



EX-NEXT Series

Supported versions: Ver.3.02.01

INSTRUCTION MANUAL



Compatible products:

EX-NEXT / LDT
EX-NEXT Black SP / LDT
EX-NEXT BASIC / LDT

*Please refer barcode label for content.

*Please refer included manual for LDT grip unit.

■ Table of Contents


*Click the page number to jump to that page.

Title	Page
■ Table of Contents	2
■ For safe operation	3
■ Changes in Ver.3.01.02/3.00.00	5
■ Getting Started	6
●Transmitter Assembly ●Transmitter Dismantling	6
●How to attach Xpansion unit	7
■ Name of parts	8
■ Preparations	9
●Battery Installation ●Battery level Warning	9
■ Basic Operation	10
●STEERING	10
●THROTTLE	11
●ET(1-5)Key · BT(1)Button	12
●Steering Wheel Adjustment	12
●Adjustment of the decrease angle adjuster	12
●Throttle trigger Adjustment	12
●Throttle Trigger Position Adjustment	12
●Adjustment of Trigger tension	12
●Colored Grip and Pad replacement.	13
●Unit Connector ●Power Switch ●Charging Jack	13
■ Procedures Prior to Operation	14
■ Display and Control Method for attaching the Xpansion unit	15
●Name of each parts and Basic Operation	15
●English and Japanese Menu setting	16
●Start up Screen and Initial Screen	17
●VR information setting	18
●RF Mode	19
●Pairing (for general receiver)	20
●Pairing (for MINI-Z)	21
●Countermeasures Against Noise	24
●Fail-Safe Setting	25
●Battery Fail-safe setting	26
●Setting edit of ICS compatible servo	27
●Master unit Update ●Error Status	28
■ Top menu	29
■□□ FUNCTION	31
●MODEL	31
▶MODEL SELECT	31
▶MODEL NAME	31
▶MODEL COPY	32
▶MODEL RESET	32
●TIMER	33
▶TIMER START	33
▶TRGSTART	33
▶LAP HISTORY	33
▶START/STOP KEY	33
▶LAP KEY	33
▶>>>	33
▶LAP NAVI	34
▶ALARM TIME	34
▶P.ALARM TIME	34
▶ALARM MODE	34
▶TIMER MODE	34
▶<<<	34
●KEYSET	35
●3-8CH	36
▶2WAY(2WAY) ▶3WAY(3WAY)	36
▶5WAY(5WAY) ▶ANALOG	37
▶GYRO	37
▶TWIN SERVO ▶4WS	38
▶AMP	39
▶T-MIX	40
●TLMY(Telemetry For general use RC cars)	41
▶RF MODE ▶PAIRING	41
▶RESP(Response)	42
▶RELICS(Real time ICS)	43
▶READ ID ▶MODEL(Servo model)	43
▶BT F/S (Battery Fail-safe)	44
●TLMY(Telemetry For MINI-Z)	45
▶RF MODE ▶PAIRING	45
▶RELICS(Real time ICS)	46
▶BT VOL	47

Title	Page
▶TH MAX REV	47
●SYSTEM	48
▶DISPLAY	48
▶BATTERY	48
BATTERY WARNING	49
▶CALCULATOR	50
▶SOUND	50
▶VR INFORMATION	50
▶CONFIG	51
▶DATA	51
▶ALL RESET	52
■□□STEERING	53
●TRAVEL	53
▶ST TRAVEL	53
▶ST BALANCE L R	53
▶DIRECT BALANCE	53
●TRIM	54
▶ST TRIM	54
▶ST SUBTRIM	54
▶ST TRIMRATE	54
●Trim and Sub trim Operation	55
●ST SPEED	56
▶ST TURN	56
▶ST RETURN	56
●DYNAMIC	57
▶CURVE	57
▶PUNCH	57
●FEEL	58
▶ST FEEL	58
▶ST RESPONSE	58
●REVERSE	58
▶ST REVERSE	58
▶TH REVERSE	58
●DBAND	58
■□□THROTTLE	59
●TRAVEL	59
▶TH TRAVEL F	59
▶TH TRAVEL B	59
●TRIM	60
▶TH TRIM	60
▶TH SUBTRIM	60
▶TH TRIMRATE	60
●TH SPEED	61
▶TH TURN	61
▶TH RETURN	61
●DYNAMIC	62
▶CURVE	62
▶PUNCH	62
●FEEL	63
▶TH FEEL	63
▶TH RESPONSE	63
●REVERSE	63
▶ST REVERSE	63
▶TH REVERSE	63
●CYCLE	64
▶ACCEL	64
▶ABS	64
●ATSTART	65
●OFFSET	66
●OVERRIDE	67
●BREAK IN	67
●HANDBRAKE	68
●PUSH	68
●DBAND	68
■ Repair policy FCC Statement	69
■ Specifications	70

■ For Safe Operation

Due to the nature of radio controlled models, improper handling may lead to dangerous situations. Therefore please read the following information carefully in order to ensure safe operation. Please also understand that KO Propo 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/ship hull) 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.

 **Warning!**
Enforcement matters

- Within Japan, this product is limited to usage with models which operate on the ground or in the water.
- *Do not use for other non-designated purposes.
- Ensure that all connectors (receiver, servo, switch, etc.) are connected securely.
- *If connections become loose due to vibrations, it may lead to an uncontrollable model.
- Securely attach receiver with thick double-sided tape and ensure that it does not make contact with other parts.
- *Strong shocks or contact with other parts due to vibrations may lead to an uncontrollable model.
- Check servo operation to ensure the push rod is not subject to excessive loads.
- *Excessive loads may damage the servo or increase battery power consumption.
- Make sure to use the rubber grommet when attaching the servo and that the servo does not contact the R/C equipment tray.
- *If vibrations affect the servo, it may lead to damage or an uncontrollable model.
- Use in conjunction with genuine official KO Propo products.
- *KO Propo 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.
- Do not allow glow engine fuel or engine exhaust to contact the product.
- *These may attack the plastic and damage the product.

 **Warning!**
Enforcement matters

- Check to ensure that the selected model memory matches the model to be controlled.
- *Using an incorrect memory may lead to an uncontrollable model.
- Make sure to stop the engine (disconnect motor cables) before changing transmitter settings.

⚠ Caution!
Prohibited matters

- Do not touch engine, motor, ESC, 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 receiver. 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-NEXT) is prohibited and is punishable by law.
- *Doing so may lead to accidents such as short circuits and KO Propo Customer Service Department may not accept dismantled/modified products for repair.
- 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

- In the case of an R/C car, 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.

⚠ Caution!
Enforcement matters

- 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.

•Transmitter Battery Handling and Charging (separately available option)

⚠ 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 1A).
- *Incorrect current may lead to battery damage, overheating, or leakage.
- *Other manufacturer's chargers may not have a automatic cutoff function.

⚠ Danger!
Enforcement matters

- 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.

*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.

■ Changes in Ver. 3.01.02

●MINI-Z Telemetry p.46-47

1. REAL TIME ICS: The TIMING (phase) parameter can now be changed.
2. TH MAX REV: MOTOR TYPE (model) and MINI-Z board version can now be displayed.
*TIMING and MOTOR TYPE are not displayed on the MINI-Z board version 1.

■ Changes in Ver. 3.00.00

●RF Mode p.19

1. WIDTH function (France mode) has been eliminated.
2. ADV (Advanced mode) and TLM (Telemetry mode) can now be selected for MINIZ.
*When using [MINI-Z EVO2 receiver unit for KO-compatible transmitter 82045] and [EVO2] .

●Pairing p.21-23

1. The telemetry function menu displayed on the screen now has four patterns depending on the current RF mode.
2. When you select MINIZ in the RF mode and are using EVO2 chassis with the MINI-Z EVO2 receiver unit for KOPROPO 82045, appeared EVO2 and you can select ADV and TLMY on the menu.

●MINI-Z Telemetry p.45-47

1. REAL TIME ICS: Steering/throttle parameters can now be changed.
*ADV automatically switches RF mode only when a change is made, but a WAIT screen is displayed for a few seconds.
2. BT VOL: It is now possible to acquire the battery voltage of the vehicle body.
*You can also sound an alarm if the voltage falls below a set voltage. Fail-safe to turn off the power is not supported.
3. TH MAX REV: Motor speed can now be acquired.
*Maximum RPM can be displayed. The rotation limit set by the manager software can also be checked.

●Steering Deadband p.58

●Throttle Deadband p.68

- 1.The setting range has been expanded from [0 to 10] to [0 to 20] for a wider adjustment range.

●EX-NEXT Backup Manager Software Ver.1.01

For EX-NEXT Ver. 3.00.00 or later, please use the latest version of the backup manager as well.

Backup Manager implements the following functions specifically designed to manage model data registered in EX-NEXT.

1. EX-NEXT model data can be read out to PC and saved in PC.
2. Model data stored on a PC can be extracted to software and written to EX-NEXT.

The software can be downloaded from the link below. Please read the information in the link carefully before use.

<https://www.kopropo.co.jp/en/supports/view/285>

■ Getting Started

<Legend>

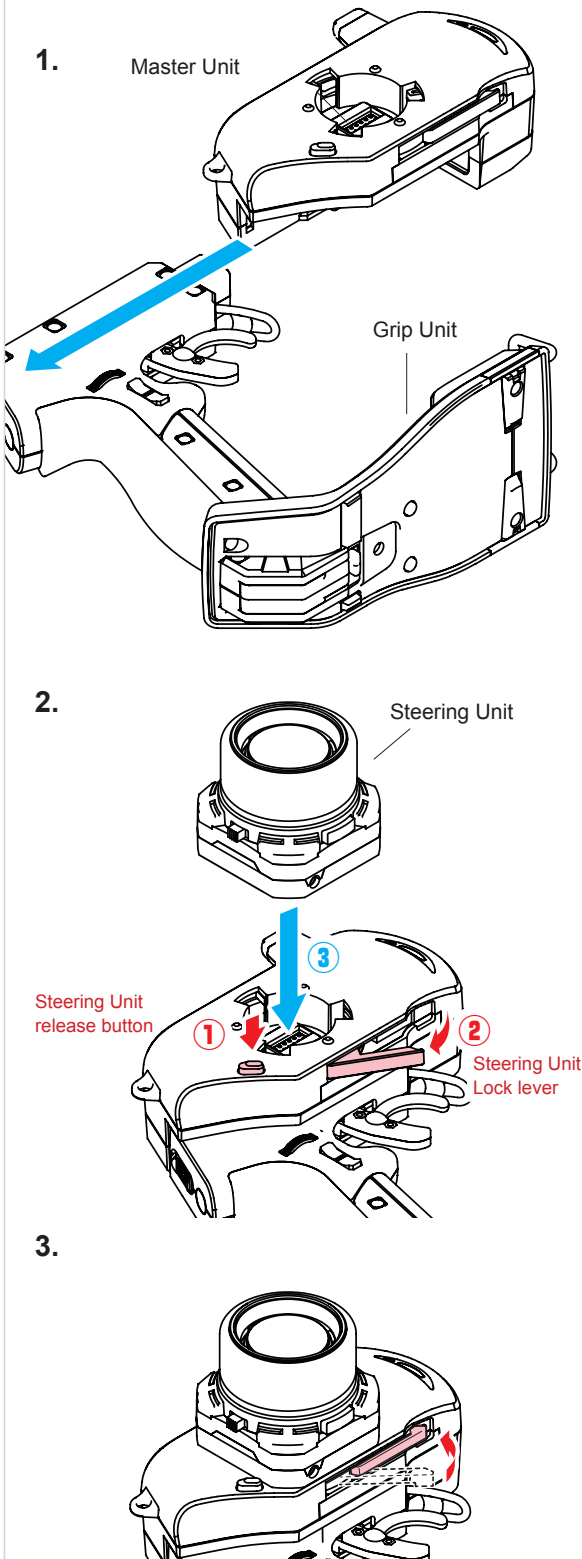
P : Pont

! : Notice

● Transmitter Assembly

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

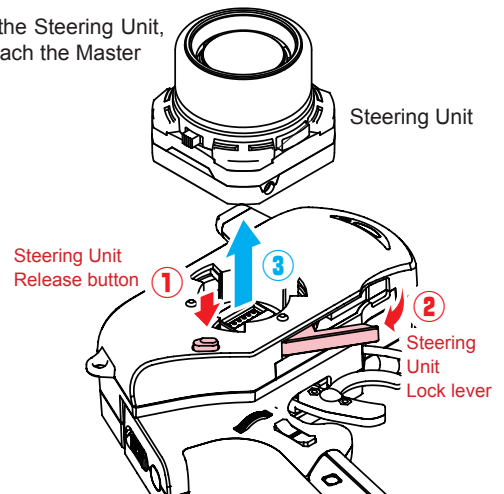
! Remove the connector cover before use.



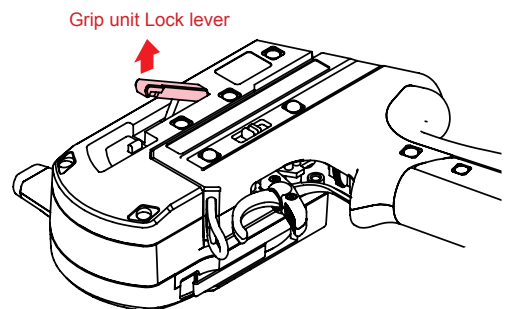
● Transmitter Dismantling

Detach the Steering Unit, then detach the Master Unit.

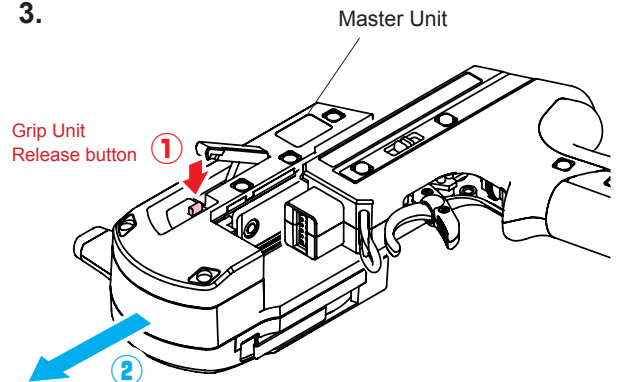
1.



2.



3.



! If storing the transmitter in dismantled form, please remember to attach the connector covers.

! In the explanation drawing, the standard steering wheel unit is used.
The drop extension unit is attached to EX-NEXT.

! Assembly may differ with the included set contents.

! Please refer included manual for LDT unit. about LDT.

***Please be sure to do configuration.**

! When a unit is exchanged, or when you use it for the first time, please perform the VR information configuration function (p.18).

● 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 2.6-8BH tapping screws.

! Remove the connector cover before use.

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

▲ : Setting to the front

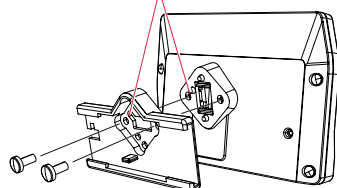
- ① Attach a monitor base parallel to Xpansion unit.
*Factory setting.

Attention to the marker.

screw used.



M2.6-6BH
x 2



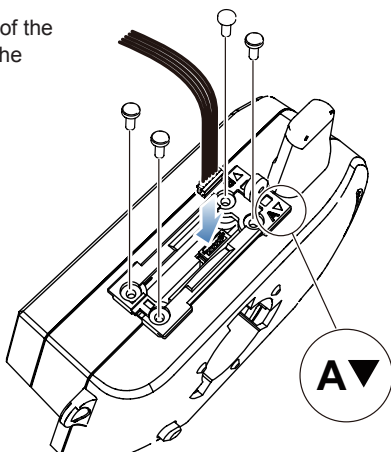
- ② Attach the monitor bracket to the master unit.
*[▲] mark to the steering side.

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

screw used.



2.6-8BH
Tapping
x 4



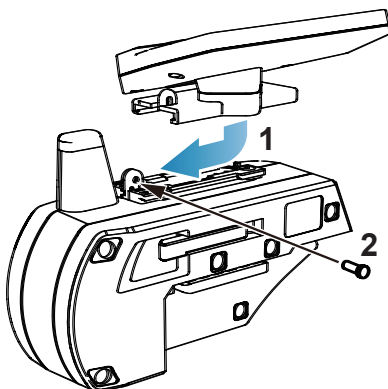
- ③ Attach expansion unit to a master unit.

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

screw used.



M2-6
Cap screw
x 1



2 Set M2-6 Cap Screw for fixed.

▼B : When mounting sideways

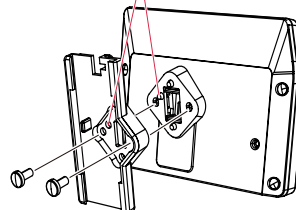
- ① Attach the monitor base at a right angle to Xpansion Unit. *Different Factory setting.

Attention to the marker.

screw used



M2.6-6BH
x 2



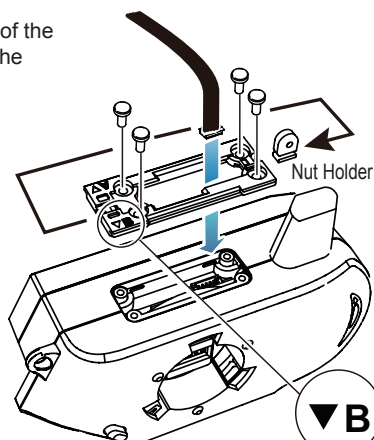
- ② Attach the monitor bracket to the master unit.
*Apply [▼B] mark to the steering side.

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

screw used



2.6-8BH
Self tapping
screw x 4



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

How to disassemble the Xpansion unit.

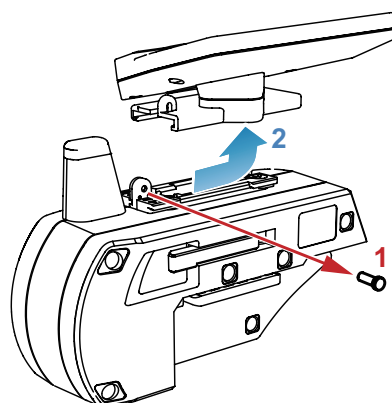
1. Remove M2-6 Cap Screw.
2. Slide the Xpansion like shown in the figure below and take off.

*The disassembly method is the same as side and front positions

screw used.

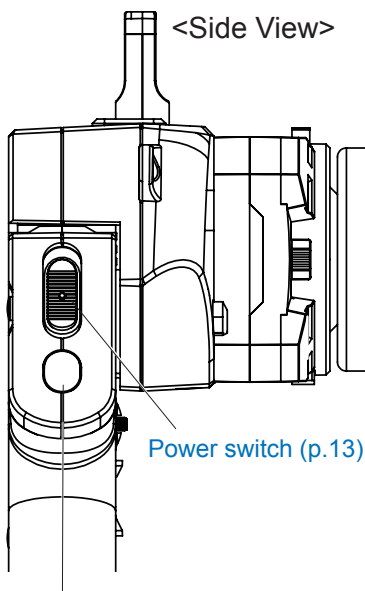


M2-6
cap screw
x 1

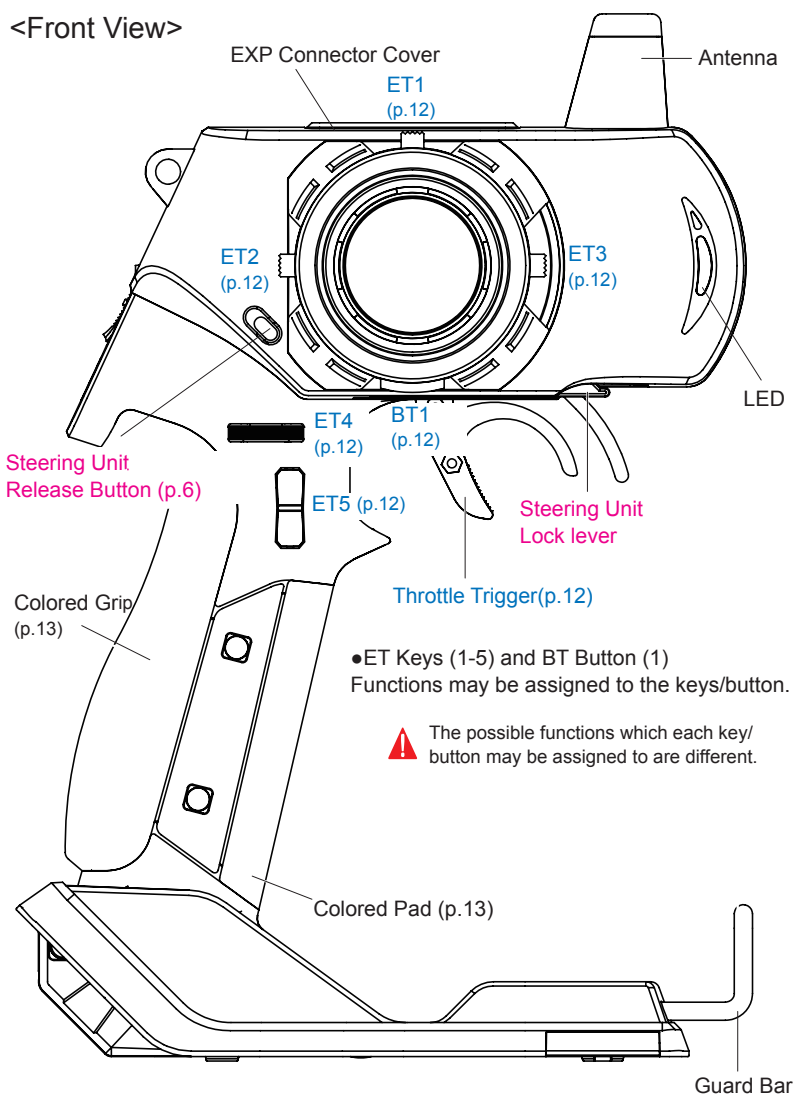


! When assembling or disassembling the Xpansion unit to EX-NEXT, please turn off the EX-NEXT.

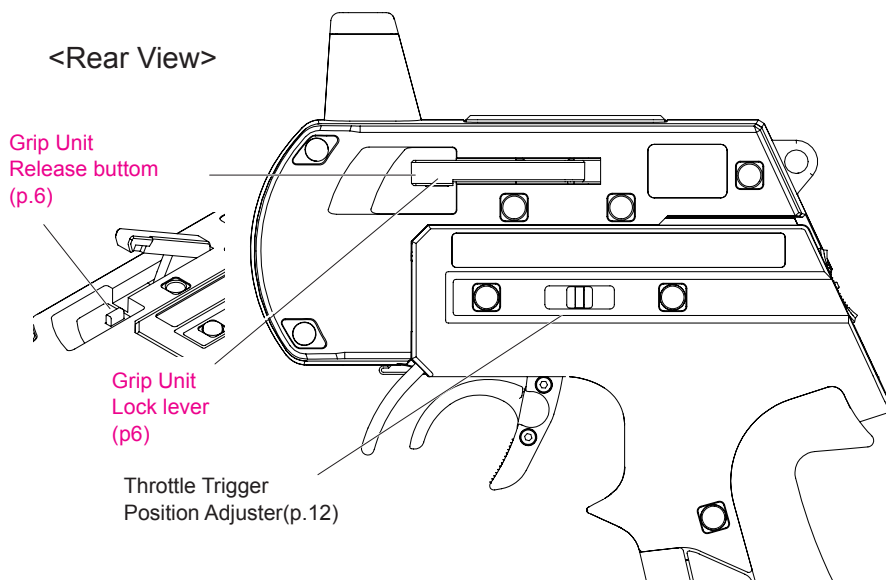
■ Names of Parts



<Front View>



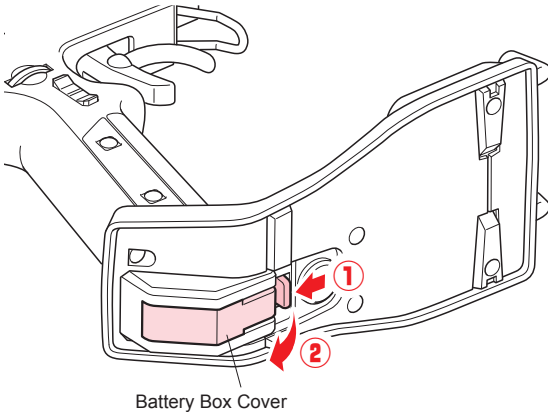
<Rear View>



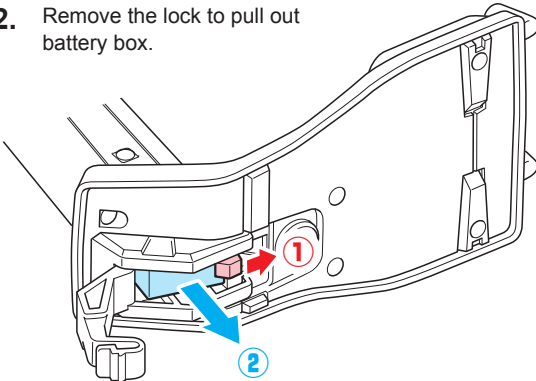
■ Preparations

● Battery Installations

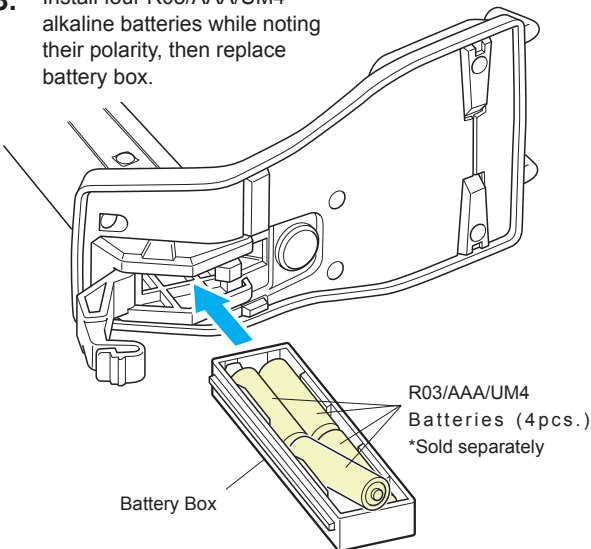
1. Press the tab on the bottom of the transmitter to open battery box cover.



2. Remove the lock to pull out battery box.



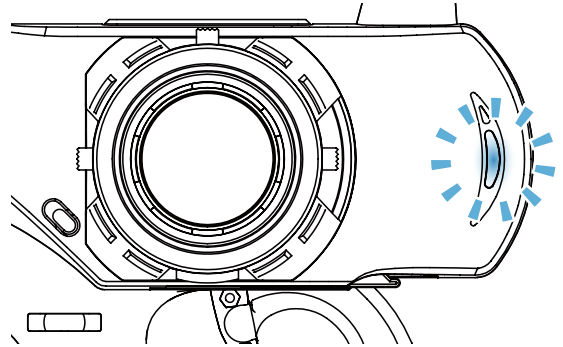
3. Install four R03/AAA/UM4 alkaline batteries while noting their polarity, then replace battery box.



! Use batteries which have adequate remaining capacity. Weak batteries mean lower transmitting power and may result in malfunctions.

● 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.



! When using a Li-Po / Li-Fe battery, be sure to change the expansion battery setting (p.48) because it is necessary to warn before the voltage drops to 4V.

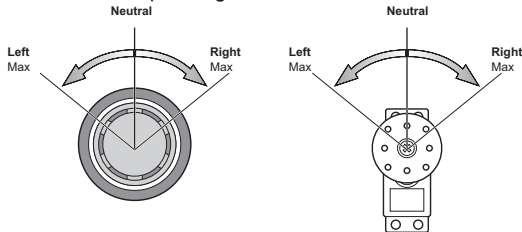
■ Basic operation

●STEERING

The following function explanation is the case of factory default settings. When changing KEYSET (key setting); the following opinions change.

■Steering Wheel

Turn the steering wheel in the right and left directions to verify the servo (steering) connected to 1CH of the receiver is operating.

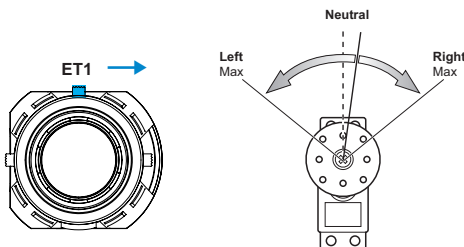


■Steering Trim

Adjusts the neutral/center position of the steering angle range. The function to make a fine adjustment so that a car goes straight, operate the ET1 lever 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 center trim is adjusted.
- When exceeding the setting range a "Pi-" sound can be heard. Please look over your installation and linkage of the servo horn.

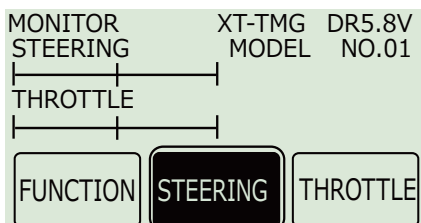
<ex: Right>



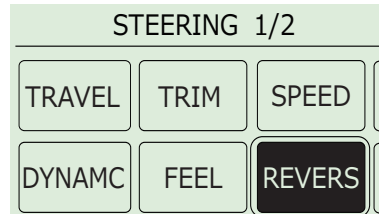
■Steering Reverse

Changing the output directional movement of the servo when it is moving in the opposite direction. (when a steering moves to the left while turning the steering wheel to the right.)

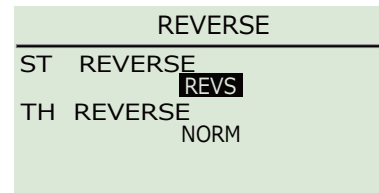
- ① Select [STEERING] on the initial screen and push ENTER key.



- ② Select [REVERSE] on the STEERING menu, and push ENTER key.



- ③ Change setting from NORM to REVS.



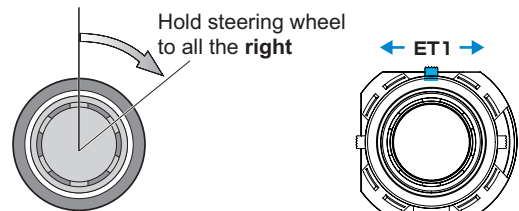
* Return reverse setting, perform operation to ① to ③ again.

■Steering Balance

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

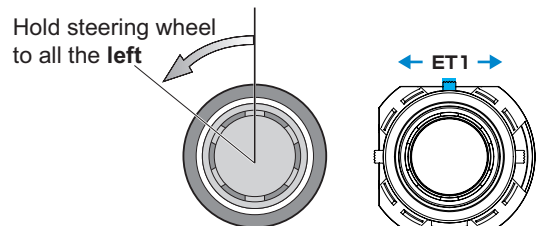
- Balance R(Right)

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



- Balance L(Left)

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



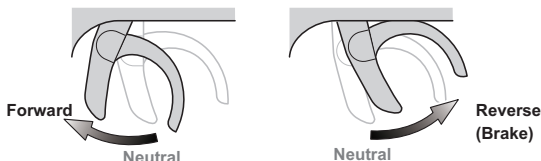
- P** To adjust the amount of steering for right and left at one time, change steering travel (p.53) with ET4 dial.
- P** The above function can be invalidated by turning "OFF" direct balance (p.53).

●THROTTLE

The following function explanation is the case of factory default settings. When changing KEYSET (key setting); the following opinions change

■Trigger

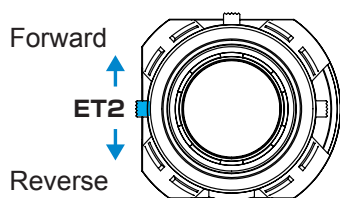
Operating trigger, the servo (ESC) connected to 2CH of the receiver works forward and reverse function.



■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 center trim is adjusted.
- When exceeding the setting range a "Pi-" sound can be heard. Please look over your installation and linkage of the servo horn.



■Throttle Reverse

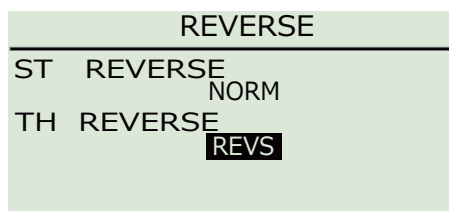
Changing the output directional movement of the servo when it is moving in the opposite direction. (when the brake is moving the forward throttle.)

*This function setting "REVERSE" is accessed in the Steering menu.

- ① Select Steering menu in the initial screen and push Enter.
- ② Select [REVERSE] on the STEERING menu, and push ENTER key.



- ③ Change setting from NORM to REVS.



* Return reverse setting, perform operation to ① to ③ again.

■Throttle Travel

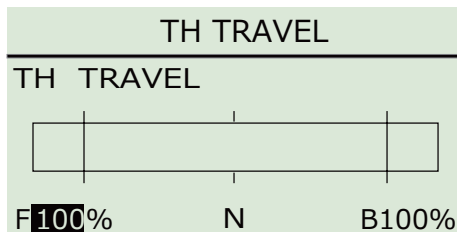
Modify the maximum amount of throttle brake movement and forward acceleration movement.

- Travel F(Forward)

- ① From initial screen select [THROTTLE] throttle and press the ENTER key.



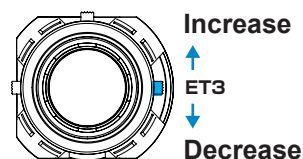
- ② Select [TRAVEL] on the THROTTLE menu, and push ENTER key.



- Travel B(Brake)

- ① Select [THROTTLE] throttle and press the ENTER key.
- ② Select [TRAVEL B] on the THROTTLE menu, and push ENTER key to adjust

P The setting of [TRAVEL B] can be changed by operating the ET3 lever.



! For GP cars, a strong setting for the brake can damage the servo.

●ET Keys (1-5) and BT Button (1)

Functions may be assigned to the keys/button. For key allocation, please refer to KEYSET key configuration (p.33).

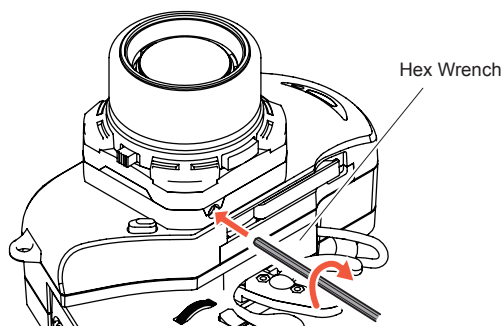
! The possible functions which each key/button may be assigned to are different.

●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

● Adjustment of the decrease angle adjuster

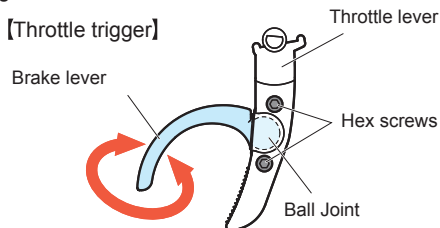
- ① The steering sponge is removed.
- ② Using a 2mm hexagonal wrench, insert into the two holes of the steering wheel to adjust the angle you prefer.
- ③ Perform the VR information configuration (p.17).
- ④ Replace the steering wheel sponge.

●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.



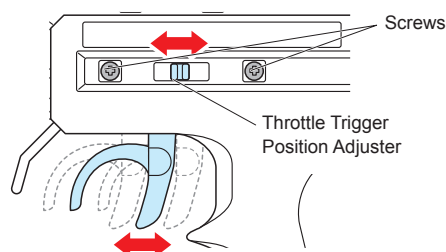
! The trigger may loosen over time due to temperature, usage, strong impacts, etc., we recommend you glue it in place. When there are times that it is still loosens, please inquire to our service department.

●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.



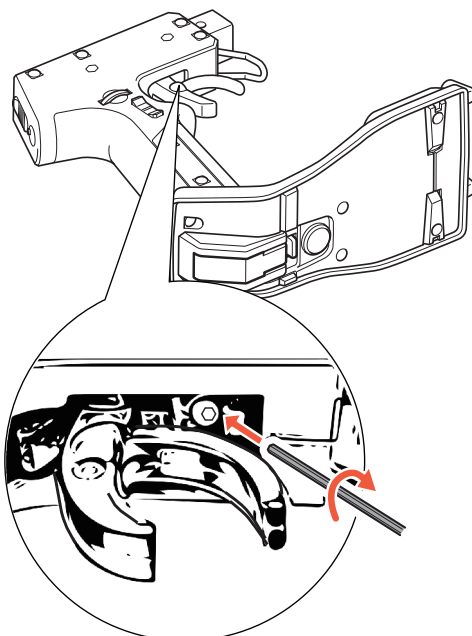
●Adjustment of Trigger Tension

Strength (tension) of the spring for the throttle trigger is adjustable.

* Only Expert grip unit available.

<How to Adjust>

Using a 1.5mm hexagonal wrench (not included) insert into the lower part of the grip section. When turned clockwise (right) the tension becomes stronger, counter-clockwise (left) it becomes less.



! Hold the trigger lightly, insert the hexagonal wrench.

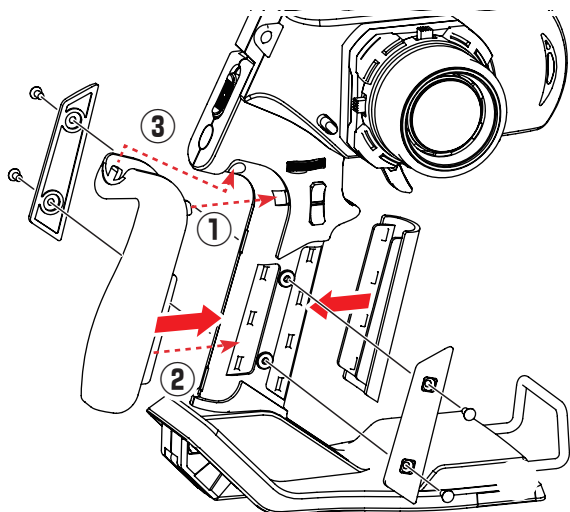
●Colored Grip and Pad Replacement

Colored grip pad (optional) and Large/small grip pad options are available.(LDT requires a another product)

<How to Adjust>

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

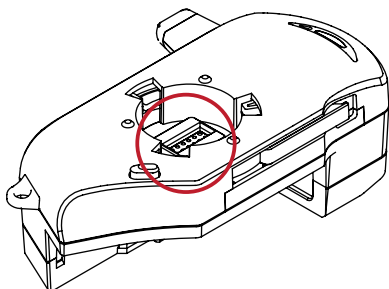
- ❗ Insert the color pad / grip claws into the holes in the following order. Note direction of these parts.



- ❗ Make sure the battery box or battery pack is removed before replacing the colored grip and pad. Be sure to attach it with the color pad to be replaced and the screw of the length that matches the grip. If you make a mistake, the battery or battery may be damaged.
- ❗ Be careful not to overtighten the aluminum screws, as the screws may be damaged if they are overtightened.
- ❗ Note direction of the grip plate.

●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.



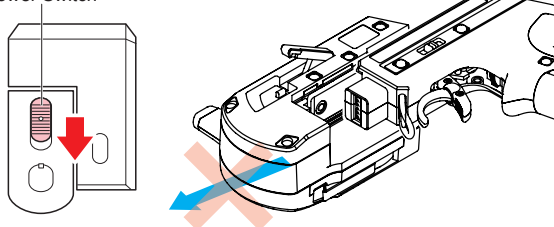
- ❗ Do not touch the unit connectors with your fingers. If connectors become corroded due to grime, they may become inoperable. If storing the transmitter in dismantled form. After prolonged use, a black residue may build up on the connectors. Use cotton swabs dipped in cleaning alcohol to remove. KO Propo's Customer Service Department also handles transmitter maintenance.

●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.

- ❗ 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.

Power Switch

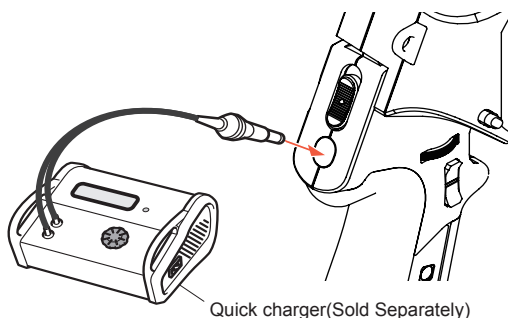


●Charging Jack

Using the charging jack, you can charge different batteries. When using the Xpansion and an expert grip unit, A battery stand, a rechargeable battery, a battery charger are necessary.

<How to Recharge>

- ☐ Confirm that the power switch is in the OFF position. If only using the Grip Unit, make sure that the connector cover is in place.
- ☐ Make sure the battery is securely connected. If the connection is loose, the battery may not charge completely. Securely connect the charger plug to the charger jack.
- ☐ Begin charging using a current of less than 1A.



- P** Please use charger which can set current less 1A and it must correspondent your kind of battery. You can use No.55055 TX charging jack2 as chaging plug.(sold separately)
- ❗ Make sure the power switch is in the OFF position when charging.
- ❗ A short circuit may occur if the connector makes contact with metal and lead to a serious accident.
- ❗ Use a current of less than 1A to charge.
- ❗ Take note of the charger plug's polarity in order to avoid damage.
- ❗ Do not attempt to charge if using alkaline batteries. Doing so may result in battery leakage or cracking which will damage the transmitter.
- ❗ You can not charge the battery through the charging jack when using a battery pack.
- ❗ If using a battery pack, please note that it cannot be discharged via the charger jack. Remove the battery pack from the transmitter to discharge it.
- ❗ After reading the battery pack manual, please use your battery. discharged via the charger jack. Remove the battery pack from the transmitter to discharge it.

■ Procedures Prior to Operation

1. Switching On

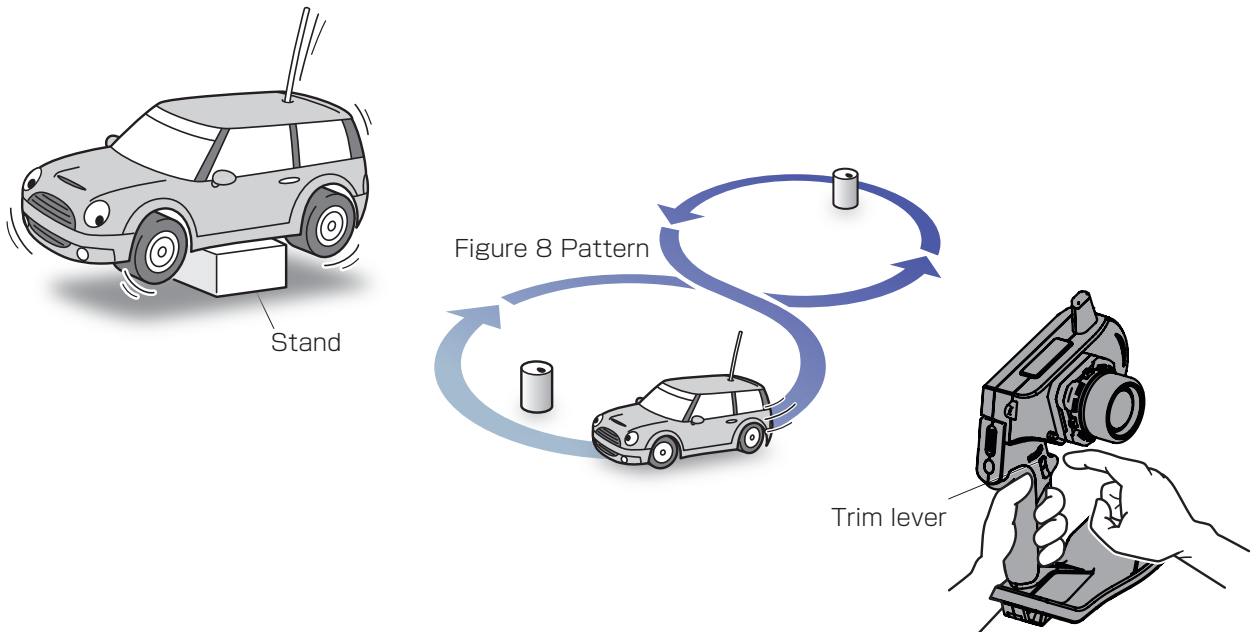
After ensuring that it is safe to do so, switch on the transmitter followed by the receiver.

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 receiver, 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.

■ Display and Control Method for attaching the Xpansion unit

●Name of each parts and Basic operation.

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

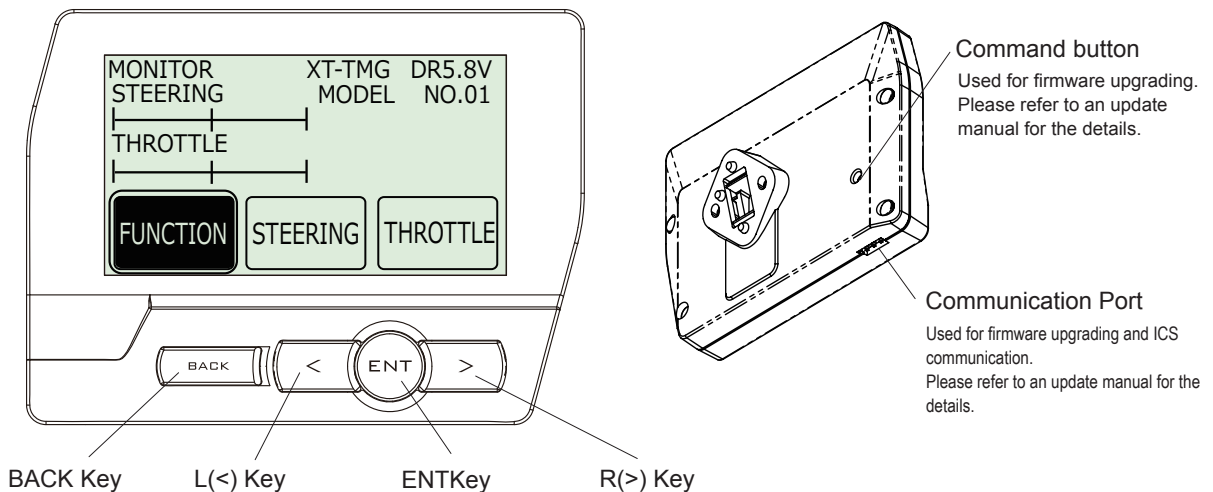
ENT Key : Selecting item to be modified; Confirming a change after a setting change.

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.

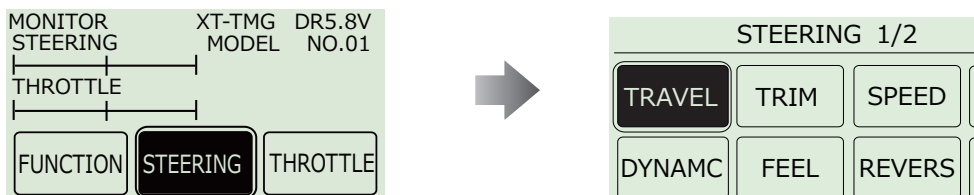
L(<)Key+R(>)Key Pressing simultaneously : Reset value to factory setting.



[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 Operate the R(>) key to set to [SPEED] (ST SPEED), and then press the ENT key to switch to the setting menu.
- ② Operate the R(>) key for move the cursol to the value (100%) of [TURN1] (ST SPEED turn speed 1). (Figure left)
- ③ Press ENTER key to select it for modification.
- ④ The cursor starts flashing. Please change the value by operating R(>) and L(<) Key. (Figure right Changed to 50%)
- ⑤ Press ENT key when change value is finished.

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

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

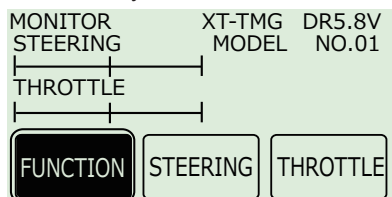
●English and Japanese display language

The menu lettering of the transmitter can be changed from English to Japanese by configuring **FUNCTION>SYSTEM>CONFIG>LANGUAGE**.

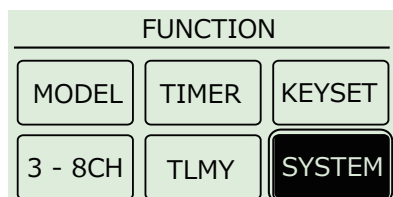
* In this instruction manual, English is used for displaying functions

Operation How to change to Japanese

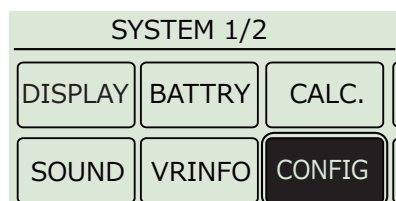
- ①From the initial screen select FUNCTION and press the ENTER key.



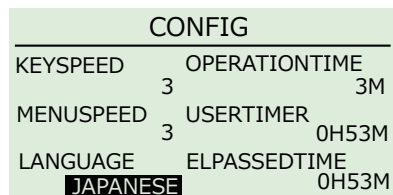
- ②From the FUNCTION menu, select SYSTEM and press the ENTER key.



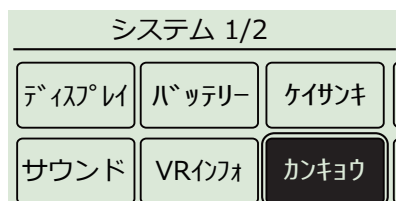
- ③From the SYSTEM menu, select CONFIG and press the ENTER key.



- ④From the CONFIG menu, select JAPANESE to change the language setting.



- ⑤When the BACK key is pressed, the language changes to Japanese.



If you want to change to English menu, change value in the セッテイ > システム > カンキョウ > ゲンゴ to ENGLISH from Japanese.

英語表記	カタカナ表記
FUNCTION	セッテイ
MODEL	モデル
TIMER	タイマー
KEYSET	キーセッテイ
3-8CH	3-8CH
TLMY	テレメトリ
RFMODE	RFモード
RESP	レスポンス
RELICS	リアルICS
BT F/S	BT F/S
BT VOL	BT VOL
MAX REV	MAX REV
SYSTEM	システム
DISPLAY	ディスプレイ
BATTERY	バッテリー
CALC.	ケイサンキ
SOUND	サウンド
VRINFO	VRインフォ
CONFIG	カンキョウ
DATA	データ
RESET	リセット
STEERING	ステアリング
TRAVEL	トラベル
TRIM	トリム
SPEED	スピード
DYNAMC	ダイナミック (ス)
FEEL	フィール
REVERS	リバース
THROTTLE	スロットル
TRAVEL	トラベル
TRIM	トリム
SPEED	スピード
DYNAMC	ダイナミック (ス)
FEEL	フィール
REVERS	リバース
CYCLE	サイクル
ATSTRT	ATスタート
OFFSET	オフセット
BRK-OR	オーバーR
BRK-IN	ブレークイン
H-BRK	ハンドBK
PUSH	プッシュ
DBAND	Dバンド

Note2)

Note1)

Note1)

Note 1) ダイナミクス is displayed as ダイナミック cause by limit of chractor count.

Note 2) Displayed functions will be changed by you selected RF-MODE.

●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]

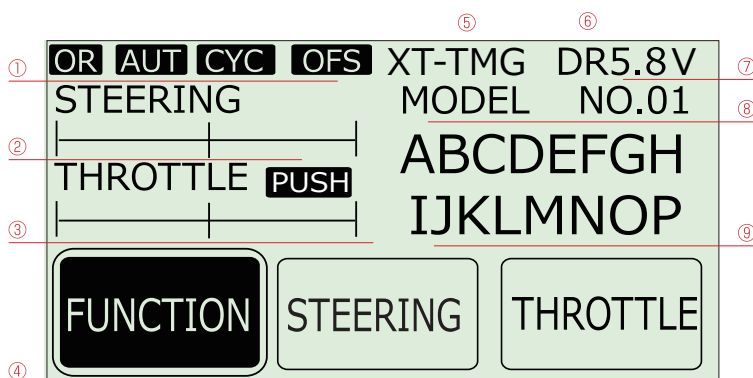


① Version Information :

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 .(<https://www.kopropo.co.jp>)

* The upper row is the expansion version, and the lower row is the master unit version. Please check the version upgrade guide to see which one to refer to.

[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
 PUSH : Push



When left side functions are not active, "MONITOR" is displayed.

② Steering Monitor: Displays the position of the steering operation.

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 RF Mode : RF mode which is being used is displayed.

XT-ADG : ADV (Highest speed, one way communication)

XT-TMG : TLMY (Middle speed, two way communication)

MX-FG : MX-F (Slowest speed, one way communication)

MINIZ : MZ-ADV (Highest speed, one way communication)

MZ-TLM (Middle speed, two way communication)

※ When the MINI-Z EVO2 Receiver Unit is in use

MINIZ (Middle speed, two way communication)

※ When the MINI-Z EVO Receiver Unit is in use

⑥ Power Source Type : Selected battery mode is displayed.

LP : Lipo Battery

LF : LiFe Battery

DR : R03/AAA/UM4 Alkaline Batteries

NI : Ni-MH Battery

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

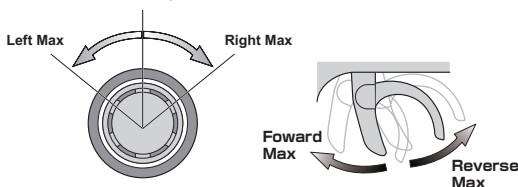
- When using EX-NEXT for the first time.
- When changing a steering unit for a different product or when putting it back together.
- When changing a grip unit for a different product or when putting it back together.
- When using and confusion has occurred in the positional information.

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 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	

4.5. Move slowly to full stroke, then release



6. Small window [Yes] comes active.

VR INFOMATION		
ST- LEFT	1765	OK? YES
NUT	◇	
RIGHT	-1749	
TH- HI	1204	
NUT	◇	
LOW	-565	

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

! For a detailed configuration procedure, please refer to "VR Information" (p.50).

●RFMode(Radio waves mode)

EX-NEXT is equipped with 4 RF modes. (V3.00.00 or later)

Communication Specifications	XT Advance Highest speed one way communication	XT Telemetry Middle speed two way communication	MX-F Slowest speed one way communication	MINIZ Highest speed one way communication	MINIZ Middle speed two way communication	MINIZ Middle speed one way communication
RF Mode	ADV	TLMY	MX-F	MINIZ		
Initial Screen Display	XT-ADG	XT-TMG	MX-FG	M-ADVZ	MZ-TLM ※ 1	MINIZ ※ 1
Compatible Receivers	KR-420XT	KR-420XT KR-242XT	MR-8	MINI-Z EVO2 Receiver Unit		MINI-Z EVO Receiver Unit
LED	Green	Blue	Yellow	Light Blue/Green Alternating blinking	Light Blue/Blue Alternating blinking	
Telemetry	Do not Correspond	Correspond	Do not Correspond	Partially ※2 Correspond	Correspond	Do not Correspond

※ 1. The MZ-TLM and MINIZ automatically recognise and display the receiver.

The MINI-Z EVO Receiver Unit EX-NEXT MC-8 82043 cannot use the telemetry function.

※ 2. The MZ-ADV automatically switches to bi-directional communication only when necessary, such as when using the real-time ICS function, and returns to high-speed communication after the communication is finished.

P Please do pairing function when the RF MODE is changed. (p.20-23)

P When using EX-NEXT in MINI-Z, be sure to change the RF mode to MINIZ.

P When replacing the receiver, be sure to switch off the transmitter/receiver before replacing it.

●RF mode

ADV: This is highest speed response in same category device. This give absolute advantage when using in the race.
(As of December 2023.)

TLMY: In the this mode, you can use telemetry/REAL TIME ICS.Only serial-compatible servos/equipment can be used.)
You can know value of the each sensor from the receiver. You can adjust ICS settings of the servo through the transmitter.

MX-F: This mode is for using MR-8 receiver.

Please return RF mode to "MX-F" after change RF mode to "TLMY" and change response to the"MILD". (p.41-42)

MINIZ: This mode is for use with the MINI-Z EVO2/EVO receiver unit.

When the [MINI-Z EVO2 Receiver Unit for KO PROPO 82045] and [EVO2] are in use,
ADV (fast unidirectional mode) and TLMY (bi-directional mode) are selectable. (p.20-23)

P The MINI-Z EVO / EVO2 receiver unit that can communicate with EX-NEXT is
[MINI-Z EVO2 Receiver Unit for KO PROPO 82045] (**Blue antenna**).
[MINI-Z EVO Receiver Unit EX-NEXT MC-8 82043] (**Green antenna**).
[MINI-Z EVO Receiver Unit 82040] (**Red antenna**) cannot be used.

* The MINI-Z EVO receiver unit is exclusively for the MINI-Z EVO series manufactured by Kyosho Corporation.

P How to use KR-420XT with MC-8.

Please set "TLMY" for the RF mode and set "MILD" for response function when using with EX-NEXT.
Then pair this receiver with MC-8. (p.42)

●Pairing(for general RC car)

This operation allows the receiver to memorize the transmitter information. You must perform this when using a receiver for the first time or when changing the EX-NEXT RF mode.

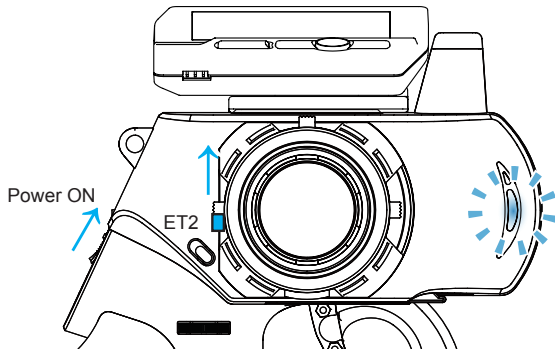
*There are two ways of pairing a receiver. Please use which ever method you feel is an easier operation.

<Pairing method 1>

A case of pairing method without changed RF mode.

1. Preparing the transmitter.

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

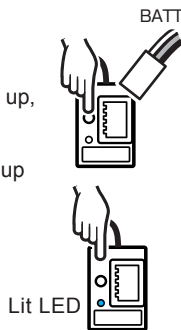


- ② Please release the ET-2 lever when the startup screen is displayed.
 - ③ Change to pairing screen and start transmit power with pairing signal.
- Change to pairing screen and start transmit power with pairing signal.

ADV: Green / White TLMY: Blue / White

2. Preparing the receiver

- ① Connect the receiver power source while pressing the setup button.
- ② Check that the receiver's LED has lit up, then release the setup button.
- ③ Check that the receiver's LED lights up again (indicating pairing completion).
- ④ Receiver's LED lights up again (about 3sec) and light off and start flashing. It means searching for transmitter signal.



3. Preparations for Operation

- ① Turn off the transmitter and turn on again.
- ② Check that the receiver's LED lights up again (indicating pairing completion).

<Pairing method 1 and 2 comon.>

If the LED flashes, the receiver is not getting the EX-NEXT signal and the pairing procedure should be repeated.

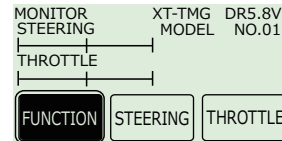


<Pairing Method 2>

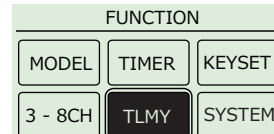
A case of pairing method with changed RF mode.

1. Preparing the transmitter.

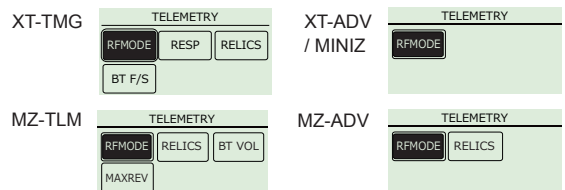
- ① Press ENT key when FUNCTION is selected at the Initial screen.



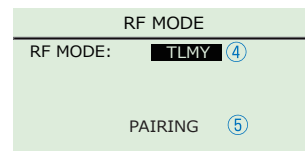
- ② Press ENT key when TLMY is selected at the FUNCTION menu.



- ③ Press ENT key when RFMODE is selected at the Telemetry menu.
- * The menu displayed depends on the current RF mode.



- ④ Please set the RF MODE and ⑤WIDTH in the RF MODE menu for you needs.



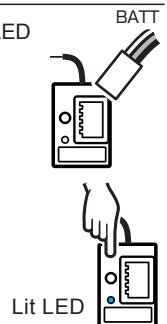
- ⑤ Move the cursor to PAIRING and press and hold ENT key.
- ⑥ Screen is change to the PARING and start sending the pairing signal.

The EX-NEXT LED lights alternately in two colors corresponding to

ADV: Green / White TLMY: Blue / White

2. Preparing the receiver

- ① Turn on the receiver. And thereceiver's LED will be start flashing.
- ② Check that the receiver's LED has lit up, then release the setup button.
- ③ Check that the receiver's LED lights up again (indicating pairing completion).
- ④ Receiver's LED lights up again (about 3sec) and light off and start flashing. It means searching for transmitter signal.



3. Preparations for Operation

- ① Press the Back key in the EX-NEXT.
- ② Check that the receiver's LED lights up again (indicating pairing completion)

●Pairing(for MINI-Z)

This operation allows the receiver to memorize the transmitter information. You must perform this when using a receiver for the first time or when changing the EX-NEXT RF mode.

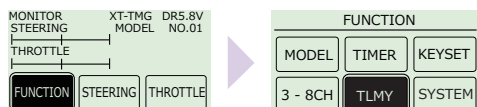
*There are two ways of pairing a receiver. Please use which ever method you feel is an easier operation.

<Pairing method 1>

A case of pairing method with changed RF mode.

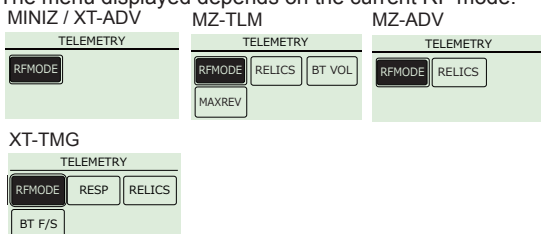
1. Preparing the transmitter.

- ① Press the ENT key in FUNCTION on the initial screen and press the ENT key in TLMY.

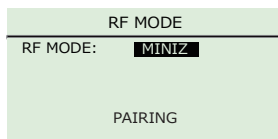


- ② Press the ENT key in RF MODE in the TELEMETRY menu.

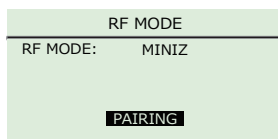
* The menu displayed depends on the current RF mode.



- ③ Select MINIZ in RF MODE and press ENT key to confirm.



- ④ Move the cursor to PAIRING and press and hold ENT key.



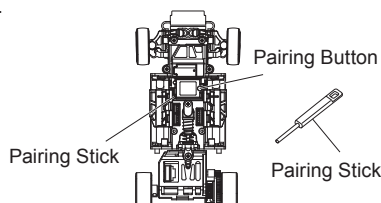
- ⑤ The display switches to the pairing screen and a pairing signal is transmitted.



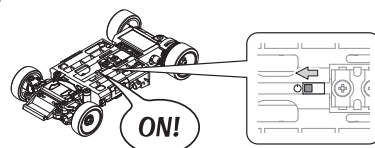
The EX-NEXT LED lights alternately in three colors corresponding to **Blue / Light Blue / White**

2. Preparing the receiver

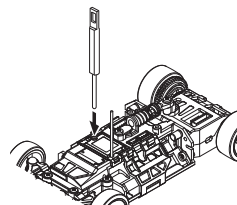
- ① Prepare the pairing stick and locate the LED indicator and pairing button.



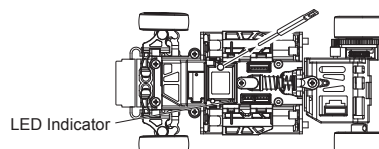
- ② Chassis (Switch ON)



- ③ Using the pairing stick, press and release the pairing button for 1 second.



- ④ Ensure that the LED indicator lights up.



- ⑤ Return the NEXT pairing screen to the menu screen.

Check LED indicators.

Light is ON : Pairing has been successful.

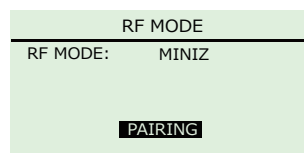
Light is flashing : Pairing has not be completed.

Switch the transmitter and chassis power off and do pairing again.

3. Preparations for Operation

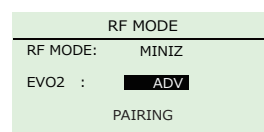
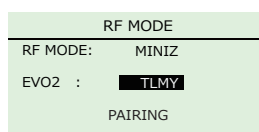
For MINI-Z EVO Receiver unit EX-NEXT MC-8 82043 (Green Antenna)

- ① Press the BACK button on the EX-NEXT from the screen below and the MINI-Z can be operated once the screen switches to the normal screen.



For MINI-Z EVO2 Receiver unit for KO PROPO 82045 (Blue Antenna)

- ① The EVO2 communication mode is displayed, select the mode you want to use from TLMY and ADV.



●Pairing(for MINI-Z)

<Pairing method 1>

- ② Make the changes and press the ENT key to switch the RF MODE of the MINIZ, wait a few seconds.

RF MODE HAS CHANGED

. . . 4S WAIT

- ③ Press the BACK button on the EX-NEXT and the MINI-Z can be operated once the screen switches to the normal screen.

The LEDs light up alternately corresponding to the RF MODE.

MINIZ : **Light Blue / Blue**

MZ-TLM : **Light Blue / Blue**

MZ-ADV : **Light Blue / Green**

*In rare cases, pairing data may be lost, but this is not a malfunction. Please set up the pairing again.

MINI-Z EVO/EVO2 Transmitter/receiver compatibility chart

		Transmitter			Chassis	
		EXP-201	EXP-104S/M			
Receiver	82045 MINI-Z EVO 2 Receiver Unit for KO PROPO	EX-NEXT /LDT	EX-RR 2/LDT	MC-8	MR-04 EVO2	MR-03 EVO MA-030 EVO
	Basic control function	✓ Ver.2.00 Later	✗	✓ ※Slow	✓	✓
	Telemetry function	✓ Ver.3.00 Later	✗	✗	✓	✗
	Advanced mode	✓ Ver.3.00 Later	✗	✗	✓	✗
	82043 MINI-Z EVO Receiver Unit EX-NEXT MC-8	✓ Ver.2.00 Later	✗	✓ ※Slow	✓	✓
	82040 MINI-Z EVO Receiver Unit	✗	✓ Ver.1.00 Later	✗	✓	✓

! The EVO/82043/82040 does not have a telemetry function.



Available



Not available

P When replacing the receiver, be sure to switch off the transmitter/receiver before replacing it.

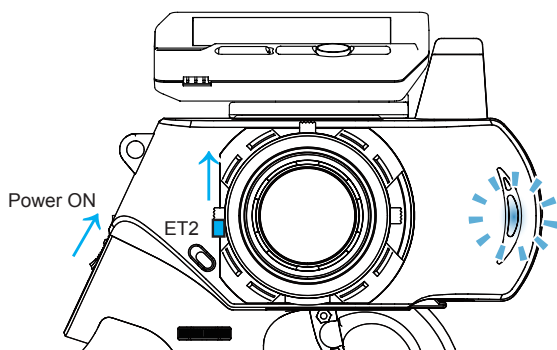
●Pairing(for MINI-Z)

<Pairing Method 2>

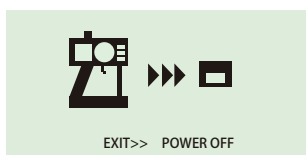
When pairing again after RF MODE has already been switched to MINIZ

1. Preparing the transmitter.

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



- ② Please release the ET-2 lever when the startup screen is displayed.
- ③ Change to pairing screen and start transmit power with pairing signal.

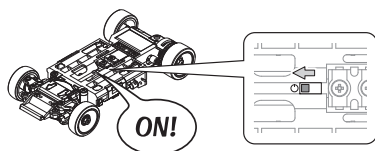


The EX-NEXT LED lights alternately in three colors corresponding to

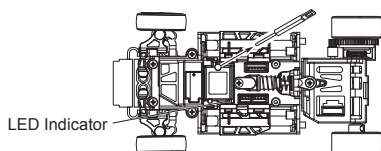
Blue / Light Blue / White

2. Preparing the receiver

- ① When the vehicle is turned on, the LED indicator will be in a flashing state.



- ② Press the pairing button and check that the LED indicator lights up; when the LED turns on again, pairing is complete.



3. Preparations for Operation

- ① Turn off the power of EX-NEXT. The settings will take effect the next time you turn on the power.

*In rare cases, pairing data may be lost, but this is not a malfunction. Please set up the pairing again.

<Pairing method 1 and 2 comon>

If the LED flashes, the receiver is not getting the EX-NEXT signal and the pairing procedure should be repeated.

About gyro adjustment

*When using the MZW-405 gyro unit

FUNCTION

> 3-8CH

> GYRO

3 - 8CH			
3 CH MODE	OFF	GYRO	
GYRO	2WAY	TWIN	
SET	3WAY	4 WS	
4 CH MODE	5WAY	AMP	
GYRO	ANLOG	T-MIX	
SET		>>NEXT	

ET3=STEERING

ET5=THROTTLE

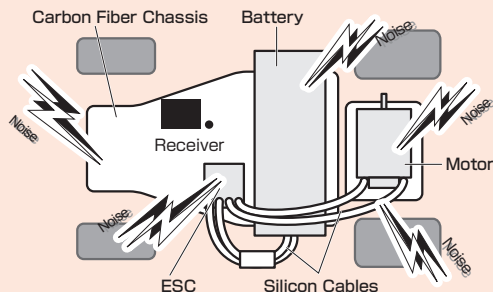
Gyroscopic adjustment is possible.

• Countermeasures Against Noise

Keep antenna cable away from all sources of noise!

Noise is generated in any area where a large amount of electric current is flowing. Position the receiver and antenna cable as far away from the motor, battery, ESC, and their associated cables as possible. (Metal or carbon fiber chassis components will also conduct electricity and generate noise.)

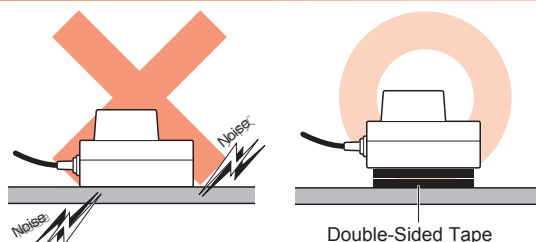
Since R/C models are controlled via radio signals, taking appropriate measures against noise generated by on-board equipment is of utmost importance. Take adequate measures against noise so that your machine can fully realize your driving potential.



• Receiver Installation on a Carbon Fiber Chassis

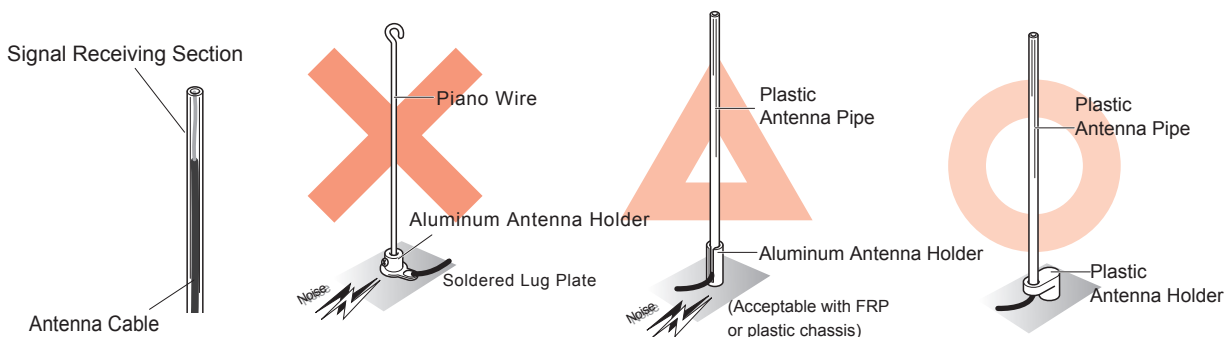
When installing the receiver to the chassis or R/C equipment deck/tray, use two or more pieces of thick double-sided tape to raise the receiver off the chassis surface. By increasing the separation between the receiver and the noise-generating carbon-fiber chassis components, the effects of noise can be decreased.

*Install the receiver so that its LEDs are visible.



• Antenna Installation

Raise the antenna cable vertically from as high a position as possible. Insert the antenna cable into the antenna pipe so that the tip of the antenna aligns with the end of the pipe. Make the length of cable which runs between the receiver and the pipe as short as possible and position the antenna holder as close to the receiver as possible. Position the antenna cable away from sources of noise such as the chassis and R/C equipment deck/tray. Use an antenna pipe and antenna mount that are made from plastic, since metal parts will conduct noise.

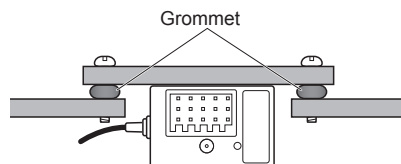


*Do not bend or cut the antenna cable.
(This may break the antenna wire and deteriorate its performance.)

• Installing Onto a Glow Engine Car

Engine vibrations may damage the receiver. Make sure to attach a grommet (receiver holder) to reduce the effects of such vibrations. Do not attach the receiver directly to the chassis or R/C equipment deck/tray with double-sided tape. Also position the receiver so that it does not contact the heat and exhaust of the engine and muffler.

*Install the receiver so that its LEDs are visible

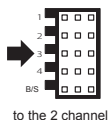


•Fail-Safe Setting

Fail-safe is when the receiver loses the radio signal of the transmitter and the function keeps channel 2 (throttle) in an optional position. The configuration is usually full brake or neutral. Fail-safe function will be cancelled automatically when the receiver receives the signal from the transmitter.

1

After Pairing



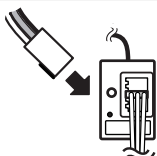
Connect a servo or ESC to 2Ch on the receiver which you want to set the fail-safe setting.

2



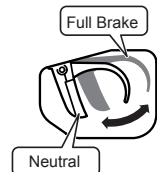
Turn on the transmitter.

3



Turn on the receiver and check that each device connected operates correctly.

4



We recommend setting the throttle position for Fail-safe as listed below.

- When using an ESC with reverse :Neutral

- Gas powerd car :Neutral or Full brake
- ESC only forward :Neutral or Full brake

5



Press and hold the setup button longer than 3 seconds while holding the position of the throttle trigger to the desired Fail-safe position at the same time.

6



Please release the setup button on the receiver after the LED light goes off. The setting is saved when the LED light comes back on again.

7



Turn off the transmitter to check the Fail-safe setting is correct and safe.



Please be sure to set the fail-safe.



If you change the position of the fail-safe operation, please set again. We recommend to set it again even. if you modify the car engine brake linkage.

Battery fail safe setting

*This can be set when using TLYM mode.

*Also if you change the RF-mode to XT-ADG or XT-ADF after this setting, the setting stays activated.

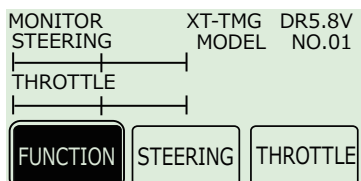
The battery fail-safe function allows the automatic decelerate or brake when the voltage of the receiver battery falls below the set voltage. When the fail-safe function is activated, the set servo is automatically operated to any position (the position set by the fail-safe function). When the voltage is restored, the battery fail-safe function will automatically cancel.

*The purpose of using the battery fail-safe function is to stop using a damaged or weak battery by mistake.

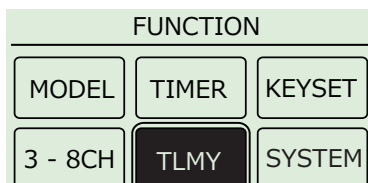
We do not recommend using this as a safe function to determine a dead battery.

* This function is used for gas powered cars only. Do not use this function for EP cars.

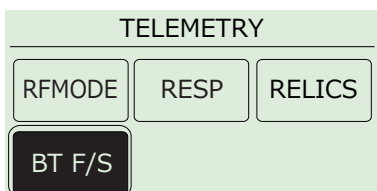
① Select FUNCTION in the initial screen



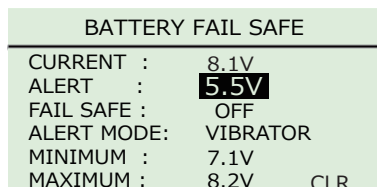
② Select TLYM in the Function menu.



③ Select BT F/S in the Telemetry.



④ Select ALERT (Voltage)

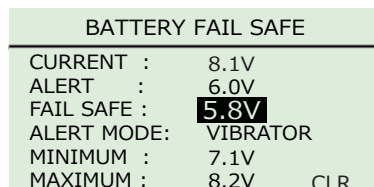


Reference value : Life 5.2V

Lipo 6.0V

Will be informed by vibration or buzzer when voltage were lower from setting value.

⑤ FAIL SAFE Voltage

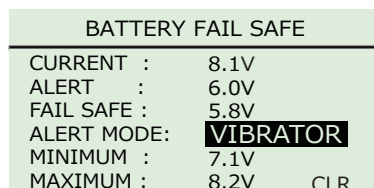


Reference value: Life 5.0V

Lipo 5.8V

Fail-safe function will be active when the voltage is lower then the setting value.

⑥ Select VIBRATOR in the ALERT MODE.



Change to VIBRATOR (recommend setting) or BUZZER in the Alert Mode.

This mode will be active when the ALERT setting is reached.

●Setting changes of ICS correspondence servo -When connecting to Xpansion directly-

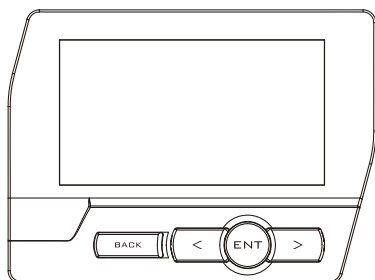
ICS setting changes can be performed using telemetry with the radio (p.43) or by connecting directly to the Xpansion. The Xpansion can be used for ICS setting changes only.

① Connecting Xpansion and Servo

*Please turn off transmitter when using this.

LCDXpansion Unit2 EXP-201

No.10672



②

Extension Wire Black(High current) 200mm
No.36520

*This length is convenient as it will be long enough to connect to the transmitter.

②

Servo Twin Extension Wire II
w/new plug
No.36509

Or

Serial Branch adapter
No.36522

① Connecting First

ICS Correspondence servo
RSx/BSx series

Serial Correspondence servo
4S series

③ Connecting last

Battery

Connecting receiver battery, ESC, etc
for power supply (Voltage 4.8 to 7.4v)

② Select the type of servo and change settings.

*There is no operation

<ICS coresspondence servo>

for RSx/RSx2/RSx3/BSx2/BSx3 each series,
select "SERVO MOTOR SET"

SERVO MOTOR SET

SERIAL SERVO MOTOR SET

MASTER UPDATE

** PLEASE TURN ON THE **

** POWER OF MASTER UNIT **

SERVO MOTOR SET

MODEL: 1

STRCH1: 95 DEADBAND: 0
STRCH2: 255 DAMPING : 30
SPEED: 110 FREQUENCY: X8
PUNCH: 0

►MODEL

1.Select model memory of the servo.

[Setting Range] MODEL: 1 to 5 (default 1)

2. Change ICS parameters. Each setting value is sent to the servo when each data is changed, characteristics of the servo will be changed.

Please back up the default values by making a memo.

*Please refer (p.43) for about each parameter.

3.Please remove the battery for this function to exit.

<Serial coresspondence servo>

for 4S series,

select "SERIAL SERVO MOTOR SET".

SERVO MOTOR SET

SERIAL SERVO MOTOR SET

MASTER UPDATE

** PLEASE TURN ON THE **

** POWER OF MASTER UNIT **

SERIAL SERVO MOTOR SET

ID: 1 MODEL: 1

STRCH1: 95 DEADBAND: 0
STRCH2: 255 DAMPING : 30
SPEED: 110 FREQUENCY: X8
PUNCH: 0

►ID

ID of servo is changed.

[Setting Range] ID: 1 to 4 (default 1)

P Case of connecting to B/S port of the KR-420XT,
please use the below settings.

ID1: Steering operation

ID2: Throttle operation

ID3: 3CH control

ID4: 4CH control

►MODEL

1.Select model memory of the servo.

[Setting Range] MODEL: 1 to 5 (default 1)

2. Change ICS parameters. Each setting value is sent to the servo when each data is changed, characteristics of the servo will be changed.

Please back up the default values by making a memo.

*Please refer (p.43) for about each parameter.

3.Please remove the battery for this function to exit.

! Be sure to select the menu that corresponds to the servo you are using. If you select the wrong menu, the servo will malfunction or you will not be able to change the settings.

! The initial value of the ICS setting differs depending on the servo model and is not retained.It is recommended that you keep a memo if necessary.

! When data is not displayed normally and each parameter becomes 0
1) <ICS compatible servo> <Serial compatible servo> Check if there is any mistake in the type.

2) Check the connection between the expansion and the servo (such as the orientation of the connector when the tab is cut).

●Master unit Update

EX-NEXT is able to update software by our supplied files on our website.
Also, details of the procedure will be released on the website.
Please check our site.

<https://www.kopropo.co.jp>

●ERROR Status

When using the battery fail-safe or when there is a system problem, you can check this error using this screen.
Press and hold the BACK key from the initial screen and the display is change to Error status display. This screen will return to the initial screen automatically after a few seconds.

ERROR STATUS	
COMMUNICATION:	RECV ERROR
EEPROM	:
BODY UNIT	:
STEERING UNIT	:

Error display1

<Case when can not receive signal from receiver.>


COMMUNICATION: Can not communicate to the receiver.

EEPROM: Memory has been corrupted.

BODY UNIT: Contact failure with Master Unit.

STEERING UNIT: Steering unit is not connected.

 In telemetry mode, when the receiver signal is received, the LED lights up alternately between red and blue.

 When the Steering unit is not connected properly the LED lights up Red.

ERROR STATUS	
RECEIVER VOLTAGE :	LOW
RECEIVER FAIL SAFE :	ACTIVE

Error display2

<Case when signal is received from receiver.>

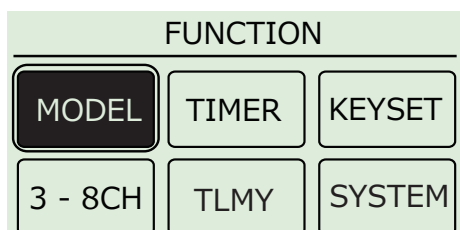
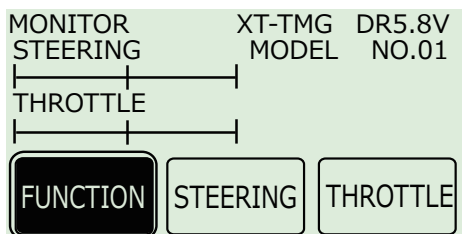
RECEIVER VOLTAGE: Voltage is under the set voltage.

RECEIVER FAIL-SAFE: Battery fail safe is working.

■ TOP MENU

■■■ FUNCTION

Display index for 6 kinds of Function menu.



■■■ MODEL

Can operate model select , copy etc.

■■■ TIMER

Can use function about timer.

■■■ KEY SET

Various functions can be assigned to the ET and BT keys.

■■■ 3-8CH

Can change setting for 3-8 channel function.

■■■ TLMY(telemetry)

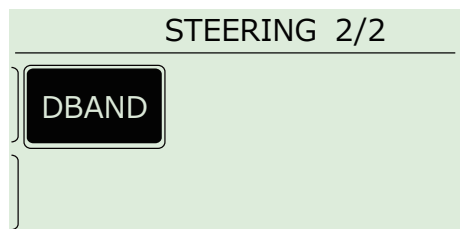
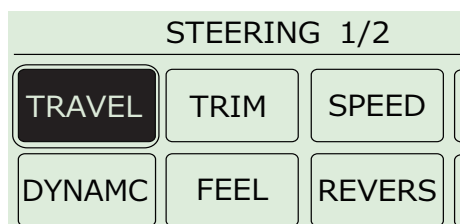
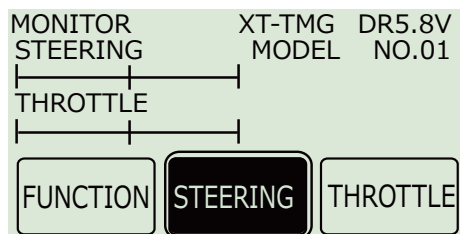
Can change RF mode, pairing, take data from receiver,fail safe, servo setting.

■■■ SYSTEM

Convenient Gear ratio calculator, volume information , etc can change system setting.

■■■ STEERING

Display index for 7 kinds of Steering menu.



■■■ TRAVEL

Can change total or each left and right of steering movement amount.

■■■ TRIM

Can change center position or total position of steering movement degrees.

■■■ SPEED

Can change rate speed of steering operation.

■■■ DYNAMIC

Can change setting for curve and punch.

■■■ FEEL

Can adjustment feeling of steering operation.

■■■ REVERS

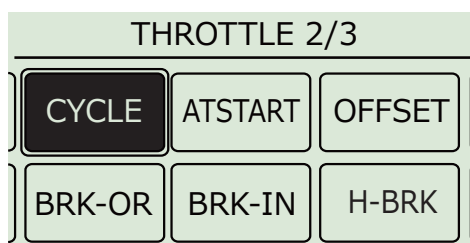
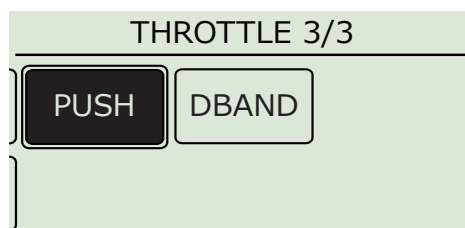
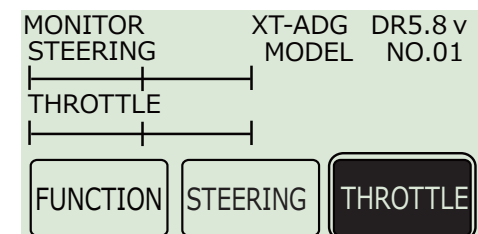
You can change the direction of the steering signal with respect to the operation.

■■■ DBAND

Adjust the amount of not working position of the steering.

THROTTLE

Display index for 14 kinds of Throttle menus. (These are divided into 3 screens.)



TRAVEL

Can change total value of throttle movement.



TRIM

Can change center position or total position of throttle movement degrees.



SPEED

Can change rate speed of throttle operation.



DYNAMIC

Can change setting for curve and punch.



FEEL

Can adjustment feeling of throttle operation.



REVERS

You can change the direction of the steering signal with respect to the operation.



CYCLE

Can change setting of acceleration,ABS.



ATSTART

Can change setting of autostart.



OFFSET

Can change setting of neutral brake and idle up.



BRK-OR

Can change setting of maximum movement of Brake and ST travel.



BRK-IN

Can set Break-in function which is used before driving.



H-BRK

Can set the hand brake function.



PUSH

Can set the Push control function.



DBAND

Adjust the amount of not working position of the throttle.

FUNCTION

MODEL

Save various settings as model memories Up to 50 model memories can be named and stored.

MODEL		
MODEL SELECT		MDL01
MODEL NAME	ABCDEFGH ABCDEFGH	
MODEL COPY	MDL01 TO	MDL02
MODEL RESET		

►MODEL SEL (Model Select)

Switch between different model memories.

►MODEL NAME

Names the model memories.

►MODEL COPY

Copies model memory.

►MODEL RESET

Reset model memory.

►ALL RESET

Resets all model memorie

►MODEL SELECT

Switch between different model memories.

[Example]

If you have multiple cars, it is convenient to have a separate model memory for each one. Even in the case of only one car, you could save specific settings for different courses as different model memories as well.

Select the model to be used.

MODEL		
MODEL SELECT		MDL01
MODEL NAME	ABCDEFGH ABCDEFGH	
MODEL COPY	MDL01 TO	MDL02
MODEL RESET		

[Setting Range] MODEL 01 to 50

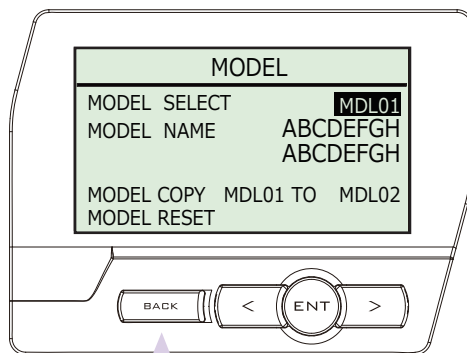
P All of the various settings are registered under a model memory.

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

- 1) Steering setting
- 2) Throttle setting
- 3) 3-8ch setting
- 4) RF, resonance mode setting
- 5) Steering and Throttle Response
- 6) Steering and Throttle Feel
- 7) Key setting
- 8) Stop watch setting

! Switching model memory while driving may cause setting mismatches and lead to an uncontrollable model. Please place the car on a stand or switch it off before switching model memories.

Select the model number and press ENT to blink the cursor. After changing the model with the arrow keys, press ENT to confirm.



Press Back key

* If the RF mode of the changed model is different, the following screen will be displayed. (It will close automatically after 4 seconds.)

RF MODE HAS CHANGED	
... 4S WAIT ...	

FUNCTION		
MODEL	TIMER	KEYSET
3 - 8CH	TLMY	SYSTEM

Return to the FUNCTION menu to complete the change.

! When the model memory number was changed, the information such as communication method and trim was not changed. You can use the model by returning to the FUNCTION menu.

! If "4S WAIT" is displayed, perform pairing with the receiver.

P After changing models and the RF mode is different, please perform the pairing with the receiver again.

►MODEL NAME

This function is used to name the model memory that is currently in use. Distinguish each model memory with different names, which may also be edited. The set model name will be displayed on the initial screen and model select screen.

MODEL		
MODEL SELECT		MDL01
MODEL NAME	ABCDEFGH ABCDEFGH	
MODEL COPY	MDL01 TO	MDL02
MODEL RESET		

MODEL

Choose one character at a time from the left side.

MODEL

AB CDEFGH
I J KLMN **OP**
QRSTUVWX
YZ

MDL01
OBCDEFGH
ABCDEF GH
TO MDL2

[Setting Range] Maximum 16 characters.

<Available characters>

	ENGLISH	JAPANESE
①	AB CDEFGH I J KLMNOP QRSTUVWX YZ	① アイエオカキク ケコサシスセソタ チツテトナニヌネ ノハヒフヘホマ ミムメモヤヨウ リルロワヅンア イウエオヤヨツ ズ、ン、フ、
	abc defgh i j klmnop qrstuvw x yz	
	! ~ # \$ % & ' () * + , - . / : ; < = > @ ` ① ② x ÷ ↑ ↓	
	01234567 89ΣΩαβγδ εθλμνπρσ ΦΨ▲▼△♭♪	
②		②

P To delete a character, overwrite the character to be deleted by using the blank space at the end of each page of characters.

P Characters inside the dotted lines are only available when Japanese language has been selected.

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 ENT key to copy.

MODEL

MODEL SELECT
MODEL NAME
MODEL COPY MDL01 TO MDL02
MODEL RESET

MDL01
ABCDEF GH
ABCDEF GH
TO MDL2

Press the ENTER key to copy memory. Press the BACK key to cancel the copy.

MODEL

MODEL01
▼
MODEL02
COPY OK?

MDL01
ABCDEF GH
ABCDEF GH
TO MDL02

[Setting range] MODEL : 01 to 50

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

- 1) Steering setting
- 2) Throttle setting
- 3) 3-8ch setting
- 4) RF, resonance mode setting
- 5) Steering and Throttle Response
- 6) Steering and Throttle Feel
- 7) Key setting
- 8) Stop watch setting

! 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.

MODEL

MODEL SELECT
MODEL NAME
MODEL COPY MDL01 TO MDL02
MODEL RESET

MDL01
ABCDEF GH
ABCDEF GH
TO MDL02

Small window [RESETOK?] is displayed, then push the ENTER key. Press BACK key to cancel.

MODEL

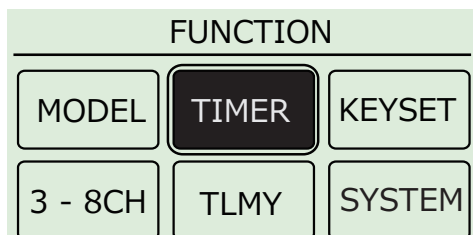
MODEL RESET OK?

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

! The RF mode is changed to the default value of TLMY. Please operate pairing function with the receiver again.

! If the model reset is executed while communication with the receiver is in progress, communication will be cut off. Turn off the EX-NEXT and then turn it on again.

Operating Timer-related functions.



<Function over view>

► **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.

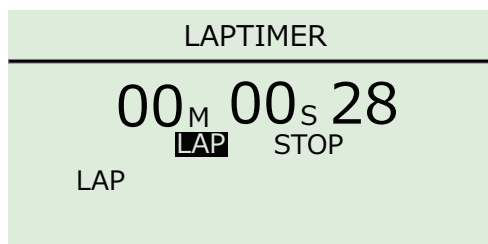
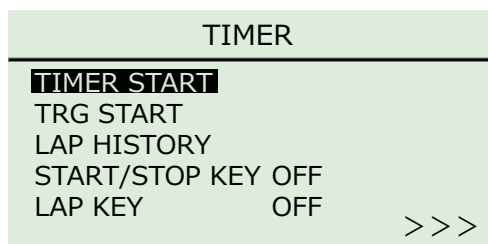
► **ALARM MODE**
Sets an alarm buzzer to the continue sound mode (CONTINUE) or to the sound stop mode (STOP).

► **TIMER MODE**
TIMER-1 (LAP TIMER / DOWN TIMER) or TIMER-2 (FUEL TIMER) can be selected.

► <<< The front page is displayed

► **TIMER START**

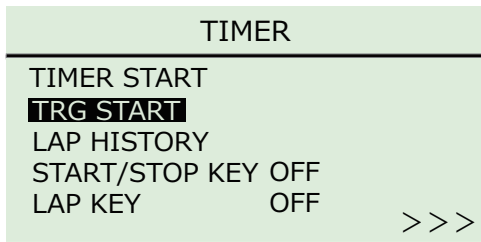
When the cursor is highlighting the **TIMER START**, ENTER key is pressed and held to start the timer.



! 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**

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 the L key is pushed. When pressing the BACK key, you are returned to the Timerscreen.

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

P 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 to 5, BT1 (Default: OFF)

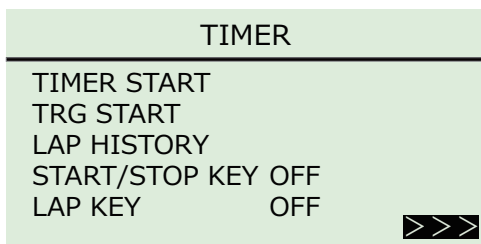
► **LAP KEY**

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

! If you assign OFF after assigning an ET or BT to START/STOP KEY or LAP KEY, KEY SET will be OFF. So please be aware the assigning keys that are used by other functions.

► >>>

>>> Press the ENT key on the mark to display the next page.



Operating TIMER-1-related functions.

TIMER-1	
LAP NAVI	0s00
ALARM TIME	5MIN
P. ALARM	10SEC
ALARM MODE	STOP
TIMER MODE	LAP
<<<	

[Setting Range]

LAP NAVI: 0 SEC 00 to 99 SEC 99 (Default : 0 SEC 00)

Adjusts the lap navigation settings.

*Convenient for setting a target lap.

ALARM TIME: 1 MIN to 99 MIN (Default : 5 MIN)

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

*Convenient for setting the anticipated race completion time.

P.ALARM: 0 to 30 SEC (Default : 10 SEC)

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.

ALARM MODE: STOP / CONT(Default : STOP)

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 .

TIMER MODE: LAP / DOWN / FUEL (Default : LAP)

You can select the type of timer (LAP/DOWN/FUEL).

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

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

*FUEL: Displays a timer to remind you when to refuel.

Press the ENT key at FUEL to make settings related to TIMER-2 (FUEL).

TIMER-2	
RACE TIME	0M00
FUEL TIME	0M 0
PIT TIME	0SEC
VIBRATOR TIME	5SEC
TIMER MODE	FUEL
<<<	

[Setting Range]

RACE TIME: 0M00 to 99M99 (Default : 0M00)

Sets the race time.

FUEL TIME: 0M00 to 99M99 (Default : 0M00)

Sets the time to notify refueling.

RACE TIME is the upper limit.

PIT TIME: 0 to 99SEC (Default : 0SEC)

Sets the pit loss time.

VIBRATOR TIME: 0 to 10SEC (Default : 5SEC)

Sets the vibrator time.

TIMER MODE: LAP / DOWN / FUEL (Default : LAP)

You can select the type of timer (LAP/DOWN/FUEL).

<<<

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

LAP TIMER 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.

DOWN TIMER 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.

FUEL TIMER About FUEL TIMER Display


FUELTIMER	
04 _M 57 _S 38	
	STOP
RACE TIMER	
44:57:38	

[Configuration example]

Race time: 45min. Refueling time: 4min.50sec Pit loss time: 10sec
Refueling timing is signaled at 4 minutes and 50 seconds, and 10 seconds after the pit loss time (5 minutes and 00 seconds total), the 4-minute and 50-second countdown resumes again, and repeats until 45 minutes, the end of the race time.

[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.

 During measurement, press the ENT key or BACK key to stop the timer. Pressing the ENT key while the timer is stopped will restart the timer. Pressing the BACK key while the timer is stopped will return to the TIMER screen.

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

FUNCTION		
MODEL	TIMER	KEYSET
3 - 8CH	TLMY	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 : H IPO 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:HIPOINT(Throttle High Point)	○	X
T:BRAKE(Throttle Brake)	○	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)		○

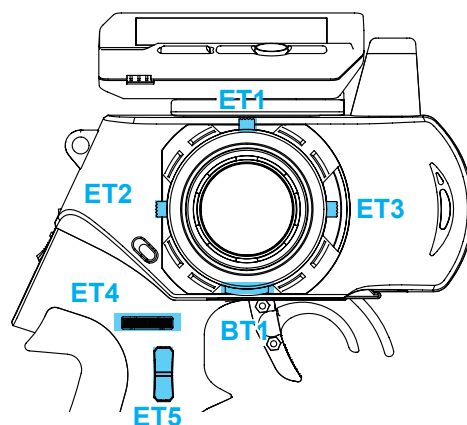
[Default]

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



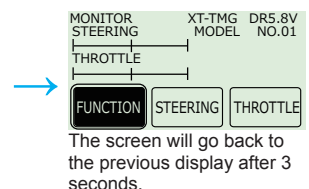
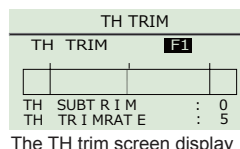
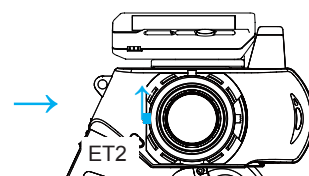
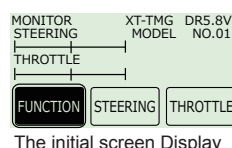
About Direct Display

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.

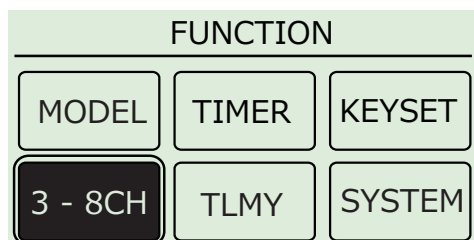
[Non-choice item]

The entry of each function are displayed only when a key is set to each function settings.

- 3 - 8 : POS (3-8CH/ Control)
- 3(4) : SMMODE (3-4CH/4WS Mixing Mode)
- 3(4) : SMCENT (3-4CH/4waMixing Center)
- 3(4) : SMTRVL (3-4CH/4WS Mixing Travel)
- 3(4) : AMMODE (3-4CH/ Amp Mixing Mode)
- 3(4) : AMTH (3-4CH/ Amp Mixing Hold)
- 3(4) : AMHIPO (3-4CH/ Amp Mixing High point)
- 3(4) : AMBRAKE (3-4CH/ Amp Mixing Hold)
- 3(4) : AMRVS(3-4CH/ Amp Mixing Reverse)
- 3(4) : TMBRAKE(3-4CH/ Throttle Mixing Brake)
- 3(4) : TMCENT(3-4CH/ Throttle Mixing Center)
- 3(4) : TMHIPO(3-4CH/ Throttle Mixing High point)
- 3(4) : TMDELAY(3-4CH/ Throttlr Mixing Delay)
- 3(4) : TMSTEER(3-4CH/ Throttole Mixing Steer)
- 3(4) : TMON(3-4CH/ Throttle Mixing on off)
- T : PUSH(Throttle Push control)
- T : BRK-IN(Throttle Break in)
- T : H-BRK(Throttle Hand Brake)

* H-BRK(Hand brake)can not be set to ET-4

Settings related to 3CH - 8CH operations.



<Function List>

►MODE

< 3-8CH can use>

OFF
2WAY
3WAY
5WAY
ANLOG

3-8CH

<Only 3,4CH can use>

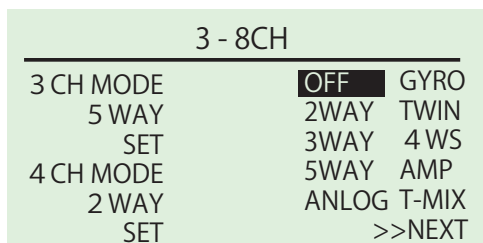
GYRO
TWIN
4WS
AMP
T-MIX

3-4CH

►SET

Set the usage choice for channels 3-8 modes

The MODE of 3 to 8CH selected from the right.
Change the setting of the item chosen with the SET key.



P The functions which may be set are the same for both 3CH and 4CH. In 5 to 8CH are able to select limited functions. However, setting method are same. Set them to match the desired purpose.

[Default]

3CH MODE : 5WAY

4 to 8CH MODE : 2WAY

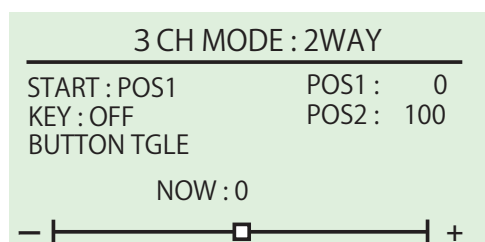
►2WAY

3-8CH

Modify the 2-interval output settings.

[Example]

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



[Setting Range]

START POS1, POS 2(Default:POS 1)

Sets the starting position.

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

Assigns a key to use for switching positions.

BUTTON: PUSH, TGLE (Default: TGLE)

Select PUSH (active while pressed) or TGLE (toggles each time it is pressed).

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

Sets Position 1's output position.

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

Sets Position 2's output position.

P The current output position is displayed by "NOW" and shown on the bar graph.

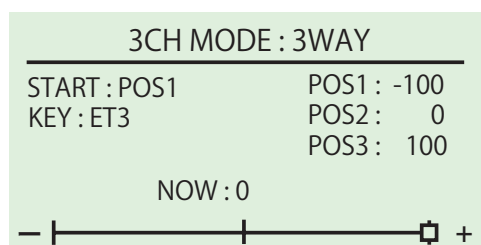
►3WAY

3-8CH

Modify the 3-interval output settings.

[Example]

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



[Setting Range]

START : POS 1, POS 2, POS 3(Default: POS2)

Initial position is configured

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

Assigns a key to use for switching positions

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

Sets Position 1's output position.

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

Sets Position 2's output position.

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

Sets Position 3's output position.

P The current output position is displayed by "NOW" and shown on the bar graph.

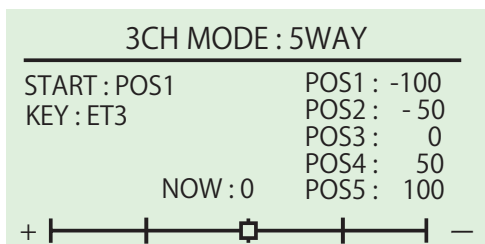
5WAY

3-8CH

Modify the 5-interval output settings.

[Example]

May be used for gear changing operations or when you wish to set a 5-interval control scheme for the servo.



[Setting Range]

START : POS1, POS2, POS3, POS4, POS5 (Default : POS3)
Sets the starting position.

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

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

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

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

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

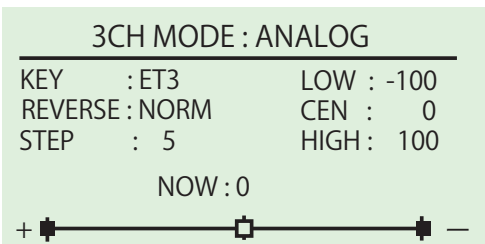
POS 5 : -100 to 100 (Default : 100)
Sets Position 5's output position.

P The current output position is displayed by "NOW" and shown on the bar graph.

ANALOG

3-8CH

These settings are to enable continuous output for each channels.



P The current output position is displayed by "NOW" and shown on the bar graph.

[Setting Range]

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

Assigns a key to use for switching positions.

REVERSE : NOR(normal), REV(reverse) (Default : NORM)
Sets operation direction.

STEP : 1 to 25 (Default : 5)

Sets the amount of change for the operation.

LOW (low position) -100 to 0 (Default : -100)

Sets the lowest value for the operation range.

CEN (center position) LOW to HIGH (Default : 0)

Sets the neutral position for the operation range.

HIGH (high position) 0 to 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 :

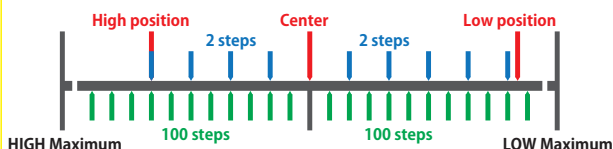
Between CEN and HIGH are 100 steps within which the intervals can be adjusted.

Example) When STEP value is 2

When LOW side is set to 5 intervals.

When HIGH side is set to 4 intervals.

Movement range
Operation 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

3-4CH

This function modifies the setting for gyro control.

[Example]

Used when you want to use a Gyro system which the gain is controlled by 3CH or 4CH.

[Setting range]

This is as same as Analog function.

[How to set Gyro mode]

The setting is forcibly as follows by Gyro mode.

►KG-X

Using 3ch or 4ch.

►MZW405 (*1.)

ET3 : 3ch control (Steering gyro gain control)

ET5 : 4ch control (Throttle gyro gain control)

Adjust it to moderate gyro gain while running.

! If set Gyro mode in the 3ch or 4ch, both channel will be set to the Gyro mode.

! When the 3ch/4ch mode is changed from GYRO mode to another mode or OFF, the ET3 and ET5 will return to the setting for (OFF). Please notice ET3 are not return to the default value(T: BRAKE).

! Please prepare the gyro system (ex. KG-X, MZW405) separately. The gyro effect is not provided only in the main system of transmitter.

*1. MZW405 is a product of Kyosho Corporation.

TWIN SERVO

3-4CH

This function modifies the setting for using 2 steering servo. Using left steering servo 1ch, and right steering servo 3ch or 4ch.

[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 Value]

LEFT-ST (1CH)

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

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

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

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

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

Sets the steering speed for the 1CH servo operation.

L-TRIM : 50 to 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 to 100% (Default : 70%)

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

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

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

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

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

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

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

4WS

3-4CH

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.

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 to 100 (Default: 70)

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

CENTER : -50 to 50 (Default: 0)

Adjust the rear axle servo's neutral position.

RIGHT : 0 to 100 (Default: 70)

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

TRAVEL : 0 to 150 (Default: 100)

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

REVERSE : NORM,REVS (Default : NORM)

Sets operation direction of 3CH or 4CH servo.

MODE >> KEY : OFF,ET1 to 5 (Default : OFF)

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

CENTER >> KEY : OFF,ET1 to 5 (Default : OFF)

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

TRVEL >> KEY : OFF,ET1 to 5 (Default : OFF)

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

AMP Mixing MODE

3-4CH

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	->KEY:OFF
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.

HIPOINT : 0 to 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 F HOLD or R HOLD mode is selected.

[Example] Use Rock crawling car etc.

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 to 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 to 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,REVS (Default: NORM)

Changes the movement direction of the front wheels.

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 to 5 (Default: OFF)

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

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

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

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

Assigns ET or BT keys to adjust HIPOINT value.

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

Assigns ET or BT keys to adjust BRAKE value.

REVERSE → KEY : OFF, ET1 to 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

3-4CH

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 to 150(Default: 100)

Modify the maximum amount of front brake servo movement

CENTER : -50 to 50 (Default: 0)

Modify the front brake servo's neutral position.

HIPOINT : 0 to 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 to 100 (Default: 0)

Delays the operation of the front wheel servo brake.

STEER : -100 to 100 (Default: 0)

Modify the amount of brake applied by the front heel 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 to 5 (Default : OFF)

CENTER >> KEY : OFF, ET1 to 5 (Default : OFF)

HIPOINT >> KEY : OFF, ET1 to 5 (Default : OFF)

DELAY >> KEY : OFF, ET1 to 5 (Default : OFF)

STEER >> KEY : OFF, ET1 to 5 (Default : OFF)

ON/OFF >> KEY : OFF, ET1 to 5 (Default : OFF)

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

3CH MODE : T-MIX

FORWARD CURVE: 0 %

BRAKE CURVE: 0 %

REVERSE : NORM

<<<

[Setting Range]

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

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

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.

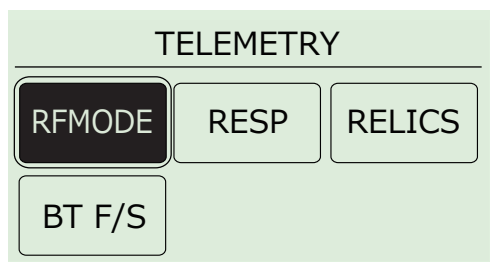
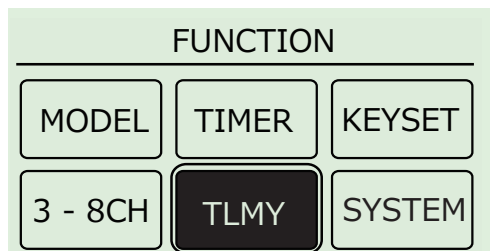
REVERSE : NORM, REVE (Default : NORM)

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.

TLMY Telemetry (for general RC car)

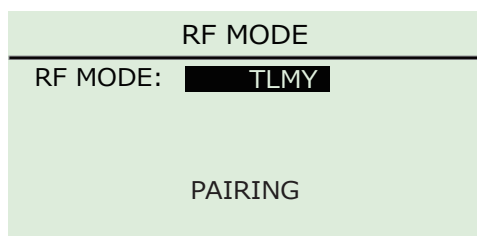
Change RF mode, Pairing, Take data from receiver, Fail safe, Real Time ICS (Servo setting) are able to operated.



! Except TLMY mode, displayed only RF mode and RESP,RELICS, BT F/S are not displayed.

RF mode

Operate RF mode change and Pairing Setting.



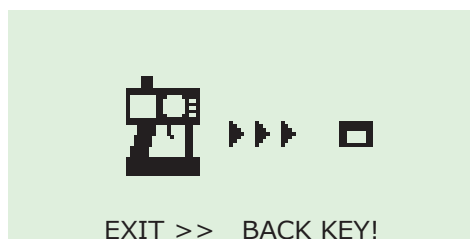
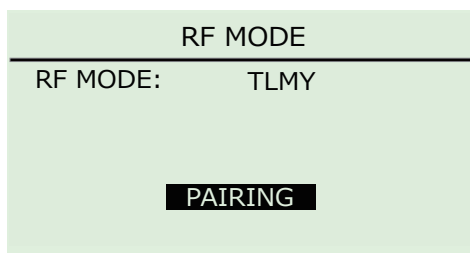
[Setting Range]

RF MODE : ADV / TLMY / MX-F / MINIZ (Default : TLMY)

! Telemetry / REAL TIME ICS functions are available only for devices which are connection to B/S port of the corresponding receiver. Traditional servos/ESC/battery connections to 1-4CH terminals will not work.

►PAIRING

Pairing with the receiver.

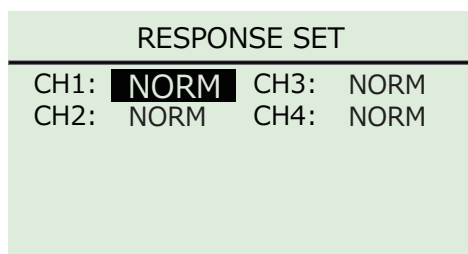
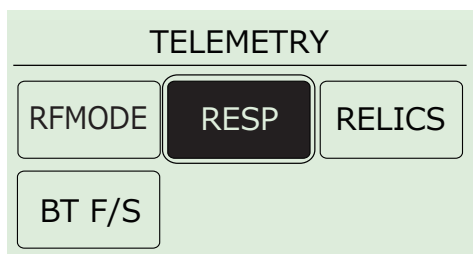


Move the cursor to Pairing and press and hold the ENTER key. The display will change to the Pairing screen and will begin to send the radio wave for Pairing. Please refer to page 19 for the Pairing operation.

! Please you must perform the pairing operation (p.20) with the receiver when you change the RF mode.

►RESP Response

Sets the servo response mode. *Only radio mode TLMY can use this function.



[Setting Range]

RESP : HCS / NORM / MILD (Default : NORM)













- P** It can be used to adjust the response speed of Servo (ESC).
 HCS : The most responsive and high-definition maneuvering characteristics. *HCS compatible servo is required.
 NORM : Intermediate maneuvering characteristics
 MILD : Steering characteristics with gentle response.

! The response set in TLMY mode is valid even if you switch to ADV/MX-F. For example, if you set HCS to 1CH, switch to ADV, and connect a servo that does not support HCS, the servo may be damaged. Response settings other than TLMY cannot be checked or changed, so check the settings of each CH carefully.









*When ADV and NORM are combined according to the specifications, the operating range is limited.
 The maximum operating angle is limited to about 42 ° on one side only. Throttle travel (F or B) only works up to around 97.
 Steering travel (L or R) only works up to around 138.
 (When the balance is 70 (default))
 The output shaft of some servos may vibrate near the limit angle. In this case, change the response to MILD or RF mode to TLMY.

•Response mode setting example









GP Car





ADV		TLMY	
1CH : HCS 	2CH : HCS 	1CH : HCS 	2CH : HCS 
1CH : HCS 	2CH : NORM 	1CH : HCS 	2CH : NORM 
1CH : MILD 	2CH : MILD 	1CH : NORM 	2CH : NORM 

EP Car

ADV		TLMY	
1CH : HCS 	2CH : NORM 	1CH : HCS 	2CH : NORM 
1CH : MILD 	2CH : NORM 	1CH : NORM 	2CH : NORM 

SERIAL

B/S			
1CH/ID1: Steering 		2CH/ID2: Throttle 	
B/S 1CH/ID1: Steering 	2CH : HCS 	B/S 1CH/ID1: Steering 	2CH : HCS 
	2CH : NORM 		2CH : NORM 

B/S	2CH : NORM	B/S	2CH : NORM
ID1: Steering 		ID1: Steering 	

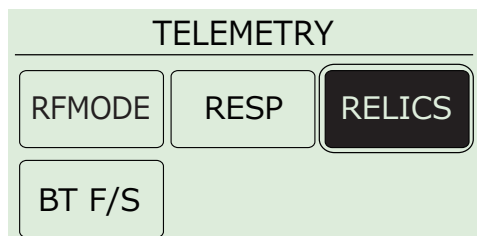
 It means incompatible servo for HCS or serial

! When using with ADV, 4S or HCS servo is recommended. Please use TLMY for non-compatible servos.

! If you connect serially to the B / S port, the response settings will be invalid.
 The response setting is valid only for 1 to 4CH connections.

►RELICS REAL TIME ICS

Set the ICS settings for the serial-compatible servo connected to the B/S port.* Only TLMY can be set



REAL TIME ICS			
READ ID:	1	MODEL:	1
STRCH1:	95	DEADBAND:	0
STRCH2:	255	DAMPING :	30
SPEED:	110	FREQUENCY:	X8
PUNCH:	0		

【Setting Range】

- Stretch1
(Setting of holding characteristics in the range of near neutral)
0 to 255
- Stretch2
(Setting of holding characteristics in the range of except Stretch1)
0 to 255
- SPEED
(Maximum speed setting)
0 to 127
- PUNCH
(Initial response settings)
0 to 30
- DEADBAND
(Neutral width setting)
0 to 5
- DAMPING
(Brake characteristic setting)
0 to 255
- FREQUENCY
(Motor drive frequency setting)
x1, x2, x4, x8, x16, x32, x64

P If the set value is set too large, vibration may occur. Also, if you make it too small, the speed and torque will drop extremely. While checking the feeling, gradually increase or decrease from the factory default settings.

! The initial value of the ICS setting differs depending on the servo model and is not retained. It is recommended that you keep a memo if necessary.

P **FREQUENCY**
The characteristics can be changed by changing the drive frequency. The frequencies increase in the order of x1 >> x2 >> x4 Driving at high frequencies will result in smoother operation and better fuel economy, but will reduce speed and torque. Driving at low frequencies will improve speed and torque, but will result in rough operation and poor fuel economy.

►READ ID

Select the servo ID for which you want to change the setting.

What is ID...

When using the 4S series servo in serial mode, the set ID corresponds to the following operations.

- ID1 : Steering operation
- ID2 : Throttle operation
- ID3 : 3CH control
- ID4 : 4CH control

【Setting Range】

READ ID : 1 to 4((Default : 1)

【How to use】

- ① Connect the serial servo to the "B / S" port of the receiver and turn on the receiver.
- ② If you set the READ ID to the same ID as the servo ID (factory default ID 1), the servo ICS setting value will be displayed.
- ③ Each time the set value is changed, a numerical value is sent to the servo and the characteristics change.

! You cannot change the servo ID with READ ID.
(p.27) • Please refer to ICS compatible servo setting change.

►MODEL Servo Model

Select the model saved in the servo.

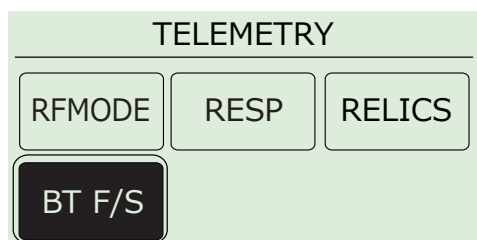
【Setting Range】

MODEL : 1 to 5 (Default : 1)

P Servo model data differs for each model. Please check the initial setting card included when purchasing the servo or the KOPROPO site.

►BT F/S Battery fail safe

Set the battery fail-safe.



BATTERY FAIL SAFE		
CURRENT :	8.1V	
ALERT :	5.5V	
FAIL SAFE :	OFF	
ALERT MODE:	VIBRATOR	
MINIMUM :	7.1V	
MAXIMUM :	8.2V	CLR

►CURRENT

(Current battery voltage of receiver)

►ALERT

(Alert start voltage setting)

[\[Setting Range\]](#)

OFF, 0.2 to 8.5V(Default : 5.5V)

►FAIL SAFE

(Battery fail safe start voltage setting)

[\[Setting Range\]](#)

OFF, 0.2 to 8.5V(Default : OFF)

►ALERT MODE

(Alert mode setting)

[\[Setting Range\]](#)

VIBRATOR, BUZZER, VIBRATOR + BUZZER
(Default : VIBRATOR)

►MINIMUM

(Minimum voltage of receiver battery)

►MAXIMUM

(Maximum voltage of receiver battery)

►CLR

(Read data again)

P The battery fail-safe function is a function that can be set to automatically decelerate or brake when the voltage of the receiver battery falls below the set voltage. When the fail-safe function is activated, the automatically set servo is operated to an arbitrary position (the position set by the fail-safe function on p.23). When the voltage is restored, the battery fail-safe function will be automatically canceled.

* The battery fail-safe function is intended to prevent accidental use of a damaged receiver battery.

We do not recommend using it as a protective function when the normal receiver battery is exhausted.

* This is a function exclusively for engine cars. Do not use the battery fail-safe function in an electric car.

BATTERY FAIL SAFE		
CURRENT :	0.0V	
ALERT :	6.0V	
FAIL SAFE :	5.8V	
ALERT MODE:	VIBRATOR	
MINIMUM :	0.0V	
MAXIMUM :	0.0V	CLR

Reference value : Life 5.2V Lipo 6.0V
VIBRATOR or BUZZER will notify you when the voltage drops below the set voltage.

BATTERY FAIL SAFE		
CURRENT :	8.1V	
ALERT :	6.0V	
FAIL SAFE :	5.8V	
ALERT MODE:	VIBRATOR	
MINIMUM :	7.1V	
MAXIMUM :	8.2V	CLR

Reference value : Life 5.0V Lipo 5.8V
If the voltage drops below the set voltage, the fail-safe function will operate.

BATTERY FAIL SAFE		
CURRENT :	8.1V	
ALERT :	6.0V	
FAIL SAFE :	5.8V	
ALERT MODE:	VIBRATOR	
MINIMUM :	7.1V	
MAXIMUM :	8.2V	CLR

VIBRATOR(recommended)

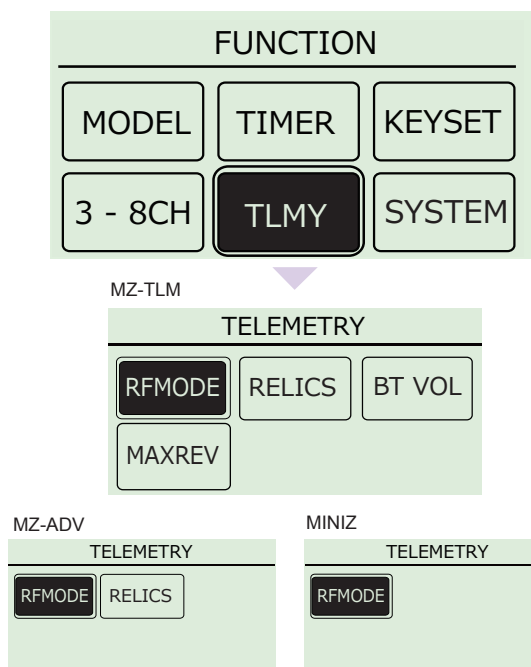
Or set it to BUZZER.

This setting is reflected in the ALERT operation.

P BT F / S can be used to check the ESC voltage.
You can check the minimum voltage and maximum voltage and use it to judge whether the ESC BEC is normal.

TLMY Teremetry (for MINI-Z)

RF mode change, pairing, data acquisition from receiver, REAL TIME ICS (servo/ESC settings).

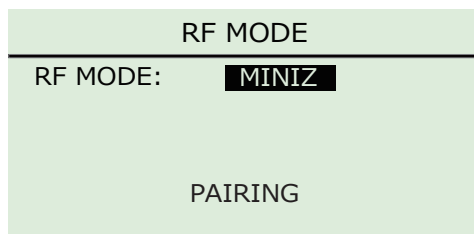


* The menu displayed depends on the current RF mode.

⚠ Telemetry/REAL TIME ICS functionality is available with the MR-04 and [MINI-Z EVO2 Receiver Unit for KO PROPO].

► RF MODE

Change RF mode and pairing settings.

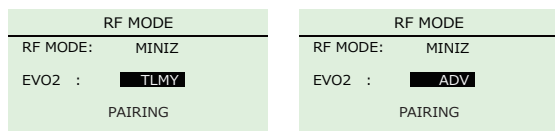


► RF MODE

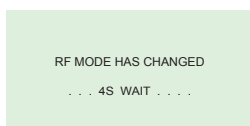
[\[Setting Range\]](#)

ADV/TLMY/MXF/MINIZ (Default : TLMY)

When using an EVO2 receiver unit and EVO2, the EVO2 mode can be selected from TLMY/ADV after the MINIZ decision in RF mode.



* The WAIT screen is displayed when switching between TLMY/ADV.



► EVO2

Mode switching between TLMY (bi-directional communication)/ADV (high-speed communication).

P What is EVO2's TLMY/ADV mode...

Change the communication pattern between the EX-NEXT and the receiver.

TLMY

Two-way communication mode. Allows steering/throttle setting changes and acquisition of vehicle body information via real-time ICS. The initial screen displays 'MZ-TLM'.

ADV

High-speed communication mode. Enjoy higher definition and linear steering performance. While changing steering/throttle settings in Real-time ICS from the menu, the system switches to bi-directional communication and automatically switches to high-speed communication when exiting the menu. 'MZ-ADV' is displayed on the initial screen.

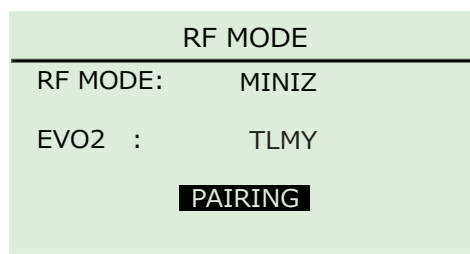
MZ-ADV



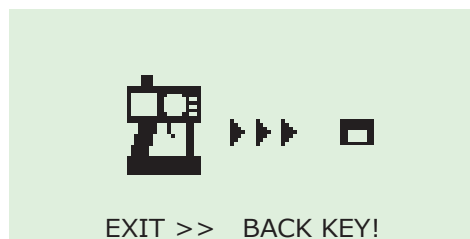
⚠ The RF mode is automatically switched when using REAL TIME ICS with ADV, but the WAIT screen is displayed when switching.

► PAIRING

Pair with receiver.



Press and hold PARING to switch to the pairing screen and transmit a pairing signal. For pairing operations, see (p. 20 -).

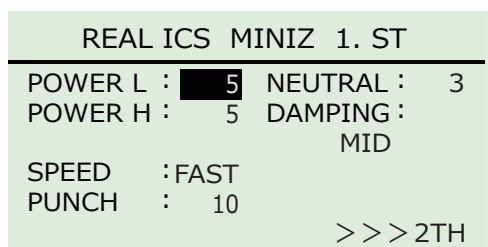
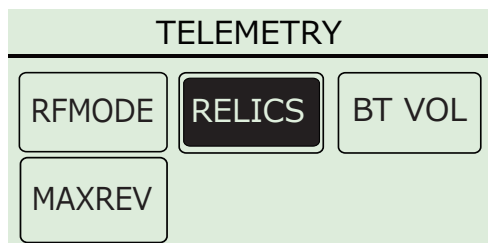


⚠ After changing the RF MODE, always perform PAIRING (p. 21 -) with the receiver.

⚠ Always switch off the transmitter and receiver when replacing the receiver.

► RELICS REAL TIME ICS

Steering/throttle ICS settings. * Only TLMY can be set.



Steering settings screen

[Setting Range]


- POWER Low
(Setting of holding characteristics near neutral)
1-5
- POWER High
(Setting of retention characteristics for ranges other than POWER Low)
1-5
- SPEED
(Maximum speed setting)
SLOW, 2-4, FAST
- PUNCH
(Initial response setting)
1-20
- NEUTRAL
(Neutral zone setting)
0-10
- DAMPING
(Brake characteristic setting)
OVER, MIDDLE, SMOOTH
- >>>2.TH
Go to the throttle setting screen.

REAL ICS MINIZ 2. TH	
ESC MODE	MTR CST : 3
RVS LMT : OFF	CURVE : FLAT
MTR : BRSLSS	F PUNCH : 10
TIMING : 1	NEUTRAL : MID
RVS TIM : 250 MS	
NTR BRK : 3	<<<1ST


Throttle setting screen


[Setting Range]


- ESC MODE
- REVERSE LIMIT
(ON without reverse, OFF with reverse)
ON, OFF
- MOTOR
(Selection of motor type)
BRUSHLESS, BRUSHED

 If a motor type different from that currently in use is set, the motor will not operate. Select the correct motor type and turn the power of MINI-Z off and then on to recover.

- TIMING
(Motor rotation timing)
0-7
*Not shown on MINI-Z board version 1.
- REVERSE TIMER
(Time lag to start reverse)
TLMY : 2.5ms-700ms
ADV : 0.99ms-700ms
- NEUTRAL BRAKE
(Braking in neutral)
1-5
- MOTOR CONSTANT
(Motor start-up time)
1-5
- CURVE
(Response to throttle opening)
MINUS, FLAT, PLUS
- F PUNCH
(Throttle initial response setting)
0-100
- NEUTRAL
(Neutral zone setting)
NARROW, MIDDLE, WIDE
- >>>1.ST
Go to the steering settings screen.

 Setting too large a value may cause hunting. If the setting value is reduced too much, speed and torque will be reduced to an extreme degree. Make adjustments by gradually increasing or decreasing the setting from the factory defaults and checking the feeling.

 Resetting the ICS settings to their default values: only the value being selected/changed for which the simultaneous pressing of the L (<) R (>) key cursor is blinking is reset. Not all changed items are reset.

 Operation stops for a few seconds when the set value is changed. Operate in a location where it will not interfere with other vehicles.

▶BT VOL

Battery voltage can be checked.

TELEMETRY		
RFMODE	RELICS	BT VOL
MAXREV		

BATTERY VOLTAGE		
CURRENT	:	4.5V
ALERT	:	4.0V
ALERT MODE	:	BUZZER
		MAX MIN CLR
MINIMUM	:	3.3V
MAXIMUM	:	4.7V

▶CURRENT

(Current receiver battery voltage)


▶ALERT

(Alert start voltage setting)

[\[Setting Range\]](#)

OFF, 0.2-8.5V (Default : 5.5 V)

If the voltage falls below the set voltage, the VIBRATOR or BUZZER will inform you.

 The set voltage cannot be set above CURRENT (current voltage).

▶ALERT MODE

(Alert operation setting)

[\[Setting Range\]](#)

VIBRATOR, BUZZER VIBRATOR + BUZZER
(Default : VIBRATOR)

Set to VIBRATOR (recommended) or BUZZER. This setting is reflected in ALRART operation.

▶MAX MIN CLR

(Data reacquisition).

▶MINIMUM

(minimum voltage of receiver battery)

▶MAXIMUM

(maximum voltage of receiver battery)

▶TH MAX REV

Limits the speed of the motor.

TELEMETRY		
RFMODE	RELICS	BT VOL
MAXREV		

TH MAX REVOLUTION		
CURRENT	:	<input type="text" value="0"/> <input type="text" value="0"/>
MOTOR TYPE	:	FREE
VERSION	:	10
MAXIMUM	:	0 RPM
		MAX CLEAR

▶CURRENT

(Current approximate RPM: average value over a certain period of time)

▶MOTOR TYPE

(Motor models)

FREE, RED, BLUE, GREEN

**"FREE" is indicated when the number of rotations is not limited.

*Not shown "MOTOR TYPE" on MINI-Z board version 1.

▶VERSION


(MINI-Z board version)

▶MAXIMUM

(Max. RPM)

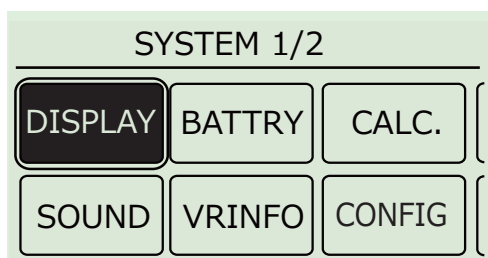
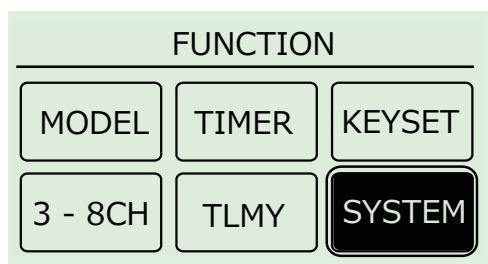
▶MAX CLEAR

(Clears the max. rpm)

 As the motor type is used to comply with race regulations, it can only be displayed on the NEXT side and the setting cannot be changed. Please use the MINI-Z Manager software to change the settings.

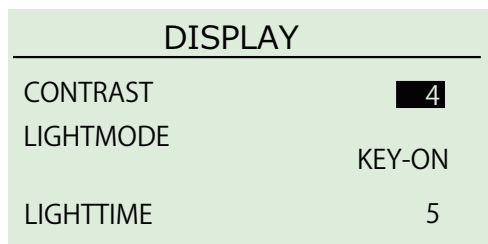
SYSTEM

You can make various settings related to the system.



DISPLAY

You can set the LCD monitor.



[Setting Range]

CONTRAST : 1 to 5(Default : 4)

Adjust the display density.

Decrease the number to make it lighter, and increase it to make it darker.

P As a characteristic of liquid crystal displays, they tend to appear darker when it gets warmer and lighter when it gets colder. You don't have to adjust it often. If you are concerned about the display density, adjust it.

LIGHTMODE

Back light mode : OFF, ON, KEY-ON

(Default : KEY-ON)

Set the lighting method.

OFF : Always off ON : Always on

KEY-ON : Lights when a key is operated

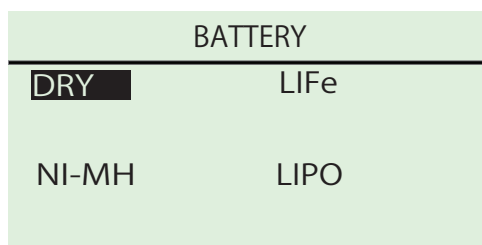
LIGHTTIME : 1 to 60 (Default: 5)

When the backlight mode is KEY-ON, specify the time (seconds) for temporarily turning off the backlight after stopping key operations (other than steering and throttle).

! When the backlight is set to KEY-ON, it lights up when the keys (ET, BT) are operated. It does not light when steering or throttle operation.

BATTERY

Select the type of battery to use.



[Setting range]

DRY (alkaline batteries)

Warning buzzer 4.2V or less

Warning buzzer / stop operation 4.0V or less

LiFe (lithium ferrite battery)

Warning buzzer 6.2V or less

Warning buzzer / stop operation 6.0V or less

NI-MH (nickel metal hydride battery)

Warning buzzer 4.4V or less

Warning buzzer / stop operation 4.0V or less

LIPO (lithium polymer battery)

Warning buzzer 7.2V or less

Warning buzzer / stop operation 7.0V or less

P By specifying the power supply (battery type) to be used, a warning message is displayed before the discharge termination voltage. The transmitted signal will not be cut immediately, but it may cause control problems, so charge it immediately or replace the battery.

P If you accidentally set the battery type, you can press and hold the **BACK** key to cancel the warning message and display the initial screen. Reset to the correct battery.

Example)

When using a dry battery, the LIPO mode is selected and the operation stop mode cannot be exited.

! After changing the battery / battery, be sure to check the battery type. !!

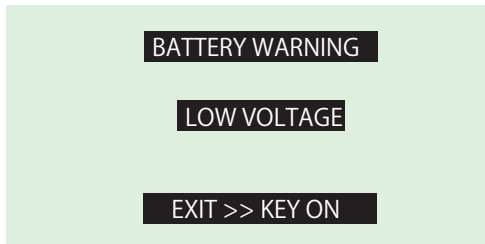
If the settings are different from the battery you are using, it will over-discharge and damage the battery. Please be careful as it may cause a fire.

BATTERY WARNING

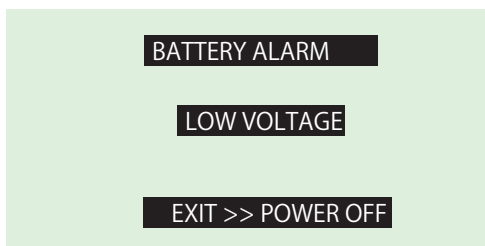
►Battery warning

Displayed when the power supply voltage is lower than the specified voltage during use and startup, and the buzzer sounds. If you press the ENT, BACK, or L / R key, the buzzer will stop and the initial screen will be displayed, and you can use it normally. However, charge or replace the battery immediately.

* In the case of DRY / Ni-MH setting, the LED (blue) of the EX-NEXT main unit also blinks.



Furthermore, it is displayed when the power supply voltage drops, and key operations cannot be performed. Turn off the power immediately and charge or replace the battery.



P If you accidentally set the battery type, you can press and hold the BACK key to cancel the warning message and display the initial screen. Reset to the correct battery.

Example)

When using a dry battery, the LIPO mode is selected and the operation stop mode cannot be exited.

► CALCULATOR

You can calculate the gear ratio.

CALCULATOR			
SPUR GEAR	110	FINAL ROLLOUT 27.055	
PINION GEAR	30		
TRANS RATIO	2.00		
TIRE DIAMETER	63.00 MM		

[Setting Range]

SPUR GEAR: 1 to 999 (Default : 110)

PINION GEAR: 1 to 999 (Default : 30)

TRANS RATIO: 1.00 to 99.99 (Default : 2.00)

TIRE DIAMETER Tire diameter: 0.00 to 200.99 (Default : 63.00)

[How to use]

When you enter the spur, pinion, and the transmission ratio; the calculations are automatic and displayed on the right side of the screen.

► SOUND

You can make sound-related settings.

SOUND	
BUZZER TONE	2
BUZZER PATTERN	1
BUZZER VOLUME	5
VIBRATOR POWER	5
POWER ON VIBRATOR	ON

[Setting Range]

BUZZER TONE

(Buzzer pitch setting) 1 to 7 (Default : 2)

BUZZER PATTERN

(Buzzer pattern setting) 1 to 7 (Default : 1)

BUZZER VOLUME

(Buzzer volume setting) 0 to 5 (Default : 5)

VIBRATOR POWER

(Vibrator power setting) OFF to 5 (Default : 5)

VIBRATOR TIME

(Vibrator time setting) 1 to 6 (Default : 5)

VIBRATOR PATTERN

(Vibrator pattern setting) 0 to 6 (Default : 2)

► VR INFORMATION

This function sets the position information of the CPU, steering and throttle of this unit.

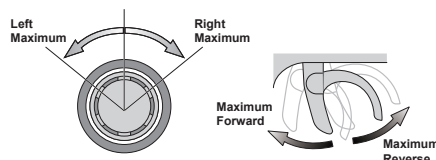
* Be sure to make the settings.

- When using this unit for the first time
- When the steering unit / grip unit is replaced with another product or returned to its original position
- When the adjustment of the deangle adjustment of the handle is changed
- When the location information is out of order due to exhaustion during use

1. Select FUNCTION on the initial screen and press the ENT key.
2. Select SYSTEM in the setting and press the ENT key.
3. Select your system's VRINFO and press the ENT key.

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. Slowly turn the steering wheel left and right to the end to change the value. Release the wheel to put it in the neutral state.



5. If you slowly move the throttle trigger forward / backward to the end, the value will change, so release the trigger to put it in the neutral state.
6. If the operations of 4 and 5 are normal, "YES" on the right side of the screen will be activated, so confirm with the ENT key.

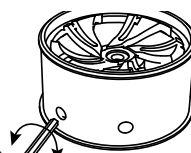
VR INFORMATION		
ST- LEFT	1 7 6 0	OK? YES
NUT	◇	
RIGHT	-1 7 5 2	
TH- HI	1 2 8 6	
NUT	◇	
LOW	- 5 9 9	

* If you press the BACK key during operation, it will be canceled.



When adjusting and changing the deangle adjustment of the handle, set so that the values of ST-LEFT and RIGHT do not differ significantly.

If the values differ significantly, readjust the adjustment screw of the deangle adjustment adjuster, and then set the VR information again.



When the number is small...loosen

When the number is large...tighten



Do not touch the steering wheel or throttle trigger when entering this menu and finally pressing the ENT key. An abnormal value may be entered, which may cause inconvenience in subsequent operations.



If the brake lever of the throttle trigger is opened too much, the brake lever may interfere with the case and may not complete normally. In this case, readjust the brake lever and then set the VR information again.



The period during which this operation is required varies greatly depending on the frequency of use and the operation method. If the inconvenience persists even after performing this function, please contact our service department.



Do not touch the ET lever or BT button during the setting. It may be reset this setting.

►CONFIG

Change the operating environment settings of the Xpansion unit.

CONFIG	
KEYSPEED	OPERATIONTIME
3	3M
MENUSPEED	USERTIMER
3	7 H23M
LANGUAGE	ELPASSED TIME
ENGLISH	7 H23M

<Function list>

►KEYSPEED

Set the interval at which the operation repeats when the L / R keys are held down.

[Setting Range]

KEYSPEED : OFF to 5(Default : 3)

►MENUSPEED

Set the interval at which the operation is repeated when the L / R keys are held down when moving the menu.

[Setting Range]

MENUSPEED : OFF to 5(Default : 3)



If the set value is OFF, the operation will not be repeated. The larger the setting, the shorter and faster the repeat interval.

►LANGUAGE

Switches the menu display language.

[Setting Range]

LANGUAGE : ENGLISH / JAPANESE
(Default : ENGLISH)



Language switching is applied after moving from the CONFIG screen to the SYSTEM screen with the BACK key.

►OPERATIONTIME

A warning buzzer sounds when the set time is exceeded for no operation. The alarm is canceled by operating the steering wheel / throttle trigger, ET key, BT key, ENT key, L / R key, and BACK key.

[Setting Range]

OPERATIONTIME : OFF to 3min

(Default : 3)

►USERTIMER

The time when the power is turned on is integrated and displayed.



You can reset the timer by moving the cursor to USERTIMER and pressing and holding the ENT key.

►ELPASSED TIME

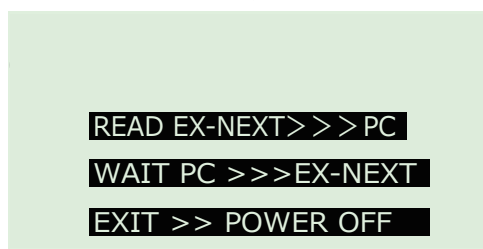
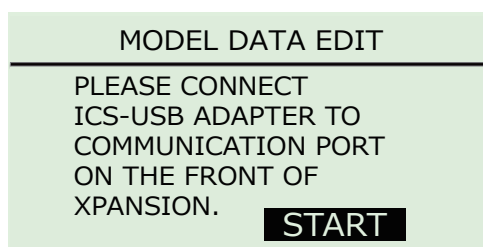
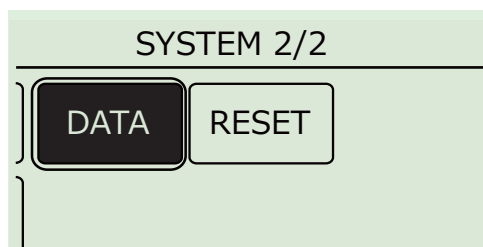
The time when the power is turned on is integrated and displayed.



The ELPASSED TIME timer cannot be reset.

►DATA

Reads and writes model data.



1. Press the ENT button on START to switch to the communication screen and enter the communication standby state.
2. Connect the communication cable of the ICS USB adapter HS to the communication port of the expansion unit.
3. Open "Backup Manager for EX-NEXT Ver 1.xx" on your PC and save and write the model data.



Be sure to turn on the power of EX-NEXT before connecting the ICS USB adapter HS and the expansion unit.

▶ALL RESET


Initialize all model and system data.


ALL RESET


PLEASE PRESS AND
HOLD ENTER KEY FOR
EXECUTE "ALL RESET".


ALL RESET

Press and hold the ENT button with ALL RESET to start all reset.

 Please note that once erased data cannot be restored.

 We recommend that you back up before resetting.

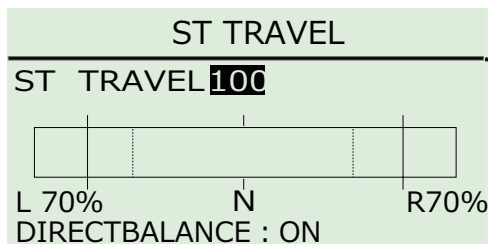
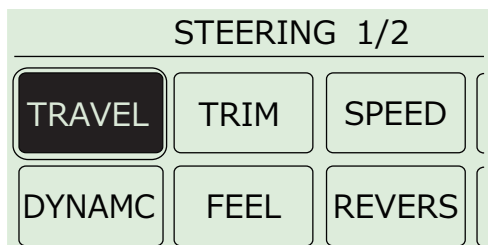
 The user timer and elapsed time are not reset.

 When the initialization is completed, it will restart automatically. After restarting, set the VR information.

STEERING

TRAVEL

Set the steering movement amount of the steering.



►ST TRAVEL

Change total movement of steering.

►L(BALANCE)

Change the steering movement amount on the left.

►R(BALANCE)

Change the steering movement amount on the right.

►DIRECT BALANCE

Enables / disables the direct balance function.

►ST TRAVEL

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

[Setting Range]

ST TRAVEL : 0 to 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).

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

►ST 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 to 100

(Default : 70)

ST BALANCE R : 30 to 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.

►DIRECT BALANCE

ET key that is assigned to steering trim is pressed while the steering is turned to full lock in either direction, the balance of the direction of the turn can be adjusted respectively.(Steering Trim: initial setting is ET1)

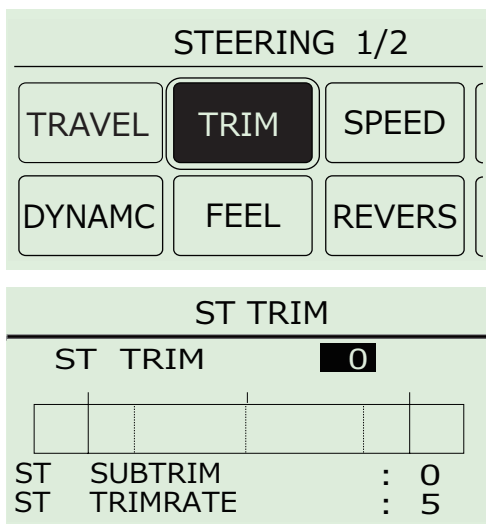
[Setting Range]

DIRECT BALANCE : ON to OFF

(Default : ON)

P You can disable this function by set to "OFF" in the direct balance.

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



► ST TRIM

Modify the neutral position of the steering angle.

► ST SUBTRIM

Modify the overall steering angle range.

► ST TRIMRATE

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

►ST TRIM

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

[Setting Range]

ST TRIM : L50 to 0 to R50

(Default : 0)

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

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

►ST 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.55)

[Setting Range]

ST SUBTRIM : L80 to 0 to 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

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

[Setting Range]

ST TRIM RATE : 1 to 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.

•Trim and Sub Trim Operation

The sub trim is a convenient feature but it could also complicate the setting process if used incorrectly.

<Purpose of the Trim>

When a servo is to be mounted onto a model, it is usually connected to the receiver temporarily to enable the transmitter to check its neutral position before it is installed. However, upon running the model it is often the case that it does not run in a straight line and the steering servo's neutral position has to be readjust. This adjustment function is known as the "trim", but trim adjustment is not only done at the beginning, but it also must be done during model operation to account for factors such as tire wear and chassis warp. However, using the normal trim to make these intermediary adjustments could cause other problems. In the case of the steering trim, it could lead to different turning radii for the left and right wheels. For throttle trims on glow engine cars, the point of maximum braking, the full open position of the carburetor, etc. would be shifted. For this reason, the normal trims are designed as "center trims" that only adjust the neutral position, while a new function called sub trim is used in conjunction to enable the most optimal settings.

<Purpose of the Sub Trim>

The effect of the sub trim is illustrated in the image on the right. Adjusting the sub trim also moves the left/right angle range. In contrast, the center trim moves the neutral position without changing the angle range position. However, trying to compensate the neutral position while making large sub trim adjustments may throw off the model's left/right balance.

<Actual Setting Sequence>

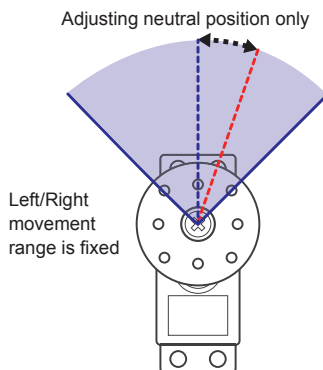
- ① When installing R/C equipment, the servo's neutral position is set first, then final adjustments would be made with the sub trim after installation. However, if the sub trim setting value is high, adjust the neutral position again.
- ② Test run to confirm neutral position. Adjustments during this time should also be made with the sub trim. After neutral position is fixed, adjust steering balance (p.46) so that the left and right wheels have the same turning radius and use steering travel (p.46) to adjust overall steering angle.
- ③ During the course of practice or racing, use the center trim to correct slight changes to the neutral position. If the setting value becomes high, correct in conjunction with the sub trim so that the center trim value is zero.

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

P Install R/C equipment when the sub trim setting value becomes low.

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

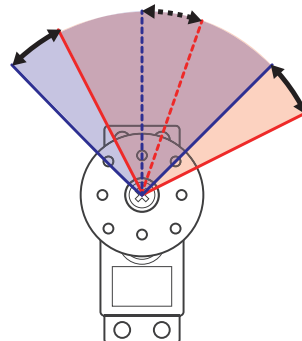
•Trim (Center Trim)



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

•Sub Trim

Left/Right angle range and neutral position can be both be adjusted.



ST SPEED

Modify the speed of the steering servo movement.

STEERING 1/2			
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

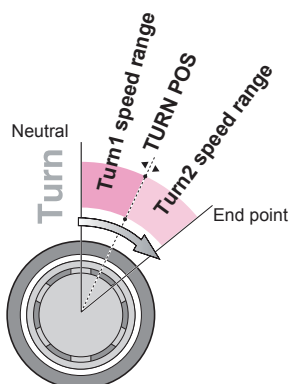
The speed of the return from RETURN POS to neutral of the steering is set.

► 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

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 to 100% (Default: 50%)

TURN 1 : 1 to 100% (Default: 100%)

TURN 2 : 1 to 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.

P 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.

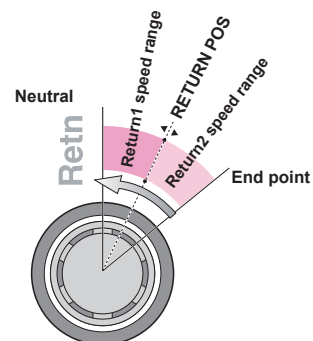
P Effective speed values are dependent on the speed characteristics of your selected servo.

P When setting POS=100%, TURN2 cannot be set because POS is now the entire movement range.

► ST RETURN

This is the function which restricts the maximum speed of the steering servo returning back to neutral.

You configure the direction (RETURN) of the steering movement.



[Setting Range]

RETURN POS : 1 to 100% (Default: 50%)

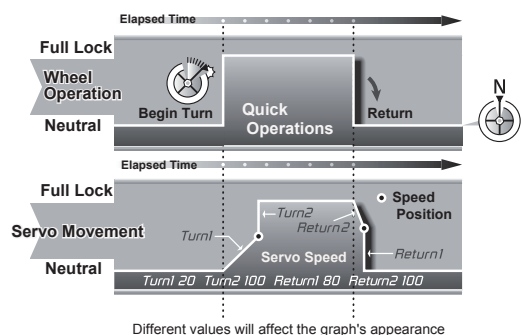
RETURN1 : 1 to 100% (Default: 100%)

RETURN2 : 1 to 100% (Default: 100%)

P 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.

P Effective speed values are dependent on the speed characteristics of your selected servo.

P When setting POS=100%, TURN2 cannot be set because POS is now the entire movement range.



Settings related to steering control.

STEERING 1/2		
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 to 0 to 100%

(Default : 0%)

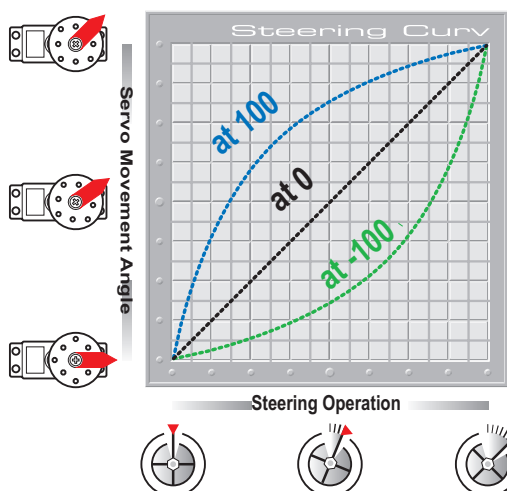
[Example]

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 responses.

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 P [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]

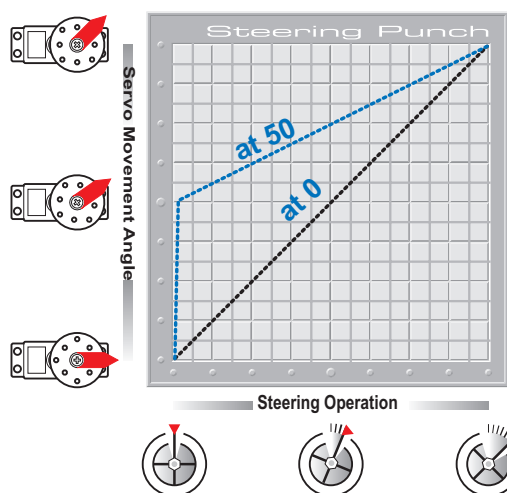
ST PUNCH : 0 to 50%

(Default : 0%)

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

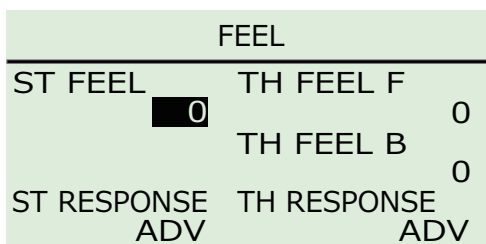
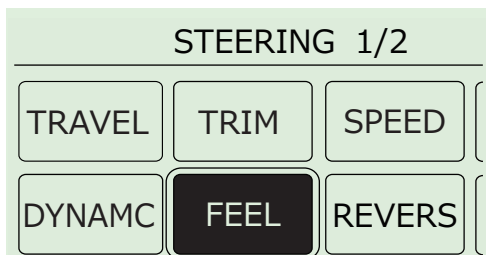
P This could be effective if steering linkages have a lot of slop, but please note that it does not improve straightline performance.

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

FEEL function provides changing the moving performance of steering servo.



► ST FEEL Steering Feeling

Adjust steering feeling.

► TH FEEL F Throttle Feel F

Refer to "Throttle Feel F" (p.63)

► TH FEEL B Throttle Feel B

Refer to "Throttle Feel B" (p.63)

► ST RESPONSE Steering Response

Response speed of the steering is adjusted.

► TH RESPONSE Throttle Response

Refer to "Throttle Response" (p.63)

► ST FEEL

FEEL function provides changing the cornering performance feeling.

[\[Setting Range\]](#)

ST FEEL : -50 to 0 to 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

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

[\[Setting Range\]](#)

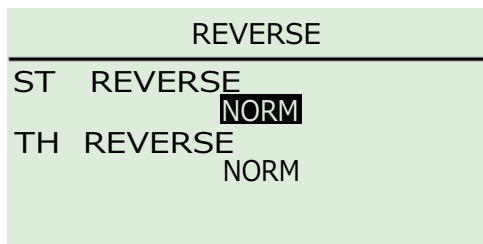
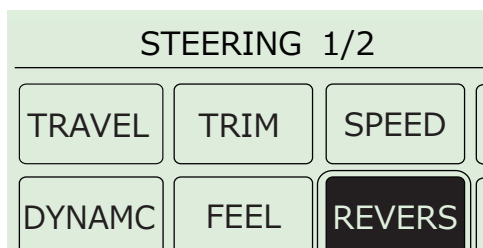
ST RESPONSE: NORM / HIGH / ADV

(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

Modify the steering and the throttle direction.



► ST REVERSE

[\[Setting Range\]](#)

ST REVERSE : NORM , REVS (Default : NORM)

► TH REVERSE

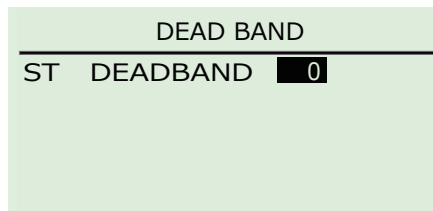
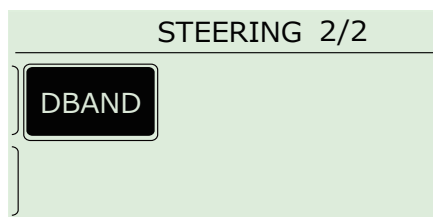
[\[Setting Range\]](#)

TH REVERSE : NORM , REVS (Default : NORM)

- !** Steering and throttle operating directions vary from vehicle to vehicle. Please check when installing the Servo on the vehicle body.

DBAND

Adjust the amount of not working position of the steering.



► ST DEADBAND Steering Deadband

Adjusts the amount of not working position near neutral.

[\[Setting Range\]](#)

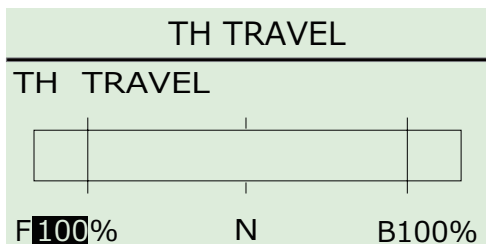
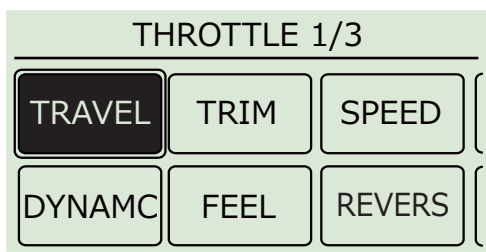
ST DEADBAND : 0 to 20 (Default : 0)

- P** Used when the neutral area is too sensitive.

THROTTLE

TRAVEL

Set the steering movement amount of the throttle.



►TH TRAVEL F

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

►TH TRAVEL B

Modify the maximum amount of throttle brake movement.

►TH TRAVEL B

Adjust the maximum amount of brake movement.

[Setting Range]

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

- P** 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.
- P** 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).
- P** If the throttle travel B is set low and the trim is set to a high value braking, the resulting throttle movement may be extraordinarily small.
- !** Throttle will not operate if the High Point value is set to 0.

►TH TRAVEL F

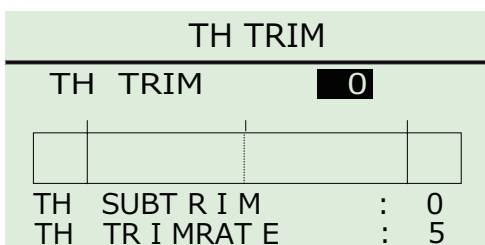
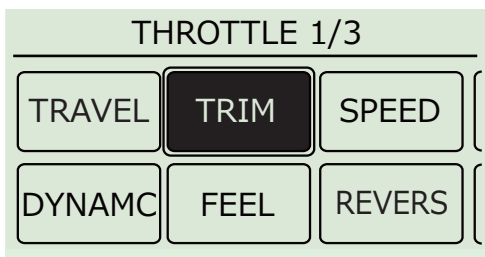
Adjust the maximum amount of throttle forward acceleration movement.

[Setting Range]

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

- P** 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.
- P** 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).
- P** If the throttle travel F is set low and the trim is set to a high value toward acceleration, the resulting throttle movement may be extraordinarily small.
- !** Throttle will not operate if the High Point value is set to 0.

You can change the center position or the entire operating range of the throttle.



▶TH TRIM

Modify the neutral position of the throttle.

▶TH SUBTRIM

Modify the overall throttle movement range.

▶TH TRIMRATE

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

▶TH TRIM

Adjusts the neutral/center position of the throttle range.

[Setting Range]

TH TRIM : F50 to 0 to 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

Adjust the position of the overall throttle movement range. Use this function when the neutral position cannot be centered with only linkage adjustment. Also refer to Trim and Sub Trim Operation. (p.48)

[Setting Range]

TH SUBTRIM : F80 to 0 to B80
(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 the neutral position cannot be centered, 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.

▶TH TRIMRATE

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

[Setting Range]

TH TRIM RATE : 1 to 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.

It give limit to speed in the throttle.



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

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

[Setting Range]

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

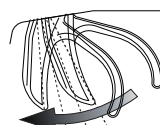
[Example]

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



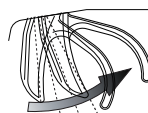
►TH RETURN

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

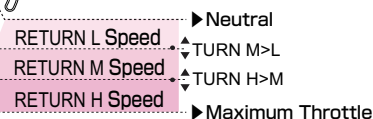
*Throttle return speed is effective in the range of the throttle going from the high point to neutral.

[Setting Range]

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



Operation of the 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.

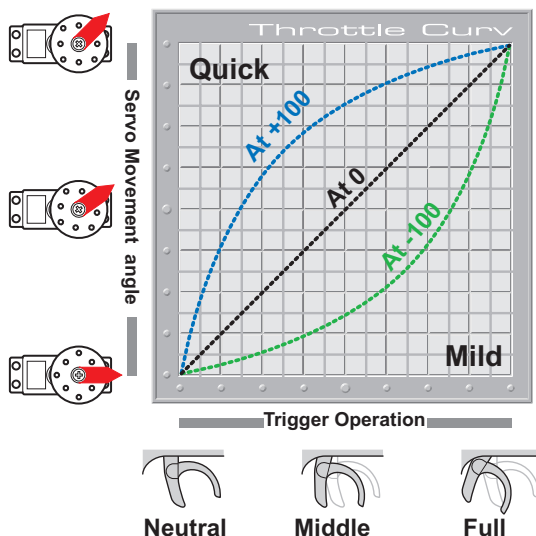
P Effective speed values are dependent on the speed characteristics of your selected servo.

P Return speed is null in the operating range of the brake. TH FEEL B (p.62) is used to adjust the brake feeling.

Set the operating characteristics of the throttle.

THROTTLE 1/3		
TRAVEL	TRIM	SPEED
DYNAMC	FEEL	REVERS

TH DYNAMICS	
CURVE F	PUNCH F
0%	0%
CURVE B	PUNCH B
0%	0%



►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.

►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 to 50%

(Default : 0%)

TH PUNCH B : 0 to 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.

►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 to 0 to 100%

(Default : 0%)

TH CURVE B : -100 to 0 to 100%

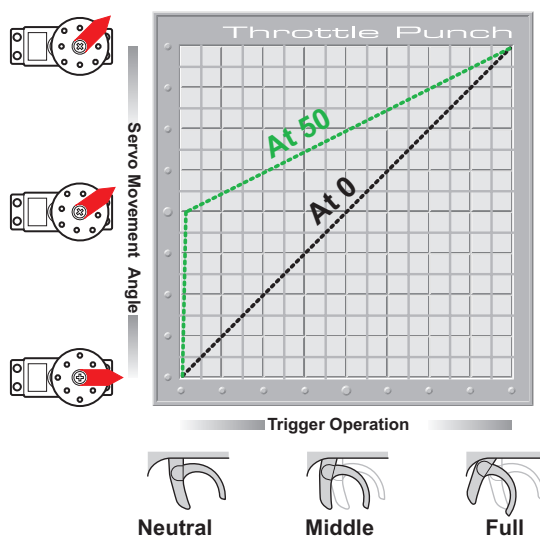
(Default : 0%)

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.



FEEL function provides changing the throttle feeling.

THROTTLE 1/3		
TRAVEL	TRIM	SPEED
DYNAMC	FEEL	REVERS

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

► ST FEEL Steering Feeling

Refer to "Steering Feeling" (p.58).

► TH FEEL F Throttle Feel Forward

Adjust Throttle feeling F feeling.

► TH FEEL B Throttle Feel Brake

Adjust Throttle feeling B feeling.

► ST RESPONSE Steering Response

Refer to "Steering Response" (p.58).

► TH RESPONSE Throttle Response

Response speed of the Throttle is adjusted.

► TH FEEL

FEEL function provides changing the throttle feeling.

[Setting Range]

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

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

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

► TH 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.

Modify the steering and throttle direction.

THROTTLE 1/3		
TRAVEL	TRIM	SPEED
DYNAMC	FEEL	REVERS

REVERSE	
ST REVERSE	
	NORM
TH REVERSE	
	REVS

► ST REVERSE

[Setting Range]

ST REVERSE

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

► TH REVERSE

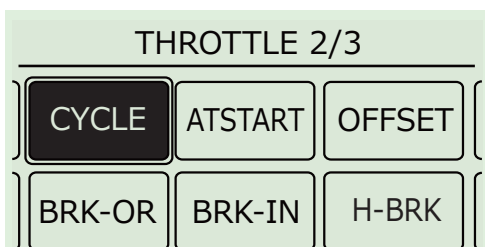
[Setting Range]

TH REVERSE

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

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

Add a change to the operation of throttle brakes.



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

►ACCEL Acceleration

Modify the amount of acceleration burst of the throttle.

►ABS

Modify the amount of brake pumping.

►ACCEL

By changing the throttle in small steps, the lack of grip is compensated.

[Setting Range]

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

[Example]

By setting the throttle to feather automatically, the car can make grip and corner faster on low grip surfaces.

[CYC] Display on the Function Monitor!

- P** 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.
- P** Setting [WIDTH] to 0 will deactivate Acceleration.
- P** From inside the range of [TRG.L] to [TRG.H] is the operating range.
- P** If [CYCLE] is set at a large value, the servo's operation frequency will increase.
- P** Configuring a [KEY] for this operation allows the ACCEL to be turned on and off.
- P** 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

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

[Setting Range]

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

- P** [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.
- P** Setting [WIDTH] to 0 will deactivate ABS.
- P** [TRG.P] setting operates pumping of the brakes at full brakes.
- P** If [CYCLE] is set at a large value, the servo's operation frequency will increase.
- P** [DELAY] allows for a delay in the start of the pumping of the brakes to be set.
- P** [DUTY] setting allows for the ratio of the brake to be ON/OFF.
- P** [KEY] setting allows the assignment of the function to a key to turn on and off.
- P** 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.
- P** 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.
- P** 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 power consumption and also shorten its lifespan.

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

THROTTLE 2/3

CYCLE

ATSTRT

OFFSET

BRK-OR

BRK-IN

H-BRK

AUTOSTART

KEY

OFF

TRG.P

5 %

FORWARD

1 0 0 %

[Setting Range]
 KEY : OFF, ET1 to 5, BT1
 (Default: OFF)
 TRG.P : 5 to 100%
 (Default: 5%)
 FORWARD : 0 to 100%
 (Default: 100%)

[Example]
 Launching from the starting line.

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

- P

The function will not operate until the throttle trigger reaches the set position.
- P

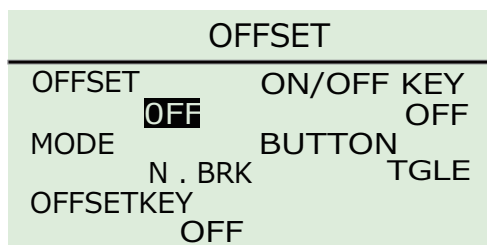
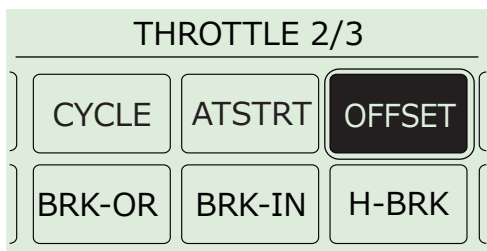
When the throttle is released, the function is deactivated and the throttle returns to normal operation.
- P

[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.

A

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.

Used to offset the throttle's neutral position.



►OFFSET

Sets the amount of neutral offset.

►MODE

Choice of 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

Select TGLE (switches with each press) or PUSH (enabled while pressed).

[Setting Range]

OFFSET(Neutral Brake) : -100 to OFF

(Default: OFF)

OFFSET (Idle up) : -100 to OFF to 100

(Default: OFF)

MODE : N.BRK, I.UP

(Default: N.BRK)

OFFSETKEY : OFF, ET1 to 5

(Default: OFF)

KEY : OFF, ET1 to 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-NEXT is turned off in the state of the OFFSET effect and the transmitter is switched back on again, the function of OFFSET becomes invalid due to the safety precautions. Please activate the effect again with the KEY which you assigned it to.

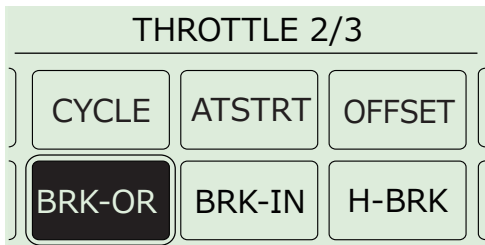
! When setting value of the Neutral brake to a very large value, there may become some mistakes by an ESC that has a reverse funtion and may operate in the reverse mode.

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

VERRIDE

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



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 to 5, BT1 (Default: OFF)
 BRAKE : 0 to 150 (Default: 100)
 ST TRAVEL : 0 to 150 (Default: 100)

[Example(Brake over ride)]


Switch to the throttle brake value while driving when the road surface conditions are expected to change.

[Example (Steering travel over ride)]

This is convenient when you want to stabilize the straight line by reducing the steering amount when driving in a straight line with an oval car.

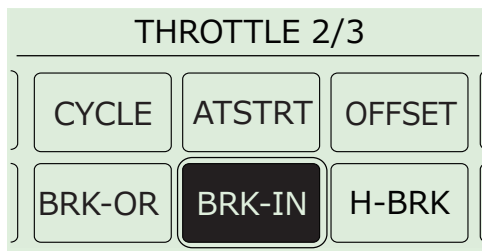
[OR] Display on the Function Monitor!

When the override is enabled by operating the key assigned by [KEY], "OR" is displayed on the function monitor on the initial screen. If [KEY] is turned OFF while "OR" is displayed on the function monitor of the initial screen, the display of "OR" on the function monitor of the initial screen also disappears.

 If you want to switch the setting value only for the brake override, the steering travel override value is also valid at the same time. If you do not want to change the steering travel value, enter the same value for steering travel and steering travel override.

BREAK-IN

Fix the throttle operation for the set time.



BRAKE IN	
KEY	OFF
RUNTIME	5S
FORWARD	10

► KEY

Set the key to operate start / stop break-in function.

► RUNTIME


Sets the break-in function operation time.


► FORWARD

Sets the operation amount of the break-in function.

[Setting Range]

KEY : OFF, ET1 to 5, BT1 (Default: OFF)
 RUNTIME : 1 to 240 (Default: 5)
 FORWARD : 0 to 50 (Default: 10)

 It is a convenient function for agitating the oil of the gear differential and rings of a ball differential before starting to run. Please adjust the set amount of RUNTIME and FORWARD according to your preference.

 When the break-in function is activated, the buzzer will continue to ring.

 You can forcibly stop by pressing the KEY set while the break-in function is in operation.

HANDBRAKE

Set the throttle to the brake and apply the brake only while pressing the control button.

THROTTLE 2/3		
CYCLE	ATSTRT	OFFSET
BRK-OR	BRK-IN	H-BRK

HAND BRAKE	
KEY	OFF
BRAKE	100

► KEY

Set the key to switch the hand brake function on / off.

► BRAKE

Set the hand brake operation amount.

[Setting Range]

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

*Excluding ET4

BRAKE : 0 to 150 (Default: 100)

P The hand brake function performs braking only while pressing the operation key. It is also possible to operate the handbrake while grasping the throttle trigger.

! Creating opportunities for drift cars, spinning tires of rally cars and is also effective for an extremely understeer for grip cars.

! Hand brake operation can not be set to ET 4.

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 3/3	
PUSH	DBAND

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 to 5, BT1 (Default: OFF)

PUSHTIME : OFF, 0.1 to 3.0 S(sec) (Default: OFF)

FORWARD : 1 to 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.

DBAND

Adjust the amount of not working position of the throttle.

THROTTLE 3/3	
PUSH	DBAND

DEAD BAND	
DEADBAND F	0
DEADBAND B	0

► DEADBAND F

Adjusts the amount of not working position at the start of the throttle forward operation.

► DEADBAND B

Adjusts the amount of not working position at the start of the throttle brake operation.

[Setting Range]

DEADBAND F : 0 to 20 (Default : 0)

DEADBAND B : 0 to 20 (Default : 0)

P It is possible to create a not working position so that the brake is not operated unexpectedly when operating the throttle from forward to neutral.

■ Repair Policy

When you need repair service for our products.

First, please contact the shop or distributor which you bought the products from.

If you can not contact these companies, please contact us by email.

Also please write the product name or model number and the situation of the needed repair.

Please visit our web site for further detailed information.

www.kopropo.co.jp

■ 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 the 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

EX-NEXT

- Transmitter : KT-820H
 - Control Type : Steering Wheel + Throttle Trigger
 - Number of the channel : 8
 - Power source : R03/AAA/UM4 battery x4
 - Current : less 200mA
 - Modulation : FHSS-XT
 - Frequency : 2.4GHz
 - Dimension : 240.5 x 163.0 x 107.2mm (Normal Grip)
256.0 x 170.0 x 127.5mm (LDT)
(not include protrusions)
 - Weight : 551g (Normal Grip)
563g (LDT)
(Not include battery)
- Receiver : KR-420XT
 - Modulation : FHSS-XT
 - Number of the channel : 8
 - (1 to 4 channel : PWM)
 - (1 to 8 channel : Serial)
 - Frequency : 2.4GHz
 - Operation Voltage : 4.8V to 7.4V
 - Neutral pulse : 1.5msec(NORMAL/MILD MODE)
0.375msec(HCS MODE)
 - Dimensions : 30.9 x 18.4 x 13.5mm(Not include antenna)
 - Weight : 5.8g / 5.4g(Short antenna)

*When use Serial communication or HCS mode, it need using corresponds equipments. Please refer receiver's instruction manual.

**EX
NEXT**

KO PROPO®