

Before beginning assembly, please read these instructions thoroughly.

MINI-Z HYBRID SPREAD SPECTRUM SYSTEM

SynCRo

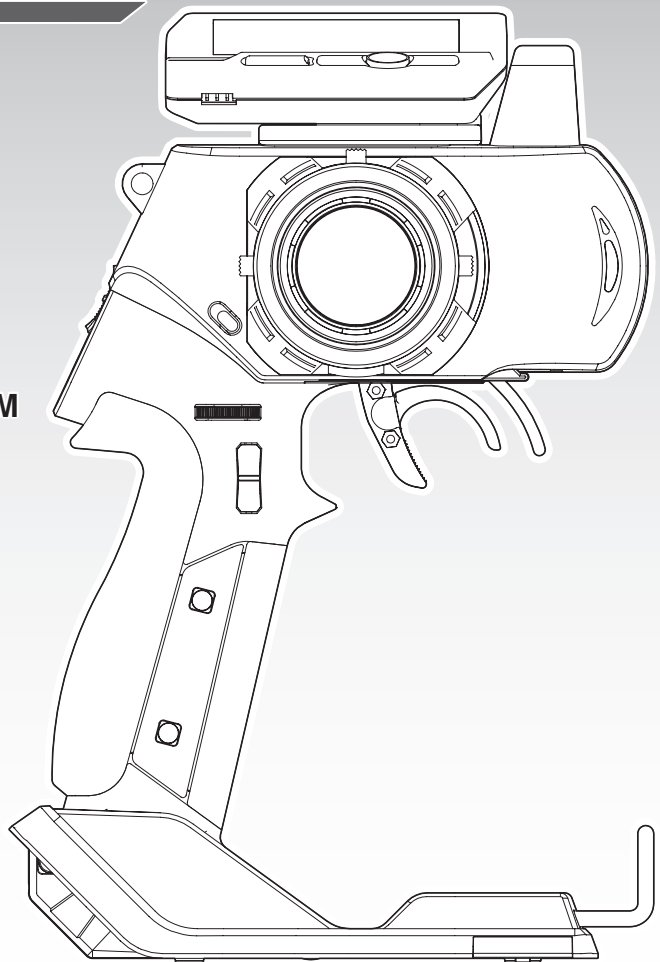
EX-6

R

MHS 2.4GHz
System
MINI-Z HYBRID SPREAD SPECTRUM

ASF 2.4GHz
System
AUTO SELECTED FREQUENCY SYSTEM

DIGITAL PROPORTIONAL SYSTEM



Instruction Manual



*Specifications are subject to be changed without prior notice!
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82031-T01



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■ For Safe Operation

Improper handling may lead to dangerous situations. Therefore please read the following information carefully in order to ensure safe operation. Please also understand that Kyosho is not responsible for any injuries or damage which result from noncompliance of these cautions and notices.

 **Warning!** Improper handling/usage may lead to a high probability of material damage as well as a possibility of serious personal injury or even death.

 **Notice!** Improper handling/usage may lead to personal injury or material damage.

● When Installing Components


 **Warning!**
Prohibited matters

- Make sure metal parts on the model (car chassis) do not come into contact with each other.
- ※ Contact between metal parts may result in noise, which could cause the receiver to malfunction and lead to an uncontrollable model.
- Do not cut or bundle the antenna cable.
- ※ This may lower the receiver's sensitivity and lead to an uncontrollable model.
- Ensure correct polarity when installing transmitter and receiver batteries.
- ※ Incorrect polarity may damage the product.
- Within Japan, this product is limited to usage with models which operate on the ground.
- ※ Do not use for other non-designated purposes.

 **Warning!**
Enforcement matters


- Ensure that all connectors are connected securely.
- ※ If connections become loose due to vibrations, it may lead to an uncontrollable model.
- Check servo operation to ensure the tie rod is not subject to excessive loads.
- ※ Excessive loads may damage the servo or increase battery power consumption.
- MINI-Z body and other optional parts to use the Kyosho genuine.
- ※ Kyosho is not responsible for any damages or injuries which result from use of this product in combination with other manufacturer's products.

● Notes for Usage

 **Warning!**
Prohibited matters

- Do not use when there is thunder.
- ※ It is possible for lightning to strike the antenna.
- Do not use in the rain or in areas where water has accumulated.
- ※ If water enters the product it may lead to an uncontrollable model.
- Do not use in the following locations:
 1. Near R/C circuits (within 3km)
 2. Near crowds, on streets, or near actual vehicles or ships.
 3. Near high-voltage power lines or communication facilities.
- ※ If signal interference, etc. causes an uncontrollable model, a serious accident may result.
- Do not use when your concentration levels are compromised by tiredness, alcohol, medication, etc.
- ※ Mistakes in judgment may result in serious accidents.
- Check to ensure that the selected model memory matches the model to be controlled.
- ※ Using an incorrect memory may lead to an uncontrollable model.

 **Warning!**
Enforcement matters


 **Caution!**
Prohibited matters

- Do not touch motor, etc. immediately after use as they may be hot.
- ※ Doing so may lead to burns.

 **Caution!**
Enforcement matters

- When switching on, always turn on the transmitter first, followed by the MINI-Z. Follow the reverse order when switching off.
- ※If the wrong order is followed, it may lead to an uncontrollable model.
- Dismantling or modifying the RF Module (internalized in the case of the EX-6) is prohibited and is punishable by law.
- ※Disassemble or modify all of the product will cause a short circuit other accidents. Also, you may want to refuse acceptance of repair in the user consultation room.
- Do not use this product in aircraft, hospitals, or near fire alarms or medical equipment.
- ※This may lead to malfunctions and result in serious accidents. Also, by law you must cease operation if the product affects other wireless or electrical devices.
- 2.4GHz transmitters must be registered with the Japan Radio Control Safety Association.
- ※The transmitter which you have purchased is already registered. Products which do not have proof of registration are illegal.

●Notes After Usage

 **Warning!**
Enforcement matters

- Make sure to remove the battery pack after driving.
- ※If the car is switched on accidentally, it may lead to a fire or an uncontrollable model.
- Keep transmitters, batteries, and models away from small children.
- ※Chemical agents and the items themselves may cause personal injury.
- Remove batteries from transmitter if it will not be used for a considerable time.
- ※If batteries are left in the transmitter, battery leakage may result in damage.
- Do not store transmitter/receiver in the following conditions:
 1. Extremely hot (over 40°C) or cold (below 10°C) temperatures.
 2. Locations in direct sunlight.
 3. Locations with high humidity.
 4. Locations subject to vibrations.
 5. Locations with lots of dust.
- ※These conditions may cause the case to deform and damage the product.

 **Caution!**
Enforcement matters

●Transmitter Battery Handling and Charging (separately available option: Kondo Kagaku Co., Ltd.)

 **Danger!**
Enforcement matters

- Never short-circuit the battery connector.
- ※This may lead to a fire or explosion.
- Do not dispose batteries in fires.
- ※This is very dangerous and may lead to an explosion.
- Use KO Propo chargers to charge the battery and use the correct current (under 1 A).
- ※Incorrect current may lead to battery damage, overheating, or leakage.
- ※Other manufacturer's chargers may not have a automatic cutoff function.
- Do not subject the battery to strong shocks.
- ※This may damage the battery and cause leakage or a short circuit.
- Do not dismantle or modify the battery.
- ※This may cause dangerous leakage of battery fluids.
- Keep away from water. Do not charge a wet battery.
- ※This may cause overheating and damage.
- Do not charge alkaline batteries.
- ※Alkaline and other single-use batteries cannot be recharged. Doing so may lead to fire and damage.
- Do not use wet hands when plugging in the charger's AC Adapter.
- ※This may result in electrical shocks.

 **Danger!**
Enforcement matters

※If there is battery fluid leakage, avoid contact with eyes as it may result in blindness. If contact with eyes occur, flush with large amounts of water and seek medical attention immediately.
※When disposing batteries, Ni-Cd, Ni-MH, Li-Po, and Li-Fe batteries should be recycled in order to help protect the environment.

Getting Started

※ Depending on the model, expansion unit has been installed at the factory.

[Legend]

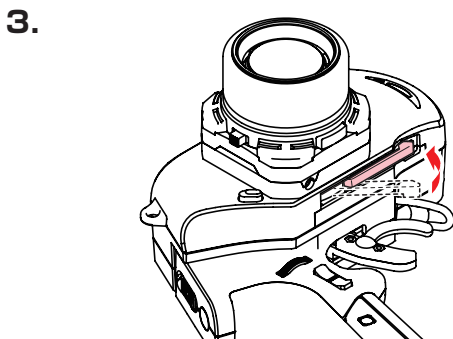
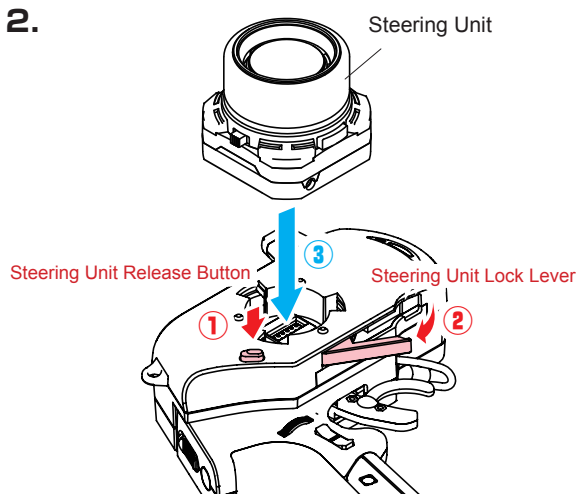
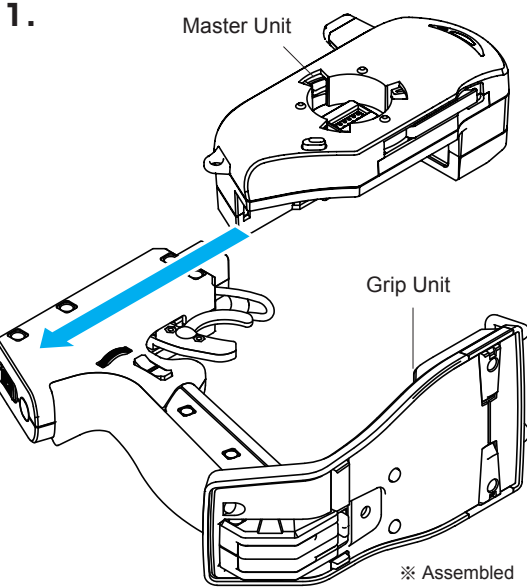
P :Point

! :Notice

● Transmitter Assembly

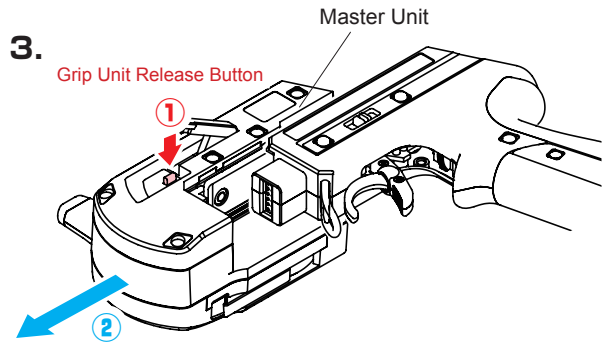
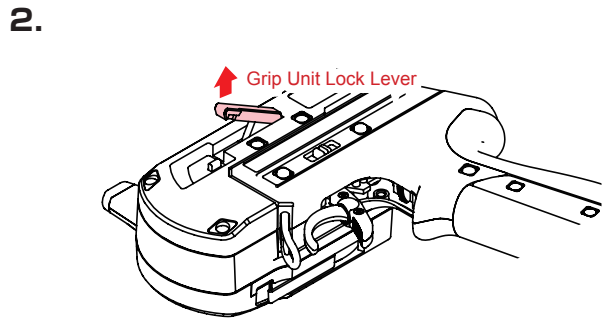
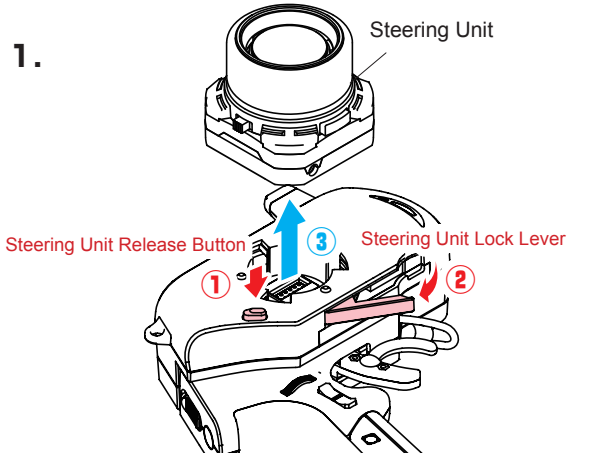
Insert the Grip Unit into the Master Unit, then attach the Steering Unit.

! Remove the connector cover before use.



● Transmitter Dismantling

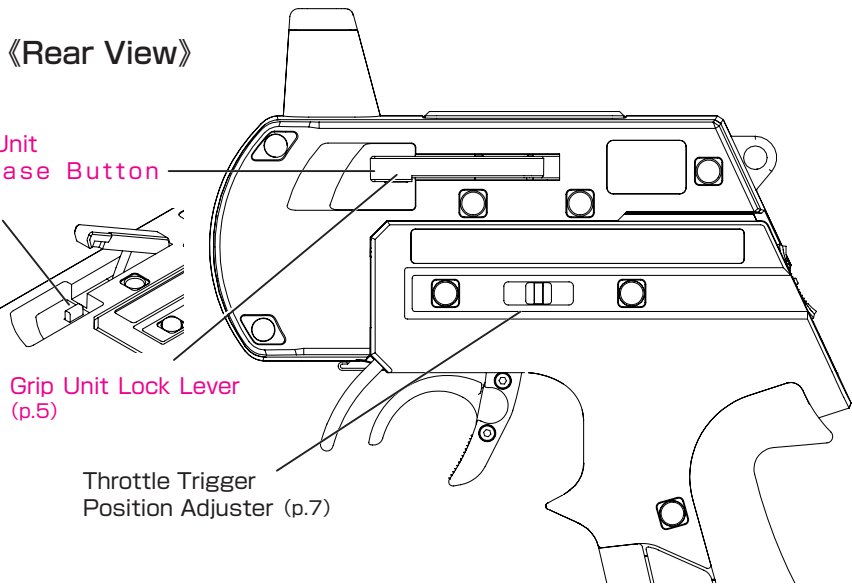
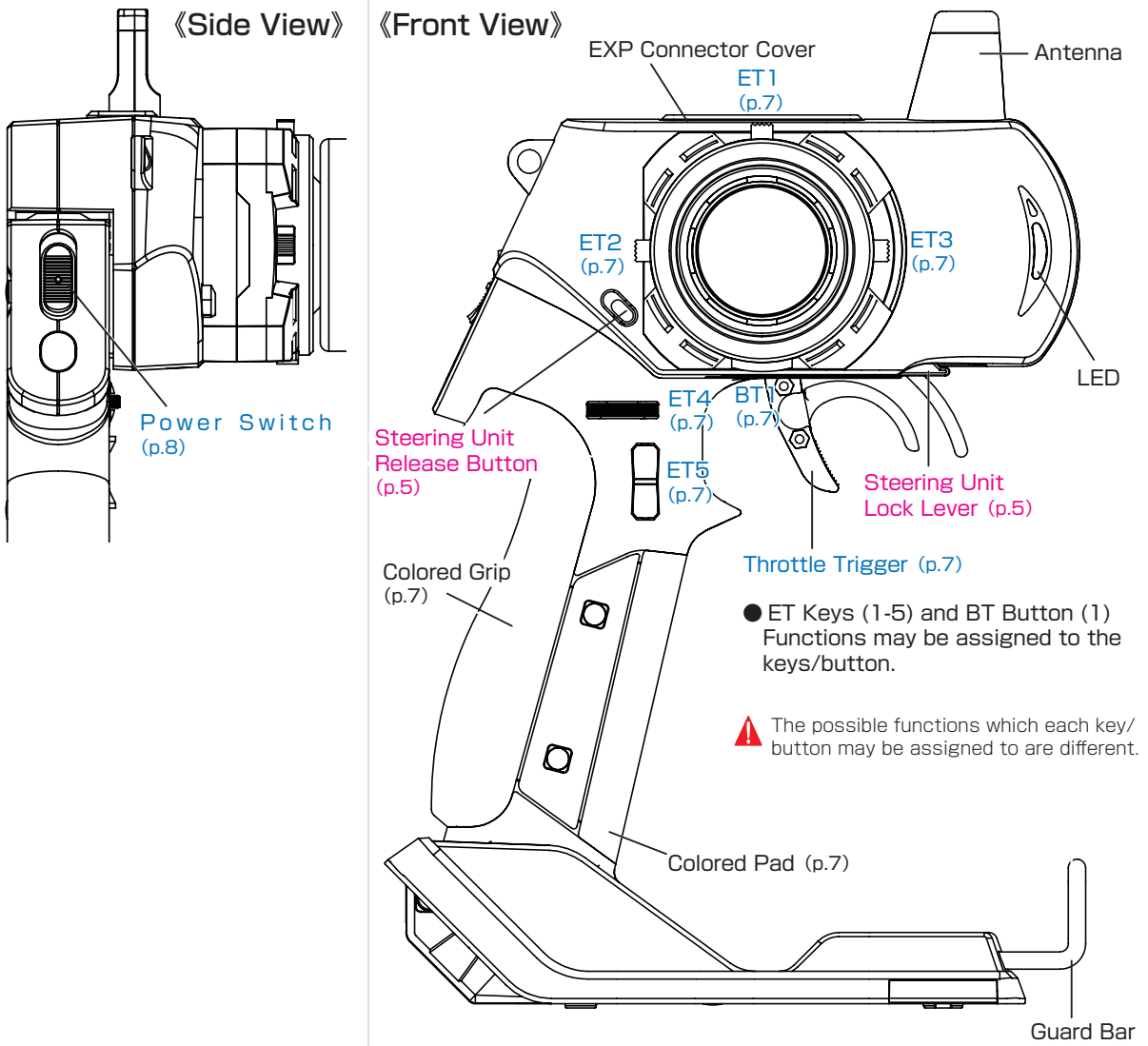
Detach the Steering Unit, then detach the Master Unit.



! If storing the transmitter in dismantled form, please remember to attach the connector covers. (separately available option: Kondo Kagaku Co., Ltd.)

! Assembly may differ with the included set contents.

Names of Parts



● ET Keys (1-5) and BT Button (1)

Functions may be assigned to the keys/button. For key allocation, please refer to KEYSSET key configuration (p.28).

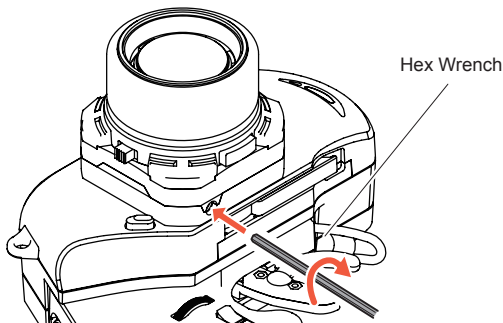
! The possible functions which each key/button may be assigned to are different.

● Steering Wheel Adjustment

Adjust the tension of the steering wheel spring.

[How to Adjust]

Insert a 1.5mm hex wrench referring to the image below. Rotate clockwise to increase tension and counterclockwise to decrease it.

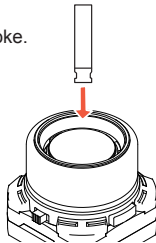


! Excessive counterclockwise rotation will result in the wheel being unable to return to neutral position. In this case, rotate clockwise until the wheel returns to neutral.

● Wheel Cap Remove

Insert Wheel Cap Remover to the wheel cap spoke. Pull up Wheel cap remover with Wheel Cap.

Since the screw will appear if you remove the handle cap, it will be able to remove the steering wheel by removing the screw.



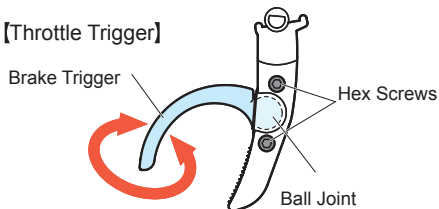
● Throttle Trigger Adjustment

Adjust the position and angle of the brake trigger to your preferences.

[How to Adjust]

- ① Loosen the hex screws on the throttle trigger with a 1.5mm hex wrench.
- ② Freely adjust the brake trigger position.
- ③ Tighten the hex screws to secure.

[Throttle Trigger]



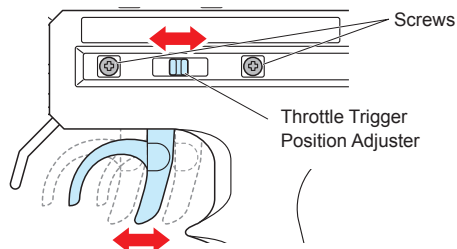
! Temperature and aging, because it may become loose by the strong impact or the like, it is recommended that you adhere to such cases. In the case where there is a thing that would loose still, please contact the user consultation room.

● Throttle Trigger Position Adjustment

The position of the throttle trigger may be adjusted to match the user's hands.

[How to Adjust]

- ① Loosen two screws on the rear side of the transmitter.
- ② Slide the Throttle Trigger Position Adjuster as desired.
- ③ Tighten the loosened screws to secure.

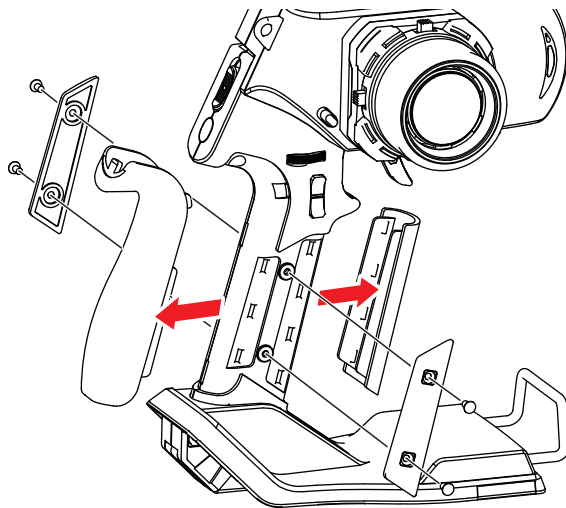


● Colored Grip and Pad Replacement

Colored grip pad (optional: Kondo Kagaku Co., Ltd.) and Large/small grip pad options are available.

《How to change》

Remove the two screws on each side of the grip to detach the grip plates, then attach the colored grip and pad.



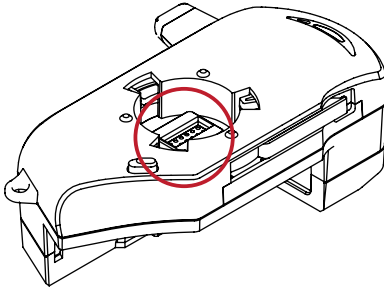
! Make sure the battery box or battery pack is removed before replacing the colored grip and pad.

! The tabs on the colored grip and pad are to be inserted into holes. Note the direction.

! Note direction of the of the colored grip and pad

● Unit Connector

This product may be dismantled and therefore each unit features their respective connectors. Dirty or damaged connectors may result in malfunctions, so please handle them carefully.

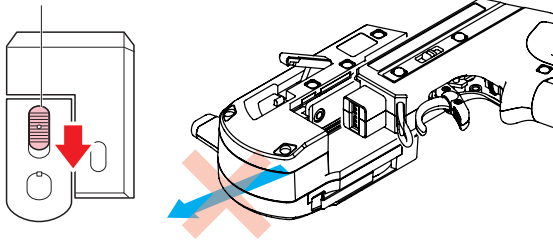


! Do not touch the unit connectors with your fingers. If connectors become corroded due to grime, they may become inoperable. If storing the transmitter in dismantled form. After prolonged use, a black residue may build up on the connectors. Use cotton swabs dipped in cleaning alcohol to remove. In addition, we have repaired in our user consultation room.

● Power Switch

This product features a safety lock. The Master Unit and Grip Unit cannot be detached when the Power Switch is in the ON position. Turn off the transmitter before dismantling.

Power Switch

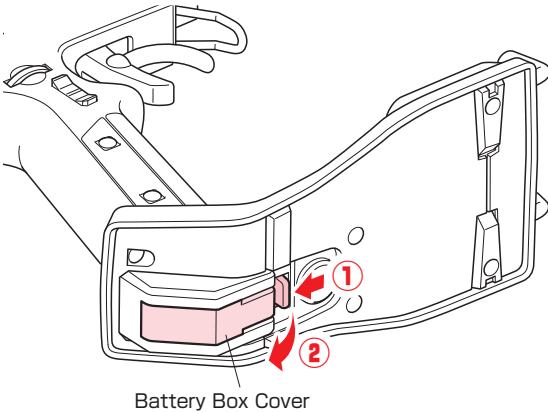


! Disassembly is not possible when the power is switch ON. Forcefully trying to remove the Grip Unit while on will result in damaging the locking mechanism.

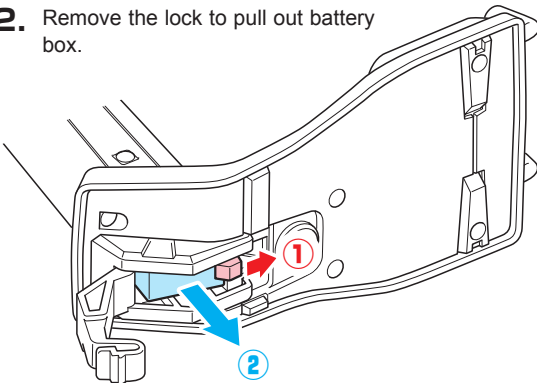
Preparations

● Battery Installation

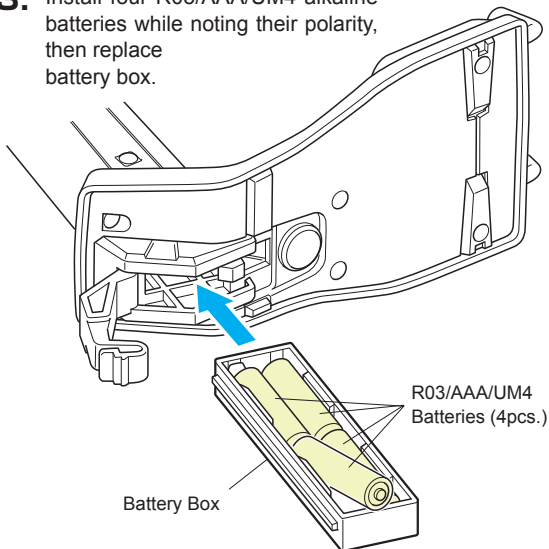
1. Press the tab on the bottom of the transmitter to open battery box cover.



2. Remove the lock to pull out battery box.



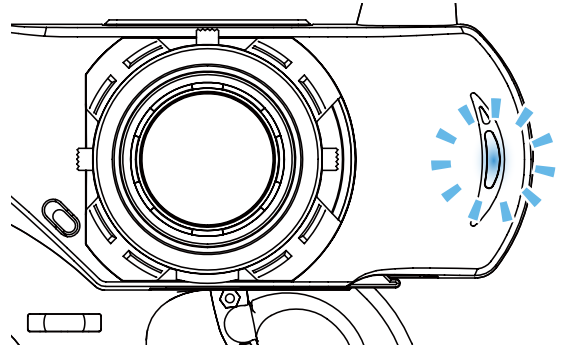
3. Install four R03/AAA/UM4 alkaline batteries while noting their polarity, then replace battery box.



- ⚠ Use batteries which have adequate remaining capacity. Weak batteries mean lower transmitting power and may result in malfunctions.
- ⚠ Do not install Ni-Cd or Ni-MH batteries in the battery box. (These may cause the battery connectors to corrode.)

● Battery Level Warning

A warning will be displayed with the LED flashing and an alarm will sound when battery voltage is less 4v. When you see this warning, stop your model in a safe area, turn it off and install new transmitter batteries.



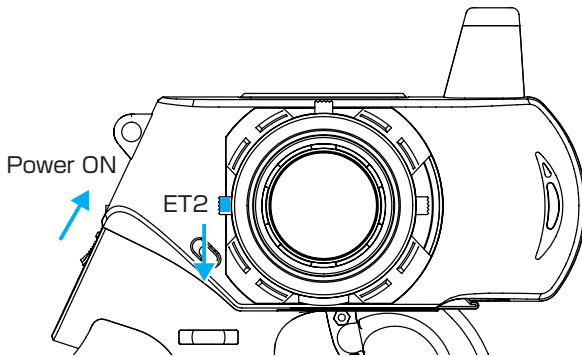
- ⚠ If the Xpansion unit is not assembled or used, do not use the LiFe/LiPo battery.

● Initializing EX-6R

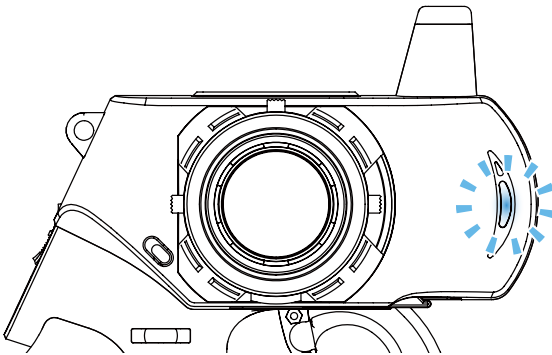
When using the EX-6R for the first time, please carry out the following settings.

- ※ EX-6R will not work normally if the initial configuration is not set.
- ※ This is an operation method when the expansion unit is not assembled. Initialization is necessary using a different method when expansion unit is put on, see p.20 for more information.

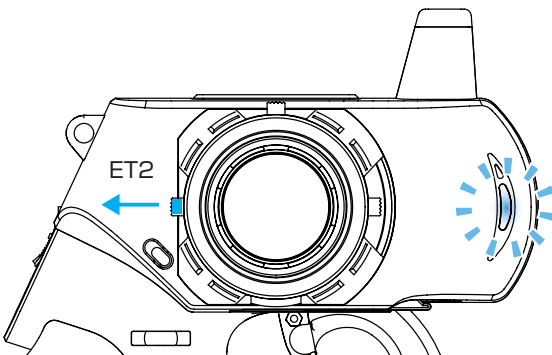
1. Power on while operating ET2 lever below.



2. Hold the ET2 lever until the LED of EX-6R turns on (approximately two seconds).



3. After the LED turns on, release ET2 lever. Buzzer sounds, and reset is completed.



⚠ When changing each unit for a different unit, please perform this initialization again.

● How to change the Modulation mode

EX-6R has two Modulation modes.

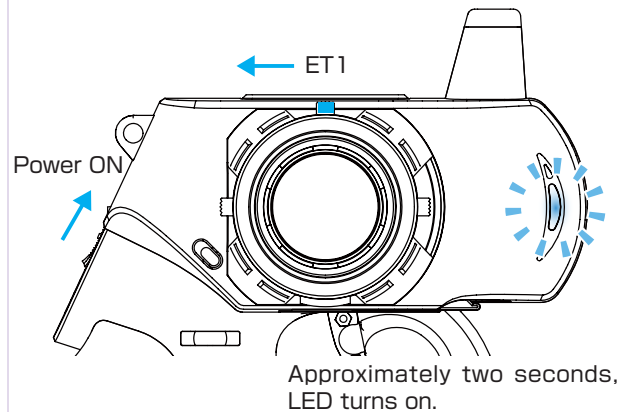
- ※ When attaching the Xpansion unit, this operation is the same.

《Functions》

- MINI-Z ASF mode : LED Solid
ASF support of MINI-Z series is steerable.
- MINI-Z MHS mode : LED Flashing slowly
Operating MINI-Z MHS mode. (MR-03 VE PRO)

⚠ Only MINI-Z with ASF/MHS system are operable.
FHS (MINI-Z SPORTS) cannot be controlled.

- ① Turn off EX-6R switch.
- ② Push the ET1 lever to the left and power on.
- ③ Hold ET1 lever until the buzzer sounds and the LED of EX-6R turns on (approximately two seconds).



⚠ If the pilot LED is blinking fast, this is a warning that the battery voltage is low. Please change to new batteries or for a battery pack which has been charged.

● Pairing

Case without the Xpansion unit

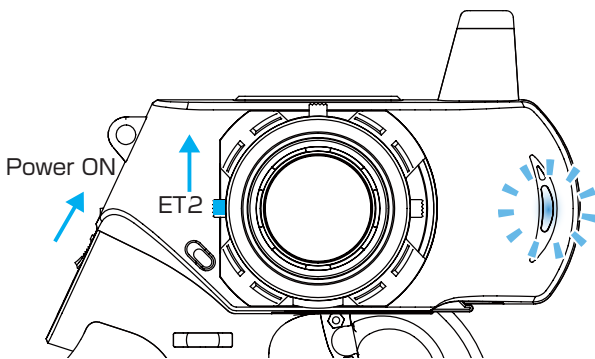
※ Refer to p.21 pairing Operation in the case of using the Xpansion unit.

In order for the MINI-Z to operate, it must store the transmitter's unique ID in its memory in a process called "pairing." MINI-Z must go through the pairing process with the transmitter before being used for the first time.

※ **Please adjust the Modulation mode before pairing.(p.10) A receiver does not work normally in different mode.**

1. Preparing the Transmitter

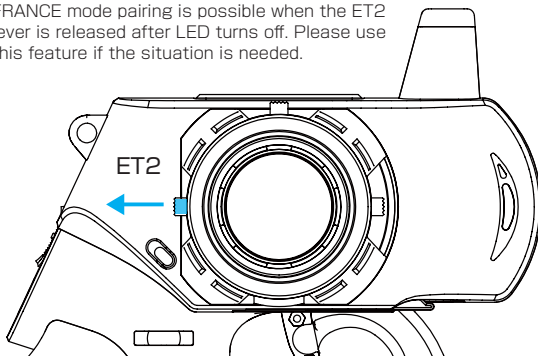
① While pushing the ET2 lever up, power on.



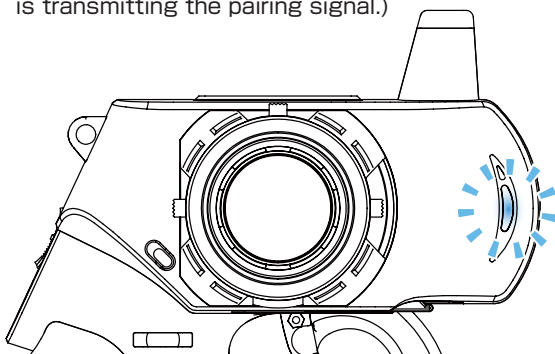
② When the ET2 lever is released, the LED turns off

<France mode pairing >

FRANCE mode pairing is possible when the ET2 lever is released after LED turns off. Please use this feature if the situation is needed.

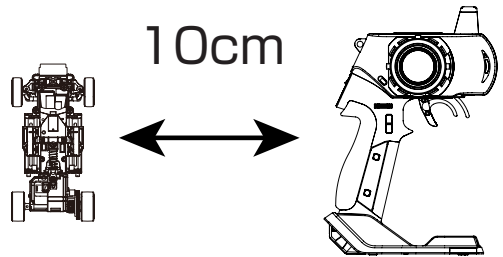


EX-6R LED lights up again (indicating transmitter is transmitting the pairing signal.)

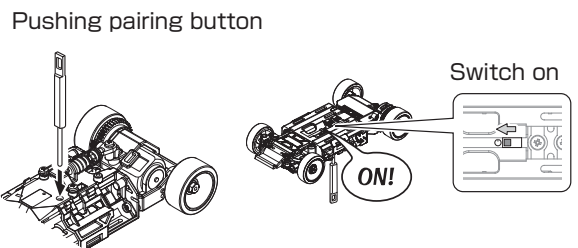


2. Preparing the MINI-Z

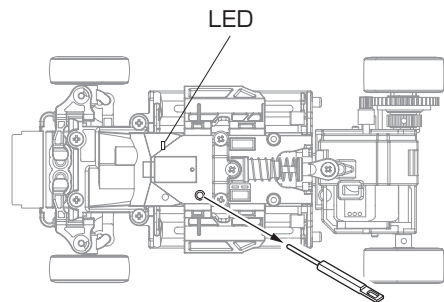
① Bring distance of EX-6R and MINI-Z close to about 10cm.



② Switch on MINI-Z while pushing the pairing button of MINI-Z.



③ After the MINI-Z's LED has lit up, release the pairing button. Then check that the MINI-Z's LED lights up again (indicating pairing completion)



3. Preparations for Operation

① Switch off MINI-Z.

② Switch off the EX-6R main power, then switch on EX-6R again.

③ Bring distance of EX-6R and MINI-Z close to about 30cm. Switch on the MINI-Z and check that the receiver LED is lit. If the LED flashes, the MINI-Z is not getting the EX-6R signal and the pairing procedure should be repeated.

⚠ If the mode is changed (General or France), please conduct pairing procedures with the MINI-Z you are using again.

■ Procedures Prior to Operation

1. Switching On

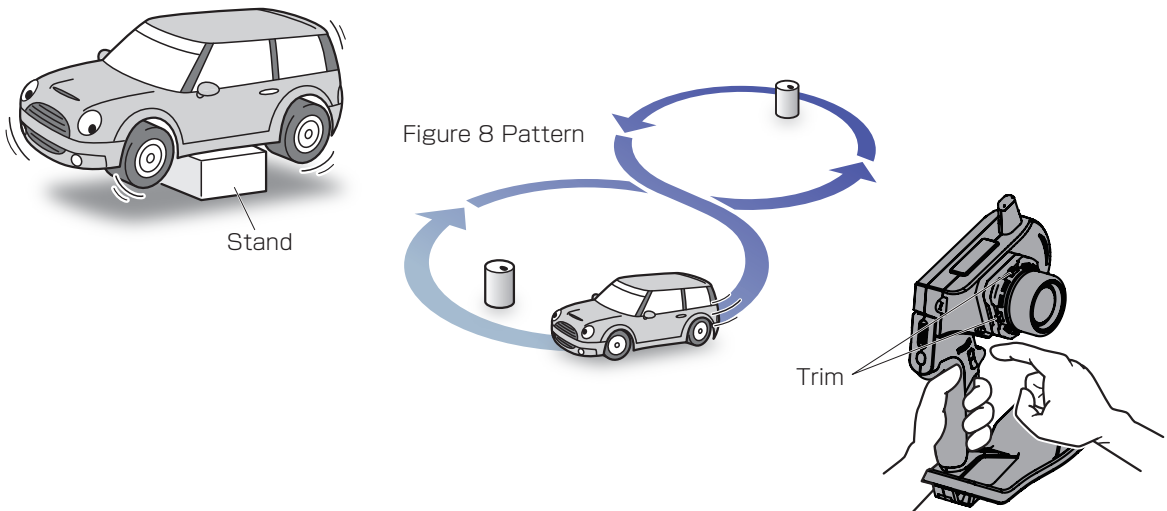
After ensuring that it is safe to do so, switch on the transmitter followed by the MINI-Z.

2. Model Confirmation

Confirm the model which will be used.


3. Checking Movements

With the model's wheels lifted off the ground, operate transmitter to check for proper movement. While driving, use steering and throttle trims to make fine adjustments. Drive in a figure 8 pattern to check steering balance.



4. Switching Off

After a driving session, switch off the MINI-Z, followed by the transmitter. Remove the battery pack from the model.

 After switching off, wait at least 5 seconds before switching on again to ensure proper operation.

● Trim and Sub Trim Operation

The sub trim is a convenient feature but it could also complicate the setting process if used incorrectly. Use the sub trim in the correct manner while also referring to the sub trim operation instructions on p.40 and p.45.

《Purpose of the Trim》

The trim I have adopted the center trim.

If you have performed an operation to trim as shown on the right, but the center position (neutral) will move, it does not change the left and right of the maximum steering angle.

In other words, it does not change the position of the left and right of the maximum steering angle to make adjustments of the straight by the trim.

However, we will be going to shift the balance of left and right and make adjustments by moving the big trim.

《Purpose of the Sub Trim》

When performing the adjustment of the center position by using the sub trim, minutes you Shifts the center and then moved together by the same amount the position of the left and right maximum steering angle.

《Actual Setting Sequence》

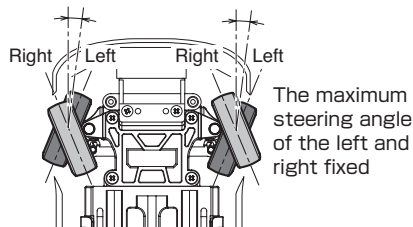
- ① Body throttle is in the neutral state is I make sure to stop completely. If, please stop the car body by using the throttle trim if the motor is not stopped.
- ② Front tire was visually before traveling to adjust by using the steering sub trim so that the center.
- ③ It is allowed to actually traveling to check and adjust the steering of the center. Adjust using the steering sub-trim as the body runs straight.
- ④ To quit traveling to check and adjust the steering angle of the steering by visual observation. When it was operated to full the handle of the transmitter to the left and right both, as the tie rod is actuated to just one cup, and then adjusted using the balance function (p.39).
- ⑤ Check and adjust the left and right of the turning radius is not actually running. When it is caused to travel by operating the steering wheel to the right and left full, by reducing the steering angle of the turning radius smaller side, to match the radius of the turning radius is larger side. (Reduce the numerical rotation radius of the small side in the balance function.)
- ⑥ Adjust the steering angle of your choice while traveling. The entire steering angle (adjusted left and right at the same time) use the steering travel (p.39).
- ⑦ When the center is shifted to running is corrected by using the steering trim (center trim).

P Use the sub trim to adjust settings prior to driving instead of the center trim.

P If the neutral position becomes slightly off during driving, use center trim to correct.

● Trim (Center Trim)

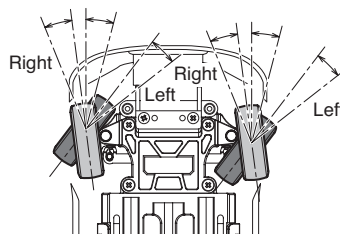
Adjusting neutral position only.



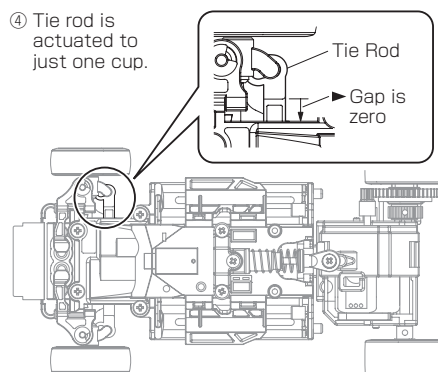
P Initially, steering trim and throttle trim are assigned to ET1 and ET2 respectively.

● Sub Trim

In conjunction with the center, move the maximum steering angle of the left and right together.



P The sub trim is accessed via the steering menu.



Operating Procedure

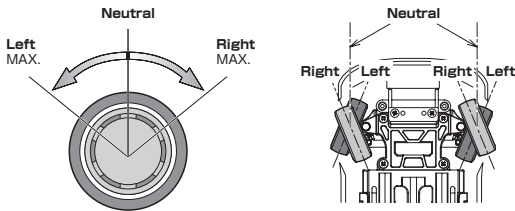
※ EX-6R can be used even to remove the expansion unit.

● STEERING

※ Other than the operation explanation of the steering wheel, the following function explanation is in the case of not using the Xpansion unit. Refer to p.39 operation in the case of using the Xpansion unit.

■ Steering wheel

Operate on the left and right, the steering works.

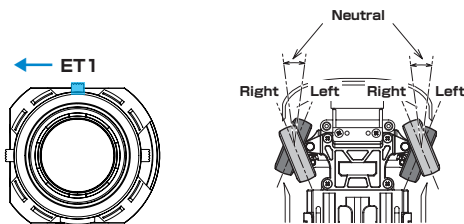


■ Steering trim (Center trim)

Adjusts the neutral/center position of the steering angle range. The function to make a fine adjustment so that a car goes straight in the right and left directions.

- A buzzer sound with a single beep sound when operated to the right and left.
- A buzzer sound "Piro" is made when the trim is at the center.
- When exceeding the setting range a "Pi-" sound can be heard.

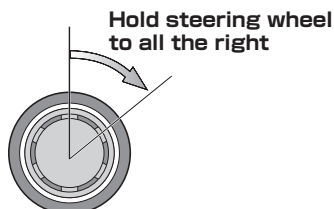
< ex. Left >



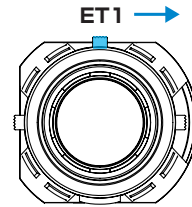
■ Steering reverse

If the direction of the steering is reversed, it will change the output method.
(when a steering moves to the left while turning the steering wheel to the right.)

- ① Hold the steering wheel all the way to the right .



- ② Press and hold the ET1 lever to right, wait about 1 second.



- ③ A single buzzer sounds and the steering directional movement is reversed.

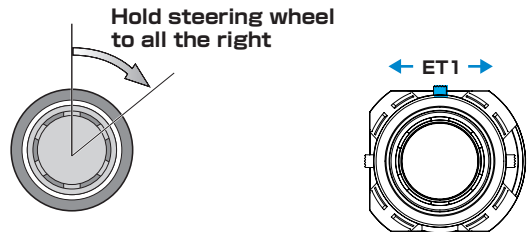
※ Return reverse setting, perform operation ①~③ again.

■ Steering travel

Adjust the left/right steering angles independently. This enables the turning radius of each side to match up.

● Travel R

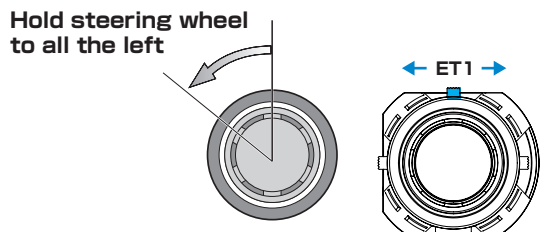
- ① Hold steering wheel to all the right
- ② Push ET1 lever by 1 click, adjust the range of Steering angle.



⚠ Do not hold the ET1 lever, or the steering reverse will be set.

● Travel L

- ① Hold steering wheel to all the Left
- ② Push ET1 lever by 1 click, adjust the range of Steering angle.

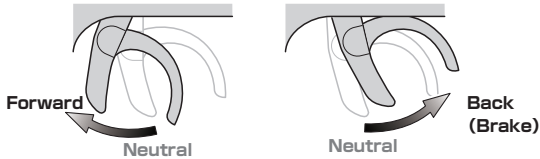


● THROTTLE

※ Other than the operation explanation of the trigger movement, the following function explanation in case of not using the Xpansion unit. Refer to p.44 operation in the case of using the Xpansion unit.

■ Throttle trigger

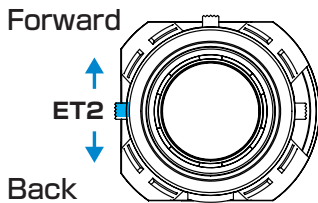
When is the draw in front (hold) operation, it will forward the vehicle body. When the operation of pressing, it works to the reverse side (brake).



■ Throttle trim

Adjusts the neutral/center position of the throttle stroke range. The function to make a fine adjustment, operate ET2 lever in up and down.

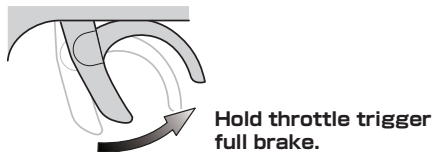
- A buzzer sound with a single beep sound when operated up or down.
- A buzzer sound "Piro" is made when the trim is at the center.
- When exceeding the setting range a "Pi-" sound can be heard.



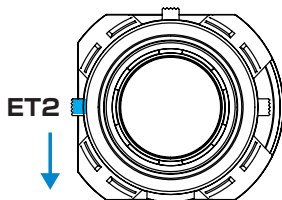
■ Throttle reverse

If the forward and the reverse of the direction is reversed, it will change the output method. (when the brake is moving the forward throttle.)

- ① Hold throttle trigger full brake.



- ② Press and hold the ET2 lever down, wait about 1 second.



- ③ A single buzzer sounds and the throttle directional movement is reversed.

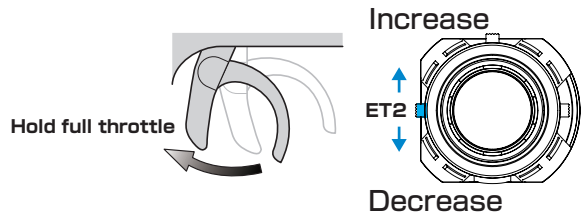
※ Return reverse setting, perform operation ①~③ again.

■ Throttle travel

We will adjust the operation amount of the front and rear of the throttle, respectively. It uses to adjustment and brake adjustment of the maximum speed.

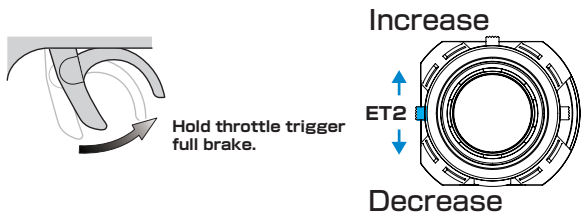
● Travel F(Forward)

- ① Hold throttle trigger full throttle.
- ② Push ET2 lever by 1 click, adjust the range of throttle movement angle. Quantity of the movement increases and decreases when operating the ET2 lever up or down respectively.



● Travel B(Brake)

- ① Hold throttle trigger full brake.
- ② Push ET2 lever by 1 click, adjust the range of throttle movement angle. Quantity of the movement increases and decreases when operating the ET2 lever up or down respectively.

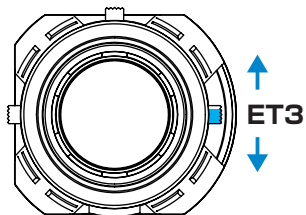


⚠ Do not hold the ET2 lever, or the steering reverse will be set.

● 3CH operation

Operating the ET3 lever, controls the 3ch servo.

※ The function explanation is in the case when not using the Xpansion unit. Refer to p.29 operation in the case of assembled Xpansion unit.



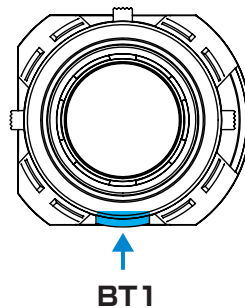
Example

- ① Use it for steering gyro gain (effect) control of MINI-Z MR-03VE PRO for MHS.

● 4CH operation

When the button of BT1 is operated, it is possible to operate the signal of 4CH.

※ The function explanation is in the case when not using the Xpansion unit. Refer to p.29 operation in the case of assembled Xpansion unit.

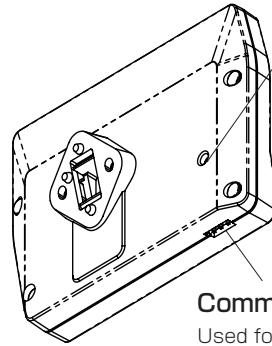
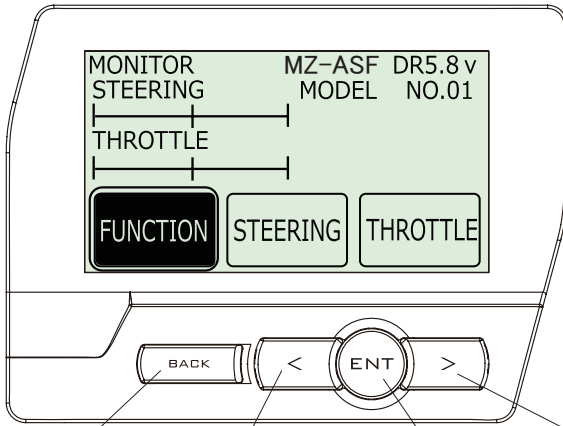


Display and Control Method for attaching the Xpansion unit

Basic Operations to Change Settings

Operation Controlling of the setting adjustments is done via the L(<) key, R(>)key, ENTER(ENT) key, and BACK key.

- ENT Key:** Selecting item to be modified; Confirming a change after a setting change.
- L (<) Key:** Used to move cursor between menu choices and to change a setting value.
Lowering a value (for L/R cases: raising toward L); Return to a previous menu item.
- R (>) Key:** Used to move cursor between menu choices and to change a setting value.
Raising value (for L/R cases: raising toward R); Proceed to next menu item.
- BACK Key :** Returning to previous screen; Canceling change
- L(<) key + R(>) key** Pressing simultaneously: Resets the value to default setting.



Command Button
Used for firmware upgrading.
Please refer to an update manual for the details.

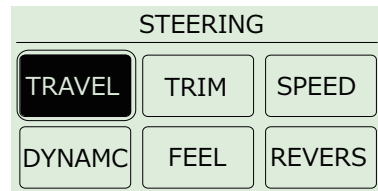
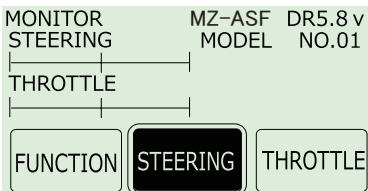
Communication port
Used for firmware upgrading and ICS communication.
Please refer to an update manual for the details.

BACK Key L (<) Key ENT Key R (>) Key

[Basic Operation 1: Selecting from a Menu]

This explanation uses [Steering] as an example.

- ① Use the R(>) key to move the cursor over [Steering].
- ② Press the ENTER key to change to the Steering Menu screen.



[Basic Operation 2: Changing a Setting Value]

This explanation uses [TURN 1] on the Steering Speed screen as an example.

- ① Use R(>) key to move the cursor over the 100% value next to [ST TURN].
- ② Press ENTER key to select it for modification.
- ③ Once selected, the cursor will blink. Now use the L(<)key+R(>)key to change the value.
- ④ After changing the value, press the ENTER key again to confirm the change.

ST SPEED			
TURN POS	100%	RETURN POS	50%
TURN1	100%	RTRN1	100%
TURN2	100%	RTRN2	100%



ST SPEED			
TURN POS	50%	RETURN POS	50%
TURN1	100%	RTRN1	100%
TURN2	100%	RTRN2	100%

● Installation of Xpansion unit

Xpansion unit can be mounted facing the front or the side. The factory setting is mounted to the front.

! Be careful to not misuse the M2.6-6BH and TP2.6-8BH screws.

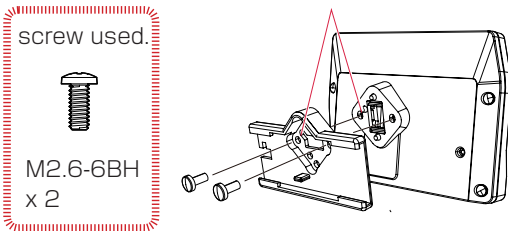
! Remove the connector cover before use.

P Xpansion unit can be mounted in two different directions using the monitor base and bracket.

A ▼ : setting to the front

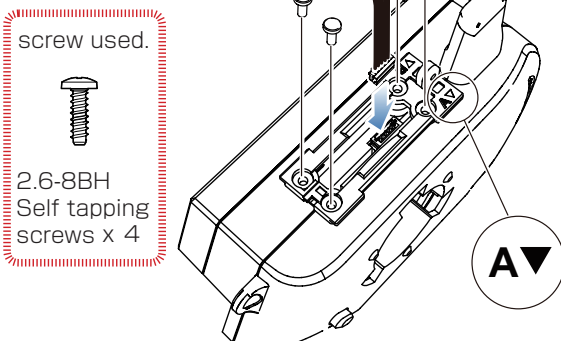
① Attach a monitor base parallel to Xpansion unit. ※ Factory setting.

Attention to the marker.



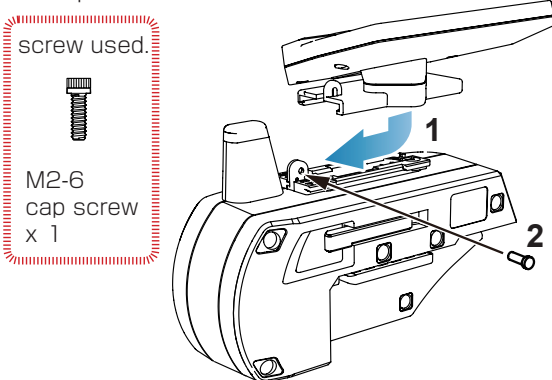
② Attach the monitor bracket to the master unit. ※ [A ▼] mark to the steering side.

Connect the wire of the Xpansion unit to the master unit.



③ Attach expansion unit to a master unit.

1 While matching the edge of the base with the dent of the bracket, slide it until the Xpansion unit locks.

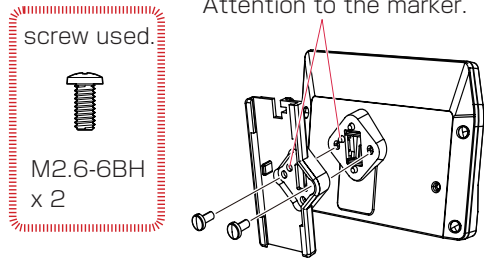


2 Set M2-6 Cap Screw.

▼ B : when mounting sideways

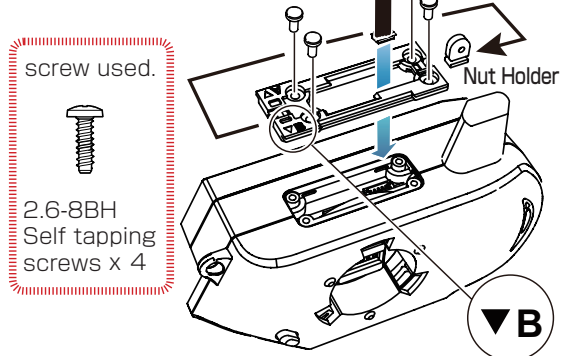
① Attach the monitor base at a right angle to Xpansion Unit. ※ Different Factory setting.

Attention to the marker.



② Attach the monitor bracket to the master unit. ※ Apply [B ▼] mark to the steering side.

Connect the wire of the Xpansion unit to the master unit.



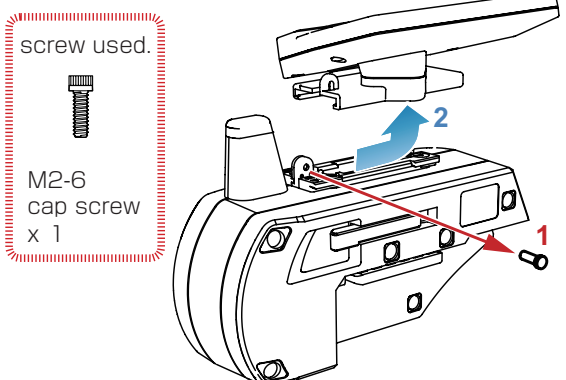
③ Attach the Xpansion unit to the master unit. ※ Attach the monitor base and bracket as shown in figure A ③ .

How to disassemble the Xpansion unit.

1.Remove M2-6 Cap Screw.

2.Slide the Xpansion like shown in the figure below and take off.

※ The disassembly method is the same as side and front positions.



! When assembling or disassembling the Xpansion unit to EX-6R, please switch off the EX-6R.

● Startup Screen and Initial Screen

When the transmitter is switched on, the startup screen will display, followed by the initial screen.

※ Pressing the ENTER key during the startup screen will allow you to proceed to the initial screen.

[Startup Screen]

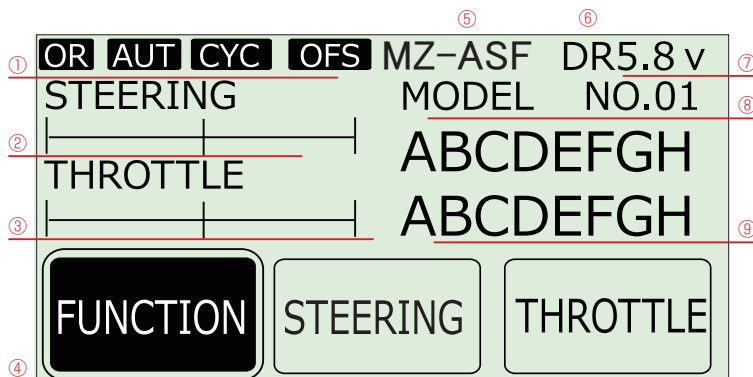


① Version Information:

Displays the version of the program that is installed in the Msater Unit's CPU. This product's performance may be upgraded via paid or free upgrades. Check the KO Propo website for information regarding such upgrades.

(<http://www.kopropro.co.jp>)

[Initial Screen]



① Function Monitor: Functions that are active will be lit up.

OR : Steering and Brake travel Override
 AUT : Throttle Auto Start
 CYC : Cycle (Throttle Acceleration/Throttle ABS)
 OFS : Offset (Drag Brake/Idle Up)

! When the above-mentioned functions are disabled "MONITOR" displayed.

② Steering Trim Monitor: Displays the position of the steering trim.

③ Throttle Trim Monitor: Displays the position of the throttle trim.

④ Top menu: Display three kinds of setting items

FUNCTION : Modify settings related to functions.
 STEERING : Modify settings related to the steering.
 THROTTLE : Modify settings related to the throttle.

⑤ Modulation Mode : Displays the currently selected modulation mode.

MZ-ASF : ASF Mode

MzMHS G : Mini-Z MHS General Mode

MzMHS F : Mini-Z MHS French Mode

⑥ Power Source Type: Displays the type of battery being used.

LP : Li-po

DR : R03/AAA/UM4 Alkaline Batteries

LF : Li-Fe

NI : Ni-MH

(Notice) If you switch battery types, make sure to also change the [Battery Management] setting.

⑦ Voltage: Displays the current power source voltage.

⑧ Model Number: Displays the currently selected model number.

⑨ Model Name: Displays the name of the currently selected model number.

● VR information setting

Adjust the steering and throttle resistance information. ※ Please perform the VR information configuration to calibrate your system.

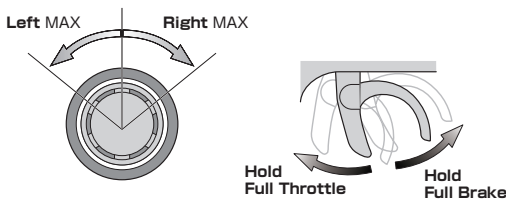
- When using EX-6R for the first time.
- When changing a steering unit for a different product or when putting it back together.
- When changing a grip unit for a different product or when putting it back together.
- When using and confusion has occurred in the positional information.

1. Select [FUNCTION] on the initial screen and push the ENTER key.
2. Select [SYSTEM] on the function screen and push the ENTER key.
3. Select [VR INFO] on the system screen and push the ENTER key.
4. Move the wheel slowly to the full left and right lock (numbers will change as the steering is moved) and release the wheel back to neutral.
5. Move the trigger slowly to the full throttle and full brake positions (numbers will change as the throttle is moved) and release the trigger back to neutral.
6. Then select YES (press ENTER) to adjust and save the settings.

3. Example before setting

VR INFORMATION		
ST- LEFT	X X X X	OK? YES
NUT	X X X X	
RIGHT	X X X X	
TH- HI	X X X X	
NUT	X X X X	
LOW	X X X X	

4.5. Move slowly to full stroke, then release.



6. Small window [Yes] comes active.

VR INFORMATION		
ST- LEFT	1 7 6 0	OK? YES
NUT	◇	
RIGHT	-1 7 5 2	
TH- HI	1 2 8 6	
NUT	◇	
LOW	- 5 9 9	

※ When operating the VR INFORMATION and pressing the BACK key will cancel the operation.

● How to change the Modulation mode

EX-6R has two Modulation modes.

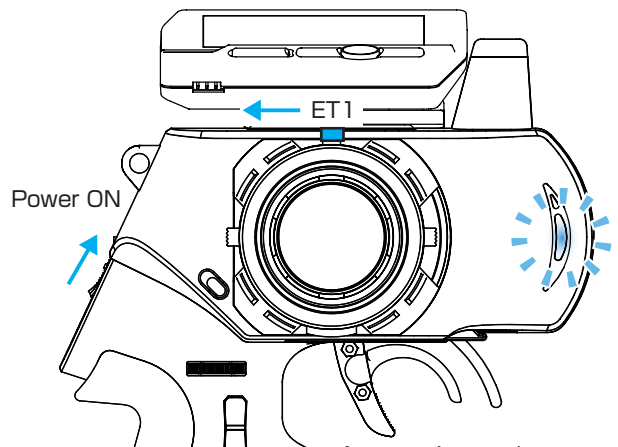
※ When attaching the Xpansion unit, this operation is the same.

《Functions》

- MINI-Z ASF mode : LED Solid
ASF support of MINI-Z series is steerable.
- MINI-Z MHS mode : LED Flashing slowly
Operating MINI-Z MHS mode. (MR-03 VE PRO)

▲ Only MINI-Z with ASF/MHS system are operable.
FHS (MINI-Z SPORTS) cannot be controlled.

- ① Turn off EX-6R switch.
- ② Push the ET1 lever to the left and power on.
- ③ Hold ET1 lever until the buzzer sounds and the LED of EX-6R turns on (approximately two seconds).



Approximately two seconds, LED turns on.

▲ If the pilot LED is blinking fast, this is a warning that the battery voltage is low. Please change to new batteries or for a battery pack which has been charged.

▲ Model selection changes and modulation mode changes are not linked.

● Pairing

Case of using the Xpansion unit

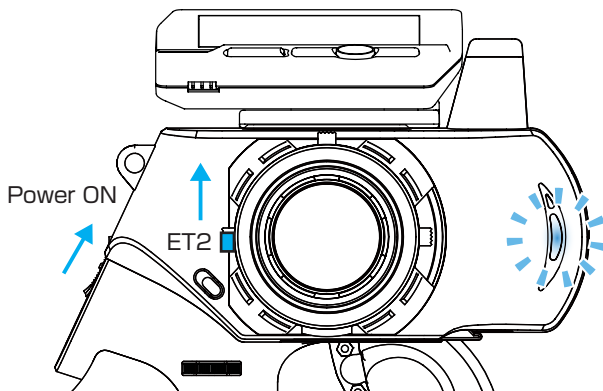
※ Refer to p.11 pairing Operation when not using the Xpansion unit.

In order for the receiver to operate, it must store the transmitter's unique ID in its memory in a process called "pairing." Even if a single transmitter is used to control multiple receivers, each receiver must go through the pairing process with the transmitter before being used for the first time.

※ Please adjust the modulation mode before pairing. (p.20) A receiver does not work normally in a different mode.

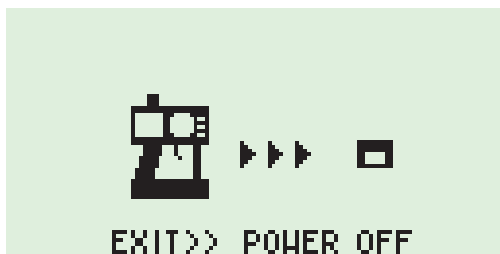
1. Preparing the Transmitter

- ① While pushing the ET2 lever up, power on. The pilot LED lights up, release ET2 lever.



- ② Displays the initial screen, then pairing display is shown. (indicating transmitter is transmitting the pairing signal.)

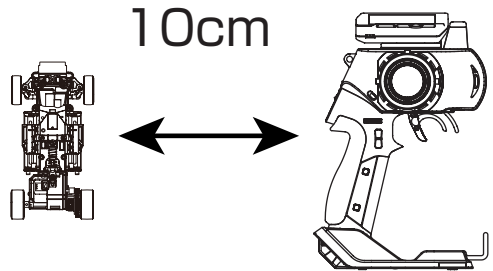
<France mode pairing >
FRANCE mode pairing is possible when the ET2 lever is released after LED turns off. Please use this feature if the situation is needed.



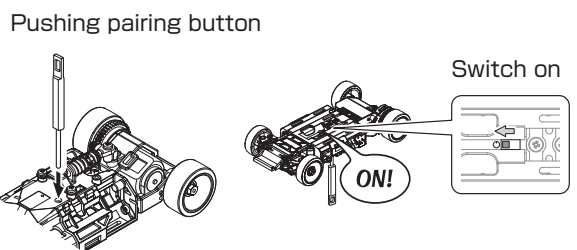
- ⚠ Or have someone else the pairing in the vicinity, when the pairing work does not work under the influence of wireless LAN, microwave ovens, please perform again shifted or time for a little bit and away from there.

2. Preparing the MINI-Z

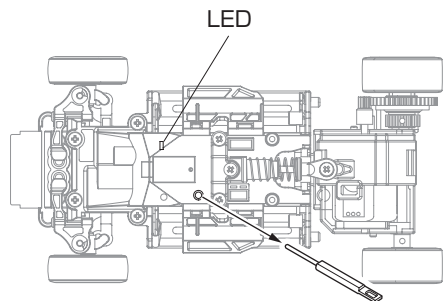
- ① Bring distance of EX-6R and MINI-Z close to about 10cm.



- ② Switch on MINI-Z while pushing the pairing button of MINI-Z.



- ③ After the MINI-Z's LED has lit up, release the pairing button. Then check that the MINI-Z's LED lights up again (indicating pairing completion)



3. Preparations for Operation

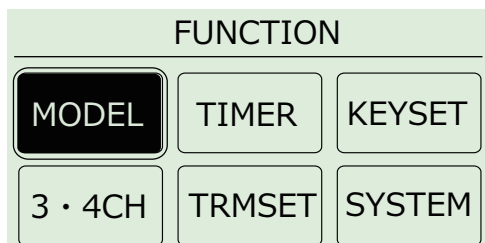
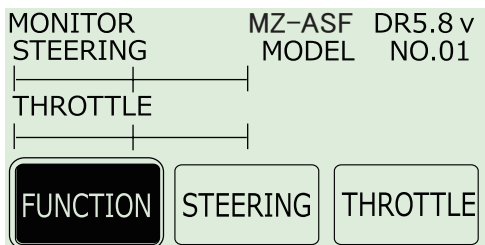
- ① Switch off MINI-Z.
- ② Switch off the EX-6R main power, then switch on EX-6R again.
- ③ Bring distance of EX-6R and MINI-Z close to about 30cm. Switch on the MINI-Z and check that the receiver LED is lit. If the LED flashes, the MINI-Z is not getting the EX-6R signal and the pairing procedure should be repeated.

- ⚠ If the mode is changed (General or France), please conduct pairing procedures with the MINI-Z you are using again.

TOP MENU

FUNCTION

This is an index which displays the 6 different function menus.



MODEL menu (MODEL)

Operations such as selecting or copying a model.

TIMER menu (TIMER)

Operating timer-related functions.

Key Setting (KEYSET)

Modify system-related functions such as key assignment.

3 · 4CH menu (3 · 4CH)

Modify settings related to 3CH and 4CH.

TRIM SET (TRMSET)

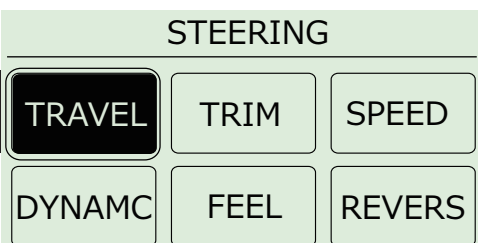
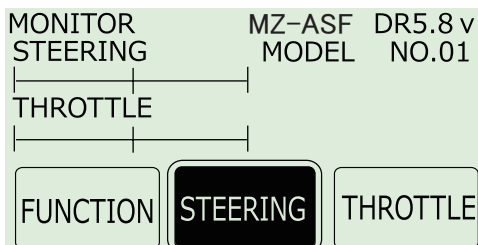
Easy adjust function for steering trim and balance.

SYSTEM menu (SYSTEM)

Modify system-related functions such as VR information or calculator.

STEERING

This is an index which displays the 6 different function menus.



TRAVEL menu (TRAVEL)

Modify the overall amount of steering movement.

TRIM menu (TRIM)

Modify the neutral position of the steering angle.

Steering Speed (SPEED)

Modify the speed of the steering's movement.

Steering Dynamics (DYNAMC)

Modify the movement speed ratio which corresponds to steering angle and Modify how much the steering initially turns from neutral position.

Steering Feel menu (FEEL)

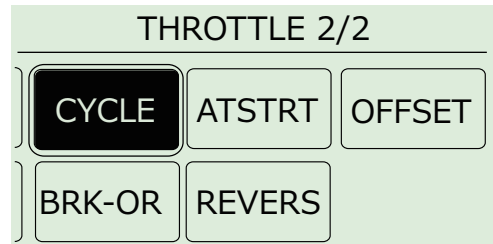
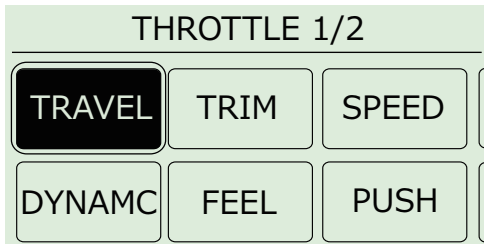
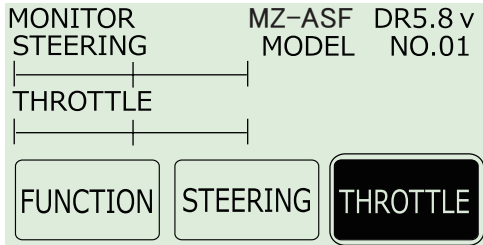
Modify the feeling of the steering's movement.

Steering Reverse (REVERS)

Modify the steering direction.

THROTTLE

This an index which displays the 11 different function menus.(Separated 2 pages.)



Throttle Travel (TRAVEL)

Modify the maximum throttle movement.

Throttle Trim (TRIM)

Modify the neutral position of the throttle.

Throttle Speed (SPEED)

Modify the speed of the throttle's movement.

Throttle Dynamics (DYNAMC)

Modify the movement speed ratio which corresponds to throttle angle and Modify how much the throttle initially moves from the neutral position.

Throttle Feel (FEEL)

Modify the feeling of the throttle movement.

PUSH (PUSH)

Modify the push control.

Throttle Cycle (CYCLE)

Modify the amount of brake pumping and acceleration.

Throttle Auto-Start (ATSTRT)

Set the amount of automatic startup for the throttle.

Throttle OFFSET (OFFSET)

Modify the neutral position of the throttle trigger or neutral braking.

Throttle Override (BRK-OR)

Modify the maximum amount of braking and steering travel assigned to a switch.

Throttle Reverse (REVERS)

Modify the throttle direction.

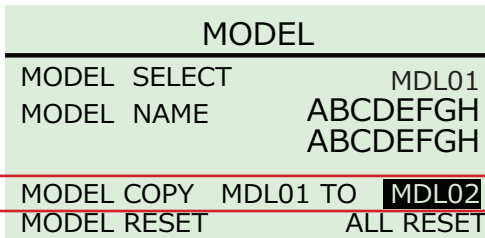
▶ MODEL COPY

Copies the current model memory to a different model memory.

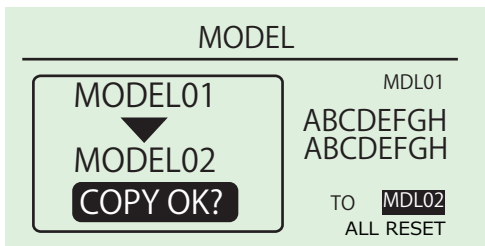
[Example]

When changing settings on the same car to match driving conditions, it is convenient to copy the original memory before modifying it. This function also allows you to try out new settings while keeping your original one.

Select the model memory to copy to, then hold the ENTER key to copy.



Small window [COPY OK?] appears, then push the ENTER key.



[Setting Range] MDL 01 ~ 40

P When selecting the model memory to copy to, that model memory's name will be displayed.

P The settings which will be switched by Model Copy are...

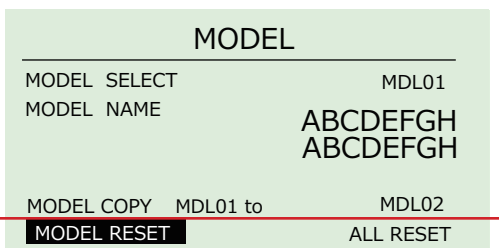
- 1)Steering Setting
- 2)Throttle Setting
- 3)3CH Setting
- 4)4CH Setting
- 5)Steering and Throttle Response
- 6)Steering and Throttle Feel
- 7)Setup Functions (ET1-ET5, BT1 function assignments)
- 8)Stopwatch Settings

! The contents of the model memory that is being copied to will be overwritten. Overwritten data cannot be recovered, so be careful to avoid undesired memory overwrites.

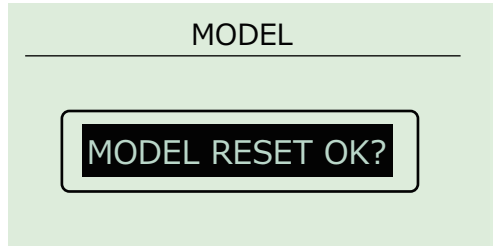
▶ MODEL RESET

Return the current model memory to default factory setting values.

Select [RESET] (hold ENTER key) to reset.



Small window [RESETOK?] displayed, then push the ENTER key.

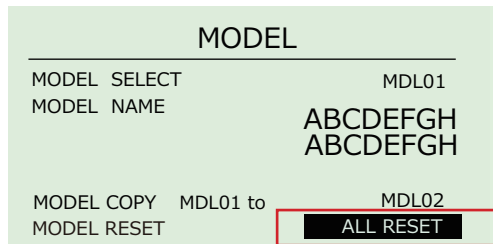


! Deleted data cannot be recovered. Be careful to avoid undesired resets.

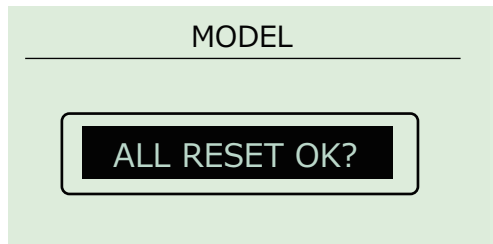
▶ ALL RESET

All model and system data is reset to the factory default.

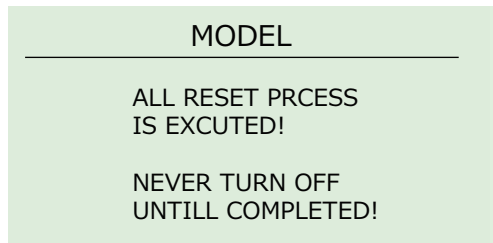
Select "ALL RESET" and press and hold the ENTER key to initialize the all reset.



"ALL RESET OK?" is displayed and pressing the ENTER key will execute the function. If the BACK key is pressed, all reset is cancelled.



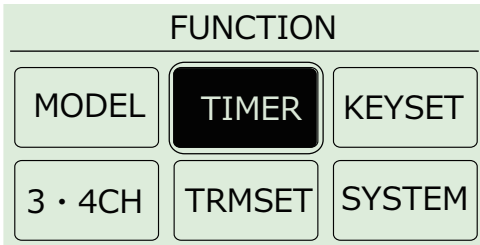
! When the initialization is run, the display shown below is seen. Initialization requires about 20 seconds to be performed, please do not turn off the power.



P When the initialization has ended, the system will automatically restart. After the restart, the VR information configuration must be performed.

! Deleted data cannot be recovered. Be careful to avoid undesired resets.

Operating Timer-related functions.

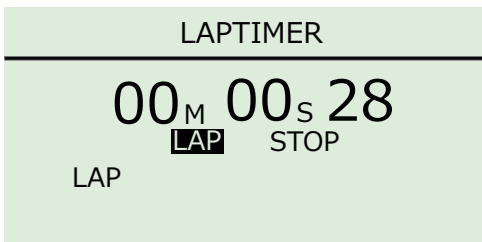
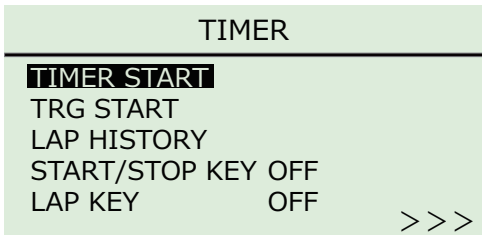



《Functions》

- ▶ **TIMER START**
Start the timer.
- ▶ **TRGSTART**
Prepares the stopwatch for activation via the throttle movement.
- ▶ **LAP HISTORY**
Displays the lap times recorded by the stopwatch.
- ▶ **START/STOP KEY**
Assigns a key to activate/deactivate the stopwatch.
- ▶ **LAP KEY**
Assigns a lap key.
- ▶ >>>> The following page is displayed.
- ▶ **LAP NAVI**
Adjusts the lap navigation settings.
- ▶ **ALARM TIME**
Alarm will sound after the set amount of time has elapsed.
- ▶ **P.ALARM**
Sets a warning buzzer to sound at a set time prior to the alarm.
- ▶ **ALARM MODE**
Sets an alarm buzzer to the continue sound mode (CONTINUE) or to the sound stop mode(STOP).
- ▶ **TIMER MODE**
The lap timer or down timer can be selected.
- ▶ <<<< The front page is displayed.

▶ **TIMER START**

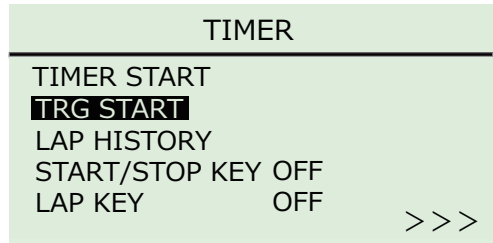
When the cursor is highlighting the **TIMER START**, **ENTER** key is pressed and held to start the timer.



 While the timer is running and the **BACK** key is pressed, the timer is halted. While the timer is halted, pressing the **BACK** key again will return you to the **TIMER** screen.

▶ **TRGSTART Trigger Start**



Move the cursor to **[TRGSTART]** and hold the **ENTER** key. **TRGSTART** will switch to **READY** for a brief moment, then push assigned **[START/STOP]** key or move throttle trigger.



▶ **LAP HISTORY**

Displays the laptime records the stop watch. Scroll down when the **R** key is pushed, and scroll up when the **L** key is pushed. When pressing the **BACK** key, you are returned to the **Timers** screen.

LAPHISTORY	
001	00' 02" 20
002	00' 05" 51
003	00' 05" 09
004	00' 04" 72
005	00' 02" 70
TTL	00' 20" 25


-  100 lap times are memorized.
-  Only the last recorded lap times may be checked and previously recorded results will not be saved. (Even if the transmitter is switched off, the last recorded times will remain in the memory.)

▶ **START/STOP KEY**

The key which you start and stop the timer is assigned.
[Setting Range] : OFF, ET1 ~ 5, BT1 (Default : OFF)

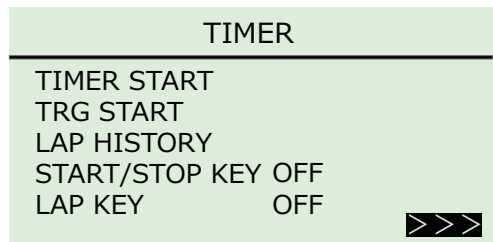
▶ **LAP KEY**

The key which will score the lap time is assigned.
[Setting Range] : OFF, ET1 ~ 5, BT1 (Default : OFF)

 The **START/STOP KEY** and the **LAP KEY** settings share the same parameters with the **KEYSET** setting. Make sure not to overwrite the functions assigned to **ET** and **BT** keys by mistake.

▶ >>>>

>>>> When the **ENTER** key is is pressed after the mark, the following page is displayed.





TIMER menu

Operating Timer-related functions.

TIMER	
LAP NAVI	0s00
ALARM TIME	5MIN
P. ALARM	10SEC
ALARM MODE	STOP
TIMER MODE	LAP
<<<	

▶ LAP NAVI

Adjusts the lap navigation settings.

※ Convenient for setting a target lap.

[Setting Range] : 0 SEC 00 ~ 99 SEC 99 (Default : 0 SEC 00)

▶ ALARM TIME

Alarm will sound after the set amount of time has elapsed.

※ Convenient for setting the anticipated race completion time.

[Setting Range] : 1 MIN ~ 99 MIN (Default : 5 MIN)

▶ P.ALARM

Sets a warning buzzer to sound at a set time prior to the alarm.

※ Convenient for setting a warning for when a race is about to end.

[Setting Range] : 0 ~ 30 SEC (Default : 10 SEC)

▶ ALARM MODE

Sets an alarm buzzer to the continue sound mode (CONTINUE) or to the sound stop mode (STOP).

※ STOP Buzzer sound stops at about 5 seconds.

※ CONT the Buzzer sound will continue until the START/STOP key is pressed .

[Setting Range] : STOP / CONT (Default : STOP)

▶ TIMER MODE

The lap timer or the down time can be selected.

※ Displayed time increases when LAP is selected for the lap timer.

※ Displayed time decreases when DOWN is selected for the lap timer.

[Setting Range] LAP / DOWN (Default : LAP)

▶ <<<

<<< When the ENTER key is pressed on the mark, the front page is displayed.

P About LAP TIMER Display

LAPTIMER	
00 _M 00 _S 28	
LAP	STOP

[Operation]

When LAP is highlighted and the ENTER key is pressed, the lap time is stored.

When STOP is highlighted and the the ENTER key is pressed the timer is halted.

The displayed STOP will change to START and if the ENTER key is pressed again the timer will continue.

When the timer is halted and if the BACK key is pressed you will be returned to the TIMER screen.

- ⚠ While the timer is running and the BACK key is pressed the timer will be halted. While being halted and the BACK key is pressed again you will be returned to the TIMER screen.

P About DOWN TIMER Display

DOWNTIMER	
04 _M 59 _S 28	
	STOP

[Operation]

When STOP is highlighted and the the ENTER key is pressed the timer is halted.

The displayed STOP will change to START and if the ENTER key is pressed again the timer will continue.

When the timer is halted and if the BACK key is pressed you will be returned to the TIMER screen.

- ⚠ While the timer is running and the BACK key is pressed the timer will be halted. While being halted and the BACK key is pressed again you will be returned to the TIMER screen.

KEYSET Key Setting

Assign a key (ET1- ET5, BT1) to a function.

FUNCTION		
MODEL	TIMER	KEYSET
3 · 4CH	TRMSET	SYSTEM

If you select a key, the item is displayed to the right. It is assigned to a key by choosing an item.

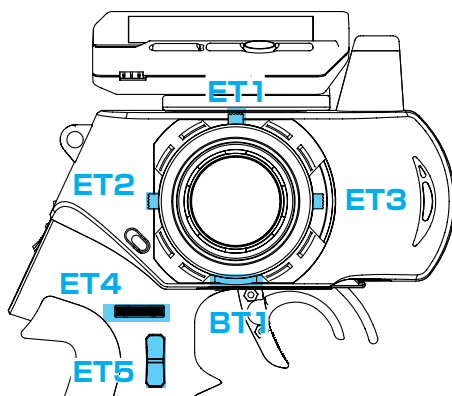
KEYSET		
ET 1 : S : TRIM	OFF	
ET 2 : T : TRIM	S : TR IM	
ET 3 : T: BRAKE	S : TR AVEL	
ET 4 : S: TRAVEL	S : FEEL	
ET 5 : OFF	T : TR IM	
BT 1 : OFF	T : HIPO INT	

[Setting Range] ○ : Assignment Possible

Function Setting	ET1 ~ 5	BT1
OFF (No Assignment)	○	○
S:TRIM (Steering Trim)	○	x
S:TRAVEL (Steering Travel)	○	x
S:FEEL (Steering Feel)	○	x
T:TRIM (Throttle Trim)	○	x
T:TRV F (Throttle Travel F)	○	x
T:TRV B (Throttle Travel B)	○	x
T:FEEL F (Throttle Feel F)	○	x
T:FEEL B (Throttle Feel B)	○	x
T:OFFSET (Throttle Offset)	○	○
T:OFSTKY (Throttle Offset Key)	○	x
T:BRAKEOR (Throttle Override)	○	○
T:ACCEL (Throttle Acceleration)	○	○
T:ABS (ABS)	○	○
T:AUTOST (Throttle Auto-Start)	○	○
TIMER (Timer)	○	○
LAPTIME (Lap Time)	○	○

[Default]

ET1 : S:TRIM
 ET2 : T:TRIM
 ET3 : T: BRAKE
 ET4 : S:TRAVEL
 ET5 : OFF
 BT1 : OFF

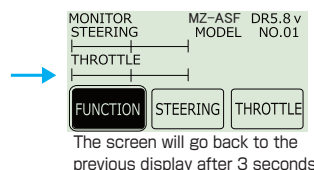
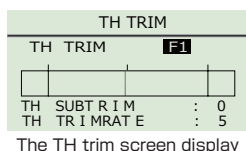
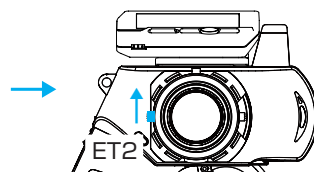
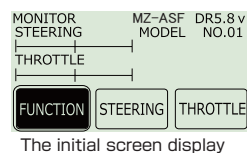


P About Direct Display

The display screen for a function which is assigned to ET1-5/BT-1 is displayed for 3 seconds when you operated each ET or BT. If there is no operation after the allotted time, the screen returns automatically to the original screen. (Direct Display Function)

[Example of operation]

If you operate the ET2 in the upper direction from the initial screen display, the screen will change to TH trim screen display and TH trim value will change to "F1". The screen will go back to the previous display after 3 seconds.



! Direct display function will not work while in the MODEL menu or the SYSTEM menu. Please change the menu screen to another by pressing the back key.

[Non-choice item]

The entry of 3/4CH is displayed only when a key is set to 3/4CH function setting.

- 3(4) : POS (3 · 4 CH / Control)
- 3(4) : SMMODE (3 · 4 CH / 4WS Mixing Mode)
- 3(4) : SMCENT (3 · 4 CH / 4WS Mixing Center)
- 3(4) : SMTRVL (3 · 4 CH / 4WS Mixing Travel)
- 3(4) : AMMODE (3 · 4 CH / Amp Mixing Mode)
- 3(4) : AMTH (3 · 4 CH / Amp Mixing Throttle Hold)
- 3(4) : AMHIPO (3 · 4 CH / Amp Mixing High Point)
- 3(4) : AMBRAKE (3 · 4 CH / Amp Mixing Brake)
- 3(4) : AMRVS (3 · 4 CH / Amp Mixing Reverse)
- 3(4) : TMBRAKE (3 · 4 CH / Throttle Mixing Brake)
- 3(4) : TMCENT (3 · 4 CH / Throttle Mixing Center)
- 3(4) : TMHIPO (3 · 4 CH / Throttle Mixing High Point)
- 3(4) : TMDELAY (3 · 4 CH / Throttle Mixing Delay)
- 3(4) : TMSTEER (3 · 4 CH / Throttle Mixing Steering)
- 3(4) : TMON (3 · 4 CH / Throttle Mixing ON/OFF)

3 • 4CH menu

Settings related to 3CH and 4CH operations.

FUNCTION		
MODEL	TIMER	KEYSET
3 • 4CH	TRMSET	SYSTEM

《Functions》

▶ MODE

OFF	GYRO
2WAY	TWIN
3WAY	4WS
5WAY	AMP
ANLOG	T-MIX

▶ SET

Set the usage choice for channels 3 and 4 modes.

The MODE of 3CH or 4CH is selected from the right.
Change the setting of the item chosen with the SET key.

3 • 4CH	
3 CH MODE	OFF GYRO
5 WAY	2WAY TWIN
SET	3WAY 4 WS
4 CH MODE	5WAY AMP
2 WAY	ANLOG T-MIX
SET	

P The functions which may be set are the same for both 3CH and 4CH. Set them to match the desired purpose.

【Default】

3CH MODE : 5WAY
4CH MODE : 2WAY

▶ 2WAY MODE

Modify the 2-position output settings.
※ Not used in MINI-Z.

【Example】

May be used to activate/deactivate an engine starter unit or a semi-trailer's support legs.

3 CH MODE : 2WAY	
START : POS1	POS1 : 0
KEY : OFF	POS2 : 100

【Setting Range】

START : POS 1, POS 2 (Default : POS 1)

Sets the starting position.

KEY : OFF, ET1 ~ 5 (Default : OFF)

Assigns a key to use for switching positions.

POS 1 : -100 ~ 100 (Default : 0)

Sets Position 1's output position.

POS 2 : -100 ~ 100 (Default : 100)

Sets Position 2's output position.

▶ 3WAY MODE

Modify the 3-position output settings.

※ Not used in MINI-Z.

【Example】

May be used for gear changing operations or when you wish to set a 3-position control scheme for the servo.

3CH MODE : 3WAY	
START : POS1	POS1 : -100
KEY : ET3	POS2 : 0
SET	POS3 : 100

【Setting Range】

START : POS 1, POS 2, POS 3 (Default : POS 1)

Initial position is configured.

KEY : OFF, ET1 ~ 5 (Default : OFF)

Assigns a key to use for switching positions.

POS 1 : -100 ~ 100 (Default : -100)

Sets Position 1's output position.

POS 2 : -100 ~ 100 (Default : 0)

Sets Position 2's output position.

POS 3 : -100 ~ 100 (Default : 100)

Sets Position 3's output position.

Gyro control settings of MINI-Z PRO series, please refer to the ▶ 5WAY (5WAY).

3 • 4CH menu

▶ 5WAY MODE

Modify the 5-position output settings.

[Example]

In MINI-Z MHS (such as MR-03VE PRO), it will control the gain of the steering gyro. As follows START: POS3, KEY: it will set in ET3.

3CH MODE : 5WAY	
START : POS3	POS1 : -100
KEY : ET3	POS2 : - 50
SET	POS3 : 0
	POS4 : 50
	POS5 : 100

[Setting Range]

START : POS 1, POS 2, POS 3, POS 4, POS 5
Sets the starting position. (Default: POS 3)

KEY : OFF, ET1 ~ 5, BT1 (Default : OFF)
Assigns a key to use for switching positions.

POS 1 : -100 ~ 100 (Default : -100)
Sets Position 1's output position.

POS 2 : -100 ~ 100 (Default : -50)
Sets Position 2's output position.

POS 3 : -100 ~ 100 (Default : 0)
Sets Position 3's output position.

POS 4 : -100 ~ 100 (Default : 50)
Sets Position 4's output position.

POS 5 : -100 ~ 100 (Default : 100)
Sets Position 5's output position.

▶ ANALOG MODE

These settings are to enable continuous output for channels 3 or 4. ※ Not used in MINI-Z.

3CH MODE : ANALOG	
KEY : ET3	LOW : -100
REVERSE : NORM	CEN : 0
STEP : 5	HIGH : 100

[Setting Range]

KEY : OFF, ET1 ~ 5, BT1 (Default : OFF)
Assigns a key to use for switching positions.

REVERSE : NOR (Normal) , REV (Reverse) (Default : NORM)
Sets operation direction.

STEP : 1 ~ 25 (Default : 5)
Sets the amount of change for the operation.

LOW (Low Position) : -100 ~ 0 (Default : -100)

Sets the lowest value for the operation range.

CEN (Center Position) : LOW ~ HIGH (Default : 0)

Sets the neutral position for the operation range.

HIGH (High Position) : 0 ~ 100 (Default : 100)

Sets the highest value for the operation range.

[How to Use Analog Settings]

Low Position Side :

Between LOW and CEN are 100 steps within which the intervals can be adjusted.

High Position Side :

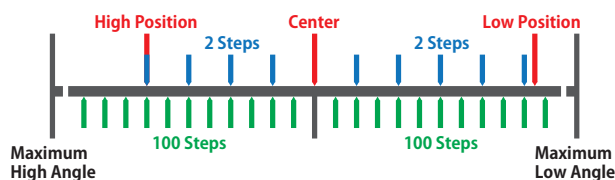
Between CEN and HIGH are 100 steps within which the intervals can be adjusted.

Example) When STEP value is 2

When LOW side is set to 5 intervals.

When HIGH side is set to 4 intervals.

Movement Range
Interval Position



P Center position is the starting position.

P Low/High positions cannot be exceeded. Operations which try to do so will stop just before the Low/High positions.

▶ GYRO MODE

This function modifies the setting for using gyro receiver.

※ It is not for the gyro for the MINI-Z. It is not used in MINI-Z.

[Example]

Such as Kondo Kagaku Co., Ltd. gyro KR-212FHG, you can use when you want to control the gyro system for sensitivity adjustment using the 3CH · 4CH.

[How to set Gyro mode]

GYRO is configured to channels 3/4 control modes.

ET3 : 3ch control (Steering gyro gain control)

ET5 : 4ch control (Throttle gyro gain control)

Adjust it to moderate gyro gain while running.

P Specification of channel 3 and 4 of the gyro mode memory (storage) is memorized.

! The functions which may be set are both 3CH and 4CH.

! When the 3ch/4ch mode is changed from GYRO mode to another mode or OFF, the 3ch mode will return to the setting for (OFF).

! Please prepare the gyro system (ex. KR-212FHG) separately. The gyro effect is not provided only in the main system of transmitter.

▶ TWIN SERVO MODE

This function modifies the setting for using 2 steering servo. Using left steering servo 1ch, and right steering servo 3ch or 4ch. ※ Not used in MINI-Z.

[Example]

Ackerman control is possible when using for drift cars using twin servos.

3CH MODE : TWIN SERVO			
LEFT — ST (1 CH)		RIGHT — ST NORM	
L • LEFT	70%	R • LEFT	70%
L • RIGHT	70%	R • RIGHT	70%
L • SPEED	100%	R • SPEED	100%
L • TRIM	0	R • TRIM	0

[Setting Range]

LEFT-ST (1CH)

L-LEFT : 30 ~ 100% (Default: 70%)

Sets the highest value for the 1CH servo left operation.

L-RIGHT : 30 ~ 100% (Default: 70%)

Sets the highest value for the 1CH servo right operation.

L-SPEED : 1 ~ 100% (Default: 100%)

Sets the steering speed for the 1CH servo operation.

L-TRIM : -50 ~ 50 (Default: 0)

Sets the neutral position for the 1CH servo operation range.

RIGHT-ST

NORM (Normal) , REVS (Reverse) (Default: NORM)

Sets operation direction of 3CH or 4CH servo.

R-LEFT : 30 ~ 100% (Default: 70%)

Sets the highest value for the 3(4)CH servo left operation.

R-RIGHT : 30 ~ 100% (Default: 70%)

Sets the highest value for the 3(4)CH servo right operation.

R-SPEED : 1 ~ 100% (Default: 100%)

Sets the steering speed for the 3(4)CH servo operation.

R-TRIM : -50 ~ 50 (Default: 0)

Sets the neutral position for the 3(4)CH servo operation range.

▶ 4WS

This function is related to an R/C car's 4-wheel steering feature. If 3CH or 4CH is assigned to control the rear axle, it will operate in conjunction with 1CH (steering). The direction of the rear axle steering may also be changed. ※ Not used in MINI-Z.

3CH MODE : 4 WS	
MODE	NORMAL ->KEY:OFF
LEFT	70
CENTER	0 ->KEY:OFF
RIGHT	70
TRVL	100 ->KEY:OFF
REVERSE	NORM

[Setting Range]

MODE (Default: NORMAL)

NORMAL (front and rear axles turn in the same direction)

REVERSE (front and rear axles turn in opposite directions)

F STEER (steer front axle only)

R STEER (steer rear axle only)

LEFT : 0 ~ 100 (Default: 70)

Adjusts the rear axle servo movement range when steering is turned to the left.

CENTER : -50 ~ 50 (Default: 0)

Adjust the rear axle servo's neutral position.

RIGHT : 0 ~ 100 (Default: 70)

Adjusts the rear axle servo movement range when steering is turned to the right.

TRAVEL : 0 ~ 150 (Default: 100)

Adjusts the overall amount of movement of the rear axle servo when the steering is at full lock.

REVERSE : NORM (Normal) , REVS (Reverse) (Default: NORM)

Sets operation direction of 3CH or 4CH servo.

MODE → KEY : OFF, ET1 ~ 5 (Default: OFF)

Assigns ET keys to be used for 4WS Mixing MODE.

CENTER → KEY : OFF, ET1 ~ 5 (Default: OFF)

Assigns ET keys to be used for 4WS Mixing CENTER.

TRVEL → KEY : OFF, ET1 ~ 5 (Default: OFF)

Assigns ET keys to be used for 4WS Mixing TRAVEL.

▶ AMP Mixing MODE

※ Not used in MINI-Z.

Used when the front and rear wheels are controlled by separate ESCs and motors. If 3CH or 4CH is set to the front-wheel drive function, it will operate in conjunction with 2CH's throttle operations.

3CH MODE : AMP		
MODE	NORMAL	->KEY:OFF
TH HOLD	0	->KEY:OFF
HIPOINT	100	->KEY:OFF
BRAKE	100	->KEY:OFF
TRIM	0	
REVERSE NORM		->KEY:OFF >>>

[Setting Range]

MODE (Default: NORMAL)

NORMAL(drives both front and rear wheels)

BURN(drives rear wheels only)

DIG(drives front wheels only)

F HOLD(drives front wheels at a set speed)

R HOLD(drives rear wheels at a set speed)

TH HOLD : -100 ~ 100 (Default: 0)

This function adjusts the set speed used for (F HOLD) and (R HOLD) selected in Amp Mixing Mode.[F HOLD] adjusts the front wheel drive while [R HOLD] adjusts the rear wheel drive.

※ This setting is activated when F HOLD or R HOLD mode is selected.

[Example] May be used for rock crawlers, etc.

HIPOINT : 0 ~ 150 (Default : 100)

Adjusts the maximum amount of throttle to be applied to the front wheels. Equivalent to the [Throttle High Point] function.

※ This setting is activated when NORMAL, DIG, or R HOLD mode is selected.

P This makes it easy to adjust the amount of maximum throttle, particularly on a glow engine car.

P If the amp mixing high point is set low and the amp mixing trim is set to a high value toward acceleration, the resulting throttle movement may be extraordinarily small.

! On glow engine cars, an overly high setting value will increase load on the servo and lead to it being damaged. Check carefully while adjusting.

! On electric cars, a setting value that is too small may cause problems with the ESC settings. Make adjustments starting from the default setting (100).

! Brake will not operate if the value is set to 0.

BRAKE : 0 ~ 150 (Default: 100)

Modify the maximum amount of reverse (brake) to be applied to the front wheels.

Equivalent to [Throttle Brake] function.

※ This setting is activated when NORMAL, DIG, or R HOLD mode is selected.

! On glow engine cars, an overly high setting value will increase load on the servo and lead to it being damaged. Check carefully while adjusting.

! On electric cars, a setting value that is too small may cause problems with the ESC settings. Make adjustments starting from the default setting (100).

! Brake will not operate if the value is set to 0.

TRIM : -50 ~ 50 (Default : 0)

Adjusts the neutral position of the front wheels.

P The setting position cannot exceed what is set by [High Point] or [Brake].

REVERSE : NORM (Normal) , REVS (Reverse)

Changes the movement direction of the front wheels. (Default: MORM)

P For electric cars, the throttle is set by the ESC so there is no need to set this function. However, some older ESCs will not function properly unless reverse is also set.

MODE → KEY : OFF, ET1 ~ 5 (Default : OFF)

Assigns ET or BT keys to activate the various front wheel drive modes.

TH HOLD → KEY : OFF, ET1 ~ 5 (Default : OFF)

Assigns ET keys to be used for the set speed used for TH HOLD.

HIPOINT → KEY : OFF, ET1 ~ 5 (Default : OFF)

Assigns ET or BT keys to adjust HIPOINT value.

BRAKE → KEY : OFF, ET1 ~ 5 (Default : OFF)

Assigns ET or BT keys to adjust BRAKE value.

REVERSE → KEY : OFF, ET1 ~ 5 (Default : OFF)

Assigns ET or BT keys to changes the movement direction of the front wheels.

[Setting Range]

ET MODE SET

Assigns ET or BT keys to activate the various front wheel drive modes.

3CH MODE:AMP	
ET MODE SET	
NORMAL	: ON
BURN	: ON
DIG	: ON
F HOLD	: ON
R HOLD	: ON
<<<	

NORMAL : ON, OFF (Default : ON)

BURN : ON, OFF (Default : ON)

DIG : ON, OFF (Default : ON)

F HOLD : ON, OFF (Default : ON)

R HOLD : ON, OFF (Default : ON)

P Assigning these keys may be convenient for rock crawlers or when you need to adjust Amp Mixing settings.

▶ T-MIX Throttle Mixing MODE

※ Not used in MINI-Z.

Mainly used for 1/5 scale R/C cars where the left/right front wheels' braking operation is controlled by an independent servo.

If 3CH is assigned to front right wheel brake and 4CH is assigned to front left wheel brake, they will operate in conjunction with 2CH (throttle) and 1CH (steering).

[Example]

Simplifies adjustment of the independent brake channel (servo) on 1/5 scale R/C cars.

3CH MODE : T-MIX		
BRAKE	100	->KEY:OFF
CENTER	0	->KEY:OFF
HIPOINT	100	->KEY:OFF
DELAY	0	->KEY:OFF
STEER	0	->KEY:OFF
ON/OFF	ON	->KEY:OFF >>>

[Setting Range]

BRAKE : 0 ~ 150 (Default : 100)

Modify the maximum amount of front brake servo movement.

CENTER : -50 ~ 50 (Default : 0)

Modify the front brake servo's neutral position.

HIPOINT : 0 ~ 150 (Default : 100)

Modify the maximum amount of throttle to be applied to the front brake servo.

※ To avoid operating only the brakes, set value to 0.

DELAY : 0 ~ 100 (Default : 0)

Delays the operation of the front wheel servo brake.

STEER : -100 ~ 100 (Default : 0)

Modify the amount of brake applied by the front wheel brake servo in relation to steering input.

ON/OFF : ON, OFF (Default : ON)

Enables Throttle Mixing to be activated via ET keys.

BRAKE → KEY : OFF, ET1 ~ 5 (Default : OFF)

CENTER → KEY : OFF, ET1 ~ 5 (Default : OFF)

HIPOINT → KEY : OFF, ET1 ~ 5 (Default : OFF)

DELAY → KEY : OFF, ET1 ~ 5 (Default : OFF)

STEER → KEY : OFF, ET1 ~ 5 (Default : OFF)

ON/OFF → KEY : OFF, ET1 ~ 5 (Default : OFF)

⚠ These setting must be set for both front right brake (3CH) and front left brake (4CH).

3CH MODE : T-MIX

FOWARD CURVE: 0%
BRAKE CURVE: 0%

REVERSE : NORM

<<<

[Setting Range]

FORWARD CURVE : -100% ~ 100% (Default : 0%)

BRAKE CURVE : -100% ~ 100% (Default : 0%)

Ⓟ Positive values (+1 to +100) equal high initial response followed by mild response.
Negative values (-1 to -100) equal a mild initial response followed by high response.

REVERSE : NORM, REVE (Default : NORM)

This function reverses the front brake servo's movement direction. It is useful for when servo output movement does not match inputs after the servo has been installed.

⚠ Use of Throttle Mixing Steering may increase load on the servo and cause increased wear or damage. Check the servo while adjusting.

TRIM SET

The convenient function that can set trim and travel while operating steering wheels.

FUNCTION		
MODEL	TIMER	KEYSET
3 · 4CH	TRMSET	SYSTEM

► STEER AUTO TRIM Steering Auto Trim

- ① Move the cursor to "SET" and push the ENT key, "SET" will start blinking.
※ At this time, the steering trim becomes 0 forcibly.
- ② Hold the steering wheel of the transmitter to the position that you want to make neutral. Set the steering neutral position by pushing the ENT key while holding the position.

TRIMSET	
STEER AUTO TRIM	SET
STEER AUTO BALANCE	
LEFT	SET
RIGHT	SET

P As for this function, only the numerical value of the steering trim changes. Does not influence the numerical value of the steering subtrim.

! After pushing "SET", the steering servo moves because the neutral position has changed. Release the steering handle, the servo moves to the new neutral position.

► STEER AUTO BALANCE LEFT Steering Auto Balance Left

- ① Move the cursor to "SET" and push the ENT key, "SET" will start blinking.
※ At this time, the steering travel(L) becomes 100 forcibly.
- ② Hold the steering wheel of the transmitter to the position that you want to make the Left end point. Set the steering travel(L) position when pushing the ENT key while holding the position.

P As for this function, only the numerical value of the steering travel(L) changes. Does not influence the numerical value of the steering travel and travel(R). When the quantity of movement is short, set automatic balance again after increasing steering travel.

! After pushing "SET", the steering servo moves because the travel(L) position has changed. Release the steering handle, the servo moves to the neutral position.

! Use of Steering auto balance may increase load on the servo and cause increased wear or damage. Check the servo while adjusting.

! When operating the steering wheel to the right in steering auto balance(L), it will not set correctly. Be careful to the direction of operation.

► STEER AUTO BALANCE RIGHT Steering Auto Balance Right

- ① Move the cursor to "SET" and push the ENT key, "SET" will start blinking.
※ At this time, the steering travel(R) becomes 100 forcibly.
- ② Hold the steering wheel of the transmitter to the position that you want to make the Right end point. Set the steering travel(R) position when pushing the ENT key while holding the position.

P As for this function, only the numerical value of the steering travel(R) changes. Does not influence the numerical value of the steering travel and travel(L). When the quantity of movement is short, set automatic balance again after increasing steering travel.

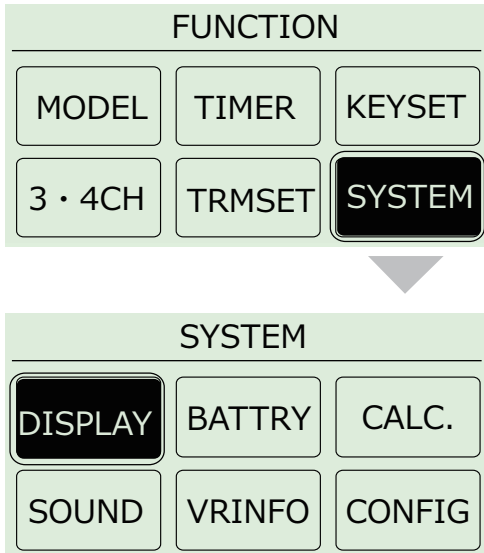
! After pushing "SET", the steering servo moves because the travel(R) position has changed. Release the steering handle, the servo moves to the neutral position.

! Use of Steering auto balance may increase load on the servo and cause increased wear or damage. Check the servo while adjusting.

! When operating the steering wheel to the left in steering auto balance(R), it will not set correctly. Be careful to the direction of operation.

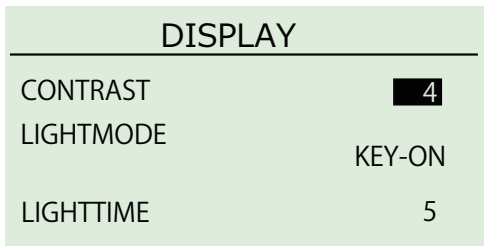
SYSTEM menu

Menu related to various system settings.



▶ DISPLAY MENU

Setting about LCD display.



[Setting Range]

CONTRAST : 1 ~ 5 (Default: 4)

Adjusts the contrast of the LCD.
LCD levels become light when the numerical value is reduced.

- P** LCD contrast will characteristically be darker when warm and lighter when cold. Make corresponding contrast adjustments if this is a concern for you.

LIGHTMODE : OFF, ON, KEY-ON (Default: KEY-ON)

Sets the light activation mode.

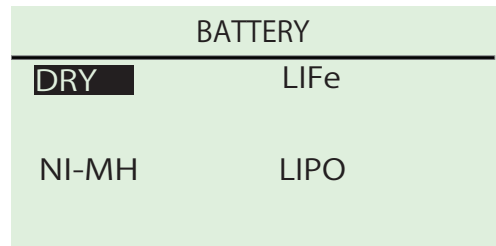
LIGHTTIME : 1 ~ 60 (Default: 5)

Sets the time between a key operation (other than steering or throttle) and the LCD turning off when [LIGHT MODE] is set to [KEY-ON].

- !** When the backlight is set to [KEY-ON], it will only be activated by ET/BT key operation, not by steering or trigger operation.

▶ BATTERY

Select the type of battery used.



[Setting Range]

DRY (Alkaline Batteries),

Primary warning buzzer 4.0V or less
Second warning buzzer, movement stop 3.8V or less

LIFE (Li-Fe Battery)

Primary warning buzzer 6.2V or less
Second warning buzzer, movement stop 6.0V or less

NI-MH (Ni-MH Battery)

Primary warning buzzer 4.0V or less
Second warning buzzer, movement stop 3.8V or less

LIPO (Li-Po Battery)

Primary warning buzzer 7.0V or less
Second warning buzzer, movement stop 6.0V or less

- P** According to the selected power source type, a low voltage warning will be displayed. Transmitter signals will not be cut at this time, but problems with control may be experienced. Stop operation immediately and replace batteries.

- P** When setting a battery type by mistake, the warning message can be canceled by pushing and holding the BACK key to display the initial screen. Please set it to right battery again.

! Change Power Management After Switching Battery Type!

If the battery used does not match the Power Management setting, the battery may be overdischarged and damaged. This may also result in fire, so make sure you pay special attention.

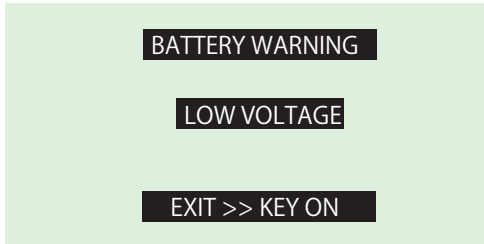
! WARNING ! Warning Display

▶ Battery Level Warning

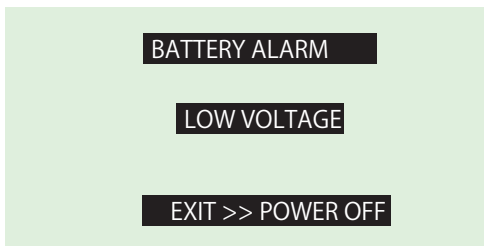
During driving, this warning will be displayed if the battery voltage is below the required level.

You may still operate the model, but it is recommended to replace the battery immediately

※ In the case of DRY/Ni-MH setting, the LED (blue) of the main body of EX-6R flashes on and off, too.



Furthermore, when the power supply voltage decreases, it is displayed and normal operation will not be able to continue. Switch it off immediately, and replace the batteries immediately.



P When setting a battery type by mistake, the warning message can be canceled by pushing and holding the BACK key to display the initial screen. Please set it to right battery again.

For example, when you select the LIPO mode while a dry cell batteries are used, the warning message will be shown. In that case, you can cancel it by holding down the BACK key.

► CALCULATOR

Calculate the gear ratio.

CULCULATOR			
SPUR GEAR	110	FINAL 7.333 ROLLOUT 27.055	
PINIONGEAR	30		
TRANSRATIO	2.00		
TIRE DIAMETER	63.00		
	MM		

[Setting Range]

- SPUR GEAR : 1 ~ 999 (Default: 110)
- PINIONGEAR : 1 ~ 999 (Default: 30)
- TRANSRATIO : 1.00 ~ 99.99 (Default: 2.00)
- TIRE DIAMETER : 0.00 ~ 200.99 (Default: 63.00)

[How to use]

When the spur, pinion and transmission ratio are inputted, the gear ratio is automatically calculated and shown in the picture right side of the displays.

► SOUND

Adjusts the sound level of the transmitter buzzer.

SOUND	
BUZZER TONE	2
BUZZER PATTERN	1
BUZZER VOLUME	5

[Setting Range]

- BUZZER TONE : 1 ~ 7 (Default: 2)
- BUZZER PATTERN : 1 ~ 7 (Default: 1)
- BUZZER VOLUME : 0 ~ 5 (Default: 5)

► VR INFORMATION Volume Information

Adjust the potentiometer of the steering and throttle.

※ Please set it by all means.

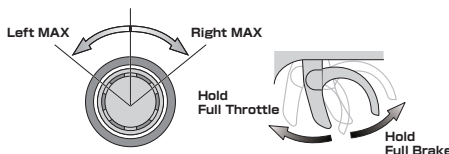
- When using EX-6R for the first time.
- When changing a steering unit for a different product or when putting it back together.
- When changing a grip unit for a different product or when putting it back together.
- When changing a grip unit for a different product or when putting it back together.

1. Select [FUNCTION] on the initial screen and push the ENTER key.
2. Select [SYSTEM] on the function screen and push the ENTER key.

3. Select [VR INFO] on the system screen and push the ENTER key.

VR INFOMATION		
ST- LEFT	X X X X	OK? YES
NUT	X X X X	
RIGHT	X X X X	
TH- HI	X X X X	
NUT	X X X X	
LOW	X X X X	

4. Move the wheel slowly to the full left and right lock (numbers will change as the steering is moved) and release the wheel back to neutral.



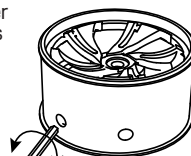
5. Move the trigger slowly to the full throttle and full brake positions (numbers will change as the throttle is moved) and release the trigger back to neutral.
6. Select the "YES" on the right side of the display screen.

VR INFOMATION		
ST- LEFT	1 7 6 0	OK? YES
NUT	◇	
RIGHT	-1 7 5 2	
TH- HI	1 2 8 6	
NUT	◇	
LOW	- 5 9 9	

※ When operating the VR INFORMATION and pressing the BACK key will cancel the operation.

- P** If you modify the decrease angular adjuster for the wheel, please configure it so that the ST-LEFT and RIGHT values do not have a large difference.

If the numerical values differ largely, readjust the screws of the decrease angular adjuster and perform the VR information configuration again.



When the numerical value is small, ... loosen

When the numerical value is large, ... tighten

- !** Do not operate steering wheel and throttle trigger while pressing ENTER, as this may change the data values and affect subsequent operations. If this function is not adjusted properly, improper operation may result.

- !** VR Information timing may vary depending on usage. If problems persist even after using VR Infomation, contact KO Propo Customer Service Department to arrange repairs. (We recommend that you contact KO Propo Customer Service Department if you are not sure what the problem is.)

▶ **CONFIG**

The Xpansion unit operating environment is configured.

CONFIG	
KEYSPEED	OPERATIONTIME
3	3M
MENUSPEED	USERTIMER
3	7 H23M
LANGUAGE	ELPASSEDTIME
ENGLISH	7 H23M

《Function》

▶ **KEYSPEED**

The interval of how quickly the values change when L · R buttons are held down.

[Setting Range]

KEYSPEED : OFF ~ 5 (Default: 3)

▶ **MENUSPEED**

The interval of how quickly the navigation in the menu change when LR buttons are held down.

[Setting Range]

MENUSPEED : OFF ~ 5 (Default: 3)

P OFF:Key Repeat Disabled.

The larger value will shorten the delay time.

! The ET/BT keys speed is fixed and can not be independently changed.

▶ **LANGUAGE**

Language of the menu display is changed.

[Setting Range]

LANGUAGE : ENGLISH / JAPANESE
(Default: ENGLISH)

P Changing of the language is performed in the CONFIG screen from the SYSTEM screen. Pressing the BACK key to navigate to the menus.

▶ **OPERATIONTIME**

When there is no input to the transmitter in over three minutes, the EX-6R alarm will sound. The alarm is canceled when operating steering wheel, throttle trigger, ET, BT key, ENT key, L R key, BACK key.

[Setting Range]

OPERATIONTIME: OFF ~ 3Min (Default: 3)

▶ **USERTIMER**

Total time the transmitter has been ON.

P Highlighting the USERTIMER and pressing the ENTER key will reset the timer.

▶ **ELPASSEDTIME**

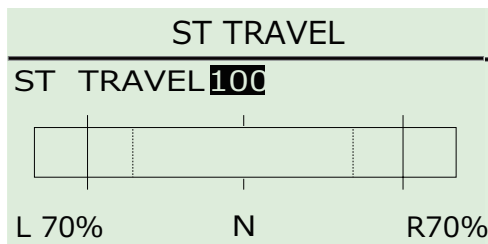
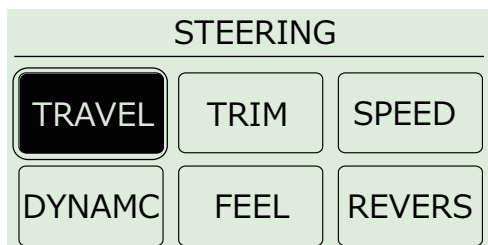
Total time the transmitter has been ON.

P The ELPASSEDTIME timer can not be reset.

STEERING

TRAVEL menu

Modify the overall amount of steering movement.



▶ ST TRAVEL

Modify the overall amount of steering movement.

▶ L (BALANCE)

Modify the left steering angle end point.

▶ R (BALANCE)

Modify the right steering angle end point.

▶ ST TRAVEL Steering Travel

Adjust the overall amount of steering servo movement when the steering wheel is at full lock.

[Setting Range]

ST TRAVEL : 0 ~ 150 (Default: 100)

P Since the Balance setting value is a ratio of the Travel setting value, if the latter is modified the actual movement value and the displayed graphic will also change.(the Travel value will not change).

A Steering will not operate if the Travel value is set to 0.

▶ ST BALANCE L R Steering Balance L R

Adjust the left/right steering angles independently. This enables the turning radii to match up during cornering.

[Setting Range]

ST BALANCE L : 30 ~ 100 (Default: 70)

ST BALANCE R : 30 ~ 100 (Default: 70)

P The set percentage is a ratio of the value set by the Steering Travel.

P Steering balance can be adjusted by using the steering wheel and ET key!

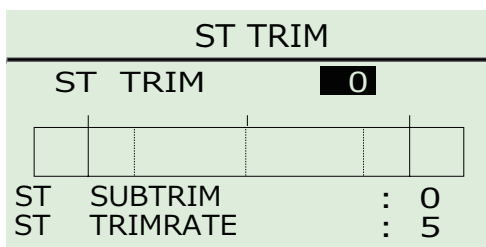
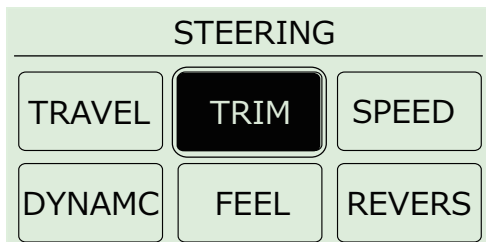
ET key that is assigned to steering trim is pressed while the steering is turned over halfway in either direction, the balance of the direction of the turn can be adjusted.

P If the trim is set to a large value, a large left/right value discrepancy may result. If adjusting steering balance for the first time, follow the procedures below.

- ① Set trim value to 0.
- ② Adjust sub trim so that the car drives in a straight line when steering is in neutral position.
- ③ Use steering travel to match the overall steering angle range.
- ④ Use steering balance to match the left/right turning radii.
- ⑤ If the car does not drive straight at this point, use trim to correct.

TRIM menu

Adjusts the neutral/center position of the steering angle range.



▶ ST TRIM Steering Trim

Modify the neutral position of the steering angle.

▶ ST SUBTRIM Steering Subtrim

Modify the overall steering angle range.

▶ ST TRIMRATE Steering Trim Rate

Modify the amount of movement which corresponds to one click of the Trim button.

▶ ST TRIM Steering Trim

Adjusts the neutral/center position of the steering angle range.

[Setting Range]

ST TRIM : L50 ~ 0 ~ R50 (Default: 0)

P Setting adjustments prior to driving should be carried out with the sub trim, not the trim.

! The setting range cannot exceed what is set by [Steering Travel] or [Steering Balance].

▶ ST SUBTRIM Steering Subtrim

Adjust the position of the overall steering angle range. Use this to match the neutral position when installing the steering servo.

※ Also refer to Trim and Sub Trim Operation. (p.13)

[Setting Range]

ST SUBTRIM : L80 ~ 0 ~ R80 (Default: 0)

[Example]

The servo horn position can be adjusted by the linkages, etc. when the servo is installed onto the model, but in case this does not set the neutral position, this function can be used to set it from the transmitter.

P If the sub trim value becomes large, adjust the servo horn position or linkages so that the value becomes closer to 0. If the sub trim value is too large, dead zones could result and the servo may not operate at the extremities of its movement range.

▶ ST TRIMRATE Steering Trimrate

Adjusts the amount of movement associated with one click of the trim button.

[Setting Range]

ST TRIM RATE : 1 ~ 10 (Default: 5)

P Although the amount of movement of one interval can be adjusted, the lower the number the smaller the amount of movement.

P The overall number of intervals does not change, so a change in trim rate will result in a change in the range in which the trim can be used to make corrections.

P If the trim rate is changed when the trim is already set, the trim may be thrown off.
※ If the trim setting is 0 then this does not apply.

P Lower trim rates enable fine adjustments, but the effects may not be apparent depending on the servo used. If there is a lot of slop in the linkage or servo saver, fine trim adjustments could cause the user to constantly worry about the trim settings. In that case, please reexamine the linkages, etc.

ST SPEED Steering Speed

Modify the speed of the steering servo movement.

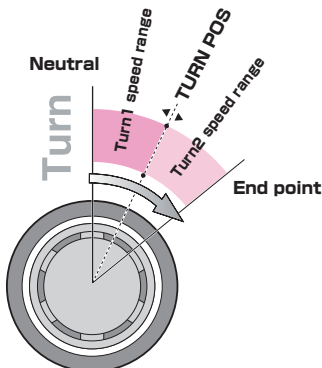
STEERING			
TRAVEL	TRIM	SPEED	
DYNAMC	FEEL	REVERS	

ST SPEED			
TURN POS	50%	RETURN POS	50%
TURN1	100%	RTRN1	100%
TURN2	100%	RTRN2	100%

- ▶ **TURN POS Steering Turn Position**
The range of movement of the steering wheel for TURN1 and TURN2 speed settings can be set.
- ▶ **TURN 1 Steering Turn Speed 1**
The speed from neutral to TURN POS range of the steering wheel movement is set.
- ▶ **TURN 2 Steering Turn Speed 2**
The speed from TURN POS to end point range of the steering wheel movement is set.
- ▶ **RETURN POS Steering Return Position**
The range of movement of the steering wheel for returning to neutral for RTRN1 and RTRN2 speed settings can be set.
- ▶ **RTRN 1 Steering Return Speed 1**
The speed of the return from RETURN POS to neutral of the steering is set.
- ▶ **RTRN 2 Steering Return Speed 2**
The speed of the return from end point range to RETURN POS of the steering is set.

▶ ST TURN Steering Turn Speed

This is the function which restricts the maximum speed of the steering servo. You configure the direction (TURN) of the steering movement.



[Setting range]

TURN POS : 1 ~ 100% (Default: 50%)
TURN 1 : 1 ~ 100% (Default: 100%)
TURN 2 : 1 ~ 100% (Default: 100%)

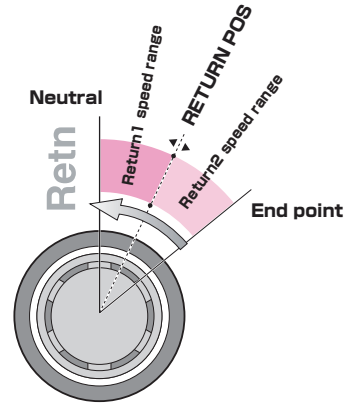
[Example]

When the behavior of the car steering is hard to handle, reducing the operational speed can allow the operation of steering to become easier.

- ▶ Take into account such factors as the servo used, car, driving surface, etc. when adjusting all settings. Conduct test drives to find the best setting values.
- ▶ Effective speed values are dependent on the speed characteristics of your selected servo.
- ▶ When setting POS=100%, TURN2 cannot be set because POS is now the entire movement range.

▶ ST RETURN Steering Return Speed

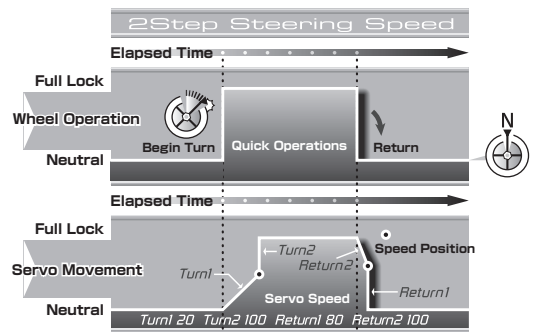
This is the function which restricts the maximum speed of the steering servo return back to neutral. You configure the direction (RETURN) of the steering movement.



[Setting Range]

RETURN POS : 1 ~ 100% (Default: 50%)
RETURN 1 : 1 ~ 100% (Default: 100%)
RETURN 2 : 1 ~ 100% (Default: 100%)

- ▶ Take into account such factors as the servo used, car, driving surface, etc. when adjusting all settings. Conduct test drives to find the best setting values.
- ▶ Effective speed values are dependent on the speed characteristics of your selected servo.
- ▶ When setting POS=100%, TURN2 cannot be set because POS is now the entire movement range.



Different values will affect the graph's appearance

Settings related to steering control.

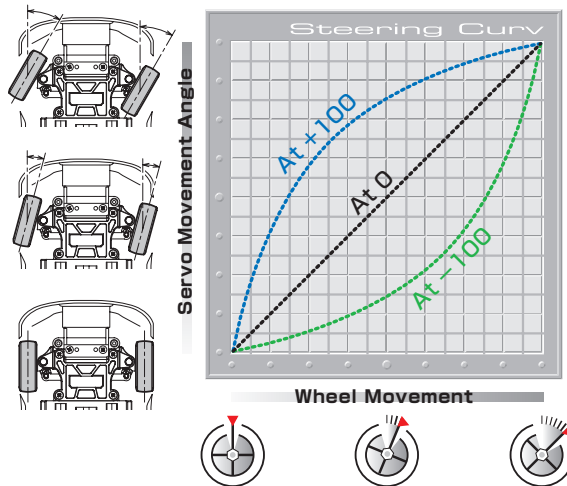
STEERING

TRAVEL	TRIM	SPEED
DYNAMC	FEEL	REVERS

ST DYNAMICS

CURVE 0%

PUNCH 0%



► CURVE Steering Curve

Modify the movement speed ratio which corresponds to steering angle.

► PUNCH Steering Punch

Modify how much the steering initially turns from neutral position.

► CURVE Steering Curve

This function adjusts the ratio of the steering angle to servo movement speed (Curve Characteristics). Choose between (+) Quick Curve and (-) Mild Curve.

[Setting Range]

ST CURVE : -100 ~ 0 ~ 100%
(Default : 0%)

[Example]

Modify the movement speed ratio which corresponds to steering angle.

P As the graph shows, servo movement speed can be changed according to wheel movement angle. Positive values (+1 to +100) equal high initial response followed by mild response. Negative values (-1 to -100) equal a mild initial response followed by high response.

P When using this in conjunction with other functions such as [Steering Speed], adjust one at a time to confirm their effects to produce an effective overall setting.

P To adjust only the steering's initial response, use the [Steering Punch] function.

► PUNCH Steering Punch

This function quickens the steering's initial response and can be used to instill a strong turning movement when the steering initially moves from neutral.

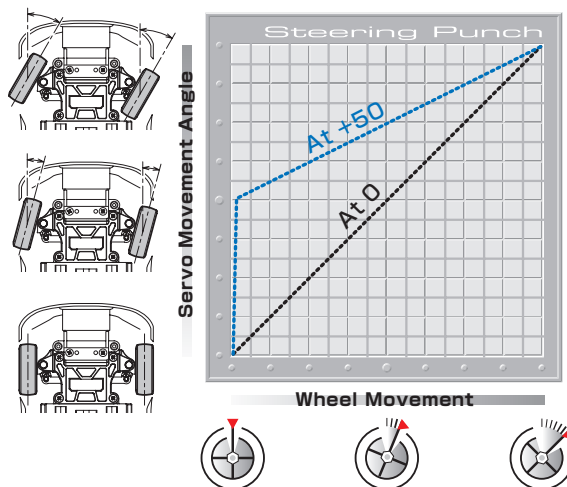
[Setting Range]

ST PUNCH : 0 ~ 50%
(Default : 0%)

P The larger the value, the stronger the amount of turning movement.

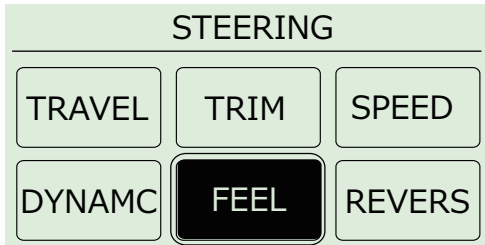
P This could be effective if steering linkages have a lot of slop, but please note that it does not improve straight-line performance.

P When using this in conjunction with other functions such as [Steering Speed], adjust one at a time to confirm their effects to produce an effective overall setting.



FEEL Steering Feel menu

FEEL function provides changing the moving performance of steering servo.



FEEL	
ST FEEL	TH FEEL F
0	0
	TH FEEL B
	0
ST RESPONSE	TH RESPONSE
ADV	ADV

- ▶ **ST FEEL Steering Feeling**
Adjust steering feeling.
- ▶ **TH FEEL F Throttle Feel F**
Refer to "Throttle Feel F" (p.48)
- ▶ **TH FEEL B Throttle Feel B**
Refer to "Throttle Feel B" (p.48)
- ▶ **ST RESPONSE Steering Response**
Response speed of the steering is adjusted.
- ▶ **TH RESPONSE Throttle Response**
Refer to "Throttle Response" (p.48)

▶ ST FEEL Steering Feel

FEEL function provides changing the cornering performance feeling.

[Setting Range]

ST FEEL : -50 ~ 0 ~ 50% (Default: 0%)

- P** Take into account such factors as the servo used, car, driving surface, etc. when adjusting Steering feel settings.
Conduct test drives to find the best setting values.

▶ ST RESPONSE Steering Response

You can use this for adjusting the cornering speed of response.

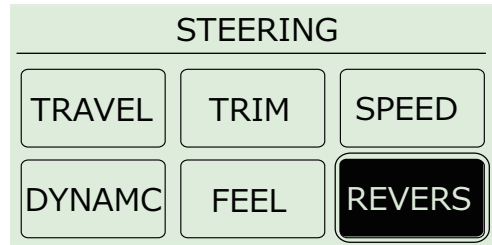
[Setting Range]

ST RESPONSE: NORM / HIGH / ADV (Default: ADV)

- P** Function to adjust feeling.
NORM : Smooth response.
HIGH : Intermediate response.
ADV : Quick response.
During a run you can find a good setting.

REVERSE Steering Reverse

Modify the steering direction.



REVERSE	
ST REVERSE	TH REVERSE
	NORM
	NORM

▶ ST REVERSE Steering Reverse

[Setting Range]

ST REVERSE : NORM, REVS (Default: NORM)

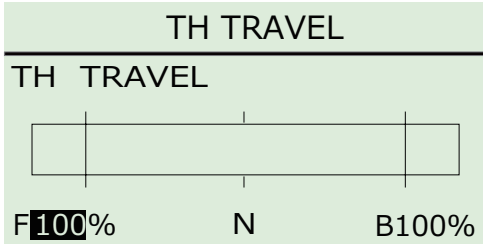
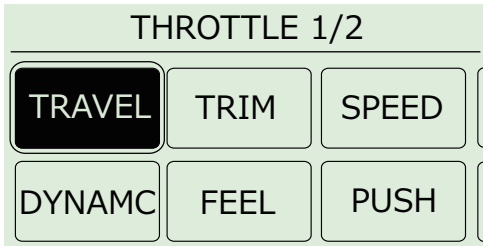
TH REVERSE :
Refer to "Throttle Reverse" (p.49)

- !** Steering direction varies from car to car and should be checked when the R/C equipment has been installed.

THROTTLE

TRAVEL Throttle Travel

Settings related to throttle control.



▶ TH TRAVEL F Throttle Travel F

Modify the maximum amount of throttle movement (towards forward acceleration).

▶ TH TRAVEL B Throttle Travel B

Modify the maximum amount of throttle brake movement.

▶ TH TRAVEL B Throttle Travel B

Adjust the maximum amount of brake movement.

[\[Setting Range\]](#)

TH TRAVEL B : 0 ~ 150
(Default : 100)

P The key setting displays [T:BRAKE].

! Brake will not operate if the BRAKE value is set to 0.

▶ TH TRAVEL F Throttle Travel F

Adjust the maximum amount of throttle forward acceleration movement.

[\[Setting Range\]](#)

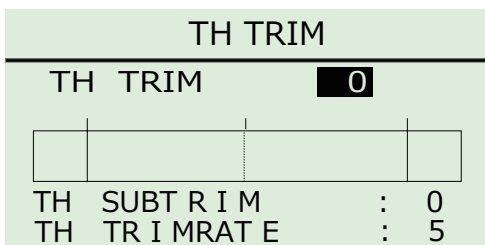
TH TRAVEL F : 0 ~ 150
(Default : 100)

P The key setting displays [T:HIPOINT].

! Throttle will not operate if the High Point value is set to 0.

TRIM Throttle Trim

Settings related to throttle control.



▶ TH TRIM Throttle Trim

Modify the neutral position of the throttle.

▶ TH SUBTRIM Throttle Subtrim

Shift the overall throttle movement range.

▶ TH TRIMRATE Throttle Trimrate

Modify the amount of movement which corresponds to one click of the throttle trim button.

▶ TH TRIM Throttle Trim

Adjusts the neutral/center position of the throttle range.

[Setting Range]

TH TRIM : F50 ~ 0 ~ B50
(Default : 0)

- P** Setting adjustments prior to driving should be carried out with the sub trim, not the trim.
- P** The setting range cannot exceed what is set by [Throttle Travel F] or [Throttle Travel B].

▶ TH SUBTRIM Throttle Subtrim

Adjust the position of the overall throttle movement range.

※ Also refer to Trim and Sub Trim Operation. (p.13)

[Setting Range]

TH SUBTRIM : F80 ~ 0 ~ B80
(Default : 0)

▶ TH TRIMRATE Throttle Trimrate

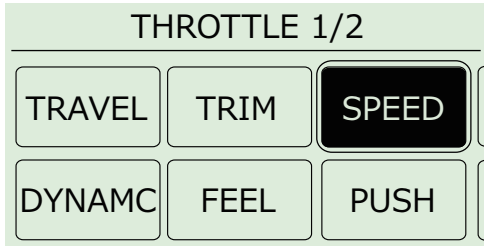
Adjusts the amount of movement associated with one click of the throttle trim button.

[Setting Range]

TH TRIM RATE : 1 ~ 10
(Default : 5)

- P** The amount of movement of one interval can be adjusted, the lower the number the smaller the amount of movement.
- P** The overall number of intervals does not change, so a change in trim rate will result in a change in the range in which the trim can be used to make corrections.
- P** If the trim rate is changed when the trim is already set, the trim may be thrown off.
※ If the trim setting is 0 then this does not apply.

Settings related to throttle control.



TH SPEED			
TURN		RETURN	
L>M	30%	H>M	80%
M>H	80%	M>L	30%
TURN L	100%	RTRN H	100%
TURN M	100%	RTRN M	100%
TURN H	100%	RTRN L	100%

▶ TURN L>M

The range of movement of the throttle for L and M speed settings can be set.

▶ TURN M>H

The range of movement of the throttle for M and H speed settings can be set.

▶ TURN L

Speed from neutral ~ TURN L of the throttle can be slowed down.

▶ TURN M

Speed from TURN L ~ TURN M of the throttle can be slowed down.

▶ TURN H

Speed from TURN M ~ TURN H of the throttle can be slowed down.

▶ RETURN H>M

Speed of the return of the throttle from H ~ M can be slowed down in this range.

▶ RETURN M>L

Speed of the return of the throttle from M ~ L can be slowed down in this range.

▶ RTRN H

The return speed of the range for H ~ M can be set.

▶ RTRN M

The return speed of the range for M ~ L can be set.

▶ RTRN L

The return speed of the range for L ~ neutral can be set.

▶ TH TURN Throttle Turn Speed

This function delays the conversion of the throttle control signal to make the car easier to control.

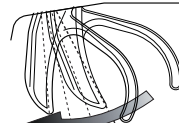
[Setting Range]

- TURN L>M : 1 ~ 100% (Default: 30%)
- TURN M>H : 1 ~ 100% (Default: 80%)
- TURN L : 1 ~ 100% (Default: 100%)
- TURN M : 1 ~ 100% (Default: 100%)
- TURN H : 1 ~ 100% (Default: 100%)

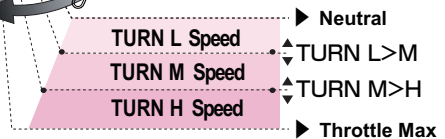
[Example]

If the car spins or otherwise does not drive straight when the throttle is applied suddenly, limiting the throttle speed can be effective.

- P** Effective speed values are dependent on the speed characteristics of your selected servo.
- P** When the setting is set to have TURN L>M and TURN M>H to the same value, TURN M is displayed as OFF and is not available to set. In this case only TURN L and TURN H settings becomes effective.
- P** When TURN L>M = 100% configuration is set, TURN M and TURN H are displayed as OFF and are not available to be set. In this case only TURN L will be used for the setting since it is the largest value.



Operation of Turn Speed



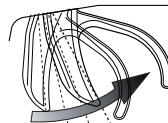
▶ TH RETURN Throttle Return Speed

This function delays the conversion of the throttle control signal to make the car easier to control.

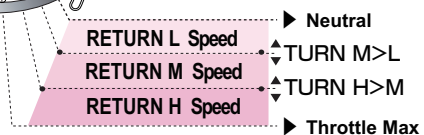
※ Throttle return speed is effective in the range of the throttle going from the high point to neutral.

[Setting Range]

- RETURN H>M : 1 ~ 100% (Default: 80%)
- RETURN M>L : 1 ~ 100% (Default: 30%)
- RETURN H : 1 ~ 100% (Default: 100%)
- RETURN M : 1 ~ 100% (Default: 100%)
- RETURN L : 1 ~ 100% (Default: 100%)



Operation of Return Speed

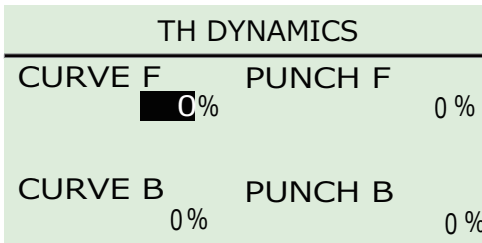
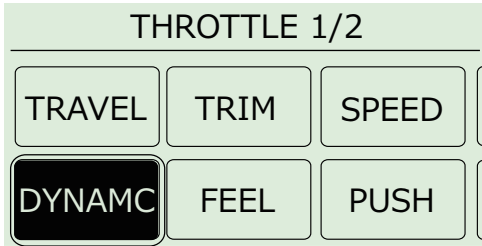


[Example]

If the car spins or otherwise does not drive straight when the throttle is applied suddenly, limiting the throttle speed can be effective.

- P** Effective speed values are dependent on the speed characteristics of your selected servo.
- P** Return speed is null in the operating range of the brake. TH FEEL B (p.48) is used to adjust the brake feeling.

Settings related to throttle control.



► CURVE F Throttle Curve Forward

Modify the movement speed ratio which corresponds to how much throttle is applied.

► CURVE B Throttle Curve Brake

Modify the movement speed ratio which corresponds to how much throttle brake is applied.

► PUNCH F Throttle Punch Forward

Modify how much the throttle initially accelerates from neutral position.

► PUNCH B Throttle Punch Brake

Modify how much the brake initially accelerates from neutral position.

► CURVE Throttle Curve

This function sets the signal conversion rate to a curve to enable quicker or milder response. Likewise, braking can also be set to a braking curve.

[Setting Range]

TH CURVE F : -100 ~ 0 ~ 100%

(Default : 0%)

TH CURVE B : -100 ~ 0 ~ 100%

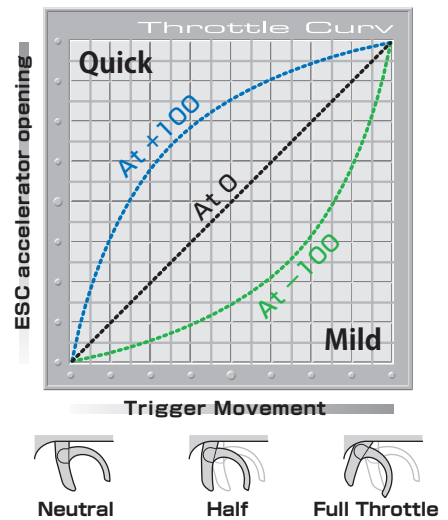
(Default : 0%)

P When [Throttle Punch] is activated, the characteristics of the throttle curve value is also added to the Throttle Punch value.

P Positive values (+1 to +100) equal high initial response followed by mild response.
Negative values (-1 to -100) equal a mild initial response followed by high response.

P When using this in conjunction with other functions, adjust one at a time to confirm their effects to produce an effective overall setting.

P This function adjusts only the curve. Use the [Throttle Punch] function if you wish to adjust the initial response.



► PUNCH Throttle Punch

This function quickens the throttle's initial response and can be used to instill a sense of power when the throttle initially moves from neutral.

[Setting Range]

TH PUNCH F : 0 ~ 50%

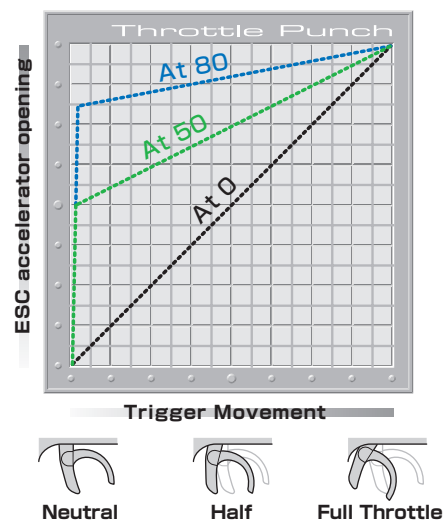
(Default : 0%)

TH PUNCH B : 0 ~ 50%

(Default : 0%)

P The larger the value, the larger the amount of throttle movement. However, depending on other settings, the throttle operation may become jagged.

P If using this in conjunction with other functions such as [Throttle ABS], confirm the operation before using.



FEEL Throttle Feel

FEEL function provides changing the throttle feeling.

THROTTLE 1/2

TRAVEL	TRIM	SPEED
DYNAMC	FEEL	PUSH

FEEL

ST FEEL	TH FEEL F	
0	0	
	TH FEEL B	0
	0	
ST RESPONSE ADV	TH RESPONSE ADV	

▶ ST FEEL Steering Feeling

Refer to "Steering Feel" (p.43)

▶ TH FEEL F Throttle Feel F

Adjust forward throttle feeling.

▶ TH FEEL B Throttle Feel B

Adjust brake feeling.

▶ ST RESPONSE Steering Response

Refer to "Steering Feel" (p.43)

▶ TH RESPONSE Throttle Response

Response speed of the throttle is adjusted.

▶ TH FEEL Throttle Feel

FEEL function provides changing the throttle feeling.

[Setting Range]

TH FEEL F : -50 ~ 0 ~ 50% (Default: 0%)

TH FEEL B : -50 ~ 0 ~ 50% (Default: 0%)

P Take into account such factors as the servo used, car, driving surface, etc. when adjusting throttle feel settings.

▶ TH RESPONSE Throttle Response

You can use this for adjusting the cornering speed of response.

[Setting Range]

TH RESPONSE: NORM / HIGH / ADV (Default: ADV)

P Function to adjust feeling.
 NORM : Smooth response.
 HIGH : Intermediate response.
 ADV : Quick response.
 During a run you can find a good setting.

PUSH

As the throttle is returning to neutral, you can set to add a little forward throttle to allow the car to roll forward more.

THROTTLE 1/2

TRAVEL	TRIM	SPEED
DYNAMC	FEEL	PUSH

PUSHCONTROL

KEY	
	OFF
PUSHTIME	
	OFF S
FORWARD	
	3

▶ KEY

Key assignment to turn on and off the push control.

▶ PUSHTIME

Once the throttle has returned to neutral, the duration of the forward throttle input is set.

▶ FORWARD

Once the throttle has returned to neutral, the amount of the forward throttle input is set.

[Setting Range]

KEY : OFF, ET1 ~ 5, BT1 (Default: OFF)

PUSHTIME : OFF, 0.1 ~ 3.0 S(sec.) (Default: OFF)

FORWARD : 1 ~ 30 (Default: 3)

[Example]

This is useful when a strong magnet motor in an electric car causes the car to slow down. This will help reduce the applied brake feeling.

P The amount of forward travel which is set with FORWARD is the same operating quantity as the quantity which you would advance the TH trim. While running, you will find a good setting.

☐☐☐ OVERRIDE Throttle Override

Arrange another maximum brake setting and steering travel setting, which can be activated/deactivated by the ET lever or BT button.

THROTTLE 2/2

CYCLE	ATSTRT	OFFSET
BRK-OR	REVERS	

VERRIDE

KEY	OFF	ST TRAVEL	100%
BRAKE	100%	ST TRV L	70%
		ST TRV R	70%

► KEY

Assigns a key to be used to activate/deactivate the override.

► BRAKE

Sets the brake override's brake setting.

► ST TRAVEL

► ST TRV L

► ST TRV R

Adjust the steering angle according to the driving conditions to make the car easier to control.

[Setting Range]

KEY : OFF, ET1 ~ 5, BT1 (Default: OFF)
 BRAKE : 0 ~ 150 (Default: 100)
 ST TRAVEL : 0 ~ 150 (Default: 100)

[Example(throttle brake override)]

If a change in driving conditions is foreseen, the throttle brake setting can be changed during driving.

[Example(Steering travel override)]

Convenient for changing the steering angle on straights to give the car better straight-line stability.

P [OR] Display on the Function Monitor!

When you only want to change the brake override set point, the numerical value of the steering travel override becomes effective at the same time.

Please input the same numerical value for the steering travel and the steering travel override when you do not want to change a value of the steering travel.

P When you only want to change the Steering travel override set point, the numerical value of the brake override becomes effective at the same time.

Please input the same numerical value throttle travel B and the brake override when you do not want to change a value of the brake travel.

☐☐☐ REVERSE Throttle Reverse

Modify the throttle direction.

THROTTLE 2/2

CYCLE	ATSTRT	OFFSET
BRK-OR	REVERS	

VERSE

ST	REVERSE	
TH	REVERSE	NORM

► TH REVERSE Throttle Reverse

[Setting Range]

ST REVERSE :
 Refer to "Steering Reverse" (p.43)

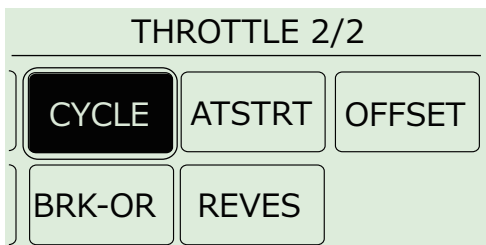
TH REVERSE :NORM, REVS (Default: NORM)

! Throttle direction varies from car to car and should be checked when the R/C equipment has been installed.

! For electric cars, the throttle is set by the ESC so there is no need to set this function. However, some older ESCs will not function properly unless reverse is also set.

CYCLE Throttle Cycle

Add a change to the operation of throttle brakes.



TH CYCLE			
ACCEL	ABS WID	OFF%	
WIDTH	TRG.P	60%	OFF
TRG.L	CYCLE	15%	5%
TRG.H	DELAY	OFF%	50%
CYCLE	DUTY	50%	15%
KEY	KEY	OFF	OFF

▶ ACCEL

Modify the amount of acceleration burst of the throttle.

▶ ABS

Modify the amount of brake pumping.

▶ ACCEL Throttle Acceleration

Just like professional drivers who are capable of precise throttle inputs, this function enables fine throttle adjustments to allow quicker cornering.

[Setting Range]

WIDTH : OFF ~ 100% (Default: OFF)
 TRG.L : 1 ~ 99 (Default: 5)
 TRG.H : 5 ~ 100 (Default: 50)
 CYCLE : 1 ~ 30 (Default: 15)
 KEY : OFF, ET1 ~ 5, BT1 (Default: OFF)

[Example]

By setting the throttle to feather automatically, the car could be made to grip and corner faster on lowgrip surfaces.

Ⓟ [CYC] Display on the Function Monitor!

If [WIDTH] is not set to OFF, [CYC] will be displayed on the initial screen's function monitor. If the key assigned to CYCLE is pressed while at the initial screen, [CYC] will disappear from the function monitor.

Ⓟ Setting [WIDTH] to 0 will deactivate Acceleration.

Ⓟ From inside the range of [TRG.L] to [TRG.H] is the operating range.

Ⓟ If [CYCLE] is set at a large value, the servo's operation frequency will increase.

Ⓟ Configuring a [KEY] for this operation allows the ACCEL to be turned on and off.

Ⓟ Take into account such factors as the servo used, car, driving surface, etc. when adjusting all settings. Conduct test drives to find the best setting values.

▶ ABS Throttle ABS

To prevent tires from locking up during sudden braking, brake pumping will be applied.

[Setting Range]

ABS WID : OFF ~ 100% (Default: OFF)
 TRG.P : 5 ~ 100% (Default: 60%)
 CYCLE : 1 ~ 30% (Default: 15)
 DELAY : OFF ~ 100% (Default: OFF)
 DUTY : 10 ~ 90% (Default: 50%)
 KEY : OFF, ET1 ~ 5, BT1 (Default: OFF)

[Example]

This function is effective when your car's wheels lock up under braking and disturbs the car's balance. It will help enable smooth cornering performance.

Ⓟ [CYC] Display on the Function Monitor!

If [WIDTH] is not set to OFF, [CYC] will be displayed on the initial screen's function monitor. If the key assigned to CYCLE is pressed while at the initial screen, [CYC] will disappear from the function monitor.

Ⓟ Setting [WIDTH] to 0 will deactivate ABS.

Ⓟ [TRG.P] setting operates pumping of the brakes at full brakes.

Ⓟ If [CYCLE] is set at a large value, the servo's operation frequency will increase.

Ⓟ [DELAY] allows for a delay in the start of the pumping of the brakes to be set.

Ⓟ [DUTY] setting allows for the ratio of the brake to be ON/OFF.

Ⓟ [KEY] setting allows the assignment of the function to a key to turn on and off.

Ⓟ Take into account such factors as the servo used, car, driving surface, etc. when adjusting all settings. Conduct test drives to find the best setting values.

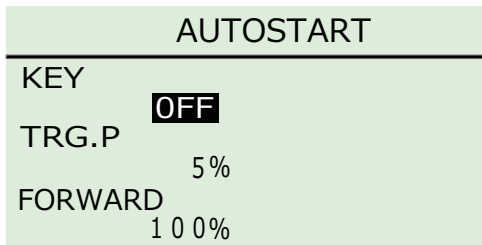
Ⓟ For electric cars, it may be easier to understand if the throttle channel is connected temporarily to the servo to check ABS operation instead of to the ESC.

Ⓟ When "ACCEL" and "ABS" either one or both become effective, "CYC" is displayed at the same position of the initial screen.

⚠ Setting a large [CYCLE] or [WIDTH] value may increase the servo's power consumption and also shorten its lifespan.

ATSTRT Throttle Auto-Start

This function sets the throttle output to a fixed level at startup, regardless of how much the throttle trigger is pulled.



[Setting Range]

KEY : OFF, ET1 ~ 5, BT1 (Default: OFF)




TRG.P : 5 ~ 100% (Default: 5%)


FORWARD : 0 ~ 100% (Default: 100%)

[Example]

Launching from the starting line.

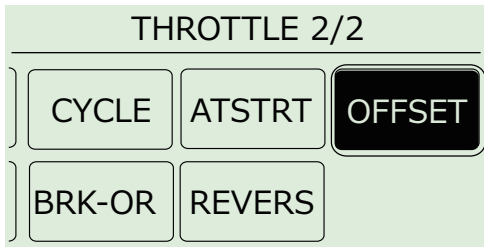
- ① Assign KEY (ET1-5/BT1).
- ② Operate an assigned key and validate [autostart]
- ③ Operate the throttle trigger and the launching starts when throttle trigger reaches [TRG.P].

-  The function will not operate until the throttle trigger reaches the set position.
-  When the throttle is released, the function is deactivated and the throttle returns to normal operation.
-  **[AUT] Display on the Function Monitor!**
If the key assigned to Auto-Start is pressed, [AUT] will be displayed on the initial screen's function monitor. If this key is pressed while at the initial screen, [AUT] will disappear from the function monitor.

-  Normally, full throttle is set for launching from the starting line. However, tire and surface conditions may mean full throttle will not be effective. Conduct tests and make adjustments.

OFFSET Throttle OFFSET

Used to offset the throttle's neutral position.



OFFSET	
OFFSET	ON/OFF KEY
MODE	OFF
MODE	BUTTON
MODE	TGLE
MODE	OFF
MODE	OFF

▶ OFFSET

Sets the amount of neutral offset.

▶ MODE

Choice N.BRK (neutral brakes) or I.UP (idle up).

* "Neutral Brake" means "Drag Brake".

▶ OFFSETKEY

Assigns a key to be used to change the amount of neutral offset.

▶ KEY

Assigns a key to be used to activate/deactivate the OFFSET Function.

▶ BUTTON

Sets the method of activation.

TGLE : If a key is assigned to Idle Up, press once to activate and press again to deactivate.

PUSH : It is only activated when the key is pushed and held. The operations is deactivated when Key is released.

[Setting Range]

OFFSET (Neutral brake) : -100 ~ OFF
(Default: OFF)

OFFSET (Idle up) : -100 ~ OFF ~ 100
(Default: OFF)

MODE : N.BRK, I.UP
(Default: N.BRK)

OFFSETKEY : OFF, ET1 ~ 5
(Default: OFF)

KEY : OFF, ET1 ~ 5, BT1
(Default: OFF)

BUTTON : TGLE, PUSH
(Default: TGLE)

[Example(Neutral brake)]

This function enables a light brake application at the moment when the throttle position changes from acceleration to deceleration.

[Example(Idle up)]

Raising the idling has the effect of improving a glow engine car's launch performance. It is also useful for canceling the neutral brake of a motor with strong cogging and preventing engine stalls when glow engine cars enter the pit for refueling.

P [OFS] Display on the Function Monitor!

If the key assigned to OFFSET is pressed, [OFS] will be displayed on the initial screen's function monitor. If this key is pressed while at the initial screen, [OFS] will disappear from the function monitor.

P Throttle can be operated even when Idle Up is activated. The throttle travel F/B point does not change during this time.

! Cannot use the function of "N.BRK" and "I.UP" both at the same time.

! When the EX-6R is turned off in the state of the OFFSET effect and transmitter is switched back on again, the function of OFFSET becomes invalid due to the safety precautions. Please activate effect again in KEY which you assigned it to.

! When setting value of the Neutral brake to a very large value, there may become some mistakes by an ESC that has a reverse function and may operate in the reverse mode.

! When setting value of the Neutral brake to a very large value, there may become some mistakes by an ESC that has a reverse function and may not operate in the reverse mode.

! When setting value of the Idle up to a very large value, there may become some mistakes by an ESC that has a reverse function and may not operate in the reverse mode.

Glossary

This section explains terms which appear in this instruction manual as well as terms which are common in the radio control hobby.

2.4GHz	A radio frequency range which is higher than previous ones such as 27MHz and 40MHz. However, this also means it is also more direct and signal transmission may be difficult if there are interfering objects between the transmitter and receiver.
4WS	A feature which changes the steering angle of all four wheels according to the driving condition to enable greater stability.
27MHz	One of the radio frequency ranges used for the R/C hobby. 12 bands exist for both ground-based and airborne R/C models.
40MHz	One of the radio frequency ranges used for the R/C hobby. 8 bands and 5 bands are assigned for use with ground-based and airborne R/C models respectively.
AC Charger	A battery charger which plugs into the standard 100V wall socket (in Japan). It often requires charging times of several hours or more.
Alarm	A buzzer sound emitted by the transmitter. It may be used as a warning notification, etc.
Amp	See ESC.
Analog Servo	A type of servo which uses analog-type integrated circuits (IC).
Backlight	Since LCDs do not generate their own light and are difficult to see in dark places, this light is placed beneath it to illuminate the display.
Band	Another word for radio frequency. This can be set with frequency crystals and different crystals can dictate the frequencies used in a certain frequency range.
Band ID Tag	An item which indicates to others the frequency that a particular user is using.
Brake Pumping	The repeated action of applying and releasing the brakes.
Center Trim	A trim which only adjusts the position of neutral without disturbing the overall range of travel.
Channel	Refers to the number of servos, etc. which can be controlled by a transmitter or their individual signal numbers.
Connector	An electric circuit contact unit which can be connected/disconnected.
CPU	The core of a computer which performs digital calculations for various uses. Also sometimes called an MPU.
Crystal	A device which sets the frequency used by a transmitter. 27MHz and 40MHz systems require crystals for changing frequencies while DSSS and FHSS 2.4GHz systems do not.
Cursor	A marker on the display which indicates the position in the text which can be controlled at that time.
Cycle	A process which returns to the beginning and repeats itself.
DC Charger	A battery charger which uses a 12V battery or other stable 12V power source.
Dead Zone	An area in which transmitter wheel or trigger movement does not result in servo operation. It could be caused by worn out components and may be resolved using VRADJ.
Delay	When an operation is slow, or has been slowed.
Digital Servo	A type of servo which uses digital-type integrated circuits (IC).
Discharger	A device which forcibly discharges remaining electricity from batteries such as Ni-Cd.
DSSS	Acronym for Direct Sequence Spread Spectrum. It is a type of spread spectrum transmission system which uses the 2.4GHz band.
Duty Cycle	A ratio between two operations.
EEPROM	A type of memory in which stored data is not deleted when the power is turned off. This product features this type of memory.
ESC	An acronym for Electronic Speed Controller, which controls the speed of the motor on an electric-powered R/C car.

ET	An acronym for Electric Trim. Button Trim is similarly shortened as BT.
FET Servo	A high-end servo in which the motor features field-effect transistors as opposed to bipolar transistors.
FHSS	Acronym for Frequency-Hopping Spread Spectrum. Like DSSS, it is a type of spread spectrum transmission system.
Frequency Range	A range of radio wave frequencies such as 27MHz, 40MHz, 2.4GHz, etc.
ICS (Interactive Communication System)	This system is unique to KO Propo and enables two-way communication with a PC. By using the Interface Kit (sold separately), the transmitter's internal memory data may be edited on a PC.
Internet	A global communications network which connects smaller networks made up of multiple PCs. This network enables the release of information via websites around the world, communication via E-mail, etc.
LCD	Acronym for Liquid Crystal Display. The screen is used to display letters, numbers, etc.
LED	Acronym for Light Emitting Diode. It is a type of semi-conductor which uses electricity to generate light.
Linkage	A component which connects the servo to another part of the car chassis.
Lithium-Ferrite (Li-Fe) Battery	A type of battery which is quick to charge and is good for repeated recharges. They are also less susceptible to natural discharging and are easy to manage, making them safer compared to other types of lithium batteries.
Lithium-Polymer (Li-Po) Battery	A type of lithium battery which is lightweight and available in various sizes. They are equipped with balance connectors since there is a risk of fire/explosion if they are overcharged.
Megahertz (MHz)	A unit of frequency. 1000 Hertz (Hz) = 1 KiloHertz (kHz), 1000 kHz = 1 MHz.
Memory	A term which refers to a location where information is temporarily stored (on a PC for example). Transmitters feature non-volatile memory where the stored information is not erased when power is turned off (refer to EEPROM).
Mixing	A feature which combines the signals for multiple operations or effects into a more efficient output signal.
Monitor	A function which checks the operation of each channel.
Neutral	The position of the transmitter controls when they are not operated, or the position of the servo horn at that time.
Neutral Brake	A feature where braking is applied when the throttle is returned from forward acceleration to neutral position. Also called "drag brake."
Ni-Cd	A type of battery which can be recharged for repeated use. Other types of rechargeable batteries include Ni-MH and Li-ion.
Ni-MH	Compared to Ni-Cd batteries, Ni-MH batteries have a larger capacity. They are more environmentally-friendly since it does not contain Cadmium, but they are also more susceptible to damage from overdischarging.
Noise	Electrical interference. Since it is a type of frequency, it could cause the receiver to operate in error.
Override	When a high-priority (1CH / 2CH) function setting is switched to a low-priority one.
Pairing	The act of writing a 2.4GHz transmitter's ID into a receiver so that the receiver only chooses to receive that transmitter's signals. This must be done once before a transmitter is used.
PC Interface	An adapter used to connect a transmitter to a PC to enable the adjustment of the former's settings on the latter.
Preset	The act of specifying a setting position in advance.
Propo	Japanese language abbreviation of "proportional." Refers to an R/C transmitter or the transmitter/receiver combination.
Quick Recharger	A charger which could recharge Ni-Cd, Ni-MH, etc. batteries in a short amount of time.
Receiver (RX)	A device which receives radio signals from the transmitter and passes them on to the servo and ESC. Use of the same type of signal as the transmitter is required.

Regulator	A circuit which stabilizes the input voltage to the level of the required voltage.
Reset	Returning the settings to the original preset condition.
Response	The time between a transmitter input and a receiver reaction.
RF Module	A component which generates and transmits radio frequencies. They exist in 27MHz, 40MHz, 2.4GHz (DSSS), and 2.4GHz (FHSS) types, with some transmitters allowing modules to be interchanged.
Servo	A device which translates the transmitter's radio signals into mechanical rotational movement.
Spec List	A list which describes the makeup, performance, etc. of a piece of R/C equipment.
Sub Trim	Adjusts the overall steering angle range. ※Refer to Trim and Sub Trim Usage
Swing	A repeated action between two set points.
Torque	A measure of the force at work in the rotating shafts of motors, servos, etc.
Transmitter (TX)	A device which sends out radio waves to a receiver linked to servos, ESCs, etc. to control an R/C model.
Travel	The angle/amount of servo horn movement.
Trigger	A mechanism on a transmitter which looks like a gun trigger, the operation of which controls the throttle.
Trim	A mechanism which adjusts the neutral position of each channel.
VR	Acronym for Variable Resistor. An electrical component which senses the position of the steering, throttle, etc.
Website	Places on the internet on which information is disseminated. They are accessed via PC software called web browsers. Some websites are also known as homepages.
Wheel	A mechanism on a transmitter which is rotated left and right to control steering.
Width	The range within which the ABS or throttle operates.

■ FCC statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Modifications not expressly approved by this company could void the user's authority to operate the equipment. 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.
- list of external antennas (antenna type, max gain, necessary cable length, connector type, ...)
- statement of professional installation
- notification that the amplifier can be used only in a system which it has obtained authorization

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. The antenna(s) used for this transmitter must not be collocated or operating in conjunction with any other antenna or transmitter within a host device, except in accordance with FCC multi-transmitter product procedures.

■ Specifications

- Transmitter: EX-6R
- Control Type: Steering wheel + Throttle trigger
- Number of Channels: 4
- Power Source: R03/AAA/UM4 battery x4
- Current: Below 150mAh
- Dimensions: 240.5 × 163 × 107.2mm
(including protrusions)
- Weight: 510g (not including batteries)
※Expansion unit has been installed.
- Modulation Type: FHSS for MHS mode
DSSS for ASF mode
- Transmission Frequency Range:
ASF mode ; 2404-2480MHz
MHS mode ; 2404-2460MHz

*KYOSHO CORPORATION hereby declare that this product is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. The Declaration of Conformity (DoC) can be downloaded at following URL.
www.kyosho.com/eng/support/doc/index.html

*Hiermit erklärt die KYOSHO Corporation, dass dieses Produkt in Übereinstimmung mit der Richtlinie 1999/5/EC ist und ihr in allen relevanten Punkten entspricht. Die Konformitätserklärung kann unter dem folgenden Link abgerufen werden:
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FCC CAUTION

Changes or modifications not expressly by the party responsible for compliance void the user's Authority to operate the equipment.



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