3PJ Super

3PJ SUPER

INSTRUCTION MANUAL

1M23N04902

CE

Futaba®

Digital Proportional R/C System

Thank you for purchasing the Futaba 3PJ SUPER.
Prior to operating your 3PJ SUPER, please read this manual thoroughly and use your system in a safe manner.
After reading this manual store it in a safe place.

See the glossary on page (P108-109) for the definition's of the special terms used in this manual.

Application, Export and Reconstruction

1. Use this product in surface models only.
The product described in this manual is subject to regulations of the Ministry of Radio/Telecommunications and is restricted under Japanese law to such purposes.

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2. Exportation Precautions
(a) When this product is exported from Japan, its use is to be approved by the Radio Law of the country of the destination.
(b) Use of this product with other than models may be restricted by Export and Trade Control Regulations. An application for export approval must be submitted.

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3. Modification, adjustment and replacement of parts.
Futaba is not responsible for unauthorized modification, adjustment and replacement of parts of this product.

THE FOLLOWING STATEMENT APPLIES TO THE RECEIVER (FOR U.S.A.)

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions.
(1) This devise may not cause harmful interference, and
(2) This devise must accept any interference received, including interference that may cause undesired operation.

THE RBRC™ SEAL (FOR U.S.A.)

The RBRC™ SEAL on the (easily removable) nickel-cadmium battery contained in Futaba products indicates that Futaba Corporation of America is voluntarily participating in an industry program to collect and recycle these batteries at the end of their useful lives, when taken out of service within the United States. The RBRC™ program provides a convenient alternative to placing used nickel-cadmium batteries into the trash or municipal waste which is illegal in some areas.

Futaba Corporation of America's payments to RBRC™ makes it easy for you to return the spent battery to Futaba for recycling purposes. You may also contact your local recycling center for information on where to return the spent battery. Please call 1-800-8-BATTERY for information on Ni-Cd battery recycling in your area. Futaba Corporation of America's involvement in this program is part of its commitment to protecting our environment and conserving natural resources.

RBRC™ is a trademark of the Rechargeable Battery Recycling Corporation.

Table Of Contents

Use this product in a safe manner. Please observe the following safety precautions at all times.

Explanation of Symbols

The parts of this manual indicated by the following symbols are extremely important and must be observed.

Symbols	Explanation
⚠ Danger	Indicates a procedure which could lead to a dangerous situation and may cause death or serious injury if ignored and not performed properly.
⚠ Warning	Indicates procedures which may lead to dangerous situations and could cause death or serious injury as well as superficial injury and physical damage.
⚠ Caution	Indicates procedures that may not cause serious injury, but could lead to physical damage.

Symbols: ⃠ ; Prohibited ❗ ; Mandatory

Operation Precautions

⚠ Warning

Prohibited Procedures

Do not operate two or more models on the same frequency at the same time.

Operating two or more models at same time on the same frequency will cause interference and loss of control of both models.

AM, FM (PPM) and PCM are different methods of modulation. Nonetheless the same frequency can not be used at the same point in time, regardless of the signal format.

Do not operate outdoors on rainy days , run through puddles of water or when visibility is limited.

Should any type of moisture (water or snow) enter any compoent of the system, erratic opreation and loss of control may occur.

Do not operate in the following places.

-Near other sites where other radio control activity may occur.

-Near people or roads.

-On any pond when rowboats are present.

-Near high tension power lines or communication broadcasting antennas.

Interference could cause loss of control . Improper installation of your Radio Control System in your model could result in serious injury.

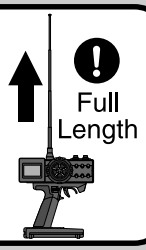
Do not operate this R/C system when you are tired, not feeling well or under the influence of alcohol or drugs.

Your judgment is impaired and could result in a dangerous situation that may cause serious injury to yourself as well as others.

Mandatory Procedures

Extend the transmitter antenna to its full length.

If the transmitter antenna is not fully extended the operating range of the radio will be reduced.



Always perform a operating range check prior to use.

Problems with the radio control system as well as improper installation in a model could cause loss of control.

(Simple range test method)

Have a friend hold the model, or clamp it down or place it where the wheels or prop can not come in contact with any object. Walk away and check to see if the servos follow the movement of the controls on the transmitter. Should you notice any abnormal operation, Do not operate the model. Also check to be sure the model memory matches the model in use.

Check the transmitter antenna to be sure it is not loose.

If the transmitter antenna works loose, or is disconnected while the model is running signal transmission will be lost. This will cause you to lose control of the model..

⚠ Caution

Prohibited Procedures

Do not touch the engine, motor, speed control or any part of the model that will generate heat while the model is operating or immediately after its use.

These parts may be very hot and can cause serious burns.

Mandatory Procedures

Turning on the power switches.
Always check the throttle trigger on the transmitter to be sure it is at the neutral position.

1. Turn on the transmitter power switch.
2. Turn on the receiver or speed control power switch.

Turning off the power switches
Always be sure the engine is not running or the motor is stopped.

1. Turn off the receiver or speed control power switch.
2. Then turn off the transmitter power switch.

If the power switches are turned off in the opposite order the model may unexpectedly run out of control and cause a very dangerous situation.

When making adjustments to the model do so with the engine not running or the motor disconnected.

You may unexpectedly lose control and create a dangerous situation.

When operating your model always display a frequency flag on your transmitter antenna.

When adjusting the transmitter on land while preparing to run (cruise), take measures so that the wind will not knock over the transmitter.

If the transmitter is knocked over, the throttle stick may be accidentally set to the operating position and you may lose control.

(Failsafefunction)

Before running (cruising), check the fail safe function.

Check Method;

Before starting the engine, check the fail safe function as follows:

1) Turn on the transmitter and receiver power switches.

2) Wait at least one minute, then turn off the transmitter power switch. (The transmitter automatically transfers the fail safe data to the receiver every minute.)

3) Check if the fail safe function moves the servos to the preset position when reception fails.

The fail safe function is a safety feature that minimizes set damage by moving the servos to a preset position when reception fails. However, if set to a dangerous position, it has the opposite effect. When the reverse function was used to change the operating direction of a servo, the fail safe function must be reset.

Setting example: Throttle idle or brake position

Nicad Battery Handling Precautions

(OnlywhenNicadbatteriesareused)

⚠ Warning

Mandatory Procedures

Always check to be sure your batteries have been charged prior to operating the model.

Should the battery go dead while the model is operating loss of control will occur and create a very dangerous situation.

When the model is not being used, always remove or disconnect the Nicad battery .

Should the battery be left connected this could create a dangerous situation if someone accidentally turns on the receiver power switch. Loss of control would occur.

To recharge the transmitter Nicad , use the special charger made for this purpose.

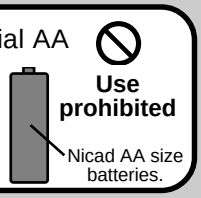
Overcharging could cause the Nicad battery to overheat, leak or explode. This may lead to fire, burns, loss of sight and many other type's of injuries.

⚠ Caution

Prohibited Items

Do not use commercial AA size Nicad batteries.

Quick charging may cause the battery contacts to overheat and damage the battery holder.



Do not short circuit the Nicad battery terminals.

Causing a short circuit across the battery terminals may cause abnormal heating, fire and burns.

Do not drop the Nicad battery or expose it to strong shocks or vibrations.

The battery may short circuit and overheat, electrolyte may leak out and cause burns or chemical damage.

Storage and Disposal Precautions

⚠ Warning

— Prohibited Procedures —

⊘ Do not leave the radio system or models within the reach of small children.

A small child may accidentally operate the system, this could cause a dangerous situation and injuries. Nicad batteries can be very dangerous when mishandled and cause chemical damage.

⊘ Do not throw Nicad batteries into a fire. Do not expose Nicad batteries to extreme heat. Also do not disassemble or modify a Nicad battery pack.

Overheating and breakage will cause the electrolyte to leak from the cells and cause skin burns, loss of sight as well as other injuries.

— Mandatory Procedures —

❗ When the system will not be used for any length of time store the system with batteries in a discharged state. Be sure to recharge the batteries prior to the next time the system is used.

If the batteries are repeatedly recharged in a slightly discharged state the memory effect of the nicad battery may considerably reduce the capacity . A reduction in operating time will occur even when the batteries are charged for the recommended time.

<Nicad Battery Electrolyte>

The electrolyte in Nicad batteries is a strong alkali. Should you get even the smallest amount of the electrolyte in your eyes, DO NOT RUB, wash immediately with water, seek medical attention at once. The electrolyte can cause blindness. If electrolyte comes in contact with your skin or clothes, wash with water immediately.

⚠ Caution

— Prohibited Procedures —

⊘ Do not store your R/C system in the following places.

- Where it is extremely hot or cold.
- Where the system will be exposed to direct sunlight.
- Where the humidity is high.
- Where vibration is prevalent.
- Where dust is prevalent.
- Where the system would be exposed to steam and condensation.

Storing your R/C system under adverse conditions could cause deformation and numerous problems with opreation.

— Mandatory Procedure —

❗ If the system will not be used for a long period of time remove the batteries from the transmitter and model and store in a cool dry place.

If the batteries are left in the transmitter electrolyte may leak and damage the transmitter. This applies to the model also, remove the batteries from it also to prevent damage.

<Nicad Battery Recycling>

A used Nicad battery is valuable resource. Insulate the battery terminals and dispose the battery by taking it to a battery recycling center.

Other Precautions

⚠ Caution

— Prohibited Procedures —

Do not expose plastic parts to fuel, motor spray, waste oil or exhaust.

The fuel, motor spray, waste oil and exhaust will penetrate and damage the plastic.

— Mandatory Procedures —

Always use only genuine Futaba transmitters, receivers, servos, FET amps (electronic speed controls),Nicad batteries and other optional accessories.

Futaba will not be responsible for problems caused by the use of other than Futaba genuine parts. Use the parts specified in the instruction manual and catalog.

Features

- Eight Model Memories/Eight More Models Can Be Added By Using the Data Pac

English and Japanese Katakana characters may be used to assign each model a name. Model memories with slightly different settings can be easily created by using the model copy function. Also, eight more models can be added by using the optional Data Pac (DP-16K).

- Large LCD display

Constantly displays all the information needed for monitoring. The large characters can be easily read when making adjustments.

- Three Function Selection Modes

New menu configuration allows direct access to the most frequently used functions. (Direct Mode/Select Mode/Set-Up Mode)

- Second Dual Rate (D/R2)

Lets you change the steering angle with one touch while running.

- Anti-Skid Brake System (A. B. S. Function)(A.B.S.)

Allows braking without the tires losing their grip on the track even when braking gas powered cars or corners.

- Throttle Acceleration (TH.ACC)

Gas powered cars have a lag time before the clutch is engaged or the brakes are applied. This function minimizes this lag time.

- Traction Control (TRAC)

When trigger operation is performed suddenly on slick surfaces, the wheels merely spin and the car does not accelerate smoothly. By setting the Traction Control function, operation can be performed smoothly and pleasantly and battery consumption can be reduced.

- Start (START)

On a slick surface, if the throttle trigger is set to full throttle at the start of a race, the wheels will spin and the car will not accelerate smoothly. When the Start function is set, merely pulling the throttle trigger forward causes the throttle servo to automatically move to a preset position and the car to accelerate smoothly.

- Steering Speed (ST.SPD)

Allows you to adjust the steering servo speed to match your style of driving.

- Advanced Timer (TIMER)

Theracingtimer(laptimer)canrecordthetotaltimeandupto99laps.Thetimercan beautomaticallyactivatedbytriggeroperation.Analarmcanbesetfrom30second beforetimeisup.
ANavigationtimerthatiseffectiveinpracticerunscanalertyoutothetargetlap.

- Digital Trim w/Reset Function

ThetrimpositionisconstantlydisplayedontheLCDscreen.One-stepservotravel canalsobeadjusted.
Steeringandthrottletrimadjustmentshavenoeffectonthemaximumservotravel.

- Trim Function Selection

Allowsyoutoassignvariousfunctionstothetrimmers(digitaltrim,gripdial,knob). Allthetrimsaredigital,sotheydonothavetoberepositionedforeachmodel.

- Switch Function Selection

Allowsyoutoassignvariousfunctionstothetwoswitches.

- Left Hand Reversible

- Black Transmitter Antenna

- New Light Weight Design and Extraordinary Balance

- Tension Adjustment

Steeringwheelspringtensioncanbeadjustedfromtheoutside.

- Trigger Stop Function (Mechanical ATL)

ThemechanicaltriggerstopcanbeusedasATL.

- Display Switch

Functionscanbesetwithouttransmittingasignal.

- Body Rest (Option)

- Receiver w/DSC Function (Connection Cord is Optional)

FM:R113F,PCM:R113iP

Set Contents

Afteropeningthebox,firstcheckifthecontentsconformtothefollowing.Thecontentsdependonthesetasshownbelow.

Transmitter	**T3PJ SUPER**
RF module	**TJ-FM** *Installed in transmitter.
Receiver	**R113F(FM) or R113iP(PCM)**
Servo	**S9402, S9304 or (none)**
Miscellaneous	**Transmitter Ni-cad battery pack NT8F700B or Battery box** *Installed in transmitter. **Receiver switch** **Instruction manual**

-Ifanyofthesecontentsaremissing,oryouhaveanyquestions,pleasecontactyou dealer.

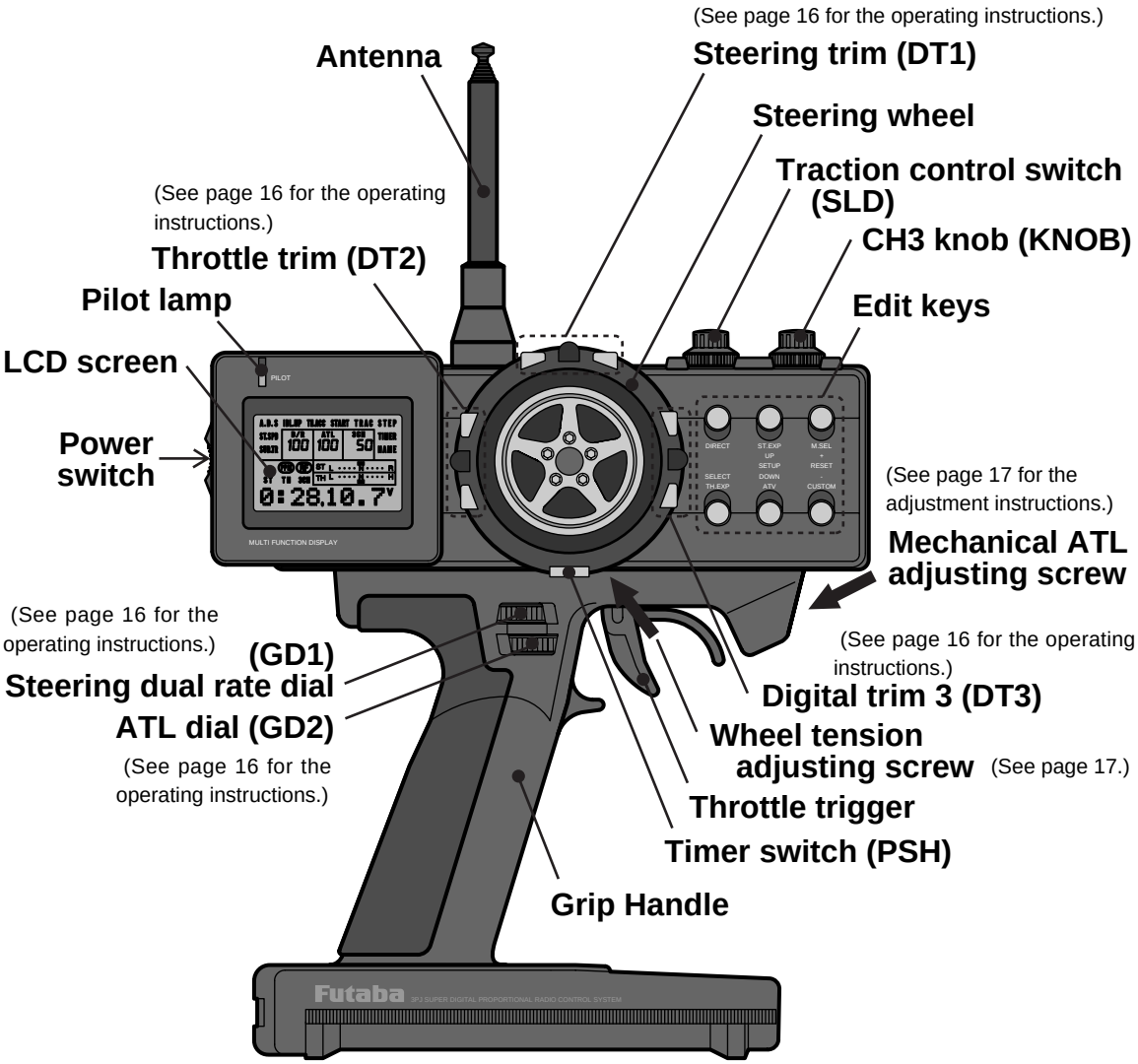
⚠ Caution

Always use only genuine Futaba transmitter, receiver, FET amp, Ni-cad battery and other optional parts.

Futaba will not be responsible for damage caused by other than genuine Futaba parts and components. Use only the genuine Futaba parts and components listed in the instruction manual and catalog.

Nomenclature

Transmitter T3PJ SUPER (Front)



*Theswitches,knobs,andtrimmersinthefigureareshownintheinitialsettingposition.

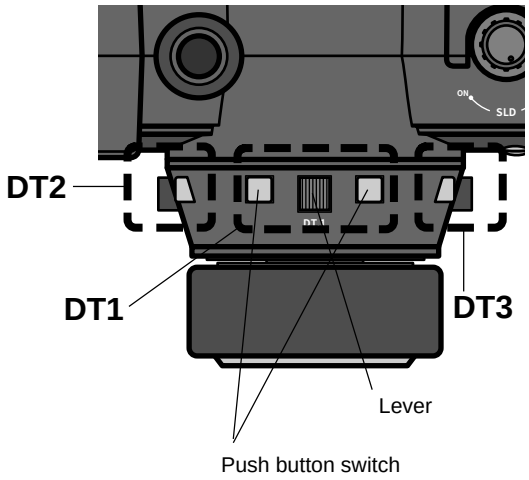
Precautions when turning the power switch on and off.

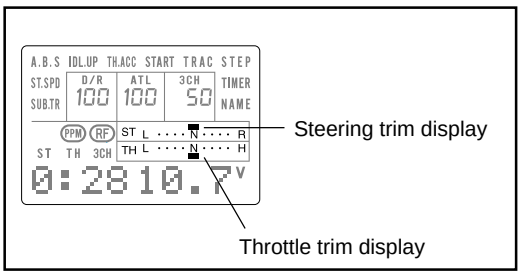
Whenthedatawaschangedusingtheeditkeysortrimlevers,waitatleasttwosecondsbeforeturningoffthepower.Ifthepoweristurnedoffwithintwosecondsafterthedatawaschanged,thenewdatawillnotbewrittentomemory.

Digital Trim Operation

(Initial settings: DT1: Steering trim, DT2: Throttle trim, DT3: -------)

Operating by the lever: Push the lever to the left or right (up or down).
Operating by push button switch: Press the push button switch in the desired direction.
The current position is displayed on the LCD screen.





- Each step is indicated by a tone.
- When the trim exceeds the maximum trim adjustment range, the tone will change pitch and the lever will not move any farther.
- Return to the neutral position (center) by pressing both the push button switches simultaneously for about one second.

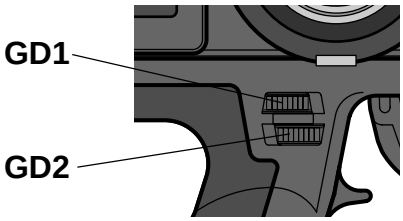
Trim Operation

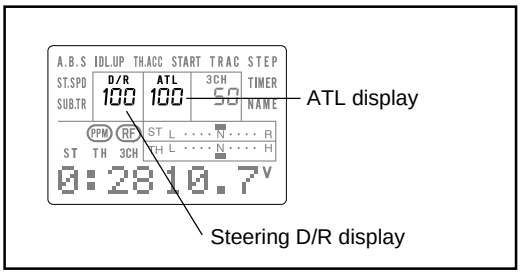
With the center trim feature, trim adjustments have no effect on the maximum servo travel. This prevents the linkages from binding when adjustments are made.

Grip dial operation

(Initial settings: GD1=Steering D/R, GD2=ATL)

Operate the dials by turning them. The current set value is displayed on the LCD screen.





- A click sound is made at each step.
- When the maximum position is reached at each side, the tone of the click changes. Thereafter, the set value does not change.

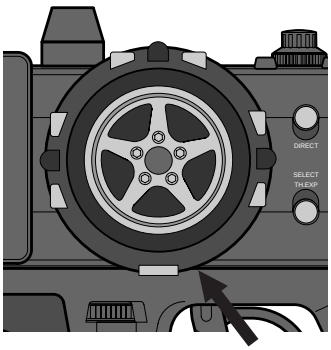
Wheel Tension Adjustment

Make this adjustment when you want to change the steering wheel spring tension.

Adjustment

Turn the screw inside the adjusting hole using a 1.5mm hex wrench.

- Turning the adjusting screw clockwise, increases the spring tension.



Tension adjusting screw

Caution

If turned too far counterclockwise, the adjusting screw may fall out.

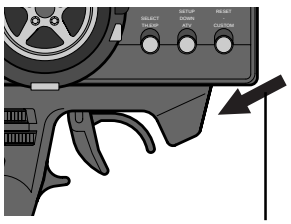
Mechanical ATL Adjustment

Make this adjustment when you want to make the throttle trigger brake (back) side stroke narrower.

Adjustment

Using a Phillips screwdriver, adjust the trigger brake (back) side stroke by turning the screw through the adjusting hole indicated by the arrow in the figure. (The screw moves the throttle trigger stopper.)

- When the adjusting screw is turned clockwise, the stroke becomes narrower.

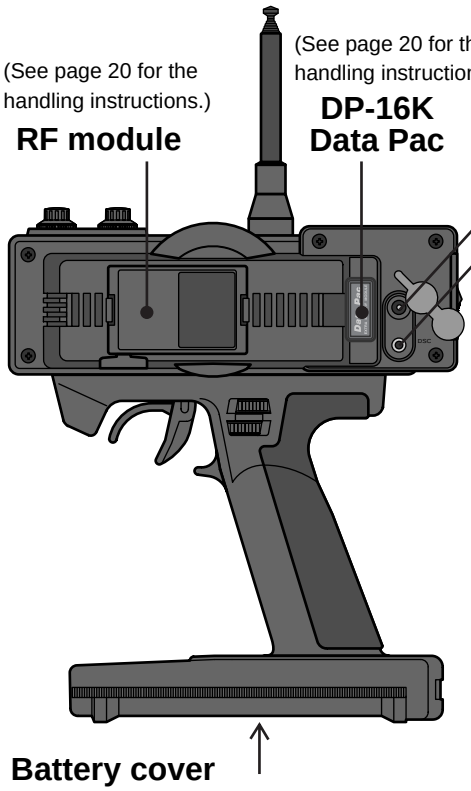


Mechanical ATL adjusting screw

Caution

When the stroke was adjusted, the throttle servo travel must be adjusted by data setting.

Transmitter T3PJ SUPER (Rear)



(See page 20 for the handling instructions.)
RF module

(See page 20 for the handling instructions.)
DP-16K Data Pac

Charging jack

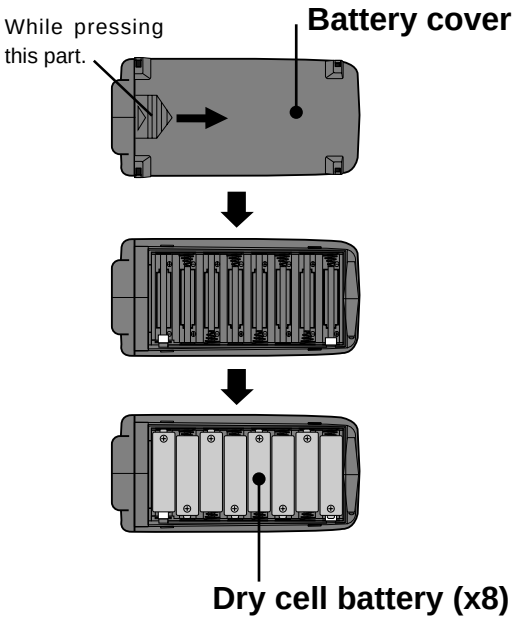
DSC jack
(See page 103 for the handling instructions.)
(The DSC cord sold separately is necessary.)

Battery cover
- When changing the Ni-cad battery pack, or dry cell batteries, remove this cover.

Dry cell Battery Replacement

(For dry cell battery system)

1. Slide the transmitter battery cover in the arrow direction while pressing the part shown in the figure.
2. Load the eight batteries in accordance with the polarity markings on the battery holder.
3. Slide the battery cover back onto the transmitter.

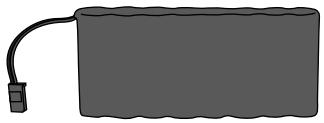


Ni-cad Battery Replacement

(For Ni-cad battery system)

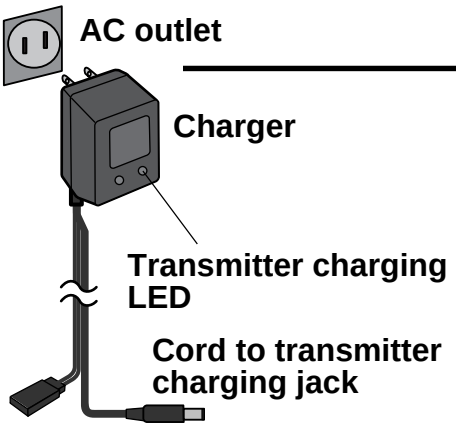
The Ni-cad battery is connected by a connector so that it can be removed when you will not be using the transmitter for a long time, or when replacing a dead battery with a spare battery.

- Always use an NT8F700B Ni-cad battery.



Ni-cad battery NT8F700B

Charging the Ni-cad Battery



Charging

1. Plug the transmitter cord of the special charger into the charging jack on the rear of the transmitter.
2. Plug the charger into an AC outlet.
3. Check that the charging LED lights.

When charging the NT8F700B Ni-cad battery with the special charger, allow about 15 hours for charging. If the transmitter has not been used for some time, cycle the battery by charging and discharging it two or three times.

Diode Protection

The transmitter charging circuit is equipped with a 1.5A diode to prevent short circuits. If the battery is charged with a quick charger for other than digital proportional R/C sets, it may not be fully charged and the circuits inside the transmitter may be damaged.

⚠ Warning

⊘ Never plug it into an outlet other than indicated voltage.

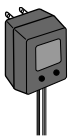
Plugging the charger into the wrong outlet may result in an explosion, sparking, or fire.

⊘ Do not insert and remove the charger when you hands are wet.

It may cause an electric shock.

❗ Always use the special charger or a quick charger for digital proportional R/C sets to charge a digital proportional R/C set Ni-cad battery.

Overcharging a Ni-cad battery can result in burns, fire, injuries, or loss of sight due to overheating, breakage, or electrolyte leakage.



❗ Use the special charger.

⚠ Caution

⊘ Never try to recharge a dry cell battery.

The transmitter may be damaged or the battery electrolyte may leak or the battery may break.

❗ When the charger is not in use, disconnect it from the AC outlet.

Do this to prevent accidents and to avoid overheating.

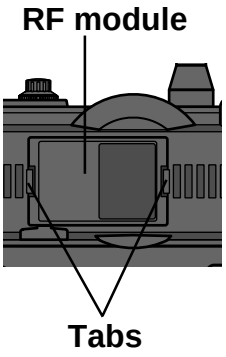
RF Module

Removal

1. Pull the RF module forward while pressing the tabs at the left and right inward.

Insertion

1. Insert the RF module while being careful not to bend the transmitter side connector pins.
2. Insert the RF module until the tabs at the left and right snap in place with a “click”.



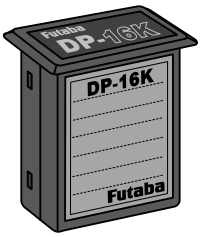
RF Module Temperature Rise

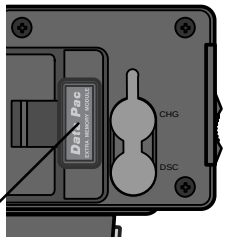
The temperature of the RF module will rise slightly during operation.

Handling the Data Pack

These data for 8 units can be stored in the 3PJSUPER transmitter body and the set data for 8 more units can be stored in a DP-16K (Option) removable data pack.

Data pack DP-16K (Option)





Data pack insertion slot

-Grasp the dustproof cap and insert the data pack fully.

Inserting and removing the data pack

Always turn off the transmitter power before removing and inserting the data pack.

Data pack initialization

When the data pack is used and the power is turned on for the first time, the data pack must be initialized before it can be used with this transmitter. When "CAM-INI?" is displayed on the screen after the power is turned on, press the "+" key. This automatically initializes the data pack. This operation is unnecessary thereafter.

3PJ SUPER and 3VC transmitter data pack compabilitily

-Note that the digital trim 3 (DT3) and slide switch (SLD) initialization values are different.

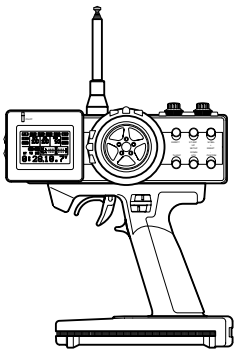
-The 3VC transmitter does not have a digital trim function reverse function. Therefore, when the 3PJ SUPER transmitter copied data to a 3VC transmitter, the 3VC ignores the copied data. However, since the data is stored as is, when the data is re-copied to the 3PJ SUPER transmitter, the 3PJ SUPER will operate using the original settings.

Set data backup

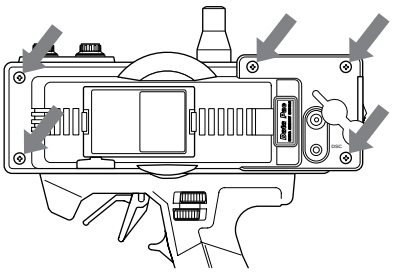
The set data of each function (transmitter body and data pack) of the 3PJ SUPER transmitter is stored in a memory element that does not require a backup battery. Therefore, the 3PJ SUPER transmitter can be used without paying attention to the backup battery life.

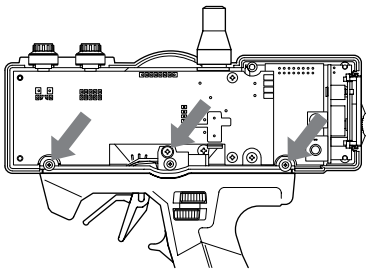
Adaptation For Left-Hand Use

This transmitter can be modified for left-hand use.

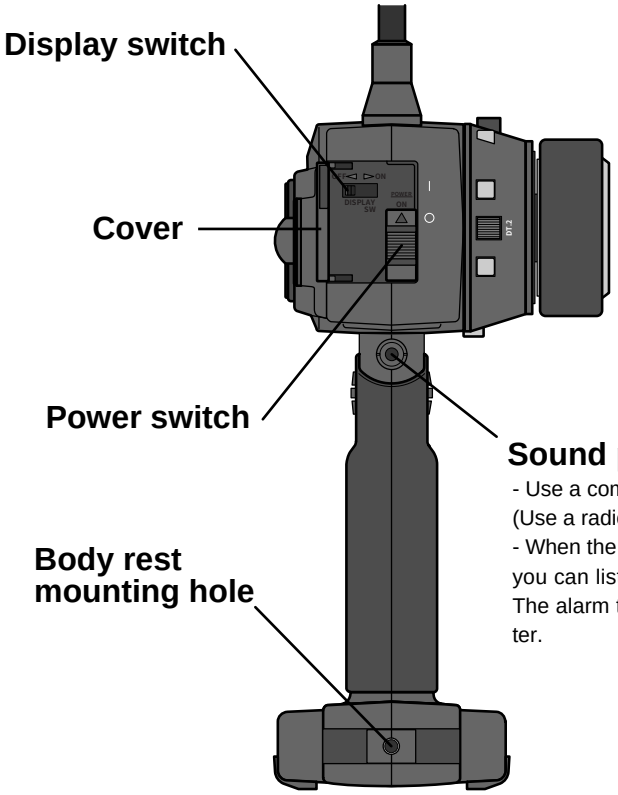


1. Remove the Transmitter Battery. Carefully remove the 5 screws from the rear case cover. Do not use excessive force to get the case apart.
2. Carefully remove the 2 gold screws and 1 black screw at the top of the handle. Be very careful the Display switch cover will fall out.
3. Rotate the handle and reinstall the screws in same position as they were removed. Make sure you do not pinch or put excessive pressure no any wires. Do not overtighten the screws.
4. Place the Display switch cover in position and reinstall the rear case cover. Again be careful and do not overtighten the screws.





Transmitter T3PJ SUPER (Side View)



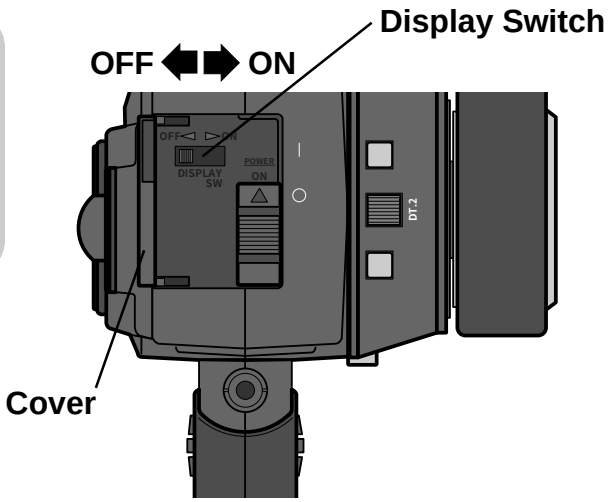
Display Switch

IftheDisplaySwitchisturnedonwithoutturningonthepowerswitch,thetransmitterdatacanbesetwithouttransmittingasignal.

⚠ Warning

Never turn on the power switch while using this function.

If the power switch is turned on, a signal will be transmitted and will interfere with other models operating on the same frequency.

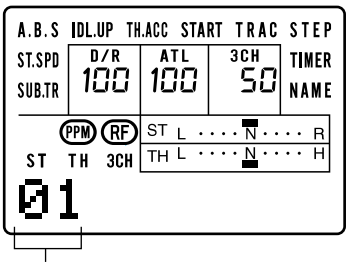


LCD Screen and Edit Keys

When the transmitter power switch is turned on, the model memory No. and model name currently called are temporarily displayed for confirmation.

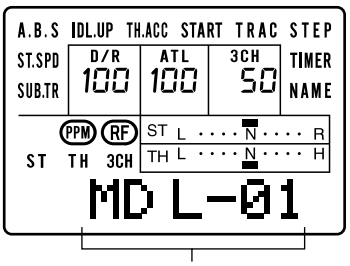
Turn on the power switch

A tone will sound to show that the power is on.



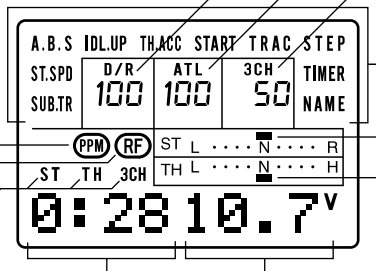
Model No. (1~8)

After the model No. is displayed for about one second, the LCD will switch to the model name display.



Model name (6 characters)

After the model name is displayed for several seconds, the LCD will switch to the timer and voltage display.



D/R function rate display
ATL function rate display
Channel 3 position display
Select mode menu
Steering trim display
Throttle trim display
PCM/PPM display
RF output monitor
Channel selection display
Total time display (Hours : Minutes)
Battery voltage display

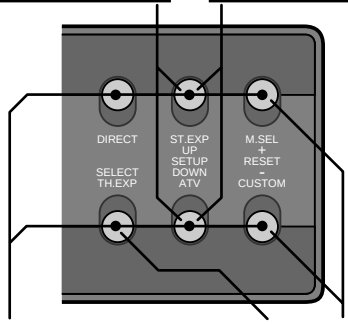
SET-UP Mode Function Selection

To call the function set-up screen in the SET-UP mode, press the UP and DOWN keys simultaneously.
After that, select the function with the UP or DOWN key.
To end the SET-UP mode, press the UP and DOWN keys simultaneously again, or press the DIRECT key twice.

SELECT Mode Function Selection

To call the function set-up screen in the SELECT mode, press the UP or DOWN key at the initial screen.
After that, select the function with the UP or down KEY.
To end the SELECT mode, return to the initial screen by pressing the UP or DOWN key similarly, or press the DIRECT key twice.

Edit keys



DIRECT Mode Function Selection

To call the function set-up screen in the DIRECT mode, first press the DIRECT key, then select the function by pressing the key corresponding to the function desired as shown below.
- Steering EXP key (ST.EXP)
- Model select key (M.SEL)
- Throttle EXP key (TH.EXP)
-ATV key (ATV)
- Custom key (CUSTOM)

To end the DIRECT mode, press the DIRECT key twice.

Data Entry Keys

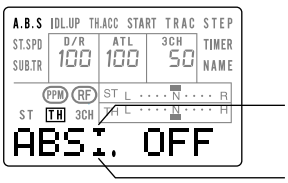
Use the SELECT key to select the set-up item and channel at the function set-up screen.
Use the + and - keys to enter data. To reset (return to initial value) the entered data, press the + and - keys simultaneously.

Switch screen display

For functions that can use the push-button switch (PSH) or slide switch (SLD), the following symbols are displayed on the setup screen of the relavent function.

(A.B.S function example)

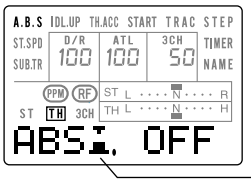
*For the A.B.S function, both switches can be set.



[If this is displayed, SLD can be set]

[If this is displayed, PSH can be set]

When the screen switch display is enlarged as shown at the right, that switch can be set.



[Display is enlarged]

LCD Screen Contrast

TheLCDscreencontrastcanbeadjusted.(Formoreinformation,seepage94.)

Caution

DonotadjustthecontrastsothattheLCDistoobrightortoodark.
Whenthedisplaycannotbereadduetoatemperaturechange,datacannotbeset.

LCD Screen Temperature Change

Inthefollowingcases,theLCDmaybecomedifficulttoreadduetoatemperature change.

- On hot summer days and cold winter days, the LCD may be easy to read indoors, but difficult to read outdoors.
- If the contrast is too bright or too dark, temperature changes and lighting conditions may cause the screen to become difficult to read.

Contrast Adjustment

1 Turn on the transmitter power.

2 Press the DIRECT key twice.

3 Press the UP and DOWN keys simultaneously.

4 Press the DOWN key six times.

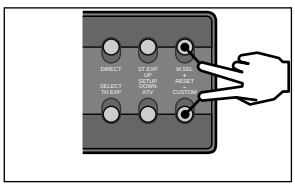
5 If the screen is too dark, adjust the screen to the point where it can be easily read. If the screen is too dark, press the - key. If the screen is too bright, press the + key.

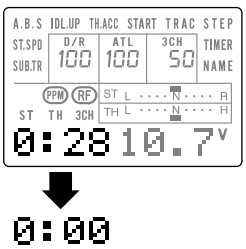
Total Timer

Thetotaltimershowsthetotaltimefromthelasttimeitwasreset.

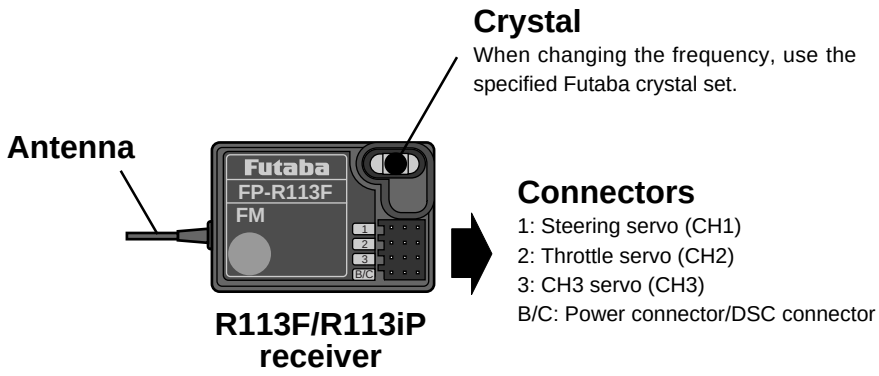
Reset

1 At the total time display, press the + and - keys simultaneously for about one second.



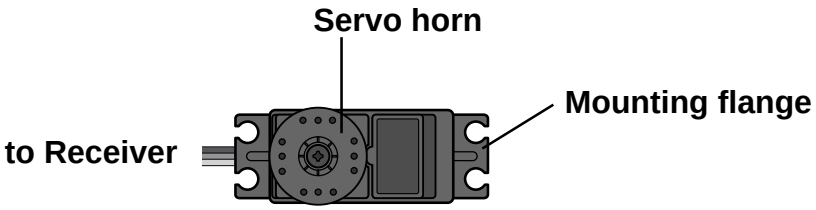


Receiver R113F/R113iP



Forthereceiver,servos,andotherconnections,seepage27.FortheDSCcord(option)connections,seepage103.

Servo S9402 / S9304



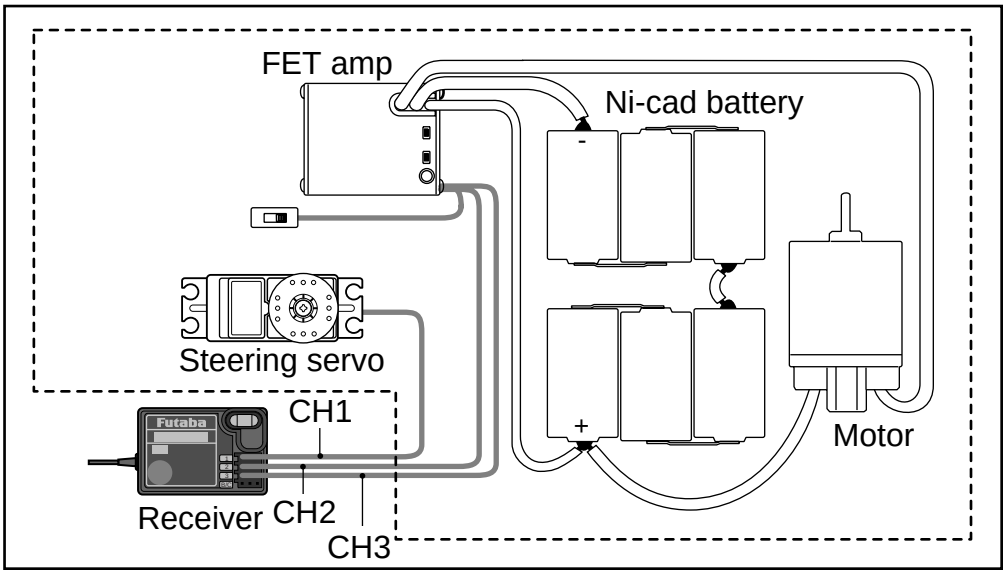
<Accessory>

Thefollowingitemsareprovidedforsetting:
-Spareservohorn
-Partsforservoinstallation
(Fortheinstallationprecautions,seepage28.)

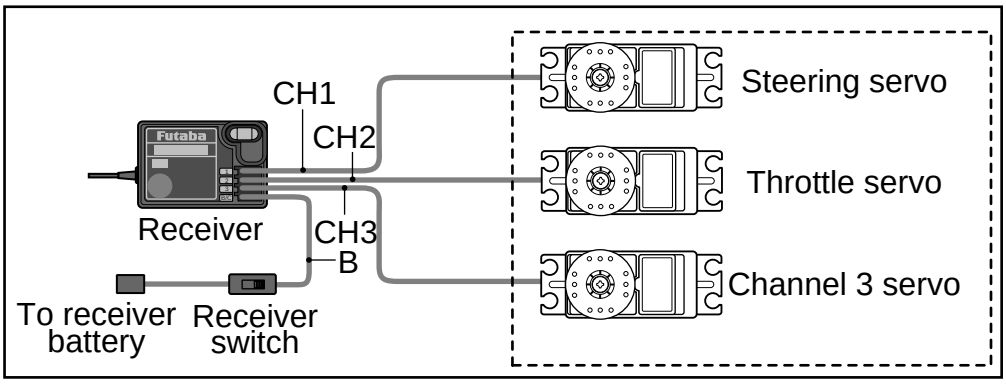
Receiver and Servo Connections

When connecting and installing the receiver and servos, read the "Installation Safety Precautions" on the next page.

Installation When An FET Amp Is Used (MC510CFET Amp)



Installation For Gas Powered Models



Installation Safety Precautions

⚠ Warning

Connector Connections

Be sure the receiver, servo, crystal and connectors are fully and firmly connected.

If vibration from the model cause a connector to work loose while the model is in operation. You may lose control .

Receiver Vibration Damping and Waterproofing

(Car)

Dampen the vibration to the receiver by mounting to the chassis or mounting plate with thick double sided tape in electric powered models. In gas powered models wrap the receiver in foam and mount it where the vibration is the least prevalent.

(Boat)

Dampen the vibration to the receiver by wrapping it in foam. Waterproof by placing it in plastic bag or watertight radio box in model.

If the receiver is subjected to strong vibration or shock erratic or loss of control may occur. If any moisture comes in contact the receiver and servos you may expertise the same result as well as damage to the system.

Receiver Antenna

Do not cut or bundle the receiver antenna

Do not bundle the receiver antenna together with the servo lead wires

Keep the receiver antenna at least 1 inch away from the motor and battery and wires that handle heavy current loads..

Cutting, bundling or routing the receiver antenna near any devise that produce noise will reduce the operating range of the system and result in loss of control.

*Also route the receiver antenna away from metal, carbon fiber and other parts that conduct electricity. These parts can transmit high frequency noise.

Electronic speed control

Install the heat sinks where they will not come in contact with aluminum, carbon fiber or other parts that conduct electricity.

If the FET Amp (Electronic speed control) heat sinks touch other materials that conduct electricity a short circuit could occur. This could result in loss of control and damage to the system.

Servo Throw

Operate each servo over its full stroke and be sure the linkage does not bind or is loose.

The continuous application of unreasonable force to a servo may cause damage and excessive battery drain.

Servo Installation

When you install the servos always use the rubber grommets provided in servo hardware bags. Mount the servos so they do not directly come in contact with the mount.

If the servo case comes in direct contact with the mount vibration will be directly transmitted to the servo.

If this condition continues for a long time the servo may be damaged and control will be lost.

Motor Noise Suppression

Always install capacitors to suppress noise when electric motors are used.

If capacitors are not properly installed you could experience erratic operation and reduced range as well as loss of control.

Other Noise Suppression Methods

Be sure there are no metal parts in your model which under vibration can come in contact with other metal parts.

Metal to metal contacts under vibration will omit a high frequency noise that will effect the receivers performance. You could experience erratic operation and reduced range as well as loss of control.

Preparations (Transmitter)

Before setting the transmitter functions, check and set items 1 to 3 below.

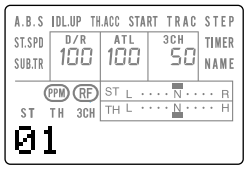
(Display when power switch turned on)

When the power switch is turned on, the currently selected model number is displayed. Check if this number is the model number you want to set-up. To change the model number, use the Model Select function (page 44).

Turn on the transmitter power.

⬇

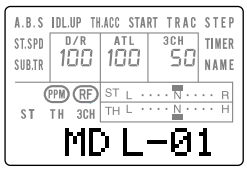
The model number is displayed for about one second.



(Model No.)

⬇

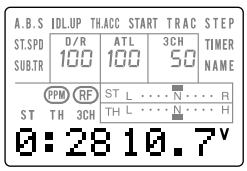
The model name is displayed for about two seconds.



(Model name)

⬇

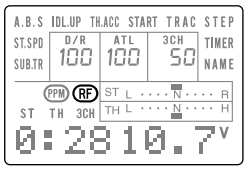
The total timer and voltage display initial screen is displayed.



(Total timer & voltage display)

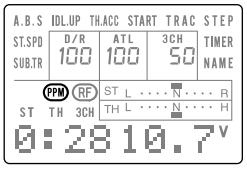
1. RF Output Check

If signals are output normally, RF output monitor "RF" will be displayed on the screen.
If RF is not displayed, check if the transmitter crystal and RF module are installed.
If the transmitter is abnormal or faulty, contact your Futaba dealer.

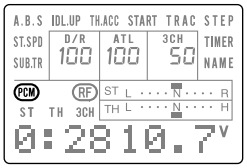


2. Modulation Mode Check

The T3PJ SUPER transmitter output signal format can be changed to match the type of receiver. Check if the modulation mode is set to match the receiver used. When using an FM receiver (e.g., R113F), the modulation mode must be set to PPM. When using a PCM receiver (e.g., R113iP), the modulation mode must be set to PCM. If this setting is incorrect, change it with the Mode Select (page 93) function.



(PPM)

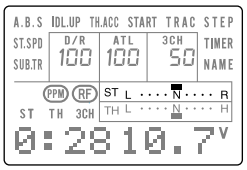


(PCM)

3. Trims Initial Set-Up

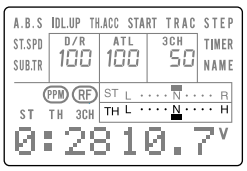
- Steering trim (Trim 1) check

At initial set-up, steering trim (Trim 1) is assigned to digital trim DT1 above the steering wheel. Operate the DT1 lever and check if the steering trim display on the screen changes. After checking the trim, set the trim display to the center (N) position.



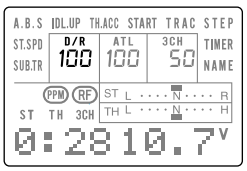
- Throttle trim (Trim 2) check

At initial set-up, throttle trim (Trim 2) is assigned to digital trim DT2 at the left side of the steering wheel. Operate the DT2 lever and check if the throttle trim display on the screen changes. After checking the trim, set the trim display to the center (N) position.



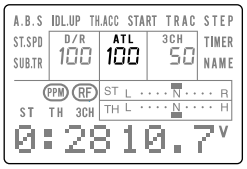
- Steering dual rate (D/R) check

At initial set-up, steering dual rate (D/R) is assigned to grip dial GD1 (upper) at the grip of the transmitter. Operate the GD1 dial and check if the D/R value displayed on the screen changes. After checking D/R, set the steering dual rate to 100%.



- Throttle ATL (ATL) check

At initial setting, throttle ATL (ATL) is assigned to grip dial GD2 (lower) at the grip of the transmitter. Operate the GD2 dial and check if the ATL value displayed on the screen changes. After checking ATL, set throttle ATL to 100%.



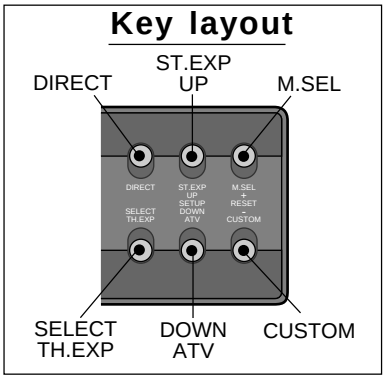
(Set-Up Procedure When Installed In a Car)

When installing the servos in a car, performing function set-up in the following order is recommended.

1. Perform step 3. Trims Initial Set-Up of Preparations on the preceding page.
2. Set the servo direction of operation using the Reverse function. (Page 87)
   The servo installation method and linkage direction depends on the kit. Therefore, the servo operation direction may have to be reversed relative to transmitter operation. Before installing the servo, check the operating direction and set it using the Reverse function.
3. Set the subtrim and adjust the servo neutral point. (Page 47)
4. Set the trigger travel by adjusting the throttle trigger mechanical ATL to you liking. (Page 17)
5. Set ATV of each channel and adjust the servo throw (travel). (Pages 33~ 38)

TheDIRECTmodeallowsinstantaccesstothefivefunctionsmostfrequentlyused. Thefunctionset-upscreencanbedirectlyandquicklycalledwiththespecialkeyfor eachfunction.Ofthefivefunctions,onecanbefreelyselectedastheUserCustom function.

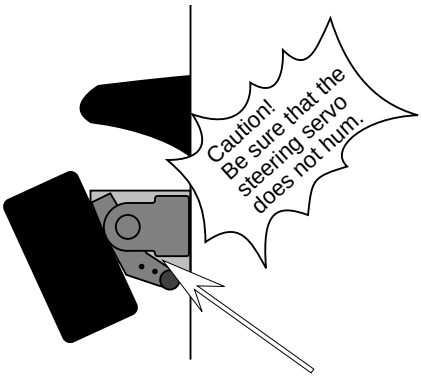
Function Map



DIRECT mode functions

Steering ATV

The ATV function is used to set the steering servo travel in both directions using the linkage. Make this setting when the left and right turning angles and the turning radius differ with the characteristics of the model.



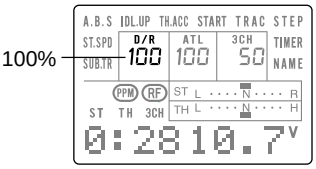
- Select the ATV setting at the contact point.

⚠ Warning

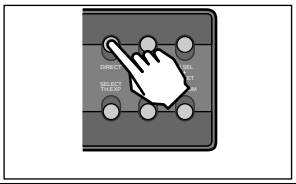
! When steering, be sure that the servo does not strike the knuckle stopper and unreasonable force is not applied to the servo horn.

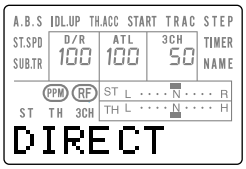
Excessive force applied to the servo horn may result in damage to the servo and loss of control.

Before setting the steering ATV, set for 100% maximum servo travel using the steering D/R dial (initial setting: GD1).

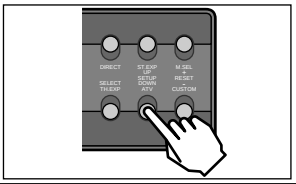


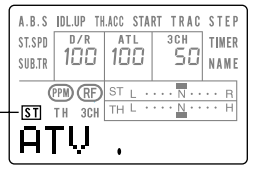
1. Access the DIRECT mode by pressing the DIRECT key.



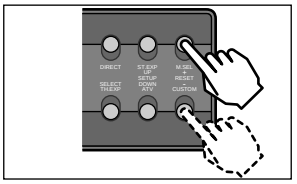


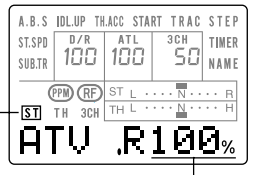
2. Call the ATV function set-up screen by pressing the ATV key.





3. To set the steering right side, turn the steering wheel fully clockwise and increase and decrease the servo throw with the + and - keys.

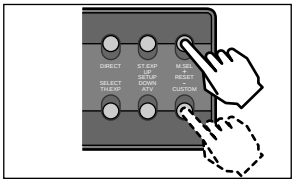


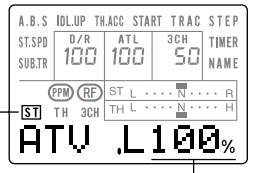


Setting range; 30~120%

- Return to the initial value (100%) by pressing the + and - keys simultaneously for about one second.

4. To set the steering left side, turn the steering wheel fully clockwise and increase and decrease the servo throw with the + and - keys.

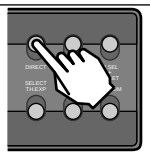




Setting range: 30~120%

- Return to the initial value (100%) by pressing the + and - keys simultaneously for about one second.

5. At the end of adjustment, press the DIRECT key twice. (Returns to the initial screen.)



- 2 times

Maximum Servo Throw

The steering ATV function determines the steering servo maximum travel. However, when the functions below are adjusted, the maximum travel may exceed the travel range set by the ATV function. Any time adjustments are made to the following functions, check you linkage installation.

- Steering subtrim
- Programmable mixing (When steering set to slave side)
- Tilt mixing

Note

When D/R is 100%, and the servo throw is insufficient even when ATV is increased to 120%, the servo throw can be increased somewhat by using the programmable mixing function. (See page 84.)

Throttle ATV

Use this function when adjusting the throttle high and low side linkages.

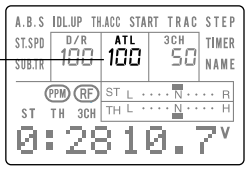
⚠ Warning

! Be sure that throttle operation does not apply unreasonable force to the servo horn.

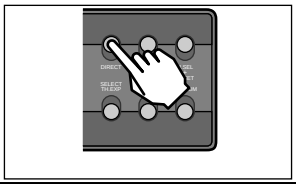
Unreasonable force applied to the servo horn may result in damage to the servo and loss of control.

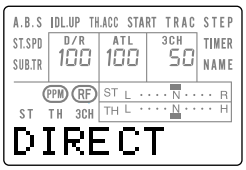
First, set ATL dial (initial setting: GD2) for to the maximum servo throw position (100%).

100%

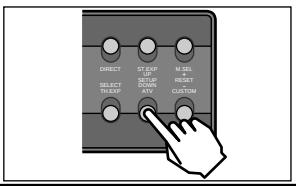


1. Access the DIRECT mode by pressing the DIRECT key.

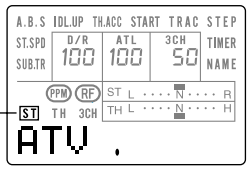




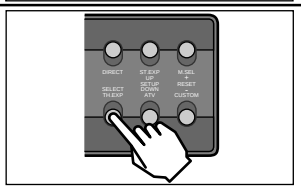
2. Call the ATV function set-up screen by pressing the ATV key.



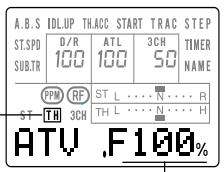
Blink 点滅



3. Call the Throttle ATV function set-up screen by pressing the SELECT key.

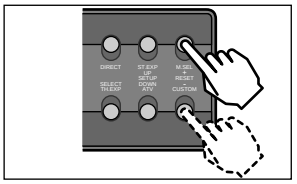


Blink 点滅



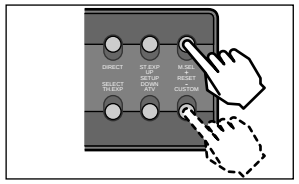
Setting range; 0~120%

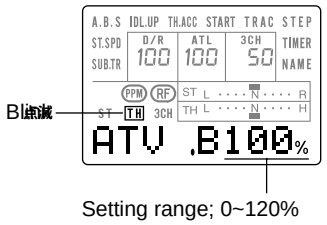
4. To adjust the throttle forward side, pull the throttle trigger all the way to the forward side and adjust the percentage with the + and - keys. However, when using an FET amp, set the percentage to 100%.



- Return to the initial value (100%) by pressing the + and - keys simultaneously for about one second.

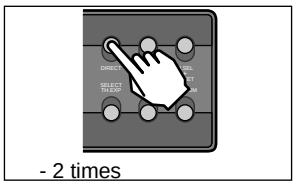
5. To adjust the brake side (back side), push the throttle trigger all the way to the brake side and adjust the percentage with the + and - keys. However, when using an FET amp, set the percentage to 100%.





- Return to the initial value (100%) by pressing the + and - keys simultaneously for about one second.

6. At the end of adjustment, press the DIRECT key twice. (Returns to the initial screen.)



ATL Trim

During operation, the brake side servo can be adjusted with the ATL trim. When adjusting the servo with throttle ATV, ATL must be set for maximum travel in advance.

Maximum travel

The throttle ATV function determines the maximum servo travel. However, when the following functions are adjusted, the maximum travel may exceed the limit set by the ATV. Be sure to inspect your linkage installation after any adjustment is made.

- Throttle subtrim
- Programming (When throttle is set to slave side)
- Idle-up
- Throttle preset

Note

When the travel is insufficient even when ATV is increased up to 120%, it can be increased somewhat by using programmable mixing.
(See page 84.)

To adjust the brake side (back side), push the throttle trigger all the way to the brake side and adjust the percentage with the + and - keys. However, when using an FET amp, set the percentage to 100%.

Channel 3 ATV

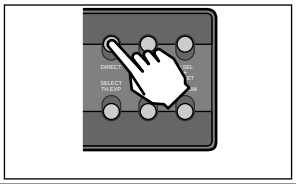
UsethisfunctiontoadjusttheCH3servoupanddowntravel.

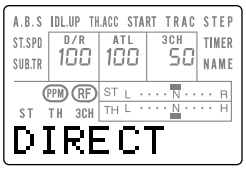
⚠ Warning

! Do not apply unreasonable force to the servo horn during operation.

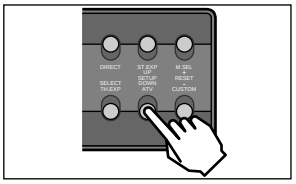
Applying unreasonable force to the servo horn may result in servo damage or loss of control.

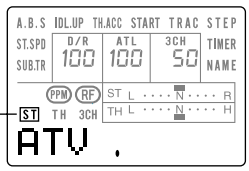
1. Access the DIRECT mode by pressing the DIRECT key.





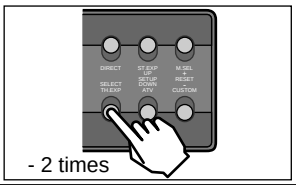
2. Call the ATV function set-up screen by pressing the ATV key.



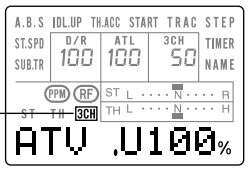


Blinking

3. Call the Channel 3 ATV function set-up screen by pressing the SELECT key twice.

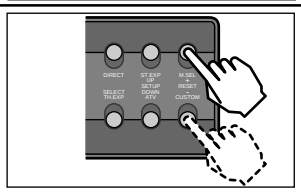


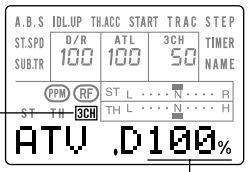
- 2 times



Blinking

4. To adjust the CH3 down side, set the CH3 dial to full down (0%) and adjust the rate with the + and - keys.

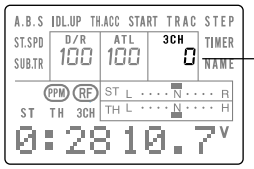




Blinking

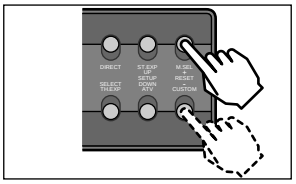
Setting range; 0~100%

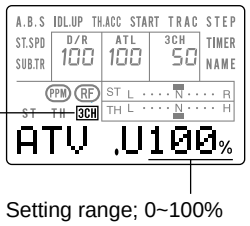
- Return to the initial value (100%) by pressing the + and - keys simultaneously for about one second.



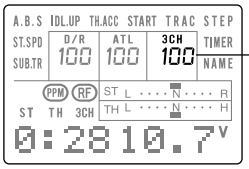
0%

5. To adjust the CH3 up side, set the CH3 dial to full up (100%) and adjust the rate with the + and - keys.





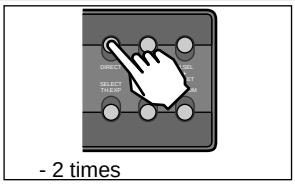
Setting range; 0~100%



100%

- Return to the initial value (100%) by pressing the + and - keys simultaneously for about one second.

6. At the end of adjustment, press the DIRECT key twice. (Returns to the initial screen.)



- 2 times

Maximum travel

TheCH3ATVdeterminestheCH3maximumservotravel.However,whenthefunctionsbelowareadjusted,themaximumtravelmayexceedthelimitsetbytheATV. Besuretoinspectyoulinkageinstallationafteranyadjustmentismade.

- CH3 subtrim
- Programmable mixing (When CH3 is set to the slave side.)
- Tilt mixing

Note

WhentheCH3servotravelisinsufficientevenwhenATVwasincreasedtoDOWN 100%andUP100%,thetravelcanbeincreasedsomewhatbyusingprogrammable mixing.(SeePage84.)

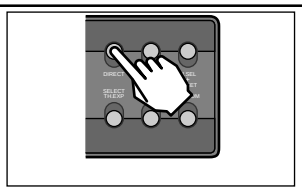
Steering EXP

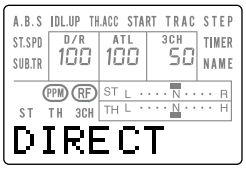
This function is used to change the sensitivity of the steering servo around the neutral position. It has no effect on the maximum servo travel.

Racers Tip

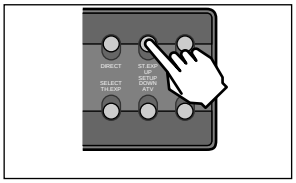
When the setting is not determined, or the characteristics of the model are unknown, start with 0%. (When EXP is set to 0%, servo movement is linear.)

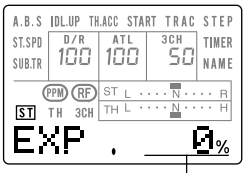
1. Access the DIRECT mode by pressing the DIRECT key.





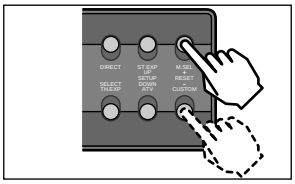
2. Call the Steering EXP function set-up screen by pressing the STEXP key.





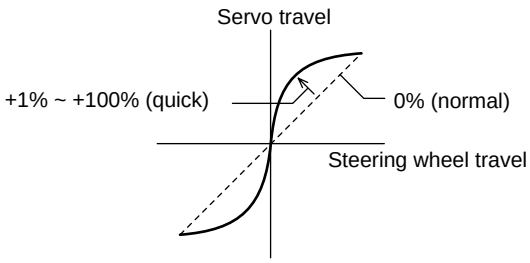
Setting range; -100~0~+100%

3. To make the servo movement more sensitive (quick), adjust with the + key. To make the servo movement less sensitive (mild), adjust with the - key.

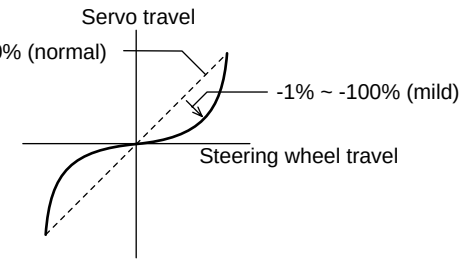


- Return to the initial value (0%) by pressing the + and - keys simultaneously for about one second.

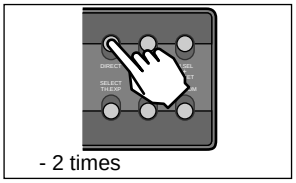
(Quick)



(Mild)



4. At the end of adjustment, press the DIRECT key twice. (Returns to the initial screen.)



- 2 times

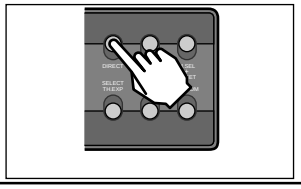
Throttle EXP/EXP2/CRV

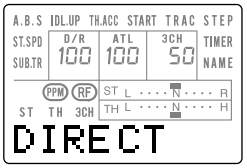
Thisfunctionchangesthesensitivityofthethrottleservointhethrottletriggerforwardsideandbrakesidedirections.Ithasnoeffectontheservomaximumtravel. Fortheforwardside,theset-upscreenforthecurveselectedwiththethrottlecurve selectionfunction(page98)appearsontheLCD.Thethrottlecurvecanbeselected fromamongthreecurves(EXP/EXP2/CRV).

Racers Tip

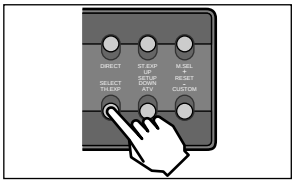
Whenthetrackconditionsaregoodandthereisnosenseoftorqueatthepowerunit, seteachcurvetothe+(quick)side.Whenthetrackisslipperyandthedrivewheels losetheirgrip,setthecurvestothe-(mild)side.

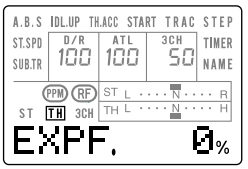
1. Access the DIRECT mode by pressing the DIRECT key.





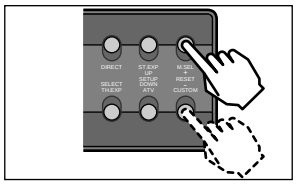
2. Call the Throttle EXP/EXP2/ CRV function set-up screen by pressing the THEXP key.

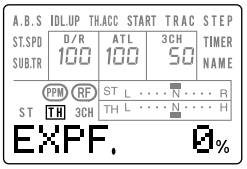


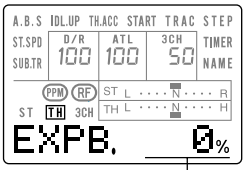


3. (EXP curve)

1) For forward adjustment, when you want to increase the sensitivity of the servo, pull the throttle trigger to the forward side and adjust with the + key. When you want to decrease the sensitivity of the servo, pull the throttle trigger to the forward side and adjust with the - key.







Setting range; -100~0~+100%

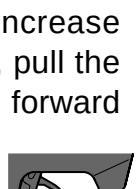
- Return to the initial value (0%) by pressing the + and - keys simultaneously for about one second.

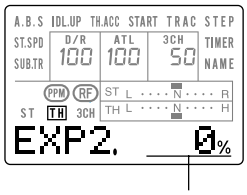
2) For brake side adjustment, when you want to increase the sensitivity of the servo, push the throttle trigger to the brake side and adjust with the + key. When you want to decrease the sensitivity of the servo, push the throttle trigger to the brake side and adjust with the - key.

(EXP2 curve)

TheEXP2curvecanalsobesetfortheforwardside.ThebrakesideistheEXPcurve.

1) When you want to increase the servo sensitivity, pull the throttle trigger to the forward side and adjust with the + key. When you want to decrease the servo sensitivity, push the throttle trigger to the forward side and adjust with the - key.





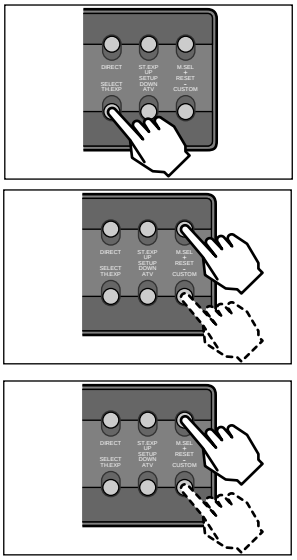
Setting range; -100~0~+100%

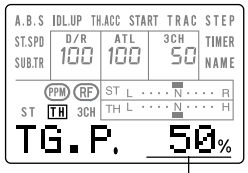
- Return to the initial value (0%) by pressing the + and - keys simultaneously for about one second.

2) When you want to change the curve switching point relative to the throttle trigger, call the point change screen by pressing the SELECT key.

3) Adjust the switching point with the + and - keys.

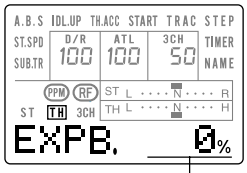
4) When you want to increase the brake side servo sensitivity, push the throttle trigger to the brake side and adjust with the + key. When you want to decrease the brake side servo sensitivity, push the throttle trigger to the brake side and adjust with the - key.





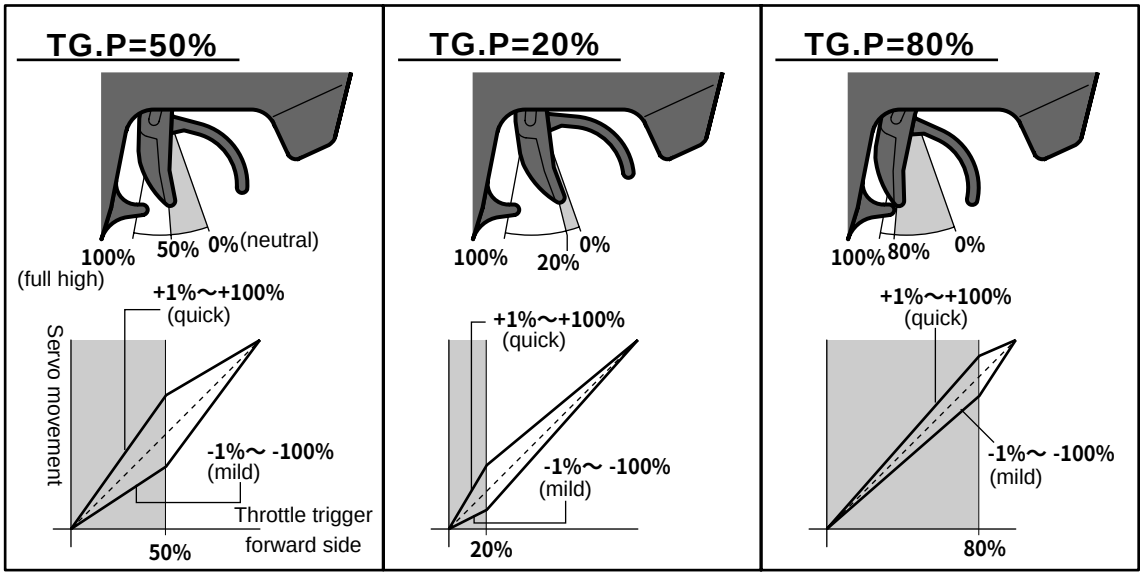
Setting range; 20~80%

- Return to the initial value (50%) by pressing the + and - keys simultaneously for about one second.



Setting range; -100~0~+100%

- Return to the initial value (0%) by pressing the + and - keys simultaneously for about one second.



(CRV curve)

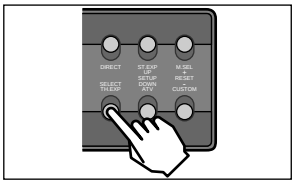
The CRV curve can be set for the forward side only. The brake side is set with the EXP curve.

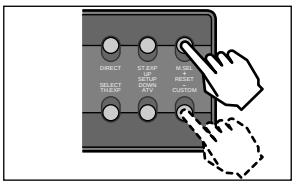
1) Select the point (P1~P5) of the trigger you want to set with the SELECT key.

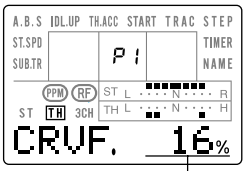
   - Neutral point 0% and high point 100% are fixed and cannot be changed.

2) Set the value of the selected point with the + and - keys.

Adjust each point by repeating steps 1) and 2).



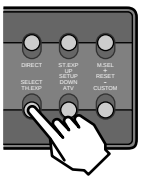


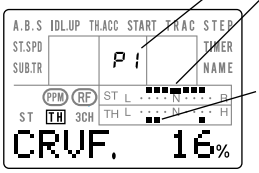


Setting range; 0~100%

- Return to the initial value by pressing the + and - keys simultaneously for about one second.

- Pressing the SELECT key switches to the points P1 to P5 set-up screens.





Point No. display (P1~P5)

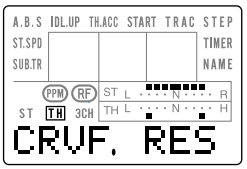
Point position display

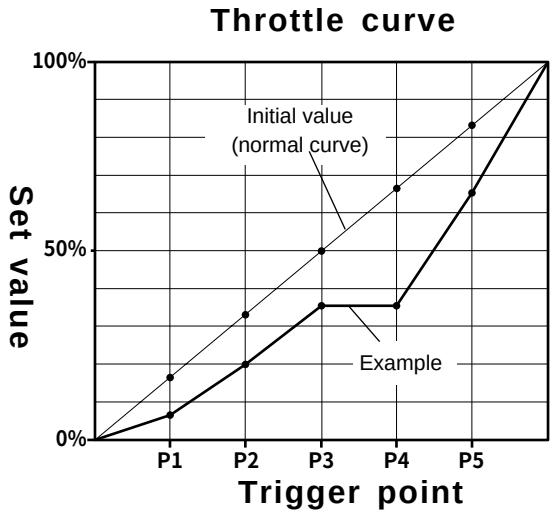
The trigger position to which the currently set point corresponds blinks.

Trigger position display

When the throttle trigger is operated, its position is displayed. Correspond it with the point position display above.

- When you want to return the entire curve to the initial value, display RES on the screen by pressing the SELECT key, then press the + and - keys simultaneously.

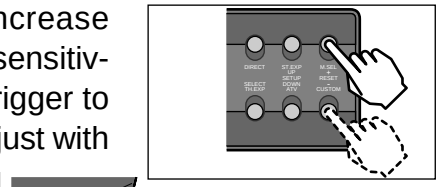


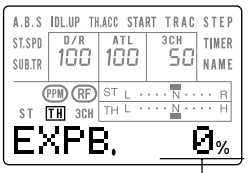


- The graph form shown on page 111 is convenient when setting the throttle curve.

Initial values
P1 : 16%
P2 : 33%
P3 : 50%
P4 : 67%
P5 : 83%

3) When you want to increase the brake side servo sensitivity, push the throttle trigger to the brake side and adjust with the + key. When you want to decrease the brake side servo sensitivity, push the throttle trigger to the brake side and adjust with the - key.

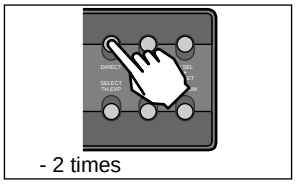




Setting range: -100~0~+100%

To return to the initial value (0%), press the + and - keys simultaneously for about one second.

4) At the end of adjustment, press the DIRECT key twice. (Returns to the initial screen.)

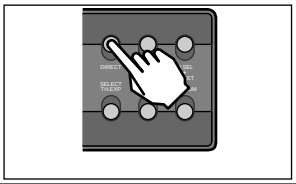


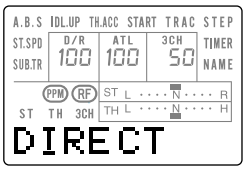
- 2 times

Model Select

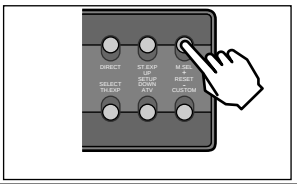
Use this function to call a new model number, or to change a set model number, to set new model data.
The T3PJ SUPER transmitter can store the model data for eight R/C cars. The DP-16K Data Pac (Option) can store model data for eight more models.
The model numbers are 01 to 08 at the transmitter and 09 to 16 at the Data Pac. When the Data Pac is not installed, model numbers 09 to 16 are not displayed.

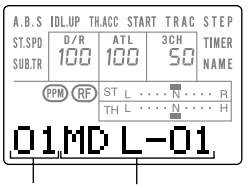
1. Access the DIRECT mode by pressing the DIRECT key.



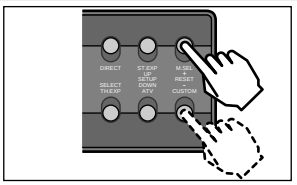


2. Call the Model Select function set-up screen by pressing the MSEL key.





3. Select the model number you plan to call with the + and - keys.

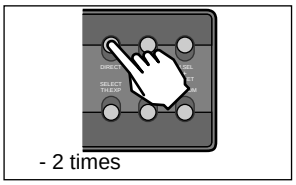


Blink (点滅) (モデルNo.)
(Model number)

(Model name) (モデル名)

Setting range; 01~08(16)

4. At the end of adjustment, press the DIRECT key twice. (Returns to the initial screen.)



- 2 times

Calling model memories of different modulation modes (PCM->PPM or PPM->PCM)

After the new model is called, signals are still output in the old model modulation mode until the transmitter power is turned off. Before using the new modulation mode, turn the power off and on.

DP-16K Data Pac (Option)

For the transmitter to use the Data Pac, it must be initialized when the power is turned on for the first time. If "CAM-INI?" is displayed on the screen when the power is turned on, press the + key. This automatically initializes the transmitter. This operation is unnecessary thereafter.

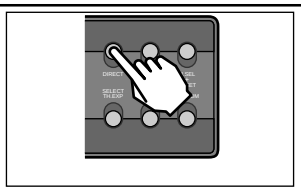
Inserting and removing the Data Pac

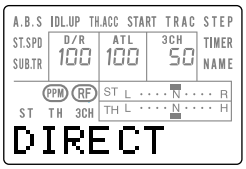
Before inserting and removing the Data Pac, turn off the power switch. If the power is turned off when a model number (09 to 16) in the Data Pac is selected and is turned back on after the Data Pac has been removed, "MSELERR" will be displayed and model No. 1 will be forcibly selected.

Custom Key

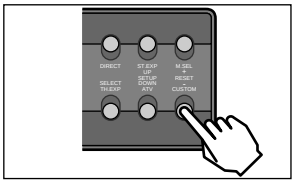
Functions can be freely assigned to the CUSTOM key. The assigned function can be called the same as other direct mode functions.
See "Set-Up Mode Function Select Switch" (page 89) for a description of how to assign a function to the CUSTOM key.
During initialization, the subtrim function (SUBT) is allocated to this key.

1. Access the DIRECT mode by pressing the DIRECT key.





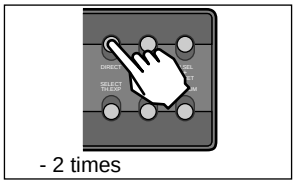
2. Call the set-up screen of the assigned function by pressing the CUSTOM key.



(Assigned function set-up screen)

3. (For a description of subsequent operation, see the description of the function you have assigned to the CUSTOM key.)

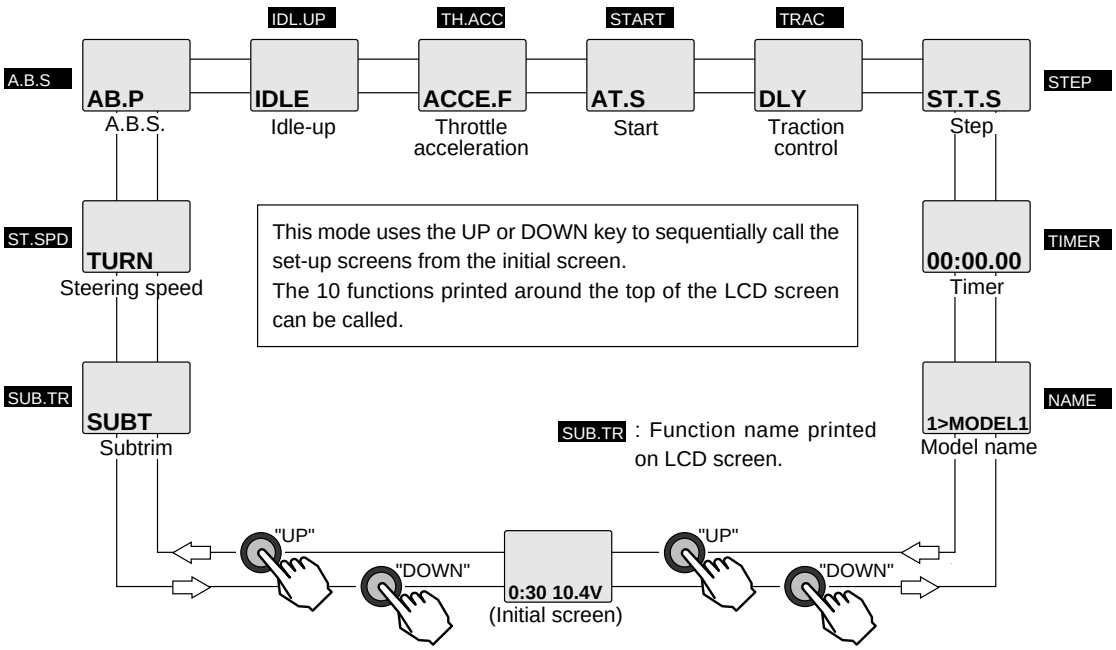
4. At the end of adjustment, press the DIRECT key twice. (Returns to the initial screen.)



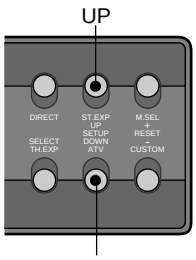
- 2 times

The function set-up screen can be easily selected from the function menu displayed on the LCD screen.

Function Map



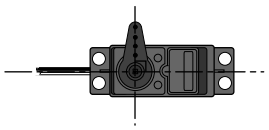
Keys layout



Select mode functions

Subtrim

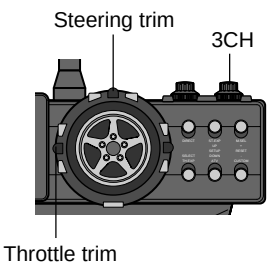
Use this function to adjust the neutral position of the steering, throttle and channel 3 servos.
Subtrim shifts the entire servo travel range in the set direction.

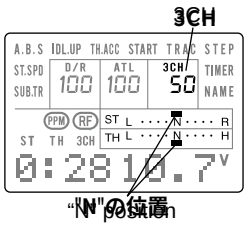


Use to adjust the neutral position

1. (Before setting subtrim)

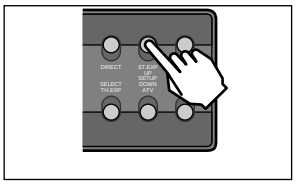
   Set the steering and throttle digital trims to the neutral "N" position. Set CH3 to the center "50" position.

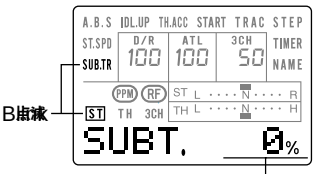




2. (Steering Setting)

   Press the UP key once at the initial screen. The subtrim set-up screen is called.

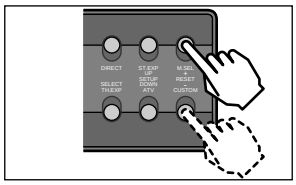




   - Turn on the receiver, set the steering servo neutral position, and install the servo horn as described in the kit instruction manual.

   Setting range: L100~0~R100%
   "L": Left side, "R": Right side

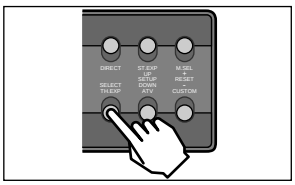
3. Set the servo horn to the neutral position with the + or - key.,

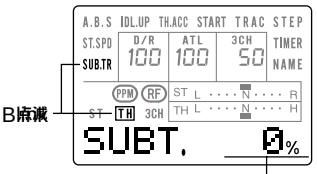


   - Return to the initial value (0%) by pressing the + and - keys simultaneously for about one second.

4. (Throttle setting)

   Press the SELECT key once. The display switches to the throttle set-up screen.

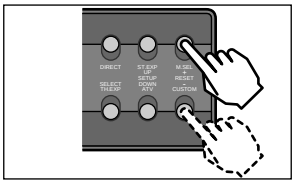




   - Install the servo horn in accordance with the kit instruction manual, the same as the steering.

   Setting range: F100~0~B100%
   "F": Forward side, "B": Brake side

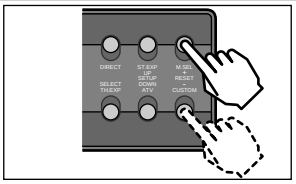
5. Adjust the throttle servo neutral position with the + or - key.

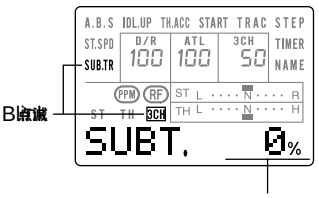


- Return to the initial value (0%) by pressing the + and - keys simultaneously for about one second.

6. (Channel 3 setting)

   Press the SELECT key once. The display switches to the CH3 set-up screen.

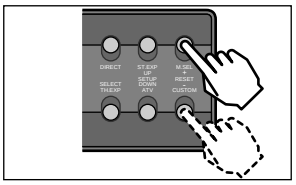




- Install the servo horn in accordance with the kit instruction manual, the same as steering and throttle.

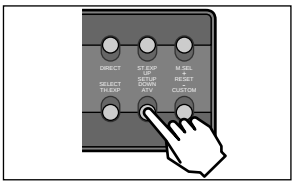
Setting range: U100~0~D100%
"U": Up side, "D": Down side

7. Adjust the CH3 servo neutral position with the + or - key.



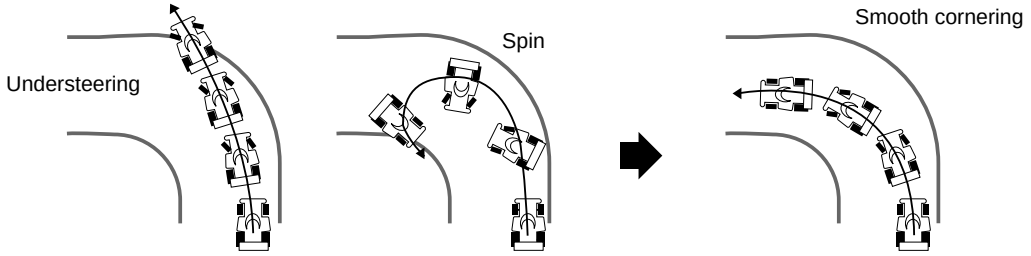
- Return to the initial value (0%) by pressing the + and - keys simultaneously.

8. At the end of adjustment. press the DOWN key once, or press the DIRECT key twice. (The display returns to the initial screen.)



Steering Speed

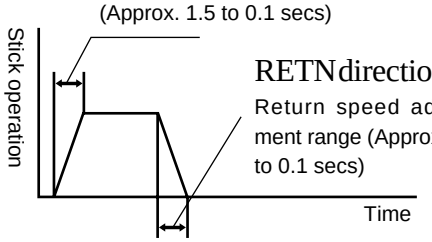
Quick steering operation will cause momentary understeering, loss of speed, or spinning. This function is effective in such cases.



Steering speed not set **Steering speed set**

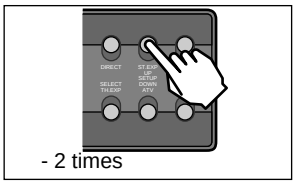
Operation

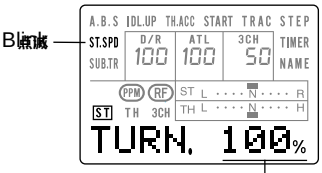
- This function limits the maximum speed of the steering servo. (Delay function)
- The steering speed when the steering wheel is operated (TURN direction) and returned (RETN direction) can be independently set.
- If the steering wheel is turned slower than the set speed, the steering servo is not affected.



1. (TURN direction setting)

   Call the steering speed function set-up screen by pressing the UP key twice at the initial screen.

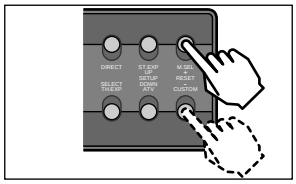




Setting range: 1~100%
At 100% there is no delay.
At 1%, the delay is approximately 1.5 seconds.

2. Adjust the steering servo TURN direction delay with the + or - key.

   (The RETN direction setting is affected.)



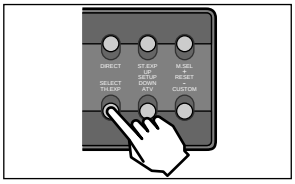
100% 1%

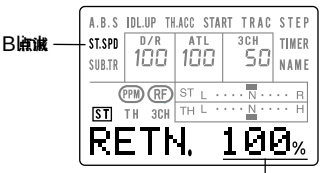
Servo operation is delayed.

- Return to the initial value (100%) by pressing the + and - keys simultaneously for about one second.

3. (RETN direction setting)

   Press the SELECT key once.





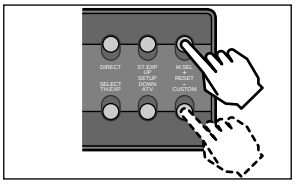
Setting range: 1~100%
At 100%, there is no delay.
At 1%, the delay is approximately 1.5 seconds.

100% 1%

Servo operation is delayed.

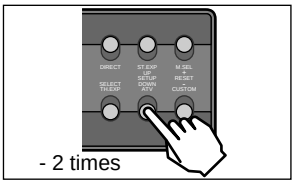
4 Adjust the steering servo RETN direction delay with the + or - key.

(The TURN direction setting is not affected.)



- Return to the initial value (100%) by pressing the + and - keys simultaneously for about one second.

5 At the end of adjustment. press the DOWN key twice, or press the DIRECT key twice. (The display returns to the initial screen.)



Setting example (Steering servo: S9402) . . . (Setting criteria)

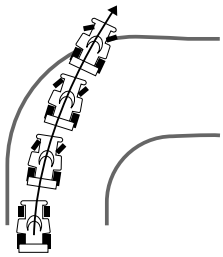
- Onroad TURN side: Approx. 50~80% RETN side: Approx. 60~100%
- Offroad TURN side: Approx. 70~100% RETN side: Approx. 80~100%

Affect on each direction

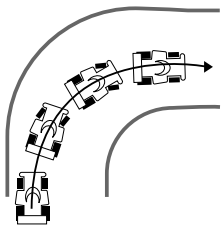
- When the TURN direction is set, the RETN direction setting also changes.
- When the RETN direction is set, the TURN direction setting is not affected.

A.B.S. Function

When the brakes are applied while cornering with a 4 Wheel Drive or other type of vehicle, understeer may occur. The generation of understeer can be eliminated and corners can be smoothly cleared by using this function.



Without A.B.S.



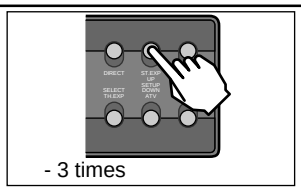
With A.B.S.

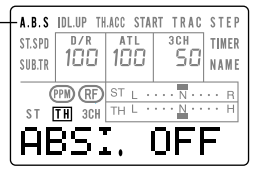
Operation

- When the brakes are applied, the throttle servo will pulse intermittently. This will have the same effect as pumping the brakes in a full size car.
- The brake return amount, pumping cycle, and brake duty can be adjusted.
- The region over which the ABS is effective can be set according to the steering operation. (Mixing function)

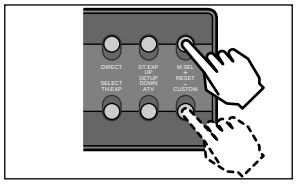
1. (A.B.S. function ON/OFF setting)

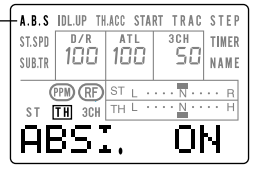
   Call the A.B.S. function set-up screen by pressing the UP key three times at the initial screen.





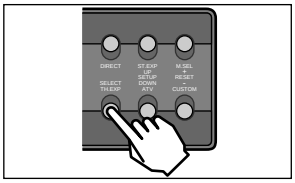
2. Turn on the A.B.S. function with the + or - key.

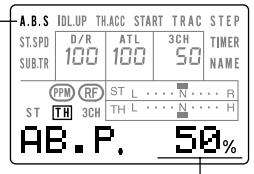




3. (Brake return amount setting) AB.P

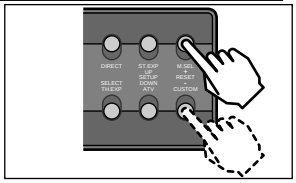
   Press the SELECT key once. The brake return amount set-up screen is called.



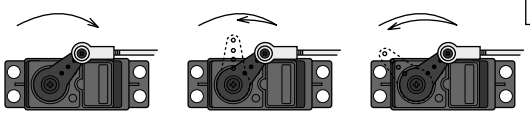


Setting range: 0~100%

4. Adjust the brake return amount with the + or - key.

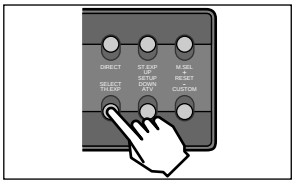


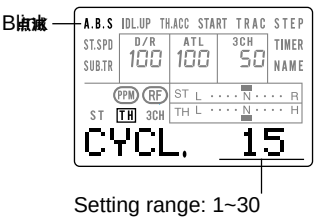
- Return to the initial value (50%) by pressing the + and - keys simultaneously for about one second.



5. (Pumping cycle setting) CYCL

   Press the SELECT key once. The pumping cycle set-up screen is called.

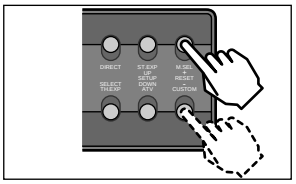




Setting range: 1~30

6. Adjust the pumping cycle with the + or - key.

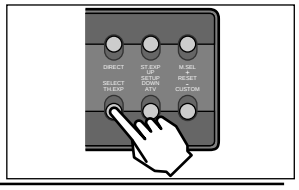
   - The smaller the value, the shorter the pumping cycle.

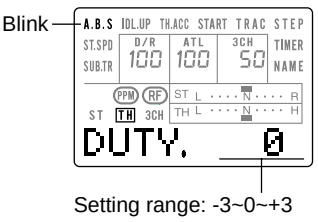


- Return to the initial value (15) by pressing the + and - keys simultaneously for about one second.

7. (Pumping duty ratio setting)

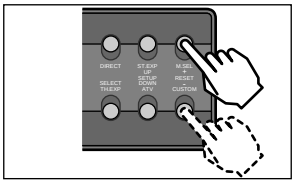
   Press the SELECT key once. The pumping duty ratio set-up screen is called.





Setting range: -3~0~+3

8. Adjust the pumping duty ratio with the + or - key.
   (Reference)
   Low grip: - side
   High grip: + side



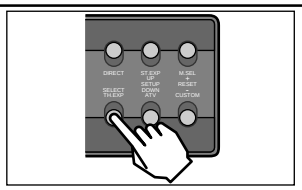
- Return to the initial value (0) by pressing the + and - keys simultaneously for about one second.

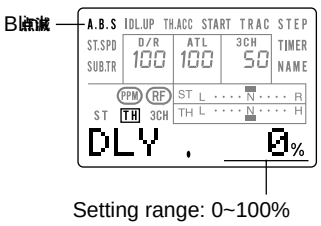
-3 ← 0 → +3

Braking time is short (Brakes do not lock easily) ← → Braking time is long (Brakes lock easily)

9. (Delay setting)

   Press the SELECT key once. The delay set-up screen is called.

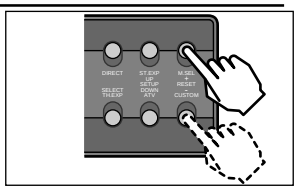




Setting range: 0~100%

10. Adjust the delay with the + or - key.

    Delay:
    Function that increases the time before A.B.S. is activated when the throttle trigger is pushed to the brake side.



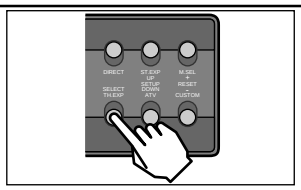
- Return to the initial value (0%) by pressing the + and - keys simultaneously for about one second.

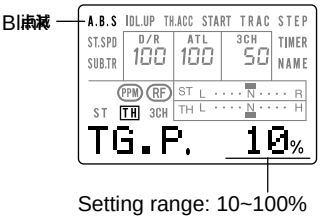
Note: (When throttle trigger pushed to brake side)

DLY=0%: A.B.S. activated immediately
DLY=10%: A.B.S. activated after 0.14 second delay
DLY=50%: A.B.S activated after 0.7 second delay
DLY=100%: A.B.S. activated after 1.4 seconds delay

11. (Operating point setting)

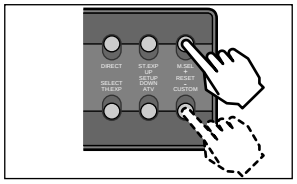
Press the SELECT key once. The operating point set-up screen is called.





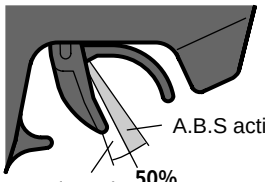
Setting range: 10~100%

12. Adjust the throttle trigger operating point with the + or - key.



- Return to the initial value (10%) by pressing the + and - keys simultaneously for about one second.

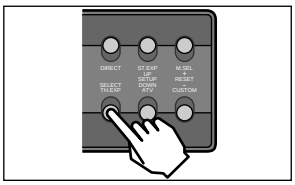
Operating point:
The throttle trigger position at which the A.B.S. function is activated can be set.

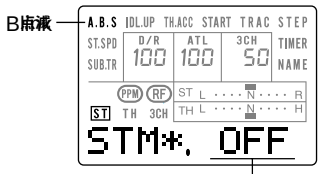


Range over which A.B.S. is not activated

13. (Steering mixing setting)

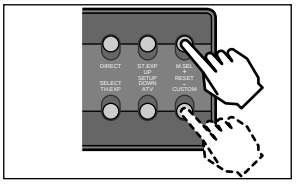
Press the SELECT key once. The steering mixing set-up screen is called.





Setting range: OFF, N10~N100%, E10~E100%

14. Adjust the steering mixing operation range with the + or - key.

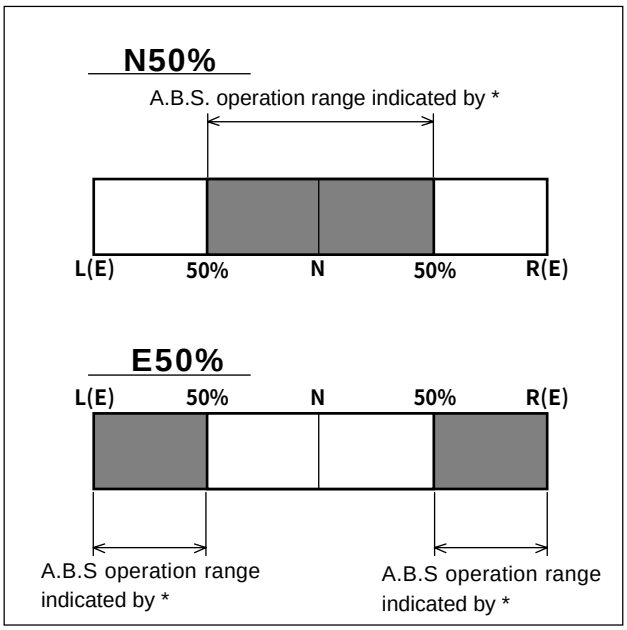


- Return to the initial value (OFF) by pressing the + and - keys simultaneously for about one second.

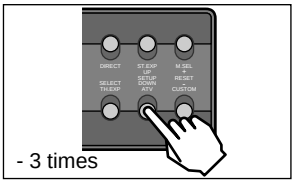
Steering mixing:

The range over which the A.B.S. function reacts to operation of the steering wheel when the throttle trigger is pushed to the brake side can be set.

When the steering wheel was operated, the A.B.S. function operates over the range indicated by the *.



15. At the end of adjustment. press the DOWN key three times, or press the DIRECT key twice. (The display returns to the initial screen.)



Switch Setting

The A.B.S. function ON/OFF switch can be set with the function select switch function. (Page 89) PSH or SLD can be selected.

Dial / Trim Setting

The brake return amount (AB.P) and cycle (CYCL) can be controlled with grip dial GD1, GD2 or digital trim DT3, etc. with the function selection trim function. (Page 88)

Operation Display

When the A.B.S. function is activated, the LED flashes.

Fail Safe Unit

When the 3PJ SUPER is used with the Futaba fail safe unit (FSU-1), it will operate as described below.
- When the FSU-1 is connected to the throttle channel, and the A.B.S. function has been activated, the FSU-1 LED will flash each time the servo operates. The reason for this is that the FSU-1 responds to sudden data changes caused by A.B.S. function pumping operation. It does not mean that the fail safe function is activated. The servo will not be affected.

Example of A.B.S. function setting when S9402 used (There will be a slight difference depending on the state of the linkage.)

- Basic setting
AB.P: Approx. 30% (If this value is too high, the braking distance will increase.)
CYCL: 5~7
DUTY: 0 (When grip is low: - side, when grip is high: + side)
DLY: 10~15%
TG.P: Approx. 70%
STM: OFF
- When the wheels lock, or the car spins, when the brakes are applied fully
AB.P: Increase from 30%
DUTY: Shift from 0 to - side (-1, -2, -3)
DLY: Reduce the delay
- When the braking effect is poor and the braking distance is long when the brakes are applied fully
AB.P: Decrease from 30%
DUTY: Shift from 0 to + side (+1, +2, +3)
DLY: Increase the delay

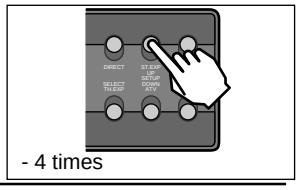
Idle-Up

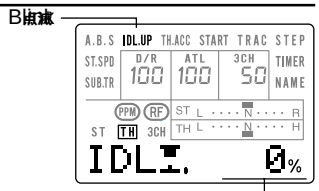
Use this function to improve the starting characteristics of the engine by raising the idling speed when starting the engine of a gas powered car.

Operation

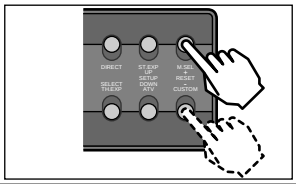
Offsets the throttle neutral position to the forward side or brakeside.

1. Call the idle-up function set-up screen by pressing the UP key four times at the initial screen.





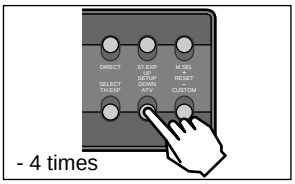
2. Adjust the idle-up rate with the + or - key.



Setting range: D50~0~U50%
"U": Forward side, "D": Brake side

- Return to the initial value (0%) by pressing the + and - keys simultaneously for about one second.

3. At the end of adjustment. press the DOWN key 4 times, or press the DIRECT key twice. (The display returns to the initial screen.)



Setting Amount

The standard value (100% point) of this setting is unrelated to the travel set by the throttle ATV function. It is 50% of the forward side and brake side total servo throw from the servo neutral position.

Switch Setting

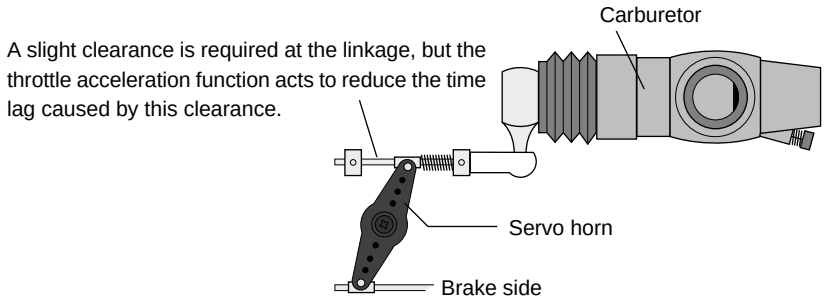
Select the idle-up function ON/OFF switch with the function select switch function. (Page89)
PSH or SLD can be selected.

Operation Display

When this function is activated, the LED flashes.
If the power switch is turned on while the idle-up switch is on, an audible alarm will be heard. Immediately set the Idle-Up switch to OFF.

Throttle Acceleration

Gas powered cars require a slight clearance in the linkage. Therefore, there is a lag time at both the forward and brake sides. The response of an electric car is obtained by reducing this time lag at the transmitter.

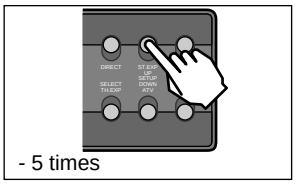


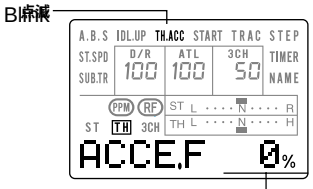
Operation

- Sharply increases the throttle response near the throttle trigger neutral position.
- The forward side and brake side can be adjusted independently.

1. (Forward side setting)

   Call the throttle acceleration function set-up screen by pressing the UP key five times at the initial screen.

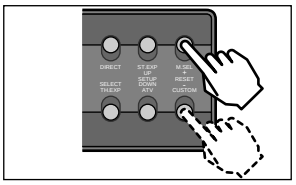




Setting range: 0~100%

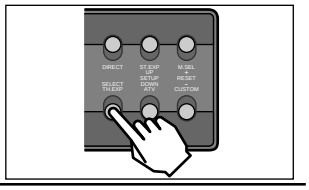
- Return to the initial value (0%) by pressing the + and - keys simultaneously for about one second.

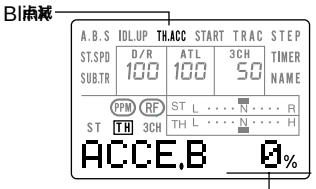
2. Adjust the forward side with the + or - key.



3. (Back side setting)

   Call the back side set-up screen by pressing the SELECT key once.

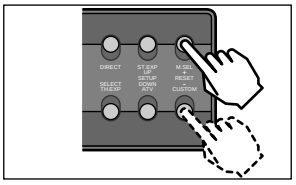




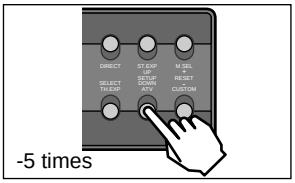
Setting range: 0~100%

- Return to the initial value (0%) by pressing the + and - keys simultaneously for about one second.

4. Adjust the back side with the + or - key.



5. At the end of adjustment. press the DOWN key 5 times, or press the DIRECT key twice. (The display returns to the initial screen.)

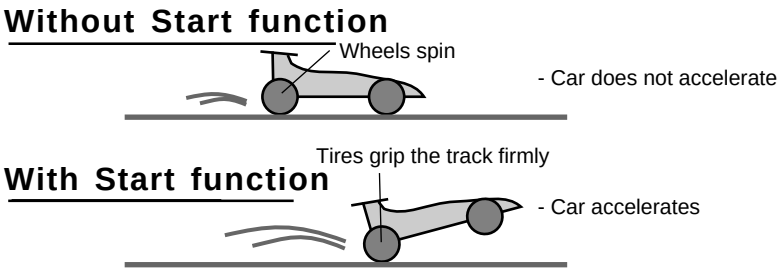


Setting Amount

The standard value (100% point) of this setting has an affect on the travel set by the throttle ATV function.

Start Function

When the throttle trigger is set to full throttle simultaneously with starting when the track is slippery, the car wheels will spin and the car will not accelerate smoothly. When the Start function is activated, merely operating the throttle trigger slowly causes the throttle servo to automatically switch from the set trigger position to a preset point so that the tires do no loose their grip and the car accelerates smoothly.



Start Function Operation

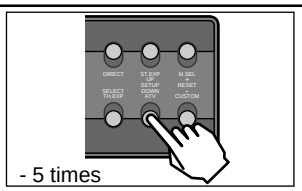
- When the throttle stick is moved to the preset position (throttle position: TG.P), the throttle servo moves to the preset position.
- When the throttle stick is operated slowly so that the wheels will not spin, the car automatically accelerates to the set speed.
- This function is effective only for the first throttle trigger operation at starting. This function has to be activated before every start.
- When the throttle trigger is returned slightly, the Start function is automatically deactivated and the set returns to normal throttle trigger operation.

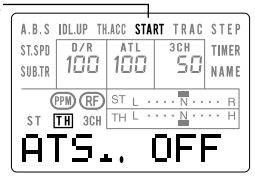
Operation by Switch

When the switch is pressed, the throttle servo will move to the preset position without regard to the throttle trigger position. This is convenient when used to cut the engine of boats, etc. (PSH switch only)

SELECT Mode Functions

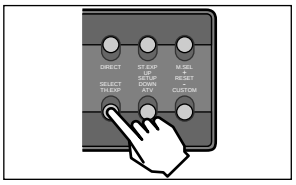
1. Call the Start function set-up screen by pressing the DOWN key five times at the initial screen.

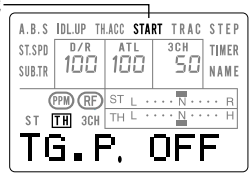




2. (Trigger position setting)

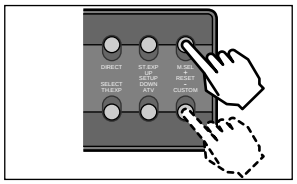
   Call the throttle trigger position set-up screen by pressing the SELECT key once.





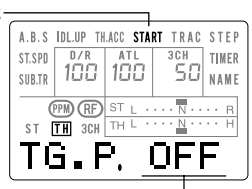
3. Set the trigger position with the + or - key.

   When the throttle trigger is slowly pulled to the forward side after setting, a * will be displayed on the screen at the set position.



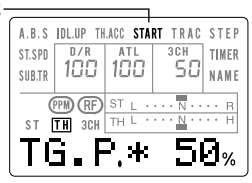
- Return to the initial value (OFF) by pressing the + and - keys simultaneously for about one second.

Blink 点滅



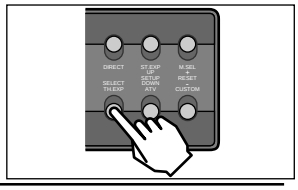
Setting range: OFF, 5~100%

Blink 点滅

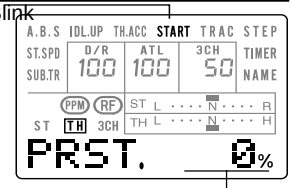


4. (Preset position setting)

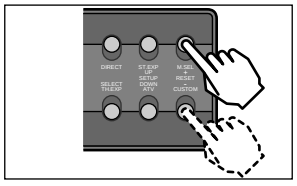
   Press the SELECT key once. The display switches to the preset position set-up screen.



Blink



5. Adjust the preset position with the + or - key.



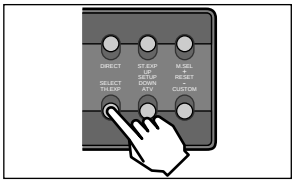
Setting range: B100~0~F100%
"B": Brake side, "F": Forward side
- Return to the initial value (0%) by pressing the + and - keys simultaneously for about one second.

Setting Example: (When amp used with an electric car)

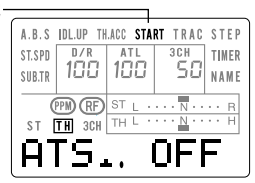
Set the preset position to F75% at ATV 100%.

6. (Trigger operation wait)

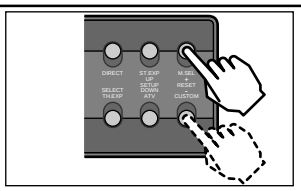
   Press the SELECT key once. The display switches to the throttle trigger operation wait set-up screen.



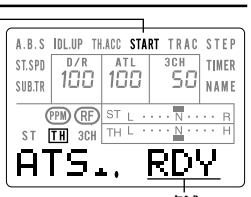
Blink 点滅



7. Press the + and - keys simultaneously for about one second. The screen shown at the right will appear and the trigger operation wait state is set. The ''RDY' characters flash.



Blink 点滅

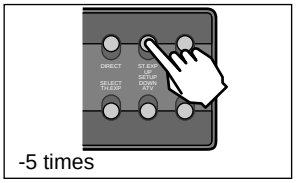


Blink 点滅

If the throttle trigger is moved to the set position while 'RDY' is flashing, the throttle servo will move to the set position. The throttle operation wait state is reset when the throttle trigger is returned.

-When using the Start function, always set the function by performing steps 6 and 7 above each time.

8. At the end of adjustment. press the UP key 5 times, or press the DIRECT key twice. (The display returns to the initial screen.)

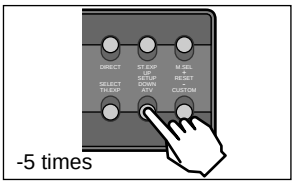


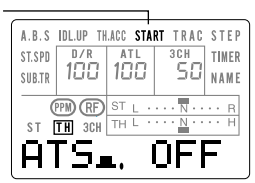
Presetting by switch (engine cut, etc.)

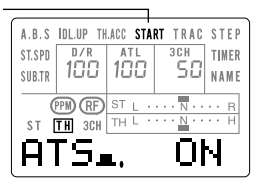
1. Select throttle preset (THPR) at the push-button switch (PSH) with the function select switch function. (Page 89)

2. Press the DOWN key five times at the initial screen. The start function setup screen is called.

   When the push-button switch was pressed, the display changes from OFF to ON.

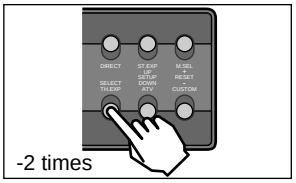


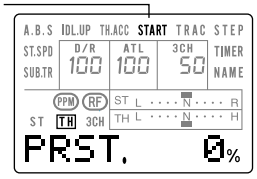




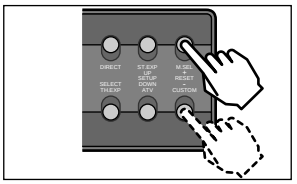
3. (Preset position setting)

   Press the SELECT key two times. The display switches to the preset position setup screen.





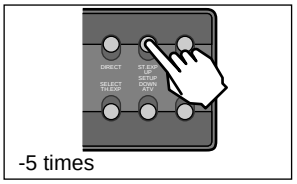
4. Set the preset postion with the + and - keys.



Setting range: B100~0~F100%
"B": Brake (back) side
"F": Forward side

- Return to the initial value (0%) by pressing the + and - keys simultaneously for about one second.

5. At the end of adjustment, press the UP key five times, or press the DIRECT key two times. (Return to the initial screen)

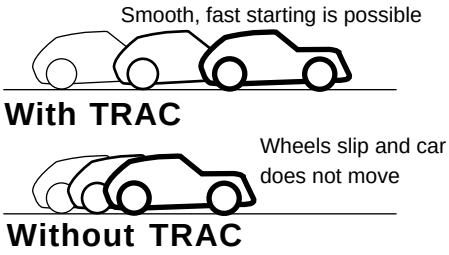


Servo Throw

The throttle servo operating position (preset position) set by this setting is unrelated to the setting of other functions. Maximum to minimum servo travel can be set. However, the reverse function setting is enabled.

Traction Control

Sudden trigger operation on a slippery track not only causes the wheels to spin, but also prevents smoothacceleration.Smoothandpleasantcontrol is possible and battery consumption can be minimized by setting the traction control function.



Operation

The traction control function prevents the drive wheels from spinning even if the trigger is operated more than necessary by providing a delay when the throttle servo (amp) operates. This delay function is not performed when the trigger is released and during braking.

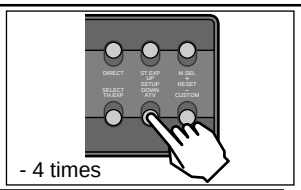
- Low side traction control

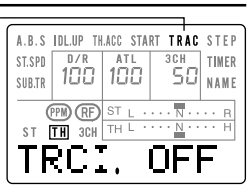
Used to apply a delay from the neutral position to the set point (delay point).

- High side traction control

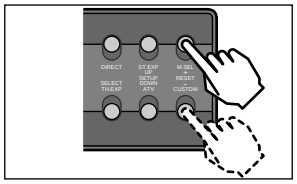
Used to apply a delay at the high side from the set point.

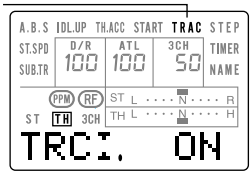
1. Call the traction control function set-up screen by pressing the DOWN key four times at the initial screen.





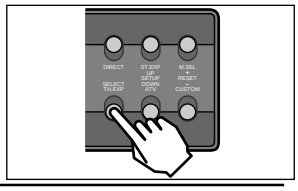
2. Activate the traction control function by pressing the + or - key.

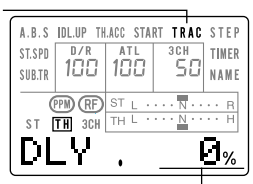




3. (Delay amount setting)

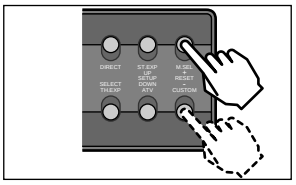
   Press the SELECT key once.





4. Adjust the delay amount with the + or - key,.

   If the delay is too large, operation will be delayed.



Setting range: 0~100%

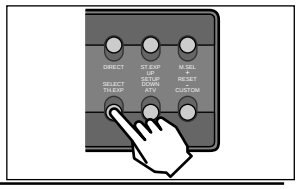
- Return to the initial value (0%) by pressing the + and - keys simultaneously for about one second.

Setting Example

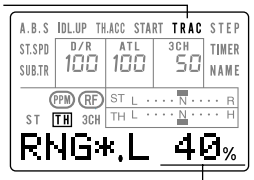
Adjust within the entire range (0~100%) according to the conditions.

5. (Delay point setting)

   Press the SELECT key once.

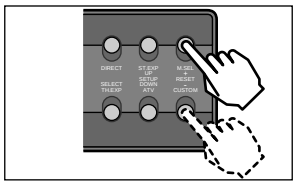


Blinking



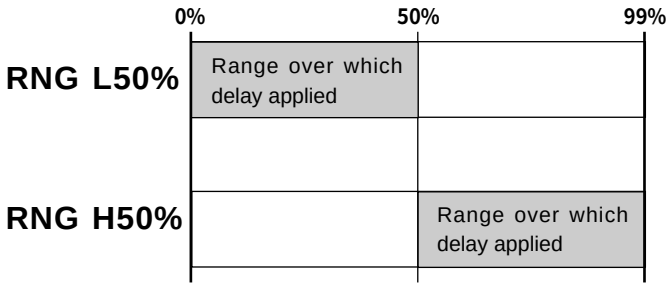
6. Set the delay point with the + or - key.

   When the throttle trigger is operated, "*" is displayed over the traction control function range and the set point can be checked.



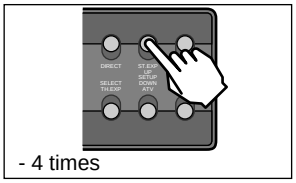
- Return to the initial value (L40%) by pressing the + and - keys simultaneously for about one second.

Setting range: OFF, L99~L1,ALL, H1~H99,OFF
"H": High side traction control
"L": Low side traction control
"ALL": Delay applied over the entire range traction control range.



(ALL applies a delay to all areas.)

7. At the end of adjustment. press the UP key 4 times, or press the DIRECT key twice. (The display returns to the initial screen.)



- 4 times

Switch Setting

The traction control function is turned on and off with PSH or SLD. Function select function(Page89)

Operation Display

The LED flashes while the traction control function is activated.

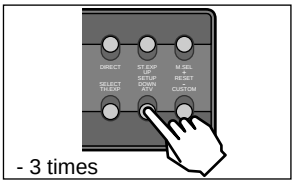
Step

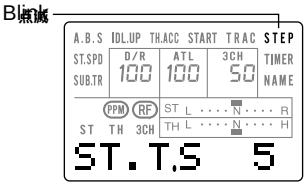
This function allows you to change the increment of the trim movement. This will allow even finer adjustments to be made when the model is trimmed.

Functions Whose Step Amount Can Be Adjusted

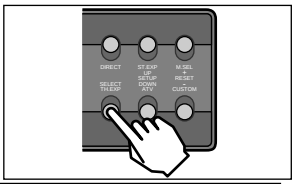
The number of clicks of the steering trim, throttle trim, ATL function, D/R function, channel 3, traction control function, throttle EXP function, steering EXP function and A.B.S. function can be changed.

1. Call the Step function set-up screen by pressing the DOWN key three times at the initial screen. (The steering trim set-up screen is called first.)

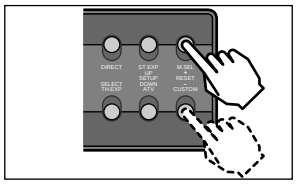




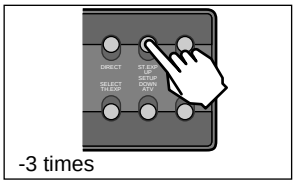
2. Select the step amount to be changed by pressing the SELECT key.



3. Adjust the amount with the + or - key.



4. At the end of adjustment. press the UP key 3 times, or press the DIRECT key twice. (The display returns to the initial screen.)



ST.T: Steering Trim
TH.T: Throttle Trim
D/R: D/R function
ATL: ATL function
3CH: Channel 3
TRC: Traction Control function delay
AB.P: A.B.S. function return amount
CYCL: A.B.S. function cycle
STEX: Steering EXP
TEXF: Throttle EXP (forward side)
TEXB: Throttle EXP (back side)

Set Value And Step Amount

- Steering trim/throttle trim (Setting range: 1~10)
When set to minimum (1), the total trim movement is approximately 160 clicks.
When set to maximum (10), the total trim movement is approximately 16 clicks.
- ATL function/D/R function/traction control function/A.B.S function (return amount)/A.B.S. function(cycle)(Setting range: 1~10%)
The % value operated by one click relative to the set value of each travel can be set.
-Channel 3 (Setting range: 0.1, 0.2, 0.5, 1.0, 2.0, 5.0, 10, 20, 3PS, 2PS)
The total servo travel is 1 step each 0.1. Therefore, when the set value is 5.0, the total travel is 50 steps (5.0/0.1=50). For 3PS, the total travel is 2 clicks and for 2PS, the total travel is 1 clicks.

Timer

The timer function can be used as an up timer, down timer, lap navigation timer, and lap timer.
The transmitter can operate the timer even outside the timer screen. However, each time the power is turned on, the timer screen is called and the timer must be set.

Up Timer/Down Timer

Up timer function

- This function is used to measure the time from start to stop.
- The timer is started and stopped each time the switch is operated and the time from start to stop is integrated and displayed. (When the count reaches 99 minutes 99 seconds, it is returned to zero and counting is repeated.)
- The initial start operation can be linked to the throttle trigger.
- An audible alarm (alarm/prealarm) can be set. A tone will be heard every minute afterstarting.

Alarm: A tone is heard at the set time.
Prealarm: A tone is heard at the set time from the alarm.

-After starting, the timer is effective even if the display is switched to another screen. The timer can be stopped by switch.

Down timer function

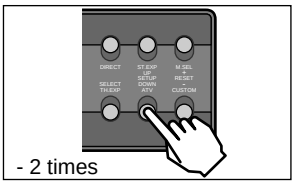
- This function is used to measure the time from start to stop. (The remaining time is displayed.)
- The timer is started and stopped each time the switch is operated and the time from start to stop is counted down and displayed. The start time is the alarm set time. (When the time is counted down to 00 minute 00 second, the timer operates as an up timer.)
- The initial start operation can be linked to the throttle trigger.
- An alarm tone (alarm/prealarm) can be set. A tone is heard every minute after starting to indicate the elapsed time.

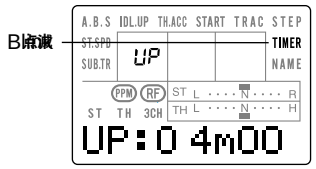
Alarm: An alarm tone is heard at the set time.
Prealarm: An alarm tone is heard the set time before the alarm.

- After starting, the timer is effective even if the display is changed to another screen. The timer can be stopped by switch.

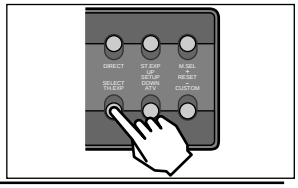
Up Timer/Down Timer Setting

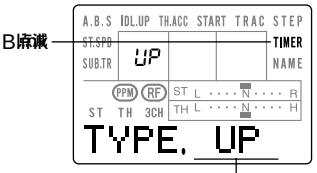
1. Call the timer screen by pressing the DOWN key twice at the initial screen.



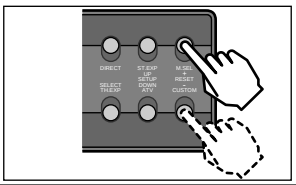


2. Call the timer type selection screen by pressing the SELECT key once.





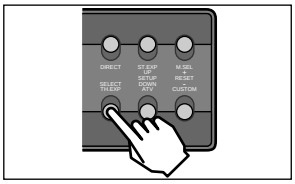
3. Select UP or DN with the + or - key.

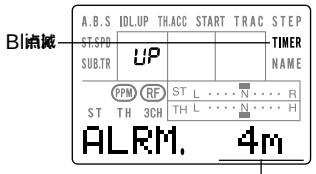


UP: Up Timer
DN: Down Timer

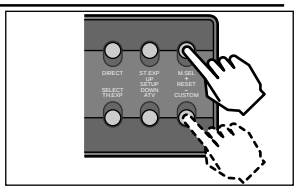
4. (Alarmsetting)

   Call the alarm set-up screen by pressing the SELECT key once.





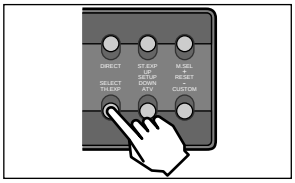
5. Set the alarm time with the + or - key.

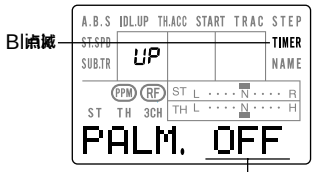


Setting range: OFF, 1~99m
m: minute
- Return to the initial value (4m) by pressing the + and - keys simultaneously for about one second.

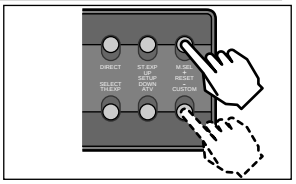
6. (Prealarmsetting)

   Call the prealarm set-up screen by pressing the SELECT key once.



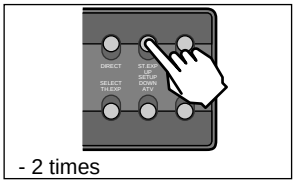


7. Set the prealarm time with the + or - key.



Setting range: OFF, 1~30s
s: second
- Return to the initial value (OFF) by pressing the + and - keys simultaneously for about one second.

8. At the end of adjustment. press the UP key twice, or press the DIRECT key twice. (The display returns to the initial screen.)



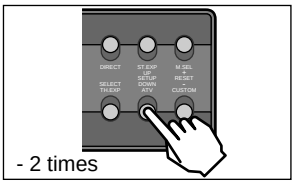
Up Timer/Down Timer Operating Instructions

(Start/stop)

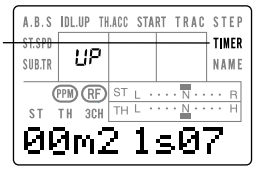
When the timer switch (initial setting: PSH) is pressed, the timer starts. When the timer switch is pressed again, the timer stops. The time can be accumulated by repeating these start and stop operations.

(Reset)

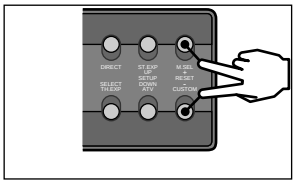
1. Press the DOWN key two times at the initial screen. The timer screen is called.
   UP: Up timer
   DN: Down timer



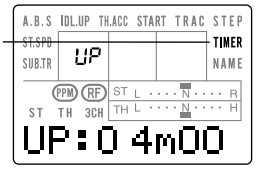
Blink



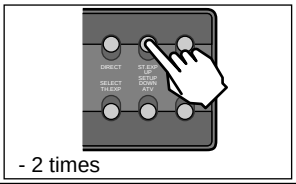
2. Press the + and - keys simultaneously for about one second. The timer is reset.



B点滅



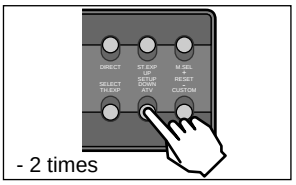
3. To end resetting, press the UP key two times. (Return to initialscreen.)



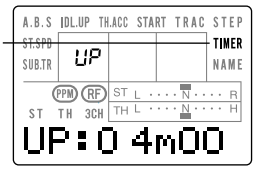
Starting Linked With Throttle Trigger

The timer is started by the following method. (Other operations are the same as the operating instructions given above.)

1. Press the DOWN key two times at the initial screen. The timer screen is called.
   UP: Up timer
   DN: Down timer

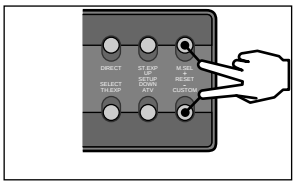


B点滅

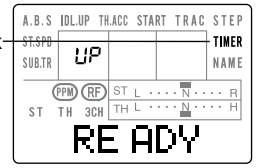


2. (Setting the ready state)

   Press the + and - keys simultaneously for about one second at the timer screen. READY is displayed and the timer enters the ready state.



B点滅



(Start/stop)

When the throttle trigger is moved to the forward side, the timer starts . Thereafter, the timer is started and stopped and the time is accumulated by timer switch (initial setting: PSH) operation.

(Resetting)

(Same as described above.)

Lap Navigation Timer

Lap Navigation Timer Function

- Use this function when you want to generate an audible alarm at a fixed interval. Since only the audible alarm can be restarted while the timer is operating, this function can also be used as a target time during practice runs, etc. (Navigation buzzer)
- The timer is started and stopped each time the switch is operated and the accumulated time from start to stop is displayed. (When the count reaches 99 minutes 99 seconds, it returns to 00 minute 00 second and counting is repeated.)
- Initial starting can be linked to the throttle trigger.
- Audible alarms (alarm/prealarm) can be set independently from the fixed interval buzzer.

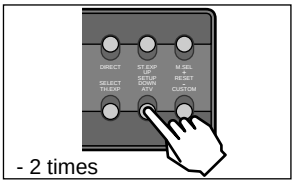
Alarm: An audible alarm is heard at the set time.

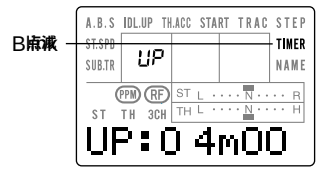
Prealarm: An audible alarm is heard the set time before the alarm.

-After starting, the timer is effective even if the display is switched to another screen. The timer is stopped by switch.

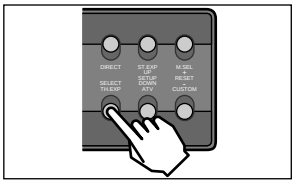
Lap Navigation Timer Setting

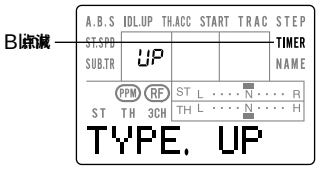
1. Call the timer screen by pressing the DOWN key twice at the initial screen.



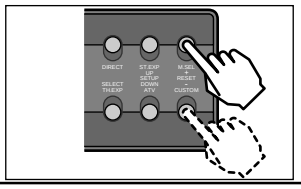


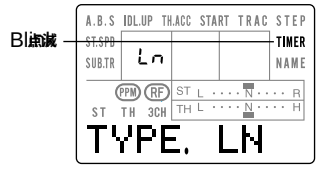
2. Call the timer type selection screen by pressing the SELECT key once.





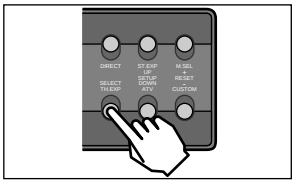
3. Select LN with the + or - key.

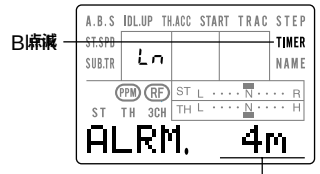




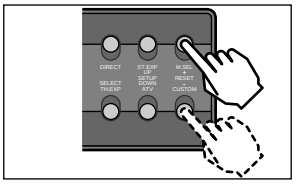
4. (Alarmsetting)

   Call the alarm set-up screen by pressing the SELECT key once.





5. Set the alarm time with the + or - key.



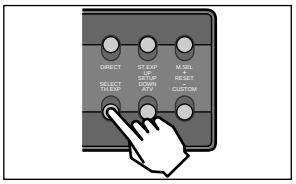
Setting range: OFF, 1~99m

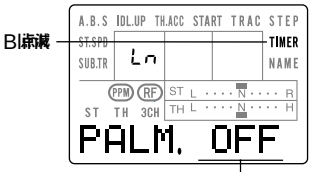
m: minute

- Return to the initial value (4m) by pressing the + and - keys simultaneously for about one second.

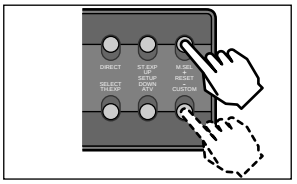
6. (Prealarmsetting)

   Call the prealarm set-up screen by pressing the SELECT key once.





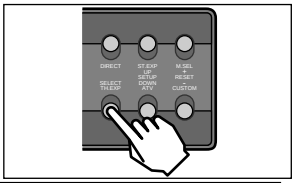
7. Set the prealarm time with the + or - key.

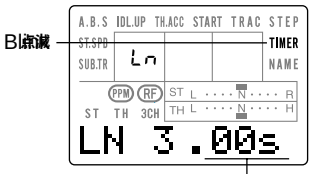


Setting range: OFF, 1~30s
s: second
- Return to the initial value (OFF) by pressing the + and - keys simultaneously for about one second.

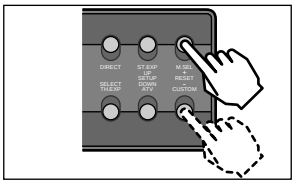
8. (Navigationtimesetting)

   Call the navigation time set-up screen by pressing the SELECT key once.



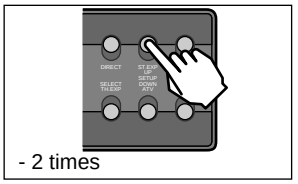


9. Set the navigation time with the + or - key.



Setting range: 3s~30m
s: second, m: minute
- Return to the initial value (3S) by pressing the + and - keys simultaneously for about one second.

10. At the end of adjustment. press the UP key twice, or press the DIRECT key twice. (The display returns to the initial screen.)



- 2 times

Lap Navigation Timer Operating Instructions

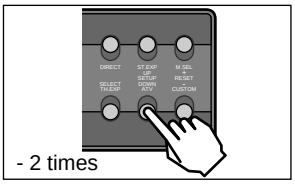
(Start/navigation buzzer restart/stop)

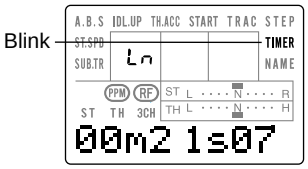
When the timer switch (initial setting: PSH) is pressed, the timer starts and an audible tone sounds at a preset interval. (Navigation buzzer) Thereafter, the buzzer is re-started each time the timer switch is pressed. When the SELECT key is pressed, the timer stops.

(Reset)

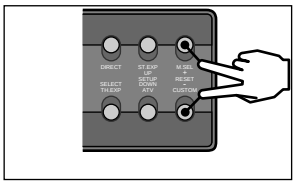
1. Press the DOWN key two times at the initial screen. The timer screen is called.

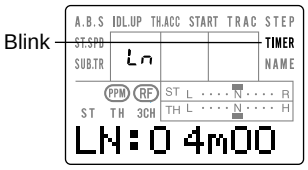
   LN: Lap navigation timer



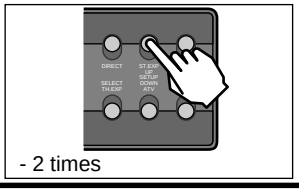


2. Press the + and - keys simultaneously for about one second. The timer is reset.





3. To end resetting, press the UP key two times. (Return to initial screen.)

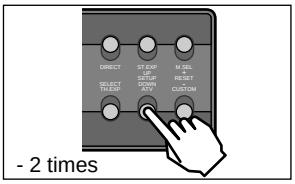


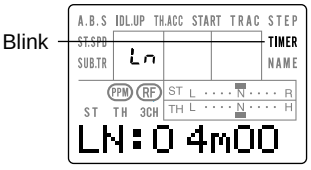
Starting Linked With Throttle Trigger

The timer is started by the following method. (Other operations are the same as the operating instructions given above.)

1. Press the DOWN key two times at the initial screen. The timer screen is called.

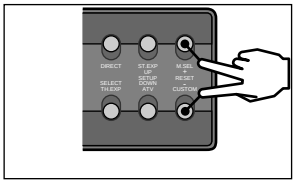
   LN: Lap navigation timer

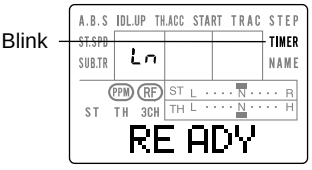




2. (Setting the ready state)

   Press the + and - keys simultaneously for about one second at the timer screen. READY is displayed and the timer enters the ready state.





(Start/navigation buzzer restart/stop)

When the throttle trigger is moved to the forward side, the timer starts. Thereafter, the navigation buzzer starts each time the timer switch (initial setting: PSH) is operated. When the SELECT key is pressed, the timer stops.

(Resetting)

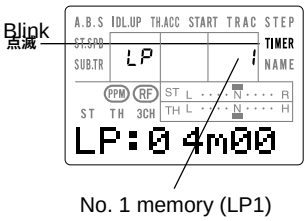
(Same as described above.)

Lap Timer

Lap Timer Functions

- The lap time can be recorded each time the switch is operated. (99 laps)
-The race time (audible alarm) can be set. The timer can be automatically stopped by switch operation after the alarm. Prealarm can also be set. The elapsed time can also be indicated by sounding of a buzzer every minute after starting.
Alarm: An audible alarm is heard at the set time.
Prealarm: A warning tone is heard at the set time before the alarm.
- Initial start operation can be linked with the throttle trigger.

(Lap timer operation)



No. 1 memory (LP1)

- When the first lap timer screen is called, the figures displayed at the top right corner of the LCD show the memory position of the lap memory to be started next. Memory 1 (LP1) is shown in the figure. For LP20, recording starts from memory No. 20. (Laps can be stored in lap memories 1 to 100.)

-The lap memories are sequentially written, beginning from the start lap memory number. When lap memory 100 is reached, operation returns to lap memory 1 and new times are sequentially written.
-When the lap timer is stopped, the total time is automatically written to the lap memory after the last lap memory.
- The next time the lap timer is used, the lap times are stored beginning from the lap memory after the lap memory storing the total lap time.

(Example) When started from lap memory 1 at alarm time (ALRM) 1 minute
1 Start
2 Lap switch pressed after 20 seconds -> LP1 00 : 20 : 00
3 Lap switch pressed after 22 seconds -> LP2 00 : 22 : 00
4 Lap switch pressed after 21 seconds -> LP3 00 : 21 : 00
5 Timer stop operation LP4 01 : 03 : 00 (Total time)
LP5 00 : 00 : 00
LP6 00 : 00 : 00
* Next time, the lap will be recorded from LP5.

Recording Number of Laps by Lap Timer

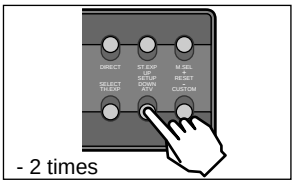
When the lap timer is in the READY state, the figures at the top right corner of the LCD show the number of laps. Up to 99 laps can be displayed.

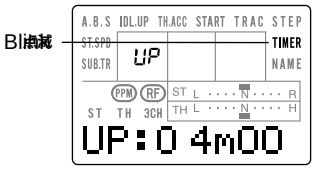
Lap Alarm Timer

When the alarm time (ALRM) is set, the timer will stop at the time the lap switch was input after the set time has elapsed.

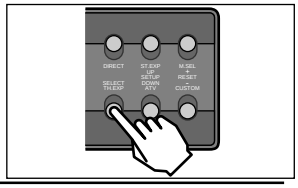
Lap Timer Setting

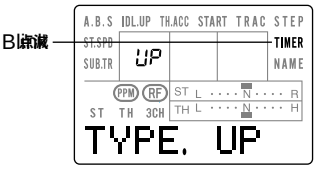
1. Call the timer screen by pressing the DOWN key twice at the initial screen.



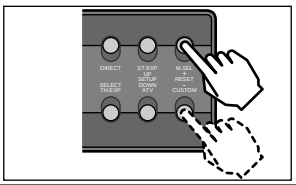


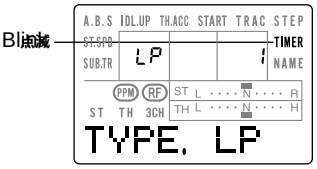
2. Call the timer type selection screen by pressing the SELECT key once.





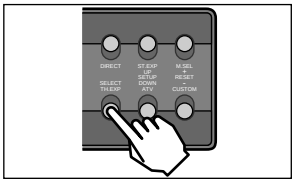
3. Select LP with the + or - key.

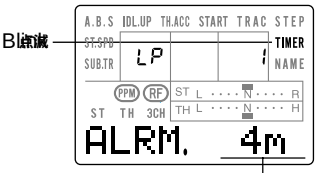




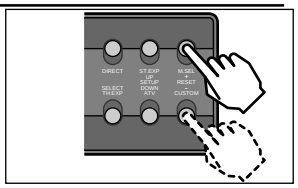
4. (Alarmsetting)

   Call the alarm set-up screen by pressing the SELECT key once.





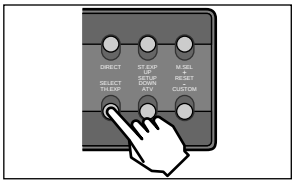
5. Set the alarm time with the + or - key. The race time is set here.

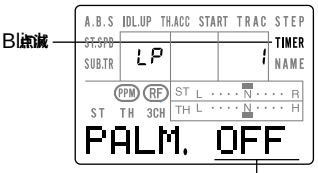


Setting range: OFF, 1~99m
m: minute
- Return to the initial value (4m) by pressing the + and - keys simultaneously for about one second.

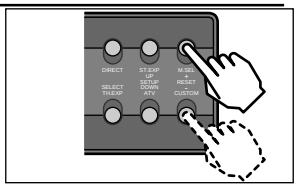
6. (Prealarmsetting)

   Call the prealarm set-up screen by pressing the SELECT key once.



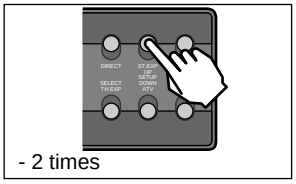


7. Set the prealarm time with the + or - key.



Setting range: OFF, 1~30s
s: second
- Return to the initial value (OFF) by pressing the + and - keys simultaneously for about one second.

8. At the end of adjustment. press the UP key twice, or press the DIRECT key twice. (The display returns to the initial screen.)



Lap Timer Operating Instructions

(Start/lap update/stop)

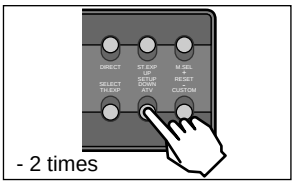
When the timer switch (initial setting: PSH) is pressed, the timer starts. When the timer switch is pressed at each lap, the lap times are sequentially memorized. When the timer switch is pressed after the alarm (after the race time has elapsed), the timer stops.

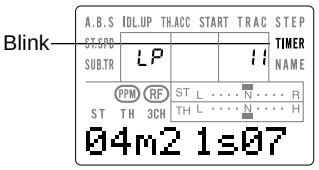
- The current lap time is displayed for three seconds simultaneously with lap switch input. To prevent the lap switch from being pressed twice, lap switch input is inhibited while this lap time is being displayed.
- The lap timer can be stopped and restarted by pressing the SELECT key.

(Reset)

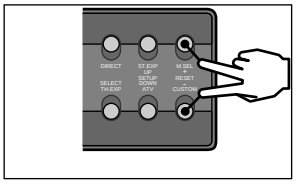
1. Press the DOWN key two times at the initial screen. The timer screen is called.

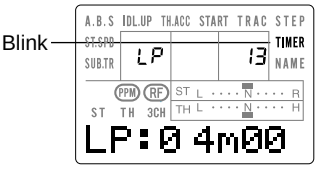
   LP: Lap timer



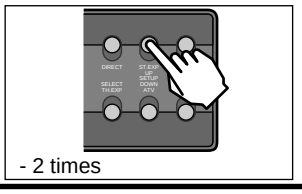


2. Press the + and - keys simultaneously for about one second. The timer is reset.





3. To end resetting, press the UP key two times. (Return to initialscreen.)

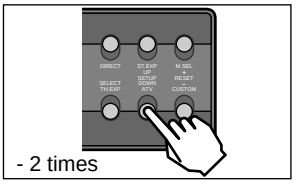


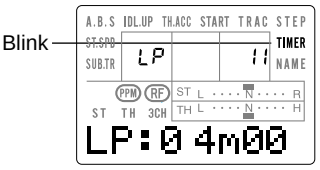
Starting Linked With Throttle Trigger

The timer is started by the following method. (Other operations are the same as the operating instructions given above.)

1. Press the DOWN key two times at the initial screen. The timer screen is called.

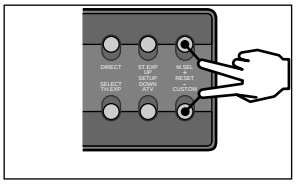
   LP: Lap timer

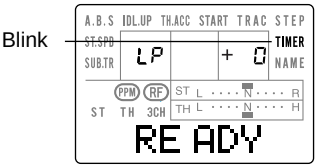




2. (Setting the ready state)

   Press the + and - keys simultaneously for about one second at the timer screen. READY is displayed and the timer enters the ready state.





(Start/lap update/stop)

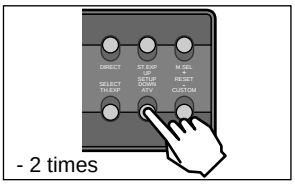
When the throttle trigger is moved to the forward side, the timer starts. When the timer switch is pressed at each lap, the lap times are sequentially memorized. When the timer switch is pressed after the alarm (after the race time has elapsed), the timer stops.

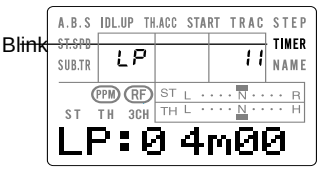
(Resetting)

(Same as described above.)

Lap Time Recall Operation

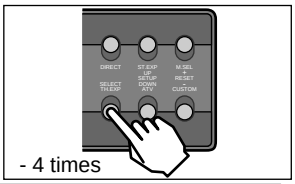
1. Call the timer screen by pressing the DOWN key twice at the initial screen.

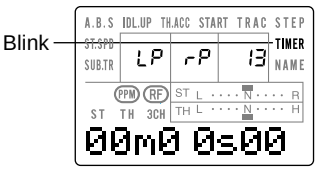




2. (Lap recall screen call)

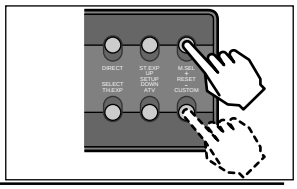
   Call the recall screen by pressing the SELECT key fourtimes.





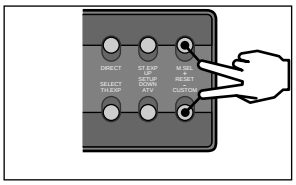
3. (Lap time recall)

   Recall the lap times and total time with the + and - keys.



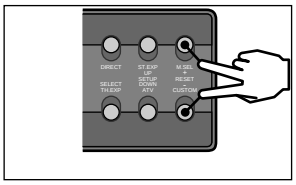
4. (Lap time reset)

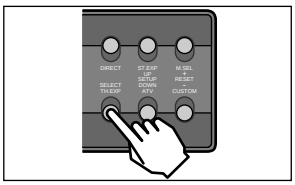
   Press the + and - keys simultaneously for about one second. The lap time currently recalled is reset.



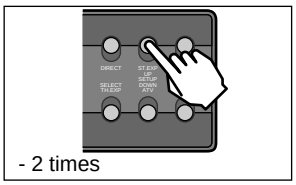
5. (Lap time all reset)

   Press the SELECT key while pressing the + and - keys simultaneously. All the lap times are reset.





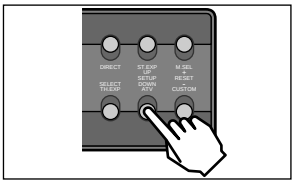
6. At the end of adjustment. press the UP key twice, or press the DIRECT key twice. (The display returns to the initial screen.)

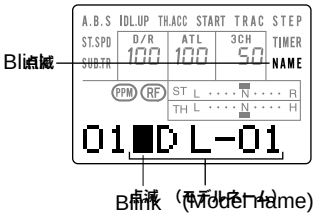


Model Name

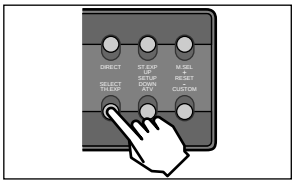
This function allows you to assign a six character name to each model memory. Japanese Katakana and English characters, symbols, and numbers can be used.

1. Call the model name set-up screen by pressing the DOWN key once at the initial screen. (The first column blinks.)

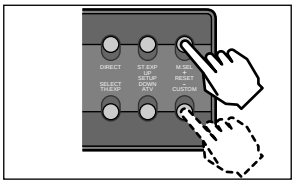




2. Move the cursor (blinking) to the column you want to change using the SELECT key.



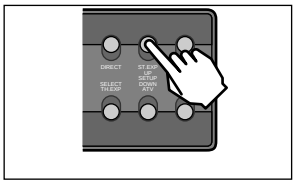
3. Change the character using the + or - key.



Setting range:
English characters and, Japanese Katakana, symbols, numbers

Set the model name by repeating steps 2 and 3 above.

4. At the end of adjustment. press the UP, or press the DIRECT key twice. (The display returns to the initial screen.)



Usable Characters

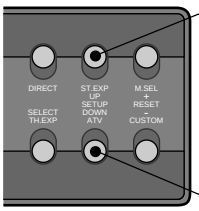
When the + key is pressed, the characters shown below sequentially appear.

```
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
a b c d e f g h i j k l m n o p q r s t u v w x y z
・ヲ
ァィゥェォャュョッ
ー
アイウエオカキクケコサシスセソタチツテトナニヌネノマミ
ムメモヤユヨラリルレロワン
゛゜千万円□！”＃＄％＆’（）＊＋,ー./
０１２３４５６７８９
：；＜＝＞？
```

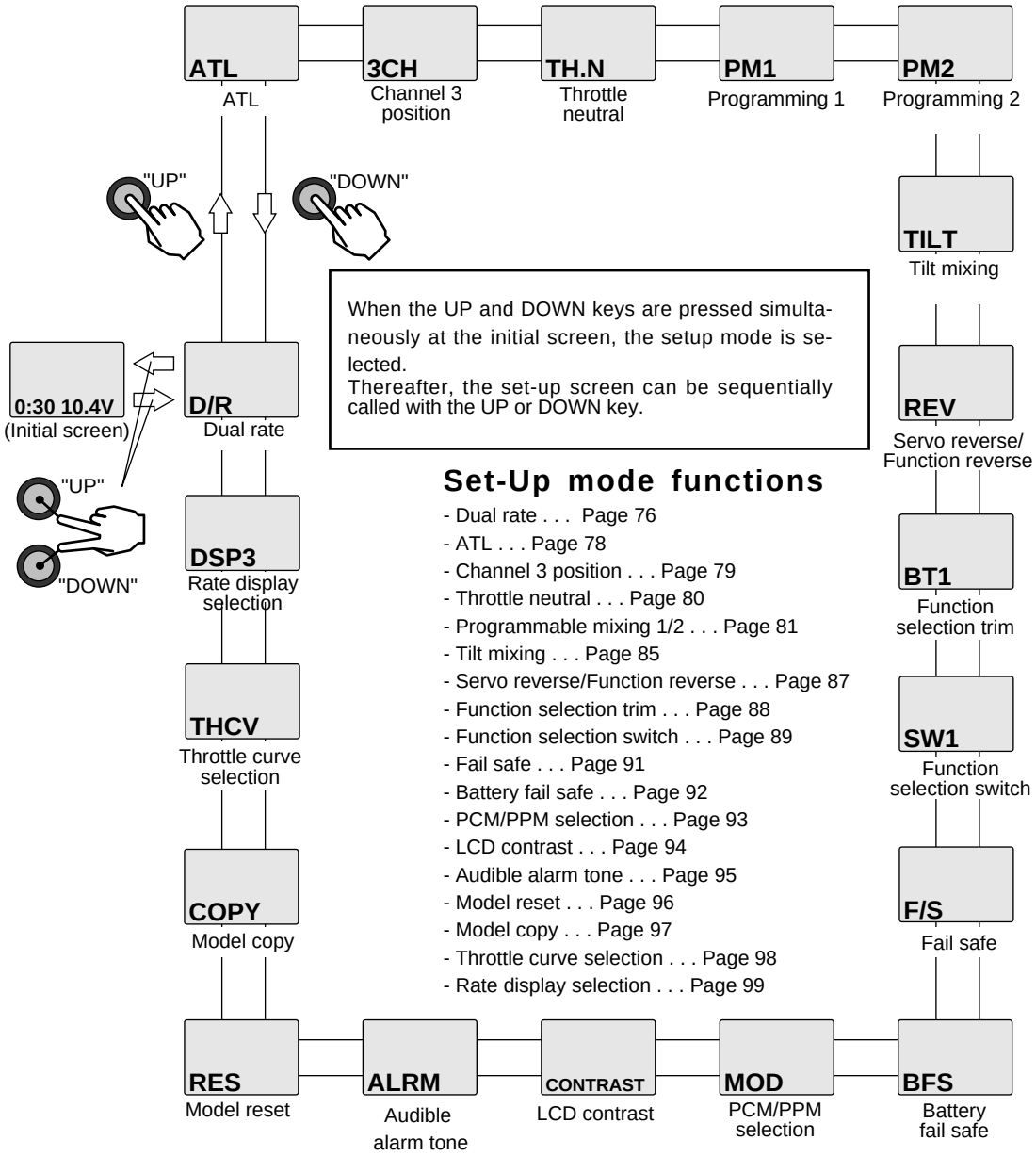
Setup Mode Functions

The functions in the Set-Up mode are made up of functions that are not changed after basic setting and functions that are not changed very much after being set. To prevent accidental changing of the settings, this menu is separate from those of the other modes.

Key layout



Function Map



Set-Up mode functions

Dual Rate/Second Dual Rate

Dual Rate

This function adjusts the + side when the servo travel is insufficient due to understeering and the - side when the servo travel is excessive due to oversteering on corners while running. This setting is linked to transmitter grip dial GD1. When GD1 is assigned to another function, set dual rate with this screen.

Second Dual Rate

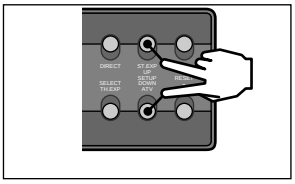
Use this function when facing a fence due to a crash, etc.

Operation

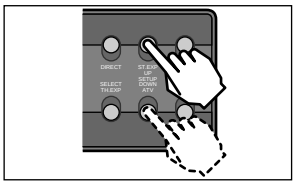
- Simultaneously adjusts the travel of both the left and right steering servos.
- Second dual rate switches to the servo travel only when the set switch was activated.

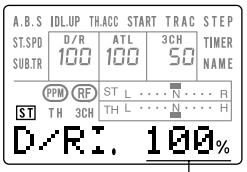
1. (Dual rate function setting)

   Call the Set-Up mode screen by pressing the UP and DOWN keys simultaneously at the initial screen.

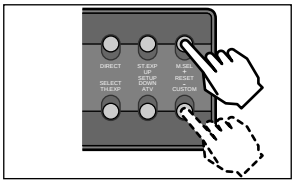


2. Call the D/R function screen by pressing the UP or DOWN keys in function map order.





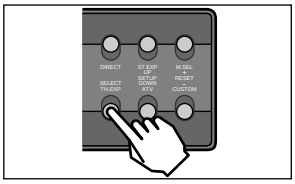
3. Adjust the D/R amount (travel) with the + or - key.

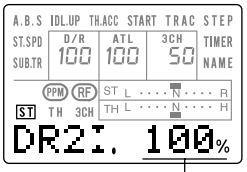


Setting range: 0~100%
- Return to the initial value (100%) by pressing the + and - keys simultaneously for about one second.

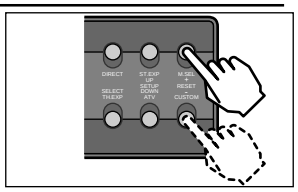
4. (Second dual rate function setting)

   Cal the set-up screen by pressing the SELECT key.



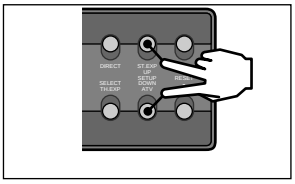


5. Adjust the D/R amount (travel) with the + or - key.



Setting range: 0~100%
- Return to the initial value (100%) by pressing the + and - keys simultaneously for about one second.

6. At the end of adjustment, press the UP and DOWN keys simultaneously. Or press the DIRECT key twice. (The display returns to the initial screen.)



Switch Setting

The Second Dual Rate function must be assigned to a switch in advance using the function select switch. (Page 89)

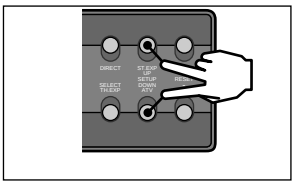
ATL Function

This function adjusts the - side when the braking effect is strong and the + side when the braking effect is weak. This setting is linked to transmitter grip dial GD2. When GD2 is assigned to another function, set the ATL function with this screen.

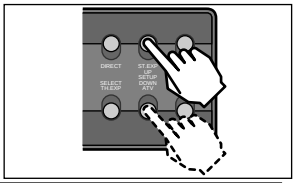
Operation

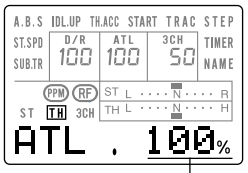
The throttle brake side (when the throttle trigger is pushed forward) brake amount can be adjusted.

1. Call the Set-Up mode screen by pressing the UP and DOWN keys simultaneously at the initial screen.

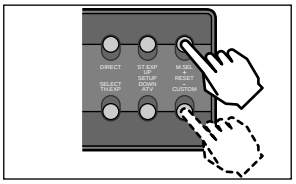


2. Call the ATL Function screen by pressing the UP or DOWN keys in function map order.



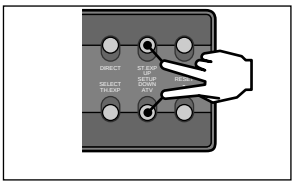


3. Adjust the ATL amount (travel) with the + or - key.



Setting range: 0~100%
- Return to the initial value (100%) by pressing the + and - keys simultaneously for about one second.

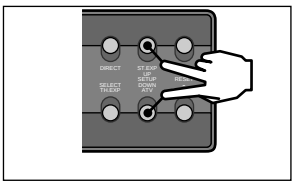
4. At the end of adjustment, press the UP and DOWN keys simultaneously. Or press the DIRECT key twice. (The display returns to the initial screen.)



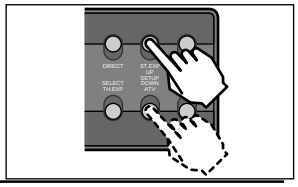
Channel 3 Position

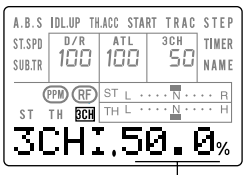
Use this function to set the servo position of the channel 3.
This setting is linked to transmitter KNOB. When KNOB is assigned to another function, set the channel 3 position with this screen.

1. Call the Set-Up mode screen by pressing the UP and DOWN keys simultaneously at the initial screen.



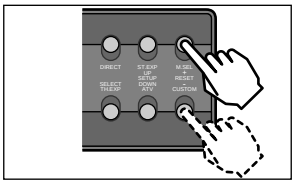
2. Call the Channel 3 Position screen by pressing the UP or DOWN keys in function map order.





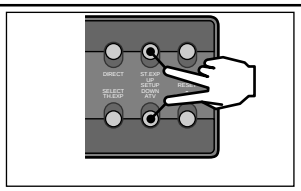
Setting range: 0~100%

3. Adjust the servo position with the + or - key.



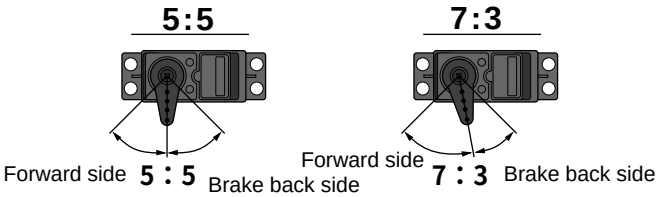
- Return to the initial value (50%) by pressing the + and - keys simultaneously for about one second.

4. At the end of adjustment, press the UP and DOWN keys simultaneously. Or press the DIRECT key twice. (The display returns to the initial screen.)

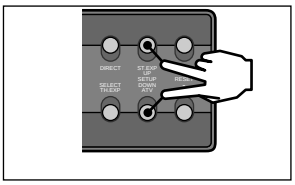


Throttle Neutral

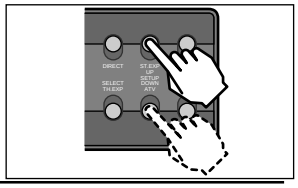
The throttle servo neutral position can be switched to 5:5 or 7:3 by switching throttle neutral.

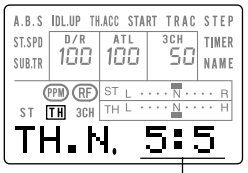


1. Call the Set-Up mode screen by pressing the UP and DOWN keys simultaneously at the initial screen.

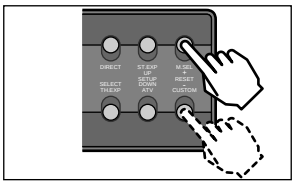


2. Call the Throttle Neutral function screen by pressing the UP or DOWN keys in function map order.



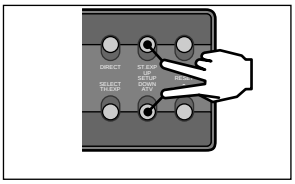


3. Set the servo operation rate with the + or - key.



Setting range: (5:5), (7:3)
- Return to the initial value (5:5) by pressing the + and - keys simultaneously for about one second.

4. At the end of adjustment, press the UP and DOWN keys simultaneously. Or press the DIRECT key twice. (The display returns to the initial screen.)



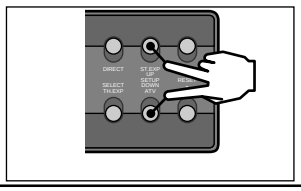
Programmable Mixing 1/2

These functions allow you to apply mixing between the steering, throttle, and channel 3 channels.
Two programmable mixing systems can be used. The programmable mixing 1 and programmable mixing 2 set-up screens are independent.

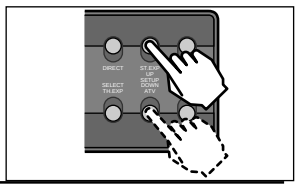
Additional Functions

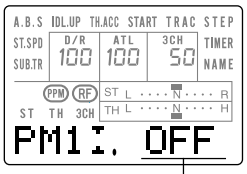
-When the steering or throttle channel is the master channel (channel that applies mixing), trim data can be added. (However, they do not operate as center trim.)
- The mixing mode selection. (Master mixing mode)
- The master channel mixing center point (point at which the direction changes) can be offset.

1. Call the Set-Up mode screen by pressing the UP and DOWN keys simultaneously at the initial screen.



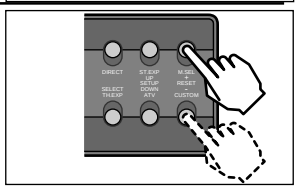
2. Call the Programmable Mixing 1 or 2 screen by pressing the UP or DOWN keys in function map order.





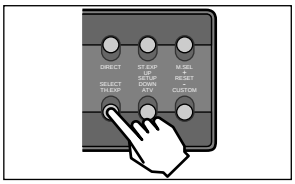
Setting range: ON, OFF

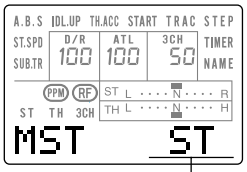
3. Set programmable mixing to ON with the + or - key.



4. (Master chanel setting)

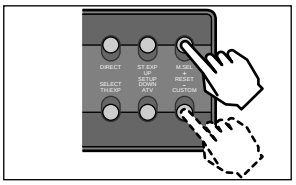
   Call the MST set-up screen by pressing the SELECT key once.





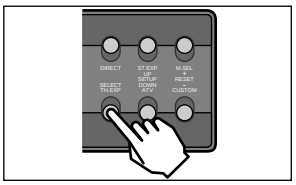
Setting range:
ST: Steering
TH: Throttle
3CH: Channel 3

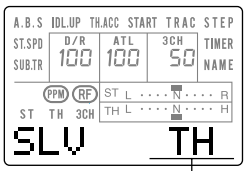
5. Select the master channel with the + or - key.



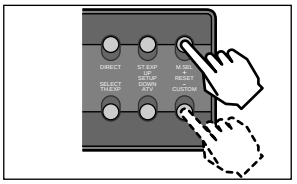
6. (Slave channel setting)

   Call the SLV set-up screen by pressing the SELECT key once.





7. Select the slave channel with the + or - key.

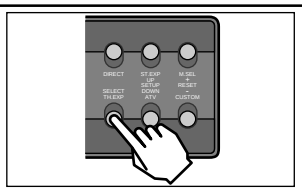


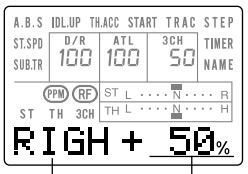
Setting range:
ST: Steering
TH: Throttle
3CH: Channel 3

8. (Mixing rate setting)

   Call the mixing rate set-up screen by pressing the SELECT key once.

   This setting sets the slave channel output for the master channel right side and brake (back) side or UP side operation.

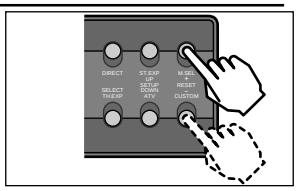




Setting range:
-100~+100%

ST: "RIGH"
TH: "BACK"
CH3: "DOWN"

9. Adjust the mixing rate with the + or - key.

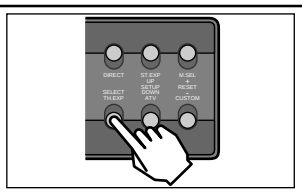


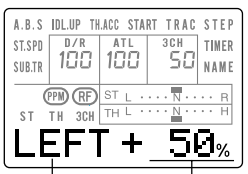
- Return to the initial value (0%) by pressing the + and - keys simultaneously for about one second.

+: Operates in the same direction as master channel operation
-: Operates in the opposite direction of master channel operation

10. Call the opposite direction mixing rate set-up screen by pressing the SELECT key once.

    This setting sets the slave channel output for the master channel left side and forward side or DOWN side operation.

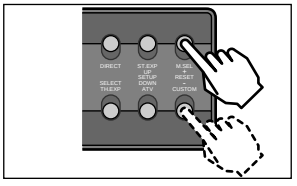




Setting range:
-100~+100%

ST: "LEFT"
TH: "FWRD"
CH3: "UP"

11. Adjust the mixing rate with the + or - key.

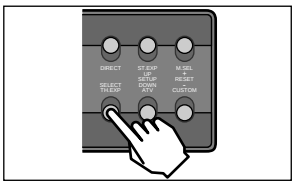


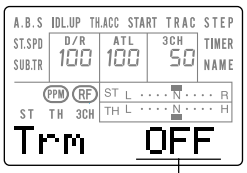
- Return to the initial value (0%) by pressing the + and - keys simultaneously for about one second.

+: Operates in the same diredction as master channel operation
-: Operates in the opposite direction of master channel operation

12.(Trimsetting)

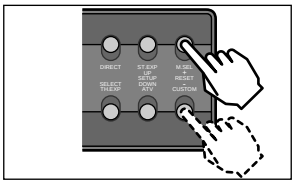
Call the trim set-up screen by pressing the SELECT key once.





13.Select ON or OFF with the + or - key.

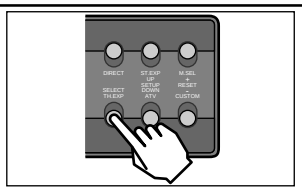
ON: Trim is added
OFF: Trim is removed

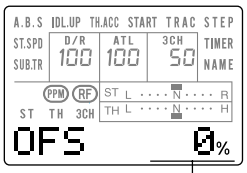


Setting range: ON, OFF

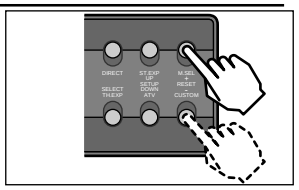
14.(Offsetsetting)

Call the offset set-up screen by pressing the SELECT key once.





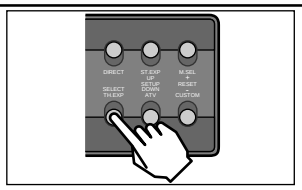
15.Set the master channel offset point with the + or - key.

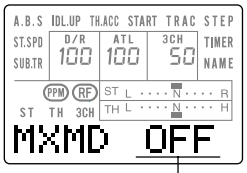


Setting range: -100~+100%
- Return to the initial value (50%) by pressing the + and - keys simultaneously for about one second.

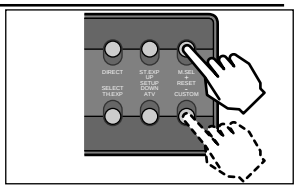
16.(Master mixing mode setting)

Call the set-up screen by pressing the SELECT key once.





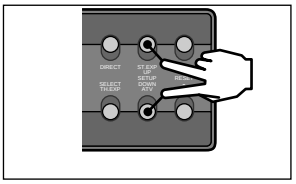
17.Select ON or OFF with the + or - key.



Setting range: ON, OFF

OFF: The slave side operates in proportion to master channel operation
ON: The slave side operates by adding the set value of the related function at the master channel side.
CH1: Steering speed, ATV, EXP
CH2: Throttle preset, ABS, ATV, EXP, throttle acceleration
CH3: ATV

18.At the end of adjustment, press the UP and DOWN keys simultaneously. Or press the DIRECT key twice. (The display returns to the initial screen.)



Mixing Rate Setting

When you want the slave channel to operate the same amount (initial setting) as the master channel, make the following value the standard.
When the steering or throttle channel is the master channel, set the mixing rate to 75%. When CH3 is the master channel, set the mixing rate to 90%.

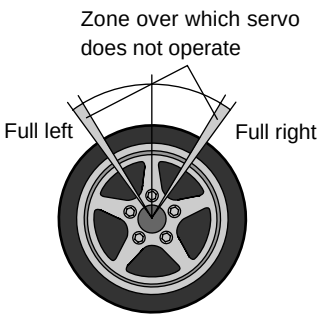
Slave Channel Operation

The master channel controls slave channel operation or trim.

When Steering and Throttle Travel is Insufficient

When the steering servo travel is insufficient even when D/R is 100% and ATV is 120%, programmable mixing can be used to increase the travel somewhat.
(Reference data)
- PM1->ON
- MST (master channel) -> ST Mixing is applied from steering
- SLV (slave channel) ->ST Mixing is applied to steering and the travel is increased.
- RIGH -> 10% [When subtrim is centered (0%)]
- LEFT -> 10% [When subtrim is centered (0%)]
- Trm -> OFF
- OFS -> 0%
- MIMD -> ON

However, the operating range of the servo is exceeded even if a large value is input at RIGH and LEFT and a zone over which the servo does not operate even when the wheel is moved to the left or right is created. A zone over which the servo does not operate is also generated at the moving side when the subtrim is moved to the left and right. Therefore, set the RIGH and LEFT value by checking servo operation.

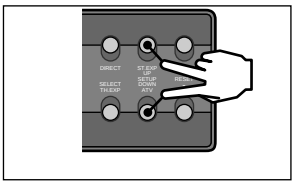


When the throttle servo travel is insufficient at ATL 100% and ATV120%, the same action can be performed by making TH (throttle) both the MST and SLV when steering.
When both steering and throttle operations are performed, use both PM1 and PM2 programmable mixing.

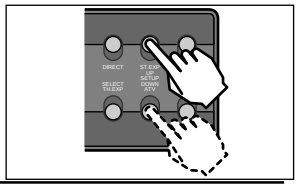
Tilt Mixing

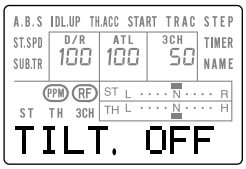
Use this function when you want to apply both directions mixing from steering to channel 3 and from channel 3 to steering with boats.

1. Call the Set-Up mode screen by pressing the UP and DOWN keys simultaneously at the initial screen.

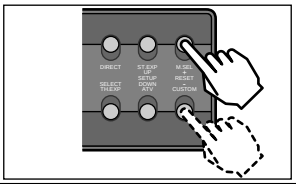


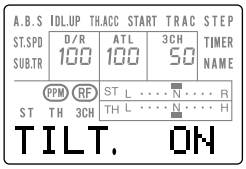
2. Call the Tilt Mixing screen by pressing the UP or DOWN keys in function map order.





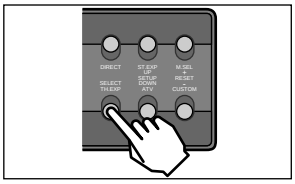
3. Set tilt mixing to ON with the + or - key.

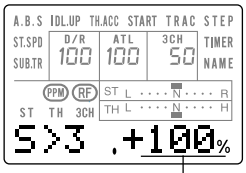




4. (Steering -> channel 3 mixing rate setting)

   Call the set-up screen by pressing the SELECT switch once.

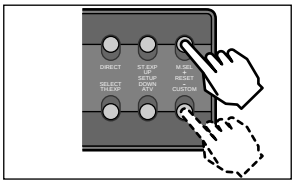




Setting range: -100~0~+100%
- Return to the initial value (+100%) by pressing the + and - keys simultaneously for about one second.

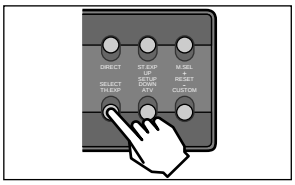
5. Adjust the mixing rate with the + or - key.

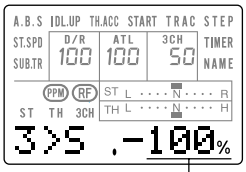
+: Operates in the same direction as steering
-: Operates in the opposite direction of steering



6. (Channel 3 -> steering mixing rate setting)

   Call the set-up screen by pressing the SELECT key once.

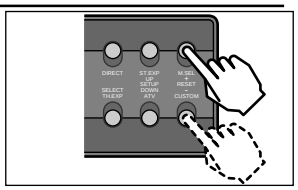




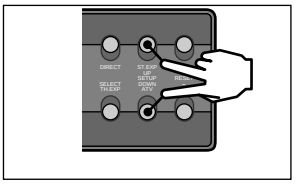
Setting range: -100~0~+100%
- Return to the initial value (-100%) by pressing the + and - keys simultaneously for about one second.

7. Adjust the mixing rate with the + or - key.

+: Operates in the same direction as channel 3
-: Operates in the opposite direction of channel 3



8. At the end of adjustment, press the UP and DOWN keys simultaneously. Or press the DIRECT key twice. (The display returns to the initial screen.)



Affect of Set Value on Other Functions

Setting of the ATV function, steering EXP function, steering speed function, or dual rate function at the steering side also affects channel 3 side operation. However, even if the reverse function is set at the steering side, channel 3 is not reversed. When steering is operated at the channel 3 side, these settings are unrelated to operation even if performed.

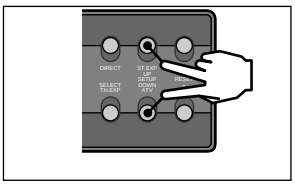
Slave Channel Output (Initial Value)

Steering -> channel 3 side: +100%
Channel 3 -> steering side: -100%

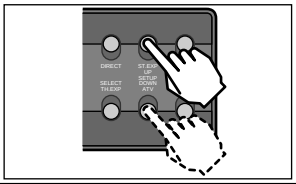
Servo Reverse / Function Reverse

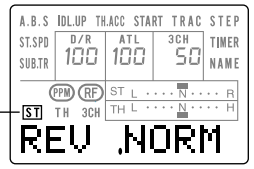
This function reverses the direction of operation of the servos related to transmitter steering, throttle, and channel 3 operation. The data value increase/decrease direction relative to GD1, GD2, KNOB, DT1, DT2 and DT3 operation can be changed. For PSH, the ON and OFF operation system is changed.
However, when the position set by trim or subtrim shifts from the center, the center becomes the opposite side.

1. Call the Set-Up mode screen by pressing the UP and DOWN keys simultaneously at the initial screen.



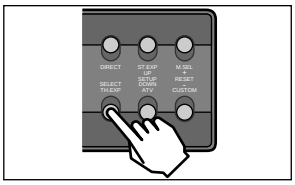
2. Call the Servo Reverse function screen by pressing the UP or DOWN keys in function map order.

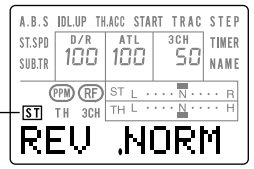


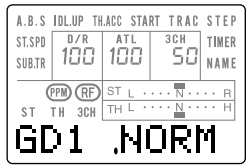


3. (Selection of channel, dial, or knob you want to set)

   Select the channel, dial, or knob you want to set by pressing the SELECT key.

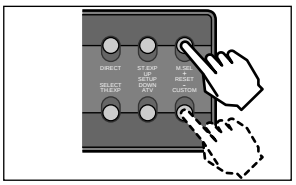






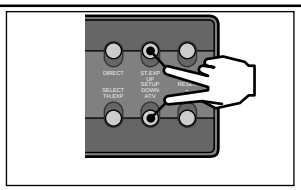
   ST: Steering, TH: Throttle, 3CH: Channel 3
   GD1/2: Grip dial 1/2, Nob: Knob, PSH: Push switch

4. Set the servo operating direction with the + or - key.



(Steering, throttle, channel 3)
NORM: Normal side, REVE: Reverse side
(Grip dial 1/2, knob, digital trim 1/2/3)
NORM: Increases 0->50->100%
REVE: Decreases 100->50->0%
(PSH)
NORM: ON while the switch is pushed in the arrow direction, OFF when the switch is released
ALT: ON/OFF alternately each time the switch is pushed in the arrow direction
However, when PSH is used as the timer function, it operates by ALT system regardless of this setting.

5. At the end of adjustment, press the UP and DOWN keys simultaneously. Or press the DIRECT key twice. (The display returns to the initial screen.)



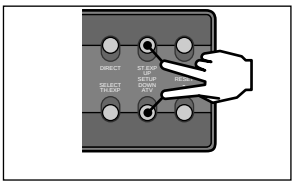
Function Select Trim

A function can be assigned between grip dial 1/2, knob, and digital trim 1/2/3.

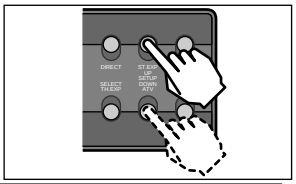
Settable Functions

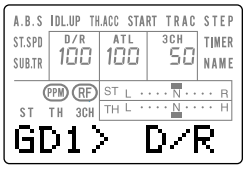
Dual rate function, ATL function, steering trim, throttle trim, traction control function (delay), A.B.S. function AB.P (return amount), A.B.S. function CYCL (cycle), channel 3, steering EXP, throttle EXP (forward side), throttle EXP (brake side), or OFF (not used) can be assigned.

1. Call the Set-Up mode screen by pressing the UP and DOWN keys simultaneously at the initial screen.



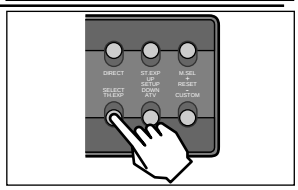
2. Call the Function Select Trim function screen by pressing the UP or DOWN keys in function map order.





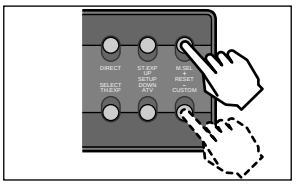
3. (Selection of trim, etc. you want to set)

   Select grip dial 1/2, knob, or digital trim 1/2/3 you want to set by pressing the SELECT key.



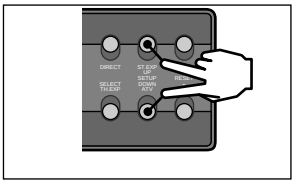
GD1: Grip dial 1 GD2: Grip dial 2 Nob: Knob
DT1: Digital trim 1 DT2: Digital trim 2 DT3: Digital trim 3

4. Select the function you want to set with the + or - key.



D/R: Dual rate ATL: ATL function Trm1: Steering trim Trm2: Throttle trim TRCD: Traction control (delay)
AB.P: A.B.S. function (return amount) CYCL: A.B.S. function (cycle) CH3: Channel 3 STEX: Steering EXP
TEXF: Throttle EXP (forward side) TEXB: Throttle EXP (brake side) OFF: (Not used)

5. At the end of adjustment, press the UP and DOWN keys simultaneously. Or press the DIRECT key twice. (The display returns to the initial screen.)



Function Select Switch

This function assigns a function to push switch PSH, slide switch SLD and the custom key.

Settable Functions

Push switch (PSH)

LAP: Timer
THPR: Throttle preset
TRC: Traction control
ABS: A.B.S. function
IDLE: Idle-up
D/R2: Dual rate switching
CH3: Channel 3
PMX1: Programmable mixing 1 ON/OFF
PMX2: Programmable mixing 2 ON/OFF
OFF: (Not used)

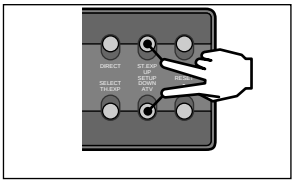
Slide switch (SLD)

TRC: Traction control
ABS: A.B.S. function
IDLE: Idle-up
D/R2: Dual rate switching
CH3: Channel 3
PMX1: Programmable mixing 1 ON/OFF
PMX2: Programmable mixing 2 ON/OFF
OFF: (Not used)

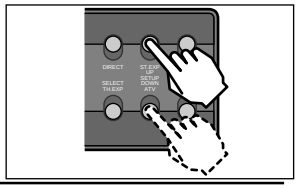
Custom key (CTM)

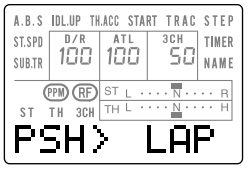
SUBT: Subtrim
STSP: Steering speed
ABS: A.B.S.
IDLE: Idle-up
ACCE: Throttle acceleration
STAR: Start
TRC: Traction control
STEP: Step
TIME: Timer
NAME: Model name
STEX: Steering EXP
THEX: Throttle EXP
MSEL: Model select
ATV: ATV
D/R: Dual rate
ATL: ATL
P3CH: Channel 3 position
TH.N: Throttle neutral
PMX1: Programmable mixing 1
PMX2: Programmable mixing 2
TILT: Tilt mixing
REV: Servo reverse
GD1: Function select dial
PSH: Function select switch
F/S: Fail safe
BF/S: Battery fail safe
MOD: PCM/PPM select
CONT: LCD contrast
ALRM: Alarm ON/OFF
MRES: Model reset
MCOP: Model copy
THCV: Throttle curve
DSP3: Channel 3 display

1. Call the Set-Up mode screen by pressing the UP and DOWN keys simultaneously at the initial screen.



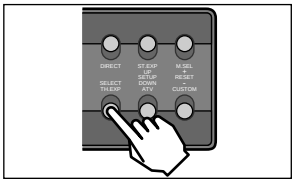
2. Call the Function Select Switch function screen by pressing the UP or DOWN keys in function map order.





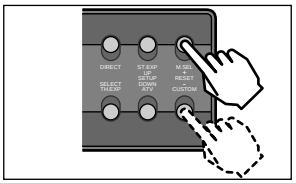
3. (Selection of switch you want to set)

   Select PSH, SLD or custom key you want to set by pressing the SELECT key.

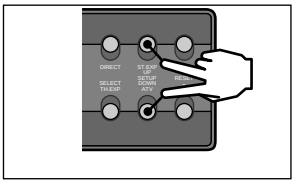


PSH: Push switch
SLD: Slide switch
CTM: Custom key

4. Select the function you want to set with the + or - key.



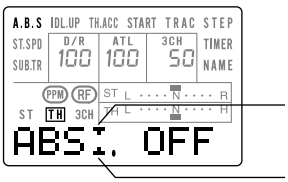
5. At the end of adjustment, press the UP and DOWN keys simultaneously. Or press the DIRECT key twice. (The display returns to the initial screen.)



Switch screen display

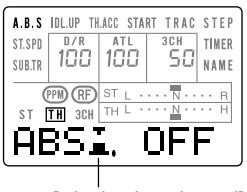
For functions that can use the push-button switch (PSH) or slide switch (SLD), the following symbols are displayed on the setup screen of the relavent function.
(A.B.S. function example)

*For the A.B.S function, both switches can be set.



[If this is displayed, SLD can be set]

[If this is displayed, PSH can be set]



[Display is enlarged]

When the A.B.S. function is allocated to the push-button switch or slide switch with the function select switch function, the screen switch display changes (becomes larger) and the setting state of the switch can be checked. The figure at the right shows the case when the push-button switch was set.

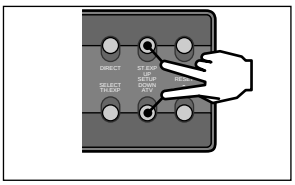
Fail Safe (PCM Mode Only)

This function allows the steering, throttle, and channel 3 servos to move to a preset position when signals cannot be received from the transmitter for some reason.

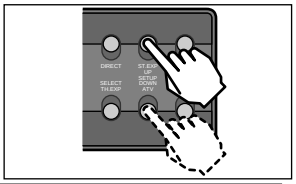
Fail Safe Reset

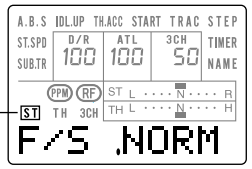
When the receiver can receive signals from the transmitter once more, the fail safe function is automatically reset.

1. Call the Set-Up mode screen by pressing the UP and DOWN keys simultaneously at the initial screen.



2. Call the Fail Safe function screen by pressing the UP or DOWN keys in function map order.

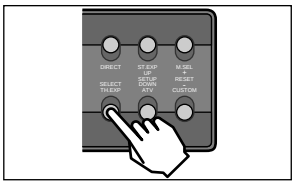




Blinking

3. (Channelselection)

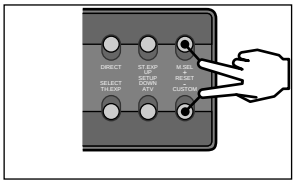
   Select the channel you want to set by pressing the SELECT key.

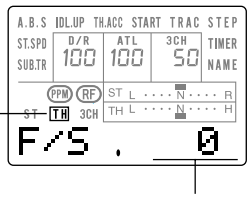


ST: Steering
TH: Throttle
3CH: Channel 3

4. (Fail safe position setting)

   Hold the steering wheel, throttle trigger, or channel 3 knob in the position you wish them to go to when the fail safe function is activated and press the + and - keys simultaneously. the set value is displayed on the LCD.





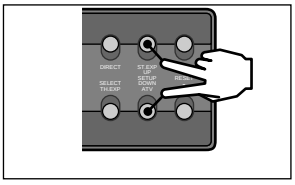
Blinking

Setting range:
NORM, -100~0~+100
NORM: Not used

(Setting Reset)

If the + or - key is pressed when a set value has been input, the setting returns to the NORM(unset)state.

5 At the end of adjustment, press the UP and DOWN keys simultaneously. Or press the DIRECT key twice. (The display returns to the initial screen.)



Battery Fail Safe (PCM Mode Only)

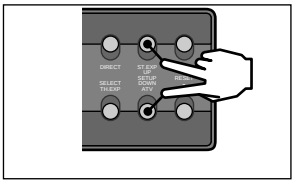
This function will move the throttle servo to the preset Fail Safe position when the receiver battery voltage drops below a specified value. See page 91 for a description of the Fail Safe function.

(This function can be used only with PCM1024 system receivers.)

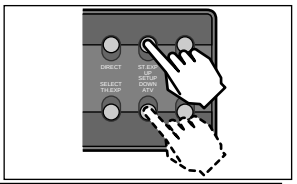
Battery Fail Safe Reset

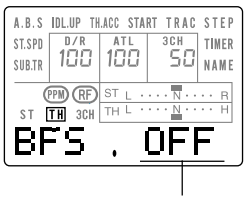
When the battery voltage recovers, the Battery Fail Safe function is reset.

1. Call the Set-Up mode screen by pressing the UP and DOWN keys simultaneously at the initial screen.



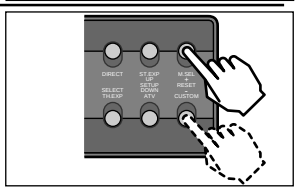
2. Call the Battery Fail Safe function screen by pressing the UP or DOWN keys in function map order.





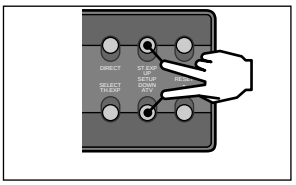
3. (Function ON/OFF selection)

   Select ON or OFF with the + or - key.



Setting range: OFF, ON

4. At the end of adjustment, press the UP and DOWN keys simultaneously. Or press the DIRECT key twice. (The display returns to the initial screen.)



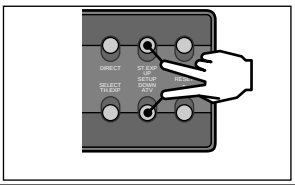
PCM/PPM Select

This function changes the format of the signals output from the transmitter. (PPM <-> PCM)

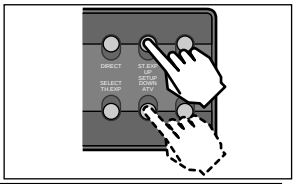
Receiver

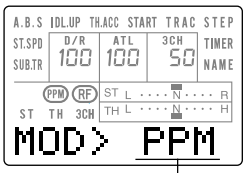
When a PCM receiver is used, the transmitter must be set to PCM. When an FM receiver is used, the transmitter must be set to PPM.

1. Call the Set-Up mode screen by pressing the UP and DOWN keys simultaneously at the initial screen.



2. Call the PCM/PPM Select function screen by pressing the UP or DOWN keys in function map order.

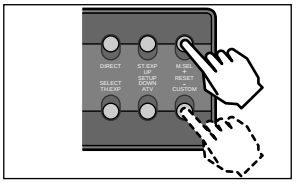




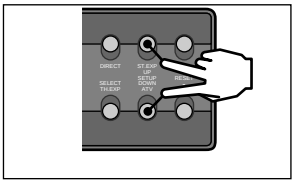
Setting range: PPM, PCM

3. (Mode selection)

   Select PCM or PPM by pressing the + or - key.



4. At the end of adjustment, press the UP and DOWN keys simultaneously. Or press the DIRECT key twice. (The display returns to the initial screen.)

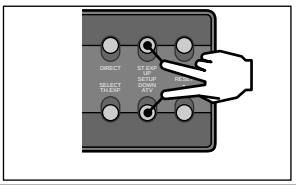


After the mode is changed, signals are output in the new mode when the transmitter power is turned off, then back on.

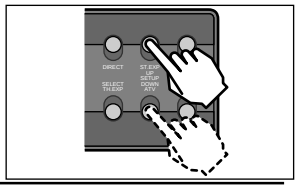
LCD Contrast Adjustment

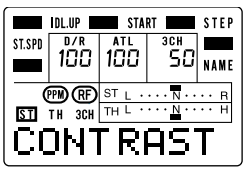
This function adjusts the LCD screen contrast in eight steps. (This is common to all themodelmemories.)

1. Call the Set-Up mode screen by pressing the UP and DOWN keys simultaneously at the initial screen.



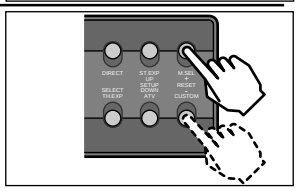
2. Call the LCD Contrast Adjustment screen by pressing the UP or DOWN keys in function map order.





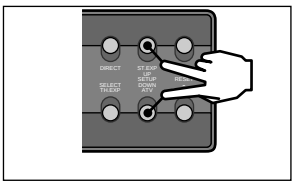
3. (Contrastadjustment)

   Adjust the LCD contrast by pressing the + or - key. (8 steps)



+ key: Darker
- key: Lighter
- Return to the initial value (center) by pressing the + and - keys simultaneously for about one second.

4. At the end of adjustment, press the UP and DOWN keys simultaneously. Or press the DIRECT key twice. (The display returns to the initialscreen.)



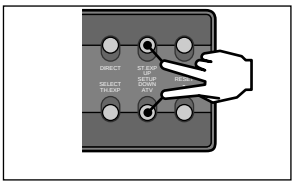
Audible Alarm Tone

The tone of the key input and other confirmation tones can be changed. (This setting is common to all the model memories.)

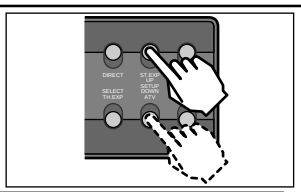
Audible Alarm Tone

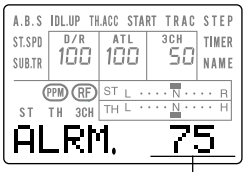
However, the alarm tones listed below remain at the initial value (75) regardless of this setting.
- Low battery alarm LOWBATT
- Idle-up warning
- Memory error MEMERR
- Back-up error BU.ERROR
- Memory select error MSELERR
- Data Pac error CAMERR

1. Call the Set-Up mode screen by pressing the UP and DOWN keys simultaneously at the initial screen.



2. Call the Audible Alarm Tone function screen by pressing the UP or DOWN keys in function map order.



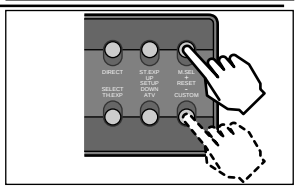


Setting range: OFF, 1~100
- Return to the initial value (75) by pressing the + and - keys simultaneously for about one second.

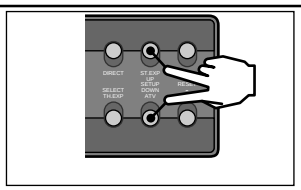
3. (Tone adjustment)

   Adjust the audible alarm tone by pressing the + or - key.

   + key: Higher
   - key: Lower



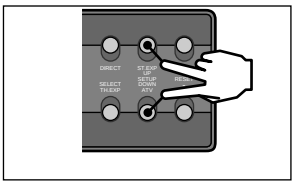
4. At the end of adjustment, press the UP and DOWN keys simultaneously. Or press the DIRECT key twice. (The display returns to the initial screen.)



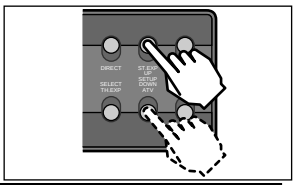
Model Reset

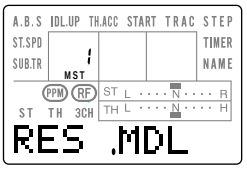
This functions resets the contents of the currently called model memory to the initial value.
However, it does not reset the PCM/PCM select, total timer, lap memory, timer time, contrast, and audible alarm tone settings.

1. Call the Set-Up mode screen by pressing the UP and DOWN keys simultaneously at the initial screen.



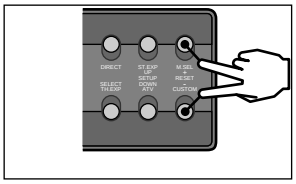
2. Call the Model Reset function screen by pressing the UP or DOWN keys in function map order.

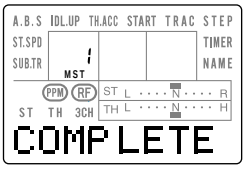




3. (Model memory reset)

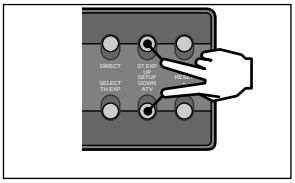
   Reset the currently called model memory by pressing the + and - keys simultaneously for about one second.





When reset is complete, COMPLETE blinks on the screen.

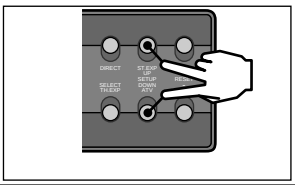
4. At the end of adjustment, press the UP and DOWN keys simultaneously. Or press the DIRECT key twice. (The display returns to the initial screen.)



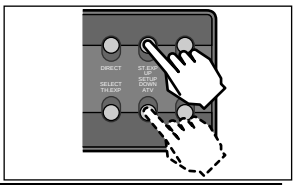
Model Copy

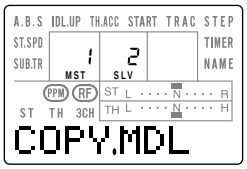
This function copies the entire contents of the currently called model memory to anothermodelmemory.

1. Call the Set-Up mode screen by pressing the UP and DOWN keys simultaneously at the initial screen.



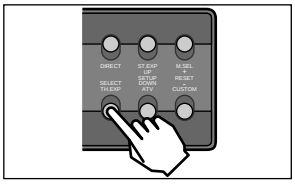
2. Call the Model Copy function screen by pressing the UP or DOWN keys in function map order.



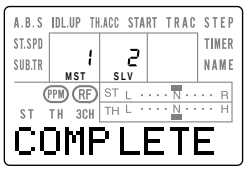


3. (Copydestinationselection)

   Select the copy destination model memory by pressing the SELECT key.

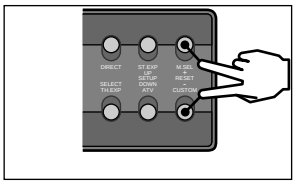


MST: Copy source
SLV: Copy destination



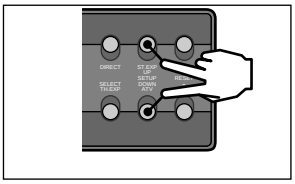
4. (Copyexecution)

   Execute copy by pressing the + and - keys simultaneously for about one second.



When copying is complete, “COMPLETE” blinks on the screen.

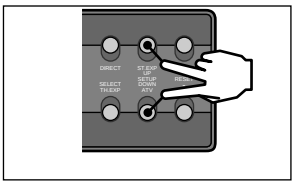
5. At the end of adjustment, press the UP and DOWN keys simultaneously. Or press the DIRECT key twice. (The display returns to the initialscreen.)



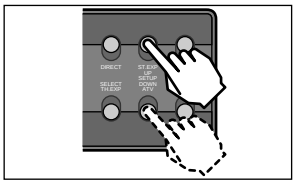
Throttle Curve Selection

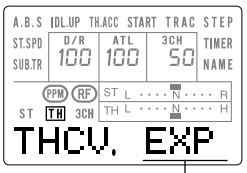
This function selects the throttle forward curve. The throttle EXP function (page 40) sets the throttle curve itself.
EXP, EXP2, or CRV can be selected as the throttle curve.

1. Call the Set-Up mode screen by pressing the UP and DOWN keys simultaneously at the initial screen.



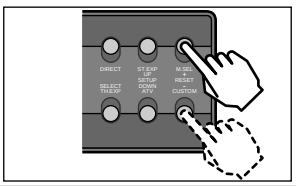
2. Call the Throttle Curve Selection screen by pressing the UP or DOWN keys in function map order.



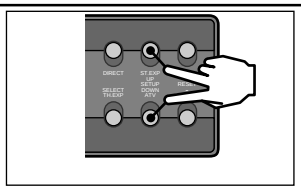


Setting range: EXP, EXP2, CRV

3. Select the curve with the + or - key.



4. At the end of adjustment, press the UP and DOWN keys simultaneously. Or press the DIRECT key twice. (The display returns to the initial screen.)



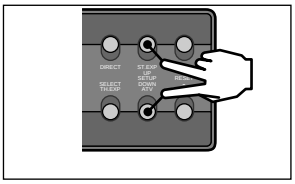
Rate Display Selection

The channel 3 display can be changed to another function rate display.

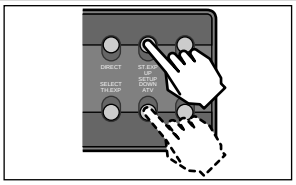
Selectable Displays

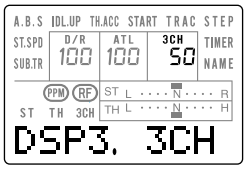
3CH: Channel 3
STEX: Steering EXP
TEXF: Throttle EXP (forward side)
TEXB: Throttle EXP (brake side)
AB.P: A.B.S. function AB.P (return amount)
CYCL: A.B.S. function CYCL (cycle)
TRCD: Traction control (delay)

1. Call the Set-Up mode screen by pressing the UP and DOWN keys simultaneously at the initial screen.

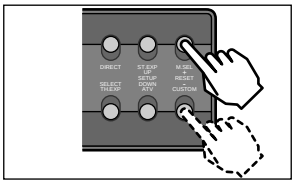


2. Call the Rate Display Selection screen by pressing the UP or DOWN keys in function map order.

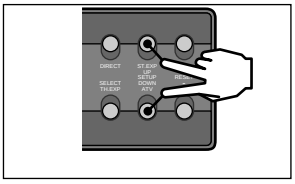




3. Select the function you wish to display with the + or - key.



4. At the end of adjustment, press the UP and DOWN keys simultaneously. Or press the DIRECT key twice. (The display returns to the initial screen.)



Ratings

*Specifications and ratings are subject to change without prior notice.

Transmitter T3PJ SUPER

(Wheelsystem,3channels)
- Transmittingfrequencies27,29,40, 41or75MHzband (TJ-FMRFmoduleused)
- Modulation FM (PCM<->PPMswitchingpossible)

-Powerrequirement
(Ni-cadbattery)
NT8F700BNi-cadbattery(9.6V)
(Dry cell battery)
Penlight X 8 (12V)
- Current drain 250mA or less

Receiver R113F/R113iP

(3 channels, FM receiver/PCM receiver)
- Receivingfrequencies27,29,40,41 or75MHzband
- Intermediatefrequency455kHz
- Power requirement 4.8V or 6V (sharedwithservos)
- Current drain 18mA
- Size42.7x28.7x16.0mm (1.69x1.13x0.63in)
- Weight18g/21g(0.63oz/0.74oz)

Servo S9402

(Coreless/HighOutputservo)
- Output torque 8.0kg-cm (111.1oz-in)
- Speed0.10sec/60degree
- Power requirement 4.8V or 6V
- Size40.5x20x37.5mm (1.59x0.78x1.48in)
- Weight 55g (1.9oz)

Servo S9304

(Coreless/HighTorqueservo)
- Outputtorque5.0kg-cm(69.4oz-in)
- Speed0.22sec/60degree
- Power requirement 4.8V or 6V
- Size40.5x20x35.5mm (1.59x0.78x1.40in)
- Weight 50g (1.76oz)

Optional Parts

The following parts are available as 3PJ SUPER options. Purchase them to match your application. For other optional parts, refer our catalog.

Crystal Set

<Types of Crystals>

There are crystals for FM and AM, depending on the modulation mode, and crystals for single conversion and dual conversion, depending on the receiver circuitry. The R113iP and R113F are FM receivers. Use single conversion crystal sets with them.

⚠ Warning

Use only genuine Futaba crystal (receiver).

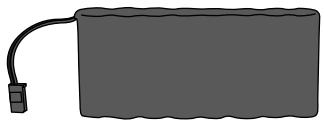
The use of other than Futaba crystal will result in decrease of range as well as loss of control.

Transmitter Ni-cad Battery

When purchasing a transmitter Ni-cad battery as a spare, etc., use the following:

Part name

NT8F700B



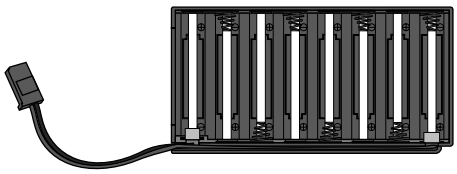
(9.6V/700mAh)

Battery Holder (Transmitter)

This battery holder is necessary when using the transmitter with a dry cell battery.
For a description of how to install the battery holder to the transmitter, see "Ni-cad Replacement" on page 18.

Part name

3PJ transmitter battery holder



(Penlight cell x 8)

⚠ Caution

- Insert the batteries in the correct polarity.
  If the polarity is incorrect, the transmitter may be damaged.
- When the transmitter is not in use, remove the batteries.
  If the battery electrolyte leaks, wipe off the case and contacts.

<Check>

Turn on the power switch and check the LCD battery voltage display. When the batteries are new, the voltage should be about 12V.
If the voltage does not rise, check for faulty contact or incorrect polarity.

<Processing the Dry Cell Batteries>

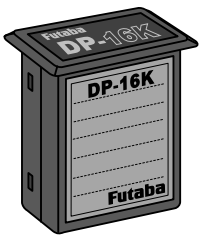
The method of processing used dry cell batteries depends on the area in which you reside. Process the batteries in accordance with the processing method for your area.

Data Pac (DP-16K)

When the Data Pac is used, the model data for eight model can be saved, in addition to the eight model memories provided with the transmitter. Since the Data Pac can be freely carried as a separate unit, the saved data can also be used with other 3PJ SUPER transmitters.

Part Name

DP16K



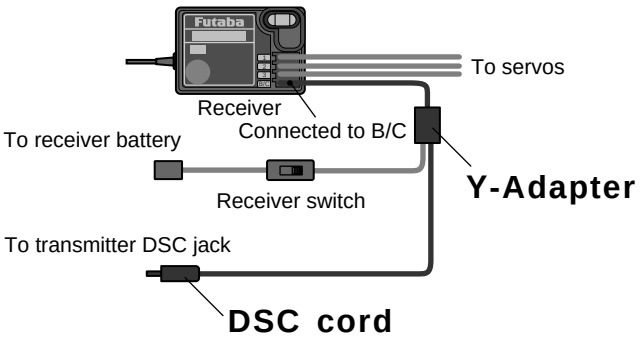
DSC cord

When the TPJ SUPER transmitter and FP-R113iP or FP-R113F receiver are connected with the DSC cord, the servos can be operated without transmitting a signal. (DSC function)

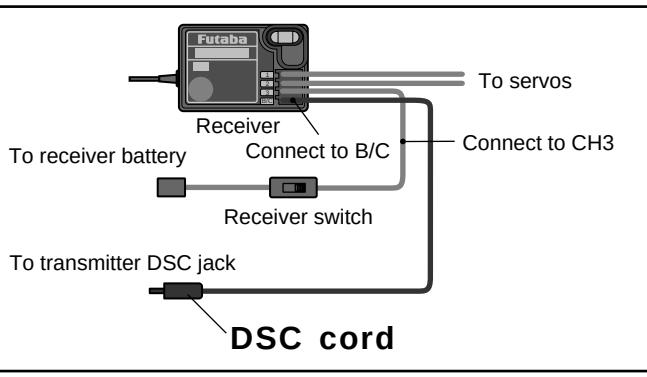
Part name

DSC cord for 3PJ SUPER

Connection



- When used fully up to channel 3, the Y-Adapter must be purchased separately.



- When channel 3 is not used, connect the receiver switch to CH3 and connect the DSC cord to the B/C terminal.

Body rest

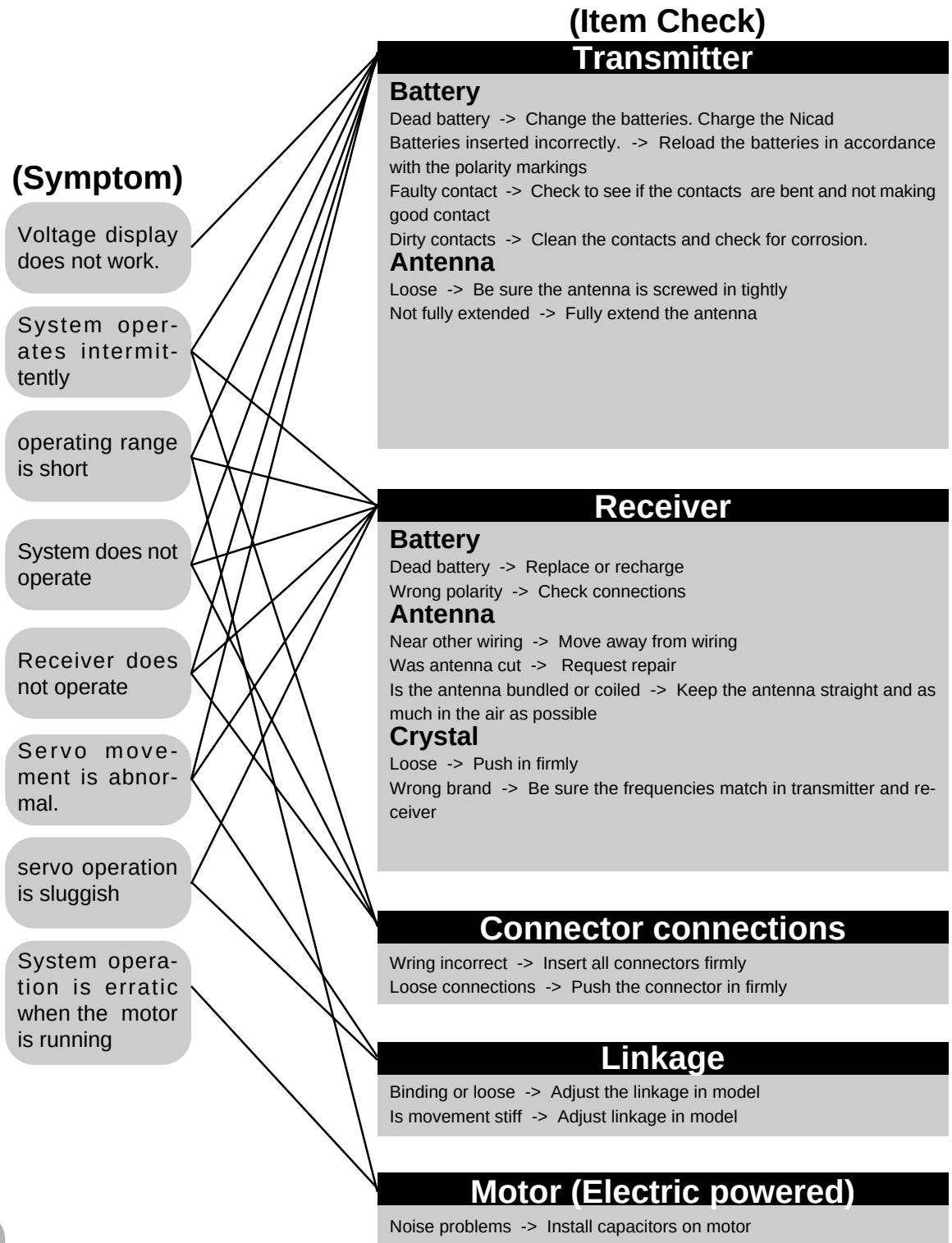
If you are going to use the transmitter for a long time, the strain on your arms can be reduced and stable operation can be performed by using this body rest.

Part name

3PJ Body Rest

Troubleshooting

If your system fails to operate or you experience a short range problem or erratic control. Check the table below for reasons you may be having these problems. After you followed the suggestions listed and the problem is not corrected return the system to our service department for inspection and repair.

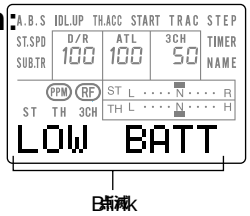


Error Displays

Low Battery Alarm

If the transmitter battery voltage drops to 8.5V or less, an audible alarm will sand and "LOW BATT" will be displayed on the LCD screen.

LCD screen:



Blinking

Audible alarm:
Continuous tone.

⚠ Warning

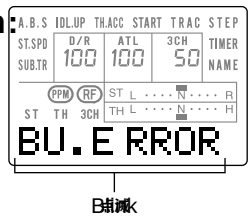
When a low battery alarm is generated, cease operation immediately and retrieve the model.

If the battery goes dead while in operation, you will lose control.

Backup Error

If the data is lost for an unknown reason, an audible alarm will sound and "BU-ERROR" will be displayed on the LCD screen.

LCD screen:



Blinking

Audible alarm:
Tone will sound (9 times), then repeat.

⚠ Warning

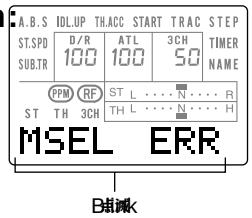
When a backup error is generated, immediately stop using the system and request repair from the Futaba Service Center.

If you continue to use the system, the transmitter may malfunction and cause loss of control.

Model Select Error

If the power is turned back on in the state in which a model No. in the Data Pac was called and the Data Pac is not installed, an audible alarm will sound and "MSELERR" will be displayed on the LCD for several seconds. Then model No. 1 will be forcibly called.

LCD screen:



Blinking

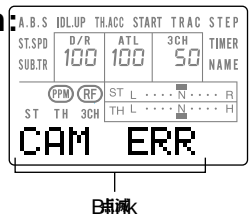
Audible alarm:
Tone sounds (7 times) and stops (repeated)

Data Pac Error

If data transfer with the Data Pac was not performed normally, an audible alarm will sound and "CAMERR" will be displayed on the LCD screen.

- To stop the alarm, press the + and - keys simultaneously for about one second.
- Turn the power back on. If the alarm is not generated, there is no problem.

LCD screen:



Blinking

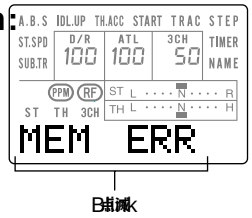
Audible alarm:
Tone sounds (7 times) and stops (repeated)

Memory Error

If the data in the transmitter is not transferred normally when the power is turned on, an audible alarm will sound and "MEMERR" will be displayed on the LCD.

- To stop the alarm, press the + and - keys simultaneously for about one second.
- Turn the power back on. If the alarm is not generated again, there is no problem.

LCD screen:



Blinking

Audible alarm:
Tone sounds (7 times) and stops (repeated)

Idle-Up Warning

When the power switch is turned on while the idle-up function switch is on, an audible alarm will sound. When the idle-up function switch is turned off, the alarm will stop.

Audible alarm:
Tone sounds (7 times) and stops (repeated)

Glossary

The following defines the symbols and terms used in this instruction manual

Band
Frequency that receiver and transmitter operate on.

Channel
Represents the number of functions the transmitter will control.

Kit
A set of parts manufactured for building a model.

Modulation method
Two modulation methods are used with R/C systems: AM (Amplitude Modulation) and FM (Frequency Modulation). Another method that encodes and transmits the modulated signals is called "PCM".

Neutral
The center position. It is the point where the steering stick and throttle stick return to when they are not being operated.

Proportional
Because today's R/C systems control servos in proportion to the transmitter operation they are called proportional.

Servo Horn
The part that is installed on the output shaft on the servo to convert to rotating motion of the servo to transmit the linear to a control rod., Servo horns come in various shapes.

Servo Mount
Advise used to secure the servo in the model. (Most often supplied in the model kit)

Steering (ST)
System to make the model turn left or right using the front wheels.

Steering Wheel
A devise for controlling the steering from the transmitter.

Throttle
Devise that controls the air mixture at the engine intake. When opened a large air mixture is sucked in and the engine speed increases. When closed the engine speed decreases.

Throttle Trigger
Devise provided on the transmitter to control the throttle.

Trim
Devise that fine adjusts the neutral point of each servo.

Glossary (LCD Display)

The Glossary gives the definition and number of the page that describes the related function for the symbols displayed on the LCD screen.

0:00 10.1v	Accumulated time/power supply voltage display (P23)
01MDL-01	Model number/model name (P74)
3->S	Tilt mixing CH3->Steering mixing (P85)
3CH.S	Channel 3 (step) (P63)

A

AB.P	A.B.S. function brake position (P51)
AB.P.S	A.B.S. function brake position (step) (P51)
ACCE.B	Throttle acceleration brake (back) side (P56)
ACCE.F	Throttle acceleration forward side (P56)
ALRM.	Alarm tone (P95) Alarm time setting (P64)
AT.S	Start function auto start (P58)
ATL.	ATL function (P78)
ATL.S	ATL function (step) (P63)
ATV.B	throttle ATV brake (back) side (P35)
ATV.D	CH3 ATV down side (P37)
ATV.U	CH3 ATV up side (P37)
ATV.F	Throttle ATV forward side (P35)
ATV.L	Steering ATV left side (P33)
ATV.R	Steering ATV right side (P33)

B

BFSP.	Battery fail safe (F/S) (P92)
BU.ERROR	Backup error display (P106)

C

CAMERR	Data Pac error display (P107)
CONTRAST	LCD contrast adjustment (P94)
COPY.	Model copy (P97)
CTM->	Direct mode custom key (P45)
CYCL.	A.B.S. function cycle (P51)
CYCL.S	A.B.S. function cycle (step) (P51)

D

D/R	Dual rate function (P76)
D/R.S	Dual rate function (step) (P63)
D/R2	Second dual rate (P76)
DLY.	Traction control (delay) (P61)
DT1->	Digital trim 1 (P88)
DT2->	Digital trim 2 (P88)
DT3->	Digital trim 3 (P88)
DUTY.	A.B.S. function (duty) (P51)

E

EXP.	Steering EXP (P39)
EXPB.	Throttle EXP brake (back) side (P40)
EXPF.	Throttle EXP forward side (P40)

F

F/S.	Fail safe function (P91)

G

GD1.	Grip dial 1 (P88)
GD2.	Grip dial 2 (P88)

I

IDLE.	Idle-up function (P55)

L

LEFT.	Mixing rate left side (P81)
LN	Lap navigation (P64)
LOW BATT	Low battery error display (P106)

M

MEMERR	Memory error display (P107)
MOD->	PCM/PPM select (P93)
MSELERR	Model select error display (P107)
MST.	Master ch (P81)

N

Nob.	Knob (P88)

O

OFS.	Programmable MIX offset (P81)

P

PALM.	Prealarm time (P64)
PM1,2	Programmable mixing 1,2 (P81)
PRST.	Start function preset position (P58)
PSH.	Push switch (P89)

R

RES.	Model memory reset (P96)
RETN.	Steering speed return side (P49)
REV.	Reverse function (P87)
RIGH.	Mixing rate right side (P81)
RNG.H	Traction control (high side) (P61)

S

S->3	Tilt mixing steering->CH3 mixing (P85)
SLD.	Slide switch (P89)
SLV.	Slave ch (P81)
ST.M.	A.B.S. function steering mixing (P51)
ST.T.S	Steering trim (step) (P63)
SUBT.	Subtrim (P47)

T

TG.P.	Start function stick position (P58)
TH.N.	Throttle unit full position (P80)
TH.T.S	Throttle trim (step) (P63)
TILT.	Tile mixing (P85)
TRC.S	Traction control (delay step) (P61)
TURN.	Steering speed (turn side) (P49)

3PJ SUPER Data Sheet

Model number: Model name:

[DIRECT MODE]

ATV
ST:R % TH:F % 3CH:U %
ST:L % TH:B % 3CH:D %

ST.EXP
EXP: %

TH.EXP
EXPB: % EXPF: %

TH.EXP2
EXP2: % TG.P: %

TH.CRV
P1: % P2: % P3: %
P4: % P5: %

[SELECT MODE]

SUB.TR
ST: % TH: % 3CH: %

ST.SPD
TURN: % RETN: %

A.B.S
ABS: OFF / ON
AB.P: % CYCL: DUTY:
DLY: % TG.P: % STM: %

IDL.UP
IDL: %

TH.ACC
ACCF: % ACCB: %

START
TG.P: % PRST: %

TRAC
TRC: OFF / ON

STEP
ST.T: TH.T: D/R:
ATL: 3CH: TRC:
AB.P: CYCL: STEX:
TEXF: TEXB:

TIMER
TYPE: UP / DN / LN / LP
ALRM: m PALM: s
LN: m s

[SET-UP MODE]

D/R
D/R: % D/R2: %

ATL
ATL: %

3CH
3CH: %

TH.N
TH.N: 5:5 / 7:3

PM1
PM1: OFF / ON
MST: RATE1: % TRM: OFF / ON
SLV: RATE2: % OFS: OFF / ON
MXMD: OFF / ON

PM2
PM2: OFF / ON
MST: RATE1: % TRM: OFF / ON
SLV: RATE2: % OFS: OFF / ON
MXMD: OFF / ON

TILT
TILT: OFF / ON
S>3: % 3>S: %

REV
ST: NORM / REVE
TH: NORM / REVE
3CH: NORM / REVE
GD1: NORM / REVE
GD2: NORM / REVE
Nob: NORM / REVE
PSH: NORM / REVE
DT1: NORM / REVE
DT2: NORM / REVE
DT3: NORM / REVE

GD1
GD1> GD2> Nob>
DT1> DT2> DT3>

PSH
PSH> SLD> CTM>

F/S
ST: TH: 3CH:

BFS
BFS: OFF / ON

MOD
MOD> PPM / PCM

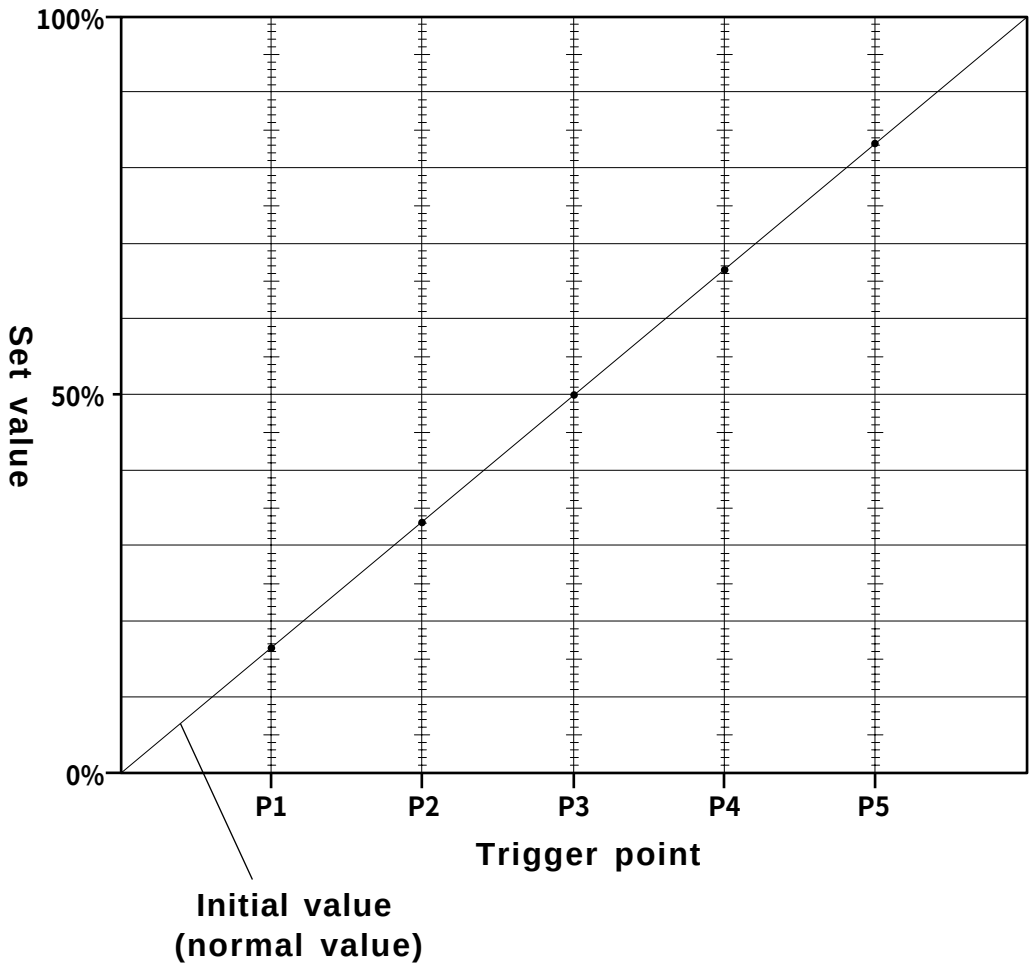
THCV
THCV: EXP / EXP2 / CRV

DSP3
DSP3:

- Copy and use.

Throttle Curve

Model No.: **Model Name:**



Throttle curve initial value

	P1	P2	P3	P4	P5	
0%	16%	33%	50%	67%	83%	100%

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