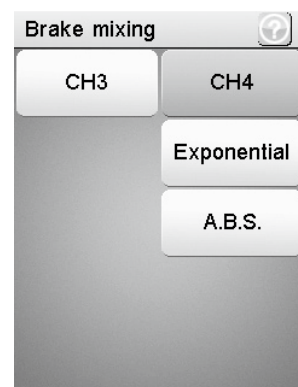
6.17 Mixes

This function is used to create a mix between channels and control methods. For example, if you wish to light up the turn signal lamp which is assigned to CH3 whenever steering left or right, you can create a mix to do this.

You can set up to 4 mixes. To set a mix:

1. Select a mix you want to set, [**Mix 1**], [**Mix 2**], [**Mix 3**] or [**Mix 4**].
2. Select the bottom left icon to activate the mix. Make sure that the ✅ icon is displayed.
3. Select [**Master channe**l] and then choose the master channel to designate the slaves output.
4. Select [**Slave channel**] and then choose a slave.
5. Select [**Low side mix**] or [**High side mix**] as desired and move the wheel to change the value.
6. Select [**Offset**] to offset the channel in relation to the master.
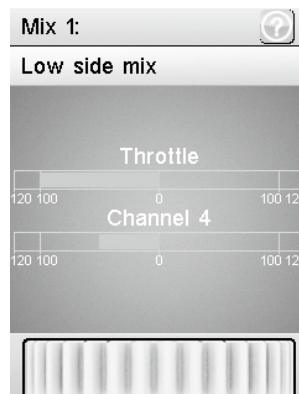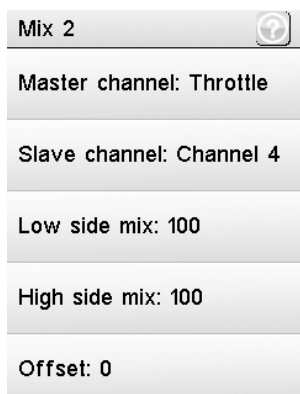
Select the 🔄 icon to reset the function.
Select the ⬅ icon to return to the previous menu.

6.18 Display Servos

This function displays the model's channel output and can be used to test output and servo range.

Press the ![icon] icon and the servos will move slowly though their entire range. Press the icon again to toggle the function.

WARNING
Make sure the model engine is powered off while the test function is activated. If powered on, it will rev up and cause unexpected results.

Select the ![BACK] icon to return to the previous menu.
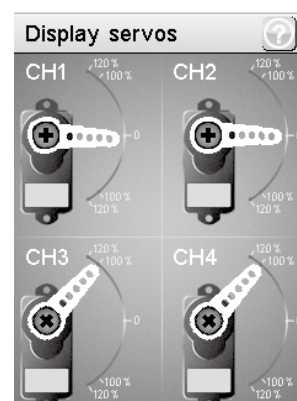
6.19 Race Timer

The race timer has 4 modes:

- Up timer: Counts up.
- Down timer: Counts down from the set time.
- Lap timer: Keeps track time for each individual lap.
- Lap memory: Records the results from the lap timer.

Touch [**Start**] to start the timer, [**Stop**] to stop, and [**Reset**] to reset the function.

Select the ![icon] icon to reset the function.
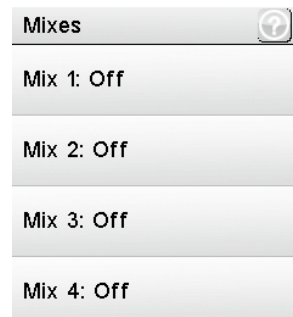Select the ![BACK] icon to return to the previous menu.

6.20 Keys Function

This function assigns the system's physical buttons to different functions for quick control.

To set the keys function:

1. Touch one of the trim or switches shown on the diagram. The function list for this trim or switch is displayed.
2. Scroll down the list until you find the function you wish to assign and select it.
   Then the function will automatically return to the previous menu.
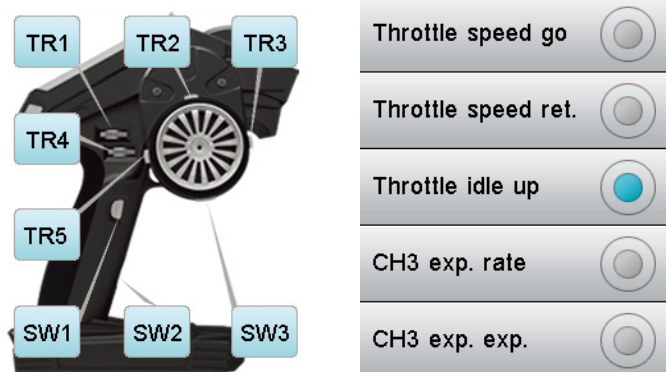
Select the [icon] icon to reset the function.

Select the [icon] icon to return to the previous menu.

6.21 Models

This function is used to change, reset, rename or copy model setups. The CR4T Ultimate can store up to 20 different models in the internal memory.

[**Select model**]: Changes the current model.

Touch [**Select model**] and then choose the name of the model to load it.

[**Reset model**]: Changes the current model settings to the factory default.

To reset a model:

1. Make sure the current model is the one you want to reset. If not, select the desired model as described above.

2. Select [**Reset model**] and then [**Yes**] in the confirmation box. The model will be reset to the factory default.
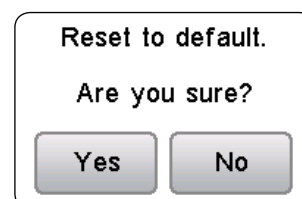
[**Name**]: Renames the current model.

To name a model:

1. Make sure the current model is the one you want to rename. If not, select the desired model as described above.

2. Touch [**Name**] and a keyboard is displayed.

3. Enter the name using the keyboard. Then press the [icon] icon to save.
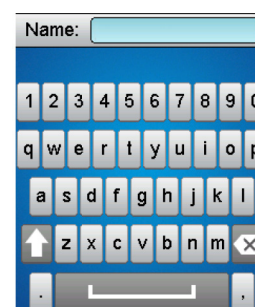
[**Copy model**]: Copies the settings of a model to overwrite another model.

To copy a model:
1. Select [**Copy model**].
2. Select a copy source the setting of which will be copied.
3. Select a target model that you wish to overwrite.
4. Select [**Yes**] in the confirmation box and the target model will be overwritten by the copied model.

| Select model: 1 |
| Reset model |
| Name: Absima 01 |
| Copy model |

WARNING

Be carefull when overwriting a model. Once a model has been overwritten, it is impossible to recover.

7. RX Setup

7.1 Bind with a receiver

This function enables you to bind the receiver and transmitter so that no other system may interfere with your model's operation.

To bind the transmitter with a receiver, refer to section "*4.2 Binding*".

7.2 RF std.: ADHDS 2A

This menu allows you to change the communication protocol for the transmitter. The available protocols are:

- AFHDS
- AFHDS 2
- AFHDS 2A

Note
AFHDS 2A is the latest, most stable and advanced communication protocol.

When changing mode, a confirmation message will display.
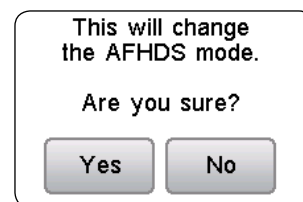
7.3 RX Battery Monitor

This function is used to monitor the receiver battery voltage. Use the supplied battery's user manual to set the lower and higher voltages, so that the system can monitor battery level effectively.

Setting the voltage alarm sets a custom low battery level alarm.

You can set the following parameters in this menu:

- External sensor: Enables monitoring battery status using an external sensor.
- Low voltage: Sets your battery's low voltage value which is 4.00V by default.
- Alarm voltage: Sets the low voltage alarm limit.
- High voltage: Set the maximum voltage when the battery is full. The default high voltage is 5.00V (Check your battery specifications).
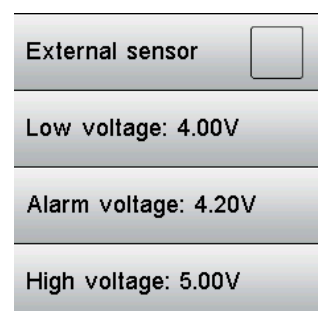
To change settings, touch the desired item and move the wheel to set the new value.

Select the [icon] icon to reset the function.

7.4 Low Signal Alarm

This function is used to enable and disable the low signal alarm. When [Low signal alarm] is checked, an alam will be triggered if the receiver's packet error rate rises above 60%.

7.5 FailSafe

This function is used to protect the models and users if the receiver loses signal and therefore is no longer controllable.

All 4 channels are listed in the failsafe menu. [**Off**] means that in case of a loss of signal, the corresponding servo will keep its last received position. If it displays a percentage, the servo will instead move to the selected position.

To set a failsafe position:

1. Select a channel.
2. Activate the function. Make sure that the ✓ icon is displayed in the bottom left corner. If not, press the 🚫 icon to enable.
3. Move your channel to the desired position and select the BACK icon to return to the failsafe channel list. Make sure the percentage of the position is displayed.

Steering	: -57%
Throttle	: Off
Channel 3	: Off
Channel 4	: Off
All channels	

For example, to cut the throttle when signal is lost, enter the throttle channel and move the stick to the bottom (-100%). Then select the BACK icon to return to the failsafe channel list. Make sure -100% is displayed for the throttle channel.

You can set the failsafe position for all channels with the [**All channels**] button at once. To do so,

1. Move all your channels to the desired position.
2. Select [**All channels**] and then [**Yes**] in the confirmation box.

7.6 Display Sensors

This function is used to display information from the current active sensors.

The type of sensor is displayed on the left hand side under [**Type**], the numerical ID of each sensor is in the middle under [**ID**] and the sensor's output is on the right under [**Value**].

Type	ID	Value
TX voltage	1	4.11V

At the bottom of the list this menu has an error rate display, which is a good indicator of signal quality.

7.7 Choose Sensors

The main screen can display the value of up to 4 sensors. This function is used to select which sensors to display.

To choose a sensor:

1. Select a slot, 1, 2, 3 or 4. Any sensors that are connected will automatically populate this list.
2. Select the desired sensor and exit the function.

To set the alarm limits for a sensor:

1. Activate the function. Make sure that the ✅ icon is displayed in the bottom left corner. If not, press the 🚫 icon to enable.
2. Select [**Low alarm**] or [**High alarm**] and then move the wheel to adjust the value.
3. Select the 🔙 icon to return to the previous menu.

There are 2 types of sensors, basic and advanced. A basic sensor only reports back 1 value, but an advanced sensor is able to monitor several things at once, for example altitude, temperature and speed.

7.8 Speed and Distance

This function is used to monitor the model's RPM (Revolutions Per Minute) and how far it has traveled.

You can set the following parameter in this menu:

*   [**Speed sensor**]: Selects the desired sensor. If a sensor is connected, it will display in the menu.
*   [**Set rotation length**]: When attaching a speed sensor to a wheel etc, it is important that the sensor knows exactly how far out from the sensor it is. The system uses this distance to calculate distance traveled.

*   Reset odometer 1

    Resets odometer 1 to 0. Odometer 1 records the distance traveled during a session. Note that restarting the system will also reset odometer 1.
*   Reset odometer 2

    Resets odometer 2 to 0. Odometer 2 records the total distance traveled since last reset. This means that the distance over several sessions will be added together.

```
This will reset
the odometer 1.

Are you sure?

  Yes      No
```
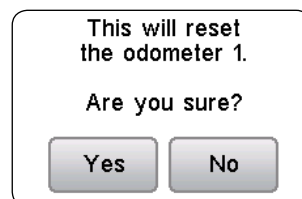
7.9 Servos Setup

This function is used to assign a channel to the i-Bus connected servos.

Follow the procedure below to set the i-Bus:

1. Connecting the i-Bus module to your receiver and servos.
2. Select [**Steering**], [**Throttle**], [**Channel 3**] or [**Channel 4**]. The system will display a prompt message "Press the corresponding servo interface button or touch cancel.".
3. Locate the desired servo, and use the tool provided to push the channels button on the i-Bus module. Then the selected channel will be assigned to the assigned port.

7.10 Servos frequency

This function is used to change the frequency for some types of servos that require a different frequency to function properly. To change this value, move the wheel at the bottom of the screen. Consult your servos user manual to find out the correct frequency.

Note:

The most common frequency is 50Hz.

Value (50Hz)

7.11 Range Test

This function temporarily reduces the transmitter's power to allow for a manageable range test. Instead of having to walk several hundred meters away from the receiver, you can test the range by pressing SW2 and walking at most 30 meters away from your model.

To preform a range test:

1. Bind the receiver and transmitter.
2. Enter this menu, press SW2 and walk slowly away from your model.

7.12 Racing Mode

This function disables alarms and other functions from the receiver that may be a distraction to the operator, or others in a competition setting. When this mode is active the transmitter will not report the receiver's battery, signal or sensor status.

To enable this function touch the box next to its name. When the box has a tick, the function is active.

1: Absima 01   TX▮ RX▮

RX
TX voltage 1: 4.73V
Racing mode : ON
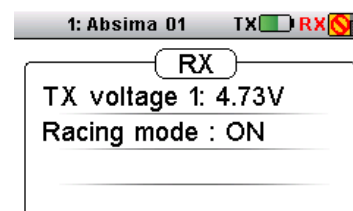
Note: When this function is active it will appear in the RX status box.

7.13 Update Receiver

This function is used to update the firmware of the receiver.

After selecting [**Update receiver**], the CR4T Ultimate will ask for a conformation. Select [**Yes**].

- If the CR4T Ultimate has an update for the receiver, the update will be displayed as a percentage. when the update is complete the function will exit automatically.
- If no updates are available, the CR4T Ultimate will display [**Receivers firmware is already up to date**].

8. System Settings

8.1 Blacklight Timeout: (Time)

The blacklight timeout function controls how long the system will wait before turning off screens backlight.

Note:

Backlight time can affect the battery life of your system, the longer the time, the shorter the battery will last.

To change the backlight time enter the function and select the desired time from the list.

8.2 Backlight: (%)

This function controls the backlight brightness. Note that increasing the brightness will reduce battery life.

To change the backlight brightness, move the wheel at the bottom of the screen to change the percentage.

8.3 System Sound

This function is used to toggle all system sounds, including power-on/power-off sounds, key sounds and so on. The alarm sound is not included.

To disable the system sounds, uncheck the box by touching it.

8.4 Alarm Sound

This function is used to toggle all alarm sounds.

To disable the alarm sounds, uncheck the box by touching it.

8.5 Auto Power Off

This function powers off the system automaticly after 2 minutes, unless a receiver is connected.

To enable this function, check the box by touching it.

8.6 Screen Calibration

If the touch screen is not functioning correctly, use this function to recalibrate.

To recalibrate once inside the function touch the centre of the crosses as they appear on the screen. The system will exit the function once calibration is complete.

Note:

It is recommended that you use the supplied stylus to calibrate the screen.
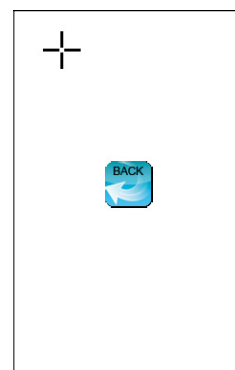
8.7 Units

This function is used to change between Metric and Imperial mesurement systems.

8.8 Language

The system can choose between 3 languages:

- English
- French
- Greman

Select the icon to return to the previous menu.

8.9 Firmware Update

The internal software of the transmitter can be updated using the USB interface connected via a PC computer. Once this function is activated, all functions of the transmitter stop. To avoid any loss of control of the vehicle, turn its receiver off before entering this mode. A confirmation is requested.

When the firmware is updating, never disconnect the USB cable or remove the battery or the transmitter will become unusable.

This function can be helpful only when connected with computer. Follow the steps as shown below:

1. Download and open the newest official software.
2. Connect a transmitter with a computer by USB cable.
3. Enter transmitter firmware upgrade menu and press OK to complete.

8.10 Factory Reset

Resets the system to its factory settings. The system will display a prompt asking for confirmation. Select "Yes" to reset.

8.11 About CR4TS

This menu contains: Product name, Firmware version, Hardware version and transmitter ID.

9. Product Specification

9.1 Transmitter Specification (CR4T Ultimate)

Channels	4
Model type	Car/Boat
RF range	2.4055 ~ 2.475 GHz
Bandwidth	500 KHz
Sensitivity	105dBm
Band	140
RF power	Less then 20 dBm
2.4G system	AFHDS/AFHDS 2/AFHDS 2A
Code type	GFSK
Low voltage alarm	Yes (lower than 4.5V)
DSC port	Yes (USB HID)
ST range	90°
TH range	45° (F:30° ; B: 15°)
Power input	6V DC 1.5AA*4
Antenna length	26 mm
Weight	432g
Dimension (Length x Width x Height)	182.06mm x 127.76mm x 218.5mm
Color	Black
Certificate	CE0678, FCC

9.2 Receiver Specification (R4WP)

Channels	4
Model type	Car/Boat
RF range	2.4055-2.475 GHz
Band	140
RX sensitivity	105dBm
RF power	Less than 20 dBm
2.4G system	AFHDS 2A
Code type	GFSK
Power input	4.8 to 7.4 V DC
Weight	8g
Antenna length	26 mm
Dimension (Length x Width x Height)	35.7mm x 22.3mm x 14mm
Color	Black
Certificate	CE0678, FCC
Sensor Input Port	Yes
Data acquisition port	Yes

9.3 Sensor Specification
9.3.1 RPM Speed Module (Magnetic)

Model type	Car/Boat
Speed range	0 to 60000 rpm
Power input	4.0 to 6.5 V DC
Weight	6.6 g
Dimension (Length x Width x Height)	31 x 15 x 8.5 mm
Color	Black

9.3.2 RPM Speed Module (Optical)

Model type	Car/Boat
Speed range	0 to 60000 rpm
Power input	4.0 to 6.5 V DC
Weight	6.8 g
Dimension (Length x Width x Height)	31 x 15 x 8.5 mm
Color	Black

9.3.3 Temperature Acuquisition Module

Model type	Car/Boat
Temperature range	-40 to 250 ° C
Power input	4.0 ~ 6.5 V DC
Weight	5.9 g
Dimension (Length x Width x Height)	31 x 15 x 8.5 mm
Color	Black

9.3.4 Voltage Acquisition Module

Model type	Car/Boat
Voltage range	0 to 100 VDC
Power input	4.0 to 6.5 V DC
Weight	6 g
Dimension (Length x Width x Height)	31 x 15 x 8.5 mm
Color	Black

Appendix 1 FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to part 15 of theFCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or televison reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. (Example use only shielded interface cables when connecting to computer or peripheral devices).

This equipment complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

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

Caution!

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user authority to operate the equipment.

ABSIMA

Digital proportional radio control system

CE 0678 FC