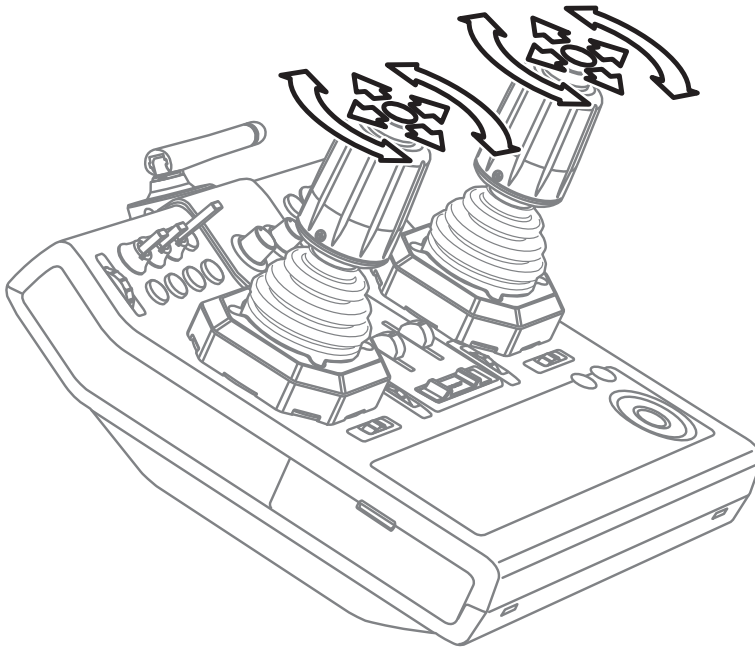# FMT-01

Futaba Advanced Spread Spectrum Technology
Extended System Telemetry

S·BUS 2

2.4GHz
FASST est
FASST Extended System Telemetry

INSTRUCTION MANUAL

CE

Futaba ®   *Digital Proportional R/C System*

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INTRODUCTION

Thank you for purchasing a Futaba® FASSTest-2.4GHz* FMT-01 series digital proportional R/C system. In order for you to make the best use of your system and to fly safely, please read this manual carefully.

*FASSTest: Futaba Advanced Spread Spectrum Technology extend system telemetry

Due to unforeseen changes in production procedures, the information contained in this manual is subject to change without notice.

FOR SUPPORT :
(PROGRAMMING AND USER QUESTIONS)

FUTABA Corporation of America

101 Electronics Boulevard, Huntsville, Alabama 35824, U.S.A

Fax: 1-256-461-1059

Phone: 1-256-461-9399

OUTSIDE NORTH AMERICA

Please contact your Futaba importer in your region of the world to assist you with any questions, problems or service needs.

Please recognize that all information in this manual, and all support availability, is based upon the systems sold in North America only. Products purchased elsewhere may vary. Always contact your region's support center for assistance.

Application, Export, and Modification

1. This product may be used for model airplane or surface (boat, car, robot) use. It is not intended for use in any application other than the control of models for hobby and recreational purposes. The product is subject to regulations of the Ministry of Radio/Telecommunications and is restricted under Japanese law to such purposes.

2. Exportation precautions:

(a) When this product is exported from the country of manufacture, its use is to be approved by the laws governing the country of destination which govern devices that emit radio frequencies. If this product is then re-exported to other countries, it may be subject to restrictions on such export. Prior approval of the appropriate government authorities may be required. If you have purchased this product from an exporter outside your country, and not the authorized Futaba distributor in your country, please contact the seller immediately to determine if such export regulations have been met.

(b) Use of this product with other than models may be restricted by Export and Trade Control Regulations, and an application for export approval must be submitted. This equipment must not be utilized to operate equipment other than radio controlled models.

3. Modification, adjustment, and replacement of parts: Futaba is not responsible for unauthorized modification, adjustment, and replacement of parts on this product. Any such changes may void the warranty.

Compliance Information Statement (for U.S.A.)

This device, trade name Futaba Corporation of America, complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

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

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

(3) This module meets the requirements for a mobile device that may be used at separation distances of more than 20cm from human body.

To meet the RF exposure requirements of the FCC this device shall not be co-located with another transmitting device.

The responsible party of this device compliance is:

 FUTABA Corporation of America

101 Electronics Boulevard, Huntsville, Alabama 35824, U.S.A

Fax: 1-256-461-1059

Phone: 1-256-461-9399

The RBRC. SEAL on the nickel-cadmium battery contained in Futaba products indicates that Futaba Corporation is voluntarily participating in an industry-wide 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 system, which is illegal in some areas.

  (for USA)

You may contact your local recycling center for information on where to return the spent battery. Please call 1-800-8BATTERY for information on Ni-Cd battery recycling in your area. Futaba Corporation 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.

Federal Communications Commission Interference Statement (for U.S.A.)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

CAUTION:

To assure continued FCC compliance:

Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

Exposure to Radio Frequency Radiation

To comply with FCC RF exposure compliance requirements, a separation distance of at least 20cm must be maintained between the antenna of this device and all persons.

This device must not be co-located or operating in conjunction with any other antenna or transmitter.

FLYING SAFETY

⚠ **WARNING**

To ensure the safety of yourself and others, please observe the following precautions:

Have regular maintenance performed. Although your FMT-01 protects the model memories with non-volatile EEPROM memory (which does not require periodic replacement) and not a battery, the transmitter still should have regular checkups for wear and tear. We recommend sending your system to the Futaba Service Center annually during your non-flying-season for a complete checkup and service.

Ni-MH/Ni-Cd Battery

Charge the batteries! (See Charging the Ni-Cd batteries, for details.) Always recharge the transmitter and receiver batteries before each flying session. A low battery will soon die potentially, causing loss of control and a crash. When you begin your flying session, reset your FMT-01's built-in timer, and during the session pay attention to the duration of usage.

Stop flying long before your batteries become low on charge. Do not rely on your radio's low battery warning systems, intended only as a precaution, to tell you when to recharge. Always check your transmitter and receiver batteries prior to each flight.

Where to Fly

We recommend that you fly at a recognized model airplane flying field. You can find model clubs and fields by asking your nearest hobby dealer, or in the US by contacting the Academy of Model Aeronautics.

You can also contact the national Academy of Model Aeronautics (AMA), which has more than 2,500 chartered clubs across the country. Through any one of them, instructor training programs and insured newcomer training are available. Contact the AMA at the address or toll-free phone number below.
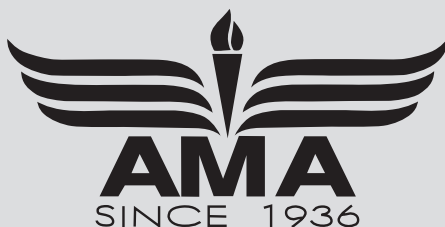
Academy of Model Aeronautics
5161 East Memorial Drive
Muncie, IN 47302
Tele. (800) 435-9262
Fax (765) 289-4248
or via the Internet at http:\\www.
modelaircraft.org

Always pay particular attention to the flying field's rules, as well as the presence and location of spectators, the wind direction, and any obstacles on the field. Be very careful flying in areas near power lines, tall buildings, or communication facilities as there may be radio interference in their vicinity.

Precautions

Application, Export, and Modification Precautions.

1. This product is only designed for use with radio control models. Use of the product described in this instruction manual is limited to radio control models.
2. Export precautions:
   a) When this product is exported, it cannot be used where prohibited by the laws governing radio waves of the destination country.
   b) Use of this product with other than models may be restricted by Export and Trade Control Regulations.
3. Modification, adjustment, and parts replacement
   Futaba is not responsible for unauthorized modification, adjustment, or replacement of parts on this product.

■ No part of this manual may be reproduced in any form without prior permission.
■ The contents of this manual are subject to change without prior notice.
■ Futaba is not responsible for the use of this product by the customer.
■ Company and product names in this manual are trademarks or registered trademarks of the respective company.

For safe use

Please observe the following precautions to ensure safe use of this product at all times.
Meaning of Special Markings:
The parts of this manual indicated by the following marks require special attention from the standpoint of safety.

⚠ **DANGER - Procedures which may lead to dangerous conditions and cause death/serious injury if not carried out properly.**

⚠ **WARNING - Procedures which may lead to a dangerous condition or cause death or serious injury to the user if not carried out properly, or procedures where the probability of superficial injury or physical damage is high.**

⚠ **CAUTION - Procedures where the possibility of serious injury to the user is small, but there is a danger of injury, or physical damage, if not carried out properly.**

$\bigcirc$ = Prohibited $\mathbf{!}$ = Mandatory

WARNING: Always keep electrical components away from small children.

Flying Precautions

⚠ **WARNING**

$\bigcirc$ **Never grasp the transmitter antenna while flying.**

■ The transmitter output may drop drastically.

$\bigcirc$ **Always make sure that all transmitter stick movements operate all servos properly in the model prior to flight. Also, make sure that all switches, etc. function properly as well. If there are any difficulties, do not use the system until all inputs are functioning properly.**

$\bigcirc$ **Never fly in the range check mode.**

■ In the dedicated range test range check mode, the transmitter output range is reduced and may cause a crash.

$\bigcirc$ **While operating, never touch the transmitter with, or bring the transmitter near, another transmitter, a cellphone, or other wireless devices.**

■ Doing so may cause erroneous operation.

$\bigcirc$ **Do not point the antenna directly toward the aircraft during flight.**

■ The antenna is directional and the transmitter output is weakest. (The strength of the radio waves is greatest from the sides of the antenna.)

$\bigcirc$ **Never fly on a rainy day, when the wind is strong, and at night.**

■ Water could lead to failure or improper functionality and poor control of the aircraft which could lead to a crash.

$\bigcirc$ **Never turn the power switch on and off during flight or while the engine or motor is running.**

■ Operation will become impossible and the aircraft will crash. Even if the power switch is turned on, operation will not begin until transmitter and receiver internal processing is complete.

$\bigcirc$ **Do not fly when you are physically impaired as it could pose a safety hazard to yourself or others.**

⊘ Do not fly at the following places:

- ■ Near another radio control flying field.
- ■ Near or above people.
- ■ Near homes, schools, hospitals or other places where people congregate.
- ■ Near high voltage lines, high structures, or communication facilities.

⊘ Do not touch the engine, motor, or FET amp during and immediately after use.

- ■ These items may become hot during use.

❶ For safety, fly so that the aircraft is visible at all times.

- ■ Flying behind buildings or other large structures will not only cause you to lose sight of the aircraft, but also degrade the RF link performance and cause loss of control.

❶ From the standpoint of safety, always set the fail safe function.

- ■ In particular, normally set the throttle channel to idle. For a helicopter, set the throttle channel to maintain a hover.

❶ When flying, always return the transmitter setup screen to the Home screen.

- ■ Erroneous input during flight is extremely dangerous.

❶ Always check the remaining capacity of the transmitter and receiver batteries before each flying session prior to flight.

- ■ Low battery capacity will cause loss of control and a crash.

❶ Always check operation of each control surface and perform a range test before each flying session. Also, when using the trainer function, check the operation of both the teacher and student transmitter.

- ■ Even one transmitter setting or aircraft abnormality cause a crash.

❶ Before turning on the transmitter:

1. Always move the transmitter throttle stick position to the minimum (idle) position.

2. Turn on the transmitter first and then the receiver.

❶ When turning off the transmitter's power switch. After the engine or motor has stopped (state in which it will not rotate again):

1. Turn off the receiver power switch.

2. Then turn off the transmitter power switch.

- ■ If the power switch is turned on/off in the opposite order, the propeller may rotate unexpectedly and cause a serious injury.
- ■ Also always observe the above order when setting the fail safe function.
- ■ Maximum low throttle: Direction in which the engine or motor runs at the slowest speed or stops.

❶ When adjusting the transmitter, stop the engine except when necessary. In the case of a motor, disconnect the wiring and to allow it to continue operation. When doing so, please exercise extreme caution. Ensure that the aircraft is secured and that it will not come into contact with anything or anyone. Ensure that the motor will not rotate prior to making any adjustments.

- ■ Unexpected high speed rotation of the engine may cause a serious injury.

Battery and Charger Handling Precautions

⚠ **DANGER**

⊘ Do not recharge a battery that is damaged, deteriorated, leaking electrolyte, or wet.

⊘ Do not use the charger in applications other than as intended.

⊘ Do not allow the charger or battery to become wet.

- ■ Do not use the charger, when it or your hands, are wet. Do not use the charger in humid places.

⊘ Do not short circuit the battery.

⊘ Do not solder or repair, deform, modify, or disassemble the battery and/or battery charger.

⊘ Do not drop the battery into a fire or bring it near a fire.

⊘ Do not charge and store the battery in direct sunlight or other hot places.

⊘ Do not charge the battery if it is covered with any object as it may become very hot.

⊘ Do not use the battery in a combustible environment.

- ■ The gas ignite and cause an explosion or fire.

❶ Always charge the battery before each flying session.

- ■ If the battery goes dead during flight, the aircraft will crash.

❶ Charge the nickel-hydride battery with the dedicated charger supplied with the set.

- ■ Charging the battery past the specified value may

cause a fire, combustion, rupture, or liquid leakage. When quick charging, do not charge the battery above 1C.

■ Do not charge the battery while riding in a vehicle. Vibration will prevent normal charging.

❶ Insert the power cord plug firmly into the receptacle up to its base.

❶ Always use the charger with the specified power supply voltage.

■ Use the special charger by connecting it to a proper power outlet.

❶ If the battery should get in your eyes, do not rub your eyes, but immediately wash them with tap water or other clean water and get treated by a doctor.

■ The liquid can cause blindness.

⚠ WARNING

⃠ Do not touch the charger and battery for any length of time during charging.

■ Doing so may result burns.

⃠ Do not use a charger or battery that has been damaged.

⃠ Do not touch any of the internal components of the charger.

■ Doing so may cause electric shock or a burn.

⃠ If any abnormalities such as smoke or discoloration are noted with either the charger or the battery, remove the battery from the transmitter or charger and disconnect the power cord plug and do not use the charger.

■ Continued use may cause fire, combustion, generation of heat, or rupture.

⃠ Do not subject the batteries to impact.

■ Doing so may cause fire, combustion, generation of heat, rupture, or liquid leakage.

⃠ Do not repeatedly charge a nickel-hydrogen battery in the shallow discharge state.

■ The battery memory effect will substantially shorten the battery life even if it is recharged.

❶ Use and store the battery and battery charger in a secure location away from children.

■ Doing so may cause electric shock or injury.

❶ If the battery leaks liquid or generates an abnormal odor, immediately move it to a safe place for disposal.

■ Not doing so may cause combustion.

❶ If the battery liquid gets on your skin or clothing, immediately flush the area with tap water or other clean water.

■ Consult a doctor. The liquid can cause skin damage.

❶ After the specified charging time has elapsed, end charging and disconnect the charger from the receptacle.

❶ When recycling or disposing of the battery, isolate the terminals by covering them with cellophane tape.

■ Short circuit of the terminals may cause combustion, generation of heat or rupture.

⚠ CAUTION

⃠ Do not use the nickel-hydride battery with devices other than the corresponding transmitter.

⃠ Do not place heavy objects on top of the battery or charger. Also, do not place the battery or charger in any location where it fall.
■ Doing so may cause damage or injury.

⃠ Do not store or use the battery and charger where it is dusty or humid.

■ Insert the power cord plug into the receptacle only after eliminating the dust.

⃠ After the transmitter has been used for a long time, the battery may become hot. Immediately remove from the transmitter.

■ Not doing so may cause a burn.

⃠ Do not charge the battery in extreme temperatures.

■ Doing so will degrade the battery performance. An ambient temperature of 10 ℃ to 30 ℃ (50F to 86F) is ideal for charging.

❶ Unplug the charger when not in use.

⃠ Do not bend or pull the cord unreasonably and do not place heavy objects on the cord.

■ The power cord may be damaged and cause combustion, generation of heat, or electric shock.

SD Card (Commercial Product) Handling Precautions

*Read the instruction manual supplied with the SD card for details.

⚠ WARNING

⊘ **Never disassemble or modify the SD card.**

⊘ **Do not unreasonably bend, drop, scratch or place heavy objects on the SD card.**

⊘ **If smoke or an abnormal odor emanates from the card, immediately turn off the transmitter power.**

⊘ **Do not use the SD card where it may be exposed to water, chemicals, oil, or other fluids.**
■ Doing so may cause a fire or electric shock by short circuiting.

⚠ CAUTION

❶ **Since the SD card is an electronic device, be careful of static electricity.**

■ Static electricity may cause erroneous operation or trouble.

⊘ **Do not use the SD card near radio and television sets, audio equipment, motors and other equipment that generate noise.**

■ Doing so may cause erroneous operation.

⊘ **Do not store the SD card in the following places:**
・ Where the humidity is high
・ Where the temperature difference is severe
・ Where it is very dusty
・ Where the card will be exposed to shock and vibration
・ Near speakers and other magnetic devices

⊘ **Do not insert foreign matter into the transmitter card slot.**

■ Doing so will cause trouble.

⊘ **Do not expose the card to shock and vibration and do not remove the card from the card slot while data is being written or read.**

■ The data may be damaged or lost.

● Recorded data

The data recorded on the SD card cannot be compensated regardless of the contents or cause of the trouble or obstruction. Futaba does not perform data restoration or recovery work.

Storage and Disposal Precautions

⚠ WARNING

⊘ **Keep wireless equipment, batteries, aircraft, etc. away from children.**

⚠ CAUTION

⊘ **Do not store wireless devices in the following places:**
・ Where it is extremely hot (40 ℃ [104F] or higher) or cold (-10℃ [14F] or lower)
・ Where the equipment will be exposed to direct sunlight
・ Where the humidity is high
・ Where vibration is prevalent
・ Where it is very dusty
・ Where the device may be exposed to steam and heat

❶ **When the device will not be used for a long time, remove the battery from the transmitter and aircraft and store them in a dry place where the temperature is between 0 and 30℃ [32F and 86F].**

■ Left standing 'as is' may will cause battery deterioration, liquid leakage, etc.

Other Precautions

⚠ CAUTION

⊘ **Do not directly expose plastic parts to fuel, oil, exhaust gas, etc.**

■ If left in such an environment, the plastic may be attacked and damaged.
■ Since the metal parts of the case may corrode, always keep them clean.

❶ **Join the Academy of Model Aeronautics.**

■ The Academy of Model Aeronautics (AMA) provides guidelines and liability protection should the need arise.

❶ **Always use genuine Futaba products such as transmitter, receiver, servo, FET amplifier, battery, etc.**

■ Futaba is not responsible for damage sustained by combination with other than Futaba Genuine Parts. Use the parts specified in the instruction manual and catalog.

BEFORE USE

Features

FASSTest system

The FMT-01 transmitter has adopted the newly developed bidirectional communication system "FASSTest". Data from the receiver can be checked in your transmitter. FASSTest is a maximum 18channels (linear 16 channels + switch 2 channels) 2.4GHz dedicated system.

S.BUS2 system

By using the S.BUS2 system multiple servos, gyros and telemetry sensors are easily installed with a minimum amount of cables.

Model types

Multicopter type. 8 swash types are available for helicopters. 7 types of main wings and 3 types of tail wings are available for airplanes and gliders. Functions and mixing functions necessary for each model type are set in advance at the factory.

Ni-MH battery

FMT-01 is operated by a 7.2 V/1,800 mAh Nickel-Metal Hydride battery.

SD card (Secure Digital memory card) (Not included)

Model data can be saved to an SD card (SD:32MB-2GB SDHC:4GB-32GB). When FMT-01 transmitter software files are released, the software can be updated by using an SD card update.

Data input

Large graphic LCD and Touch Sensor substantially improve ease of setup.

Edit button

Two edit buttons are provided, and the operating screen can be immediately "Returned" to the HOME screen during operation. Setting operation can be performed easily by combining this button with a touch sensor.

Vibration function

Selects a function that alerts the operator to various alarms by vibrating the transmitter in addition to sounding a buzzer.

Contents and Technical Specifications

(Specifications and ratings are subject to change without notice.)

Your FMT-01 includes the following components:

• FMT-01 Transmitter

• FMR-01 Receiver

• HT6F1800B Ni-MH battery & charger

• Switch harness

*The set contents depend on the type of set.

Transmitter FMT-01

(2-stick, 18-channel, FASSTest-2.4G system)

Transmitting frequency: 2.4GHz band

System: FASSTest18CH, FASSTest12CH switchable

Power supply: 7.2V HT6F1800B Ni-MH battery

Receiver FMR-01

(FASSTest-2.4G system, dual antenna diversity, S.BUS/S.BUS2 system)

Power requirement: 3.7V~7.4V battery or regulated output from ESC, etc. (*1)

Size: 0.89 x 1.47 x 0.37 in. (22.5 x 37.4 x 9.3 mm)

Weight: 0.25 oz. (7.2g)

(*1) When using an ESC make sure that it is capable of your applications current draw.

> **Note: The battery in the FMT-01 transmitter is not connected to the battery connector at initial. Please connect the battery connector before use.**

The following additional accessories are available from your dealer. Refer to a Futaba catalog for more information:

• HT6F1800B transmitter battery pack - the (1800mAh) transmitter Ni-MH battery pack may be easily exchanged with a fresh one to provide enough capacity for extended flying sessions.

• Trainer cord - the optional training cord may be used to help a beginning pilot learn to fly easily by placing the instructor on a separate transmitter. Note that the FMT-01 transmitter may be connected to another FMT-01 system, as well as to any other models of Futaba transmitters. The FMT-01 transmitter uses one of the three cord plug types according to the transmitter connected. (Refer to the description at the TRAINER function instructions). The part number of this cord is: FUTM4405.

• Servos - there are various kinds of servos. Please choose from the servos of Futaba what suited the model and the purpose of using you. If you utilize a S.BUS system, you should choose a S.BUS servo. An analog servo cannot be used if "FASSTest12CH mode" is used.

• Telemetry sensor - please purchase an optional sensor, in order to utilize bidirectional communication system and to acquire the information from a model high up in the sky.
 [Temperature sensor : SBS-01T/TE] [Altitude sensor : SBS-01A] [RPM sensor magnet type : SBS-01RM][RPM sensor optical type : SBS-01RO] [RPM sensor brushless motor type : SBS-01RO] [GPS sensor : SBS-01G] [Voltage sensor : SBS-01V]

• Y-harnesses, servo extensions, hub,etc - Genuine Futaba extensions and Y-harnesses, including a heavy-duty version with heavier wire, are available to aid in your larger model and other installations.

• Gyros - a variety of genuine Futaba gyros is available for your aircraft or helicopter needs.

• Governor - for helicopter use. Automatically adjusts throttle servo position to maintain a constant head speed regardless of blade pitch, load, weather, etc.

• Receivers - various models of Futaba receivers may be purchased for use in other models. (Receivers for FASSTest types are available.)

Transmitter controls

●Antenna

●Volume(LD)

●Monitor LED

●Volume(RD)

●Switch(SA,SB,SE)

●Switch(SD,SG,SH)

●RotaryTrim(T6)

●RotaryTrim(T5)

●LinearSlider(LS)

●LinearSlider(RS)

●Stick Switch(SF)

●Stick Switch(SC)

●Stick

J3

J4

J5

●Stick

J2

J1

J5

●RotaryTrim
(T3)

●RotaryTrim
(T2)

●RotaryTrim
(T4)

●RotaryTrim
(T1)

●U.menu/Mon
Button

Home / Exit   U.menu/Mon

●Home/Exit
Button

LNK

SYS   RTN   MDL

S1

●SensorTouch™
(SYS,LINK,
MDL,RTN,S1)

Futaba

MONITOR

POWER

FASSTest

```
 MODEL1              CONDIT1  7.8V
TIMER1  UP              SYSTEM
 00:00.0             LINKAGE
TIMER2  UP        AIRPLANE MODEL
 00:00.0             FASSTest18
FUTABA CORP.                5.3V
01:50:02                 ON AIR
```

●Power Switch

●LCD

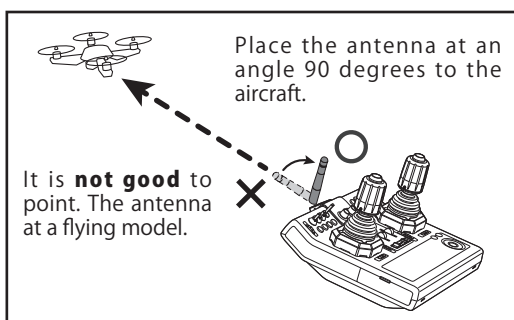⚠ **CAUTION**   **Throttle stick (J3)**

❗ **This transmitter is a self neutral stick. A throttle stick of a transmitter for R/C hobbies of normality is a ratchet-type. Notice should be taken of this difference. When you release your hold, it becomes middle-speed, so be careful.**

Transmitter's Antenna:

As with all radio frequency transmissions, the strongest area of signal transmission is from the sides of the transmitter's antenna. As such, the antenna should not be pointed directly at the model. If your flying style creates this situation, easily move the antenna to correct this situation.

•Rotating antenna

The antenna can be rotated 90 degrees and angled 90 degrees. Forcing the antenna further than this can damage it. The antenna is not removable.

Low power

High power   High power

Place the antenna at an angle 90 degrees to the aircraft.

It is **not good** to point. The antenna at a flying model.
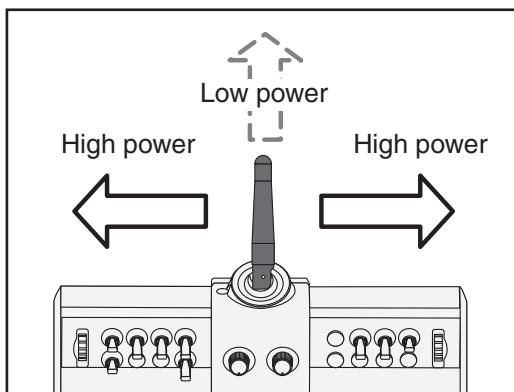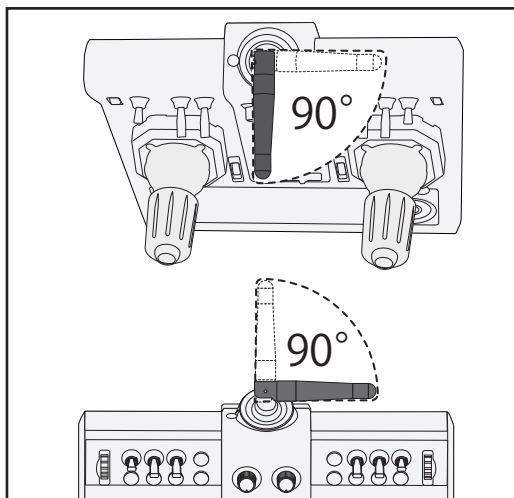
⚠ **CAUTION**

❗ **Please do not grasp the transmitter's antenna during flight.**

■ Doing so may degrade the quality of the RF transmission to the model

🚫 **Do not carry the transmitter by the antenna.**

■ There is the danger that the antenna wire will break and operation will become impossible.

🚫 **Do not pull the antenna forcefully.**

■ There is the danger that the antenna wire will break and operation will become impossible.
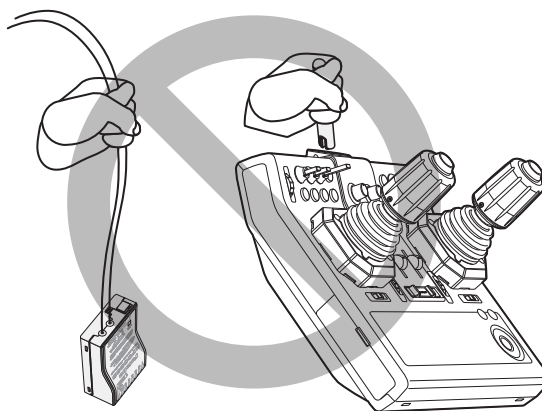
Monitor LED display

The status of the transmitter is displayed by LED at the upper part of the front of a FMT-01.

✧ RF-ON → Light Blue light

✧ RF-OFF → Violet light

✧ Starting → Red light

✧ Trainer Student → Blue light

✧ Range check mode → Slow blinking

✧ FASSTest receiver link mode → Fast blinking

  * The SensorTouch™ may not operate smoothly if your hand is touching the surrounding case parts. As such, please make sure that the tip of your finger is actually operating the

Switch (SA-SH)

(Switch Type)
- SA : 3 positions; Alternate; Short lever
- SB : 3 positions; Alternate; Short lever
- SD : 3 positions; Alternate; Long lever
- SE : 2 positions; Alternate; Long lever
- SG : 3 positions; Alternate; Short lever
- SH : 3 positions; Alternate; Short lever

*You can choose switch and set the ON/OFF-direction in the setting screen of the mixing functions.

Rotary Trims
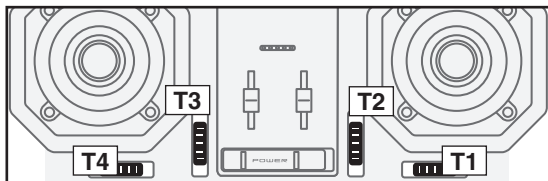
Rotary Trims T1, T2, T3 and T4:

This transmitter is equipped with four (4) rotary trims. Each time you press a trim button, the trim position moves one step. If you continue pressing it, the trim position starts to move faster. In addition, when the trim position returns to the center, the tone will change. You can always monitor trim positions by referencing the LCD screen.

*You can select the trim step amount and the display unit on the home screen on the T1-T4 setting screen within the linkage menu.

Note: The trim positions you have set will be stored in the non-volatile memory and will remain there.

Volume
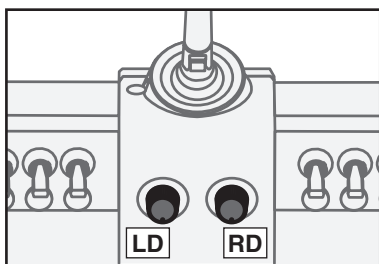
Volume LD and RD:

The volume LD and RD knobs allow analog input.

*The FMT-01 transmitter beeps when the volume knob reaches the center position.

*You can use each setting screen of the mixing functions to select volumes and define the direction of a movement.

Upper Rotary Trimmers
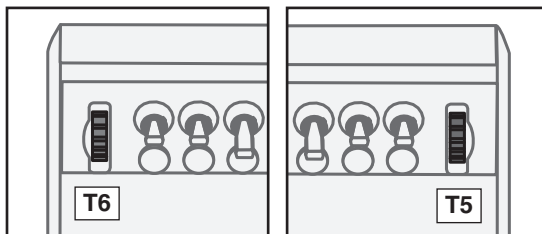
T5 (right), T6 (Left):

The upper rotary trimmers T5 and T6 offer analog input.

*The FMT-01 transmitter beeps when the lever comes to the center.

*You can select a slide lever and set the movement direction on the setting screen of mixing functions.

Linear Slider

LS (right), RS (Left):
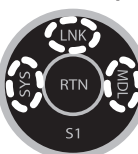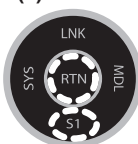
The Linear Slider LS and RS offer analog input.

*The FMT-01 transmitter beeps when the lever comes to the center.

*You can select a slide lever and set the movement direction on the setting screen of mixing functions.

Touch sensor operation

Data input operation is performed using the touch sensor.

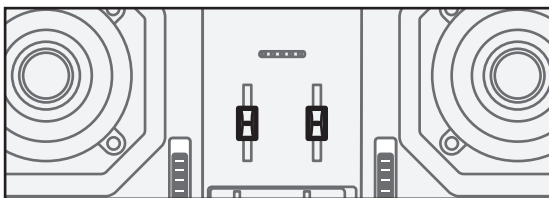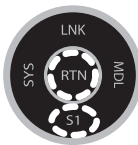| SensorTouch™ operation		Action	Reaction
• Short 'tap'	S1	If the screen has more than one page.	The cursor moves to the top of next page.
		If the screen have only one (1) page.	The cursor moves to the top of page.
		If the input data mode with blinking the setting data.	The input data is canceled.
	RTN	At the moving cursor mode.	Change to the input data mode.
		At the input data mode.	Change to the moving cursor mode.
		At the input data mode with blinking the setting data.	The data is entered.
• Two short 'taps'	SYS	At all screens	Jump to **System Menu** screen directly.
	LNK	At all screens	Jump to **Linkage Menu** screen directly.
	MDL	At all screens	Jump to **Model Menu** screen directly.
• Touch and hold for one (1) second.	S1	At the HOME screen	Key lock On or Off
	RTN	In the input data mode without blinking the setting data.	Reset to the initialized value.
• Scrolling	Outline of "RTN"	Lightly circling the outside edge of the RTN button.	The cursor moves accordingly.
		During the data input mode.	Increases or decreases values accordingly.

Movement of cursor, value input or mode selection:

Movement of the cursor on the menu screen and movement of the cursor among items on a setup screen can be controlled by scrolling your finger to the left and right in the direction of the arrow in the scrolling diagram above. You can also go to the next page, if there is a next page.

This scrolling technique is also used for data input, value input, mode selection, and similar operations. Examples include: Value, ON, OFF, INH, ACT, etc.

RTN button:

Touch the RTN button when you want to open a setup screen or to switch between cursor move mode (reverse display) and data input mode (box display).

This button can also be used as the enter button when a confirmation message is displayed on the screen, etc.

S1 button:

When there is a next page on a menu screen or setup screen, you can go to that page by touching the S1 button. In this case, the cursor moves to the screen title item of the page.

Exiting setup screen:

To end the operation on a setup screen and return to the menu screen, move the cursor to the screen title item and touch the RTN button.

To return to home screen directly, touch the Home/Exit button for 1 second.

Alternatively, move the cursor to the screen title item and touch the RTN button to return to the home screen from a menu screen.

Home/Exit and U.menu/Mon. Button
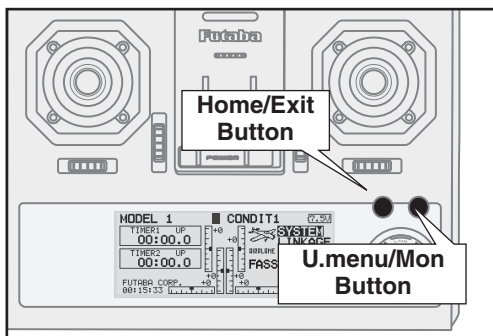
Home/Exit:

Press	Return to the previous screen
Press and hold	Return to the Home screen
It pushes from HOME screen.	To TELEMETRY display

U.menu/Mon:

Press	To Servo Monitor display
Press and hold	To User menu

SensorTouch ™

Note:

    *Scroll operation: Circle your finger on the outside edge of the RTN button. The sensors may mis-read your touch as a reverse rotation if the circle is smaller, or performed on the inside edge of the RTN button.
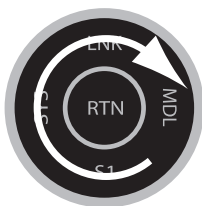
 * The SensorTouch™ may not operate smoothly if your hand is touching the surrounding case parts. As such, please make sure that the tip of your finger is actually operating the SensorTouch™.
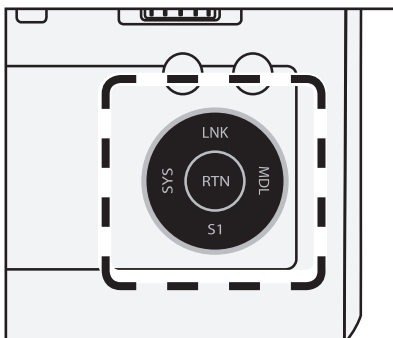
SensorTouch™.

 *If the SensorTouch™ does not register your input, please try again after lightly tapping your finger on the sensor once again.

 *Do not operate the SensorTouch™ with gloves worn. The SensorTouch™ might not react.

⚠ CAUTION

🚫 **The touch sensor might not operate by receiving the spark noise generated from the gasoline engine etc. In this case, please operate your transmitter from the noise source apart.**

Maintenance example of a transmitter

Tripod Screw Hole

Camera Tripods or Monopods. (not included)
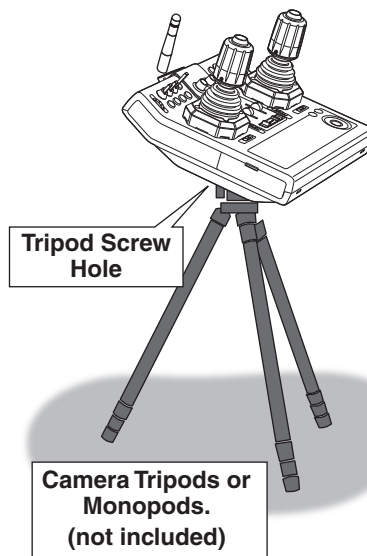
    Hole of the VESA (VIDEO ELECTORONICS STANDARDS ASSOCIATION) standard is equipped in FMT-01. It's also possible to install it in the display arm (not included).

3D Stick
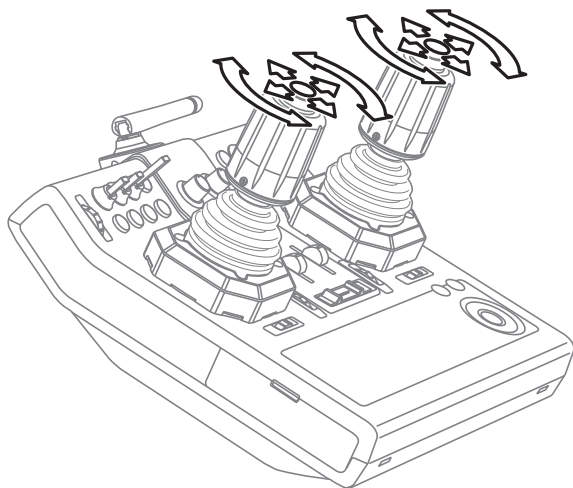
FMT-01 is equipped with 2 sticks operated in left, right, up or down. Revolving operation was added to the top of the stick.

Three axis of linear movement is on one stick.

Stick Switch

SC

SF
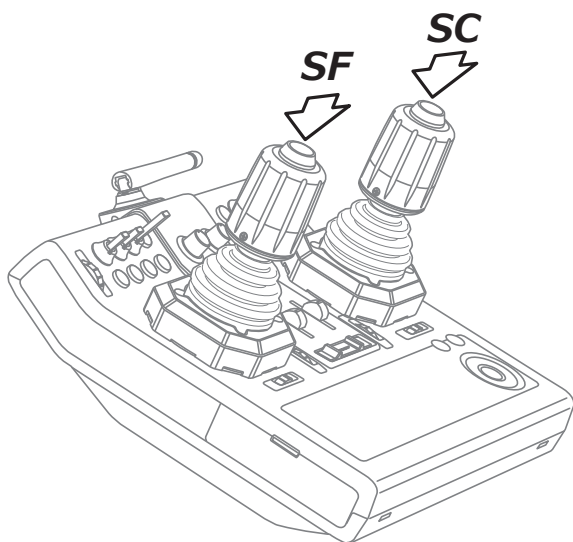
FMT-01 is equipped with 2 sticks switch.

The switch function can be chosen.

Set that by the **FUNCTION** of the **LINKAGE MENU**.

SD Card (secure digital memory card) (not included)

The FMT-01 transmitter model data can be stored by using any commonly found SD card. When FMT-01 transmitter update software is released, the software is updated using an SD card. The FMT-01 is capable of using SD cards with a memory size between 32MB and 2GB.

> ### ⚠ CAUTION
>
> ❶ **Be sure to turn off the power to the transmitter before inserting or removing the SD card.**
>
> ⊘ **As the SD card is a precision device, do not use excessive force when inserting.**

SD card reader/writer

Saving model data and update files (released from Futaba) into the SD card, you can use those files on your FMT-01 transmitter. Equipment for reading and writing SD cards is available at most electronics stores.

Stored data

When you have a problem of saving or reading data after a long period of use, please get a new SD card.

*We do not have the responsibility of compensating any failure or damage to the data stored in the memory card no matter what the reason is. Be sure to keep a backup of your important data in your SD card.

Inserting/removing the SD card

① Open the side caver.

SD card slot

*Don't mistake the direction that the SD card is inserted.
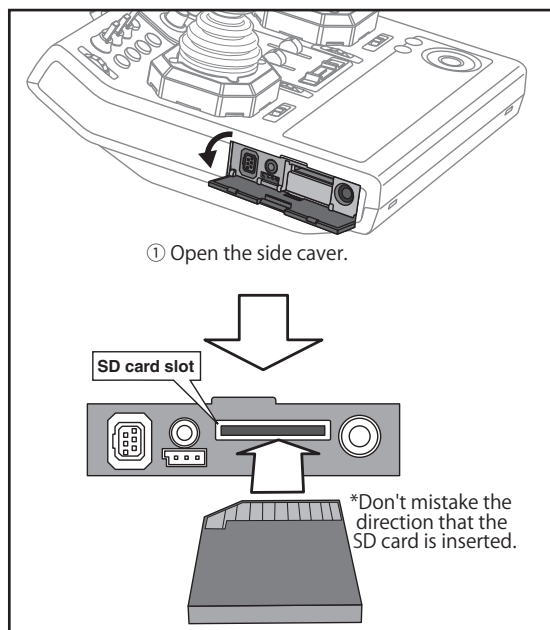
How to remove a rear case:

A rear case is removed when performing battery exchange, stick tension adjustment, and switch exchange.

Take care not to break an internal electronic board, wiring, and parts.

① To "OPEN", push the slider.
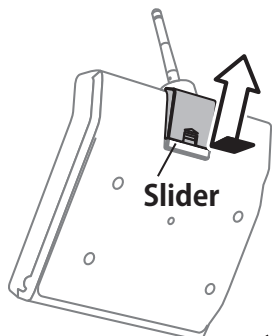
② It slides in the direction of an arrow.
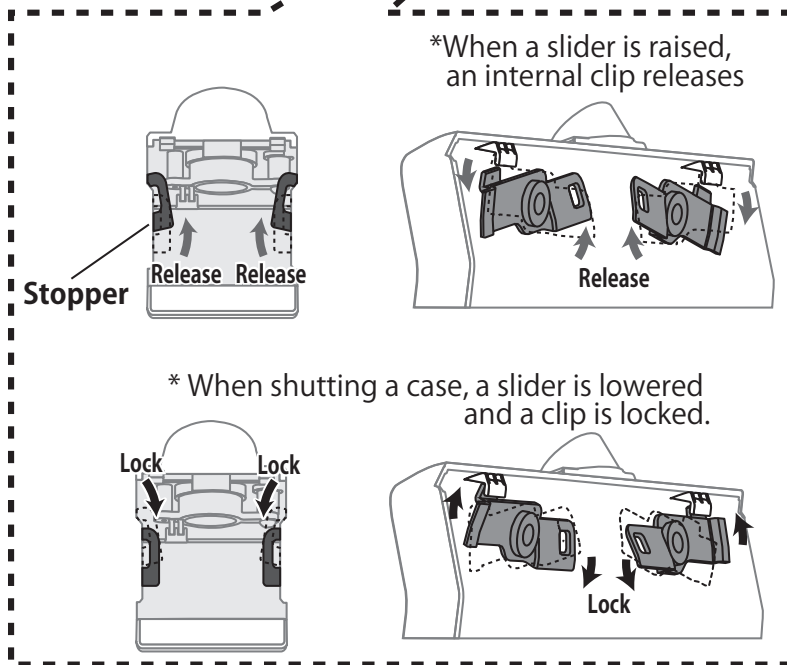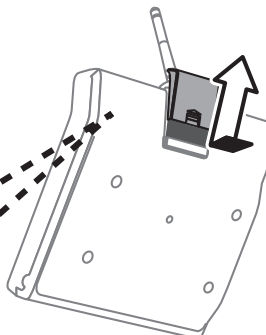
Slider

*When a slider is raised, an internal clip releases

Stopper

Release Release

Release

* When shutting a case, a slider is lowered and a clip is locked.

Lock   Lock

Lock

③ The rear case is removed in the direction of an arrow.
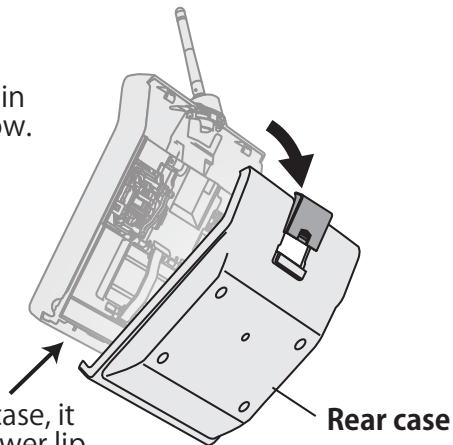
* When shutting a case, it attaches from a lower lip.

Rear case
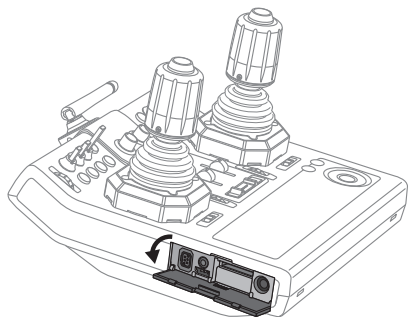
Connector/Plug

① Side cover is opened.
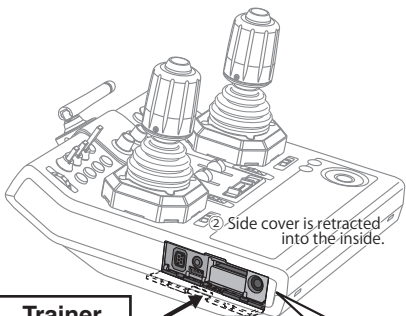
② Side cover is retracted into the inside.

Trainer Connector

S.BUS (S.I/F) Connector

Earphone Plug

Charge Plug

Connector for battery charger

This is the connector for charging the Ni-MH battery HT6F1800B that is installed in the transmitter. Do not use any other chargers except the attached special charger corresponding to Ni-MH battery.

> ⚠ **WARNING**
>
> ⊘ **Do not connect any other chargers except the special charger to this charging connector.**

Connector for trainer function

When you use the trainer function, connect the optional trainer cable between the transmitters for teacher and student.

*You can set the trainer function on the Trainer Function screen in the System menu.

S.BUS connector (S.I/F)

When setting an S.BUS servo and telemetry sensor, connect them both here.

(Supply power by 3-way hub or 2-way cord.)

Earphone plug

Connecting a stereo headphone to this plug, the speech information of telemetry can be heard.

Installation and removal of the HT6F1800B transmitter battery

Attachment of the battery

1. Open the rear case.

Band

Connector
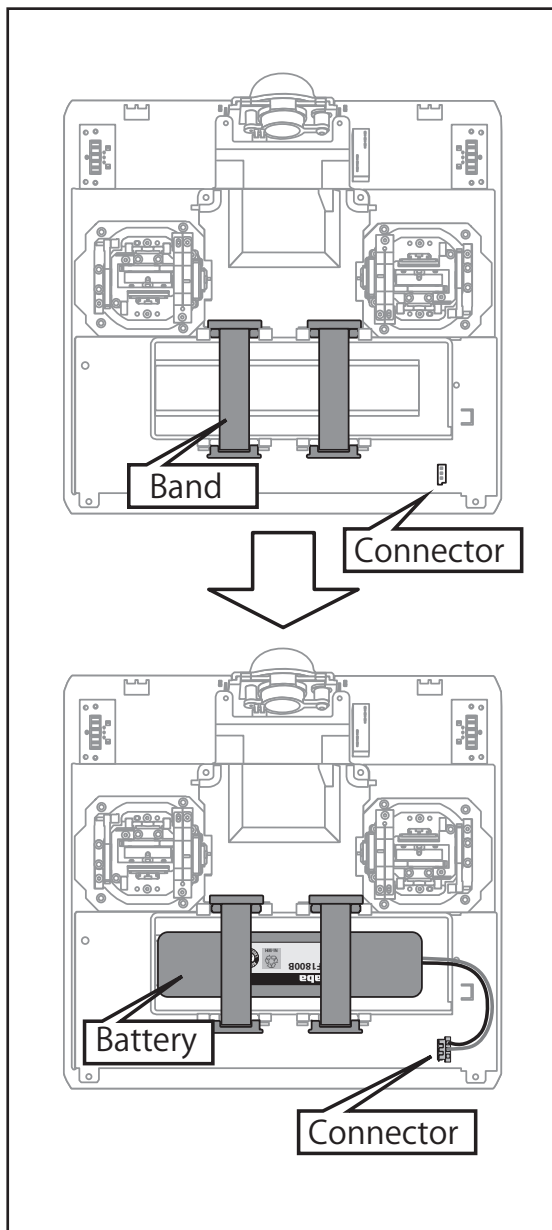
Battery

Connector

2. A battery is secured using two bands.
3. Connect the battery connector.
4. Close the rear case completely.

Battery removal

Note: If you remove the battery while the power is on, the data you have set will not be saved.

1. Open the rear case.
2. Disconnect the battery connector.
3. Two bands are removed and the remove the battery.
4. Close the rear case completely.

⚠ **WARNING**

❗ **Be careful not to drop the battery.**

🚫 **Never disconnect the battery connector from the FMT-01 transmitter after turning off the power until the screen is completely blank and the transmitter has shut down completely.**

* Internal devices such as memories may be damaged.

* If there is any problem, the message "Backup Error" will be shown the next time when you turn on the power of the transmitter. Do not use the transmitter as it is. Contact OEM supplier or Futaba Corporation of America.

Receiver FMR-01

LED Monitor • • • • • •

Not used • • • • • •

Direction of connector
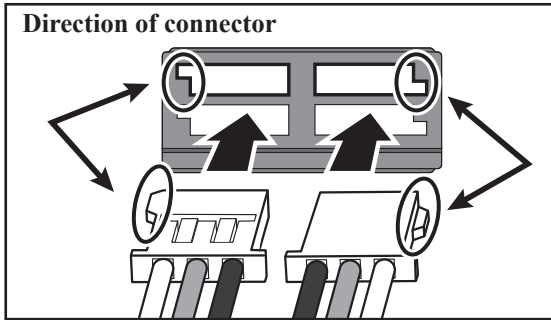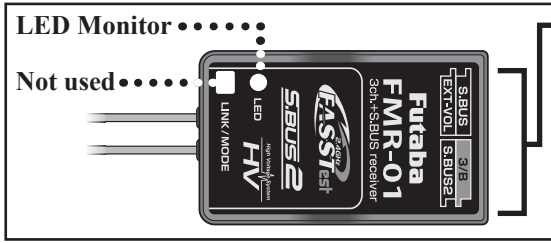
● **Connector**

"S.BUS" : S.BUS port

"3/B" : outputs of 3 channels and battery.

"EXT-VOL" : measurement of Extra Voltage.

"S.BUS2" : S.BUS 2 port

*A battery is connectable also with which port.

● **Be careful about the direction of connector.**

⚠ **WARNING**

S.BUS2 connectors

🚫 **Don't connect an S.BUS servo / gyro to S.BUS2 connector.**

● **LED Indication**

Green	Red	Status
Off	*Solid*	No signal reception
Solid	*Off*	Receiving signals
Alternate blink		Unrecoverable error (EEPROM, etc.)

(Typical installation)

S.BUS Servo

HUB

S.BUS2 Servo
S.BUS2 Gyro

HUB

Link/Mode switch
*It is not used

LED

FMR-01

Antenna

EXT-VOL port
Refer to the next page

S.BUS port

S.BUS2 port

HUB

HUB

Temperature Sensor

RPM Sensor

HUB

Altitude Sensor

Battery to 3/B

Battery

Futaba
FR2F1800
LiFePO4 Battery

HUB

SW

A battery is connectable
also with which port.

Motor controller
or PWM Servo(3CH)

ESC

PWM Servo
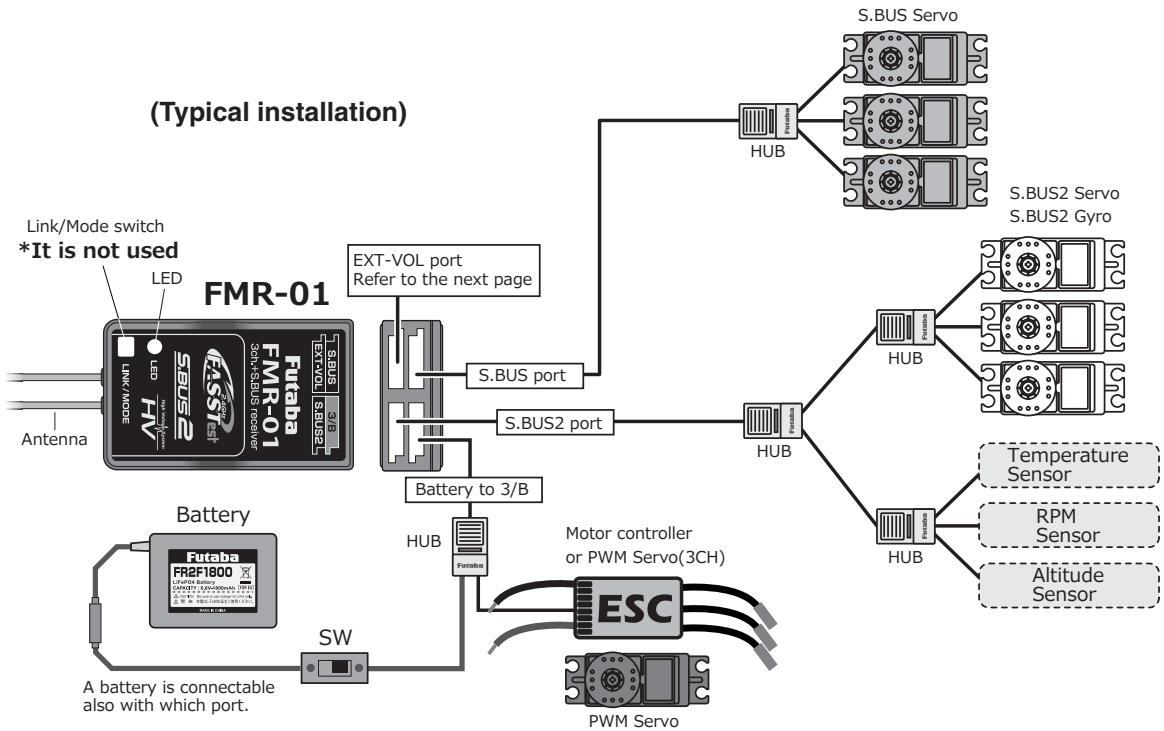
Measurement of Extra Voltage (Drive battery etc.)

FMR-01 can display the voltage of a receiver battery on a transmitter.

Furthermore, the following procedures are required in order to display the voltage of another battery (Drive battery etc.).

FMR-01

EXT-VOL CABLE

⊖ Black line   Fuse

to EXT-VOL   ⊕ Red line

Drive Battery   **ESC**   to Motor

Branch To **Motor Controller** or Servo

with external power
input must be less than **70V**
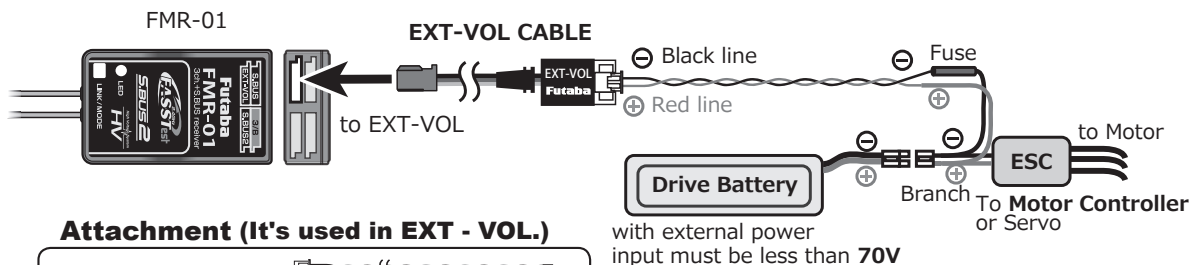
Attachment (It's used in EXT - VOL.)

Cable

Fuse（**mount in either direction**）

Heat Shrink Tube

EXT-VOL Cable

⚠WARNING

🚫 **Don't touch wiring.**
  • There is a danger of receiving an electric shock.

🚫 **Don't connect to Extra Voltage telemetry port before turning on a receiver.**

❗ **Don't connect EXT-VOL CABLE other than EXT-VOL port of FMR-01.**

❗ **In order to prevent any short circuits, please observe the polarity of all connections.**
  • Ensure that the unit is connected properly; failure to do so could result in damage to the cable, receiver, etc.

❗ **Always mount the cable in accordance with the instructions included in this manual.**

❗ **Don't apply voltage higher than 70V to Extra Voltage telemetry port.**
  • There is fear of explosion, ignition, and breakage.

Installation Method

① Measure the cable and then cut it to the desired length.
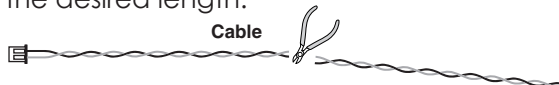
Cable

② Cut approximately 30mm of the negative (-, black) line from the cable. Solder the fuse inline on the negative wire and then reattach the section of wire that was previously removed. The fuse should be attached as close to the external power supply as possible.

The fuse should be attached as close to the external power supply as possible.
Solder welding

Fuse（mount in either direction）
Fuse to Black line (−)
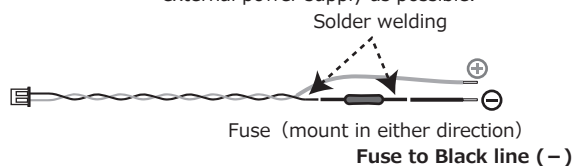
③ Place a piece of heat shrink tubing over the fuse, ensuring that it covers the soldered areas. Shrink the tubing snug to the fuse and the wire using a heat gun.

Heat shrink tube

Heat shrink

Heat shrink tube

④The cable should be connected as shown in the diagram below. The cable gets connected to the wires that come off the ESC and connect to the battery.

To EXT-VOL Cable   Fuse

motor controller

To Motor

To Power Battery
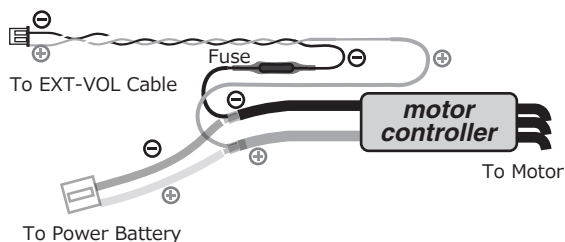
The connection is affixed to the ESC on the wires that are connected to the battery by soldering them and then protecting them with heat shrink.

⑤ The manual for the Telemetry system should be referred to after the setup is complete; checking to make sure it functions as desired and that it provides the correct voltage on the display.

Receiver's Antenna Installation

The FMR-01 has two antennas. In order to maximize signal reception and promote safe modeling Futaba has adopted a diversity antenna system. This allows the receiver to obtain RF signals on both antennas and fly problem-free.

*Must be kept as straight as possible.

Antenna

Coaxial cable
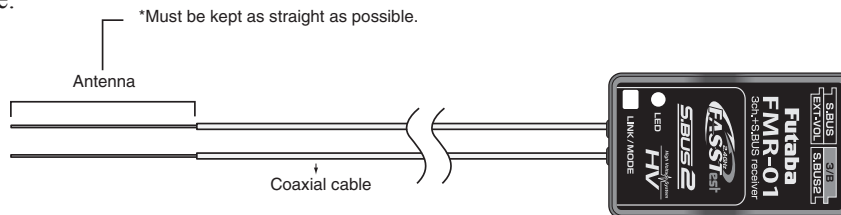
To obtain the best results of the diversity function, please refer to the following instructions:

1. The two antennas must be kept as straight as possible. Otherwise it will reduce the effective range.

2. The two antennas should be placed at 90 degrees to each other.
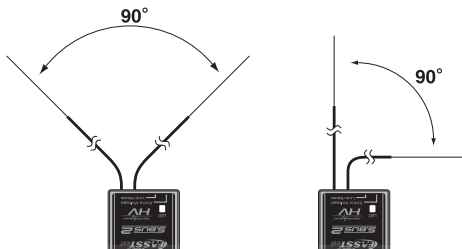
This is not a critical figure, but the most important thing is to keep the antennas away from each other as much as possible.

Larger models can have large metal objects that can effect the RF signal. In this case the antennas should be placed at both sides of the model. Then the best RF signal condition is obtained at any flying attitude.

3. The antennas must be kept away from conductive materials, such as metal, carbon and fuel tank by at least a half inch. The coaxial part of the antennas does not need to follow these guidelines, but do not bend it in a tight radius.

4. Keep the antennas away from the motor, ESC, and other noise sources as much as possible.
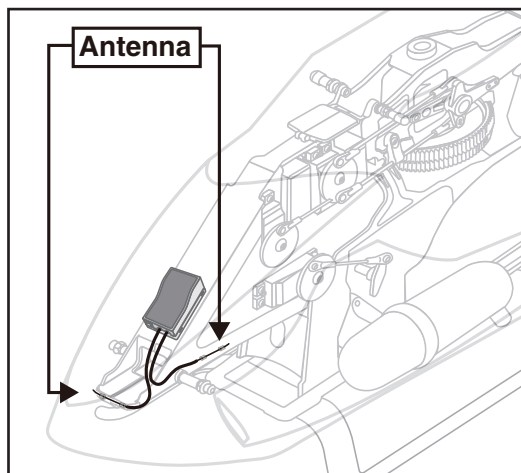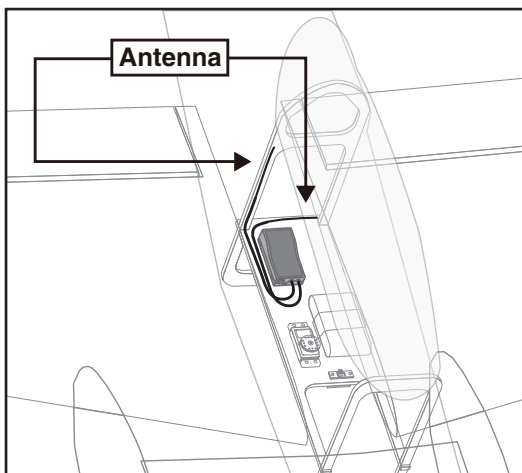
*The two antennas should be placed at 90 degrees to each other.

*The illustration demonstrates how the antenna should be placed.

*Receiver Vibration and Waterproofing: The receiver contains precision electronic parts. Be sure to avoid vibration, shock, and temperature extremes. For protection, wrap the receiver in foam rubber or other vibration-absorbing materials. It is also a good idea to waterproof the receiver by placing it in a plastic bag and securing the open end of the bag with a rubber band before wrapping it with foam rubber. If you accidentally get moisture or fuel inside the receiver, you may experience intermittent operation or a crash. If in doubt, return the receiver to our service center for service.

Mounting the Servo

Wood screw
Rubber grommet
Brass eyelet
Servo mount
(Airplane/Glider)

2.3-2.6mm nut
washer
Rubber grommet
Brass eyelet
Servo mount
2.3-2.6mm screw
(Helicopter)
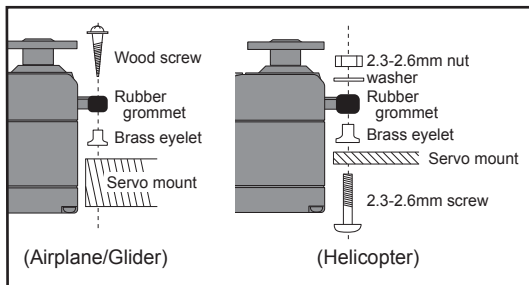
Servo lead wires

To prevent the servo lead cable from being broken by vibration during flight, provide a little slack in the cable and fasten it at suitable points. Periodically check the cable during daily maintenance.

Margin in the lead wire.

Fasten about 5-10cm from the servo outlet so that the lead wire is neat.
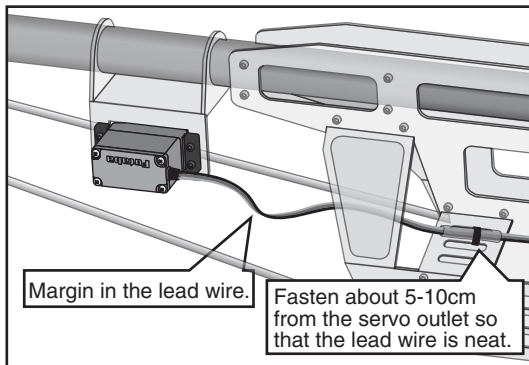
Mounting the power switch

When mounting a power switch to an airframe, make a rectangular hole that is a little larger than the total stroke of the switch so that you can turn the switch ON/OFF without binding.

Avoid mounting the switch where it can be covered by engine oil and dust. In general, it is recommended to mount the power switch on the side of the fuselage that is opposite the muffler.

Safety precautions when you install receiver and servos

⚠ WARNING

Connecting connectors

❗ **Be sure to insert the connector until it stops at the deepest point.**

How to protect the receiver from vibration and water

❗ **Wrap the receiver with something soft such as foam rubber to avoid vibration. If there is a chance of getting wet, put the receiver in a waterproof bag or balloon to avoid water.**

Receiver's antenna

🚫 **Never cut the receiver's antenna. Do not bind the receiver's antenna with the cables for servos.**

❗ **Locate the receiver's antenna as far as possible from metals or carbon fiber components such as frames, cables, etc.**

*Cutting or binding the receiver's antenna will reduce the radio reception sensitivity and range, and may cause a crash.

Servo throw

❗ **Adjust your system so that pushrods will not bind or sag when operating the servos to the full extent.**

*If excessive force is continuously applied to a servo, the servo could be damaged due to force on the gear train and/or power consumption causing rapid battery drain.

Mounting servos

❗ **Use a vibration-proof rubber (such as rubber grommet) under a servo when mounting the servo on a servo mount. And be sure that the servo cases do not touch directly to the metal parts such as servo mount.**

*If the servo case contacts the airframe directly, vibration will travel to and possibly damage the servo.

S.BUS/S.BUS2 Installation

 This set uses the S.BUS/S.BUS2 system. The wiring is as simplified and clean mounting as possible, even with models that use a large number of servos. In addition, the wings can be quickly installed to the fuselage without any erroneous wiring by the use of only one simple wire, even when there are a large number of servos used.

●When using S.BUS/S.BUS2, special settings and mixes in your transmitter may be unnecessary.

●The S.BUS/S.BUS2 servos memorize the number of channels themselves. (settable with the FMT-01)

●The S.BUS/S.BUS2 system and conventional system (receiver conventional CH used) can be mixed.

S.BUS   Glider usage example

Receiver: FMR-01

Servo: S3172SV×9 (Optional)

HUB×4 (Optional)
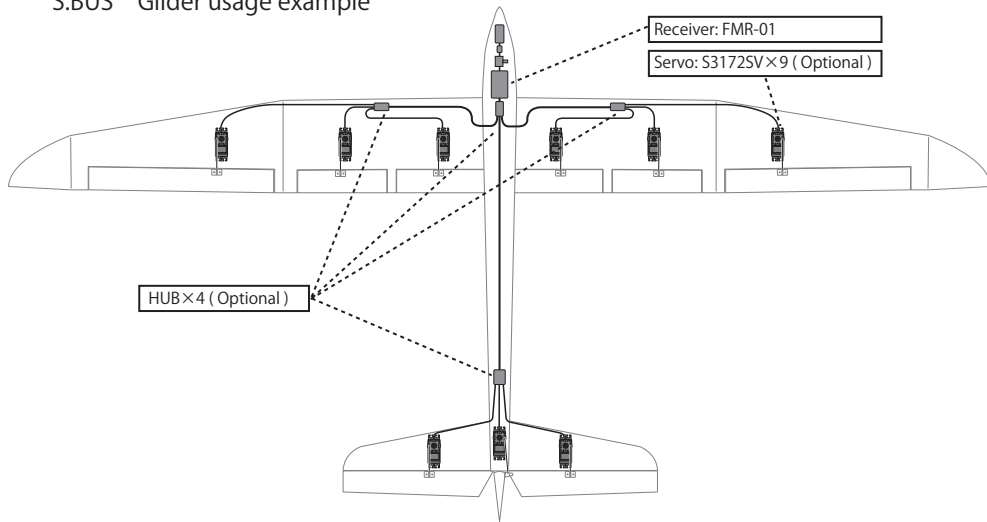
S.BUS Aerobatic plane usage example

Throttle servo: BLS173SV (Optional)

Battery: FR2F1800 (Optional)

Switch: HSW-L

Receiver: FMR-01

Aileron servo: BLS174SV×2 (Optional)

HUB×3 (Optional)

Rudder Servo: BLS175SV×1 (Optional)

Elevator servo: BLS173SV×2 (Optional)

S.BUS Wiring example

Receiver

Battery

Switch

S.BUS Port

S.BUS Extension Cable

Terminal box

Hub

S.BUS Servo

S.BUS Servo

Hub
(Another power supply)

Switch

Hub

Hub

Battery

S.BUS Servo

⚠ WARNING

Power supply

❗ **Please make sure that you use a battery that can deliver enough capacity for the number and kind of servos used. Alkaline batteries cannot be used.**

●S.BUS Servo

 Since the channel number is memorized by the S.BUS itself, any connector can be used. When the SBD-2 (sold separately) is used, ordinary servos can be used with the S.BUS system.

●6-Terminal box (TB16PP)

Six connectors can be inserted
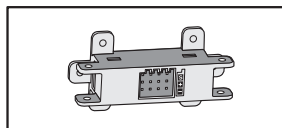
●4-Terminal box

Four connectors can be inserted
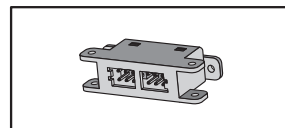
●When separate power supply used

 When a large number of servos are used or when high current servos are used, the servos can be driven by a separate power supply by using a separate Power Supply 3-way hub.

●Hub

Three connectors can be inserted.

Orange

●Hub（Another power supply）

Used when using a separate power supply battery.

Green

S.BUS2 System

Using the S.Bus2 port an impressive array of telemetry sensors may be utilized.

S.BUS2 TABLE

Receiver port	S.BUS servo S.BUS gyro	S.BUS2 servo S.BUS2 gyro	Telemetry sensor
S.BUS	○	○	×
S.BUS2	× （※）	○	○

（※） Don't connect S.BUS servo,
S.BUS gyro to BUS2 connector.

**S.BUS servo gyro has S.BUS correspondence and S.BUS2 correspondence.
Please confirm with a catalog or each operation manual.**

Hub

Hub

S.BUS2 servo

S.BUS servo
connection is impossible

S.BUS2
GYRO
+
Rudder servo

Hub

Telemetry
sensor

Hub

S.BUS servo

S.BUS2 servo
connection is possible

S.BUS2 gyro
connection is possible

Telemetry sensor
connection is impossible
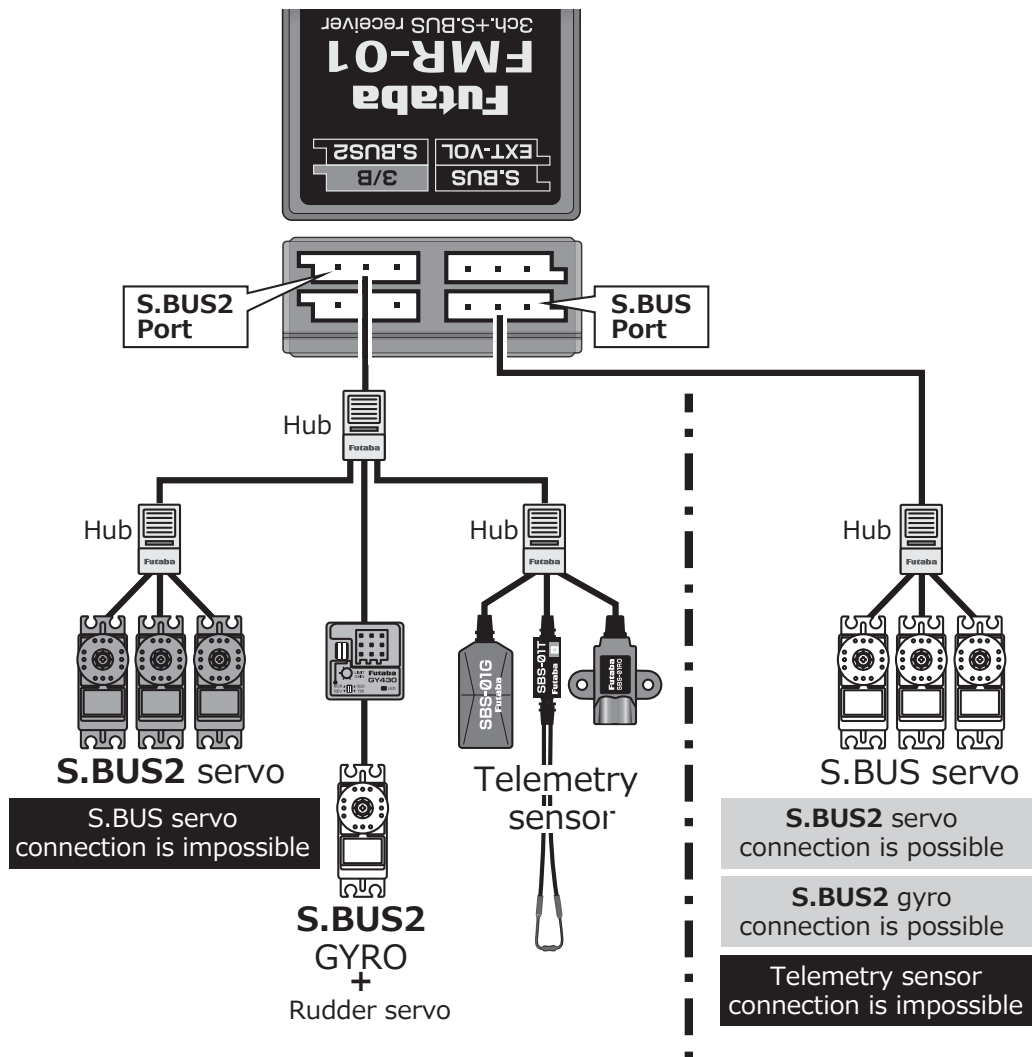
S.BUS/S.BUS2 device setting

S.BUS/S.BUS2 servos or a telemetry sensor can be connected directly to the FMT-01. Channel setting and other data can be entered for the S.BUS/S.BUS2 servos or sensors.

FMT-01

1. Connect the S.BUS device you want to set with as shown in the figure.
2. Turn on the transmitter power.
3. Call the setup screen.

    Servo: System Menu → S.BUS servo

    Sensor: Linkage Menu → Sensor

4. Perform setting in accordance with each screen.
5. This sets the channel and other data for each S.BUS servo, or telemetry device to be used with the S.BUS device or receiver.

    *It is not necessary to carry out multiple connection of the battery like a T18MZ/ T14SG.

    (It will damage, if it connects.)

*When you connect to a transmitter many servos which consume many current, please use "Another power supply HUB".

    And electric power is supplied to a servo with another power supply.
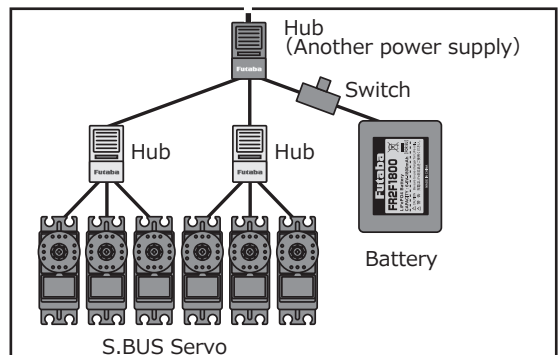
S.BUS/S.BUS2
device
(S.BUS/S.BUS2 servo)

(Telemetry sensor)

Hub
(Another power supply)

Switch

Battery

S.BUS Servo

●When separate power supply used

When a large number of servos are used or when high current servos are used, the servos can be driven by a separate power supply by using a separate Power Supply 3-way hub.

Green

Hub
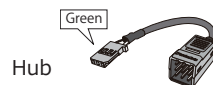
(Another power supply)

Used when using a separate power supply battery.

Telemetry System

The FMR-01 receiver features bi-directional communication with a FASSTest Futaba transmitter using the S.BUS2 port. Using the S.BUS2 port an impressive array of telemetry sensors may be utilized. It also includes both standard PWM output ports and S.BUS output ports.

*Telemetry is available only in the FASSTest 18CH mode. (12CH mode displays only receiver battery voltage and extra battery voltage.)

*The telemetry function requires the corresponding receiver (FMR-01).

* Telemetry display only FMT-01 ID of FMR-01 was remembered to be.

●Telemetry sensor (sold separately)

Your aircrafts data can be checked in the transmitter by connecting various telemetry sensors to the S.BUS2 connector of the receiver.

FMT-01

EXT-VOL CABLE

with external power input must be less than **70V**

Drive battery

Fuse

Branch

Motor Controller

Drive battery voltage is displayed at the transmitter.

Signal

Info

Info

Receiver

S.BUS2 port

Info

Switch

Terminal box

Battery voltage is displayed at the transmitter.

Info

Hub

Temperature Sensor — Slot 1

RPM Sensor — Slot 2

Altitude Sensor — Slot 3 ～ 5

Info

Hub

Voltage Sensor — Slot 6 ～ 7

GPS Sensor — Slot 8 ～ 15

Info

Hub

***Sensor — Slot 16

***Sensor — Slot 17

Slot 31

●Slot No.

Servos are classified by channel, but sensors are classified by "slot". Since the initial slot No. of the FMT-01 is preset at each sensor, the sensors can be used as is by connecting them. There are 1~31 slots.

BASIC OPERATION

Battery Charging

Before charging batteries, read the "Cautions for handling battery and battery charger" in the section "NiMH/NiCd Battery Safety and Handling Instructions".

How to charge the NiMH battery HT6F1700B for the transmitter

⚠ DANGER

🚫 The NiMH battery HT6F1700B is only for your FMT-01. Do not use this battery for other equipment.

❗ Be sure to use the attached special charger to charge the battery.

*If you take the NiMH battery HT6F1700B out of the transmitter, you can use the optional quick charger CR-2000 corresponding to NiMH battery.

[Method of charging battery]

●**Special charger**
*Connect to AC outlet specified.

Receiver Batt. Charging display

Transmitter Batt. Charging display

To FX-32 charge connector
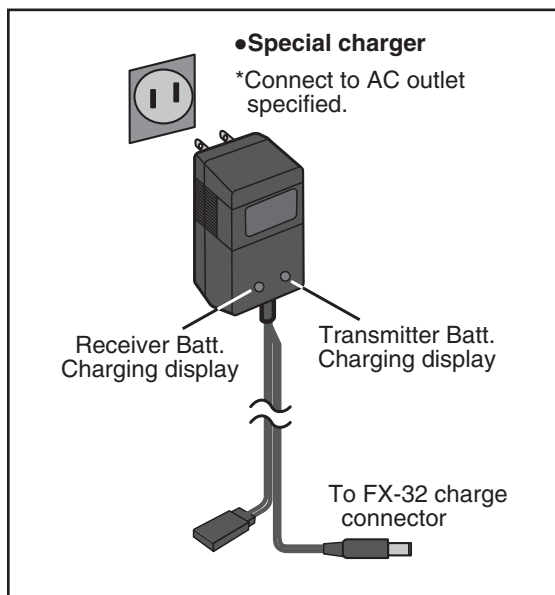
1. Connect the special charger to the wall socket (AC outlet).
2. Connect the connectors to the FMT-01 charging jack.
   *Confirm that the charging indicator, LED lamp, is on.
   *Turn off the transmitter while charging the battery.
3. Remove the battery after 15 hours.
   *Battery charging will not automatically stop. Remove the

battery and transmitter from the charger and remove the charger from the wall socket.

*It is recommended to reactivate the battery by cycling several times if the battery has not been used for a long period.

*In the case of NiMH/NiCd batteries, you may find poor performance of the battery if you have used the battery only for a short period or if you repeat charging while the battery is not fully discharged. It is suggested to discharge the battery to the recommended level after use. It is also recommended to charge the battery just before use.

How to turn transmitter power ON/OFF

When turning on the power, the FMT-01 transmitter will begin emmiting RF automatically after it confirms the surrounding RF conditions.

When turning on the power of the transmitter

THR Stick Slow
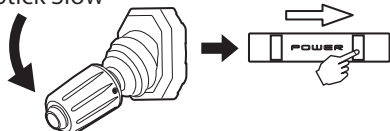
1. Turn on the power switch of the transmitter.

*If THR stick is high, the next WARNING screen will come out. Moreover, if a power supply is switched on while SW set by WARNING setup has been ON, it will be indicated by WARNING.

```
MODEL1              CONDIT1 7.8V
Futaba FMT-01      AIRPLANE
FASSTest 18CH
THR POSITION

[WARNING!] CONTINUE ? YES
```

2. When the throttle stick during Power On is at the high side (or over 1/3 stick) a warning will be displayed(Airplane/Helicopter). The relevance SW is turned off if SW warning comes out.

```
MODEL1              CONDIT1 7.8V
Futaba FMT-01      AIRPLANE
FASSTest 18CH


TRANSMIT ?    YES NO
```

3. The upper screen came out. Next, if "RTN" is pushed after uniting a cursor with "YES", it will send.

How to stop the transmitter

1. Turn off the power switch of the transmitter.

*The transmitter shuts down at once.

Low battery alarm and auto shut-down

When the battery voltage reaches 7.2V, an audible alarm will sound. Land your aircraft immediately.

It can change from 6.8V to 7.6V by [SOUND] of [SYSTEM MENU].

It recommends using it with an initial value.

Registration of the user's name

If so desired, the FMT-01 transmitter can indicate the owner's name.

User's name setup screen

1. Turn on the power of the transmitter.
2. Select [USER NAME] in the system menu and push the EDIT button.

*The user name set up screen appears.

Current user name   Input Box

```
USER NAME                    7.5V 1/3
FUTABA CORP.         ABCDEFGHIJ
                     KLMNOPQRST
FUTABA CORP.         UVWXYZabcd
CANCEL   ENTER       efghijklmn
← →      DELETE       opqrstuvwx
                     yz !"#$%&'
```
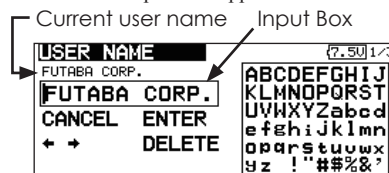
Changing the user name

1. Change the user name as described below:

[Moving cursor in input box]

Select [←] or [→], and push the EDIT button.

[Deleting a character]

When [DELETE] is selected and the RTN button is touched, the character immediately after the cursor is deleted.

[Adding a character]

When a candidate character is selected from the character list and the RTN button is touched, that character is added at the position immediately after the cursor.

*A name of up to 12 characters long can be entered as the user name. (A space is also counted as 1 character.)

2. At the end of input, select [ENTER] and push the EDIT button. (To terminate input and return to the original state, select [CANCEL] and push the EDIT button.)

Home screen

Use the touch sensor to select the following display area to call each setting screen, and push the EDIT button. The setting screen appears.

Multcopter/Airplane/Glider Home Screen

Model Name

• The model name that is currently used is displayed here.

• The model select screen can now be opened directly from the home screen. Move the cursor to the model name on the home screen, and press the RTN button.

Timer display screen

• When the cursor is moved to the clock icon " ⏱ " of the home screen, the timer display screen appears.

```
MODEL 1    © CONDIT1   7.5U
  +0                        +0
   1   00:00.0
   2   00:00.0
  +0  +0              +0   +0
```

Condition Name

• The condition name that is currently used is displayed here.

Battery Indicator

• When the battery voltage reaches 6.8V, the alarm will beep. Land your aircraft immediately.

```
MODEL 1        © CONDIT1  7.8U
TIMER1   UP    +0      SYSTEM
  00:00.0    +0   +0   LINKAGE
▶TIMER2   UP          AIRPLANE MODEL
  00:00.0            FASSTest18
FUTABA CORP.   +0  +0  Y.ıl  5.3V
01:50:02               ON AIR
```

(Menu)
• System
• Linkage
• Model

Push the EDIT button to call each Menu screen.

User's name

Digital trim (T1 to T6)

• Trim position is displayed here.

●RF Indicator

Battery voltage for receivers

• In FASSTest mode, it is displayed.

System timer

• This shows the accumulated time since the latest reset. (Each model)

(Hour):(Minute):(Second)

System mode

• System(FASSTest18CH etc.) mode is displayed here.

• Use the cursor to highlight this, then touch the RTN button to call the frequency set-up screen.

Timer

• Timer is displayed here.

  Push the EDIT button to start/stop the timer. (When the RTN button is touched for 1 second, timer is reset to the initial value.)

• Mode (UP/DN) is displayed here.

• Push the EDIT button to call the timer setting screen.

Throttle/Pitch Position Display

• Throttle and pitch position is displayed here.

Push the EDIT button to call the throttle curve or pitch curve setting screen directly.
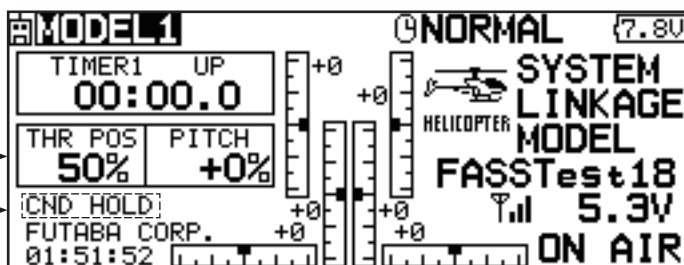
*Condition hold operation is displayed. ("IS ON")

⚠ WARNING

❗ Be sure to confirm the model name before flying your aircraft.

❗ Check the battery voltage as often as possible and try to charge the battery earlier. If the battery alarm makes a sound, land your aircraft immediately.

*You can adjust the LCD contrast by the display setting in the system menu.

To activate/deactivate Condition Hold:

1. Move the cursor to [CND HOLD].

2. Set the throttle stick lower than the 1/3 point and push the EDIT button to activate/deactivate the condition hold function.

*For a detailed description, refer to [COND. HOLD] function instructions.

User Menu

A user menu which allows the user to customize and display frequently used functions has been added.

U.menu/Mon Button

Pushed for two seconds

```
USER MENU              8.5V 1/4
DISPLAY        INFORMATION
SYSTEM TIMER   RANGE CHECK
SOUND          S.BUS SERVO
H/W SETTING    SERVO MONITOR
```
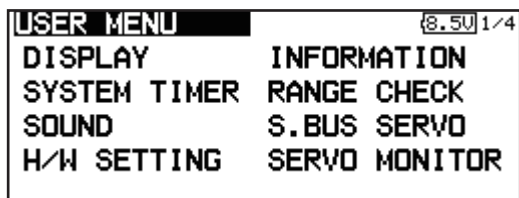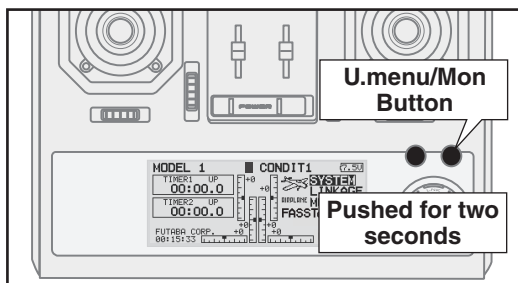
1. When the "U.MENU" button is pushed for two seconds, the user menu appears.

   *Return to the home screen by touching the EXIT button while the user menu is being displayed.

```
USER MENU              8.5V 1/1




```
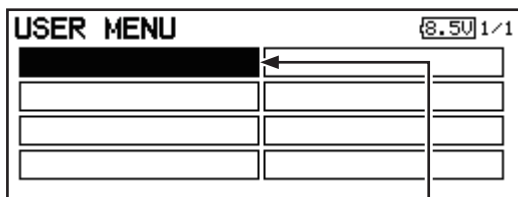
2. When the cursor highlights the space box, and the RTN button is touched, the menu selection screen appears.

3. When the cursor is moved to the setting that you to set to the user menu and the RTN button is touched, that setting screen is added to the user menu.

4. The registered setting screen can be called by moving the cursor to it and touching the RTN button.

   *When you want to delete an added screen from the user menu, highlight item you wish to delete, press and hold the RTN button for one second.

To prevent the data from being changed by erroneous touching of the touch sensor during flight, a function which makes an touch sensor impossible temporarily.

How to lock

1. The home screen is displayed.
2. Press the S1 button for about 1 second. "LOCK" is displayed and the touch sensor is disabled.
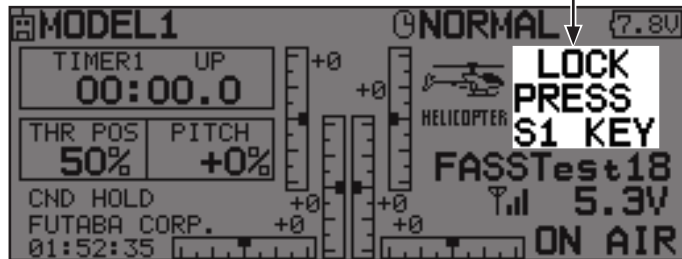
How to unlock

1. Press the S1 button for about 1 second in the touch sensor locked state. The touch sensor is enabled again.

---

*Two kinds of automatic locks can be chosen by **[DISPLAY]** of **[SYSTEM MENU]**.

STARTUP LOCK

Auto Lock functions automatically when the model changes or power is turned on.

  *To temporarily allow access to the FMT-01 programming press and hold the S1 bitton for one second. Please note, the Auto Lock function timer will resume immediately once again.

AUTOMATIC LOCK

Auto Lock functions automatically when there is no operation from the HOME screen display for a chosen number of seconds.

Link procedure (FMT-01/FMR-01)

Each transmitter has an individually assigned, unique ID code. In order to start operation, the receiver must be linked with the ID code of the transmitter with which it is being paired. Once the link is made, the ID code is stored in the receiver and no further linking is necessary unless the receiver is to be used with another transmitter. When you purchase additional FMR-01 receivers, this procedure is necessary; otherwise the receiver will not work.

Link procedure

1. Place the transmitter and the receiver close to each other within half (0.5m) meter.

Less than 0.5 m
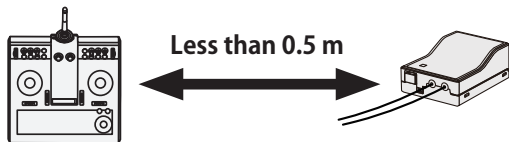
2. Turn on the transmitter.

3. Select [SYSTEM TYPE] at the Linkage menu and access the setup screen shown below by touching the RTN button.

```
SYSTEM TYPE              (7.9U)1/1
SYSTEM     FASSTest 18CH
RECEIVER   SINGLE
RECEIVER ID 114300031
TELEMETRY    ACT 1.0s
B.F/S VOLTAGE  3.8V
```

:You can do this through the LINKAGE Menu and scroll to System and press RTN.

4. When you use two receivers on one model, you must change from [SINGLE] to [DUAL].

    *Only two receivers can be used. In "DUAL", two setting items come out. Input, respectively.

```
SYSTEM TYPE              (7.9U)1/1
SYSTEM     FASSTest 18CH
RECEIVER   SINGLE
RECEIVER ID 114300031
TELEMETRY    ACT 1.0s
B.F/S VOLTAGE  3.8V
```

ID of a primary receiver displays.   ID of a secondary receiver displays.

```
SYSTEM TYPE              (7.9U)1/1
SYSTEM     FASSTest 18CH
RECEIVER   DUAL
RECEIVER ID 114300031   LINK
TELEMETRY    ACT 1.0s
B.F/S VOLTAGE  3.8V      3.8V
```

In DUAL, a primary receiver is link previously. Next, a secondary receiver is link.

5. When changing battery fail-safe voltage from the initial value 3.8V, voltage is changed here.

    * Only in FASSTest Mode.

```
SYSTEM TYPE              (7.8U)1/1
SYSTEM     FASSTest 18CH
RECEIVER   SINGLE
RECEIVER ID 114300031
TELEMETRY    ACT 1.0s
B.F/S VOLTAGE  3.8V
```

6. [RECEIVER-ID] is chosen by scrolling and the RTN button is pushed. The transmitter will emit a chime as it starts the linking process.

```
SYSTEM TYPE              (7.8U)1/1
SYSTEM     FASSTest 18CH
RECEIVER   SINGLE
RECEIVER ID LINKING
TELEMETRY    ACT 1.0s
B.F/S VOLTAGE  3.8V
```

7. When the transmitter starts to chime, power on the receiver. The receiver should link to the transmitter within about 1 second.

In "Link" Mode

Receiver ON

8. If linking fails, an error message is displayed. Bring the transmitter closer to the receiver and repeat the procedure above from Step 2.

9. ACT will be chosen if telemetry is used. It is INH when not using it.

```
SYSTEM TYPE              (7.8U)1/1
SYSTEM     FASSTest 18CH
RECEIVER   SINGLE
RECEIVER ID 114300031
TELEMETRY    ACT 1.0s
B.F/S VOLTAGE  3.8V
```

10. When a telemetry function is enabled, the receiving interval (down-link interval) of sensor data can be changed. If a DL interval is increased, the response of the sensor data display becomes slower, but stick response will improve.

Initial value: 1.0s

Adjustment range: 0.1s~2.0s

```
 SYSTEM TYPE           [7.8V]1/1
 SYSTEM     FASSTest 18CH
 RECEIVER   SINGLE
 RECEIVER ID  114300031
 TELEMETRY   ACT  1.0s
 B.F/S VOLTAGE  3.8V
```
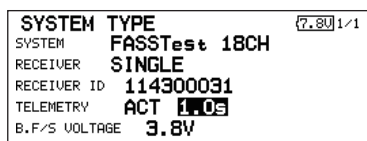
*If there are many FASSTest systems turned on around your receiver, it might not link to your transmitter. In this case, even if the receiver's LED stays solid green, unfortunately the receiver might have established a link to one of other transmitters. This is very dangerous if you do not notice this situation. In order to avoid the problem, we strongly recommend you to doublecheck whether your receiver is really under control by your transmitter by giving the stick input and then checking the servo response.

*Do not perform the linking operation when the drive motor is connected or the engine is running.

*When you use two receivers, please be sure to setup a "primary" and "secondary" in the "dual" mode.

*Telemetry function cannot be used for the 2nd receiver.

* You must link one receiver at a time. If both power supplies to the receivers are switched on simultaneously, data is received incorrectly by the transmitter.

* You cannot link three receivers.

* Link is required when a system type is changed.

* Linking is required whenever a new model is made.

⚠ WARNING

🛈 After the linking is done, please cycle receiver power and check that the receiver to be linked is really under the control of the transmitter.

🚫 Do not perform the linking procedure with motor's main wire connected or with the engine operating as it may result in serious injury.

Range Testing Your R/C System

It is extremely important to range check your models prior to each flying session. This enables you to ensure that everything is functioning as it should and to obtain maximum enjoyment from your time flying. The FMT-01 transmitter incorporates a system that reduces its power output and allows you to perform such a range check.

Range check mode

1. While pushing previously "U.menu/Mon" button.

U.menu/Mon

2. THR Stick Slow.

3. FMT-01 Power ON.

```
⌂MODEL1          NORMAL   7.7V
Futaba FMT-01
FASSTest 18CH          HELICOPTER

        TRANSMIT ?    YES  NO
```
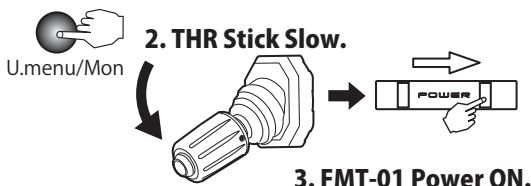
4. Scroll to "NO" and press RTN.

```
SYSTEM MENU           7.7V 1/1
DISPLAY         H/W SETTING
SYSTEM TIMER    INFORMATION
USER NAME       RANGE CHECK
SOUND           S.BUS SERVO
```
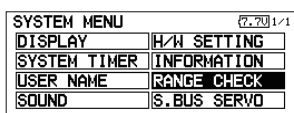
5. "RANGE CHECK" is chosen from "SYSTEM MENU" and press RTN.

```
RANGE CHECK           7.7V 1/1
TRANSMITTER OUTPUTS A WEAKER SIGNAL.
PERFORM A RANGE CHECK?

                      YES
```
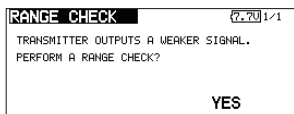
6. "YES" is chosen from "RANGE CHECK" and press RTN.

```
RANGE CHECK           7.7V 1/1
RANGE CHECK MODE ON
[EXIT] RETURN TO NORMAL POWER TRANSMITTING

86        RESTART    EXIT
```
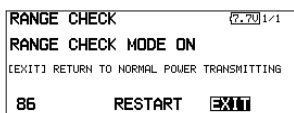
During this mode, the RF power output is reduced so the range test can be performed. In addition, when this mode is activated the right LED on the front of the transmitter starts blinking and the transmitter gives users a warning with a beeping sound every 3 seconds.

The "Range check mode" continues for 90 seconds and after that the power will return to the normal level. To exit the "Range check mode" before the 90 seconds, select the "EXIT" at the screen and touch the RTN button again. This mode is available one time only so if you need to re-use this function the transmitter power must be cycled. NEVER start flying when the "Range check mode" is active.

Should you require additional time to perform a range check, highlight Restart before your time expires and press the RTN button one time.

Range check procedure

1. With the "Range check mode" on, walk away from the model while simultaneously operating the controls. Have an assistant stand by the model to confirm that all controls are completely and correctly operational. You should be able to walk approximately 30-50 paces from the model without losing control.

2. If everything operates correctly, return to the model. Set the transmitter in a safe, yet accessible, location so it will be within reach after starting the engine or motor. Be certain the throttle stick is in the low throttle position, then start the engine or motor. Perform another range check with your assistant holding the aircraft with the engine running at various speeds. If the servos jitter or move inadvertently, there may be a problem. We would strongly suggest you do not fly until the source of the difficulty has been determined. Look for loose servo connections or binding pushrods. Also, be certain that the battery has been fully charged.
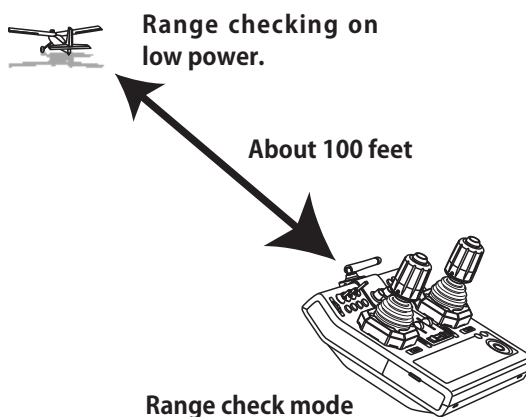
Range checking on low power.

About 100 feet

Range check mode

⚠ WARNING

⊘ Do not fly in the range check mode.

*Since the range of the radio waves is short, if the model is too far from the transmitter, control will be lost and the model will crash.

SYSTEM MENU

The System Menu sets up functions of the transmitter: This does not set up any model data.

- Select [SYSTEM] at the home screen and call the system menu shown below by touching the RTN button.
- Scrolling the touch sensor to select the function you want to set and call the setup screen by touching the RTN button.

● Select the function name and return to the System menu by touching the RTN button or pushing the Home/Exit button.

SYSTEM MENU	7.7V 1/1
DISPLAY	H/W SETTING
SYSTEM TIMER	INFORMATION
USER NAME	RANGE CHECK
SOUND	S.BUS SERVO

<SensorTouch™>

Scrolling
● Moving cursor

LNK
SYS   RTN   MDL
S1

●Access setup screen
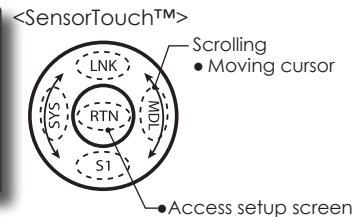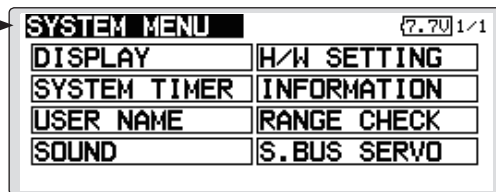
System Menu functions table

[DISPLAY]: LCD contrast and back light adjustment.

[SYSTEM TIMER]: Resets the accumulated timer for each model.

[USER NAME]: User name registration.

[SOUND]: Various volume control and low battery setting.

[H/W SETTING]: H/W reverse, stick mode, stick calibration, and switch position.

[INFORMATION]: Displays the program version, SD card information, and language selection.

[RANGE CHECK]: A transmitting output is lowered and the check before a flight is carried out.

[S.BUS SERVO]: S.BUS servo setting.

DISPLAY
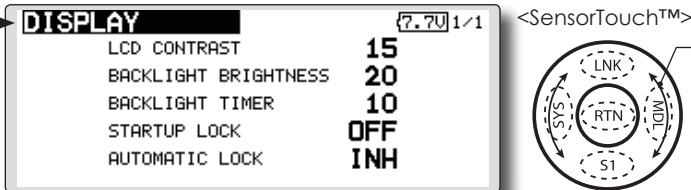
LCD contrast adjustment and automatic key lock

The following LCD screen adjustments and auto power off setting are possible:

● Backlighting brightness adjustment
● Backlighting off timer adjustment
● Automatic key lock setup

● Select [DISPLAY] at the system menu and call the setup screen shown below by touching the RTN button.

● Select the function name and return to the System menu by touching the RTN button or pushing the Home/Exit button.

```
DISPLAY                    7.7U 1/1
        LCD CONTRAST          15
        BACKLIGHT BRIGHTNESS  20
        BACKLIGHT TIMER       10
        STARTUP LOCK          OFF
        AUTOMATIC LOCK        INH
```

<SensorTouch™>

Scrolling
● Moving cursor
● Selecting mode
● Adjusting value

LCD contrast adjustment

1. Scrolling the touch sensor to select "LCD CONTRAST" and touch the RTN button to switch to the data input mode and adjust the contrast by turning the touch sensor to the left and right.

   Setting range: (Lighter) 0 to 30 (Darker)

   Initial value: 15

   Touch the RTN button to end adjustment and return to the cursor move mode.

   *Adjust to the contrast while watching the screen display.

   *When you want to reset the contrast to the initial state, select "LCD CONTRAST" and touch the RTN button for 1 second.

Backlight brightness adjustment

1. Scrolling the touch sensor to select "BACKLIGHT BRIGHTNESS" and touch the RTN button to switch to the data input mode and adjust the contrast by turning the touch sensor to the left and right.

   Setting range: (Darker) 0 to 30 (Lighter)

   Initial value: 10

   Touch the RTN button to end adjustment and return to the cursor move mode.

   *Adjust to the brightness while watching the screen display.

   *When you want to reset the contrast to the initial state, select "BACKLIGHT BRIGHTNESS" and touch the RTN button for 1 second.

Back-light off-timer

1. Select "Back-light timer" and touch the RTN button to switch to the data input mode and adjust the back-light off-timer by scrolling the touch sensor.

   "OFF TIMER": Adjust the time when the back-light turns off after operating the touch sensor.

   Setting range: 10 to 240 sec (each 10 sec), OFF (always on)

   Initial value: 10 sec

   *When you want to reset the value to the initial state, touch the RTN button for one second.

2. Touch the RTN button to end adjustment and return to the cursor mode.

   *If the back light is on for a long time, consumption current will increase.

Start lock

Auto Lock functions automatically when the model changes or power is turned on.

   *To temporarily allow access to the FMT-01 programming press and hold the S1 button for one second. Please note, the Auto Lock function timer will resume immediately once again.

1. Select "STARTUP LOCK" and touch the RTN button to switch to the data input mode and adjust the ON or OFF by scrolling the touch sensor.

   Setting range: ON or OFF

   Initial value: OFF

Automatic lock

Auto Lock functions automatically when there is no operation from the HOME screen display for a chosen number of seconds.

1. Scrolling the touch sensor to select "AUTOMATIC LOCK" and touch the RTN button to switch to the data input mode and adjust the time by turning the touch sensor to the left and right.

   Setting range: INH, 0 to 120 (s)

   Initial value: INH

SYSTEM TIMER   Resets the accumulated timer.

This function resets the system timer displayed on the home screen.

● FMT-01 has two type system timers.

TOTAL timer: Displays the total accumulated time on the transmitter from the last time the timer was reset.

MODEL timer: Displays the total accumulated time on each model from the last time the timer was reset.

● System timer displayed on the home screen can be selected.

● Select [SYSTEM TIMER] at the system menu and call the setup screen shown below by touching the RTN button.

● Select the function name and return to the System menu by touching the RTN button or pushing the Home/Exit button.

```
SYSTEM TIMER          7.5V 1/1

    MODE        TOTAL

    SYSTEM TIMER  00:01:37
```

<SensorTouch™>

LNK
SYS   RTN   MDL
S1

Scrolling
● Moving cursor
● Selecting mode

Timer selection

1. Move the cursor to the [MODE] item and touch the RTN button to switch to the data input mode.

   Select the mode by scrolling the touch sensor and touch the RTN button.

   TOTAL: Displays the total timer on the home screen.

   MODEL timer: Displays the model timer on the home screen.

Timer reset

1. Move the cursor to the [SYSTEM TIMER] item and reset the timer to "00:00:00" by touching the RTN button for 1 second. After reset, the timer restarts from "00:00:00".

USER NAME

User name registration

This function registers the FMT-01 user name.

*A name of up to 12 characters can be entered as the user name. (Space is also counted as 1 character.)

● Select [USER NAME] at the system menu and call the setup screen shown below by touching the RTN button.

Current user name

●Select the function name and return to the System menu by touching the RTN button or pushing the Home/Exit button.

```
USER NAME                    7.5U 1/3
FUTABA CORP.                 ABCDEFGHIJ
FUTABA CORP.                 KLMNOPQRST
                             UVWXYZabcd
CANCEL    ENTER              efghijklmn
 ←  →     DELETE             opqrstuvwx
                             yz !"#$%&'
```

<SensorTouch™>

Scrolling
● Moving cursor

LNK
SYS   RTN   MDL
S1

●Push the S1 button to call next page.

Cursor (blink)
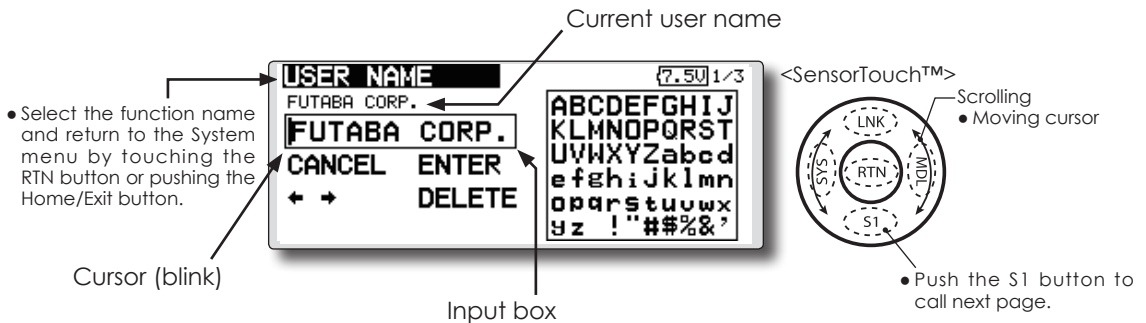
Input box

User name registration

1. Change the user name as described below:

[Moving cursor in input box]

Select [←] or [→], and touch the RTN button.

[Deleting a character]

When [DELETE] is selected and the RTN button is touched, the character immediately after the cursor is deleted.

[Adding a character]

When a candidate character is selected from the character list and the RTN button is touched, that character is added at the position immediately after the cursor.

*A name of up to 12 characters long can be entered as the user name. (A space is also counted as 1 character.)

2. At the end of input, select [ENTER] and touch the RTN button. (To terminate input and return to the original state, select [CANCEL] and touch the RTN button.)

(Character list 1/3)
```
USER NAME                    7.5U 1/3
FUTABA CORP.                 ABCDEFGHIJ
FUTABA CORP.                 KLMNOPQRST
                             UVWXYZabcd
CANCEL    ENTER              efghijklmn
 ←  →     DELETE             opqrstuvwx
                             yz !"#$%&'
```

(Character list 2/3)
```
USER NAME                    7.5U 2/3
FUTABA CORP.                 0123456789
FUTABA CORP.                 .,:;+-*/|~
                             <>=?@[]^_.
CANCEL    ENTER              ¥`çüéâäàåç
 ←  →     DELETE             êëèïîìÄÅæ
                             ﬁôöòûùÿÖÜ₿
```

(Character list 3/3)
```
USER NAME                    7.5U 3/3
FUTABA CORP.                 アイウエオカキクケコ
FUTABA CORP.                 サシスセソタチツテト
                             ナニヌネノハヒフヘホ
CANCEL    ENTER              マミムメモヤ ユ ヨ
 ←  →     DELETE             ラリルレロワヲン゜゛
                             ァィゥェォャュョッー
```
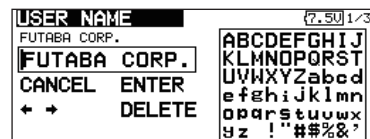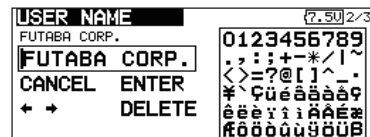
SOUND

Turns off the buzzer.

3 independent sound volumes: "WARNING", "VOICE" and others, are available.

"LOW BATTERY" adjusts low battery alarm voltage to match a battery.

● Select [SOUND] at the system menu and access the setup screen shown below by touching the RTN button.

● Select the function name and return to the System menu by touching the RTN button or pushing the Home/Exit button.

<SensorTouch™>
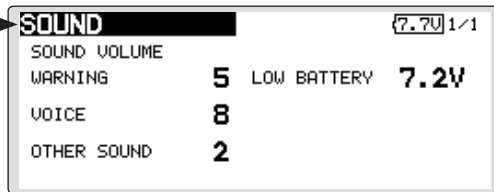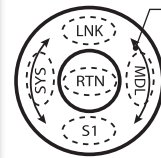
Scrolling
● Moving cursor
● Adjusting value

● LOW BATTERY : 6.8V~7.6V

Sound volume operation

1. Move the cursor to the [WARNING][VOICE] or [OTHER SOUND] item and touch the RTN button to switch to the data input mode.

2. Select the volume by scrolling the touch sensor.

   *The display blinks.

3. Touch the RTN button.

Low battery voltage operation

1. Move the cursor to the [LOW BATTERY] item and touch the RTN button to voltage to the data input mode.

2. Select the voltage by scrolling the touch sensor. (6.8V-7.6V)

   *The display blinks.

3. Touch the RTN button.

H/W SETTING

Hardware reverse and stick mode, stick calibration, switch position

H/W reverse

This function reverses the operation signal of the sticks, switches, trimmer levels, and knobs.

Note: This setting reverses the actual operation signal, but does not change the display of the indicators on the display. Use the Normal mode as long as there is no special reason to use the Reverse mode.

Stick mode

This function changes the stick mode of transmitter.

Note: This will not change the throttle ratchet, etc. Those are mechanical changes that must be done by a Futaba service center.

Note: After changing the mode, it is applied when setting a new model. It is not applied to an existing model.

Stick calibration

J1-J4 stick correction can be performed.

Note: It does not carry out, when there is no necessity.

Switch

For set the switch type and position amount when the stock configuration is changed.

● Select [H/W SETTING] at the system menu and call the setup screen shown below by touching the RTN button.
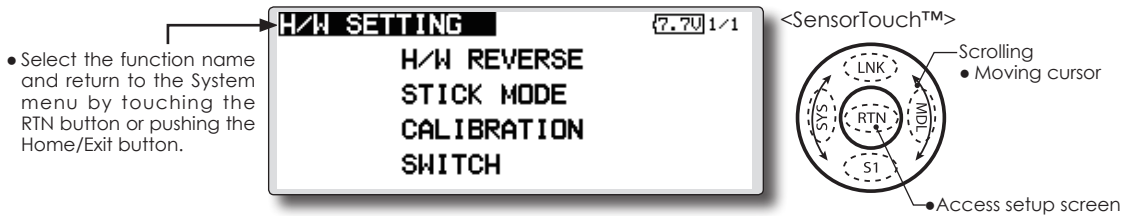
● Select the function name and return to the System menu by touching the RTN button or pushing the Home/Exit button.

<SensorTouch™>

Scrolling
● Moving cursor

●Access setup screen

Operation direction reversal method

1. Select [H/W REVERSE] and call the setup screen shown below by touching the RTN button.

2. Use the touch sensor to move the cursor to the "MODE" item corresponding to the H/W (hardware) you want to reverse and touch the RTN button to switch to the data input mode.

3. Change the mode by turning the touch sensor to the left or right. The display blinks. When the RTN button is touched, the operation direction is reversed. (To terminate mode change, turn the touch sensor or push the S1 button.)

"NORM": Normal operation direction

"REV" : Operation direction is reversed.

Operation direction reversal method

1. Select [STICK MODE] and call the setup screen shown below by touching the RTN button.

2. Use the touch sensor to move the cursor to the "STICK MODE" item and touch the RTN button to switch to the data input mode.

3. Change the mode by turning the touch sensor to the left or right. The display blinks. When the RTN button is touched, the stick mode is changed. (To terminate mode change, turn the touch sensor or push the S1 button.)
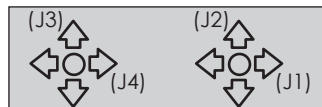
Mode	J1	J2	J3	J4
1	Aileron	Throttle	Elevator	Rudder
2	Aileron	Elevator	Throttle	Rudder
3	Rudder	Throttle	Elevator	Aileron
4	Rudder	Elevator	Throttle	Aileron

Stick calibration method

*J3,J4 and J6 correction is described below. J1,J2 and J5 corrections are performed using the same procedure.

1.Select [CALIBRATION] and access the setup screen shown below by touching the RTN button.
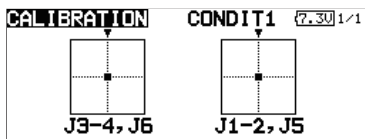
2.Move the cursor to the J3-J4,J6 button and touch the RTN button.
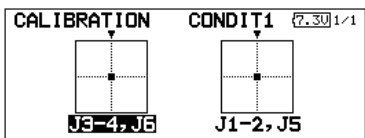
3.Move the J3,J4 and J6 sticks to the neutral position and press the RTN button for one second.
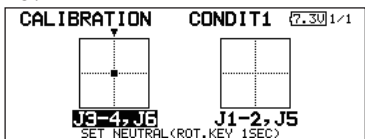
4.Set the J3,J4 and J6 sticks fully to the bottom-right-right turn and wait until the buzzer sounds.
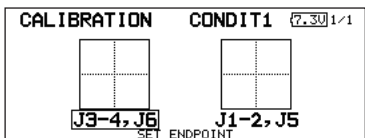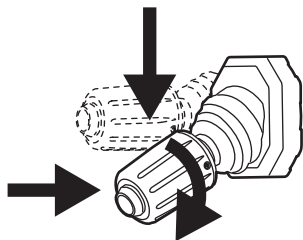
5.Set the J3,J4 and J6 sticks fully to the top-left-left turn and wait until the buzzer sounds.
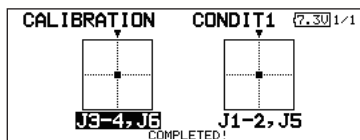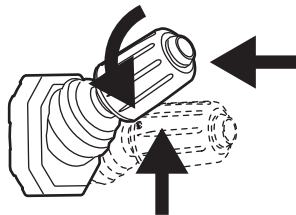
6.The above completes the correction operation. Operate and check if stick correction was performed normally.

Operation switch setting method

1.Select [SWITCH] and call the setup screen shown below by touching the RTN button.

2.Use the touch sensor to move the cursor to the "SA-SJ" item corresponding to the switch you want to change and touch the RTN button to switch to the data input mode.

3. Change the "2Pos" or "3Pos" by turning the touch sensor to the left or right. The display blinks. It will decide, if the RTN button is pushed. (To terminate mode change, turn the touch sensor or push the S1 button.)

"3Pos": 3 position switch

"2Pos" : 2 position switch

INFORMATION
Displays the program version, SD card information, and product ID.

The FMT-01 system program version information, SD card information (maximum and vacant number of model data), and product ID are displayed on the Information screen.

*When the SD card is not inserted, the SD card information is not displayed.

The language displayed in home, menu, and setup screen is selectable.

Also, the unit of a telemetry display can also be changed.

● Select [INFORMATION] at the system menu and call the setup screen shown below by touching the RTN button.

● Select the function name and return to the System menu by touching the RTN button or pushing the Home/Exit button.

```
INFORMATION              7.6V 1/1
LANGUAGE       :ENGLISH
UNIT SYSTEM    :METRIC
VERSION        : 0. 5   AREA   EUROPE
MEMORY CARD SIZE:   1885MB
CARD FREE SIZE :    1879MB
```

<SensorTouch™>

Scrolling
● Moving cursor
● Selecting mode

LNK   MDL   RTN   SYS   S1
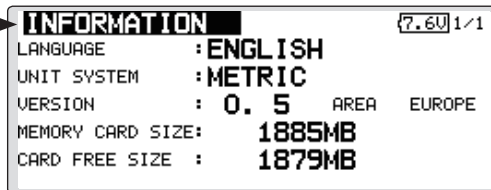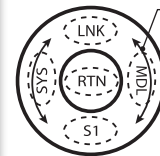
Information

"VERSION": FMT-01 system program version information

"MEMORY CARD SIZE": Maximum number of model data (SD card)

"CARD FREE SIZE": Vacant number of model data (SD card)

Language selection

1. Use the touch sensor to move the cursor to the "LANGUAGE" item and touch the RTN button to switch to the data input mode.

2. Change the language by turning the touch sensor to the left or right. The display blinks. When the RTN button is touched, the language is changed. (To terminate mode change, turn the touch sensor or push the S1 button.)

Unit system selection

1. Use the touch sensor to move the cursor to the "UNIT SYSTEM" item and touch the RTN button to switch to the data input mode.

2. Change the unit by turning the touch sensor to the left or right. The display blinks. When the RTN button is touched, the unit is changed. (To terminate mode change, turn the touch sensor or push the S1 button.)

RANGE CHECK

Before a flight ground range check.

The 'range check mode' reduces the transmission range of the radio waves to allow for a ground range check.

*The range check mode, when activated, will continue for90 seconds unless the user exits this mode early. When the progress bar reaches 90 second mark, the RF transmission automatically returns to the normal operating power.

⚠ WARNING

Do not fly in the range check mode.

■ Since the range of the radio waves is short, if the model is too far from the transmitter, control will be lost and the model will crash.

● Pushing [U.menu/Mon]key is continued. → Turn ON the transmitter's power switch. (First, a throttle stick is made into a low position, and turns on a power supply.) It is displayed as "TRANSMIT?" . "NO" is chosen and [RTN] is pushed.
● Select [RANGE CHECK] at the system menu and call the setup screen shown below by touching the RTN button.

● Select the function name and return to the System menu by touching the RTN button or pushing the Home/Exit button.

```
RANGE CHECK              7.7V 1/1

TRANSMITTER OUTPUTS A WEAKER SIGNAL.
PERFORM A RANGE CHECK?


                              YES
```

<SensorTouch™>

Scrolling
● Moving cursor

LNK
SYS   RTN   MDL
S1

● [Yes] is chosen and [RTN] is pushed.

```
RANGE CHECK              7.7V 1/1

RANGE CHECK MODE ON

[EXIT] RETURN TO NORMAL POWER TRANSMITTING

86         RESTART    EXIT
```
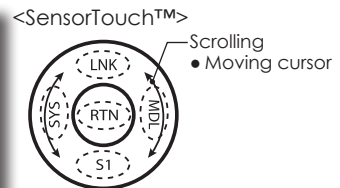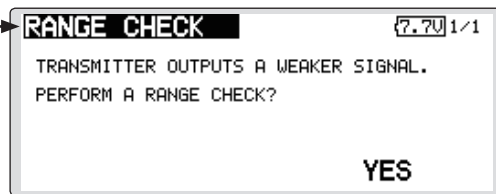
● Range Check mode timer is returned to 90
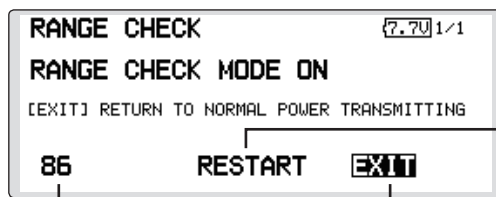
● Remaining time of RANGE CHECK MODE

● Range Check mode is disabled

Rotation Range Check method

1. Pushing [U.menu/Mon]key is continued. → Turn ON the transmitter's power switch. (First, a throttle stick is made into a low position, and turns on a power supply.)

   It is displayed as "TRANSMIT?."

   "NO" is chosen and [RTN] is pushed.

   *For safety, the RANGE CHECK mode can not be selected while the RF transmission is active.

2. In the system menu, choose the 'Range Check' selection from the menu options.

3. The Range Check screen is displayed. To activate the Range Check mode press the [Yes] button. During the Range Check period, the RF power is reduced to allow the ground range tests to be performed.

4. The Range Check function automatically exits after the 90 second time limit has expired. The count down time is displayed on the transmitter's screen. Should you complete the range check before the 90 seconds has pressed, press the [Exit] button.

   *When the [RESTART] button is pressed, the range check mode timer is returned to 90.

   *Please note, upon expiration of the 90 seconds, or when [Exit] is selected, the transmitter will automatically return to the normal RF operation as noted on the display.

   *Once the FMT-01 is transmitting at full power, it is not possible to enter the Range Check mode without first switching the transmitter Off and back On. This has been designed to prevent a modeler from inadvertently flying in the Range Check mode.

5. When the [Exit] button is pressed, the Range Check mode is disabled and the FMT-01 will begin transmitting at full power.

   *After exiting the Range Check mode, the function cannot be selected again. To select the Range Check mode again you must cycle the transmitter power switch.

S.BUS Servo

S.BUS/S.BUS2 servo setting

An S.BUS/S.BUS2 servo can memorize the channel and various settings internally. Servo setting changes can be performed on the FMT-01 screen by wiring the servo as shown in the figure.

●Servo ID number

Individual ID numbers are memorized for your S.BUS servos in your FMT-01. When a servo is used (as shown at the right), the servo ID number is automatically read by the transmitter.

If you use multiple S.BUS servos and do not want to change the settings on all that are mounted in a fuselage, only the desired servo in the group can be set by entering the ID of that specific servo.

* With S.BUS/S.BUS2 servos of use, there are a function which can be used, and an impossible function and a display screen changes.

(Only the function which can be used by a servo is displayed.)

FMT-01

S.BUS/S.BUS2 servo

* After reading completion, with connection of the above figure, if a stick is moved, the test of operation of the servo can be operated and carried out.

*It is not necessary to carry out multiple connection of the battery like a T18MZ/T14SG.

(It will damage, if it connects.)

*When you connect to a transmitter with many servos which may consume extra current, please use "Another power supply HUB". And ensure power is supplied to extra servos with another power supply.

● Call the following setting screen by pressing the [S.BUS Servo] button in the System Menu.

●Select the function name and return to the System menu by touching the RTN button or pushing the Home/Exit button.

```
S.BUS SERVO              7.6U 1/2
  READ
INH 000-00000 TRAVEL  50.0   50.0
CHANNEL      1      SPEED  INH
REVERSE NORMAL     SOFT START INH
NEUTRAL    0.00    STOP MODE FREE
```

<SensorTouch™>
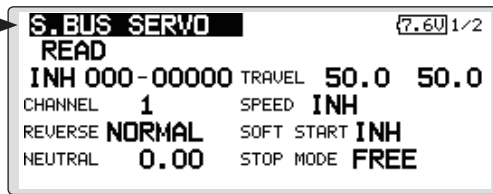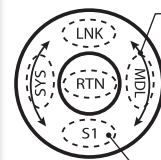
Scrolling
● Moving cursor

●Push the S1 button to call next page.

Procedure for changing S.BUS/S.BUS2 servo setting

1. Select [S.BUS Servo] of the System Menu.
2. Wire the servo as shown in the figure above.
3. Press [READ]. The ID and current setting of that servo are displayed.
4. When multiple servos are connected change [INH] at the right side of the ID number on the screen to [ACT] and enter the ID of the servo you want to set.
5. Set each item. (Please see the next page.)
6. Press [WRITE]. The settings are changed.

S.BUS Servo Description of function of each parameter

*There are same functions which can only be used with certain types of servos.

• ID

Displays the ID of the servo whose parameters are to be read. It cannot be changed.

• Channel

Channel of the **S.BUS** system is assigned to the servo. Always assign a channel before use.

• Reverse

The direction in which the servo rotates can be changed.

• Servo type

When "Retractable" is selected and the servo has been continuously stopped for 30 seconds, the dead band expands and unnecessary hold current due to external force is eliminated. When a new control signal enters, normal operation is resumed. When using the servo as a landing gear servo, select "Retractable". Also adjust the servo travel to match the landing gear movement range.

• Soft Start

Restricts operation in the specified direction the instant the power is turned on. By using this setting, the first initial movement when the power is turned on slowly moves the servo to the specified position.

• Stop Mode

The state of the servo when the servo input signal is lost can be specified. The "Hold" mode setting holds the servo in its last commanded position even if using AM or FM system.

• Smoother

This function changes smoothness of the servo operation relative to stick movement changes. Smooth setting is used for normal flight. Select the "OFF" mode when quick operation is necessary such as 3D.

• Neutral Offset

The neutral position can be changed. When the neutral offset is large value, the servo's range of travel is restricted on one side.

• Speed Control

Speeds can be matched by specifying the operating speed. The speed of multiple servos can be matched without being affected by motor fluctuations. This is effective for load torques below the maximum torque.

However, note that the maximum speed will not be exceed what the servo is capable of even if the servos operating voltage is increased.

• Dead band

The dead band angle at stopping can be specified.

[Relationship between dead band set value and servo operation]

Small → Dead band angle is small and the servo is immediately operated by a small signal change.

Large → Dead band angle is large and the servo does not operate at small signal changes.

(Note) If the dead band angle is too small, the servo will operate continuously and the current consumption will increase and the life of the servo will be shortened.

• Travel Adjust

The left and right travels centered about the neutral position can be set independently.

• Boost

The minimum current applied to the internal motor when starting the servo can be set. Since a small travel does not start the motor, it essentially feels like the dead band was expanded. The motor can be immediately started by adjusting the minimum current which can start the motor.

[Relationship between boost set value and servo operation]

Small → Motor reacts less to a change and operation becomes smooth.

Large → Initial response improves and output torque increases. However, if the torque is too large, operation will become rough.

• Boost ON/OFF

OFF : The boost turns ON at the time of lower-demand operation. (In mast cases)

ON : The boost is always ON. (When quick operation is needed)

• Damper

The characteristic when the servo is stopped can be set.

When smaller than the standard value, the characteristic becomes an overshoot characteristic. If the value is larger than the standard value, the brake is applied before the stop position.

Especially, when a large load is applied, overshoot, etc. are suppressed by inertia and hunting may occur, depending on the conditions. If hunting (phenomena which cause the servo to oscillate) occurs even though the Dead Band, Stretcher, Boost and other parameters are suitable, adjust this parameter to a value larger than the initial value.

[Relationship between damper set value and servo operation]

Small → When you want to overshoot. Set so that hunting does not occur.

Large → When you want to operate so that braking is not applied. However, it will feel like the servo response has slowed down.

(Note) If used in the hunting state, not only will the current consumption increase, but the life of the servo will also be shortened.

• Stretcher

The servo hold characteristic can be set. The torque which attempts to return the servo to the target position when the current servo position has deviated from the target position can be adjusted.

This is used when stopping hunting, etc., but the holding characteristic changes as shown below.

[Relationship between stretcher and servo operation]

Small → Servo holding force becomes weaker.

Large → Servo holding force becomes stronger.

(Note) When this parameter is large, the current consumption increases.

• Buzzer

When the power supply of a servo is interrupted or a loss of signal from the transmitter, the buzzer sound of about 2.5 Hz continues sounding from a servo.

(Even when the signal out put of a transmitter is lost, a buzzer becomes until the signal of a servo is outputted normally.)

The transmitter has been turned OFF ahead of a servo power supply → The buzzer sound of about 1.25 Hz continues sounding to show that the servo power supply is still turned on.

(Do not insert or remove the servo connector while the receiver power is ON.   A buzzer may sound by incorrect recognition.)

＊ Buzzer sound is generated by vibrating the motor of a servo.

Since a lot of current is consumed and a servo generates heat during buzzer sounds, please do not operate the feature more than needed or do not continue sounding a buzzer for a long time.

MODEL BASIC SETTING PROCEDURE

Airplane/glider basic setting procedure

1. Model addition and call

Initial setting assigns 1 model to the FMT-01 transmitter. The Model Select function of the Linkage Menu is used to add models and to select models which are already set.

```
MODEL SELECT   🏠MODEL1      (7.8V)
  1 🖩MODEL1                INTERNAL
  2 🖩MODEL1                NEW

                             ✈
                           AIRPLANE
```
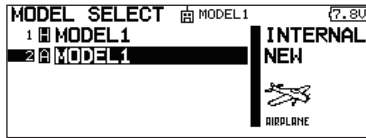
The data for up to 30 models can be saved to the transmitter. Data can also be saved to the optional SD card.

The currently selected model name is displayed at the top of the screen. Before flying and before changing any settings, always confirm the model name.

When a new model is added, the Model type select screen and System/Receiver ID setup screen automatically appear. Please be aware that the transmitter will stop transmitting when you change the model.

```
MODEL TYPE              (7.8V)1/1
─TYPE─── ─WING─── ─TAIL───
AIRPLANE  TYPE     TYPE
  ✈      2AIL     NORMAL
AIRPLANE
```

```
SYSTEM TYPE              (7.8V)1/1
SYSTEM      FASSTest 18CH
RECEIVER    SINGLE
RECEIVER ID 114300031
TELEMETRY   ACT 1.0s
B.F/S VOLTAGE  3.8V
```
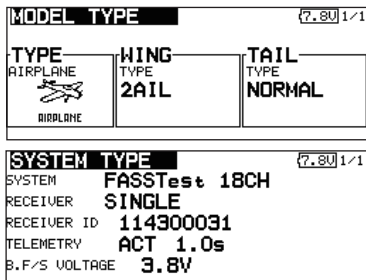
2. Model type selection

Select the model type matched to the aircraft with the Model Type select function of the Linkage Menu. For an airplane, select the model type from among the 2 types: airplane and glider. After the wing type is selected the tail type select screen is displayed. Select the tail type matched to the aircraft.

There are 13 wing types and 3 tail types for airplane and glider.

```
MODEL TYPE              (7.8V)1/1
  WING TYPE SELECTION
TAIL     2AIL      2AIL+1FLP

2AIL+2FLP 2AIL+4FLP 4AIL+2FLP

4AIL+4FLP
MODEL TYPE              (7.8V)1/1
  TAIL TYPE SELECTION
NORMAL   V-TAIL    AILVATOR
```
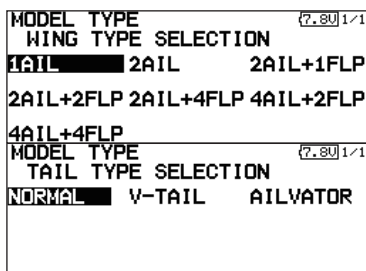
3. Fuselage linkage

Connect the ailerons, elevators, throttle, rudder, etc. in accordance with the model's instruction manual. For a description of the connection method, see the Receiver and Servos Connection.

Note: The channel assignment of the FMT-01 is different from that of our existing systems. Note that even for the same "airplane model", when the wing type and tail type are different, the channel assignment may be different. (The channel assigned to each function can be checked at the Function menu of the Linkage Menu.)

```
FUNCTION       CONDIT1 (7.8V)1/5
CH FUNCTION       CONTROL  --- TRIM ---
 1 AILERON        J1 🔘   T1 🔘 COMB.
 2 ELEVATOR       J3 🔘   T3 🔘 COMB.
 3 THROTTLE       J2 🔘   T2 🔘 COMB.
 4 RUDDER         J4 🔘   T4 🔘 COMB.
```

● If the direction of the servo is incorrect, adjust the direction with the Reverse function of the Linkage Menu.

```
SERVO REVERSE            (7.8V)1/3
CH FUNCTION   MODE   CH FUNCTION   MODE
 1 AILERON    NORM   5 GEAR        NORM
 2 ELEVATOR   NORM   6 AILERON2    NORM
 3 THROTTLE   NORM   7 AUXILIARY5  NORM
 4 RUDDER     NORM   8 AUXILIARY4  NORM
```

● Adjust the neutral position and control surface angle with the linkage, and fine tune them with the Sub Trim and End Point functions (angle adjustment). To protect the linkage, a limit position can also be set with the End Point function. The End Point function can adjust the amount of up/down and left/right movement, limit, and servo speed of each channel.

```
SUB-TRIM                 (7.8V)1/2
CH FUNCTION        CH FUNCTION
 1 AILERON    +0   5 GEAR        +0
 2 ELEVATOR   +0   6 AILERON2    +0
 3 THROTTLE   +0   7 AUXILIARY5  +0
 4 RUDDER     +0   8 AUXILIARY4  +0
```

```
END POINT                (7.8V)1/4
CH FUNCTION   LIMIT TRAV. TRAV. LIMIT SPEED
 1 AILERON    135% 100% 100% 135%  0
 2 ELEVATOR   135% 100% 100% 135%  0
 3 THROTTLE   135% 100% 100% 135%  0
 4 RUDDER     135% 100% 100% 135%  0
```

4. Throttle cut setting

Throttle cut can be performed with one touch by a switch without changing the throttle trim position.

Set throttle cut with the Throttle Cut function of the Linkage Menu. After activating the throttle cut function and selecting the switch, adjust the throttle position so that the carburetor becomes fully closed. For safety, the

throttle cut function operates the throttle stick in the 1/3 or less (slow side) position.

```
THROTTLE CUT          7.8U 1/1
                              100%
ACT/INH     INH
                              50%
CUT POSITION  17%
                  MODE
SWITCH      --    RANGE        0%
```
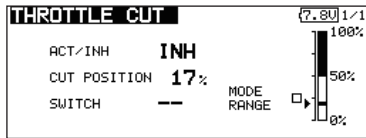
5. Idle down setting

The idling speed can be lowered with one touch by a switch without changing the throttle trim position. Perform this setting with the Idle Down function of the Linkage Menu. After activating the Idle Down function and selecting the switch, adjust the idle down speed. For safety, the idle down function acts only when the throttle stick is on the low side.

*While the Throttle Cut function is in operation, the Idle Down function does not work.

```
IDLE DOWN             7.8U 1/1
                              HIGH
ACT/INH     INH
OFFSET      +0%
SWITCH      --                LOW
```
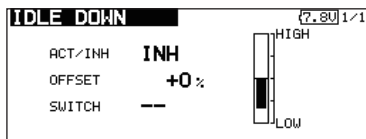
6. AFR (D/R)

AFR function is used to adjust the throw and operation curve of the stick, lever, and switch functions for each flight condition. This is normally used after End Point has defined the maximum throw directions.

```
AFR (AIL )    CONDIT1  7.8U 1/2
+150        MODE    OFFSET    AFR
+100        EXP 1      +0.0
+50
  0         RATE A   RATE B
-50         +100.0  +100.0
-100        EXP A    EXP B
-150          +0.0    +0.0   S
POS  +0.0 RATE  +0.0
```

```
DUAL RATE     CONDIT1  7.8U 1/2
  D/R NAME  STATUS  FUNCTION    SWITCH
1 D/R 1     INH    AILERON      SD
2 D/R 2     INH    ELEVATOR     SA
3 D/R 3     INH    RUDDER       SB
4 D/R 4     INH    AILERON      --
```
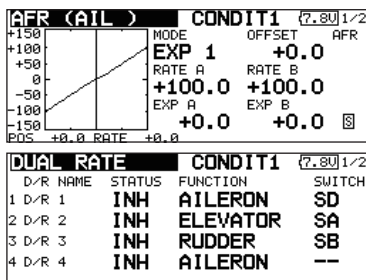
7. Airbrake

This function is used when an air brake is necessary when taking off or diving, etc.

The preset elevators and flaps (camber flap, brake flap) offset amount can be activated by a switch.

The offset amount of the aileron, elevator, and flap servos can be adjusted as needed. Also the speed of the aileron, elevator, and flap servos can be adjusted. (IN side/OUT side) A delay can be set for each condition, and a Cut switch which will turn OFF the delay can be assigned. Trim amounts can be fine-tuned by setting a VR. You can also set the Auto Mode, which will link Airbrake to a stick, switch, or dial. A separate stick switch or dial can also be set as the ON/OFF switch.

```
AIRBRAKE       CONDIT1  7.8U 1/4
INH
             AIL    AIL2
OFFSET       +0%    +0%
TUNING       +0%    +0%
            ( +0%) ( +0%)
```
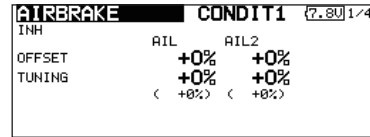
8. Addition of flight conditions

The Condition Select function automatically allocates the Condition 1 (CONDIT1) for each model. Condition 1 is the default condition and is the only one active when a new model type is defined.

If you want to add flight conditions, please refer to a description of the COND. SELECT function.

```
COND. SELECT  CONDIT1  7.8U 1/1
  COND. NAME    SWITCH
1 CONDIT1
```
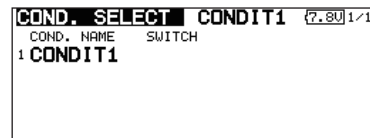
*The Condition 1 is always on, and remains on until other conditions are activated by switches.

*When a new condition is added, the model data of the Condition 1 is automatically copied to the new condition.

*You can set the model data of new condition in the switch ON state. However, if the group mode (GROUP) was selected in advance, the same data will be active at all the conditions. Select the single mode (SINGLE) and adjust only the condition you want to change. For Group/Single mode switching, refer to the description at the back of this manual.

*The Condition Delay can be programmed for each channel. The Condition Delay is used to change the servo throw smoothly when switching conditions.

9. When tailless wing model selected

Tailless wing elevator operation uses elevator to camber mixing. This function cannot be performed at initial setting.

```
ELE→CAMBER    CONDIT1  7.4U 1/4
+150        MODE    OFFSET    INH
+100        EXP 1      +0.0
+50
  0         RATE A   RATE B
-50         +100.0  +100.0
-100        EXP A    EXP B
-150          +0.0    +0.0
POS  +0.0 RATE  +0.0
```
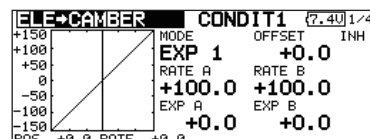
Helicopter basic setting procedure

This section outlines examples of use of the helicopter functions of the FMT-01. Adjust the actual values, etc. to match the fuselage used.

1. Model addition and call

Default setting assigns 1 model to the FMT-01. To add new models or to call a model already set, use the Model Select function of the Linkage Menu.

```
MODEL SELECT  📷MODEL1    (7.8V)
1 H MODEL1             INTERNAL
2 ✈ MODEL1             NEW

                       🚁
                       HELICOPTER
```
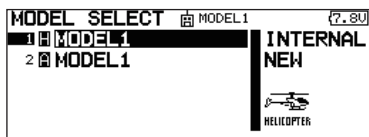
This is convenient when calling a model after registering the model names in advance. (The data of up to 30 models can be saved at the transmitter. Data can also be saved to the optional SD card.)

The currently selected model is displayed at the top of the screen. Before flying and before changing any settings, always confirm the model name.

When a new model is added, the Model Type Select screen and Frequency/Modulation mode/Receiver ID setup screen automatically appear. Change, or check that they match the type, frequency, and receiver type of the model used.

```
MODEL TYPE             (7.8V)1/1
-TYPE——— -SWASH—
HELICOPTER  TYPE
   🚁          HR3
 HELICOPTER
```

```
SYSTEM TYPE            (7.8V)1/1
SYSTEM      FASSTest 18CH
RECEIVER    SINGLE
RECEIVER ID 114300031
TELEMETRY   ACT 1.0s
B.F/S VOLTAGE 3.8V
```
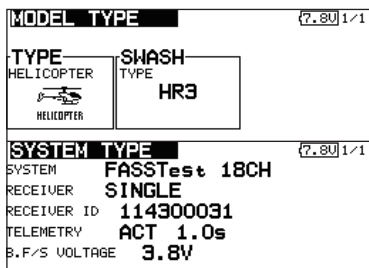
2. Model type and swash type selection

If a different model type is already selected, select helicopter with the Model Type function of the Linkage Menu, and then select the swash type matched to the helicopter.
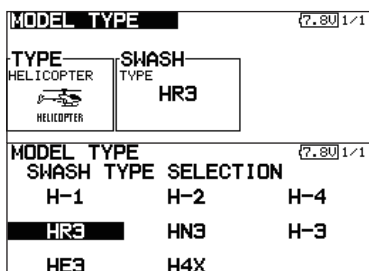
```
MODEL TYPE             (7.8V)1/1
-TYPE——— -SWASH—
HELICOPTER  TYPE
   🚁          HR3
 HELICOPTER
```

```
MODEL TYPE             (7.8V)1/1
  SWASH TYPE SELECTION
    H-1        H-2        H-4
    HR3        HN3        H-3
    HE3        H4X
```

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*The Model Type function automatically selects the appropriate output channels, control functions, and mixing functions for the chosen model type. Eight swash types are available for helicopters.

*For a description of the swash type selection, refer to the MODEL TYPE function.

3. Flight condition addition

The transmitter can install up to eight flight conditions per model.

```
COND. SELECT  NORMAL    (7.5V)1/2
 COND. NAME    SWITCH
1 NORMAL
2 IDLEUP1    SE
3 IDLEUP2    SE
4 IDLEUP3    SF
```
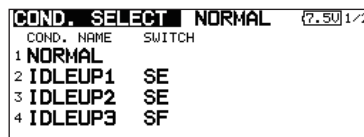
The Condition Select function automatically allocates five conditions for helicopter.

(Initial setting)
● NORMAL
● IDLE UP1 (SW-E)
● IDLE UP2 (SW-E)
● IDLE UP3 (SW-F)
●HOLD (SW-G)

Note: Since you may accidentally activate the conditions that have not been setup during flight, (and this could cause a crash,) delete the conditions not used.

*For a description of the condition deletion, refer to the COND. SELECT function.

The NORMAL condition is always on, and remains on until other conditions are activated by switches.

The priority is throttle hold/idle up 2/idle up 1/normal. Throttle hold has the highest priority.

Add other conditions, as required.

The Condition Delay can be programmed for each channel. The Condition Delay is used to change the servo throw smoothly when switching conditions.

(General flight condition setting example)

● Normal: (Use initial setting conditions/operate when switch OFF)
  Use from engine starting to hovering.

● Idle up 1: (Operate at SW-E center)
  Use in 540° stall turn, loop, rolling stall turn, and other maneuvers.

● Idle up 2: (Operate at SW-E forward side)
  Use in rolls.

● Throttle hold: (Operate at SW-G forward side)
  Use in auto rotation.

4. Fuselage linkage

Connect the throttle, rudder, aileron, elevator, pitch, and other servos in accordance with the kit instruction manual. For a description of the connection method, see "Receiver and Servos Connection".

Note: The channel assignment of the FMT-01 is different from that of our existing systems. (The channel assigned to each function can be checked at the Function menu of the Linkage Menu.)

```
FUNCTION      NORMAL    7.8U 1/5
CH FUNCTION       CONTROL  --- TRIM ---
 1 AILERON       J1 ⓖ   T1 ⓖ SEPAR
 2 ELEVATOR      J3 ⓖ   T3 ⓖ SEPAR
 3 THROTTLE      J2 ⓖ   T2 ⓖ SEPAR
 4 RUDDER        J4 ⓖ   T4 ⓖ SEPAR
```

● If the direction of operation of the servo is incorrect, use the Reverse function of the Linkage Menu. Also use the swash AFR function in other than the H-1 mode.

```
SERVO REVERSE            7.8U 1/3
CH FUNCTION  MODE  CH FUNCTION   MODE
 1 AILERON   NORM  5 GYRO<RUD>   NORM
 2 ELEVATOR  NORM  6 PITCH       NORM
 3 THROTTLE  NORM  7 GOVERNOR    NORM
 4 RUDDER    NORM  8 GOVERNOR2   NORM
```

```
SWASH                    7.8U 1/3
                  100%
NEUTRAL POINT          SWASH AFR
  POINT  50%           AILERON   +50%
HIGH PITCH □           ELEVATOR  +50%
LOW PITCH  ■           PITCH     +50%
                  0%
```

● Adjust the direction of operation of the gyro. (With in the gyro)
● Connect the throttle linkage so that the carburetor can fully close at full trim and throttle cut.
● Adjust the neutral position at the linkage side and fine tune with the Sub-Trim function and End Point function (rudder angle adjustment). To protect the linkage, a limit position can also be set with the End Point function.

```
SUB-TRIM                 7.8U 1/2
CH FUNCTION       CH FUNCTION
 1 AILERON   +0   5 GYRO<RUD>   +0
 2 ELEVATOR  +0   6 PITCH       +0
 3 THROTTLE  +0   7 GOVERNOR    +0
 4 RUDDER    +0   8 GOVERNOR2   +0
```

```
END POINT                7.8U 1/4
CHFUNCTION  LIMIT TRAV. TRAV. LIMIT SPEED
 1 AILERON  135% 100% 100% 135%  0
 2 ELEVATOR 135% 100% 100% 135%  0
 3 THROTTLE 135% 100% 100% 135%  0
 4 RUDDER   135% 100% 100% 135%  0
```

● Swash plate correction (Except H-1 mode)

*If any interactions are noticed, for a description of the linkage correction function, please refer to the SWASH function.

5. Throttle/Pitch curve setting

This function adjusts the throttle or pitch operation curve in relation to the movement of the throttle stick for each condition.

```
THR CURVE   NORMAL    7.4U 1/3
+125          MODE      OFFSET    AFR
+100          POINT     +0.0
+75           POINT     RATE
+50            9        +0.0
+25
  0
-25
POS-100.0 RATE-100.0
```

<Throttle curve setting example>
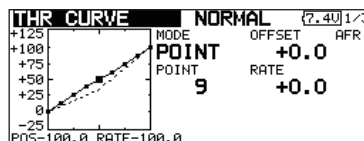
Call the throttle curve of each condition with the condition select switch.

● Normal curve adjustment
 Normal curve creates a basic throttle curve centered near hovering. This curve is adjusted together with the pitch curve (Normal) so that the engine speed is constant and up/down control is easiest.

● Idle up curve adjustment
 The low side Throttle curve creates a curve matched for aerobatics (loop, roll, 3D, etc.).

● Throttle hold curve adjustment
 The curve is not used when performing auto rotation dives.
 Confirm that the rate of the slowest position (0%) of the stick is 0% (initial setting).

<Example of pitch curve setting>

Call the pitch curve of each condition with the condition select switch.

● Pitch curve (Normal)
 Make the pitch at hovering approximately +5º~6º. Set the pitch at hovering with the stick position at the 50% point as the standard.

 *Stability at hovering may be connected to the throttle curve. Adjustment is easy by using the hovering throttle function and hovering pitch function together.

● Pitch curve (Idle up 1)
 The idle up 1 pitch curve function creates a curve matched to airborne flight.

● Pitch curve (Idle up 2)
 The idle up 2 pitch curve function creates a curve matched to airborne flight.

● Pitch curve (Hold)
 At auto rotation, use the maximum pitch at both the high and low sides.

6. AFR (D/R)

AFR (D/R) function is used to adjust the throw and operation curve of aileron, elevator and rudder for each condition.

*For throttle and pitch curve settings, refer to the above-mentioned "Throttle/Pitch curve setting"

This is normally used after End Point has defined the maximum throw directions.

```
AFR (ELE )    CONDIT1  (7.5U)1/2
+150          MODE        OFFSET      AFR
+100          EXP 1       +0.0
+50           RATE A      RATE B
  0           +100.0      +100.0
-50           EXP A       EXP B
-100
-150                      +0.0        +0.0
POS  +0.0 RATE  +0.0
```

```
DUAL RATE     CONDIT1  (7.5U)1/2
  D/R NAME  STATUS  FUNCTION    SWITCH
1 D/R 1     INH     AILERON     --
2 D/R 2     INH     AILERON     --
3 D/R 3     INH     AILERON     --
4 D/R 4     INH     AILERON     --
```
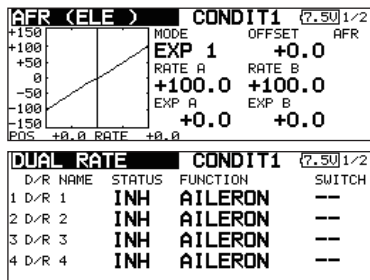
7. Gyro sensitivity and mode switching

The gyro sensitivity and mode switching function is dedicated gyro mixing of the Model Menu, and can be set for each condition.

```
GYRO        RATE123 NORMAL   (7.5U)1/3
   RATE 1 IS ON MODE     RATE
ACT/INH  ON     AVCS    50%    ( +50%)
TYPE     GY    FINE TUNING
SWITCH   --    CONTROL --
GROUP    SNGL  RATE    +0%    ( +0%)
```
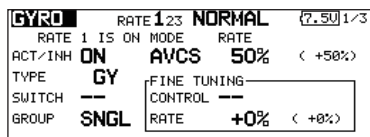
● Normal condition (hovering): Gyro sensitivity maximum

● Idle up 1/Idle up 2/Throttle hold: Gyro sensitivity minimum

● However, at auto rotation of a tail-driven helicopter, this function may not have any effect at high gyro sensitivity.

8. Pitch to RUD mixing setting

Use this function when you want to suppress the torque generated by the changes in the pitch and speed of the main rotor during pitch operation. Adjust it so that the nose does not swing in the rudder direction. However, when using a heading hold gyro do not use Pitch to RUD mixing.

Call the Pitch to RUD mixing function from the Model Menu, and set the curve for each condition. (At initial setting, this function is in the "INH" state. To use it, set it to the "ON" state.)

```
PIT→RUD      NORMAL    (7.4U)1/2
+150         MODE        OFFSET     INH
+100         EXP 1       +0.0
+50          RATE A      RATE B
  0          +0.0        +0.0
-50          EXP A       EXP B
-100
-150         +0.0        +0.0
POS  -0.5 RATE  +0.0
```

\<Setting example\>
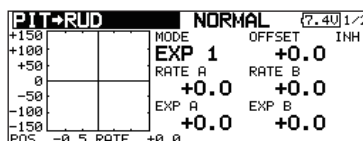
Call the mixing curve of each condition with the condition select switch.

1. A curve setting example is shown below.

● Pitch to RUD mixing curve (Normal)
Use the hovering system and set this curve to match take off and landing and vertical climb at a constant speed.

*For this curve, use the initial setting [EXP1] curve type.

● Pitch to RUD mixing (Idle up 1)
Use this curve in 540º stall turn, loop, and rolling stall turn, and adjust it so the fuselage is facing straight ahead when heading into the wind.

*For this curve, [EXP1] curve type can be used and the entire curve can be lowered with the [Offset] function.

● Pitch to RUD mixing (Hold)
This function is set so that the fuselage is facing straight ahead at straight line auto rotation. The pitch of the tail rotor becomes nearly 0º.

*For this curve, [EXP1] curve type can be used and the entire curve can be lowered with the [Offset] function.

● Other settings
The mixing rise characteristic at pitch operation can be adjusted. An acceleration function which temporarily increases and decreases the mixing amount can be set.

9. Throttle hold setting

*If throttle hold is necessary, please refer to the THR HOLD function.

10. Throttle cut setting

Throttle cut provides an easy way to stop the engine, by flipping a switch with the throttle stick at idle. The action is not functional at high throttle to avoid accidental dead sticks. The switch's location and direction must be chosen, as it defaults to NULL.

```
THROTTLE CUT           (7.5U)1/1
                            100%
  ACT/INH    INH
  CUT POSITION  17%          50%
                      MODE
  SWITCH     --      RANGE    0%
```
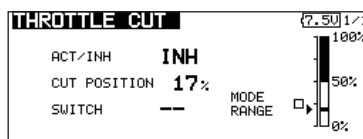
*With throttle stick at idle, adjust the cut position until the engine consistently shuts off, but throttle linkage is not binding.

11. Swash Mix corrects aileron, elevator and pitch interaction

The swash mix function is used to correct the swash plate in the aileron (Left/Right Cyclic) and elevator (Forward/Aft Cyclic) direction corresponding to each operation of each condition.

```
SWASH MIX      NORMAL   (7.5V) 1/1
MIXING    ACT  SWITCH TRIM  GROUP
AIL→ELE INH  --    OFF    SINGLE
ELE→AIL INH  --    OFF    SINGLE
PIT→AIL INH  --           SINGLE
PIT→ELE INH  --           SINGLE
```

12. Throttle mixing setting

*If throttle mixing is necessary for a compensation for slowing of engine speed caused by swash plate operation during aileron or elevator operation, please refer to the THROTTLE MIX function.

13. Other special mixings

●Pitch to Needle mixing
This mixing is used with engines with a set-up which allows needle control during flight (fuel-air mixture adjustment). A needle curve can be set. The needle servo rise characteristics based off throttle stick acceleration/deceleration can be adjusted. (Acceleration function)

●Governor mixing
This mixing is dedicated governor mixing when a governor is used. Up to 3 rates (speeds) can be switched for each condition.

Servo connection by model type

The FMT-01 transmitter channels are automatically assigned for optimal combination according to the type selected with the Model Type function of the Linkage Menu. The channel assignment (initial setting) for each model type is shown below. Connect the receiver and servos to match the type used.

*The set channels can be checked at the Function screen of the Linkage Menu. The channel assignments can also be changed. For more information, read the description of the Function menu.

Multicopter

●**FASSTest 18CH**

CH	Multicopter
1	Aileron
2	Elevator
3	Throttle
4	Rudder
5	Gyro
6	Gyro2
7	Gyro3
8	CAM TILT
9	CAMERA PAN
10	CAMERA REC
11	Mode
12	AUX5
13	AUX4
14	AUX3
15	AUX2
16	AUX1
DG1	SW SH
DG2	SW SA

●**FASSTest 12CH**

CH	Multicopter
1	Aileron
2	Elevator
3	Throttle
4	Rudder
5	Gyro
6	Gyro2
7	Gyro3
8	CAM TILT
9	CAMERA PAN
10	CAMERA REC
11	Mode
12	AUX5

Servo connection by model type

The FMT-01 transmitter channels are automatically assigned for optimal combination according to the type selected with the Model Type function of the Linkage Menu. The channel assignment (initial setting) for each model type is shown below. Connect the receiver and servos to match the type used.

*The set channels can be checked at the Function screen of the Linkage Menu. The channel assignments can also be changed. For more information, read the description of the Function menu.

Airplane/glider/motor glider

●Airplane and V tail

RX CH	1AIL Airplane	Glider EP	Glider	2AIL Airplane	Glider EP	Glider	2AIL+1FLAP Airplane	Glider EP	Glider	2AIL+2FLAP Airplane	Glider EP	Glider
1	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron
2	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator
3	Throttle	Motor	AUX7	Throttle	Motor	AUX7	Throttle	Motor	AUX7	Throttle	Motor	AUX7
4	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder
5	Gear	AUX6	AUX6	Gear	AUX6	AUX6	Gear	AUX6	AUX6	Aileron2	Aileron2	Aileron2
6	Airbrake	Airbrake	Airbrake	Aileron2	Aileron2	Aileron2	Aileron2	Aileron2	Aileron2	Flap	Flap	Flap
7	AUX5	AUX5	AUX5	AUX5	AUX5	AUX5	Flap	Flap	Flap	Flap2	Flap2	Flap2
8	AUX4	AUX4	AUX4	AUX4	AUX4	AUX4	AUX5	AUX5	AUX5	Gear	AUX6	AUX6
9	AUX3	AUX3	AUX3	AUX3	AUX3	AUX3	AUX4	AUX4	AUX4	AUX5	AUX5	AUX5
10	AUX2	AUX2	AUX2	AUX2	AUX2	AUX2	AUX3	AUX3	AUX3	AUX4	AUX4	AUX4
11	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX2	AUX2	AUX2	AUX3	AUX3	AUX3
12	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX2	AUX2	AUX2
13	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1
14	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1
15	AUX1	AUX1	AUX1	AUX1	Butterfly	Butterfly	AUX1	Butterfly	Butterfly	AUX1	Butterfly	Butterfly
16	AUX1	AUX1	AUX1	Camber	Camber	Camber	Camber	Camber	Camber	Camber	Camber	Camber
DG1	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW
DG2	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW

The output CH of each system — FASSTest 18CH / FASSTest 12CH / FASST MULT

RX CH	2AIL+4FLAP Airplane	Glider EP	Glider	4AIL+2FLAP Airplane	Glider EP	Glider	4AIL+4FLAP Airplane	Glider EP	Glider
1	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron
2	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator
3	Throttle	Rudder	Rudder	Throttle	Rudder	Rudder	Throttle	Rudder	Rudder
4	Rudder	Aileron2	Aileron2	Rudder	Aileron2	Aileron2	Rudder	Aileron2	Aileron2
5	Gear	Flap	Flap	Gear	Aileron3	Aileron3	Gear	Aileron3	Aileron3
6	Aileron2	Flap2	Flap2	Aileron2	Aileron4	Aileron4	Aileron2	Aileron4	Aileron4
7	Flap	Flap3	Flap3	Aileron3	Flap	Flap	Aileron3	Flap	Flap
8	Flap2	Flap4	Flap4	Aileron4	Flap2	Flap2	Aileron4	Flap2	Flap2
9	Flap3	Motor	AUX7	Flap	Motor	AUX7	Flap	Flap3	Flap3
10	Flap4	AUX6	AUX6	Flap2	AUX6	AUX6	Flap2	Flap4	Flap4
11	AUX5	AUX5	AUX5	AUX5	AUX5	AUX5	Flap3	Motor	AUX7
12	AUX4	AUX4	AUX4	AUX4	AUX4	AUX4	Flap4	AUX6	AUX6
13	AUX3	AUX3	AUX3	AUX3	AUX3	AUX3	AUX5	AUX5	AUX5
14	AUX2	AUX2	AUX2	AUX2	AUX2	AUX2	AUX4	AUX4	AUX4
15	AUX1	Butterfly	Butterfly	AUX1	Butterfly	Butterfly	AUX3	Butterfly	Butterfly
16	Camber	Camber	Camber	Camber	Camber	Camber	Camber	Camber	Camber
DG1	SW	SW	SW	SW	SW	SW	SW	SW	SW
DG2	SW	SW	SW	SW	SW	SW	SW	SW	SW

The output CH of each system — FASSTest 18CH / FASSTest 12CH / FASST MULT

●Ailevator

RX CH	1AIL Airplane	1AIL Glider EP	1AIL Glider	2AIL Airplane	2AIL Glider EP	2AIL Glider	2AIL+1FLAP Airplane	2AIL+1FLAP Glider EP	2AIL+1FLAP Glider	2AIL+2FLAP Airplane	2AIL+2FLAP Glider EP	2AIL+2FLAP Glider
1	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron
2	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator
3	Throttle	Motor	AUX7	Throttle	Motor	AUX7	Throttle	Motor	AUX7	Throttle	Motor	AUX7
4	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder
5	Gear	AUX6	AUX6	Gear	AUX6	AUX6	Elevator2	Elevator2	Elevator2	Elevator2	Elevator2	Elevator2
6	Airbrake	Airbrake	Airbrake	Aileron2	Aileron2	Aileron2	Aileron2	Aileron2	Aileron2	Aileron2	Aileron2	Aileron2
7	Elevator2	Elevator2	Elevator2	Elevator2	Elevator2	Elevator2	Flap	Flap	Flap	Flap	Flap	Flap
8	AUX5	AUX5	AUX5	AUX5	AUX5	AUX5	Gear	AUX6	AUX6	Flap2	Flap2	Flap2
9	AUX4	AUX4	AUX4	AUX4	AUX4	AUX4	AUX5	AUX5	AUX5	Gear	AUX6	AUX6
10	AUX3	AUX3	AUX3	AUX3	AUX3	AUX3	AUX4	AUX4	AUX4	AUX5	AUX5	AUX5
11	AUX2	AUX2	AUX2	AUX2	AUX2	AUX2	AUX3	AUX3	AUX3	AUX4	AUX4	AUX4
12	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX2	AUX2	AUX2	AUX3	AUX3	AUX3
13	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX2	AUX2	AUX2
14	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1
15	AUX1	AUX1	AUX1	AUX1	Butterfly	Butterfly	AUX1	Butterfly	Butterfly	AUX1	Butterfly	Butterfly
16	AUX1	AUX1	AUX1	Camber	Camber	Camber	Camber	Camber	Camber	Camber	Camber	Camber
DG1	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW
DG2	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW

The output CH of each system: FASSTest 18CH / FASSTest 12CH / FASST MULT

RX CH	2AIL+4FLAP Airplane	2AIL+4FLAP Glider EP	2AIL+4FLAP Glider	4AIL+2FLAP Airplane	4AIL+2FLAP Glider EP	4AIL+2FLAP Glider	4AIL+4FLAP Airplane	4AIL+4FLAP Glider EP	4AIL+4FLAP Glider
1	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron
2	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator
3	Throttle	Motor	AUX7	Throttle	Motor	AUX7	Throttle	Motor	AUX7
4	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder
5	Elevator2	Elevator2	Elevator2	Elevator2	Elevator2	Elevator2	Elevator2	Elevator2	Elevator2
6	Aileron2	Aileron2	Aileron2	Aileron2	Aileron2	Aileron2	Aileron2	Aileron2	Aileron2
7	Flap	Flap	Flap	Aileron3	Aileron3	Aileron3	Aileron3	Aileron3	Aileron3
8	Flap2	Flap2	Flap2	Aileron4	Aileron4	Aileron4	Aileron4	Aileron4	Aileron4
9	Flap3	Flap3	Flap3	Flap	Flap	Flap	Flap	Flap	Flap
10	Flap4	Flap4	Flap4	Flap2	Flap2	Flap2	Flap2	Flap2	Flap2
11	Gear	AUX6	AUX6	Gear	AUX6	AUX6	Flap3	Flap3	Flap3
12	AUX5	AUX5	AUX5	AUX5	AUX5	AUX5	Flap4	Flap4	Flap4
13	AUX4	AUX4	AUX4	AUX4	AUX4	AUX4	Gear	AUX6	AUX6
14	AUX3	AUX3	AUX3	AUX3	AUX3	AUX3	AUX5	AUX5	AUX5
15	AUX2	Butterfly	Butterfly	AUX2	Butterfly	Butterfly	AUX4	Butterfly	Butterfly
16	Camber	Camber	Camber	Camber	Camber	Camber	Camber	Camber	Camber
DG1	SW	SW	SW	SW	SW	SW	SW	SW	SW
DG2	SW	SW	SW	SW	SW	SW	SW	SW	SW

The output CH of each system: FASSTest 18CH / FASSTest 12CH / FASST MULT

●Tailless wing

RX CH	2AIL — Airplane	2AIL — Glider EP	2AIL — Glider	2AIL+1FLAP — Airplane	2AIL+1FLAP — Glider EP	2AIL+1FLAP — Glider	2AIL+2FLAP — Airplane	2AIL+2FLAP — Glider EP	2AIL+2FLAP — Glider
1	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron
2	AUX4	AUX4	AUX4	AUX4	AUX4	AUX4	AUX4	AUX4	AUX4
3	Throttle	Motor	AUX7	Throttle	Motor	AUX7	Throttle	Motor	AUX7
4	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder
5	Gear	AUX6	AUX6	Gear	AUX6	AUX6	Aileron2	Aileron2	Aileron2
6	Aileron2	Aileron2	Aileron2	Aileron2	Aileron2	Aileron2	Flap	Flap	Flap
7	AUX5	AUX5	AUX5	Flap	Flap	Flap	Flap2	Flap2	Flap2
8	AUX3	AUX3	AUX3	AUX5	AUX5	AUX5	Gear	AUX6	AUX6
9	AUX2	AUX2	AUX2	AUX3	AUX3	AUX3	AUX5	AUX5	AUX5
10	AUX1	AUX1	AUX1	AUX2	AUX2	AUX2	AUX3	AUX3	AUX3
11	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX2	AUX2	AUX2
12	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1
13	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1
14	AUX1	AUX1	AUX1	AUX1	Butterfly	Butterfly	AUX1	Butterfly	Butterfly
15	Camber	Camber	Camber	Camber	Camber	Camber	Camber	Camber	Camber
16	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator
DG1	SW	SW	SW	SW	SW	SW	SW	SW	SW
DG2	SW	SW	SW	SW	SW	SW	SW	SW	SW

The output CH of each system — FASSTest 18CH / FASSTest 12CH — FASST MULT

RX CH	2AIL+4FLAP — Airplane	2AIL+4FLAP — Glider EP	2AIL+4FLAP — Glider	4AIL+2FLAP — Airplane	4AIL+2FLAP — Glider EP	4AIL+2FLAP — Glider	4AIL+4FLAP — Airplane	4AIL+4FLAP — Glider EP	4AIL+4FLAP — Glider
1	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron
2	Aileron2	Aileron2	Aileron2	Aileron2	Aileron2	Aileron2	Aileron2	Aileron2	Aileron2
3	Throttle	Motor	AUX7	Throttle	Motor	AUX7	Throttle	Motor	AUX7
4	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder
5	Flap	Flap	Flap	Aileron3	Aileron3	Aileron3	Aileron3	Aileron3	Aileron3
6	Flap2	Flap2	Flap2	Aileron4	Aileron4	Aileron4	Aileron4	Aileron4	Aileron4
7	Flap3	Flap3	Flap3	Flap	Flap	Flap	Flap	Flap	Flap
8	Flap4	Flap4	Flap4	Flap2	Flap2	Flap2	Flap2	Flap2	Flap2
9	AUX4	AUX4	AUX4	AUX4	AUX4	AUX4	Flap3	Flap3	Flap3
10	Gear	AUX6	AUX6	Gear	AUX6	AUX6	Flap4	Flap4	Flap4
11	AUX5	AUX5	AUX5	AUX5	AUX5	AUX5	AUX4	AUX4	AUX4
12	AUX3	AUX3	AUX3	AUX3	AUX3	AUX3	Gear	AUX6	AUX6
13	AUX2	AUX2	AUX2	AUX2	AUX2	AUX2	AUX5	AUX5	AUX5
14	AUX1	Butterfly	Butterfly	AUX1	Butterfly	Butterfly	AUX3	Butterfly	Butterfly
15	Camber	Camber	Camber	Camber	Camber	Camber	Camber	Camber	Camber
16	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator
DG1	SW	SW	SW	SW	SW	SW	SW	SW	SW
DG2	SW	SW	SW	SW	SW	SW	SW	SW	SW

The output CH of each system — FASSTest 18CH / FASSTest 12CH — FASST MULT

●**Tailless wing Winglet 2Rudder**

RX CH	2AIL Airplane	2AIL Glider EP	2AIL Glider	2AIL+1FLAP Airplane	2AIL+1FLAP Glider EP	2AIL+1FLAP Glider	2AIL+2FLAP Airplane	2AIL+2FLAP Glider EP	2AIL+2FLAP Glider
1	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron
2	RUD2	RUD2	RUD2	RUD2	RUD2	RUD2	RUD2	RUD2	RUD2
3	Throttle	Motor	AUX7	Throttle	Motor	AUX7	Throttle	Motor	AUX7
4	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder
5	Gear	AUX6	AUX6	Gear	AUX6	AUX6	Aileron2	Aileron2	Aileron2
6	Aileron2	Aileron2	Aileron2	Aileron2	Aileron2	Aileron2	Flap	Flap	Flap
7	AUX5	AUX5	AUX5	Flap	Flap	Flap	Flap2	Flap2	Flap2
8	AUX3	AUX3	AUX3	AUX5	AUX5	AUX5	Gear	AUX6	AUX6
9	AUX2	AUX2	AUX2	AUX3	AUX3	AUX3	AUX5	AUX5	AUX5
10	AUX1	AUX1	AUX1	AUX2	AUX2	AUX2	AUX3	AUX3	AUX3
11	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX2	AUX2	AUX2
12	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1
13	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1
14	AUX1	AUX1	AUX1	AUX1	Butterfly	Butterfly	AUX1	Butterfly	Butterfly
15	Camber	Camber	Camber	Camber	Camber	Camber	Camber	Camber	Camber
16	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator
DG1	SW	SW	SW	SW	SW	SW	SW	SW	SW
DG2	SW	SW	SW	SW	SW	SW	SW	SW	SW

The output CH of each system — FASSTest 18CH, FASSTest 12CH, FASST MULT

RX CH	2AIL+4FLAP Airplane	2AIL+4FLAP Glider EP	2AIL+4FLAP Glider	4AIL+2FLAP Airplane	4AIL+2FLAP Glider EP	4AIL+2FLAP Glider	4AIL+4FLAP Airplane	4AIL+4FLAP Glider EP	4AIL+4FLAP Glider
1	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron
2	Aileron2	Aileron2	Aileron2	Aileron2	Aileron2	Aileron2	Aileron2	Aileron2	Aileron2
3	Throttle	Motor	AUX7	Throttle	Motor	AUX7	Throttle	Motor	AUX7
4	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder
5	Flap	Flap	Flap	Aileron3	Aileron3	Aileron3	Aileron3	Aileron3	Aileron3
6	Flap2	Flap2	Flap2	Aileron4	Aileron4	Aileron4	Aileron4	Aileron4	Aileron4
7	Flap3	Flap3	Flap3	Flap	Flap	Flap	Flap	Flap	Flap
8	Flap4	Flap4	Flap4	Flap2	Flap2	Flap2	Flap2	Flap2	Flap2
9	RUD2	RUD2	RUD2	RUD2	RUD2	RUD2	Flap3	Flap3	Flap3
10	Gear	AUX6	AUX6	Gear	AUX6	AUX6	Flap4	Flap4	Flap4
11	AUX5	AUX5	AUX5	AUX5	AUX5	AUX5	RUD2	RUD2	RUD2
12	AUX3	AUX3	AUX3	AUX3	AUX3	AUX3	Gear	AUX6	AUX6
13	AUX2	AUX2	AUX2	AUX2	AUX2	AUX2	AUX5	AUX5	AUX5
14	AUX1	Butterfly	Butterfly	AUX1	Butterfly	Butterfly	AUX3	Butterfly	Butterfly
15	Camber	Camber	Camber	Camber	Camber	Camber	Camber	Camber	Camber
16	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator
DG1	SW	SW	SW	SW	SW	SW	SW	SW	SW
DG2	SW	SW	SW	SW	SW	SW	SW	SW	SW

The output CH of each system — FASSTest 18CH, FASSTest 12CH, FASST MULT

* Output channels differ by each system of a table. When using a system with few channels, there is a wing type which cannot be used. It cannot be used when there is a function required out of the range of the arrow of a figure.

Helicopter

●**FASSTest 18CH**

CH	H-4/H-4X Swash	All Other
1	Aileron	Aileron
2	Elevator	Elevator
3	Throttle	Throttle
4	Rudder	Rudder
5	Gyro	Gyro
6	Pitch	Pitch
7	Governor	Governor
8	Elevator2	Governor2
9	GYRO2	GYRO2
10	GYRO3	GYRO3
11	Governor2	Needle
12	Needle	AUX5
13	AUX4	
14	AUX3	
15	AUX2	
16	AUX1	
DG1	SW	
DG2		

●**FASSTest 12CH**

CH	H-4/H-4X Swash	All Other
1	Aileron	Aileron
2	Elevator	Elevator
3	Throttle	Throttle
4	Elevator2	Rudder
5	Pitch	Pitch
6	Gyro	Gyro
7	Governor	Governor
8	Rudder	Governor2
9	GYRO2	GYRO2
10	GYRO3	GYRO3
DG1	SW	
DG2		

FUNCTIONS OF LINKAGE MENU

The Linkage Menu is made up of functions which perform model addition, model type selection, frequency setting, end point setting, and other model basic settings.

- Select [LINKAGE] at the home screen and call the linkage menu shown below by touching the RTN button.
- Use the touch sensor to select the function you want to set and call the setup screen by touching the RTN button.

The functions which can be selected depend on the model type. A typical menu screen is shown below.

● Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.

```
LINKAGE MENU              7.3U 1/4
SERVO MONITOR  FUNCTION
MODEL SELECT   SUB-TRIM
MODEL TYPE     SERVO REVERSE
SYSTEM TYPE    FAIL SAFE
COND.HOLD IS OFF
```

Scrolling
● Moving cursor

●Calling setup screen

● Push the S1 button to call next page.

```
LINKAGE MENU              7.3U 2/4
END POINT     SWASH
THROTTLE CUT  TIMER
IDLE DOWN     T1-T6 SETTING
SWASH RING    MULTIPROP
COND.HOLD IS OFF
```

*The display screen is an example. The screen depends on the model type.

```
LINKAGE MENU              7.3U 3/4
FUNCTION NAME  WARNING
TELEMETRY      TRAINER
SENSOR         STICK ALARM
TELE. SETTING  DATA RESET
COND.HOLD IS OFF
```
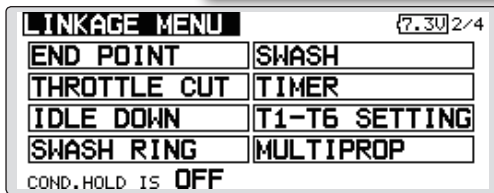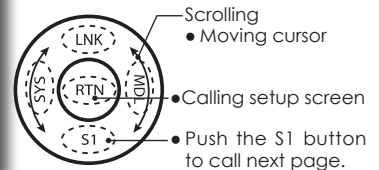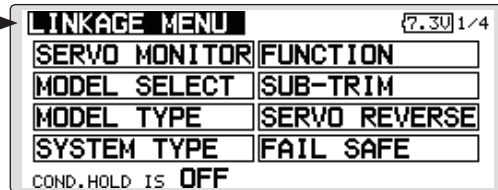
To activate/deactivate Condition Hold:

(Helicopter type only)

1. Move the cursor to 4/4[COND. HOLD].
2. Set the throttle stick lower than the 1/3 point and touch the RTN button to activate/deactivate the condition hold function.

*Refer to condition hold function details.

*Condition hold operation is displayed.

Linkage Menu functions table

[SERVO MONITOR]: Displays the servo test and operation position
[MODEL SELECT]: Model addition, call, deletion, copy, model name setting
[MODEL TYPE]: Model type, wing type, swash type, etc. selection
[SYSTEM TYPE]: System mode selection, link of a transmitter and receiver, area mode selection
[FUNCTION]: Channel assignment of each function can be changed
[SUB-TRIM]: Adjusts the neutral position of each servo
[SERVO-REVERSE]: Servo direction reversal
[FAIL SAFE]: Fail safe function and battery fail safe function setting
[END POINT]: Servo basic rudder adjustment and limit setting
[THROTTLE CUT]: Stops the engine safely and easily (airplane and helicopter only)
[IDLE DOWN]: Lowers the idle speed of the engine (airplane and helicopter only)
[SWASH RING]: Limits the swash plate travel to within a fixedrange. (helicopter only)
[SWASH]: Swash AFR and linkage correction function (helicopter only)
[TIMER]: Timer setting
[T1-T6 SETTING]: Control step amount and mode selection of the digital trim
[MULTIPROP]: CH is extended by MPDX-1 of an option
[FUNCTION NAME]: Function name can be changed
[TELEMETRY]: Displays various data sent from the receiver
[SENSOR]: Various telemetry sensors setting
[TELE.SETTING]: Various telemetry sensors setting
[WARNING]: Mixing warning normal reset
[TRAINER]: Starts and sets the trainer system.
[STICK ALARM]: Can be set so that an audible alarm sounds once when the throttle stick reaches the set position
[DATA RESET]: Model memory set data reset (by item)
[COND. HOLD]: Condition hold function (helicopter only)

SERVO MONITOR

Servo Test & Graph Display / Displays servo positions.

This is used for testing servo movement. "Moving Test" (repetition mode) and "Neutral Test" (fixed position mode) are available.

The "Neutral Test" is good for finding the neutral position of a servo horn.

In order to prevent any potential difficulties, the servo test function will be inoperable, or inaccessible, under certain conditions. Specifically, the Servo Test function is not operational if the Throttle Cut is ON in either airplane or helicopter modes; or if the Throttle Hold is ON in Helicopter mode.

● Select [SERVO MONITOR] at the linkage menu and call the setup screen shown below by touching the RTN button.

● Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.

<SensorTouch™>

Scrolling
● Moving cursor
● Selecting mode
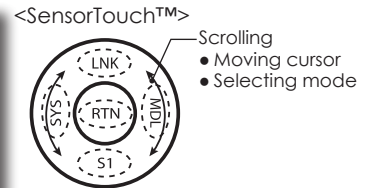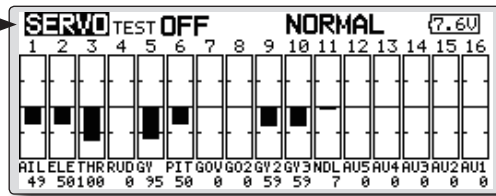
*The display screen is an example. The screen depends on the model type.

Servo test operation

1. Use the touch sensor to move the cursor to the [TEST] item and touch the RTN button to switch to the data input mode.

   Select the test mode by turning the touch sensor to the left or right and touch the RTN button.

   [MOVING]: Mode which repeats operation of each servo

   [NEUTRAL]: Mode which locks each servo in the neutral position

2. Use the touch sensor to move the cursor to the [TEST] item and touch the RTN button to switch to the data input mode.

   Select the [OFF] by turning the touch sensor and touch the RTN button. Testing is stopped.

⚠ WARNING

🚫 Don't set a servo test mode when the drive motor is connected and the engine is powered or running.

■ Inadvertent rotation of the motor or acceleration of the engine is extremely dangerous.

MODEL SELECT

The Model Selection function performs model addition, call, deletion, copy, and model name setting.

This function is used to load the settings of the desired model into the FMT-01's memory.

The settings may be selected from either the transmitter's built-in memory or a SD card (32MB-2GB). Remember that up to 30 model memories are available in the transmitter.
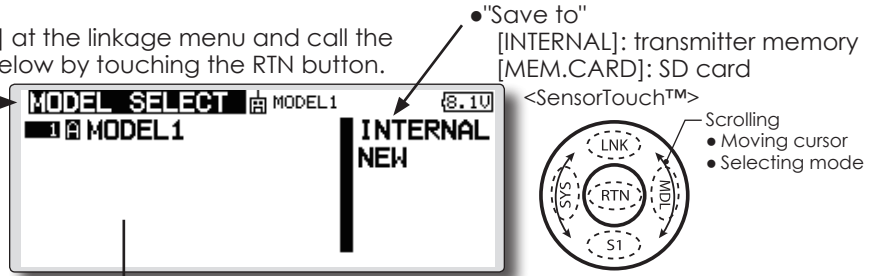
The name of the model stored in the transmitter and the SD card may be changed. This can be very useful to tell different models settings apart. Each model name can be as long as 15 characters, and the model name always appears in the display screen.

The Copy function is used to copy one set of model data into a second memory within the transmitter and the SD card. It may be used for getting a head-start on setting up models with almost the same settings (only differences need to be modified, instead of entering the complete model from scratch). Also, this function may be used to make a backup copy of a model setup before any changes are made.

● Select [MODEL SELECT] at the linkage menu and call the setup screen shown below by touching the RTN button.

● Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.

●"Save to"
[INTERNAL]: transmitter memory
[MEM.CARD]: SD card

<SensorTouch™>

Scrolling
● Moving cursor
● Selecting mode

(Model list) *The display screen is an example. The screen depends on the model type.

Model call

*Model data saved at models other than the model currently used or saved on a SD card can be called.

1. Use the touch sensor to move to the save destination ("INTERNAL" or "MEM.CARD") and touch the RTN button to switch to the data input mode.

   Select the location which is to save the desired model by turning the touch sensor to the left or right. Touch the RTN button.

   [INTERNAL]: Transmitter memory

   [MEM. CARD]: SD card

2. After using the touch sensor to move the cursor to the desired model in the model list, touch the RTN button.

3. Use the touch sensor to move to [SELECT].

4. Touch the RTN button. When a confirmation message is displayed and the RTN button is touched again, calling is complete.
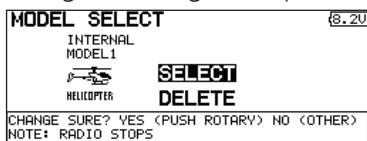
   *Transmission stops and a send with new model confirmation message ("TRANSMIT?") appears.

5. To start transmission, use the touch sensor to select [YES] and then touch the RTN button.

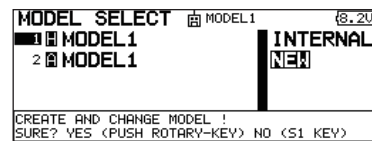   To not transmit, select [NO] and touch the RTN button.

Model addition

*A new model can be added to the transmitter memory or SD card.

1. Use the touch sensor to move the cursor to the save destination ("INTERNAL" or "MEM.CARD) and touch the RTN button to switch to the data input mode.

   Select the save destination by turning the touch sensor to the left or right. Touch the RTN button.

   [INTERNAL]: Transmitter memory

   [MEM. CARD]: SD card

2. Use the touch sensor to move to [NEW].

3. Press the RTN button. A confirmation message appears. Press the RTN button again.

   *The model type setup screen and frequency setup screen are automatically displayed. Confirm or change the model type and frequency.

   *A starting transmission with new model confirmation message ("TRANSMIT") appears.

4. To start transmission, use the touch sensor to select [YES] and then touch the RTN button.

   To not transmit, select [NO] and touch the RTN button.

   *The added model appears in the model list.

Model deletion

*The model stored in the transmitter memory or a SD card can be deleted.
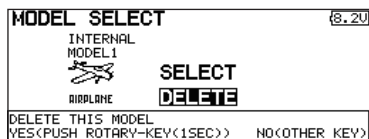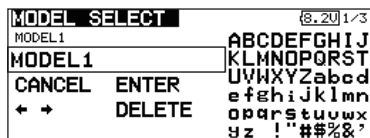
*The current model can not be deleted.

1. Use the touch sensor to move the cursor to the save destination display ("INTERNAL" or "MEM. CARD") and touch the RTN button to switch to the data input mode.

   Select the save destination by turning the touch sensor to the left or right and touch the RTN button.

   [INTERNAL]: Transmitter memory

   [MEM. CARD]: SD card

2. Use the touch sensor to move the cursor to the model you want to delete in the model list and then touch the RTN button.

3. Move the cursor to [DELETE].

4. Touch the RTN button. When a confirmation message is displayed and the RTN button is touched again, the model is deleted.

```
MODEL SELECT              8.2V
        INTERNAL
        MODEL1
        ✈
      AIRPLANE        SELECT
                      DELETE
DELETE THIS MODEL
YES(PUSH ROTARY-KEY(1SEC))    NO(OTHER KEY)
```

Model name change

*The current model's name can be changed.

1. Use the touch sensor to select the current model in the model list and then touch the RTN button.

2. Use the touch sensor to move to [RENAME].

3. Touch the RTN button.

   *The model name setup screen is displayed.

```
MODEL SELECT         8.2V 1/3
MODEL1
                    ABCDEFGHIJ
MODEL1              KLMNOPQRST
CANCEL  ENTER       UVWXYZabcd
                    efghijklmn
  ←  →   DELETE     opqrstuvwx
                    yz !"#$%&'
```

4. Change the model name as described below:

   [Moving cursor in input box]

   Select [←] or [→], and touch the RTN button.

   [Deleting a character]

   When [DELETE] is selected and the RTN button is touched, the character immediately after the cursor is deleted.

   [Adding a character]

   When a candidate character is selected from the character list and the RTN button

is touched, that character is added at the position immediately after the cursor.

*A name of up to 8 characters long can be entered as the model name. (A space is also counted as 1 character.)
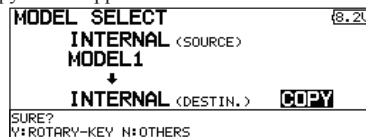
5. At the end of input, select [ENTER] and touch the RTN button. (To terminate input and return to the original state, select [CANCEL] and touch the RTN button.)

Model copy

*A copy can be made of the current model.

1. Use the touch sensor to select the current model in the model list and then touch the RTN button.

2. Move to [COPY] with the touch sensor.

3. Touch the RTN button.

   *The copy screen appears.

```
MODEL SELECT              8.2V
    INTERNAL <SOURCE>
    MODEL1
         ↓
    INTERNAL <DESTIN.>    COPY
SURE?
Y:ROTARY-KEY  N:OTHERS
```

4. Use the touch sensor to move to the copy destination position at the bottom of the screen and touch the RTN button to switch to the data input mode.

   Select the save destination by turning the touch sensor and touch the RTN button.

5. Use the touch sensor to move to [COPY].

6. Touch the RTN button. When a confirmation message is displayed and the RTN button is touched again, the model data is copied.

*FMT-01 accepts a SD card formatted FAT file system, but it does not supports the long file name feature used in Windows or other modern operating systems. Thus FMT-01 can accept files whose name consists of only 8 characters or less. Furthermore, it supports only basic alphanumeric characters such as 'A" to 'Z', '0' to '9' and '_'.

MODEL TYPE

This function selects the model type from among multicopter, airplane, helicopter, and glider.

Seven types of main wings and three types of tail wings are available for airplanes. Eight swash types are available for helicopters. Seven types of main wings and three types of tail wings are available for gliders. Functions and mixing functions necessary for each model type are set in advance at the factory.

Note: The Model Type function automatically selects the appropriate output channels, control functions, and mixing functions for the chosen model type.

When the Model Type Selection command is accessed, all of the data in the active memory is cleared (except the following swash type.) Be sure that you don't mind losing this data, or back it up to another memory using the copying functions.

When you change the helicopter swash type within the following each group, you can leave the setting data other than the SWASH function. In this case, confirmation screen appears. However, it is initialized when you change the swash type exceeding the group.

Swash type group A:
H-1, H-2, H-3, HR3, HN3, and HE3
Swash type group B:
H-4, H-4X

● Select [MODEL TYPE] at the linkage menu and call the setup screen shown below by touching the RTN button.

● Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.

<SensorTouch™>
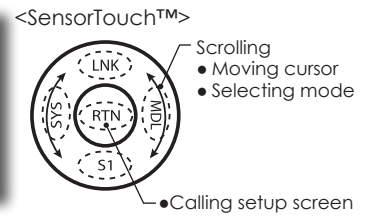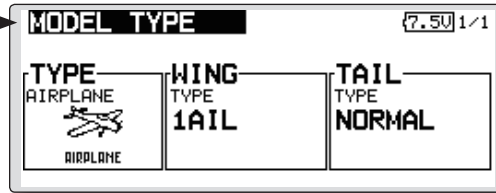
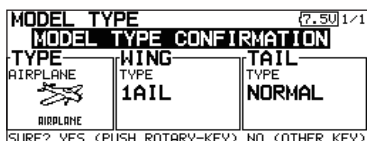(The display screen is an example. The screen depends on the model type.)

Model type selection

1. Use the touch sensor to move the cursor to the item you want to change and then call the selection screen by touching the RTN button.

   "TYPE": Model type

   "WING " (airplane/glider): Wing type

   "TAIL" (airplane/glider): Tail type

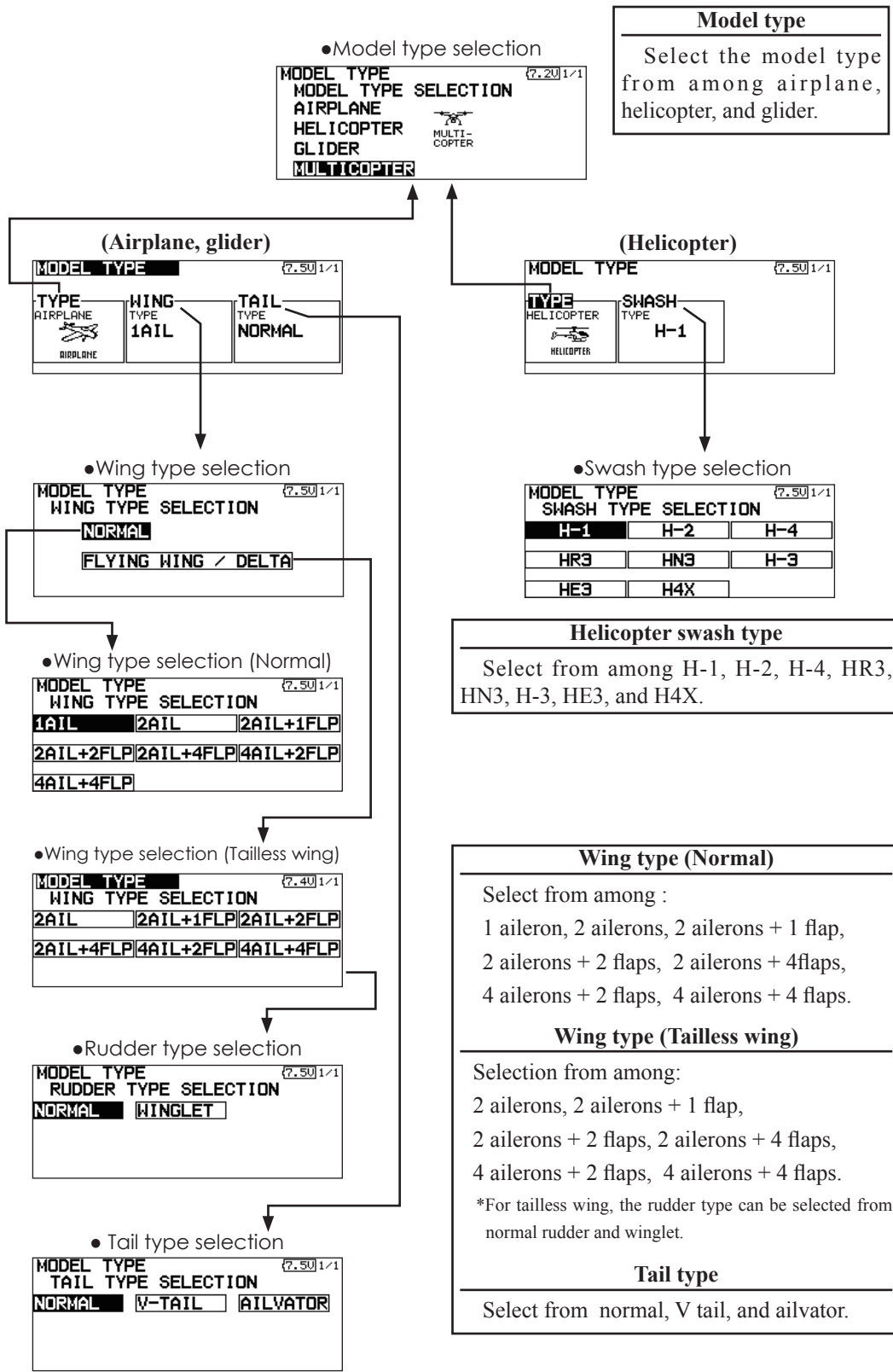   "SWASH" (helicopter): Swash type

2. Use the touch sensor to move the cursor to the type you want to change and select the type by touching the RTN button.

   *When the model type was changed, the wing type, tail type, or swash type selection screens sequentially appear according to the model. Finally, the blinking confirmation message "MODEL TYPE CONFIRMATION" appears.
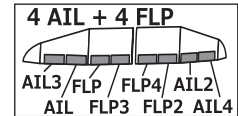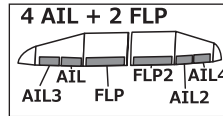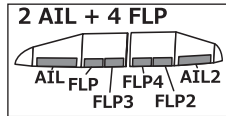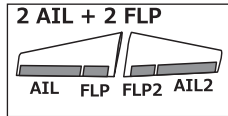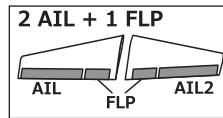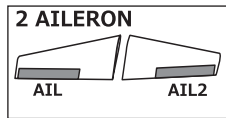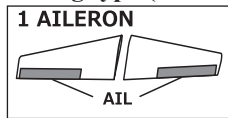

3. Touch the RTN button to execute the change. (Operate the touch sensor or S1 button to stop the change.)

*The model types which are displayed (which can be selected) depend on the type of receiver used. See Servo Connection by Model Type.
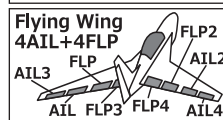
● Model type selection

```
MODEL TYPE                    (7.2V) 1/1
  MODEL TYPE SELECTION
  AIRPLANE
  HELICOPTER          MULTI-
  GLIDER              COPTER
  MULTICOPTER
```

Model type

Select the model type from among airplane, helicopter, and glider.

(Airplane, glider)

```
MODEL TYPE                    (7.5V) 1/1
  TYPE        WING        TAIL
  AIRPLANE    TYPE        TYPE
              1AIL        NORMAL
  AIRPLANE
```

(Helicopter)

```
MODEL TYPE                    (7.5V) 1/1
  TYPE        SWASH
  HELICOPTER  TYPE
              H-1
  HELICOPTER
```

● Wing type selection

```
MODEL TYPE                    (7.5V) 1/1
  WING TYPE SELECTION
       NORMAL
       FLYING WING / DELTA
```

● Swash type selection

```
MODEL TYPE                    (7.5V) 1/1
  SWASH TYPE SELECTION
   H-1     H-2     H-4
   HR3     HN3     H-3
   HE3     H4X
```

Helicopter swash type

Select from among H-1, H-2, H-4, HR3, HN3, H-3, HE3, and H4X.

● Wing type selection (Normal)

```
MODEL TYPE                    (7.5V) 1/1
  WING TYPE SELECTION
  1AIL      2AIL      2AIL+1FLP
  2AIL+2FLP 2AIL+4FLP 4AIL+2FLP
  4AIL+4FLP
```

● Wing type selection (Tailless wing)

```
MODEL TYPE                    (7.4V) 1/1
  WING TYPE SELECTION
  2AIL      2AIL+1FLP 2AIL+2FLP
  2AIL+4FLP 4AIL+2FLP 4AIL+4FLP
```

● Rudder type selection

```
MODEL TYPE                    (7.5V) 1/1
  RUDDER TYPE SELECTION
  NORMAL    WINGLET
```

● Tail type selection

```
MODEL TYPE                    (7.5V) 1/1
  TAIL TYPE SELECTION
  NORMAL    V-TAIL    AILVATOR
```

Wing type (Normal)

Select from among :

1 aileron, 2 ailerons, 2 ailerons + 1 flap,

2 ailerons + 2 flaps, 2 ailerons + 4flaps,

4 ailerons + 2 flaps, 4 ailerons + 4 flaps.

Wing type (Tailless wing)

Selection from among:

2 ailerons, 2 ailerons + 1 flap,

2 ailerons + 2 flaps, 2 ailerons + 4 flaps,

4 ailerons + 2 flaps, 4 ailerons + 4 flaps.

*For tailless wing, the rudder type can be selected from normal rudder and winglet.
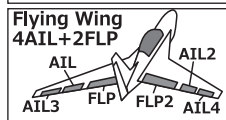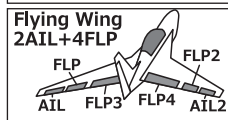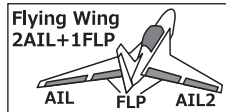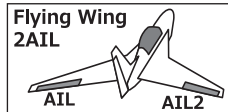
Tail type

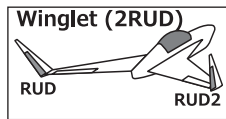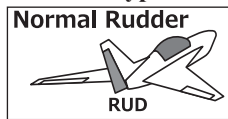Select from normal, V tail, and ailvator.
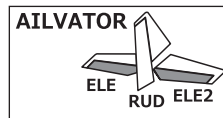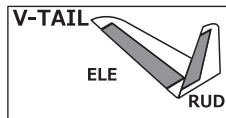
Model type selection (Airplane, Glider)

●Wing type (Normal)

1 AILERON

AIL

2 AILERON

AIL   AIL2

2 AIL + 1 FLP

AIL   FLP   AIL2

2 AIL + 2 FLP

AIL   FLP   FLP2   AIL2

2 AIL + 4 FLP

AIL FLP FLP4 AIL2
FLP3   FLP2

4 AIL + 2 FLP

AIL   FLP2 AIL4
AIL3   FLP   AIL2

4 AIL + 4 FLP

AIL3 FLP FLP4 AIL2
AIL FLP3 FLP2 AIL4

●Wing type (Tailless wing)

Flying Wing 2AIL

AIL   AIL2

Flying Wing 2AIL+1FLP

AIL   FLP   AIL2

Flying Wing 2AIL+2FLP

AIL FLP FLP2 AIL2

Flying Wing 2AIL+4FLP

FLP   FLP2
AIL FLP3 FLP4 AIL2

Flying Wing 4AIL+2FLP

AIL   AIL2
AIL3 FLP FLP2 AIL4

Flying Wing 4AIL+4FLP

FLP2
FLP   AIL2
AIL3
AIL FLP3 FLP4 AIL4

●Rudder type

Normal Rudder

RUD

Winglet (2RUD)

RUD   RUD2

●Tail type

NORMAL

ELE
RUD   ELE

V-TAIL

ELE

RUD

AILVATOR

ELE
RUD ELE2

Model type selection (Helicopter)

●Swash type

H-1

Pure function

H-2

PIT   AIL

H-4

ELE
PIT   AIL
ELE2

HR3(120°)

PIT   AIL
ELE

HN3(120°)

ELE
AIL
PIT

H-3

PIT   AIL
ELE

HE3

PIT   AIL
ELE

H-4X

ELE   AIL
PIT   ELE2

SYSTEM TYPE
System mode setting, Receiver link

System Type selection

The FMT-01 is for 2.4GHz only. The system can be changed from among 2 choices: FASSTest 18CH and FASSTest12CH which can be chosen by FMR-01 set. The method of selection is to the next page.

*If you change the System Type, other model data is not reset.

*If a system type is changed in Helicopter mode, the transmitter will offer two selections:

[Yes] : Selection sets the channel order suitable for System Type. (We recommend here.)

[No] : The present channel order is maintained.

*After any change, remember to test the model and should fully check servo direction and a motion.

*Analog servos cannot be used with the FMR-01 in the FASSTest 12CH mode.

Dual receiver function (only FASSTest 18CH mode)

Dual receivers can be linked with the FMT-01. Two receivers are recognized individually by ID numbers. Two sets of receivers can be used as a set in the model. Separate fail-safe voltage can be set to each receiver.

However, telemetry cannot be used for the 2nd receiver.

● Select [SYSTEM] in the Linkage menu and access the setup screen shown below by touching the RTN button.

● Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.

<SensorTouch™>
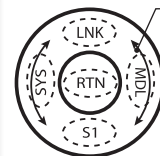
Scrolling
● Moving cursor
● Selecting mode
● Adjusting value

Receiver linking

The receiver will only be controlled (without being affected by other transmitters) by the transmitter it is linked to. When using a receiver other than one purchased as a set, linking is necessary.

Moreover, a re-link is required when a new model is added by model selection, and the time of system type change.

Cases when linking is necessary:
· When using a receiver other than the initial setting.
· When the communication system was changed. (FASSTest18CH ↔ FASSTest12CH etc.)
· When a new model was created by model selection.

Battery fail-safe voltage setup (only FASSTest mode)

The voltage which battery fail-safe activates, can be set when you link. (3.5-8.4V) The receiver memorizes the setting as it was at link.

Suggested setting voltages are as follows.

• 4 cells NiCd or NiMH (Normal: 4.8v) = 3.8 v
• 2 cells LiFe (Normal: 6.6 v) = 6.0 ~ 6.2 v
• 2 cells LiPo (Normal: 7.4 v) = 7.2 ~ 7.4 v

It is a rough reference value.

Since it changes with servos carried in the condition and the model of a battery, please set to your own model in a battery consumption current.

Telemetry function (FASSTest 18CH mode only)

To use the telemetry function, set "Telemetry" to "ACT".
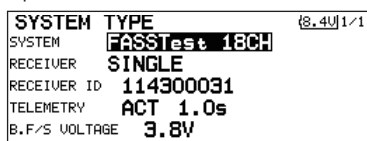
DL Interval (FASSTest 18CH mode only)

When a telemetry function is enabled, the receiving interval (down-link interval) of sensor data can be changed.

If a DL interval is increased, the response of the sensor data display becomes slower, but stick response will improve.

System Type selection procedure

1. Move the cursor to the [FASSTest-18CH] item and touch the RTN button to switch to the data input mode.

```
SYSTEM TYPE                    8.4U 1/1
SYSTEM      FASSTest 18CH
RECEIVER    SINGLE
RECEIVER ID  114300031
TELEMETRY    ACT 1.0s
B.F/S VOLTAGE  3.8V
```

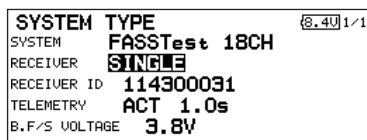2. Select the system type by scrolling the touch sensor.

   [FASSTest-18CH][FASSTest-12CH]

   *An example of selections for each system is on the following page.

3. Touch the RTN button to end adjustment and return to the cursor mode.

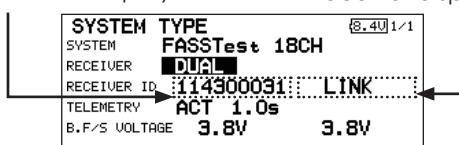**Dual receiver function (only FASSTest 18CH mode) procedure**

1. Move the cursor to the [SINGLE] item and touch the RTN button to switch to the data input mode.

```
SYSTEM TYPE                    8.4U 1/1
SYSTEM      FASSTest 18CH
RECEIVER    SINGLE
RECEIVER ID  114300031
TELEMETRY    ACT 1.0s
B.F/S VOLTAGE  3.8V
```

2. Select the [SINGLE] or [DUAL] by scrolling the touch sensor.

ID of a Primary receiver displays.   ID of a Secondary receiver displays.

```
SYSTEM TYPE                    8.4U 1/1
SYSTEM      FASSTest 18CH
RECEIVER    DUAL
RECEIVER ID  114300031    LINK
TELEMETRY    ACT 1.0s
B.F/S VOLTAGE  3.8V          3.8V
```
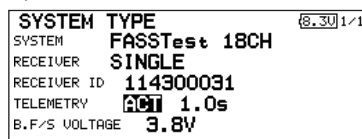
In DUAL, a primary receiver is link previously. Next, a secondary receiver is link.

3. Touch the RTN button to end adjustment and return to the cursor mode.

Telemetry ACT/INH procedure

1. Move the cursor to the TELEMETRY [ACT] item and touch the RTN button to switch to the data input mode.

```
SYSTEM TYPE                    8.3U 1/1
SYSTEM      FASSTest 18CH
RECEIVER    SINGLE
RECEIVER ID  114300031
TELEMETRY    ACT 1.0s
B.F/S VOLTAGE  3.8V
```
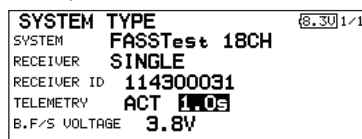
2. Select the [ACT]or[INH] by scrolling the touch sensor.

3. Touch the RTN button to end adjustment and return to the cursor mode.

DL Interval set procedure

1. Move the cursor to the TELEMETRY DL[1.0s] item and touch the RTN button to switch to the data input mode.

```
SYSTEM TYPE                    8.3U 1/1
SYSTEM      FASSTest 18CH
RECEIVER    SINGLE
RECEIVER ID  114300031
TELEMETRY    ACT 1.0s
B.F/S VOLTAGE  3.8V
```

2. Select the DL time by scrolling the touch sensor. If a DL interval is increased, the response of the sensor data display becomes slower, but stick response will improve.

   Initial value: 1.0s

   Adjustment range : 0.1s~2.0s

3. Touch the RTN button to end adjustment and return to the cursor mode.

FUNCTION

Channel assignment of each function can be changed.

When you select model and wing (swash) types, you will find that the optimized combinations of servo output channels and functions have been already preset. If you would like, you can freely change combinations of servo output channels, functions (aileron, elevator, etc), and control (sticks, switches, and trim levers).

*You can also assign the same function to multiple servo output channels such as assigning elevator function to CH2 and CH3.

Channel Replacement

When the channel is replaced in the function menu, replaced channel uses the setting data (ATV, SUB-TRIM, REVERSE, F/S, and B-F/S, etc.).

Servo Output Channels

For FASSTest 14CH mode, you can set 12 linear channels and two digital channels. For FASSTest 18CH mode, you can set 16 linear channels and two digital channels.

*DG1/2 (digital channels)
These channels can function as switched channels. You can freely change combinations between servo output channels and input controls (sticks, switches, and trim levers).

Motor Function

If you have either a glider or airplane model type selected, and choose to activate the motor function, a reverse setting screen is displayed.

*If " YES" is selected, the output is reversed. If "NO" is selected, the output is normal.
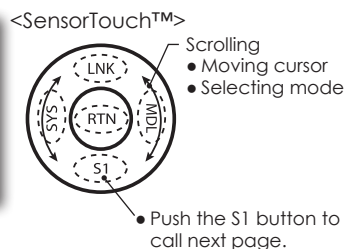
● Select [FUNCTION] at the linkage menu and call the setup screen shown below by touching the RTN button.

● Trim operation mode
"COMB": Combination mode
"SEPAR": Separate mode

● Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.

<SensorTouch™>

Scrolling
● Moving cursor
● Selecting mode

● Push the S1 button to call next page.

(The display screen is an example. The screen depends on the model type.)

Function change

1. Use the touch sensor to move the cursor to the "FUNCTION" item of the channel you want to change and touch the RTN button.

   *The function selection screen is displayed.

2. Use the touch sensor to move the cursor to the function name you want to set and touch the RTN button.

   *The function name blinks.

3. Touch the RTN button to execute the change. (When you want to cancel this operation, operate the touch sensor or S1 button.)

   *Multiple channels can be assigned to one function.

Operation control change

1. Use the touch sensor to move the cursor to the "CONTROL" item of the channel you want to change and touch the RTN button.

   *The control selection screen is displayed.

2. Use the touch sensor to move the cursor to the control you want to change, and touch the RTN button.

   *The same control can be assigned to multiple channels.

   *The setting can be changed for each condition.

   After the set mode is changed from group mode [G] to single mode [S] at the control selection screen, only that condition setting is changed by control change; setting of other conditions remains the same.

Trim setting

Use the touch sensor to move the cursor to the "TRIM" item of the channel you want to change and touch the RTN button.

*The trim setup screen is displayed.

```
HARDWARE SEL.  CONDIT1  (7.2V)1/1
┌── HARDWARE LIST ──┐      RATE
 J1 SA SE J6 LD T3 --     +30%
 J2 SB SF J5 RD T4       MODE
 J3 SC SG LS [T1] T5     NORMAL
 J4 SD SH RS T2 T6
```

The following items can be set at the trim setup screen:

*The setting can be changed for each condition.

After the set mode is changed from group mode [G] to single mode [S] at the control selection screen, only that condition setting is changed by control change; setting of other conditions remains the same.

Trim selection

Use the touch sensor to move the cursor to the trim, lever, etc. you want to set and touch the RTN button.

*The setting can be changed.

Trim rate setting

Use the touch sensor to move the cursor to the [RATE] item and touch the RTN button to switch to the data input mode.

Set the trim rate by turning the touch sensor.

Initial value: +30%

Adjustment range : 0~150%

(When the RTN button is touched for 1 second, the trim rate is reset to the initial value.)

Touch the RTN button to end adjustment and return to the cursor move mode.

Trim mode selection

Use the touch sensor to move the cursor to the [TRIM MODE] item and select the trim mode by turning the touch sensor.

[NORM]: Normal mode. Normal trim (parallel shift trim) operation.

[ATL]: ATL operation mode. Maximum change near center by operation normally used with throttle trim. Reverse is also possible.

[NORM]/[REV] selection is possible at the "ATL REV" item.

[CENTER]: Maximum change near center by center trim operation.

⚠ WARNING

🛑 As a safety precaution to prevent the motor from starting unexpectedly, please switch off the motor accordingly. We also suggest removing the propeller from the motor as an additional precaution.

SUB-TRIM

Setting of neutral position of each servo.

The Sub-Trim function is used to set the servo neutral position, and may be used to make fine adjustments to the control surface after linkages and touchrods are hooked up. When you begin to set up a model, be sure that the digital trims are set to their center position.

● Select [SUB-TRIM] at the linkage menu and call the setup screen shown below by touching the RTN button.

● Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.

```
SUB-TRIM                    8.2V 1/2
CH FUNCTION          CH FUNCTION
1 AILERON      +0    5 GYRO<RUD>    +0
2 ELEVATOR     +0    6 PITCH        +0
3 THROTTLE     +0    7 GOVERNOR     +0
4 RUDDER       +0    8 GOVERNOR2    +0
```

(The display screen is an example. The screen depends on the model type.)

<SensorTouch™>
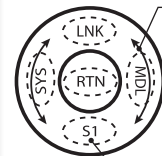
Scrolling
● Moving cursor
● Adjusting value

● Push the S1 button to call next page.

Sub trim adjustment

1. Use the touch sensor to move the cursor to the channel you want to adjust and touch the RTN button to switch to the data input mode.

2. Adjust by turning the touch sensor.

   Initial value: 0

   Adjustment range: -240~+240 (steps)

   (When the RTN button is touched for 1 second, sub trim is reset to the initial value.)

   *Before sub trim adjustment, adjustment of the linkage so that control surfaces need not use sub trim as much as possible is very important.

3. Repeat this procedure for each channel.

SERVO-REVERSE

Use to reverse the throw direction.

Servo Reverse changes the direction of an individual servo's response to a control stick movement.

For CCPM helicopters, be sure to read the section on Swash AFR before reversing any servos. With CCPM helicopters, always complete your servo reversing prior to any other programming. If you use pre-built Airplane/Sailplane functions that control multiple servos, it may be confusing to tell whether the servo needs to be reversed or a setting in the function needs to be reversed. See the instructions for each specialized function for further details. Always check servo direction prior to every flight as an additional precaution to confirm proper model memory, hook ups, and radio function.

● Select [SERVO REVERSE] at the linkage menu and call the setup screen shown below by touching the RTN button.

● Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.

```
SERVO REVERSE              8.2U 1/3
CH FUNCTION    MODE    CH FUNCTION    MODE
1  AILERON     NORM    5  GYRO<RUD>   NORM
2  ELEVATOR    NORM    6  PITCH       NORM
3  THROTTLE    NORM    7  GOVERNOR    NORM
4  RUDDER      NORM    8  GOVERNOR2   NORM
```

<SensorTouch™>

Scrolling
● Moving cursor
● Selecting mode

LNK SYS RTN MIDL S1

● Push the S1 button to call next page.

(The display screen is an example. The screen depends on the model type.)

Servo reversing procedure

*After linkage of a new model is complete, check whether or not each servo is connected to the correct channel.

*Next, determine whether you need to reverse any channels by moving each stick.

1. Use the touch sensor to move the cursor to the channel you want to reverse and touch the RTN button to switch to the data input mode.

2. Turn the touch sensor and change the display to [REVERSE] (or [NORMAL]).

*The display blinks.

3. When the RTN button is touched, servo operation is reversed. (Operate touch sensor or S1 button to stop reversal.)

*Repeat the operation above for each channel that must be reversed.

FAIL SAFE

Sets the servos operating position when transmitter signals can no longer be received or when the receiver battery voltage drops.

The Failsafe function may be used to set up positions that the servos move to in the case of radio interference.

You may set either of two positions for each channel: Hold, where the servo maintains its last commanded position, or Failsafe, where each servo moves to a predetermined position. You may choose either mode for each channel. (**FASST 7CH mode: CH3 only**)

The FMT-01 system also provides you with an advanced battery monitoring function that warns you when the receiver battery has only a little power remaining. In this case, each servo is moved to the defined failsafe position. (**FASST 7CH mode: CH3 only**) The battery failsafe may be released by operating a predefined control on the transmitter, do not continue to fly, land as soon as possible. Remember, if the predefined

control suddenly moves to a position you did not command, land at once and check your receiver battery.

Defines servo position when signals are lost and when receiver battery voltage becomes low.

⚠ WARNING

❗ For safety, always set the fail safe functions.

- ●Remember to set the throttle channel fail safe function so that the servo moves to the maximum slow side for airplanes and to the slow side from the hovering position for helicopters. Crashing of the model at full high when normal radio waves cannot be received due to interference, etc., is very dangerous.

- ●If the battery fail safe is reset by the throttle stick, it may be mistaken for an engine malfunction and will be reset at throttle slow and the model will continue to fly. If you have any doubts, immediately land.

● Select [FAIL SAFE] at the linkage menu and call the setup screen shown below by touching the RTN button.
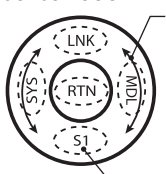
(The display screen is an example. The screen depends on the model type.)

● Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.

```
FAIL SAFE              8.2V 1/4
CH FUNCTION  F/S      F/S-POS
 1  AIL   HOLD   OFF
 2  ELE   HOLD   OFF
 3  THR   HOLD   OFF   RELEASE
                       BATTERY
 4  RUD   HOLD   OFF   F/S
                       --
```

<SensorTouch™>

Scrolling
● Moving cursor
● Selecting mode

LNK MDL RTN SYS S1

● Push the S1 button to call next page.

Fail safe setting procedure

1. Move the cursor to the "F/S" item of the channel you want to set and touch the RTN button to switch to the data input mode.

2. Select the F/S mode by scrolling the touch sensor. A confirmation message appears.

   *The display blinks.

3. Touch the RTN button. (Touch the S1 button to stop setting.)

   *The channel switches to the F/S mode.

4. Move the cursor to the "POS" item.

   Hold the corresponding stick, knob, slider, etc. in the position you want the servo to move to when the fail safe function is activated and touch the RTN button for one second.

   *The set position is displayed in percentage.

   *If you want to return that channel to the hold mode, move the cursor to the "F/S" item and touch the RTN button to switch to the data input mode. Select the F/S mode by scrolling the touch sensor. A confirmation message appears and then change the mode by touching the RTN button.

Battery fail safe setting procedure

Battery fail safe can be set for each channel by the same method as the fail safe setting procedure. Select and set the "B.F/S" item.

[ON]: Battery fail safe function ON

[OFF]: Battery fail safe function OFF

Battery fail safe release switch setting

This function temporarily releases the battery fail safe function, so the model can recover after the battery fail safe function was activated by a drop in the receiver battery voltage. This setting selects the switch which releases the battery fail safe function.

1. Move the cursor to the [RELEASE B.F/S] item in the setup screen (last page).

2. Touch the RTN button.

   *The switch selection screen is called.

   *For a detailed description of the switch selection and ON/ OFF direction setting method, see [Switch Setting Method] at the back of this manual.

END POINT

Sets the travel, limit point, and speed of each servo.

The End Point function adjusts the left and right servo throws, generates differential throws, and will correct improper linkage settings.

The travel rate can be varied from 30% to 140% in each direction on channels 1 to 12. Also, the limit point where servo throw stops may be varied from 0% to 155%.

NOTE: The servo speed setting is used to set the servo delay for each channel, from channel 1 to channel 12. The system uses the programmed speed (delay) to slow down servo position changes. The servo speed setting can be varied from 0 to 27 in each channel.

● Select [END POINT] at the linkage menu and call the setup screen shown below by touching the RTN button.

● Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.

```
END POINT                    8.2V 1/4
CH FUNCTION   LIMIT TRAV. TRAV. LIMIT SPEED
 1 AILERON    135% 100% 100% 135%   0
 2 ELEVATOR   135% 100% 100% 135%   0
 3 THROTTLE   135% 100% 100% 135%   0
 4 RUDDER     135% 100% 100% 135%   0
              ←↑↻         ↻↓→
```

(The display screen is an example. The screen depends on the model type.)

<SensorTouch™>
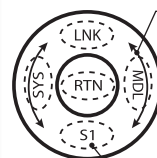
Scrolling
● Moving cursor
● Adjusting value

● Push the S1 button to call next page.

Servo travel adjustment

1. Use the touch sensor to move the cursor to the "TRAV." item of the channel you want to adjust and touch the RTN button to switch to the data input mode.

2. Turn the touch sensor to adjust the rate.

   Initial value: 100%

   Adjustment range: 30%~140%

   (When the RTN button is touched for 1 second, the rate is reset to the initial value.)

   Touch the RTN button to end adjustment and return to the cursor move mode.

3. Repeat this procedure for each rate.

Limit point adjustment

1. Use the touch sensor to move the cursor to the "LIMIT" item of the channel you want to adjust and touch the RTN button to switch to the data input mode.

2. Turn the touch sensor to adjust the limit point.

   Initial value: 135%

   Adjustment range: 0%~155%

   (When the RTN button is touched for 1 second, the limit point is reset to the initial value.)

   Touch the RTN button to end adjustment and return to the cursor move mode.

3. Repeat this procedure for each limit point.
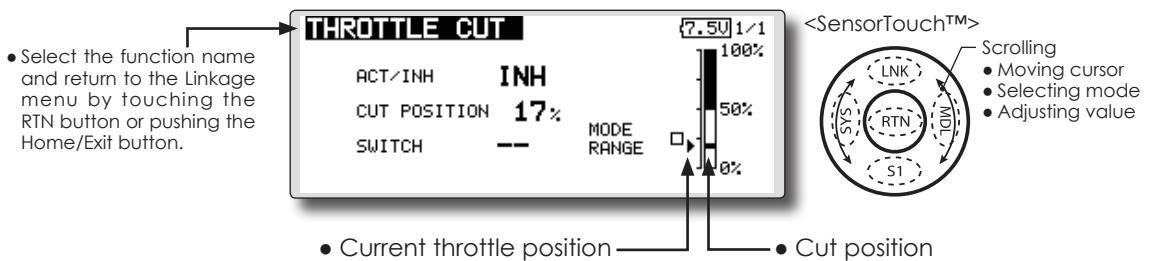
Servo speed setting

1. Use the touch sensor to move the cursor to the "SPEED" item of the channel you want to adjust and touch the RTN button to switch to the data input mode.

2. Turn the touch sensor to adjust the servo speed.

   Initial value: 0

   Adjustment range: 0~27 (steps)

   (When the RTN button is touched for 1 second, the servo speed is reset to the initial value.)

   Touch the RTN button to end adjustment and return to the cursor move mode.

3. Repeat this procedure for each channel.

THROTTLE CUT

Stops the engine safely and easily.(airplane and helicopter only)

Throttle cut provides an easy way to stop the engine, by flipping a switch with the throttle stick at idle. The action is not functional at high throttle to avoid accidental dead sticks. The switch's location and direction must be chosen, as it defaults to NULL.

● Select [THROTTLE CUT] at the linkage menu and call the setup screen shown below by touching the RTN button.

● Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.

<SensorTouch™>

Scrolling
● Moving cursor
● Selecting mode
● Adjusting value

THROTTLE CUT   7.5U 1/1

ACT/INH   INH   100%

CUT POSITION 17%   50%

SWITCH   --   MODE
                   RANGE   0%

● Current throttle position ———— ● Cut position

Throttle cut setting procedure

*Perform the following settings before using the touch sensor to move the cursor to the item to be set.

1. Activate the function:

Move the cursor to the [ACT/INH] item and touch the RTN button to switch to the data input mode.

Turn the touch sensor to the left until the blinking changes from "INH" to "ACT" and then touch the RTN button.

2. Switch setting:

Move the cursor to the [SWITCH] item and call the switch setup screen by pressing the RTN button and select the switch and ON direction.

(For a detailed description of the setting method, see [Switch Setting Method] at the back of this manual.)

3. Throttle cut position setting:

Move the cursor to the [CUT POSITION] item and touch the RTN button to switch to the data input mode.

Adjust the servo operation position at throttle cut operation by turning the touch sensor to the left or right.

Initial value: 17%

Adjustment range: 0%~50%

(When the RTN button is pressed for 1 second, the servo operation position is reset to the initial value.)

Touch the RTN button to end adjustment and return to the cursor move mode.

*With the selected cut switch ON and the throttle stick at idle; adjust the rate until the engine consistently cuts off.

However, be sure that the throttle linkage is not pulled too tight and unreasonable force is not applied to the servo.
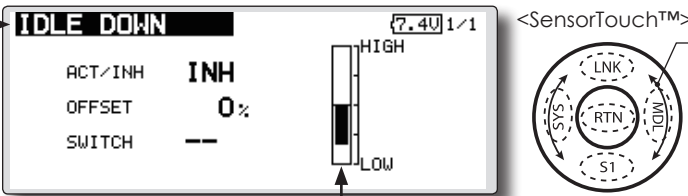
IDLE DOWN

Lowers the engine idling speed.(airplane and helicopter only)

The Idle Down function lowers the engines idle by flipping a switch with the throttle stick at idle. The action is not functional at high throttle to avoid accidental dead sticks. The switch's location and direction must be chosen, as it defaults to NULL.

● Select [IDLE DOWN] at the linkage menu and call the setup screen shown below by touching the RTN button.

● Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.

```
IDLE DOWN              7.4U 1/1
                              HIGH
  ACT/INH    INH
  OFFSET      0%
  SWITCH      --
                              LOW
```

<SensorTouch™>

Scrolling
● Moving cursor
● Selecting mode
● Adjusting value

LNK MDL RTN SYS S1

● Current throttle position

Idle down setting procedure

*Perform the following settings after using the touch sensor to move the cursor to the item you want to set.

1. Activate the function:

   Move the cursor to the [ACT/INH] item and touch the RTN button to switch to the data input mode.

   Switch the blinking from "INH" to "ACT" by turning the touch sensor to the left and then touch the RTN button.

2. Switch setting:

   Move the cursor to the [SWITCH] item, call the switch setup screen by touching the RTN button, and select the switch and ON direction.

   (For a detailed description of the setting method, see [Switch Setting Method] at the back of this manual.)

3. Offset rate setting:

   Move the cursor to the [OFFSET] item and touch the RTN button to switch to the data input mode.

   Adjust the servo offset rate at idle down operation by turning the touch sensor to the left or right.

   Initial value: 0%

   Adjustment range: -100%~100%

   (When the RTN button is touched for 1 second, the offset rate is reset to the initial value.)

*Maximum offset amount is near maximum slow.

*When a minus rate is input, offset is applied to the high side.

Touch the RTN button to end adjustment and return to the cursor move mode.

SWASH RING

Limits the swash plate travel to within a fixed range. (Helicopter only)

This function limits the swash travel to within a fixed range to prevent damaging of the swash linkage by simultaneous operation of the ailerons and elevators. It is effective in 3D aerobatics which use a large travel.

● When the swash ring function is activated, a circle is displayed in the operating range display area and the rate input box is displayed. Stick operation is limited to within the area of this circle.

● Select [SWASH RING] at the linkage menu and call the setup screen shown below by touching the RTN button.

● Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.

SWASH RING

ELEVATOR +0%

AILERON +0%

ACT/INH   RATE
ACT   100%

7.5V 1/1

<SensorTouch™>

Scrolling
● Moving cursor
● Selecting mode
● Adjusting value

LNK

SYS   RTN   MDL

S1

● The operating range display area:
The vertical direction shows the elevator travel. The horizontal direction shows the aileron travel.

● The marker shows the stick position.

Swash ring setting procedure

*Perform the following settings after using the touch sensor to move the cursor to the item you want to set.

1. Activate the function:

Move the cursor to the [ACT/INH] item and touch the RTN button to switch to the data input mode.

Switch the blinking from "INH" to "ACT" by turning the touch sensor to the left and then touch the RTN button.

2. Rate setting:

Use the touch sensor to move the cursor to the [RATE] item touch the RTN button to switch to the data input mode.

Use the touch sensor to set the rate.

Initial value: 100%.

Adjustment range: 50% to 200%.

*Adjust the rate to maximum swash tilt.

(When the RTN button is touched for 1 second, the rate is reset to the initial value.)

Touch the RTN button to end adjustment and return to the cursor move mode.

SWASH

Swash operation linkage correction function.(helicopter only, except swash type H-1)
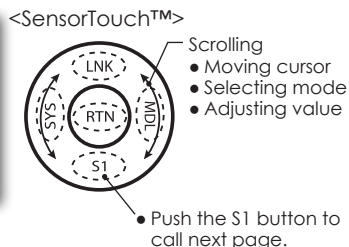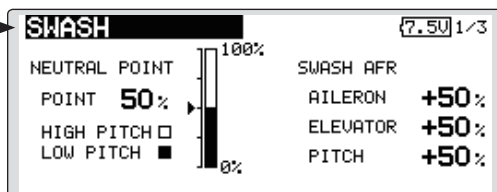
Neutral Point

At your linkages, if the servo horn deviates from a perpendicular position at neutral, the linkage compensation functions in this menu may not compensate effectively. To correct this use the neutral point function. This will move the neutral point of the servos to the actual perpendicular position. However, this adjustment changes only the axis point of the compensation functions in this menu, and does not affect the neutral position of other functions.

Swash AFR

Swash AFR function reduces/increases/reverses the rate (travel) of the aileron, elevator and collective pitch functions, by adjusting or reversing the motion of all servos involved in that function, only when using that function.

Mixing Rate

This compensation mixing is used to correct the tendency of the swash-plate for each control. The following compensation mixing is possible; PIT to AIL, PIT to ELE, AIL to PIT, ELE to AIL, and ELE to PIT (HR3 mode.) It adjusts the swash-plate to operate correctly for each control using the corresponding compensation mixing.

Linkage Compensation

This compensation mixing is used to correct the tendency of the swash-plate for pitch control at low pitch and high pitch.

Speed Compensation

This function is used to cancel the reaction that is generated by the difference of the operation amount of each servo when the swash-plate moves.

● Select [SWASH] at the linkage menu and call the setup screen shown below by touching the RTN button.

● Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.

<SensorTouch™>

Scrolling
● Moving cursor
● Selecting mode
● Adjusting value

● Push the S1 button to call next page.

*Before making the following settings, use the touch sensor to move the cursor to the item you want to set.

Neutral point setting procedure

The neutral point becomes the correction standard point.

*Adjusting the servo horn so that the neutral point is near the 50% position makes the mixing amount small.

1. Neutral point setting

Move the cursor to the [POINT] item and hold the pitch operation so that the servo horn is at a right angle to the linkage rod and touch the RTN button for 1 second and read the neutral position.

*The neutral point can also be displayed by bar graph.

After reading the neutral point, use the other correction functions to make further adjustments.

Swash AFR setting procedure

The swash AFR function makes adjustments so that the servos travel the specified amount by [AILERON], [ELEVATOR], and [PITCH] operation.

1. Use the touch sensor to move the cursor to the function you want to adjust and touch the RTN button to switch to the data input mode.

2. Adjust the AFR rate by turning the touch sensor to the left or right.

Initial value: +50%

Adjustment range: -100%~+100%

(When the RTN button is touched for 1 second, the AFR rate is reset to the initial value.)

Touch the RTN button to end adjustment and return to the cursor move mode.

Mixing rate setting procedure

The HR-3 is taken as an example to describe mixing rate setting. Mixing applied in other swash modes is different, but the setting procedure is the same.

```
SWASH                    (7.5U)2/3
MIXING RATE
MIXING  ←↑↺  ↻↓→   MIXING  ←↑↺  ↻↓→
PIT→AIL  100% 100%  AIL→PIT  100% 100%
PIT→ELE  100% 100%  ELE→AIL   50%  50%
                    ELE→PIT   50%  50%
```

*Set the throttle stick to the preset neutral point. Adjust the length of the linkage rod so that the swash plate is horizontal at this position.

*The sub trim function can be used to make small adjustments.

*Adjust so that the pitch curve is a straight line and pitch operation is maximum.

*When making the following setting, use the touch sensor to move the cursor to the item you want to set and touch the RTN button to switch to the data input mode. Touch the RTN button to end adjustment and return to the cursor move mode.

1. Adjustment at aileron operation [AIL to PIT]

Adjust the AIL to PIT rate so there is no interference in the elevator or pitch direction when the aileron stick is moved to the left and right.

*Adjust by turning the touch sensor to the left or right.

*The left and right sides can be adjusted individually.

2. Adjustment at elevator operation [ELE to AIL]/[ELE to PIT]

Adjust the ELE to AIL and ELE to PIT rates so there is no interference in the aileron or pitch direction when the elevator stick is moved up and down.

*Adjust by turning the touch sensor to the left and right.

*The up and down sides can be adjusted individually.

3. Adjustment at pitch operation [PIT to AIL][PIT to ELE]

Adjust the PIT to AIL and PIT to ELE rates so that the swash plate moves to the horizontal position when the throttle stick was moved to maximum slow and full high.

*Adjust by turning the touch sensor to the left and right.

*The slow and high sides can be adjusted individually.

Linkage compensation setting procedure

*Perform linkage compensation setting after mixing rate setting.

*Linkage compensation compensates for interference by aileron operation with the elevator or elevator operation with the aileron at collective pitch control for low pitch and high pitch.

```
SWASH                    (8.8U)3/3
LINKAGE COMPENSATION
                         ┌─LOW PITCH─┐
   FUNCTION   DIR.        ←↑↺   ↻↓→
   AILERON     +           0%    0%
   ELEVATOR    +           0%    0%
   SPEED COMPENSATION        0
```

*When making the following setting, use the touch sensor to move the cursor to the item you want to set and touch the RTN button to switch to the data input mode. Touch the RTN button to end adjustment and return to the cursor move mode.

1. Compensation at aileron operation [AILERON]

Set the throttle to the maximum slow position. Move the aileron stick to the left and right and adjust the aileron compensation amount so that interference in the elevator or pitch direction at that time is minimum.

*Adjust the touch sensor to the left and right.

*The left and right sides can be adjusted individually.

*When the interference increases when the compensation amount was increased, make adjustments with the compensation direction [DIR] as "-".

2. Compensation at elevator operation [ELEVATOR]

Adjust the elevator compensation amount so that the aileron or pitch direction interference when the elevator stick was moved up and down is minimum.

3. Regarding steps 1 and 2 above, perform aileron and elevator compensation similarly at the full high side of the throttle stick also.

Speed compensation setting procedure

1. Use the touch sensor to move the cursor to the "SPEED COMPENSATION" item and touch the RTN button to switch to the data input mode.

2. Set the throttle stick to the neutral point position. Quickly move the elevator stick and adjust the speed compensation amount [SPEED COMPENSATION] for minimum interference in the pitch direction.

*Adjust by turning the touch sensor to the left and right.

Touch the RTN button to end adjustment and return to the cursor move mode.

TIMER

The Timer function may be set for any desired time, i.e. engine run time, specified times for competitions, etc. Two independent timers are provided for your use. The timers are stored independently with each model, meaning that when you switch between model setups, the timer associated with the new model is brought up automatically.

The timers may be set to start and stop from the motion of any switch or stick. You may set the ON and OFF directions freely. Each timer has a capacity of up to 59 minutes 59 seconds.

Each timer may be set for count-down or count up operation with a target time.

If a target time is set and the timer reaches the set time, a buzzer sound for each count is generated.

Countdown timers sound one short beep during the last twenty seconds and two short beeps during the last ten seconds before reaching the target, then a long tone at the target time, and continue counting with displaying a minus (-) sign. Count-up timers also beep the last twenty and ten seconds, beep the target time, and keep counting upwards until shut down.

● Select [TIMER] at the linkage menu and call the setup screen shown below by touching the RTN button.

● Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.

<SensorTouch™>
Scrolling
● Moving cursor
● Selecting mode

● Calling setup screen

Memory → ON

● The timer value is held even if the power is turned off or the model is switched.

Timer setting

*Perform the following settings after using the touch sensor to move the cursor to the item you want to set.

1. Up timer/down timer setting

Move the cursor to the [MODE] item and touch the RTN button to switch to the data input mode.

Select the mode by moving the touch sensor to the left or right and touch the RTN button.

[UP]: Up timer

[DOWN]: Down timer

2. Timer time setting

Move the cursor to the [10]:[100] item and touch the RTN button to switch to the data input mode.

Set the time by turning the touch sensor to the left or right.

[00]:[00]:[min]:[sec]

Touch the RTN button to end adjustment and return to the cursor move mode.

3. Switch setting

Move the cursor to the item of the switch you want to set, call the switch setup screen by touching the RTN button, and select the switch and ON direction.

[For a detailed description of the setting method, see [Switch Setting Method] at the back of this manual.]

[RESET SW]: Reset switch

[START SW]: Start switch

[STOP SW]: Stop switch

Timer operation

● Timer 1 and Timer 2 are started/stopped by pre-selected start/stop switch.

● To reset a timer, operate the pre-selected reset switch, or move the cursor to the [RESET] display on the timer screen and touch the RTN button.

Alarm mode

*A mode which sounds an alarm every minute during the remaining time up to the timer alarm time.

1. Change the setting by pressing ↑ or ↓ button.

   [↑]: An alarm sounds every minute of the elapsed time from timer start. (Conventional mode)

   [↓]: An alarm sounds every minute of the remaining time up to the alarm time.

HOUR mode

*An HOUR mode counts up to 99 hours 50 minutes to the timer modes.

● This mode is convenient when used at engine maintenance period and other long term measurements.

● When the HORU mode is set, "xx(hour) : xx(minute)" is displayed on the count time display. Seconds are not displayed.

● When the HORU mode is set, " : " blinks each second during timer operation.

● When the HORU mode is set, the alarm function/lap time measurement function are inhibited.

T1-T6 SETTING

Digital trim settings

This function adjusts the digital trim's control step amount and operation mode (T1~T6.)

When the flight conditions are set, the trim operation can be coupled with among all the conditions which combination mode is selected.

● Select [T1-T6 SETTING] at the linkage menu and call the setup screen shown below by touching the RTN button.

● Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.

```
T1-T6 SETTING NORMAL  [8.1V]1/1
     STEP  MODE       STEP  MODE
T1   4 SEPAR   T4     4 SEPAR
T2   4 SEPAR   T5     4 SEPAR      TRIM
                                   UNIT
T3   4 SEPAR   T6     4 SEPAR      --
```

<SensorTouch™>

Scrolling
● Moving cursor
● Selecting mode

LNK
SYS
RTN
MDL
S1

Control step amount setting

1. Use the touch sensor to move the cursor to the [STEP] item and touch the RTN button to switch to the data input mode.

   Set the control step amount by turning the touch sensor.

   Initial value: 4

   Adjustment range: 1~200

   (When the RTN button is touched for 1 second, the control step amount is reset to the initial value.)

   *When the value is made large, the change per step becomes larger.

2. Touch the RTN button to end adjustment and return to the cursor move mode.

Separate/combination mode selection

1. Use the touch sensor to move the cursor to the [SEPA./COMB.] item and change to blinking by turning the touch sensor and select the mode by touching the RTN button.

   [COMB]: Combination mode. The trim data are reflected at all the flight conditions.

   [SEPAR]: Separate mode. Trim adjustment for each flight condition.
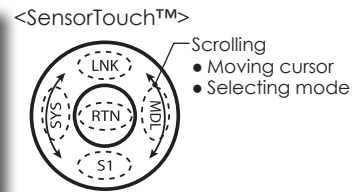
Trim display units

● Percentage(%) display can be selected at trim.

1. Select "TRIM UNIT" and turn the dial and switch the display to [%] or [--].

   *The display blinks.

   [%]: Trim is displayed in % units.

   [--]: Trim is displayed numerically as in the past.

2. When the RTN button touched, the setting is changed.

MULTIPROP

CH is extended by MPDX-1 of an option

The system has compatible with the Futaba MPDX-1 multiprop decoder. One channel can be expanded to 8 channels by using the MPDX-1 multiprop decoder. Up to two MPDX-1 can be used.

*The trim step amount and trim rate are not reset.

● Select [MULTPROP] at the linkage menu and call the setup screen shown below by touching the RTN button.

● Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.

```
MULTIPROP                  8.1V 1/1

MP1

CH
INH
```

<SensorTouch™>

Scrolling
● Moving cursor
● Selecting mode

LNK MDL SYS RTN S1

Multiprop selection

1. Select the Linkage Menu multiprop setting [MULTIPROP] and touch the RTN button.
2. The MULTIPROP setup screen is displayed.
3. Select [MP1] and touch the RTN button.
4. Scrolling the touch sensor and switch the display to [MP1] or [MP2].
   *The display blinks.
   [MP1]: Multiprop 1
   [MP2]: Multiprop 2
5. Touch the RTN button.

Channel setting

1. Select [CH] and touch the RTN button. Scrolling the touch sensor and display the channel to which the MPDX-1 is connected.
   *To turn off the multiprop function, set [--] at CH.
2. When the activated channel is selected and touch the RTN button, the multiprop setting contents are displayed.

Control setting

1. Select the "CONTROL" row of the multiprop channel whose control you want to set and touch the RTN button.
2. A hardware selection screen is displayed. Select the hardware which is to set control and touch the RTN button.

Servo reverse setting

1. Select the "REVERSE" row of the multiprop channel which is to be reversed and touch the RTN button.
2. Scrolling the touch sensor and switch the display to [NORM] or [REV].
   *The display blinks.
   [NORM]: Normal mode
   [REV]: Reverse mode
3. Touch the RTN button.

End Point Setting

1. Select the " ← ↑ " row or " ↓ → " row of the multiprop channel whose end point is to be set and switch to the data input mode by touch the RTN button.
2. Adjust the end point by scrolling the touch sensor .
   Initial value : 100%
   Adjustment range : 30-100%
3. After adjustment, touch the RTN button.

FUNCTION NAME

Function name can be changed

The name of the spare functions (AUXILIARY1-8) can be changed for the full name (10 characters) or for the abbreviated name (4 characters).

● Select [FUNCTION NAME] at the linkage menu and call the setup screen shown below by touching the RTN button.

● Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.

```
FUNCTION NAME                8.1U 1/2
1 AUXILIARY1  AUX1   ┌10 CHARACTERS─┐
2 AUXILIARY2  AUX2   │ AUXILIARY1   │
3 AUXILIARY3  AUX3   ┌DEFAULT───────┐
4 AUXILIARY4  AUX4   │ AUXILIARY1   │
```

<SensorTouch™>

Scrolling
● Moving cursor

● To next page

Function name change method

1. Select [FUNCTION NAME] of the Linkage Menu and touch the RTN button.

2. The FUNCTION NAME setup screen is displayed.

3. When the function whose name is be change is selected and the RTN button is touched , a modification screen is displayed.

4. Select the function to be renamed and select [RENAME] and touch the RTN button. A character input screen is displayed. Input the function name.

```
FUNCTION NAME                7.5U 1/1
                     ┌10 CHARACTERS─┐
   RENAME            │ AUXILIARY1   │
                     ┌10 CHARACTERS─┐
   RESET             │ AUXILIARY1   │
```

```
FUNCTION NAME                7.5U 1/3
AUXILIARY1              ABCDEFGHIJ
┌AUXILIARY1┐           KLMNOPQRST
CANCEL   ENTER         UVWXYZabcd
                       efghijklmn
←  →     DELETE        opqrstuvwx
                       yz !"#$%&'
```

5. When [RESET] is selected and the RTN button is held down, the function name is set to the initial state function name.

```
FUNCTION NAME                7.5U 1/1
                     ┌10 CHARACTERS─┐
   RENAME            │ AUXILIARY1   │
                     ┌DEFAULT───────┐
   RESET             │ AUXILIARY1   │
RESET:TOUCH RTN BUTTON(1SEC)
```

6. The function name may be displayed in 10 characters or 4 characters, depending on the setup screen. For 4 characters, display, input the function name as required.

```
FUNCTION NAME                7.5U 1/2
1 AUXILIARY1  AUX1   ┌4 CHARACTERS──┐
2 AUXILIARY2  AUX2   │ AUX1         │
3 AUXILIARY3  AUX3   ┌DEFAULT───────┐
4 AUXILIARY4  AUX4   │ AUX1         │
```

TELEMETRY

Displaying data from the receiver

This screen displays your choice of data from the receiver.

Also warnings can be activated regarding other data from your aircraft. For example, if the receiver voltage drops, the user can be warned by an alarm (and vibration).
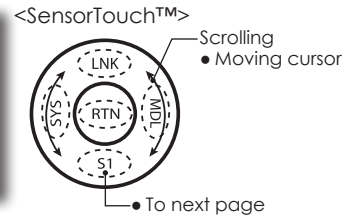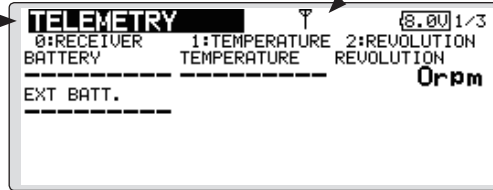
*Only receiver voltage and EXT voltage can be used in FASSTest12CH mode.

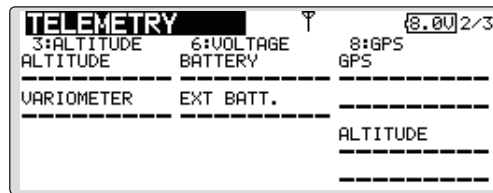*The FASSTest18CH mode can use all the telemetry functions.

● Select [TELEMETRY] in the Linkage menu and access the setup screen shown below by touching the RTN button.

● Receiver → Transmitter. The reception strength is shown.

● Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.

```
TELEMETRY              ♈   [8.0V]1/3
  0:RECEIVER    1:TEMPERATURE  2:REVOLUTION
BATTERY         TEMPERATURE    REVOLUTION
———————         ———————             0rpm

EXT BATT.
———————
```

<SensorTouch™>

Scrolling
● Moving cursor

LNK — DWN — RTN — SYS — S1

To next page

● Push S1 button to advance to next page.

```
TELEMETRY              ♈   [8.0V]2/3
  3:ALTITUDE     6:VOLTAGE      8:GPS
ALTITUDE         BATTERY        GPS
———————          ———————        ———————

VARIOMETER       EXT BATT.      ———————
———————          ———————
                                ALTITUDE
                                ———————

                                ———————
```

How to see telemetry date

1. Telemetry screen can be called select [TELEMETRY] in the Linkage menu and access the setup screen by touching the RTN button.

2. If each item is chosen and the RTN button is pushed, an alarm setup can be performed with the minimum/maximum after a transmitter is turned on.

   *Receiver voltage can be checked immediately. An optional sensor will need to be attached to S.BUS2 of a receiver if you would like to see other information.

   *No special setup is necessary if each sensor displayed is left as in the default setup. Separate sensor ID is also unnecessary. However, if two or more of one kind of sensor is used, setup is required in the "SENSOR" menu.

⚠ WARNING

🚫 Do not watch the transmitter screen during flight.

*You may loose sight of the aircraft during flight and this is extremely dangerous. Have an assistant on hand to check the screen for you. A pilot should NEVER take his eyes off his aircraft.

TELEMETRY : RECEIVER [BATTERY]

Displaying data from the receiver battery voltage

In this screen, the battery voltage of a receiver is displayed.

If it becomes higher or lower than the setting an alarm and/or vibration will alert you.

*Only receiver voltage and EXT voltage can be used in FASSTest12CH mode.

*The FASSTest18CH mode can use all the telemetry functions.

● Receiver battery voltage

● The maximum and the minimum when powering ON are shown. It will be preset, if a cursor is moved to this place and the RTN button is pushed for 1 second.

● Select [Rx-BATT.] in the TELEMETRY screen and access the setup screen shown below by touching the RTN button.

● Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.

```
RECEIVER              8.0V 1/1
BATTERY
                5.3V
         5.3V/  5.3V
EXT BATT.
                0.0V
         0.0V/  0.0V
```

<SensorTouch™>
Scrolling
● Moving cursor

● ↓The "down" arrow will indicate that an alarm will sound when the voltage drops to below the setting.

● Select [BATTERY] in the RECEIVER screen and access the setup screen shown below by touching the RTN button.

```
RECEIVER              7.7V 1/1
BATTERY
  ALARM      VIBRATOR    LIMIT
 ↓INHIBIT   TYPE 2       4.0V

  SPEECH
  OFF
```

● A setup of the voltage on which the alarm operates.

● ALARM is chosen from BUZZER, VOICE, and INHIBIT.

● The ON/OFF switch of SPEECH is chosen.

Alarm set

1. Move the cursor to the ↓ALARM item, and it chooses from BUZZER, VOICE, INHIBIT, and pushes RTN.

2. When not operating vibrator, it is "VIBRATOR" to INHIBIT. TYPE1-3 will be chosen if it is made to operate.

3. Move the cursor to the LIMIT [4.0V] item and touch the RTN button to switch to the data input mode.

4. Ajust the rate by scrolling the touch sensor.

    Initial value: 4.0V

    Adjustment range: 0.0V~100.0V

*When the RTN button is touched for one second, the rate is reset to the initial value.

5. Touch the RTN button. (To terminate the input and return to the original state, touch the Home/Exit button.)

"VIBRATOR" type

If the following types are selected, the transmitter will vibrate during the warning.

TYPE 1

TYPE 2

TYPE 3

TELEMETRY : RECEIVER [EXT BATT.]

Displaying data from the EXT battery voltage port

The EXT-VOLT screen will display the data from the EXT-battery output from the FMR-01 receiver. In order to use this function, it is necessary to connect external voltage connector of the FMR-01 receiver to a CA-RVIN-700 (FUTM5551) or SBS-01V to the battery you desire to measure the voltage of the EXT-battery.

*CA-RVIN-700 must be installed in the aircraft.

You will be alerted by an alarm or vibration if the voltage set by you is exceeded.

*Only receiver voltage and EXT voltage will be received in the FASSTest12CH mode.

*The FASSTest18CH mode will display all telemetry data.

• EXT battery voltage

• The maximum and the minimum when powering ON are shown. It will be preset, if a cursor is moved to this place and the RTN button is pushed for 1 second.

• Select [Rx-BATT.] in the TELEMETRY screen and access the setup screen shown below by touching the RTN button.

• Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.

```
RECEIVER                    8.0V 1/1
BATTERY
              5.3V
       5.3V/  5.3V
EXT BATT.
              0.0V
       0.0V/  0.0V
```

<SensorTouch™>

Scrolling
• Moving cursor

LNK
SYS RTN MDL
S1

• ↓The "down" arrow will indicate that an alarm will sound when the voltage drops to below the setting.

• Select [EXT BATT.] in the RECEIVER screen and access the setup screen shown below by touching the RTN button.

• ALARM is chosen from BUZZER, VOICE, and INHIBIT.

```
RECEIVER                    7.8V 1/1
EXT BATT.
   ALARM      VIBRATOR    LIMIT
 ↓INHIBIT  INHIBIT      4.0V

   SPEECH
   OFF
```

•A setup of the voltage on which the alarm operates.

• The ON/OFF switch of SPEECH is chosen.

Alarm set

1. Move the cursor to the ↓ALARM item, and it chooses from BUZZER, VOICE, and INHIBIT, and pushes RTN.
2. When not operating vibrator, it is "VIBRATOR" to INHIBIT. TYPE1-3 will be chosen if it is made to operate.
3. Move the cursor to the LIMIT [4.0V] item and touch the RTN button to switch to the data input mode.
4. Ajust the rate by scrolling the touch sensor.

   Initial value: 4.0V

   Adjustment range: 0.0V~100.0V

   *When the RTN button is touched for one second, the rate is reset to the initial value.

5. Touch the RTN button. (To terminate the input and return to the original state, touch the Home/Exit button.)

"VIBRATOR" type

If the following types are selected, the transmitter will vibrate during the warning.

TYPE 1
TYPE 2
TYPE 3

TELEMETRY : TEMPERATURE

Displaying data from the temperature
*A temperature sensor must be installed in the aircraft.

Temperature is a screen which displays/sets up the temperature information from an optional temperature sensor.

The temperature of the model (engine, motor, battery, etc.) which is flying can be displayed.

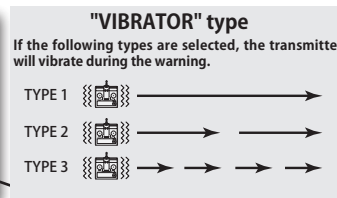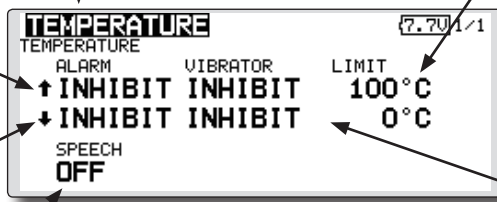If it becomes higher or lower than the setting an alarm and/or vibration will alert you.

*Only receiver voltage and EXT voltage can be used in FASSTest12CH mode.

*The FASSTest18CH mode can use all the telemetry functions.

● The maximum and the minimum when powering ON are shown. It will be preset, if a cursor is moved to this place and the RTN button is pushed for 1 second.

● Temperature

● Select [TEMPERATURE] in the TELEMETRY screen and access the setup screen shown below by touching the RTN button.

● Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.

<SensorTouch™>
Scrolling
● Moving cursor
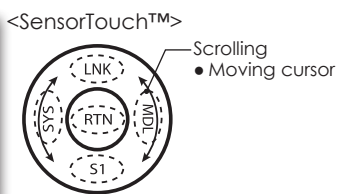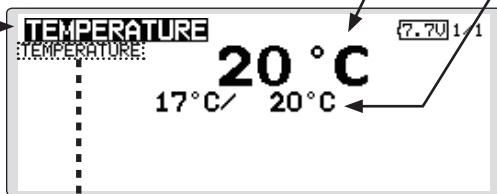
●Select [TEMPERATURE](small font display) in the TEMPERATURE screen and access the setup screen shown below by touching the RTN button.

●A setup of the temperature on which the alarm operates.

● ↑ An upward arrow will show that an alarm will sound when the temperature rises above the set value.

● ↓ A downward arrow will show that an alarm will sound when the temperature drops below the set value.

"VIBRATOR" type
If the following types are selected, the transmitter will vibrate during the warning.

TYPE 1
TYPE 2
TYPE 3

● The ON/OFF switch of SPEECH is chosen.

Alert set : Hot warning

1. Move the cursor to the ↑ALARM item, and it chooses from BUZZER, VOICE, INHIBIT, and pushes RTN.
2. When not operating vibrator, it is "VIBRATOR" to INHIBIT. TYPE1-3 will be chosen if it is made to operate.
3. Move the cursor to the LIMIT [℃] item and touch the RTN button to switch to the data input mode.
4. Ajust the rate by scrolling the touch sensor.
   Initial value: 100℃
   Adjustment range: 0℃ ~200℃
   (↑LIMIT ≧ ↓LIMIT)

*When the RTN button is touched for one second, the rate is reset to the initial value.

5. Touch the RTN button. (To terminate the input and return to the original state, touch the Home/Exit button.)

Alert set : Low-temperature warning

1. Move the cursor to the ↓ALARM item, and it chooses from BUZZER, VOICE, INHIBIT, and pushes RTN.
2. When not operating vibrator, it is "VIBRATOR" to INHIBIT. TYPE1-3 will be chosen if it is made to operate.
3. Move the cursor to the LIMIT [℃] item and touch the RTN button to switch to the data input mode.
4. Ajust the rate by scrolling the touch sensor.
   Initial value: 0℃
   Adjustment range: 0℃ ~200℃
   (↑LIMIT ≧ ↓LIMIT)

*When the RTN button is touched for one second, the rate is reset to the initial value.

5. Touch the RTN button. (To terminate the input and return to the original state, touch the Home/Exit button.)

TELEMETRY : RPM SENSOR

Displaying data from the RPM

*A RPM sensor must be installed in the aircraft. alarm and/or vibration will alert you.

RPM sensor is a screen which displays / sets up the rotation information from an optional RPM sensor.

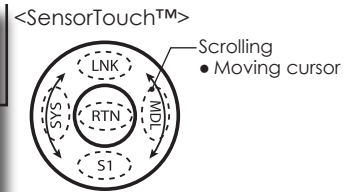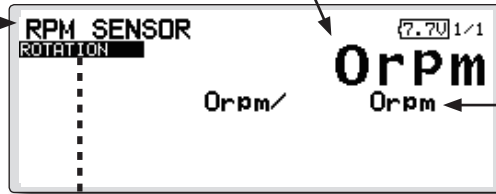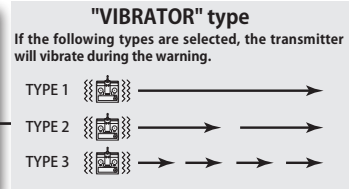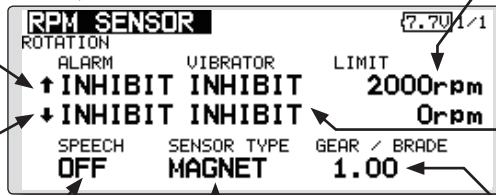The rotation of the model (engine, motor, etc.) which is flying can be shown.

If it becomes higher or lower than the setting an

- Select [RPM sensor] in the TELEMETRY screen and access the setup screen shown below by touching the RTN button.

*Only receiver voltage and EXT voltage can be used in FASSTest12CH mode.

*The FASSTest18CH mode can use all the telemetry functions.

- The maximum and the minimum when powering ON are shown. It will be preset, if a cursor is moved to this place and the RTN button is pushed for 1 second.

● RPM

● Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.

```
RPM SENSOR          (7.7V)1/1
ROTATION
                          Orpm
         Orpm/        Orpm
```

<SensorTouch™>

Scrolling
● Moving cursor

LNK
SYS   RTN   DWL
S1

●Select [ROTATION](small font display) in the RPM sensor screen and access the setup screen shown below by touching the RTN button.

●A setup of the revolution on which the alarm operates.

- ↑An upward arrow indicates that the alarm will sound when the RPM rises above the set value.

- ↓A downward arrow indicates that the alarm will sound when the RPM falls below the set value.

```
RPM SENSOR          (7.7V)1/1
ROTATION
  ALARM    VIBRATOR    LIMIT
↑ INHIBIT INHIBIT     2000rpm
↓ INHIBIT INHIBIT        Orpm
  SPEECH  SENSOR TYPE GEAR / BRADE
  OFF     MAGNET       1.00
```

"VIBRATOR" type
If the following types are selected, the transmitter will vibrate during the warning.
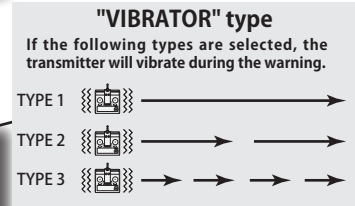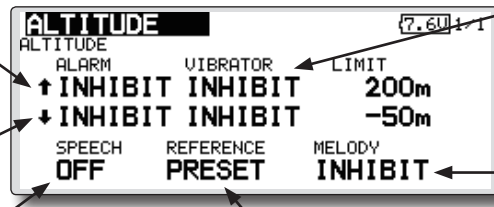
TYPE 1
TYPE 2
TYPE 3

- The ON/OFF switch of SPEECH is chosen.

●"MAGNET" or "OPTICS" is set according to the sensor you use.
SBS-01RM : MAGNET
SBS-01RO : OPTICS

- In "MAGNET", the gear ratio of your engine (motor) you are using is entered.
- In "OPTICS", the number of blades of the propeller (r o t o r) your model is entered.

Alarm set : Over rotations

1. Move the cursor to the ↑ALARM item, and it chooses from BUZZER, VOICE, INHIBIT, and pushes RTN.
2. When not operating vibrator, it is "VIBRATOR" to INHIBIT. TYPE1-3 will be chosen if it is made to operate.
3. Move the cursor to the LIMIT [2,000rpm] item and touch the RTN button to switch to the data input mode.
4. Ajust the rate by scrolling the touch sensor.
   Initial value: 2,000rpm
   Adjustment range: 0rpm~150,000rpm
   (↑LIMIT ≧ ↓LIMIT)

*When the RTN button is touched for one second, the rate is reset to the initial value.

5. Touch the RTN button. (To terminate the input and return to the original state, touch the Home/Exit button.)

Alarm set : Under rotations

1. Move the cursor to the ↓ALARM item, and it chooses from BUZZER, VOICE, INHIBIT, and pushes RTN.
2. When not operating vibrator, it is "VIBRATOR" to INHIBIT. TYPE1-3 will be chosen if it is made to operate.
3. Move the cursor to the LIMIT [0rpm] item and touch the RTN button to switch to the data input mode.
4. Ajust the rate by scrolling the touch sensor.
   Initial value: 0rpm
   Adjustment range: 0rpm~150,000rpm
   (↑LIMIT ≧ ↓LIMIT)

*When the RTN button is touched for one second, the rate is reset to the initial value.

5. Touch the RTN button. (To terminate the input and return to the original state, touch the Home/Exit button.)

TELEMETRY : ALTITUDE

Displaying data from the altitude

*An altitude sensor or GPS sensor must be installed in the aircraft.

ALTITUDE is a screen which displays / sets up the altitude information from an optional altitude sensor or GPS sensor. The altitude of the model which is flying can be known. If it becomes higher (low) than preset altitude, you can be told by alarm. To show warning by vibration can also be chosen. Data when a power supply is turned on shall be 0 m, and it displays the altitude which changed from there. Even if the altitude of an airfield is high, that shall be 0 m and the altitude difference from an airfield is displayed.

This sensor calculates the altitude from atmospheric pressure. Atmospheric pressure will get lower as you go up in altitude, using this the sensor will estimate the altitude. Please understand that an exact advanced display cannot be performed if atmospheric pressure changes in a weather situation.

*Only receiver voltage and EXT voltage can be used in FASSTest12CH mode.
*The FASSTest18CH mode can use all the telemetry functions.

● Select [ALTITUDE] in the TELEMETRY screen and access the setup screen shown below by touching the RTN button.

● The maximum and the minimum when powering ON are shown. It will be preset, if a cursor is moved to this place and the RTN button is pushed for 1 second.

● Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.

● Altitude

<SensorTouch™>
Scrolling
● Moving cursor
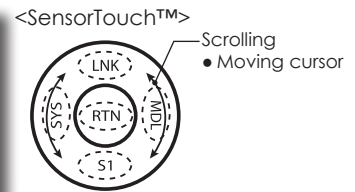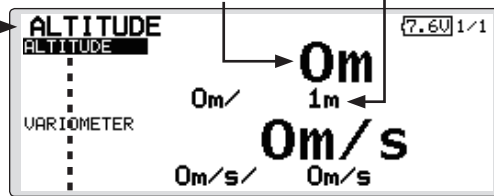
● ↑ An upward arrow indicates the alarm will sound when the altitude reaches above your set value.

● Select [ALTITUDE] (small font display) in the TEMPERATURE screen and access the setup screen shown below by touching the RTN button.

● ↓ A downward arrow indicates the alarm will sound when the altitude reaches below your set value.

"VIBRATOR" type
If the following types are selected, the transmitter will vibrate during the warning.

TYPE 1
TYPE 2
TYPE 3

● If this is set to MODE1-4, a rise and dive are told by a different melody.

● The ON/OFF switch of SPEECH is chosen.

MODE1: Little rise/dive → Melody changes (sensitively)
⋮
MODE4: Big rise/dive → Melody changes (insensible)

First, the set of a reference is required.

1. The model and transmitter to which the altitude sensor was connected are turned on.
2. Move the cursor to the [PRESET] of "REFERENCE" item.
3. Touch the RTN button is pushed for 1 second. (To terminate the input and return to the original state, touch the Home/Exit button.)

*Atmospheric pressure is changed according to the weather also at the same airfield. You should preset before a flight.

Alarm set : High side

1. Move the cursor to the ↑ALARM item, and it chooses from BUZZER, VOICE, INHIBIT, and pushes RTN.
2. When not operating vibrator, it is "VIBRATOR" to INHIBIT. TYPE1-3 will be chosen if it is made to operate.
3. Move the cursor to the LIMIT [m] item and touch the RTN button to switch to the data input mode.
4. Ajust the rate by scrolling the touch sensor.
   Initial value: 200m
   Adjustment range-500m~+3,000m
   (↑LIMIT ≧ ↓LIMIT)

*When the RTN button is touched for one second, the rate is reset to the initial value.
5. Touch the RTN button. (To terminate the input and return to the original state, touch the Home/Exit button.)

Alarm set : Low side

1. Move the cursor to the ↓ALARM item, and it chooses from BUZZER, VOICE, INHIBIT, and pushes RTN.
2. When not operating vibrator, it is "VIBRATOR" to INHIBIT. TYPE1-3 will be chosen if it is made to operate.
3. Move the cursor to the LIMIT [m] item and touch the RTN button to switch to the data input mode.
4. Ajust the rate by scrolling the touch sensor.
   Initial value: -50m
   Adjustment range-500m~+3,000m
   (↑LIMIT ≧ ↓LIMIT)

*When the RTN button is touched for one second, the rate is reset to the initial value.
5. Touch the RTN button. (To terminate the input and return to the original state, touch the Home/Exit button.)

TELEMETRY : ALTITUDE [VARIOMETER]

Displaying data from the variometer

*An altitude sensor or GPS sensor must be installed in the aircraft.

VARIO is a screen which displays / sets up the variometer information from an optional altitude sensor or GPS sensor.

The variometer of the model which is flying can be known.

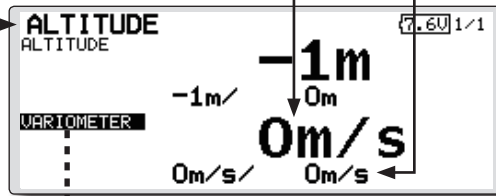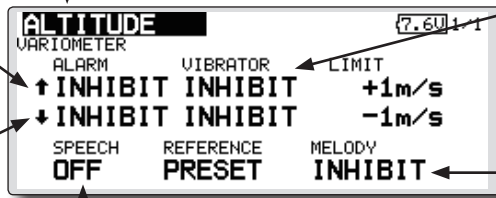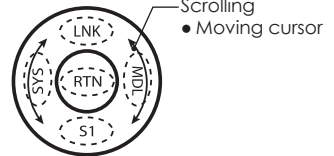If it becomes higher or lower than the setting an alarm and/or vibration will alert you.

To ensure that the pilot is aware as to the model's status, the FMT-01 incorporates a different melody for ascent and descent. Additionally, depending upon the rate of climb or descent, the tones vary to indicate whether or not the airplane is climbing or descending at a rapid rate.

*Only receiver voltage and EXT voltage can be used in FASSTest12CH mode.
*The FASSTest18CH mode can use all the telemetry functions.

● Select [ALTITUDE] in the TELEMETRY screen and access the setup screen shown below by touching the RTN button.

● Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.

● Variometer
  ● The maximum and the minimum when powering ON are shown. It will be preset, if a cursor is moved to this place and the RTN button is pushed for 1 second.
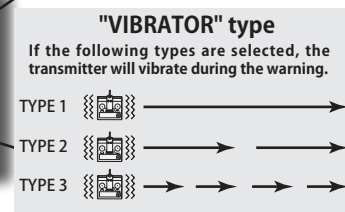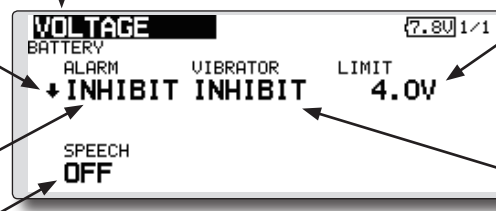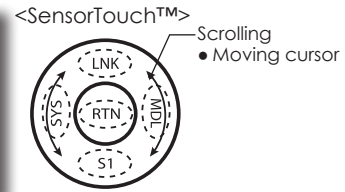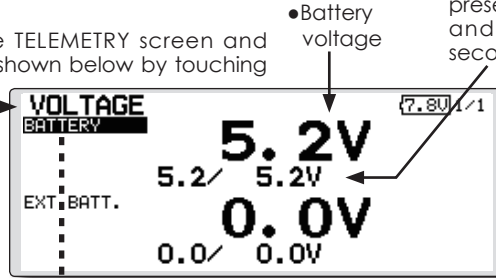

<SensorTouch™>
Scrolling
● Moving cursor

●Select [VARIOMETER] (small font display) in the TEMPERATURE screen and access the setup screen shown below by touching the RTN button.

● ↑ An upward arrow indicates the alarm will sound when the variometer reaches above your set value.

● ↓ A downward arrow indicates the alarm will sound when the variomete reaches below your set value.

"VIBRATOR" type
If the following types are selected, the transmitter will vibrate during the warning.

TYPE 1
TYPE 2
TYPE 3

●The ON/OFF switch of SPEECH is chosen.

●If this is set to MODE1-4, a rise and dive are told by a different melody.

MODE1: Little rise/dive → Melody changes (sensitively)
⋮
MODE4: Big rise/dive → Melody changes (insensible)

Alert set : Rise side

1. Move the cursor to the ↑ALARM item, and it chooses from BUZZER, VOICE, INHIBIT, and pushes RTN.
2. When not operating vibrator, it is "VIBRATOR" to INHIBIT. TYPE1-3 will be chosen if it is made to operate.
3. Move the cursor to the LIMIT [m/s] item and touch the RTN button to switch to the data input mode.
4. Ajust the rate by scrolling the touch sensor.
   Initial value: +1m
   Adjustment range-50m/s~+50m/s
   (↑LIMIT ≧ ↓LIMIT)

*When the RTN button is touched for one second, the rate is reset to the initial value.

5. Touch the RTN button. (To terminate the input and return to the original state, touch the Home/Exit button.)

Alert set : Dive side

1. Move the cursor to the ↓ALARM item, and it chooses from BUZZER, VOICE, INHIBIT, and pushes RTN.
2. When not operating vibrator, it is "VIBRATOR" to INHIBIT. TYPE1-3 will be chosen if it is made to operate.
3. Move the cursor to the LIMIT [m/s] item and touch the RTN button to switch to the data input mode.
4. Ajust the rate by scrolling the touch sensor.
   Initial value: -1m
   Adjustment range-50m/s~+50m/s
   (↑LIMIT ≧ ↓LIMIT)

*When the RTN button is touched for one second, the rate is reset to the initial value.

5. Touch the RTN button. (To terminate the input and return to the original state, touch the Home/Exit button.)

TELEMETRY : VOLTAGE [BATTERY]

Displaying data from the battery voltage
*SBS-01V must be installed in the aircraft.

In this screen, the battery voltage is displayed. In order to use this function, it is necessary to connect External voltage connector of FMR-01 ⇔ SBS-01V ⇔ Battery

SBS-01V measures two batteries. The power battery connected to two lines is displayed on EXT-VOLT. The battery for receivers connected to 3P lines is displayed here.

*Only receiver voltage and EXT voltage can be used in FASSTest12CH mode.
*The FASSTest18CH mode can use all the telemetry functions.

●The maximum and the minimum when powering ON are shown. It will be preset, if a cursor is moved to this place and the RTN button is pushed for 1 second.

●Select [VOLTAGE] in the TELEMETRY screen and access the setup screen shown below by touching the RTN button.

●Battery voltage

● Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.

<SensorTouch™>

Scrolling
● Moving cursor

●↓The "down" arrow will indicate that an alarm will sound when the voltage drops to below the setting.

●Select [BATTERY] in the VOLTAGE screen and access the setup screen shown below by touching the RTN button.

●A setup of the voltage on which the alarm operates.

●ALARM is chosen from BUZZER, VOICE, and INHIBIT.

●The ON/OFF switch of SPEECH is chosen.

"VIBRATOR" type
If the following types are selected, the transmitter will vibrate during the warning.

TYPE 1
TYPE 2
TYPE 3

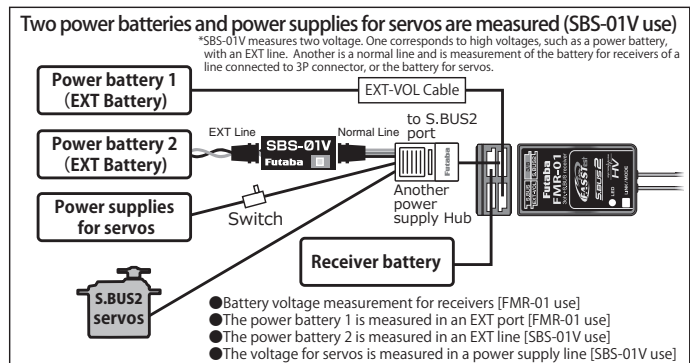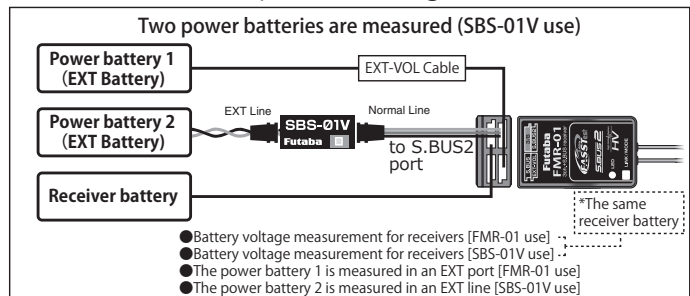< Two examples of wiring are shown >

Alarm set

1. Move the cursor to the ↓ALARM item, and it chooses from BUZZER, VOICE, INHIBIT, and pushes RTN.

2. When not operating vibrator, it is "VIBRATOR" to INHIBIT. TYPE1-3 will be chosen if it is made to operate.

3. Move the cursor to the LIMIT [4.0V] item and touch the RTN button to switch to the data input mode.

4. Ajust the rate by scrolling the touch sensor.
   Initial value: 4.0V
   Adjustment range: 0.0V~100.0V

*When the RTN button is touched for one second, the rate is reset to the initial value.

5. Touch the RTN button. (To terminate the input and return to the original state, touch the Home/Exit button.)

Two power batteries are measured (SBS-01V use)

Power battery 1 (EXT Battery) — EXT-VOL Cable
Power battery 2 (EXT Battery) — EXT Line — SBS-01V Futaba — Normal Line — to S.BUS2 port
Receiver battery

*The same receiver battery

●Battery voltage measurement for receivers [FMR-01 use]
●Battery voltage measurement for receivers [SBS-01V use]
●The power battery 1 is measured in an EXT port [FMR-01 use]
●The power battery 2 is measured in an EXT line [SBS-01V use]

Two power batteries and power supplies for servos are measured (SBS-01V use)
*SBS-01V measures two voltage. One corresponds to high voltages, such as a power battery, with an EXT line. Another is a normal line and is measurement of the battery for receivers of a line connected to 3P connector, or the battery for servos.

Power battery 1 (EXT Battery) — EXT-VOL Cable
Power battery 2 (EXT Battery) — EXT Line — SBS-01V Futaba — Normal Line — to S.BUS2 port
Power supplies for servos — Switch — Another power supply Hub
Receiver battery
S.BUS2 servos

●Battery voltage measurement for receivers [FMR-01 use]
●The power battery 1 is measured in an EXT port [FMR-01 use]
●The power battery 2 is measured in an EXT line [SBS-01V use]
●The voltage for servos is measured in a power supply line [SBS-01V use]

*Refer to the manual of SBS-01V for the details of wiring.

TELEMETRY : VOLTAGE [EXT-VOLT]

Displaying data from the EXT battery voltage port

*SBS-01V must be installed in the aircraft.

In this screen, the EXT battery voltage is displayed. In order to use this function, it is necessary to connect External voltage connector of FMR-01 ⇔ SBS-01V ⇔ Battery

SBS-01V measures two batteries. The power battery connected to two lines is displayed on EXT-VOLT.

*Only receiver voltage and EXT voltage will be received in the FASSTest12CH mode.

*The FASSTest18CH mode will display all telemetry data.

● EXT battery voltage

● The maximum and the minimum when powering ON are shown. It will be preset, if a cursor is moved to this place and the RTN button is pushed for 1 second.

● Select [VOLTAGE] in the TELEMETRY screen and access the setup screen shown below by touching the RTN button.

● Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.

```
VOLTAGE                    (7.8V) 1/1
BATTERY
               5.2V
         5.2/  5.2V
EXT BATT.
               0.0V
         0.0/  0.0V
```

<SensorTouch™>

Scrolling
● Moving cursor

● ↓The "down" arrow will indicate that an alarm will sound when the voltage drops to below the setting.

● Select [EXT BATT.] in the RECEIVER screen and access the setup screen shown below by touching the RTN button.

```
VOLTAGE                    (7.8V) 1/1
EXT BATT.
  ALARM      VIBRATOR    LIMIT
↓INHIBIT  INHIBIT      4.0V

SPEECH
OFF
```

●A setup of the voltage on which the alarm operates.

● ALARM is chosen from BUZZER, VOICE, and INHIBIT.

● The ON/OFF switch of SPEECH is chosen.

Alarm set

1. Move the cursor to the ↓ALARM item, and it chooses from BUZZER, VOICE, and INHIBIT, and pushes RTN.

2. When not operating vibrator, it is "VIBRATOR" to INHIBIT. TYPE1-3 will be chosen if it is made to operate.

3. Move the cursor to the LIMIT [4.0V] item and touch the RTN button to switch to the data input mode.

4. Ajust the rate by scrolling the touch sensor.

   Initial value: 4.0V

   Adjustment range: 0.0V~100.0V

*When the RTN button is touched for one second, the rate is reset to the initial value.

5. Touch the RTN button. (To terminate the input and return to the original state, touch the Home/Exit button.)

"VIBRATOR" type

If the following types are selected, the transmitter will vibrate during the warning.

TYPE 1

TYPE 2

TYPE 3

TELEMETRY : GPS [DISTANCE]

Displaying data from the Distance Screen

The Distance screen displays and sets altitude data from an SBS-01G GPS Sensor (sold separately), and allows the distance to the airborne aircraft to be read by the transmitter. When the aircraft flies inside or outside the set distance an alarm and vibration alerts the pilot.

*A GPS sensor must be installed in the aircraft.
*The GPS sensor is necessary, and is sold separately. Mount and connect the sensor in accordance with the sensor instruction manual.

*Only receiver voltage and EXT voltage can be used in FASSTest12CH mode.

*The FASSTest18CH mode can use all the telemetry functions.

● Select [GPS] in the TELEMETRY screen and access the setup screen shown below by touching the RTN button.

●This indicates the receiving accuracy from a GPS Satellite. When three bars are displayed, the GPS is ready for use.

● The maximum and the minimum when powering ON are shown. It will be preset, if a cursor is moved to this place and the RTN button is pushed for 1 second.

● Distance

●Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.

<SensorTouch™>

Scrolling
● Moving cursor
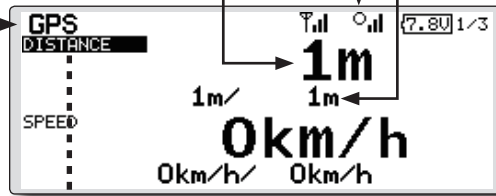
●Select [DISTANCE](small font display) in the TEMPERATURE screen and access the setup screen shown below by touching the RTN button.

"VIBRATOR" type
If the following types are selected, the transmitter will vibrate during the warning.

TYPE 1
TYPE 2
TYPE 3

● ↑ An upward arrow indicates the alarm will sound when the distance reaches above your set value.

● ↓ A downward arrow indicates the alarm will sound when the distance reaches below your set value.

●The ON/OFF switch of SPEECH is chosen.
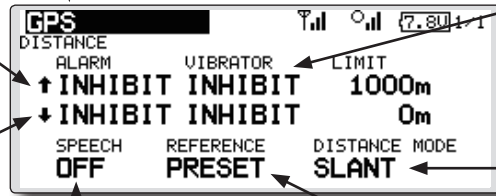
●Move the cursor to the [PRESET] of "REFERENCE" item. Touch the RTN button is pushed for 1 second. Sets the current aircraft position as the starting point.

*Positioning time of GPS

When powered up, the SBS-01G begins to acquire GPS satellite data. This process can take several minutes. Please do not move the model during this process. During acquisition, the LED on the SBS-01G will blink green; after the satellites signals have been acquired, the LED will become solid green, and the GPS signal strength display on the transmitter will show three bars.

Moving the model before the satellites are fully acquired will cause a delay in acquiring the satellite signal.

●Altitude calculated as either straight line distance (slant) or surface distance on a map can also be selected.

Slant
Altitude
Surface
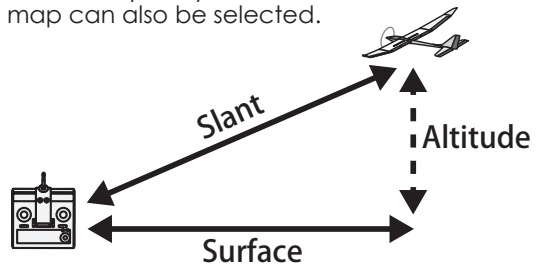
●Select <SLANT> <SURFACE> to "DISTANCE MODE", scroll either to the desired method and touch the RTN button.

First, setting the pointos reference is required.

1. The model and transmitter on which the GPS sensor is connected are turned on.
2. Move the cursor to the [PRESET] of "REFERENCE" item.
3. Touch the RTN button is pushed for 1 second. (To terminate the input and return to the original state, touch the Home/Exit button.)

*Now, the position of the present model was set to 0 m.

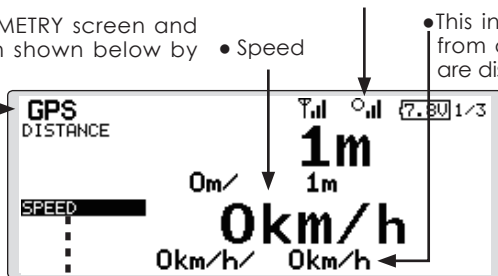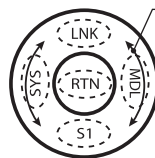**Setting a "too far" alarm distance**

1. Move the cursor to the ↑ALARM item, and it chooses from BUZZER, VOICE, INHIBIT, and pushes RTN.
2. When not operating vibrator, it is "VIBRATOR" to INHIBIT. TYPE1-3 will be chosen if it is made to operate.
3. Move the cursor to the LIMIT [m] item and touch the RTN button to switch to the data input mode.
4. Ajust the rate by scrolling the touch sensor.
   Initial value: 1,000m
   Adjustment range 0m~3,000m
   (↑LIMIT ≧ ↓LIMIT)

*When the RTN button is touched for one second, the rate is reset to the initial value.

5. Touch the RTN button. (To terminate the input and return to the original state, touch the Home/Exit button.)

Setting a "too close" alarm distance

1. Move the cursor to the ↓ALARM item, and it chooses from BUZZER, VOICE, INHIBIT, and pushes RTN.
2. When not operating vibrator, it is "VIBRATOR" to INHIBIT. TYPE1-3 will be chosen if it is made to operate.
3. Move the cursor to the LIMIT [m] item and touch the RTN button to switch to the data input mode.
4. Ajust the rate by scrolling the touch sensor.
   Initial value: 0m
   Adjustment range 0m~3,000m
   (↑LIMIT ≧ ↓LIMIT)

*When the RTN button is touched for one second, the rate is reset to the initial value.

5. Touch the RTN button. (To terminate the input and return to the original state, touch the Home/Exit button.)
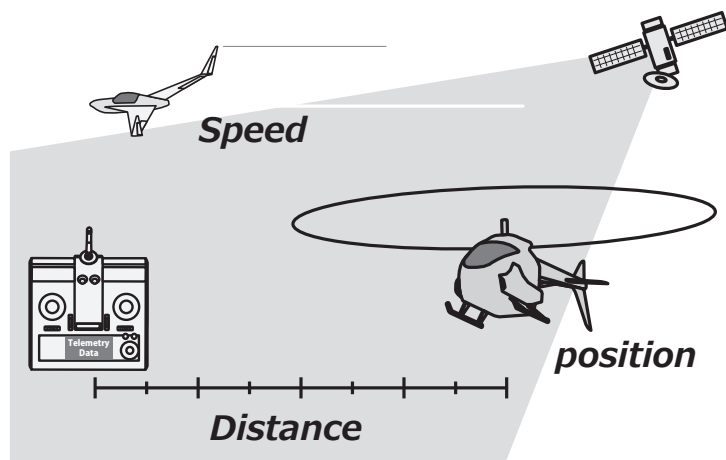
TELEMETRY : GPS [SPEED]

Displaying data from the speed
*A GPS sensor must be installed in the aircraft.

The speed screen displays and sets the speed data from an SBS-01G (GPS sensor) sold separately.

The speed of the aircraft during flight can be displayed. After flight, the maximum speed during flight can be viewed. Because this speed is based on position data from a GPS satellite, the ground speed is displayed instead of air speed. Consequently, with a head wind, the displayed speed decreases and with a tail wind, the displayed speed increases.

- Select [GPS] in the TELEMETRY screen and access the setup screen shown below by touching the RTN button.

- Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.

*The GPS sensor is necessary, and is sold separately. Mount and connect the sensor in accordance with the sensor instruction manual.

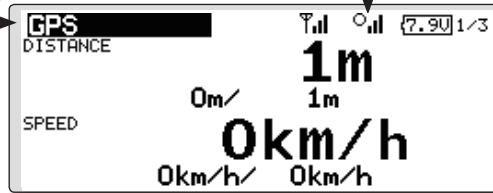*Only receiver voltage and EXT voltage can be used in FASSTest12CH mode.
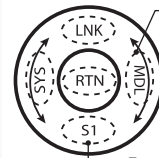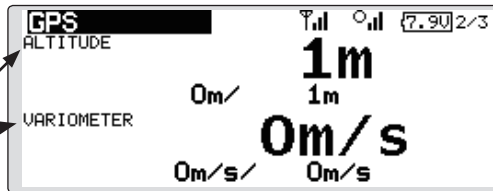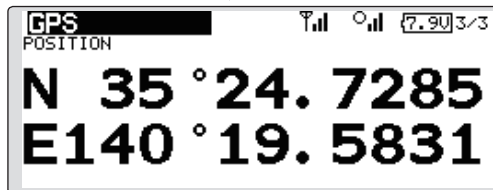*The FASSTest18CH mode can use all the telemetry functions.

- The maximum and the minimum when powering ON are shown. It will be preset, if a cursor is moved to this place and the RTN button is pushed for 1 second.

- This indicates the receiving accuracy from a GPS Satellite. When three bars are displayed, the GPS is ready for use.

- Speed

<SensorTouch™>

- Scrolling
- Moving cursor

- Select [SPEED] (small font display) in the TEMPERATURE screen and access the setup screen shown below by touching the RTN button.

- ↑ An upward arrow indicates the alarm will sound when the speed reaches above your set value.

- ↓ A downward arrow indicates the alarm will sound when the speed reaches below your set value.

"VIBRATOR" type
If the following types are selected, the transmitter will vibrate during the warning.

TYPE 1
TYPE 2
TYPE 3

- It links with the "DISTACE" display.
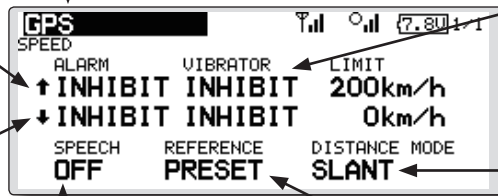
- The ON/OFF switch of SPEECH is chosen.

- Pushing [PRESET] sets the current aircraft position as the starting point.

Alarm setting when speed increases

1. Move the cursor to the ↑ALARM item, and it chooses from BUZZER, VOICE, INHIBIT, and pushes RTN.
2. When not operating vibrator, it is "VIBRATOR" to INHIBIT. TYPE1-3 will be chosen if it is made to operate.
3. Move the cursor to the LIMIT [km/h] item and touch the RTN button to switch to the data input mode.
4. Ajust the rate by scrolling the touch sensor.
   Initial value: 200km/h
   Adjustment range 0km/h~500km/h
   (↑LIMIT ≧ ↓LIMIT)

*When the RTN button is touched for one second, the rate is reset to the initial value.
5. Touch the RTN button. (To terminate the input and return to the original state, touch the Home/Exit button.)

Alarm setting when speed decreases

1. Move the cursor to the ↓ALARM item, and it chooses from BUZZER, VOICE, INHIBIT, and pushes RTN.
2. When not operating vibrator, it is "VIBRATOR" to INHIBIT. TYPE1-3 will be chosen if it is made to operate.

3. Move the cursor to the LIMIT [km/h] item and touch the RTN button to switch to the data input mode.
4. Ajust the rate by scrolling the touch sensor.
   Initial value: 0km/h
   Adjustment range 0km/h~500km/h
   (↑LIMIT ≧ ↓LIMIT)

*When the RTN button is touched for one second, the rate is reset to the initial value.
5. Touch the RTN button. (To terminate the input and return to the original state, touch the Home/Exit button.)

*Speed alarm precaution

Since the GPS speed sensor displays the ground speed, it cannot be used as a stall alarm. For example, an aircraft that stalls at 50km/h will stall if the tailwind is 5km/h or greater even through 55km/h is displayed by ground speed. In addition, with an aircraft that will fail in midflight at 400km/h at an over-speed alarm, when the headwind reaches 30km/h the airplane will fail in midair due to over speeding even at a ground speed of 370km/h.

TELEMETRY : GPS [ALTITUDE, VARIOMETER, POSITION]

*A GPS sensor must be installed in the aircraft.

The altitude, variometer, position screen displays and sets the data from an SBS-01G (GPS sensor) sold separately.

*The GPS sensor is necessary, and is sold separately. Mount and connect the sensor in accordance with the sensor instruction manual.

*Only receiver voltage and EXT voltage can be used in FASSTest12CH mode.

*The FASSTest18CH mode can use all the telemetry functions.

● This indicates the receiving accuracy from a GPS Satellite. When three bars are displayed, the GPS is ready for use.

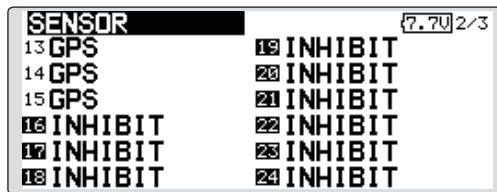● Select [GPS] in the TELEMETRY screen and access the setup screen shown below by touching the RTN button.

● Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.
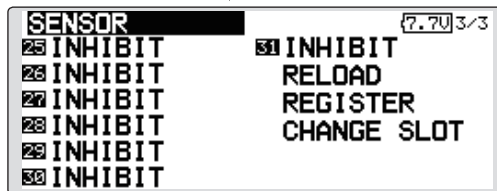
```
GPS                 Y.ll  O.ll (7.9U)1/3
DISTANCE
                      1m
             0m/      1m
SPEED
             0km/h
          0km/h/    0km/h
```

<SensorTouch™>

Scrolling
● Moving cursor

LNK MDL SYS RTN S1

● To next page

● Push S1 button to advance to next page.

● Refer to the former page for a setup about ALTITUDE and VARIOMETER.

```
GPS                 Y.ll  O.ll (7.9U)2/3
ALTITUDE
                      1m
             0m/      1m
VARIOMETER
             0m/s
          0m/s/     0m/s
```

● Push S1 button to advance to next page.

```
GPS                 Y.ll  O.ll (7.9U)3/3
POSITION
N  35°24. 7285
E140°19. 5831
```

● The position of the present model is displayed.

SENSOR

Various telemetry sensors setting

This screen registers the telemetry sensors used with the transmitter. When only one of a certain type of sensor is used, this setting is unnecessary and the sensor can be used by simply connecting it to the S.BUS2 port of the transmitter.

When using 2 or more of the same kind of sensor, they must be registered here.

[What is a slot?]

Servos are classified by CH, but **sensors** are classified in units called **"slot"**. There are **slots** from **No. 1** to **No. 31**.

Altitude sensors, GPS sensors and other data sensor units may use **multiple slots**.

Using a sensor which uses two or more slots, the required number of slots is automatically assigned by setting up a **start slot**.

When 2 or more of the same kind of sensor are used, the sensors themselves must allocate unused slots and memorize that slot.

● Select [SENSOR] in the Linkage menu and access the setup screen shown below by touching the RTN button.
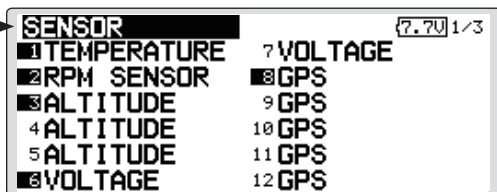
● Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.

<SensorTouch™>

Scrolling
● Moving cursor

● To next page

```
SENSOR                    7.7V 1/3
1 TEMPERATURE      7 VOLTAGE
2 RPM SENSOR       8 GPS
3 ALTITUDE         9 GPS
4 ALTITUDE        10 GPS
5 ALTITUDE        11 GPS
6 VOLTAGE         12 GPS
```
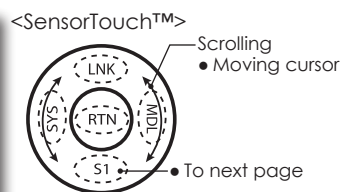
*3 slots of altitude sensor are used.
*8 slots of GPS sensor are used.

● Push S1 button to advance to next page.

```
SENSOR                    7.7V 2/3
13 GPS            19 INHIBIT
14 GPS            20 INHIBIT
15 GPS            21 INHIBIT
16 INHIBIT        22 INHIBIT
17 INHIBIT        23 INHIBIT
18 INHIBIT        24 INHIBIT
```

● Push S1 button to advance to next page.

```
SENSOR                    7.7V 3/3
25 INHIBIT        31 INHIBIT
26 INHIBIT           RELOAD
27 INHIBIT           REGISTER
28 INHIBIT           CHANGE SLOT
29 INHIBIT
30 INHIBIT
```

● As shown in the table below, an altimeter requires 3 contiguous slots and a GPS sensor requires 8 contiguous slots. In addition, since the GPS (SBS-01G) start slots are 8, 16, and 24.

< Assignable slot >

*Altimeter, GPS, and other sensors that display a large amount of data require multiple slots.
*Depending on the type of sensor, the slot numbers that can be allocated may be limited.

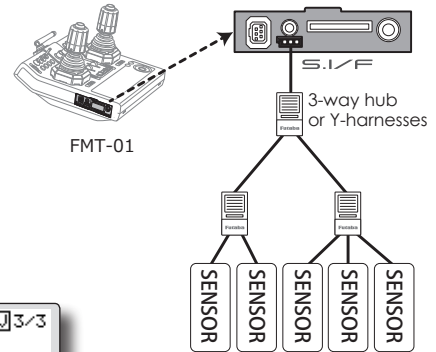| Sensor	The required number of slots	The number which can be used as a start slot	Selling area
TEMP (SBS-01T/TE)	1 slot	1 ～ 31	Global
RPM (SBS01RM/RO/RB)	1 slot	1 ～ 31	
Voltage (SBS-01V)	2 slots	1,2,3,4,5,6,8,9,10,11,12,13,14,16,17,18,19,20,21,22,24,25,26,27,28,29,30	
Altitude (SBS-01A)	3 slots	1,2,3,4,5,8,9,10,11,12,13,16,17,18,19,20,21,24,25,26,27,28,29	
GPS (SBS-01G)	8 slots	8,16,24	
TEMP125-F1713	1 slot	1 ～ 31	Europe
VARIO-F1712	2 slots	1,2,3,4,5,6,8,9,10,11,12,13,14,16,17,18,19,20,21,22,24,25,26,27,28,29,30	
VARIO-F1672	2 slots	1,2,3,4,5,6,8,9,10,11,12,13,14,16,17,18,19,20,21,22,24,25,26,27,28,29,30	
GPS-F1675	8 slots	8,16,24	

SENSOR : RELOAD

This page is set when using multiple telemetry sensors of the same type.

When using multiple sensors of the same type the sensors must be registered in the transmitter. Connect all the sensors to be used to the FMT-01 as shown in the figure at the right and register them by the following procedure. The ID of each sensor is registered in the transmitter.

● Call page 3/3 by touching the S1 button 2 times from the [SENSOR] menu.

● Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.

```
SENSOR                    [7.7V] 3/3
25 INHIBIT      31 INHIBIT
26 INHIBIT         RELOAD
27 INHIBIT         REGISTER
28 INHIBIT         CHANGE SLOT
29 INHIBIT
30 INHIBIT
```

FMT-01

3-way hub or Y-harnesses

SENSOR SENSOR SENSOR SENSOR SENSOR

All the sensors to be used are connected.

*It is not necessary to carry out multiple connection of the battery like a T18MZ/T14SG.

(It will damage, if it connects.)

Reading all the sensors to be used

1. Connect all the sensors to be used to the FMT-01 through a hub as shown in the figure above.
2. Move the cursor to "RELOAD" on page 3/3 of the [SENSOR] screen.
3. Touch the RTN button.

   All the sensors are registered and can be used.

SENSOR : REGISTER

This page is set when using multiple telemetry sensors of the same type.

This function registers an additional sensor. Connect the sensor as shown in the figure at the right and register it by the following procedure. The sensor ID is registered in the transmitter.

● Call page 3/3 by touching the S1 button 2 times from the [SENSOR] menu.

● Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.

```
SENSOR                    [7.7V] 3/3
25 INHIBIT      31 INHIBIT
26 INHIBIT         RELOAD
27 INHIBIT         REGISTER
28 INHIBIT         CHANGE SLOT
29 INHIBIT
30 INHIBIT
```
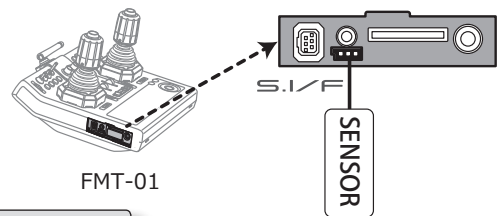
FMT-01

SENSOR

*It is not necessary to carry out multiple connection of the battery like a T18MZ/T14SG.

(It will damage, if it connects.)

Additional sensor registration

1. Connect the sensor to be used to the FMT-01 through a hub as shown in the figure at the right.
2. Move the cursor to "REGISTER" on page 3/3 of the <Sensor> screen.
3. Touch the RTN button.

   The sensor is registered and can be used.

*When the number of slots needed in registration is insufficient, an error is displayed and registration cannot be performed. Disable unused slots or perform the following relocate.

SENSOR : CHANGE SLOT

This page is set when using multiple telemetry sensors of the same type.

This procedure changes the slot No. of one registered sensor.
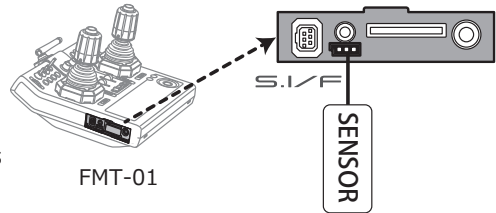
FMT-01

● Call page 3/3 by touching the S1 button 2 times from the [SENSOR] menu.

● Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.

```
SENSOR                    7.7V 3/3
25 INHIBIT        31 INHIBIT
26 INHIBIT           RELOAD
27 INHIBIT           REGISTER
28 INHIBIT           CHANGE SLOT
29 INHIBIT
30 INHIBIT
```
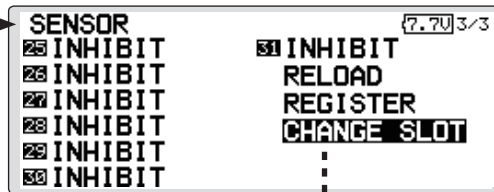
*It is not necessary to carry out multiple connection of the battery like a T18MZ/T14SG.

(It will damage, if it connects.)

● Select [CHANGE SLOT] in the SENSOR screen and access the setup screen shown below by touching the RTN button.

```
CHANGE SLOT               7.7V 1/1
SENSOR TYPE
START SLOT
SLOT LENGTH
              READ    WRITE
```
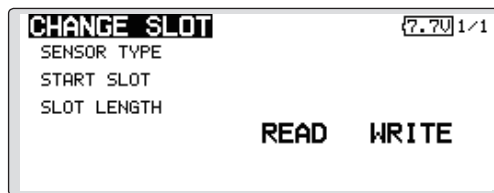
Sensor slot change

1. Connect the sensor to be changed to the FMT-01 through a hub as shown in the figure above.

2. Move the cursor to "CHANGE SLOT" on page 3/3 of the <Sensor> screen.

3. Touch the RTN button. A sensor details screen appears.

4. Move the cursor to "READ" and touch the RTN button.

5. The current start slot is displayed. Move the cursor to the number of the start slot and change it to the desired value. (Cannot be set to a slot that cannot be allocated like the table of all pages.)

6. Move the cursor to "WRITE" and touch the RTN button.

TELE. SETTING

Speech interval set , data logging of telemetry.

The set of the speech interval of telemetry data, and a switch setup for carrying out logging of the telemetry data to SD card and a setup of a logging interval are carried out.

telemetry data can be checked with PC after a flight.

*The software which displays the logging data of SD card on PC has not been put on the market yet.

The set of the speech interval of telemetry data, and a switch setup for carrying out logging of the telemetry data to SD card and a setup of a logging interval are carried out.

telemetry data can be checked with PC after a flight.

*The software which displays the logging data of SD card on PC has not been put on the market yet.

● Select [TELE. SETTING] at the linkage menu and call the setup screen shown below by touching the RTN button.

● Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.

```
TELE. SETTING          7.2V 1/1
   SPEECH INTERVAL           0
   LOGGING SWITCH          OFF
   LOGGING INTERVAL          0
   TELEMETRY DATA SOURCE  RECEIVER
```

<SensorTouch™>
Scrolling
● Moving cursor
● Selecting mode
● Adjusting value

LNK MDL SYS RTN S1
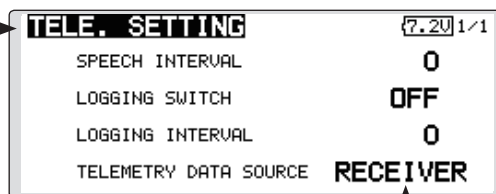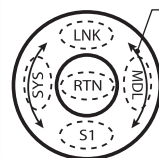
● RECEIVER : Data from a receiver is recorded.

● TRAINER : Data from a trainer connector is recorded. *The special use for which usual isn't used.

Speech interval setting

1. Select the Linkage Menu [TELE. SETTING] and touch the RTN button.
2. The TELE. SETTING setup screen is displayed.
3. Select numerical value beside[SPEECH INTERVAL] and touch the RTN button.
4. Ajust the time by scrolling the touch sensor.
   Initial value: 0
   Adjustment range 0~30
5. Touch the RTN button.

Logging switch setting

1. Select the Linkage Menu [TELE. SETTING] and touch the RTN button.
2. The TELE. SETTING setup screen is displayed.
3. Select [OFF] beside[LOGGING SWITCH] and touch the RTN button.
4. Move the cursor to the [SWITCH] item and call the switch setup screen by touching the RTN button and select the switch and ON direction.

   (For a detailed description of the setting method, see [Switch Setting Method] at the end of this manual.)

Logging interval setting

1. Select the Linkage Menu [TELE. SETTING] and touch the RTN button.
2. The TELE. SETTING setup screen is displayed.
3. Select numerical value beside[LOGGING INTERVAL] and touch the RTN button.
4. Ajust the time by scrolling the touch sensor.
   Initial value: 0
   Adjustment range 0~100
5. Touch the RTN button.

WARNING

The warning display at power ON can be turned ON/OFF for each function. Use by setting functions which may be dangerous if operated at power ON to ON. Initial setting is all ON.

● Select [WARNING] at the linkage menu and call the setup screen shown below by touch the RTN button.

● Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.

<SensorTouch™>

Scrolling
● Moving cursor
● Selecting mode

```
WARNING                    (7.5U) 1/1

CONDITION       ON    MOTOR        ON
THROTTLE CUT    ON    AIRBRAKE     ON
IDLE DOWN       ON    SNAP ROLL    ON
THR POSITION    ON
```

Warning ON/OFF setting

1. The settings can be changed individually. When set to [OFF], a warning is not displayed at power ON.

TRAINER

FMT-01 trainer system makes it possible for the instructor to chose which channels and operation modes that can be used in the students transmitter. The function and rate of each channel can be set, the training method can also be matched to the student's skill level. Two transmitters must be connected by an optional Trainer Cord, and the Instructors' transmitter should be programmed for trainer operation, as described below.

When the Instructor activates the trainer switch, the student has control of the aircraft (if MIX/FUNC/NORM mode is turned on, the Instructor can make corrections while the student has control). When the switch is released the Instructor regains control. This is very useful if the student gets the aircraft into an undesirable situation.

● Setting data are stored to model data.
● Student rate can be adjusted at MIX/FUNC/NORM mode.
● Activated student channels can be selected by switches.

NOTE: This trainer system can be used in the following manner;

1. With the FMT-01 transmitter and a conventional transmitter, if the channel order is different, it is necessary to match the channel order before using this function.

   You can select the channel of input data from student's transmitter in the "FUNC" or "MIX" mode.

2. When the FMT-01 is used as the instructor's transmitter, set the modulation mode of the student's transmitter to PPM.

   If being used as the student, FMT-01 can be connected to the instructor's transmitter which the PPM mode as the student's modulation mode is required. FMT-01 always sends PPM mode signal from the trainer jack.

   (In the case of student's transmitters other than 2.4 GHz)

3. Be sure that all channels work correctly in both transmitters before flying.

Corresponding types of transmitters and trainer mode settings:

Types of transmitters		Instructor's transmitter settings		Student's transmitter settings			Trainer Cords
		System Type	Trainer setting	System Type	Trainer setting		
Instructor	Student	Mod. mode	CH mode	Mod. mode	CH mode	Mod. mode	
FMT-01,FX-32 T14SG,T18MZ	FMT-01,FX-32 T14SG,T18MZ	Arbitrary	16CH	Arbitrary	16CH	-	T12FG (FUTM4405) and 9C (FUTM4415) Trainer Cords
FMT-01	T14MZ, FX-40, T12Z, T12FG, FX-30	Arbitrary	12CH	PCM-G3 2.4G	12CH	PPM	
FMT-01	T8FG, FX-20	Arbitrary	12CH	FASST-MLT2	-	-	
			8CH	FASST-MULT			
FMT-01	T10C, T9C, T7C,T6EX, T4EX	Arbitrary	8CH	PPM	-	-	T12FG (FUTM4405)
FMT-01	T10CG,T7C	Arbitrary	8CH	Arbitrary	-	-	T12FG (FUTM4405)
FMT-01	T8J,T6J	Arbitrary	8CH	Arbitrary	-	-	
T14MZ, FX-40, T12Z, T12FG, FX-30	FMT-01	Arbitrary	12CH	Arbitrary	12CH	-	T12FG (FUTM4405) and 9C (FUTM4415) Trainer Cords
T8FG, FX-20	FMT-01	Arbitrary	12CH	Arbitrary	12CH	-	
T10C, T10CG, T9C, T7C, T7C,T8J	FMT-01	Arbitrary	-	Arbitrary	8CH	-	

- Select [TRAINER] at the system menu and call the setup screen shown below by touching the RTN button.

- Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.

```
TRAINER                    (7.6V)1/1
    ACT/INH           INH
    TEACHER/STUDENT   STUD
    CHANNEL MODE      8CH
```

<SensorTouch™>

Scrolling
● Moving cursor
● Selecting mode

LNK
SYS
RTN
MDL
S1
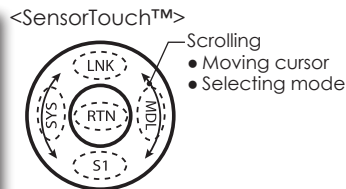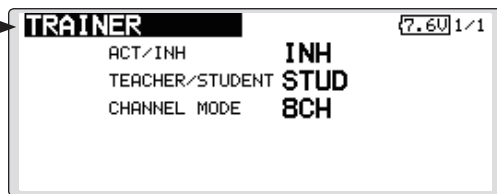
When using at the student side

1. Select the mode.

   *When changing the mode, use the touch sensor to move to the item you want to change and touch the RTN button to switch to the data input mode and change the mode by turning the touch sensor to the left or right. The display blinks. Touch the RTN button to change the mode.

   "TEACHER/STUDENT": Select [STUD] (student).

   "ACT/INH": Enable operation by changing to [ON].

   "16/12/8 CH": When the student uses the FMT-01,T14SG, T18MZ, select [16CH]. When the student uses the T14MZ, T12Z, T12FG or FX-40, select [12CH]. Otherwise select [8CH].

```
TRAINER                    (8.3V)1/1
    ACT/INH           ON
    TEACHER/STUDENT   STUD
    CHANNEL MODE      16CH
```
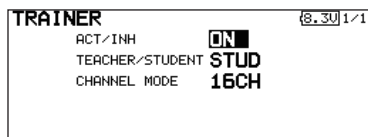
Note: In "student mode", only the teacher side can turn on and off the power to the student's transmitter. Keep the power switch always at off position.

When using at the teacher side

1. Select the mode.

   *When changing the mode, use the touch sensor to move to the item you want to change and touch the RTN button to switch to the data input mode and change the mode by turning the touch sensor to the left or right. The display blinks. Touch the RTN button to change the mode.

   "TEACHER/STUDENT": Select [TEACH].

   "ACT/INH": Enable operation by changing to [OFF] or [ON].

   "16/12/8 CHANNEL": When the student uses the FMT-01 (including the T18MZ, T14SG)select [16CH]. Otherwise select [12CH]or[8CH].

```
TRAINER                    (7.6V)1/5
    ACT/INH           OFF
    TEACHER/STUDENT   TEACH
    CHANNEL MODE      16CH
    SWITCH            SH
```
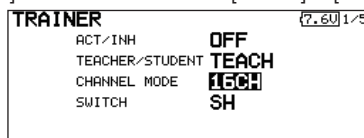
2. Select the trainer switch.

   *When setting or changing the switch, use the touch sensor to move to the "SWITCH" item, call the switch setup screen by touching the RTN button and set the desired switch and ON/OFF direction.

   (See "Switch selection method" at the end of this manual for selection method details.)

   *The switch mode can also be selected when setting the ON position on the switch setup screen. When [NORM] is selected, normal ON/OFF operation is performed. When [ALTERNATE] is selected, the trainer function is alternately turned on and off each time the switch is operated. This allows alternate ON/OFF switching even when a momentary switch (SH) is used.

   Note: The trainer function won't be turned on unless the Instructor's transmitter receives signals from the student's transmitter. Be sure to confirm this after connecting your trainer cable.

3. Select the operating mode for each channel.

```
TRAINER                         (7.6V)2/5
CH FUNCTION     MODE  SW    RATE   STU.CH
1  AILERON      FUNC  --    +100   CH1
2  ELEVATOR     OFF   --
3  THROTTLE     OFF   --
4  RUDDER       OFF   --
```
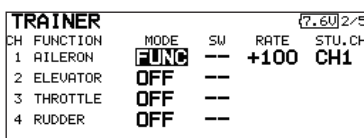
*Use the touch sensor scrolling to move the cursor to the "MODE" item of the channel you want to change and touch the RTN button to switch to the data input mode and change the mode by turning the touch sensor to the left or right. The display blinks. Touch the RTN button to change the mode.

"NORM": The model is controlled by signals from the student transmitter.

"MIX" mode: The model is controlled by signals from the teacher and student transmitters. (Reset the student's model data to the default condition.)

"FUNC" mode (function mode):

The model is controlled by signals from the student transmitter with the teacher AFR setting. (Reset the student's model data to the default condition.)

"OFF": Only the teacher side operates.

*The setting above allows setting of the servo throw relative to the amount of student side operation when [MIX] or [FUNC] was selected.

When changing the rate, use the touch sensor scrolling to move the cursor to the [RATE] item of the channel you want to change and use the touch sensor to adjust the rate.

Setting range: -100~+100

Initial value: +100

Touch the RTN button to end adjustment and return to the cursor move mode.

*When the RTN button is touched for 1 second, the rate is reset to the initial value.

3. Set the switch of each channel.

*When setting the switch at each channel, use the touch sensor to move to the "SW" item of the channel you want to change, call the switch setup screen by touching the RTN button, and select the switch.

"--" : Always ON.

"SA"~"SH": The switch which enables student side operation can be selected. (See "Switch selection method" at the end of this manual for selection method details.)

TRAINER				7.6V 2/5
CH FUNCTION	MODE	SW	RATE	STU.CH
1 AILERON	FUNC	--	+100	CH1
2 ELEVATOR	OFF	--		
3 THROTTLE	OFF	--		
4 RUDDER	OFF	--		

Trainer student channel setting function

Which channel of the signal from the student's transmitter can be assigned as the instructor functions input signal when "FUNC" or "MIX" was set as the trainer function instructor's transmitter mode setting can be set. This makes trainer connection easy even when the instructor side and student side channel assignment is different.

*When the instructor's transmitter mode is set to "NORM", the signal of the same channel of the student's transmitter is output as is.(The same as before.)

STICK ALARM

Throttle stick positional alarm

An alarm (single beep) can be sounded at the specified throttle stick position.

*Alarm function ON/OFF can be set by switch.

● Select [STICK ALARM] at the linkage menu and call the setup screen shown below by touching the RTN button.

●When INH is selected, the function cannot be used. When ON or OFF is selected, the function is activated. ON and OFF changes are linked to the switch.

●Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.

STICK ALARM 7.2V 1/1

ACT/INH   **INH**

POSITION   **50**%

SWITCH   **OFF**

100%

50%

0%

<SensorTouch™>

Scrolling
● Moving cursor
● Selecting mode
● Adjusting value
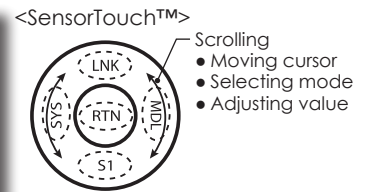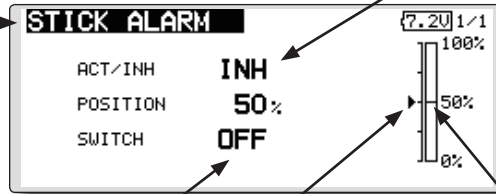
●The current throttle stick position.

● Stick alarm position.

●e.g., Always to make them stick alarm in spite of switch.

HARDWARE SEL. CONDIT1 7.2V 1/1
HARDWARE LIST
J1 SA SE J6 LD T3 --
J2 SB SF J5 RD T4
J3 SC SG LS T1 T5
J4 SD SH RS T2 T6

ON/OFF

ON/OFF   CONDIT1 7.2V 1/1
--

ON/OFF   **ON**
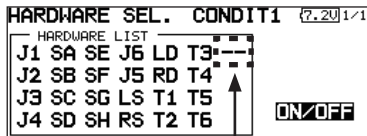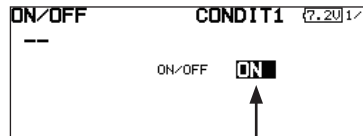
●Select " —— "

●Select "ON"

Stick alarm setting procedure

*Perform the following settings after using the touch sensor to move the cursor to the item you want to set.

1. Activate the function:

   Move the cursor to the [ACT/INH] item and touch the RTN button to switch to the data input mode.

   Switch the blinking from "INH" to "ACT" by turning the touch sensor to the left and then touch the RTN button.

2. Switch setting:

   Move the cursor to the [SWITCH] item, call the switch setup screen by touching the RTN button, and select the switch and ON direction.

   (For a detailed description of the setting method, see [Switch Setting Method] at the back of this manual.)

3. Alarm position setting:

   Move the cursor to the [POSITION] item and touch the RTN button to switch to the data input mode.

Adjust the alarm position operation by turning the touch sensor to the left or right.

Initial value: 50%

Adjustment range: 0%~100%

(When the RTN button is touched for 1 second, the offset rate is reset to the initial value.)

Touch the RTN button to end adjustment and return to the cursor move mode.

100%

50%

0%
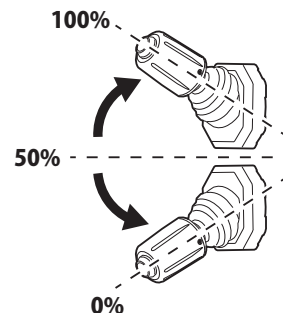
DATA RESET

Model memory setting data reset. (by item)

This function is designed to allow you to reset selected portions or all of the settings saved in the active model memory. You may individually choose to reset the following sets of data;

T1~T6:

Reset the digital trim setting.

*All the conditions, or the condition currently being displayed (the entire group for group setting), can be selected.

*The trim step amount and trim rate are not reset.

Model menu setting:

Resets all the functions in the Model menu except condition select.

All model setting:

Resets all Linkage and Model menu functions except for frequency, model select, and model type.

Function Name:

A function name is reset.

Telemetry:

Reset the telemetry setting.

● Select [DATA RESET] at the linkage menu and call the setup screen shown below by touching the RTN button.

● Select the function name and return to the Linkage menu by touching the RTN button or pushing the Home/Exit button.

```
DATA RESET          8.3V 1/2
T1-T6(ALL CONDITION)
T1-T6(CURRENT+GROUP COND.)
MODEL MENU SETTING
ALL MODEL SETTING
```

<SensorTouch™>

Scrolling
● Moving cursor

LNK
SYS   RTN   MDL
S1
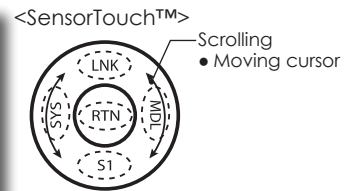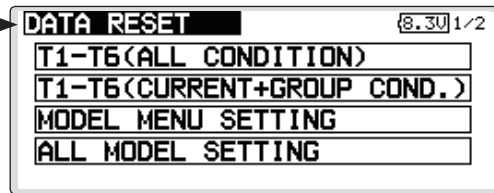
● Push S1 button to advance to next page.

```
DATA RESET          8.3V 2/2
FUNCTION NAME
TELEMETRY
```
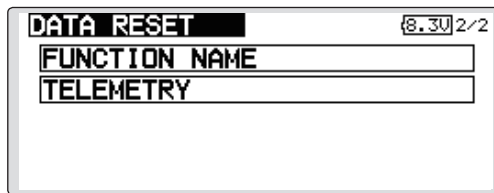
Data resetting method

1. Move the cursor to the item you want to reset and touch the RTN button.

   *A confirmation message appears.

2. Execute reset by touching the RTN button again. (Operate touch sensor or S1 button to stop resetting.)

   [T1-T6 (ALL CONDITION)]: Resets only the T1-T6 (all conditions)

   [T1-T6(CURRNT+GROUP COND.)]: Resets only the data of T1-T6 (condition in use and all the conditions set to group mode)

   [MODEL MENU SETTING]: Resets all the functions in the model menu, except the condition selection functions.

[ALL MODEL SETTING]: Resets all the functions in the linkage menu and model menu except the frequency, model select, and model type functions.

[FUNCTION NAME]: Resets only the function name functions.

[TELEMETRY]: Resets only the telemetry functions.

COND.HOLD

Condition hold function

This function may be used to fix the maximum speed of the engine so that you may adjust flight conditions when the engine is running. An alarm indicates that the function is operating. It will prevent the engine from increasing when adjusting the idle-up settings.

While this function is active, the throttle servo position is fixed at the point set from when the function is activated. You must deactivate this function when you are through making adjustments.

The system will not allow you to activate/ deactivate this function in either of the following states:

• When any of the flight condition switches are on.
• When the throttle stick is higher than the 1/3 point.

To activate/deactivate condition hold:

(Home screen)

1. Move the cursor to [CND HOLD].
2. Set the throttle stick lower than the 1/3 point.
3. Touch the RTN button to activate the condition hold function.

   *When this function is active, "IS ON" appears at the right of the [CND HOLD] display at the left bottom of the screen.

(LINKAGE menu/MODEL menu)

1. Move the cursor to [COND. HOLD].
2. Set the throttle stick lower than the 1/3 point.
3. Touch the RTN button to activate the condition hold function.

   *Operation is displayed at the bottom of the menu.

   Function ON: "CND HOLD IS ON" is displayed.

   Function OFF: "CND HOLD IS OFF" is displayed.

MODEL MENU (COMMON FUNCTIONS)

This section describes the AFR, program mixing, and other functions common to all model types.

Before setting the model data, use the Model Type function of the Linkage Menu to select the model type matched to the fuselage. When another model type is selected thereafter, the AFR, program mixing, and other setting data will be reset.

The functions in the Model Menu can be set for each flight condition. When you want to use the system by switching the settings for each condition by switch, stick position, etc., use the Condition

Select function to add flight conditions. (Up to 8 conditions can be used)

Note: The FMT-01 is designed so that the airplane and glider (including EP glider) model types are compatible with aircraft of similar type wings. This section outlines the relationship between the functions common to airplanes and gliders, except some dedicated functions, and model type. The setting items depend on the number of servos and other differences according to the wing type used, but reread them. The setup screens in the instruction manual are typical examples.

- Select the [MODEL] at the home screen and call the model menu shown below by touching the RTN button.
- Use the touch sensor to select the function you want to set and call the setup screen by touching the RTN button.

(Model Menu screen example)

*The Model Menu screen depends on the model type. This screen is for model type 4AIL+4FLP.

- Select the [MODEL MENU] and return to the home screen by touching the RTN button or pushing the Home/Exit button.

Model Menu functions (Common) list

●SERVO MONITOR

Servo test and servo position display (For a description of its functions, see the Linkage Menu section.)

●COND.SELECT

Flight conditions addition, deletion, copy, condition renaming, and condition delay can be set.

●AFR

Sets the angle and curve of all the operation functions.

●DUAL RATE

A D/R curve which can be switched with a switch, etc. can also be added.

●PROG. MIX

Program mixing which can be freely customized. Up to 10 mixes can be used for each condition.

CONDIT. SELECT

Flight condition's addition, deletion, copy, condition renaming, and condition delay can be set. [All model types]

The functions in the Model Menu can be used by switching the settings of up to 8 flight conditions by using the Condition Select function to add flight conditions. Add conditions, as required.

When you do not want to use the Condition Select function, this setting is unnecessary. In this case, use the flight conditions assigned at initial setting.

● Since switching by stick and lever position, in addition to ordinary toggle switch, is possible as the flight condition selector switch, this function can be linked with other operations.

● A Condition Delay function can be set. Unnecessary fuselage motion generated when there are sudden changes in the servo positions and when there are variations in the operating time between channels during condition switching can be suppressed. The delay can be set for each channel.

When setting the delay function at the switching destination condition, the related function changes after a delay corresponding to the set amount.

● When multiple conditions were set, their operation priority can be freely changed.

● The condition name can be changed. The selected condition name is displayed on the screen. When a condition has been added, give it a name which can be easily confirmed.

● Select [CONDIT. SELECT] at the model menu and call the setup screen shown below by touching the RTN button.
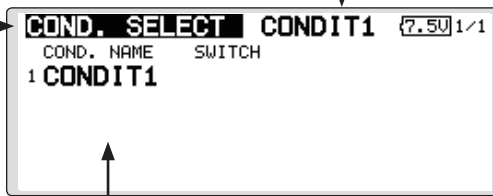
● Select the function name and return to the preceding screen by touching the RTN button or pushing the Home/Exit button.

(Currently selected condition name)

```
COND. SELECT  CONDIT1  7.5U 1/1
  COND. NAME      SWITCH
1 CONDIT1
```

<SensorTouch™>

Scrolling
● Moving cursor

(Conditions List)
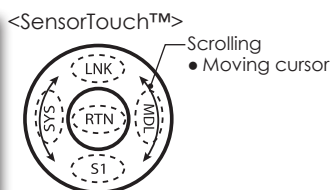
*Perform the settings below after using the touch sensor to move the cursor to the item you want to set.

Condition addition

1. Use the touch sensor to move the cursor to any condition in the conditions list and touch the RTN button.

   Move the cursor to the condition you want to add.

2. Move the cursor to [ADD] and touch the RTN button.

   *Only the No. of the conditions which can be added is displayed.

```
COND.ADD      CONDIT1  7.5U 1/1
  COND. NAME   ADD - CONDITION LIST
1 CONDIT1    CONDIT2  CONDIT6
             CONDIT3  CONDIT7
             CONDIT4  CONDIT8
             CONDIT5
```
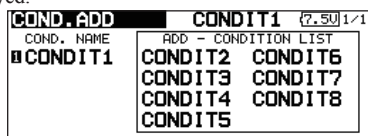
3. Add the condition by touching the RTN button again. Touch the RTN button to end adjustment and return to the cursor move mode.

4. Move the cursor to [SWITCH] item, call the switch setup screen by touching the RTN button, and select the switch and ON direction to be used in condition switching.
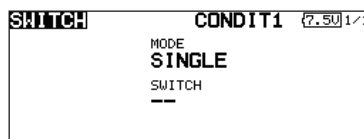
```
SWITCH        CONDIT1  7.5U 1/1
  MODE
  SINGLE
  SWITCH
  --
```

(For a detailed description of the setting method, see [Switch Setting Method] at the back of this manual.)

*The data (except the condition name) of the condition currently being used is copied to the added condition.

Condition deletion

1. Use the touch sensor to move the cursor to the condition you want to delete in the conditions list and touch the RTN button.

   *The number before the condition name become reverse-video to show that it is to be deleted.

2. Move the cursor to [REMOVE] and touch the RTN button.
   *A confirmation message is displayed.
   *Note that if initially operated up and down, the objective condition changes.

3. When the RTN button is touched again, the condition is deleted. (Operate the touch sensor or S1 button to stop deletion.)

   Touch the RTN button to end adjustment and return to the cursor move mode.
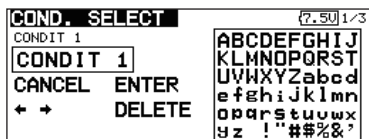
Condition name change

1. Use the touch sensor to move the cursor to the condition you want to change in the

conditions list.

*The number before the condition name become reverse-video to show that it is to be deleted.

2. Move the cursor to [RENAME] and touch the RTN button.

*The condition name setup screen appears.

```
COND. SELECT        7.5U 1/3
CONDIT 1
CONDIT 1       ABCDEFGHIJ
               KLMNOPQRST
CANCEL  ENTER  UVWXYZabcd
               efghijklmn
 ← →    DELETE opqrstuvwx
               yz !"#$%&'
```

3. Change the condition name as described below:

[Moving cursor in input box]

Select [←] or [→], and touch the RTN button.

[Deleting a character]

When [DELETE] is selected and the RTN button is touched, the character immediately after the cursor is deleted.

[Adding a character]

When a candidate character is selected from the character list and the RTN button is touched, that character is added at the position immediately after the cursor.

*A name of up to 8 characters long can be entered as the condition name. (A space is also counted as 1 character.)

5. At the end of input, select [ENTER] and touch the RTN button. (To terminate input and return to the original state, select [CANCEL] and touch the RTN button.)

Condition copy

1. Use the touch sensor to move the cursor to any condition in the conditions list and touch the RTN button.

2. Use the touch sensor to move to [COPY].

3. Touch the RTN button.

*The copy screen appears.

```
COND.COPY    CONDIT1  7.5U 1/1
SOURCE COND.
CONDIT1
COPY  ↓
DESTIN.COND.
CONDIT1
```
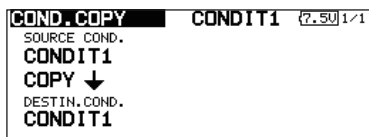
4. Use the touch sensor to move the cursor to the "SOURCE COND." (copy source) item and touch the RTN button.

*The models already saved are displayed at the right side of the screen.

5. After using the touch sensor to move the cursor to the copy source condition, touch the RTN button.

*The copy source condition is displayed at the "SOURCE COND." position.

6. Use the touch sensor to move the cursor to "DESTIN.CND." (copy destination) and touch the RTN button.

*The models already saved are displayed at the right side of the screen.

7. After using the touch sensor to move the cursor to the copy destination condition, touch the RTN button.

*The copy destination conditions are displayed at the "DESTIN.COND." position.

8. Use the touch sensor to move the cursor to [COPY] and touch the RTN button.

9. When the RTN button is touched again, copy is executed.(Operate touch sensor or S1 button to stop copying.)

Touch the RTN button to end adjustment and return to the cursor move mode.

Priority change

1. Use the touch sensor to move the cursor to the condition whose priority you want to change in the condition list.

2. Move the cursor to [UP] or [DOWN] of [PRIORITY] and touch the RTN button. (The last condition becomes the highest priority.)

*The initial setting condition cannot be shifted. The priority is the lowest.

Condition delay setting

1. Use the touch sensor to move the cursor to the condition you want to change in the condition list and touch the RTN button.

2. Move the cursor to [DELAY] and touch the RTN button.

*The condition delay setup screen appears.

```
COND.DELAY   CONDIT1  7.5U 1/4
CH    FUNCTION  DELAY  GROUP
CH1   ELEVATOR    0    GROUP
CH2   RUDDER      0    GROUP
CH3   THROTTLE    0    GROUP
CH4   AILERON     0    GROUP
```

3. Use the touch sensor to move the cursor to the "DELAY" item of the channel you want to set and touch the RTN button to switch to the data input mode.

Adjust the delay amount with the touch sensor.

Initial value: 0

Adjustment range: 0~27 (maximum delay)

Touch the RTN button to end adjustment and return to the cursor move mode.

● The setting mode (group [GROUP]/single [SINGLE] mode) can be switched.

(For more information, see the description at the back of this manual.)

AFR

The angle and curve of each operation function can be set. [All model types]

AFR function is used to adjust the throw and operation curve of the stick, lever, and switch functions for each flight condition. This is normally used after End Point has defined the maximum throw. When mixing is applied from one channel to another channel, both channels can be adjusted at the same time by adjusting the operation rate through the AFR function.

● Operation curve adjustment: Three types of curves (EXP1, EXP2, and POINT) can be selected. A maximum 17 points curve can be used for the point curve type. (Initial setting: 9 points) The number of points can also be increased and decreased and curves from complex curves to simple curves can be used.

● Operation speed adjustment: The operation speed of each function when the function is operated (including at flight condition switching) can be adjusted. The function operates smoothly at a constant speed corresponding to the set speed.

● Select [AFR] at the model menu and call the setup screen shown below by touching the RTN button.

[AFR/D/R]: Displays the currently selected rate (AFR/D/R).

(Currently selected condition name)

● Select the function name and return to the preceding screen by touching the RTN button or pushing the Home/Exit button.

<SensorTouch™>

Scrolling
● Moving cursor
● Selecting mode
● Adjusting value

● To next page

● Operation curve setting

(For a description of the setting method, see the description at the back of this manual.)

● Function selection

● Servo speed setting

(For a description of the setting method, see the description at the back of this manual.)

(Number of D/R curves set at the currently selected condition)

● Group/single mode switch (GROUP/SINGLEl)

(For more information, see the description at the back of this manual.)

Function selection method

1. Use the touch sensor to move the cursor to [FUNC.] and touch the RTN button to switch to the data input mode.
2. Select the desired function by scrolling the touch sensor to the left or right, touch the RTN button.

   *The setting mode (group [GROUP]/single [SNGLE] mode) can be switched (For more information, see the description at the back of this manual.)

DUAL RATE

D/R curves which can be switched by switch, etc. can be added. The curve can be adjusted by the AFR function.

● Up to 6 rates can be added for each condition.

● D/R is set for each condition and is not reflected at other conditions.

● D/R at the top of the D/R list has priority.

● Select [DUAL RATE] at the model menu and call the setup screen shown below by touching the RTN button.

● Select the function name and return to the preceding screen by touching the RTN button or pushing the Home/Exit button.


<SensorTouch™>

Scrolling
● Moving cursor
● Selecting mode
● Adjusting value

● To next page
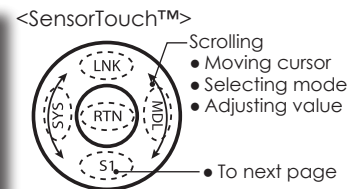
Dual rate adding

1. Move the cursor to the [INH] display of an unused D/R and touch the RTN button to switch to the data input mode.

    Turn it off by scrolling the touch sensor to the left and activate the D/R function by touching the RTN button.

2. Move the cursor to the "FUNCTION" item and touch the RTN button to switch to the data input mode.

    Select the function by scrolling the touch sensor and touch the RTN button.

3. Move the cursor to the [SWITCH] item and call the switch setup screen by touching the RTN button and select the switch and ON direction. Alternate mode can be assigned to dual rate switch.

   (For a detailed description of the setting method, see [Switch Setting Method] at the end of this manual.)

PROG. MIXES

Program mixing which can be freely customized. Up to 10 mixings can be used for each condition. [All model types]

Programmable mixing may be used to correct undesired tendencies of the aircraft, and it may also be used for unusual control configurations. Mixing means that the motion of a command channel, called the "master," is added to the motion of the mixed channel, called "slave."

You may choose to have the Master's trim added to the Slave channel response ("Trim" setting). The mixing curve can be changed so that the undesired tendencies can be corrected effectively by setting the EXP1/EXP2/POINT modes. The Delay function can be programmed for each rate. The Delay is used to change the rate smoothly when switching mixes. You may define Mixing ON/OFF switch, control or you may choose to have mixing remaining on all the time. Mixing ON/OFF delay time can be adjusted.

The Programmable mixing includes a powerful link function, which allows Programmable mixing to be linked with the special mixing functions, or with other programmable mixing functions. The link function can be set up for Master and Slave channel individually.

The slave channel AFR mode (STK-STK mode) may be selected, where the slave channel AFR and D/R settings are observed when Link function is set. The knob for fine tuning can be set up for every mixing circuit. (Fine tune function)

The programmable mixing (in mixing mode) STK to STK mixing function can be used even when the Master is a stick or other hardware.

● Select [PROG. MIXES] at the model menu and call the setup screen shown below by touching the RTN button.

●Select the function name and return to the preceding screen by touching the RTN button or pushing the Home/Exit button.

<SensorTouch™>

Scrolling
● Moving cursor
● Selecting mode
● Adjusting value

● To next page
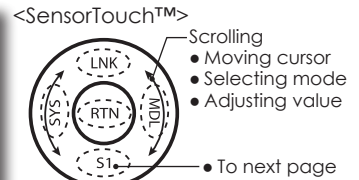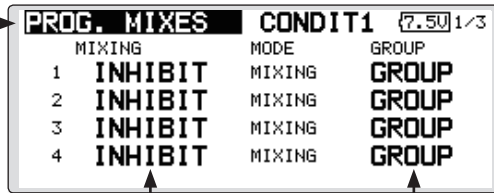
Mix setup screen call

● Move the cursor to the mix No. whose function you want to activate and call the setup screen by touching the RTN button.

*When the function is activated, the master and slave channel name or is displayed.

●Group/single mode switching (GROUP/SINGLE)

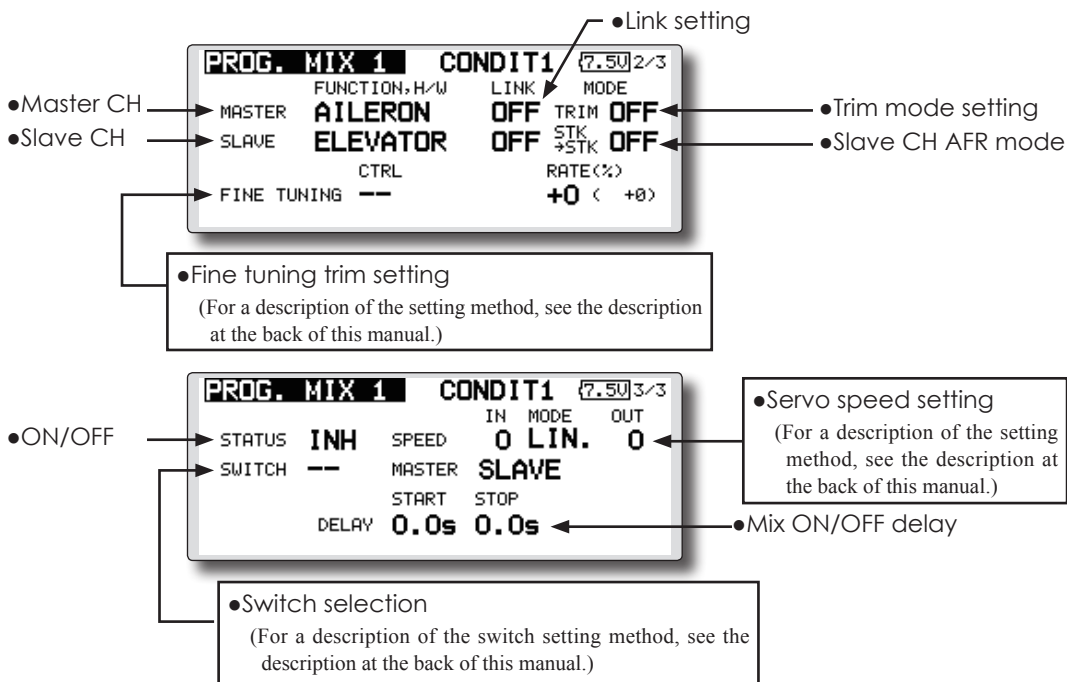(For more information, see the description at the back of this manual.)

●Current mix No.

(Currently selected condition name)
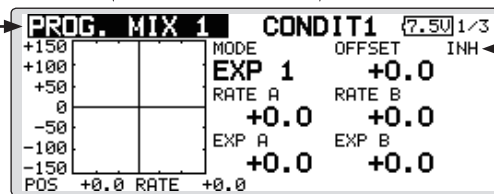
●Mix operating display

●Operation curve setting

(For a description of the setting method, see the description at the back of this manual.)

●Link setting

●Master CH
●Slave CH

```
PROG. MIX 1   CONDIT1/ 7.5U 2/3
        FUNCTION,H/W   LINK   MODE
MASTER  AILERON       OFF  TRIM OFF
SLAVE   ELEVATOR      OFF  STK  OFF
                           →STK
            CTRL           RATE(%)
FINE TUNING  --            +0 ( +0)
```

●Trim mode setting
●Slave CH AFR mode

●Fine tuning trim setting
(For a description of the setting method, see the description at the back of this manual.)

```
PROG. MIX 1   CONDIT1  7.5U 3/3
               IN   MODE   OUT
STATUS  INH  SPEED  0 LIN.  0
SWITCH  --   MASTER SLAVE
             START  STOP
        DELAY 0.0s  0.0s
```

●ON/OFF

●Servo speed setting
(For a description of the setting method, see the description at the back of this manual.)

●Mix ON/OFF delay

●Switch selection
(For a description of the switch setting method, see the description at the back of this manual.)

*Perform the settings below after using the touch sensor to move the cursor to the item you want to set.

●**Group/single mode selection**

1. When you want to activate functions for only selected conditions, move the cursor to the [GROUP] item and touch the RTN button to switch to the data input mode.

2. Turn the touch sensor to the left until [SINGLE] starts to blink and then touch the RTN button.

   *The mode changes to the single mode [SINGLE].

   *When using common settings at each conditions, remain in the [GROUP] mode.

●**Activate the function.**

1. Move the cursor to [INH] and touch the RTN button to switch to the data input mode.

2. Turn the touch sensor to the left until [ACT] starts to blink and then touch the RTN button.

   *The function is activated. (ON or OFF display)

   *ON/OFF switch and mix rate are not set even through the function is activated.

●**ON/OFF switch setting**

Move the cursor to the [SWITCH] item, call the switch setup screen by touching the RTN button, and select the switch and ON direction.

(For a description of the setting method, see [Switch Setting Method] at the back of this manual.)

*Always on when [--].

●**Master channel setting**

1. Move the cursor to the [FUNCTION.H/W] item of [MASTER] and touch the RTN button to switch to the data input mode.

   Select the function by scrolling the touch sensor and touch the RTN button.

2. When you want to link this mixing with other mixes, move the cursor to the [LINK] item and touch the RTN button to switch to the data input mode.

   Set the link mode to [+] or [-] by scrolling the touch sensor and touch the RTN button.

   *Check the direction by actual operation.

   *Master channel control can be set to simple operating amount of sticks and VR which do not include ATV, AFR, D/R, and mixing setting. In this case, the switch setup screen is displayed by touching the RTN button with "H/W" selected by function selection. Select master channel side control. (To terminate the "H/W" selection, select the [--] display and touch the RTN button.

●**Slave channel setting**

1. Move the cursor to the [FUNCTION.H/W] item of [SLAVE] and touch the RTN button to switch to the data input mode.

   Select the function by scrolling the touch sensor and touch the RTN button.

2. When you want to link this mix with other mixes, move the cursor to the [LINK] item and touch the RTN button to switch to the data input mode.

   Set the link mode to [+] or [-] by scrolling the touch sensor and touch the RTN button.

   *Check the direction by actual operation.

●**Trim mode ON/OFF setting**

1. When changing the trim mode, move the cursor to the [TRIM] item and touch the RTN button to switch to the data input mode.

   Select ON/OFF by scrolling the touch sensor and set the selection by touching the RTN button.

   *When mixing includes master side trim, select [ON] and when mixing does not include master trim, select [OFF].

   *Effective when a function is set at the master channel.

●**Slave channel AFR mode setting (STK-STK)**

1. Move the cursor to the [STK-STK] item, select the mode by scrolling the touch sensor, and change the mode by touching the RTN button.

   *When link is set at the slave side, and you want to add AFR (D/R) to the mixing rate, select [ON].

   *This is effective when the linkage is the same, but the travels are substantially different.

●**Mixing curve setting**

   (For a description of the curve setting method, see the description at the back of this manual.)

●**Fine tuning trim setting**

   Operation control [CTRL], operation mode [MODE], and rate [RATE] adjustment is possible by [FINE TUNING] item.

   (For a description of the fine tuning trim setting method, see the description at the back of this manual.)

●**Servo speed setting**

   Adjustment is possible with the [SPEED] item.

   (For a description of the servo speed setting method, see the description at the back of this manual).

●**Mixing ON/OFF delay setting**

   Delay time at mix ON [START] and delay time at mix OFF [STOP] adjustment is possible by [DELAY] item.

   *This function is inactive when a mixing switch is not set.

1. Move the [START] or [STOP] item and touch the RTN button to switch to the data input mode.

2. Adjust the delay time by scrolling the touch sensor.

   Initial value: 0.0 sec

   Adjustment range: 0~4 sec

   (When the RTN button is touched for 1 second, the delay time is reset to the initial value.)

Touch the RTN button to end adjustment and return to the cursor move mode.

●**Offset mode setting**

   Offset mode is function which allows simultaneous offset control of up 4 slave functions per circuit.

1. Use [MODE] setting to select the program mixing oparation mode. [MIXING] is the normal mixing mode and [OFFSET] is the offset mode.

2. Move the cursor to [INHIBIT] of the mixing No. set to the offset mode and touch the RTN button. The setup screen is displayed.

3. Press the S1 button. Page 5/5 is displayed.

4. Move the cursor to the [STATUS] item and switch to the date input mode by touching the RTN button.

5. Turn the dial to the left and right until [ACT] blinks, and then touch the RTN button. To deactivate the function, switch to [INH].

●**ON/OFF switch selection**

   Move the cursor to the page 5/5 [SWITCH] item, call the switch setup screen by touching the RTN button, and then select the switch and ON direction. (For a detailed description of the selection method, see [Switch Selection Method] at the back of the instruction manual.)

●**Slave No. selection**

   Setting of the slave No. from 1 to 4 at pages 1/5~4/5 is displayed. When the S1 button is pushed, the displayed slave No. is switched.

●**Slave function setting**

   Move the cursor to the [FUNCTION] item and switch to the date input mode by touching the RTN button. Select the function by scrolling the dial and then touch the RTN button.

●**Offset rate setting**

   The function operation offset amount when the mixing switch is ON and OFF can be set independently.

1. Move the cursor to the [ON] or [OFF] item and switch to the date input mode by touching the RTN button.

2. Turn the dial to the left and right and set the offset rate when the switch is ON or OFF.

   Initial setting : 0%

   Setting range : -300%~+300%

3. After setting, switch to the cursor move mode by touching the RTN button.

*At adjustment, the offset rate is reset to the initial value by touching the RTN button for 1 second.

●**Fine tuning trim setting**

Operation control [CTRL], operation mode [MODE], and rate [RATE] adjustment is possible by [FINE TUNING] item.

(For a description of the fine tuning trim setting method, refer to [Fine tuning trim setting] at the back of this manual.)

●**Operation mode setting**

The operation mode when the switch was operated is selected. Normal mode [NORM] or timer mode [TIME] can be selected.

[Normal mode]

After the switch is set to ON, mixing is turned ON after the time set by start delay ([START]) has elapsed. Similarly, after the switch was set to OFF, mixing is turned OFF after the time set by stop delay ([STOP]) has elapsed.

[Timer mode]

After the switch was set to ON, mixing is turned ON after the time set by start delay ([START]) has elapsed. Mixing is automatically turned OFF after the time set by stop delay ([STOP]) has elapsed. Examples of use are jet plane and scale model retractable landing gear and cover linked mixing, etc.

●**Servo speed setting**

The speed at function operation can be adjusted. (For a description of the setting method, refer to [Servo speed setting] at the back of the instruction manual.)

●**Delay setting**

Mixing operation at mixing switch ON ([START]) and OFF ([STOP]) can be delayed by [DELAY] item.(When switch is set.)

1. Move the cursor to the [START] or [STOP] item and switch to the date input mode by touching the RTN button.

2. Turn the dial to the left and right and set the mixing operation delay time at switch ON or OFF.

Initial setting : 0sec

Setting range : 0sec~35sec

3. After adjustment, switch to the cursor move mode by touching the RTN button.

*At adjustment, the delay time can be reset to the initial value by touching the RTN button for 1 second.

MODEL MENU (AIRPLANE/GLIDER FUNCTIONS)

The dedicated mixes, etc. usable when airplane or glider model type is selected are displayed in this Model Menu functions section. First use the Model Type function of the Linkage Menu to preset the model type, wing type, and tail type matched to the fuselage used. Other settings reset the data used in mixing function, etc.

These dedicated mixes can be set for each flight condition, as required. When you want to use the system by switching the settings for each condition by switch or stick position, use the

- Select the [MODEL] at the home screen and call the model menu shown below by touching the RTN button.
- Use the touch sensor to select the function you want to set and call the setup screen by touching the RTN button.
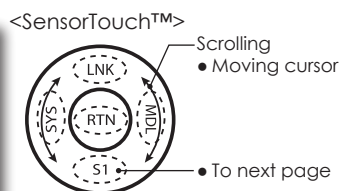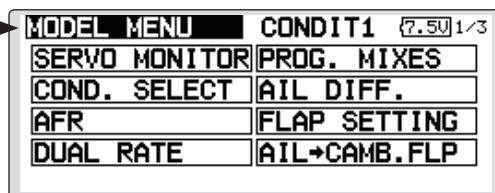
Condition Select function to add flight conditions. (Up to 8 conditions can be used)

Note: The FMT-01 is designed so that the airplane and glider model types can handle aircraft of the same wing type.
The functions common to airplanes and gliders, except some dedicated functions, are summarized without regard to the model type.
The setting items are different, depending on the number of servos, etc. according to the wing type used. The setup screens in the instruction manual are typical examples.

(Model Menu screen example)

*The Model Menu screen depends on the model type. This screen is for model type 4AIL+4FLP.

● Select the [MODEL MENU] and return to the home screen by touching the RTN button or pushing the Home/Exit button.
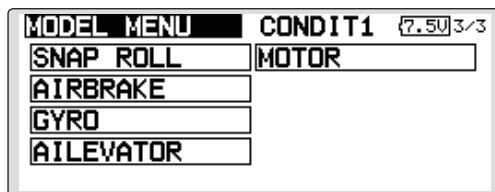
Model Menu functions list

AIL DIFFERENTIAL

This function adjusts the left and right ailerons. Roll axis correction and fine tuning with a VR are also possible. This is convenient when making settings during flight.

[Airplane/glider, 2 ailerons or more]

FLAP SETTING

The flaps can be adjusted independently. For a 4 flaps model, the camber flaps can be mixed with the brake flaps. [Airplane/glider, 2 flaps or more]

AIL to CAMBERFLP

This mix operates the camber flaps in the aileron mode. It improves the operation

characteristic of the roll axis. [Airplane/glider, 2 ailerons + 2 flaps or more]

AIL to BRAKEFLP

This mix operates the brake flaps in the aileron mode. It improves the operation characteristic of the roll axis. [Airplane/glider, 4 flaps or more]

AIL to RUD

This mix is used when you want to operate the rudder at aileron operation. Banking at a shallow bank angle is possible. [Airplane/glider, general]

AIRBRAKE to ELE

This mix is used to correct operation of the airbrakes (spoilers) when landing. [Airplane/glider, general]

RUD to AIL

This mix is used to correct roll maneuvers, knife edge, etc. of stunt planes. [Airplane/glider, general]

CAMBER Mix

This mix adjusts the camber and corrects the elevators. [Airplane/glider, 2 ailerons or more]

ELE to CAMBER

This mix is used when you want to the mix camber flaps with elevator operation. Lifting force can be increased at elevators up. [Airplane/glider, 2 ailerons or more]

CAMBERFLP to ELE

This mix is used to correct for attitude changes when the camber flaps are being used. [Airplane/glider, 2 ailerons + 1 flap or more]

BUTTERFLY (Crow)

This function is used when powerful brake operation is necessary. [Glider, 2 ailerons or more]

TRIM MIX 1/2

The ailerons, elevators, and flaps trim offset rate can be called by switch or condition selection. [Glider, 2 ailerons or more]

AIRBRAKE

This function is used when airbrakes are necessary when landing or when diving, etc. during flight. (Airplane, general)

GYRO

This is a dedicated mix when a GYA Series gyro is used. [Airplane/glider, general]

V-TAIL

This function adjusts the elevators and rudder of V-tail models. [Airplane/glider, V-tail specifications]

AILEVATOR

This function adjusts the elevators and ailerons of models with elevator specifications. [Airplane/glider, elevator specifications]

WINGLET

This function adjusts the left and right rudders of winglet models. [Airplane/glider, winglet specifications]

MOTOR

The operation speed when the motor of F5B and other EP gliders is started by switch can be set. [EP glider, general]

RUD to ELE

This function is used to correct roll maneuvers, knife edge, etc. of stunt planes. [Airplane, general]

SNAP ROLL

This function selects the snap roll switch and adjusts the steering angle of each rudder. Servo speed can also be adjusted. [Airplane general]

AIR BRAKE

RUDDER 1 (Winglet at Flying wing)
AIL1 (Main Aileron)
FLP 3 (Brake Flap)
FLP 4 (Brake Flap)
AIL 2 (Main Aileron)
RUDDER 2 (Winglet at Flying wing)

AIL 3 (Chip Aileron)
FLP 1 (Camber Flap)
FLP 2 (Camber Flap)
AIL 4 (Chip Aileron)

V-TAIL
ELEVATOR (RUDDER 2)
RUDDER (ELEVATOR 2)

AILVATOR
ELEVATOR (AILERON 5)
ELEVATOR 2 (AILERON 6)
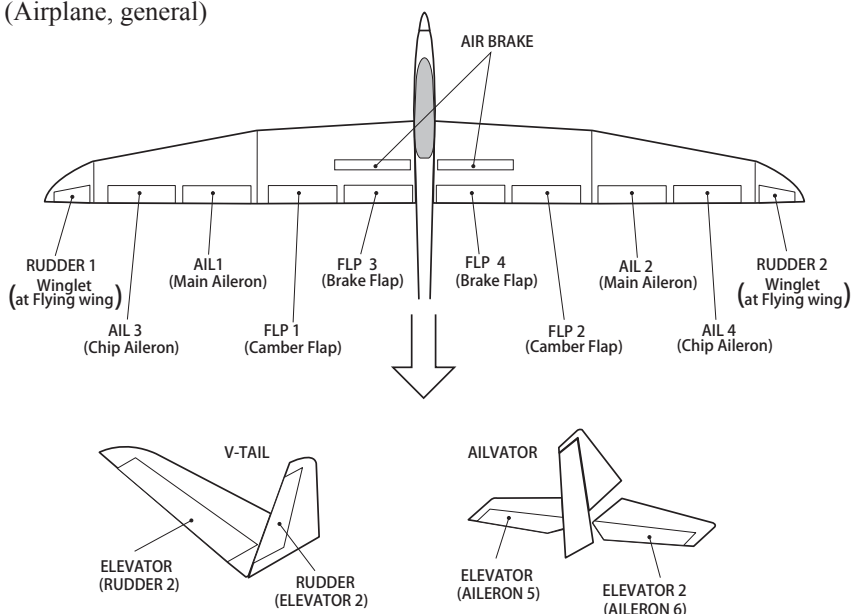
AIL DIFF.

[Airplane/glider, 2 ailerons or more]

The left and right aileron differential can be adjusted independently. The differential rate can also be adjusted according to the flying state by setting a fine tuning VR.

AIL1
(Main Aileron)

AIL 2
(Main Aileron)

AIL 3
(Chip Aileron)

AIL 4
(Chip Aileron)
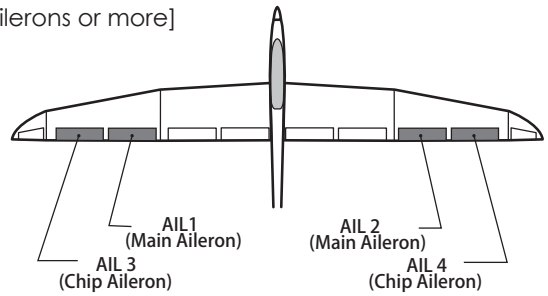
● Select [AIL DIFF.] at the model menu and call the setup screen shown below by touching the RTN button.

(Currently selected condition name)

● Group/single mode switching

(For more information, refer to the description at the back of this manual.)

● Select the function name and return to the preceding screen by touching the RTN button or pushing the Home/Exit button.

```
AIL DIFF.      CONDIT1  7.5U 1/1
            LEFT  RIGHT
AILERON     100%  100%   GROUP  GROUP
AILERON2    100%  100%   FINE    --
AILERON3    100%  100%   TUNING CURVE
AILERON4    100%  100%        AIL-AFR
```
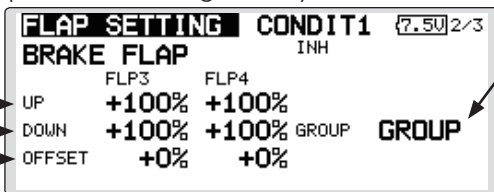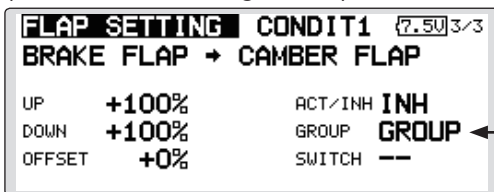
<SensorTouch™>

Scrolling
● Moving cursor
● Selecting mode
● Adjusting value

LNK
SYS
RTN
MDL
S1
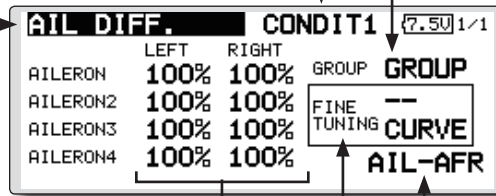
● Aileron left/right adjustment

● Calls the AFR screen directly when adjusting aileron operation AFR.

● Fine tuning VR setting

*The graph is operated by setting a VR, etc.
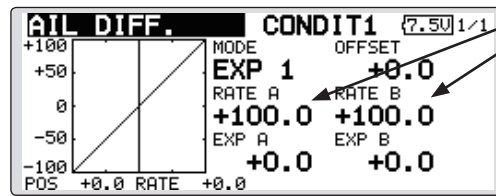
● Overall adjustment by Rate A and Rate B.

```
AIL DIFF.      CONDIT1  7.5U 1/1
+100                MODE      OFFSET
+50                 EXP 1     +0.0
  0                 RATE A    RATE B
-50                 +100.0    +100.0
                    EXP A     EXP B
-100                +0.0      +0.0
POS  +0.0 RATE  +0.0
```

<Wing type: 4 ailerons screen>

*The display screen is an example. The actual screen depends on the Model Type.

Setting method

● Move the cursor to the aileron (AIL) 1~4 left (or right) setting item and touch the RTN button to switch to the data input mode.

Adjust the aileron angles when the stick is moved to the left (or right) end.

Touch the RTN button to end adjustment and return to the cursor move mode.

*The aileron AFR screen can be directly called from the AIL differential setup screen. ([AIL-AFR])

● When setting the fine tuning VR, move the cursor to the "--" item and touch the RTN button to call the selection screen, and then select the fine tuning VR.

Touch the RTN button to end adjustment and return to the cursor move mode.

● The fine tuning rate can be set by curve.

FLAP SETTING

[Corresponding model type]: Airplane/glider, 2 flaps or more]
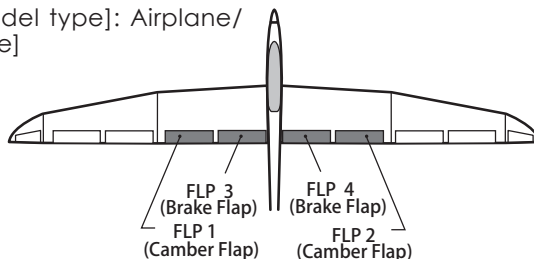
The up/down travel of each flap (camber flaps: FLP1/2, brake flaps: FLP3/4) can be adjusted independently at each servo according to the wing type.

● The operation reference point of each flap can be offset

The camber flaps of a 4-flap model can be mixed with the brake flaps. (Brake FLP to camber FLP)

● An ON/OFF switch can be set.

● Select [FLAP SETTING] at the model menu and call the setup screen shown below by touching the RTN button.

FLP 3 (Brake Flap)　FLP 4 (Brake Flap)
FLP 1 (Camber Flap)　FLP 2 (Camber Flap)

<Wing type: 4 flaps screen>

*The display screen is an example. The actual screen depends on the model type.
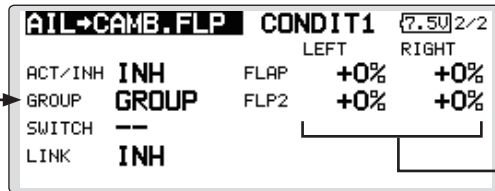
(CAMBER FLP setting screen)

● Select the function name and return to the preceding screen by touching the RTN button or pushing the Home/Exit button.

```
FLAP SETTING  CONDIT1  7.5V 1/3
CAMBER FLAP            INH
              FLAP   FLP2
UP           +100%  +100%
DOWN         +100%  +100% GROUP  GROUP
OFFSET         +0%    +0%
```

<SensorTouch™>
Scrolling
● Moving cursor
● Selecting mode
● Adjusting value

LNK
SYS   RTN   MDL
S1

● To next page

(BRAKE FLP setting screen)

```
FLAP SETTING  CONDIT1  7.5V 2/3
BRAKE FLAP            INH
              FLP3   FLP4
UP           +100%  +100%
DOWN         +100%  +100% GROUP  GROUP
OFFSET         +0%    +0%
```
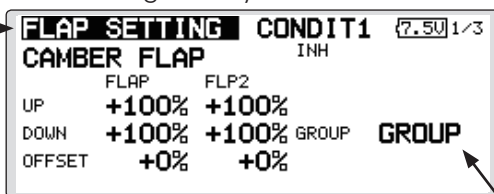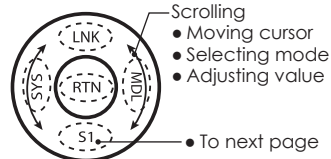
● Up side/Down side adjustment

● Operation reference point offset

● Group/single mode switching

(For more information, refer to the description at the back of this manual.)

(B.FLP to C.FLP setting screen)

```
FLAP SETTING  CONDIT1  7.5V 3/3
BRAKE FLAP → CAMBER FLAP

UP      +100%      ACT/INH INH
DOWN    +100%      GROUP   GROUP
OFFSET    +0%      SWITCH  --
```

Setting method

● Move the cursor to the flap (FLP) 1~4 up or down item according to the wing type and touch the RTN button to switch to the data input mode.

Adjust the travel independently.

● To offset the operation reference point of each flap, move the cursor to the corresponding offset item. Use the touch sensor to offset the reference point.

Touch the RTN button to end adjustment and return to the cursor move mode.

● When using brake FLP to camber FLP mixing, move the cursor to the [ACT/INH] item and turn the touch sensor to the left and touch the RTN button. (ON is displayed.)

When setting a switch, move the cursor to the [--] item of the switch and touch the RTN button to call the selection screen, and then select the switch and set its ON direction. (Always ON at "--" setting)

(For a description of the switch selection method, see the description at the back of this manual.)

AIL to CAMB.FLP

[Corresponding model type]: Airplane/ glider, 2 ailerons + 2 flaps or more

This mix operates the camber flaps (FLP1/2) in the aileron mode. When the aileron stick is manipulated, the ailerons and camber flaps perform aileron operation simultaneously and the operation characteristic of the roll axis is improved.
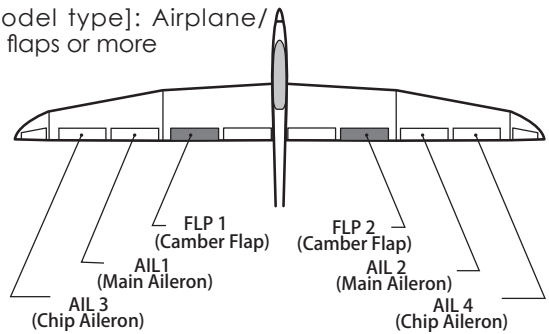
- The aileron left/right mixing rate of each flap servo can be fine-tuned.
- A mixing curve can be set.
- An ON/OFF switch can be set.
- Linking is possible: Link this mix to other mixes.

FLP 1 (Camber Flap)
FLP 2 (Camber Flap)
AIL1 (Main Aileron)
AIL 2 (Main Aileron)
AIL 3 (Chip Aileron)
AIL 4 (Chip Aileron)

*The display screen is an example. The actual screen depends on the model type.

- Select [AIL to CAMB.FLP] at the model menu and call the setup screen shown below by touching the RTN button.

(Currently selected condition name)

- Select the function name and return to the preceding screen by touching the RTN button or pushing the Home/Exit button.

```
AIL→CAMB.FLP  CONDIT1  (7.5U)1/2
+150                MODE      OFFSET    INH
+100                EXP 1     +0.0
+50                 RATE A    RATE B
  0                 +100.0    +100.0
-50                 EXP A     EXP B
-100                +0.0      +0.0
-150
POS  +0.0 RATE  +0.0
```

<SensorTouch™>

Scrolling
- Moving cursor
- Selecting mode
- Adjusting value

LNK   MDL
SYS   RTN
S1

- To next page

- Mixing curve setting
  *For a description of the curve setting method, see the description at the back of this manual.

- Left/right overall adjustment at Rate A and Rate B

- Group/single mode switching

  (For more information, refer to the description at the back of this manual.)

```
AIL→CAMB.FLP  CONDIT1  (7.5U)2/2
                    LEFT      RIGHT
ACT/INH  INH    FLAP    +0%      +0%
GROUP    GROUP  FLP2    +0%      +0%
SWITCH   --
LINK     INH
```

- Adjustment of each flap servo

Setting method

- Move the cursor to the ACT/INH item and touch the RTN button to switch to the data input mode.

  Turn the touch sensor to the left and touch the RTN button. (ON is displayed.)

- When setting a switch, move the cursor to the [--] item of the switch and touch the RTN button to call the selection screen, and then select the switch and set its ON direction. (Always ON at "--" setting)

  (For a description of the switch selection method, see the description at the back of this manual.)

- Move the cursor to the left or right item of each flap servo and touch the RTN button to

switch to the data input mode.

Adjust the mixing rate with the touch sensor.

Touch the RTN button to end adjustment and return to the cursor move mode.

*When the mixing direction is reversed by the linkage, adjustments can be made by changing the mixing rate polarity (+ or -).

- A mixing curve can be set.

  (For a description of the mixing curve setting method, see the description at the back of this manual.)

- To set linking, move the cursor to the [LINK] item and touch the RTN button to switch to the data input mode.

  Set it to ON and touch the RTN button.

AIL to BRAKEFLP

[Corresponding model type]: Airplane/ glider, 4 flaps or more

This mix operates the brake flaps (FLP3/4) in the aileron mode. When the aileron stick is manipulated, the aileron and brake flaps perform the aileron operation simultaneously and the operation characteristic of the roll axis is improved.
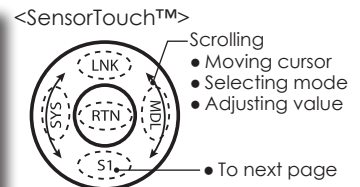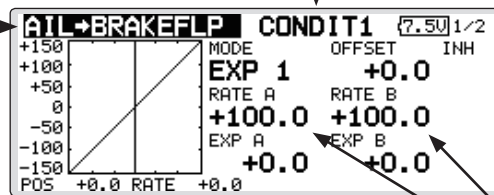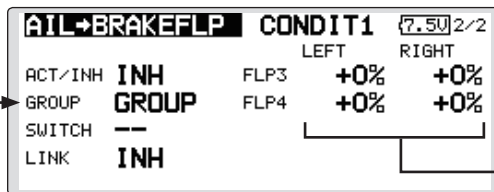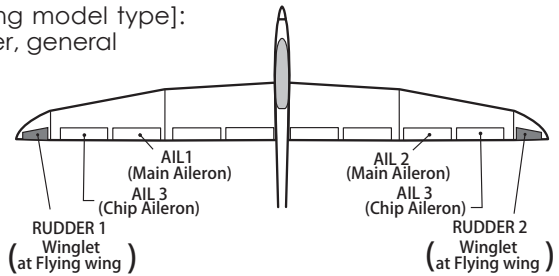
● The aileron left and right mixing rates can be adjusted for each flap servo.
● A mixing curve can be set.
● Mixing during flight can be turned ON/OFF by setting a switch. (Always ON at [--] setting)
● Linking can be set: Link this mix to other mixes.

FLP 3 (Brake Flap)   FLP 4 (Brake Flap)

AIL1 (Main Aileron)   AIL 2 (Main Aileron)

AIL 3 (Chip Aileron)   AIL 4 (Chip Aileron)
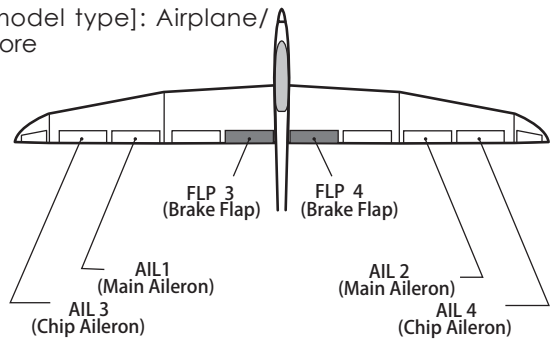
*The display screen is an example. The actual screen depends on the model type.

● Select [AIL to BRAKEFLP] at the model menu and call the setup screen shown below by touching the RTN button.

(Currently selected condition name)

● Select the function name and return to the preceding screen by touching the RTN button or pushing the Home/Exit button.

```
AIL→BRAKEFLP  CONDIT1  7.5U 1/2
+150                MODE       OFFSET    INH
+100                EXP 1      +0.0
+50                 RATE A     RATE B
0                   +100.0     +100.0
-50                 EXP A      EXP B
-100                +0.0       +0.0
-150
POS  +0.0 RATE  +0.0
```

<SensorTouch™>

Scrolling
● Moving cursor
● Selecting mode
● Adjusting value

LNK   SYS   RTN   MDL   S1

● To next page

● Group/single mode switching

(For more information, refer to the description at the back of this manual.)

● Mixing curve setting
*For a description of the curve setting method, see the description at the back of this manual.

```
AIL→BRAKEFLP  CONDIT1  7.5U 2/2
                     LEFT      RIGHT
ACT/INH  INH   FLP3  +0%       +0%
GROUP    GROUP  FLP4  +0%      +0%
SWITCH   --
LINK     INH
```

● Left/right overall adjustment at Rate A and Rate B

● Adjustment of each flap servo

●**Setting method**

● Move the cursor to the ACT/INH item and touch the RTN button to switch to the data input mode.

Turn the touch sensor to the left and touch the RTN button. (ON is displayed.)

● When setting a switch, move the cursor to the [--] item of the switch and touch the RTN button to call the selection screen, and then select the switch and set its ON direction. (Always ON at "--" setting)

(For a description of the switch selection method, see the description at the back of this manual.)

● Move the cursor to the left or right button of each flap servo and touch the RTN button to switch to the data input mode.

Adjust the mixing rate with the touch sensor.

Touch the RTN button to end adjustment and return to the cursor move mode.

*When the mixing direction is reversed by the linkage, adjustments can be made by reversing the mixing rate polarity (+ or -).

● A mixing curve can be set.

(For a description of the curve setting method, see the description at the back of this manual.)

● To set linking, move the cursor to the Link item and touch the RTN button to switch to the data input mode.

Set it to ON and touch the RTN button.

AIL to RUD

[Corresponding model type]:
Airplane/glider, general

Use this mix when you want to mix the rudders with aileron operation.
● A mixing curve can be set.
● Mixing during flight can be turned ON/OFF by setting a switch. (Always ON at [--] setting)
● The mixing rate can be fine-tuned by setting a VR.

AIL1 (Main Aileron)
AIL2 (Main Aileron)
AIL3 (Chip Aileron)
AIL3 (Chip Aileron)
RUDDER 1 (Winglet at Flying wing)
RUDDER 2 (Winglet at Flying wing)

V-TAIL
RUDDER 2
RUDDER
RUDDER

● Select [AIL to RUD] at the model menu and call the setup screen shown below by touching the RTN button.
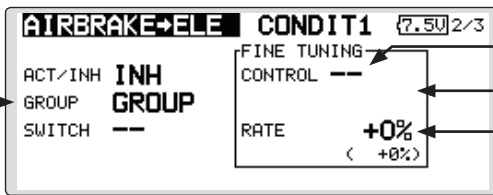
(Currently selected condition name)

● Select the function name and return to the preceding screen by touching the RTN button or pushing the Home/Exit button.

```
AIL→RUD        CONDIT1  [7.5V]1/2
+150                 MODE        OFFSET    INH
+100                 EXP 1       +0.0
+50                  RATE A      RATE B
  0                  +100.0      +100.0
-50                  EXP A       EXP B
-100                 +0.0        +0.0
-150
POS  +0.0 RATE  +0.0
```

<SensorTouch™>
Scrolling
● Moving cursor
● Selecting mode
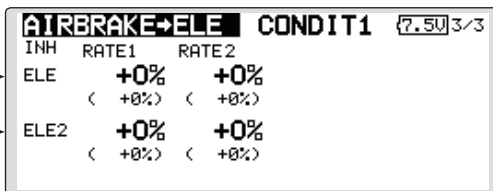● Adjusting value

LNK
SYS
RTN
MDL
S1

● To next page

● Mixing curve setting
  *For a description of the curve setting method, see the description at the back of this manual.

● Left/right overall adjustment at Rate A and Rate B

● Group/single mode switching

(For more information, refer to the description at the back of this manual.)

*The display screen is an example. The actual screen depends on the model type.

```
AIL→RUD        CONDIT1  [7.5V]2/2
                 ┌FINE TUNING─┐
ACT/INH  INH     │CONTROL  --
GROUP    GROUP   │
SWITCH   --      │RATE      +0%
                 └         ( +0%)
```

● Fine tuning VR setting
● Operation mode
● Adjustment rate

Setting method

● Move the cursor to the ACT/INH item and touch the RTN button to switch to the data input mode.

  Turn the touch sensor to the left and touch the RTN button. (ON is displayed.)

● When setting a switch, move the cursor to the [--] item of the switch and touch the RTN button to call the selection screen, and then select the switch and set its ON direction. (Always ON at "--" setting)

  (For a description of the switch selection method, see the description at the back of this manual.

● When setting a VR, move the cursor to the Fine Tuning "--" item and touch the RTN button to call the selection screen, and then select the VR. The adjustment rate can be set. The VR operation mode can also be selected.

● A mixing curve can be set.

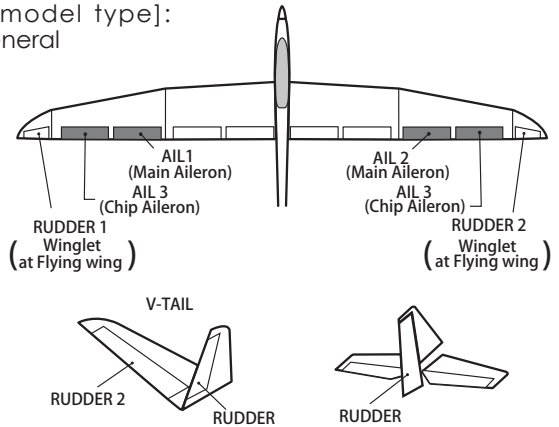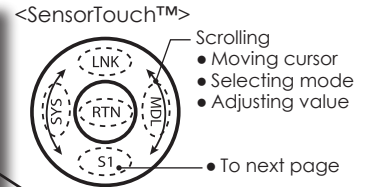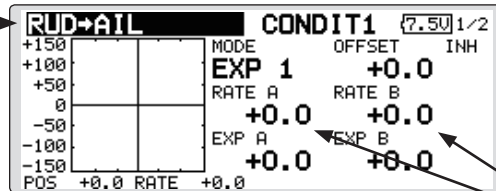 (For a description of the curve setting method, see the description at the back of this manual.)

[Fine tuning VR operation mode]

[LIN.] Mixing rate 0% at center of VR. When the VR is turned clockwise and counterclockwise, the mixing rate increases and decreases, respectively.

[ATL+] Mixing rate 0% at left end of VR. When the VR is turned, the mixing rate increases.

[ATL-] Mixing rate 0% at right end of VR. When the VR is turned, the mixing rate increases.

[SYM.] When the VR is turned to the left or right of the neutral position, the mixing rate increases.

AIRBRAKE to ELE

[Corresponding model type]:
Airplane/glider, general

This mix is used when you want to mix the elevators with airbrake (spoiler) operation. It raises the elevators to correct for dropping of the nose during airbrake operation.
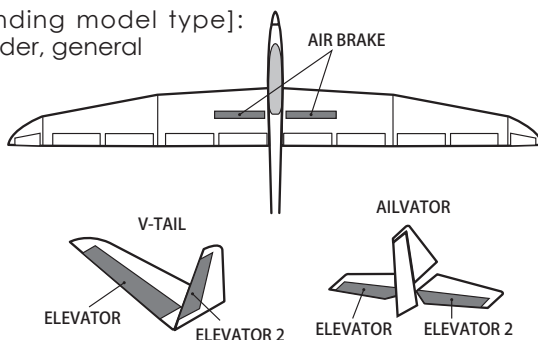
*This function does not operate when airbrake is not assigned at the Function menu in the Linkage Menu.

● The Rate 1 side/Rate 2 side mixing rate with the elevator servos can be adjusted.
● A mixing curve can be set.
● Mixing during flight can be turned ON/OFF by setting a switch. (Always ON at [--] setting)
● The mixing rate can be fine-tuned by setting a VR.

AIR BRAKE

V-TAIL
ELEVATOR
ELEVATOR 2

AILVATOR
ELEVATOR   ELEVATOR 2

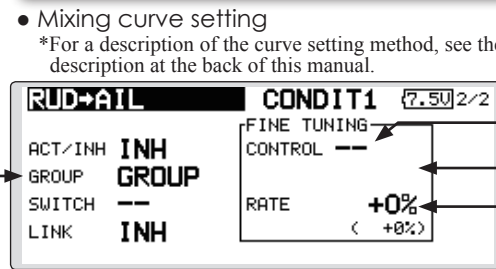*The display screen is an example. The actual screen depends on the model type.

● Select [AIRBRAKE to ELE] at the model menu and call the setup screen shown below by touching the RTN button.

(Currently selected condition name)

●Select the function name and return to the preceding screen by touching the RTN button or pushing the Home/Exit button.

```
AIRBRAKE→ELE  CONDIT1  7.5V 1/3
+150                MODE      OFFSET    INH
+100                EXP 1      +0.0
+50                 RATE A     RATE B
0                   +100.0     +100.0
-50                 EXP A      EXP B
-100                +0.0       +0.0
-150
POS  +0.0 RATE  +0.0
```

<SensorTouch™>

Scrolling
● Moving cursor
● Selecting mode
● Adjusting value

LNK   MDL
SYS   RTN
S1

● To next page

● Mixing curve setting
*For a description of the curve setting method, see the description at the back of this manual.

● Overall adjustment by Rate A and Rate B.

● Group/single mode switching

(For more information, refer to the description at the back of this manual.)

```
AIRBRAKE→ELE  CONDIT1  7.5V 2/3
              ┌FINE TUNING─┐
ACT/INH  INH  │CONTROL --  │
GROUP   GROUP │            │
SWITCH   --   │RATE    +0% │
              │      ( +0%)│
              └────────────┘
```
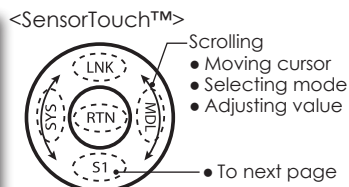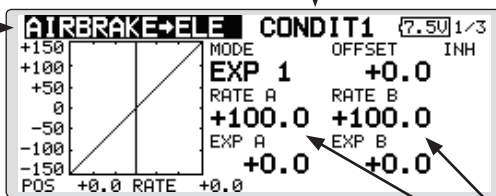
● Fine tuning VR setting
● Operation mode
● Adjustment rate

● Adjustment of each elevator servo

```
AIRBRAKE→ELE  CONDIT1  7.5V 3/3
INH   RATE1    RATE2
ELE   +0%      +0%
     ( +0%)  ( +0%)
ELE2  +0%      +0%
     ( +0%)  ( +0%)
```

Setting method

- Move the cursor to the ACT/INH item and touch the RTN button to switch to the data input mode.

  Turn the touch sensor to the left and touch the RTN button. (ON is displayed.)

- When setting a switch, move the cursor to the [--] item of the switch and touch the RTN button to call the selection screen, and then select the switch and set its ON direction. (Always ON at "--" setting)

  (For a description of the switch selection method, see the description at the back of this manual.

- When setting a VR, move the cursor to the Fine tuning "--" item and touch the RTN button to call the selection screen, and then select the VR. The adjustment rate can be set.The VR operation mode can also be set.

  (For a description of the fine tuning VR setting method, see the description at the back of this manual.)

- A mixing curve can be set.

  (For a description of the curve setting method, see the description at the back of this manual.)

[Fine tuning VR operation mode]

[LIN.] Mixing rate 0% at center of VR. When the VR is turned clockwise and counterclockwise, the mixing rate increases and decreases, respectively.

[ATL+] Mixing rate 0% at left end of VR. When the VR is turned, the mixing rate increases.

[ATL-] Mixing rate 0% at right end of VR. When the VR is turned, the mixing rate increases.

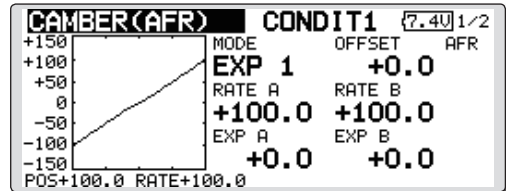[SYM.] When the VR is turned to the left or right of the neutral position, the mixing rate increases.

RUD to AIL

[Corresponding model type]:
Airplane/glider, general

This function is used when you want to mix the ailerons with rudder operation. It is used when rudder is applied during roll maneuvers, knife edge, etc. of stunt planes. It can be used to bank scale models, large models, etc. like a full size plane.

- A mixing curve can be set.
- Mixing during flight can be turned ON/OFF by setting a switch. (Always ON at [--] setting)
- Linking can be set: Link this mix to other mixes.
- The mixing rate can be fine-tune by setting a VR.

AIL1
(Main Aileron)
AIL 3
(Chip Aileron)
RUDDER 1
(Winglet
at Flying wing)

AIL 2
(Main Aileron)
AIL 3
(Chip Aileron)
RUDDER 2
(Winglet
at Flying wing)

V-TAIL

RUDDER 2
RUDDER

RUDDER

- Select [RUD to AIL] at the model menu and call the setup screen shown below by touching the RTN button.

(Currently selected condition name)

- Select the function name and return to the preceding screen by touching the RTN button or pushing the Home/Exit button.
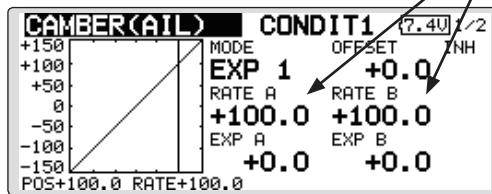
RUD→AIL   CONDIT1 7.5U 1/2
+150   MODE   OFFSET   INH
+100   EXP 1   +0.0
+50   RATE A   RATE B
0   +0.0   +0.0
-50   EXP A   EXP B
-100   +0.0   +0.0
-150
POS +0.0 RATE +0.0

<SensorTouch™>

Scrolling
- Moving cursor
- Selecting mode
- Adjusting value

LNK
SYS   RTN   MDL
S1

- To next page

- Group/single mode switching
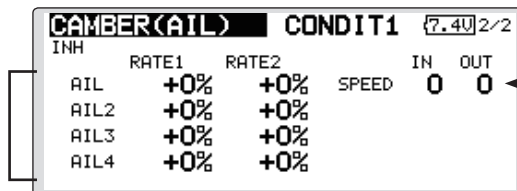
(For more information, refer to the description at the back of this manual.)

- Mixing curve setting
  *For a description of the curve setting method, see the description at the back of this manual.

- Left/right overall adjustment at Rate A and Rate B

RUD→AIL   CONDIT1 7.5U 2/2
                  FINE TUNING
ACT/INH INH   CONTROL --
GROUP   GROUP
SWITCH   --   RATE   +0%
LINK   INH   (+0%)

- Fine tuning VR setting
- Operation mode
- Adjustment rate
*The display screen is an example. The actual screen depends on the model type.

Setting method

- Move the cursor to the ACT/INH item and touch the RTN button to switch to the data input mode.

  Turn the touch sensor to the left and touch the RTN button. (ON is displayed.)

- When setting a switch, move the cursor to the [--] item of the switch and touch the RTN button to call the selection screen, and then select the switch and set its ON direction. (Always ON at "--" setting)

  (For a description of the switch selection method, see the description at the back of this manual.

- When setting a VR, move the cursor to the Fine tuning "--" item and touch the RTN button to call the selection screen and then select the VR. The adjustment rate can be set,.

  The VR operation mode can also be set.

  (For a description of the fine tuning VR setting method, see the description at the back of this manual.)

- A mixing curve can be set.

  (For a description of the curve setting method, see the description at the back of this manual.)

- When linking: move the cursor to the [LINK] item and touch the RTN button to switch to the data input mode. Turn the touch sensor to the left and touch the RTN button. (ON is displayed.)

[Fine tuning VR operation mode]

[LIN.] Mixing rate 0% at center of VR. When the VR is turned clockwise and counterclockwise, the mixing rate increases and decreases, respectively.

[ATL+] Mixing rate 0% at left end of VR. When the VR is turned, the mixing rate increases.

[ATL-] Mixing rate 0% at right end of VR. When the VR is turned, the mixing rate increases.

[SYM.] When the VR is turned to the left or right of the neutral position, the mixing rate increases.

CAMBER MIX

[Corresponding model type]: Airplane/glider, 2 ailerons or more

This function adjusts the AFR (D/R) rate of camber operation which operates the wing camber (ailerons, camber flaps, brake flaps) in the negative and positive directions. The aileron, flap, and elevator rates can also be adjusted independently by curve, and attitude changes caused by camber operation can be corrected.

*Initial setting assigns camber operation to side lever LS.
● The up/down side rates of the aileron, flap, and elevator servos can be adjusted by curve. When the mixing direction is reversed by the linkage, adjustments can be made by changing the mixing rate polarity (+ or -).

● Mixing during flight can be turned ON/OFF by setting a switch. (Always ON at [--] setting)
● A delay can be set for each condition. A cut switch which can turn OFF the delay function can be set.
● The speed of the aileron, flap, and elevator servos can be set. (IN side/OUT side)

```
CAMBER(AFR)    CONDIT1  7.4U 1/2
+150    MODE          OFFSET      AFR
+100    EXP 1          +0.0
+50     RATE A        RATE B
0       +100.0       +100.0
-50     EXP A         EXP B
-100
-150            +0.0        +0.0
POS+100.0 RATE+100.0
```

● Select [CAMBER MIX] at the model menu and call the setup screen shown below by touching the RTN button.

● Camber AFR (D/R) setup screen call

(For a description of the setting method, refer to the AFR function.)

(Currently selected condition name)

● Select the function name and return to the preceding screen by touching the RTN button or pushing the Home/Exit button.

```
CAMBER MIX    CONDIT1  7.4U 1/1
ACT/INH    INH        CAMBER AFR
GROUP      GROUP     ┌CURVE AND RATE┐
SWITCH     --         AILERON
COND.DELAY  0         FLAP
CUT-SW     --         ELEVATOR
```

<SensorTouch™>

Scrolling
● Moving cursor
● Selecting mode
● Adjusting value

LNK
SYS   RTN   MDL
S1

● To next page
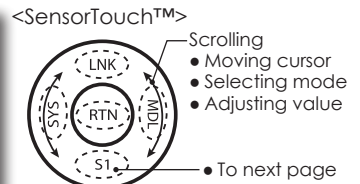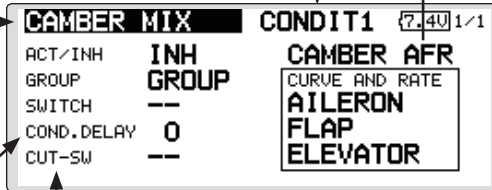
● Condition delay setting

● Condition delay cut switch

● Overall adjustment by Rate A and Rate B

(Curve/rate setting screen)

```
CAMBER(AIL)   CONDIT1  7.4U 1/2
+150    MODE          OFFSET      INH
+100    EXP 1          +0.0
+50     RATE A        RATE B
0       +100.0       +100.0
-50     EXP A         EXP B
-100
-150            +0.0        +0.0
POS+100.0 RATE+100.0
```

● Mixing curve setting
  *For a description of the curve setting method, see the description at the back of this manual.

```
CAMBER(AIL)   CONDIT1  7.4U 2/2
INH
        RATE1   RATE2        IN  OUT
AIL     +0%     +0%   SPEED   0   0
AIL2    +0%     +0%
AIL3    +0%     +0%
AIL4    +0%     +0%
```
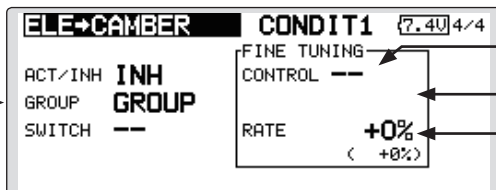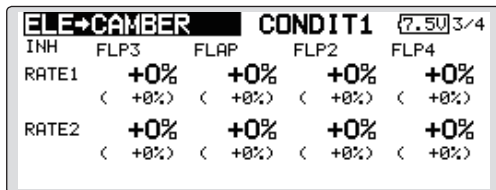
● Aileron rate adjustment

● Servo speed setting

(For a description of the setting method, see the description at the back of this manual.)

*The display screen is an example. The actual screen depends on the model type.

Setting method

● Move the cursor to the ACT/INH item and touch the RTN button to switch to the data input mode.

Turn the touch sensor to the left and touch the RTN button. (ON is displayed.)

● When setting a switch, move the cursor to the [--] item of the switch and touch the RTN button to call the selection screen, and then select the switch and set its ON direction. (Always ON at "--" setting)

(For a description of the switch selection method, see the description at the back of this manual.)

● When setting a condition delay, move the cursor to the [COND.DELAY] item and touch the RTN button to switch to the data input mode.

Set the delay with the touch sensor.

Touch the RTN button to end adjustment and return to the cursor move mode.

When setting a cut switch, move the cursor to [CUT-SW] item and touch the RTN button to call the selection screen, and then select the switch and set its ON direction. (Always ON at [--] setting)

(For a description of the condition delay function, see the description at the back of this manual.)

● Camber AFR(D/R) screen call

Move the cursor to the Camber AFR item and touch the RTN button to call the setup screen. (For a description of the setup method, see the description at the back of this manual.)

(Curve/rate setup screen)

● The curve and rate are adjusted by calling the aileron, flap, and elevator curve/rate screens.

The rate and curve of each servo can be set by calling each screen. (For a description of the curve setting method, see the description at the back of this manual.)

The servo speed can also be adjusted.

FLP 3 (Brake Flap)　FLP 4 (Brake Flap)
FLP 1 (Camber Flap)　FLP 2 (Camber Flap)
AIL1 (Main Aileron)　AIL 2 (Main Aileron)
AIL 3 (Chip Aileron)　AIL 4 (Chip Aileron)

V-TAIL
ELEVATOR
ELEVATOR 2

AILVATOR
ELEVATOR
ELEVATOR 2
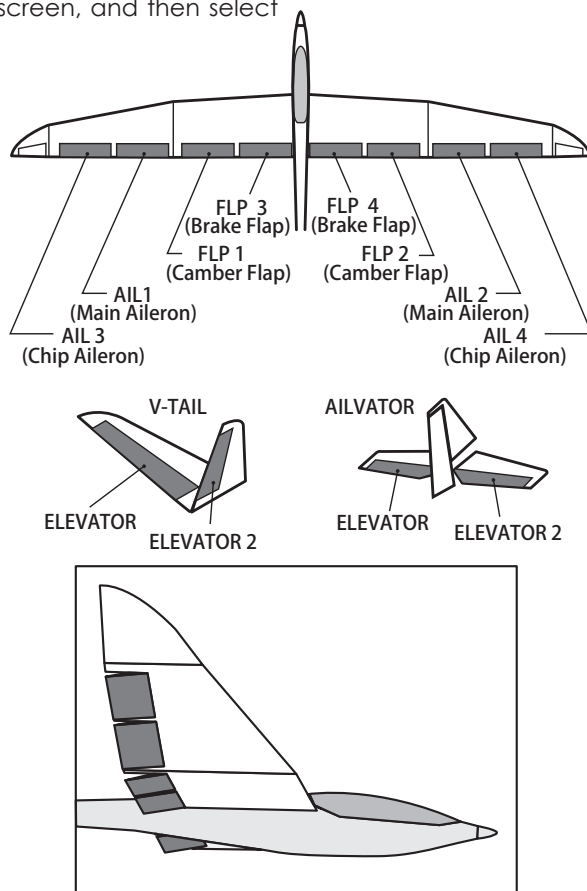
ELE to CAMBER

[Corresponding model type]: Airplane/glider, 2 ailerons or more

This function is used when you want to mix the camber flaps with elevator operation. When used, the flaps are lowered by up elevator, and lift can be increased.

Note: Tailless wing elevator can be operated when this mix is activated.

- A mixing curve can be set.
- Mixing during flight can be turned ON/OFF by setting a switch. (Always ON at [--] setting)
- The mixing rate can be fine-tuned by setting a VR.

- Select [ELE to CAMBER] at the model menu and call the setup screen shown below by touching the RTN button.

(Currently selected condition name)

• Select the function name and return to the preceding screen by touching the RTN button or pushing the Home/Exit button.

• Mixing curve setting
  *For a description of the curve setting method, see the description at the back of this manual.

<SensorTouch™>

Scrolling
- Moving cursor
- Selecting mode
- Adjusting value

• To next page
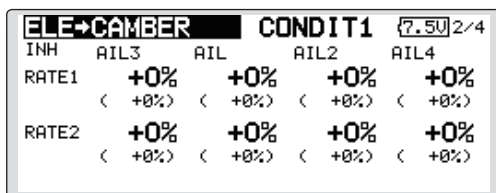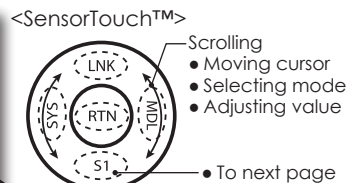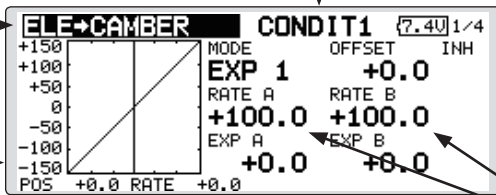
• Overall adjustment by Rate A and Rate B.

• Ailerons and flaps rate adjustment
1. Select the rate box and touch the RTN button to switch to the data input mode.
2. Adjust the rates by scrolling the touch sensor.
3. Touch the RTN button to end adjustment and return to the cursor move mode.

  *The display screen is an example. The actual screen depends on the model type.

• Group/single mode switching

(For more information, refer to the description at the back of this manual.)

• Fine tuning VR setting

• Operation mode

• Adjustment rate

Setting method

- Move the cursor to the ACT/INH item and touch the RTN button to switch to the data input mode.

  Turn the touch sensor to the left and touch the RTN button. (ON is displayed.)

- When setting a switch, move the cursor to the [--] item of the switch and touch the RTN button to call the selection screen, and then select the switch and set its ON direction. (Always ON at "--" setting)

  (For a description of the switch selection method, see the description at the back of this manual.)

- When setting a VR, move the cursor to the Fine tuning "--" item and touch the RTN button to call the selection screen, and then select the VR. The adjustment rate can be set.

  The VR operation mode can also be selected.

- A mixing curve can also be set.

  (For a description of the curve setting method, see the description at the back of this manual.)
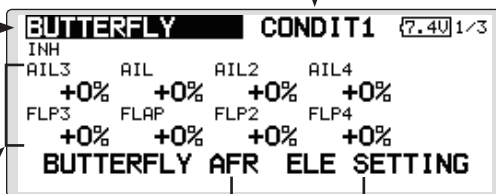
CAMB.FLP to ELE

[Corresponding model type]: Airplane/glider, 2 ailerons + 1 flap or more

This mixing is used to correct changes (elevator direction) generated when the camber flaps (speed flaps) are used.
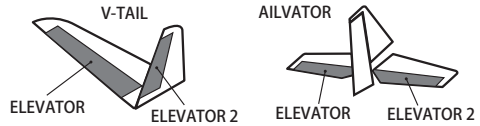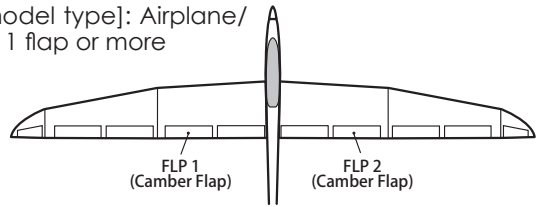
- The elevator servos up side/down side rate can be adjusted. When the mixing direction is reversed by the linkage, adjustments can be made by changing the mixing rate polarity (+ or –).
- A mixing curve can be set.
- Mixing during flight can be turned ON/OFF by setting a switch. (Always ON at [--] setting)
- The mixing rate can be fine-tuned by setting a VR.

FLP 1 (Camber Flap) **FLP 2 (Camber Flap)**

V-TAIL **AILVATOR**

ELEVATOR **ELEVATOR 2** **ELEVATOR** **ELEVATOR 2**

- Select [CAMB.FLP to ELE] at the model menu and call the setup screen shown below by touching the RTN button.

(Currently selected condition name)

- Select the function name and return to the preceding screen by touching the RTN button or pushing the Home/Exit button.

```
CAMB.FLP→ELE  CONDIT1  7.4V 1/3
+150                MODE        OFFSET    INH
+100                EXP 1       +0.0
+50                 RATE A      RATE B
 0                  +100.0      +100.0
-50                 EXP A       EXP B
-100                +0.0        +0.0
-150
POS+100.0 RATE+100.0
```

<SensorTouch™>

Scrolling
- Moving cursor
- Selecting mode
- Adjusting value

LNK / SYS / RTN / MDL / S1

- To next page

- Group/single mode switching

(For more information, refer to the description at the back of this manual.)

- Mixing curve setting

*For a description of the curve setting method, see the description at the back of this manual.

- Overall adjustment by Rate A and Rate B.

```
CAMB.FLP→ELE  CONDIT1  7.4V 2/3
                    ┌FINE TUNING┐
ACT/INH  INH        CONTROL  --
GROUP    GROUP
SWITCH   --         RATE     +0%
                          ( +0%)
```
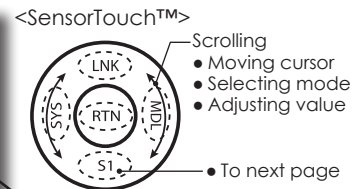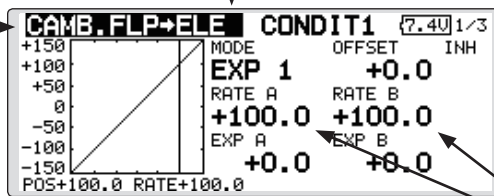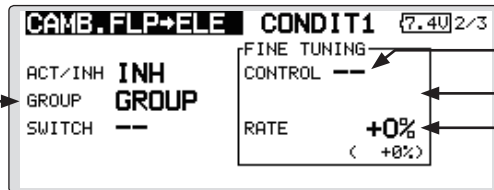
- Fine tuning VR setting
- Operation mode
- Adjustment rate

- Elevator rate adjustment
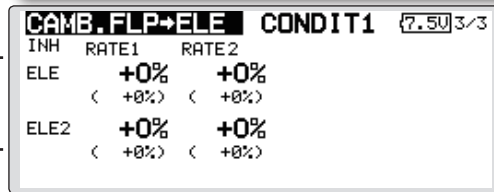
```
CAMB.FLP→ELE  CONDIT1  7.5V 3/3
INH   RATE1    RATE2
ELE   +0%      +0%
      ( +0%)   ( +0%)
ELE2  +0%      +0%
      ( +0%)   ( +0%)
```

*The display screen is an example. The actual screen depends on the model type.

Setting method

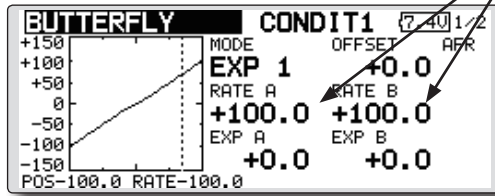- Move the cursor to the ACT/INH item and touch the RTN button to switch to the data input mode.

  Turn the touch sensor to the left and touch the RTN button. (ON is displayed.)

- When setting a switch, move the cursor to the [--] item of the switch and touch the RTN button to call the selection screen, and then select the switch and set its ON direction. (Always ON at "--" setting)

  (For a description of the switch selection method, see the description at the back of this manual.

- Move the cursor to the elevator servos left and right item and touch the RTN button to switch to the data input mode. Adjust the mixing rate with the touch sensor.

  Touch the RTN button to end adjustment and return to the cursor move mode.

  *When the mixing direction is reversed by the linkage, adjustments can be made by changing the mixing rate polarity (+ or –).

- When setting a VR, move the cursor to the Fine tuning "--" item and touch the RTN button to call the selection screen, and then select the VR. The VR operation mode can be selected.
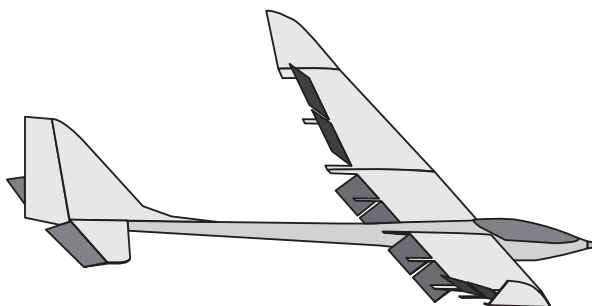
- A mixing curve can be set.

  (For a description of the curve setting method, see the description at the back of this manual.)

< **Model Menu (Airplane/Glider Functions)** > **135**

BUTTERFLY

[Corresponding model type]: Glider, 2 ailerons or more

This function allows powerful brake operation by simultaneously raising the left and right ailerons and lowering the flaps (camber flap, brake flap).

This setting will allow the ailerons to be raised while the flaps are simultaneously lowered. Butterfly (crow) produces an extremely efficient landing configuration by accomplishing the following:

1. Slow the aircraft's velocity.
2. Provide washout at the wing tips to reduce the tendency to tip stall.
3. Create more lift toward the center of the wing allowing it to fly at a slower speed

- Select [BUTTERFLY] at the model menu and call the setup screen shown below by touching the RTN button.

- Mixing during flight can be turned ON/OFF by setting a switch. (Always ON at [--] setting)
- The butterfly operation reference point can be offset. When the RTN button is touched with the offset item selected when operated to the position to be changed, the reference point is offset. If the reference point is offset too much, unexpected operation may be performed.
- The ailerons and flaps operation speed can be adjusted. (IN side/OUT side)
- A delay can be set for each condition. A cut switch which can turn OFF the delay function can also be set.
- The differential rate can be adjusted.

*When servo binding occurs when setting the ailerons and flaps in butterfly mixing, use the AFR function to adjust the rudder angle.

*The display screen is an example. The actual screen depends on the model type.

(Currently selected condition name)

• Select the function name and return to the preceding screen by touching the RTN button or pushing the Home/Exit button.

<SensorTouch™>

Scrolling
● Moving cursor
● Adjusting value

● To next page

● Select the Mixing Rate AIL and FLP box and touch the RTN button to switch to the data input mode. Adjust the mixing rates.

Touch the RTN button to end adjustment and return to the cursor move mode.
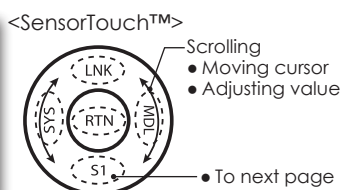
• To elevator correction setup screen

● Calls the Butterfly AFR (D/R) setup screen

(For a description of the setting method, see the description at the back of this manual.)

● When using this function, move the cursor to the [ACT/INH] item and touch the RTN button to switch to the data input mode. Turn the touch sensor to the left and touch the RTN button. (ON is displayed.)

● Group/single mode switching

(For more information, see the description at the back of this manual.)

● When setting a switch, select the SWITCH [--] box and touch the RTN button to switch to the data input mode. Press the EDIT button to call the selection screen, and then select the switch and set its ON direction.

● Aileron and flap servos speed setting

(For a description of the setting method, see the description at the back of this manual.)

● When offsetting the butterfly operation reference point, operate to the point you want to change and then press the EDIT button for 1 second. "INITIALIZE ELEVATOR CURVE?" is displayed. Please choose whether to initialize by YES, or not to initialize by NO.
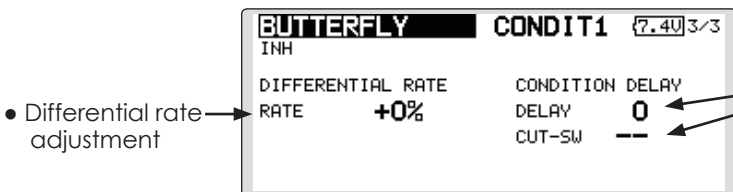
● Differential rate adjustment

● Condition delay setting and cut switch setting

(For a description of the setting method, see the description at the back of this manual.)

(Elevator correction rate setup screen)

● Overall adjustment by
   Rate A and Rate B

```
BUTTERFLY       CONDIT1  7.4V 1/2
+150        MODE        OFFSET    AFR
+100        EXP 1        +0.0
 +50        RATE A      RATE B
   0        +100.0 +100.0
 -50        EXP A        EXP B
-100
-150         +0.0     +0.0
POS-100.0 RATE-100.0
```

● Mixing curve setting
   *For a description of the curve setting method, see the
   description at the back of this manual.

```
BUTTERFLY       CONDIT1  7.5V 2/2
INH
         RATE1   RATE2            IN  OUT
  ELE    +0%     +0%     SPEED   0   0
  ELE2   +0%     +0%
```

● Elevator rate
   adjustment

● Servo speed setting
   (For a description of the setting
   method, see the description at
   the back of this manual.)

FLP 3
(Brake Flap)

FLP 4
(Brake Flap)

FLP 1
(Camber Flap)

FLP 2
(Camber Flap)

AIL1
(Main Aileron)

AIL 2
(Main Aileron)

AIL 3
(Chip Aileron)

AIL 4
(Chip Aileron)

V-TAIL

AILVATOR
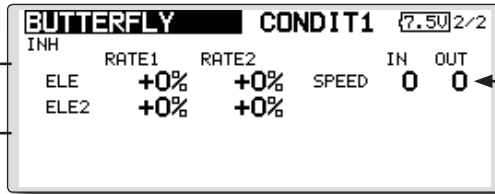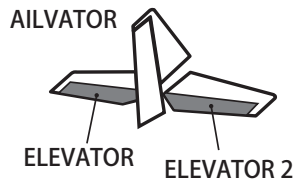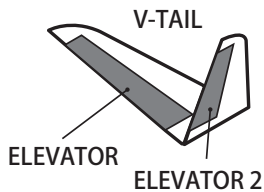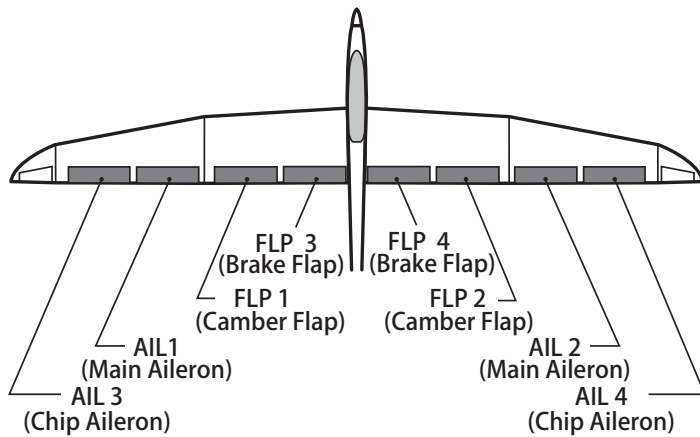
ELEVATOR

ELEVATOR 2

ELEVATOR

ELEVATOR 2

TRIM MIX 1/2

These functions call the ailerons, elevators, and flaps (camber flaps, brake flaps) trim offset rates preset according to the flight state.

The amount of ailerons, elevator, and flaps (camber flap, brake flap) trim offset can be set to a switch.

As an example **Trim Mix 1** can be set up for launching, with speed flaps and ailerons dropped, and a slight amount of up elevator. **Trim mix 2** can be used for high speed flying, with both ailerons and speed flaps reflexed slightly, and a bit of down elevator.

The trim functions can be activated during flight by setting a switch. To prevent sudden trim changes when switching flight conditions, a delay can be set to provide a smooth transition between the two. Trim Mix 2 will have priority over Trim Mix 1.

Example

1. Move to the ACT/INH item and touch the RTN button to switch to the data input mode. Set the trim mix function to [ON].
 *When separating the settings for each condition, move to the [GROUP] item and set it to [Single].
2. Select the ON/OFF switch.
3. Select the [Manual] or [Auto] mode.
   In the [Auto] mode, also select an auto SW. This switch can be linked to a stick, etc.
<Speed>
   In: The operation speed at switch ON can be set.
   Out: The return speed at switch OFF can be set.
<Fine Tuning>
   The offset rate can be varied in the Fine Tuning numeric range set at screen [5/5] by VR, etc. selection.
<Condition Delay>
   When flight conditions are set, the operation speed can be set for each condition. Condition delay operation can be interrupted and each rudder quickly returned to its original position by selecting a cut switch.

*The display screen is an example. The actual screen depends on the model type.

● Select [TRIM MIX1 or 2] at the model menu and call the setup screen shown below by touching the RTN button.

(Currently selected condition name)

● Select the function name and return to the preceding screen by touching the RTN button or pushing the Home/Exit button.

<SensorTouch™>
Scrolling
● Moving cursor
● Adjusting value

● To next page

● The ailerons, flaps, and elevators offset rate can be adjusted.

Move the cursor to the corresponding setting item and touch the RTN button to switch to the data input mode. Adjust the rate with the touch sensor.

Touch the RTN button to end adjustment and return to the cursor move mode.

● When a fine tuning VR is set on the next page, the ailerons flaps and elevators trim rates can be adjusted.

Move the cursor to the corresponding setting item and touch the RTN button to switch to the data input mode. adjust the rate with the touch sensor.
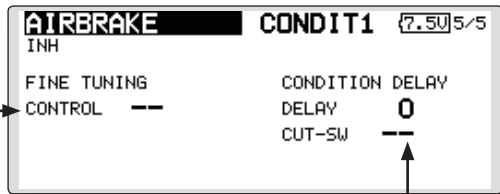
Touch the RTN button to end adjustment and return to the cursor move mode.

● When using this function, move the cursor to the [ACT/INH] item and touch the RTN button to switch to the data input mode. Turn the touch sensor to the left and touch the RTN button. (ON is displayed.)

● Group/single mode switching

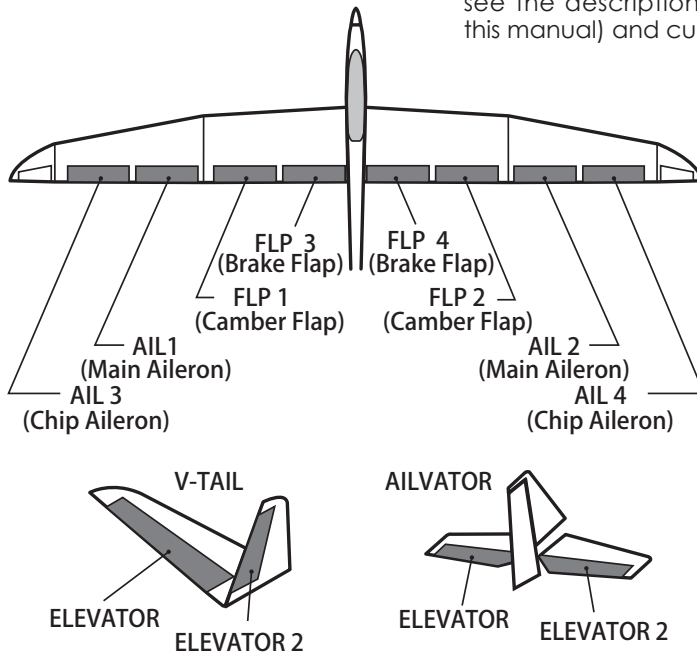(For more information, see the description at the back of this manual.)

●Manual/Auto mode selection
Manual: Switches the function ON/OFF by switch
Auto: Trim mix function call can be linked to a stick, etc. A stick switch, etc. separate from the function ON/OFF switch is set.

```
TRIM MIX 1     CONDIT1   7.4V 4/5
ACT/INH   INH        SPEED   IN   OUT
GROUP   GROUP        AIL     0    0
SWITCH    --         FLAP    0    0
MODE    MANUAL       ELE     0    0
```

● Ailerons, flaps, an elevators servo speed setting

(For a description of the setting method, see the description at the back of this manual.)

● When using a fine tuning VR, move the cursor to this item and touch the RTN button to call the selection screen.

Select the VR and touch the RTN button.

```
TRIM MIX 1     CONDIT1   7.5V 5/5
INH

FINE TUNING          CONDITION DELAY
CONTROL   --         DELAY     0
                     CUT-SW   --
```

● Condition delay setting (for a description of the setting method, see the description at the back of this manual) and cut switch setting.

FLP 3
(Brake Flap)
FLP 4
(Brake Flap)
FLP 1
(Camber Flap)
FLP 2
(Camber Flap)
AIL1
(Main Aileron)
AIL 2
(Main Aileron)
AIL 3
(Chip Aileron)
AIL 4
(Chip Aileron)

V-TAIL
AILVATOR
ELEVATOR
ELEVATOR 2
ELEVATOR
ELEVATOR 2
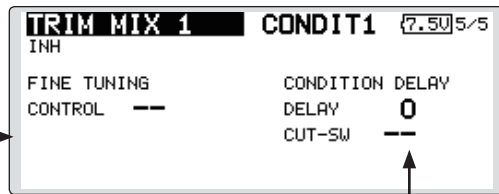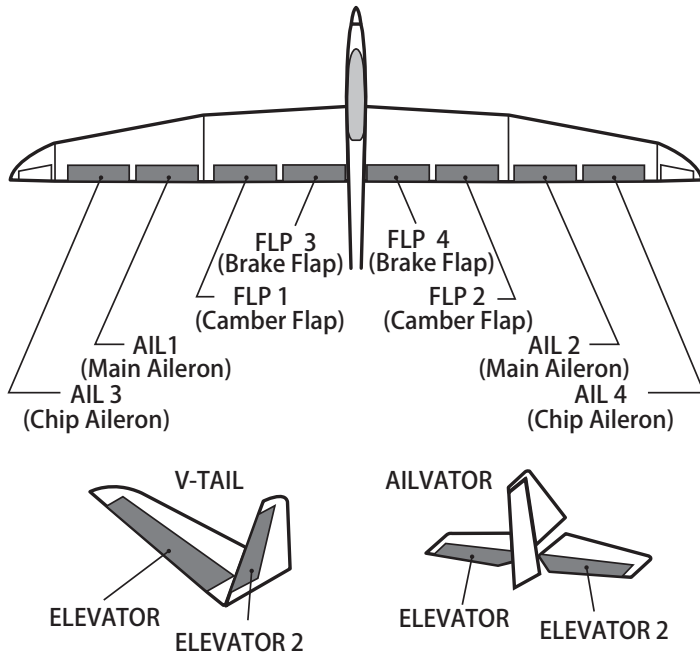
AIRBRAKE

[Corresponding model type]: Airplane, general

This function is used when an air brake is necessary when landing or diving, etc.

The preset elevators and flaps (camber flap, brake flap) offset amount can be activated by a switch.

The offset amount of the aileron, elevator, and flap servos can be adjusted as needed. Also the speed of the aileron, elevator, and flap servos can be adjusted. (IN side/OUT side) A delay can be set for each condition, and a Cut switch which will turn OFF the delay can be chosen. Trim amounts can be fine-tuned by setting a VR You can also set the Auto Mode, which will link Airbrake to a stick, switch, or dial. A separate stick switch or dial can also be set as the ON/OFF switch.

Setting example for F3A and other flaperon specifications

(When 2 ailerons model type selected)

Offset rate:
  AIL: [-35~-45%], AIL2: [-35~-45%], ELE: [+5~7%]
  Note: The input numerics are examples. Adjust the travel to match the aircraft.

Mode setting:
  ACT: [ON]
  Group: [Single]
  Switch: [SW-C]
  Mode: [Manual]
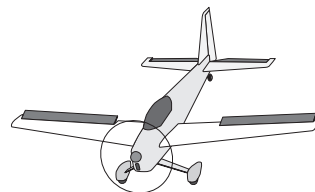
---

*The display screen is an example. The actual screen depends on the model type.

● Select [AIRBRAKE] at the model menu and call the setup screen shown below by touching the RTN button.

(Currently selected condition name)

● Select the function name and return to the preceding screen by touching the RTN button or pushing the Home/Exit button.

<SensorTouch™>

Scrolling
● Moving cursor
● Adjusting value

● To next page

● The ailerons, flaps, and elevators offset rate can be adjusted.

Move the cursor to the corresponding setting item and touch the RTN button to switch to the data input mode. Adjust the rate with the touch sensor.

Touch the RTN button to end adjustment and return to the cursor move mode.

● When a fine tuning VR is set on the next page, the ailerons', flaps', and elevators' trim rates can be adjusted.

Move the cursor to the corresponding setting item and touch the RTN button to switch to the data input mode. Adjust the rate with the touch sensor.

Touch the RTN button to end adjustment and return to the cursor move mode.

- When using this function, move the cursor to the [ACT/INH] item and turn the touch sensor to the left and touch the RTN button. (ON is displayed.)

- Group/single mode switching
  (For more information, see the description at the back of this manual.)

```
AIRBRAKE      CONDIT1  7.4V 4/5
ACT/INH  INH        SPEED  IN   OUT
GROUP    GROUP      AIL     0    0
SWITCH   --         FLAP    0    0
MODE     MANUAL     ELE     0    0
```

- Manual/Auto mode selection
  Manual: Switches the function ON/OFF by switch
  Auto: Trim mix function call can be linked to a stick, etc. A stick switch, etc. separate from the function ON/OFF switch is set.

- Ailerons, flaps, an elevators servo speed setting
  (For a description of the setting method, see the description at the back of this manual.)

```
AIRBRAKE      CONDIT1  7.5V 5/5
INH
FINE TUNING         CONDITION DELAY
CONTROL  --         DELAY    0
                    CUT-SW  --
```

- When using a fine tuning VR, move the cursor to this setting item and press the EDIT button to call the selection screen.

  Select the VR and touch the RTN button.

- Condition delay setting (for a description of the setting method, see the description at the back of this manual) and cut switch setting.

FLP 3 (Brake Flap)
FLP 4 (Brake Flap)
FLP 1 (Camber Flap)
FLP 2 (Camber Flap)
AIL1 (Main Aileron)
AIL 2 (Main Aileron)
AIL 3 (Chip Aileron)
AIL 4 (Chip Aileron)

V-TAIL
ELEVATOR
ELEVATOR 2

AILVATOR
ELEVATOR
ELEVATOR 2

GYRO

[Corresponding model type]: Airplane/glider, general

This function is used when a GYA Series gyro is used to stabilize the aircraft's attitude. The sensitivity and operation mode (Normal mode/GY mode) can be switched with a switch.

● Three rates (Rate 1/Rate 2/Rate 3) can be switched.

● Up to 3 axes (Gyro/Gyro 2/Gyro 3) can be simultaneously controlled.

*Initial setting does not assign a sensitivity channel. Use the Function menu of the Linkage Menu to assign the sensitivity channel (Gyro/Gyro2/Gyro3) used to a vacant channel beforehand.

Set [Control] and [Trim] other than Function to [--].

● Select [GYRO] at the model menu and call the setup screen shown below by touching the RTN button.

(Currently selected condition name)

● Select the function name and return to the preceding screen by touching the RTN button or pushing the Home/Exit button.

<SensorTouch™>

Scrolling
● Moving cursor
● Selecting mode
● Adjusting value

● To next page
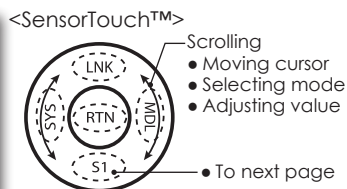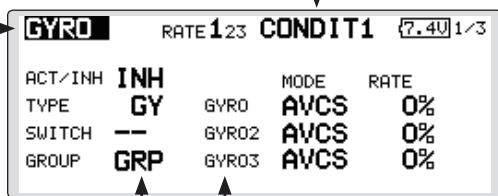
● Group/single mode switching

(For more information, see the description at the back of this manual.)

● The operation mode (AVCS/NOR) and sensitivity of the 3 axis controlled by Gyro/Gyro2/Gyro3 can be set.

● Three rates (Rate 1/Rate 2/Rate 3) can be used.

Move the cursor to the [RATE] item and touch the RTN button to switch to the data input mode. Adjust the rate by scrolling the touch sensor.

● When using this function, move the cursor to the [ACT] item and touch the RTN button to switch to the data input mode. Turn the touch sensor to the left and touch the RTN button.

● When a Futaba GYA gyro is used, when [GY] type is selected, the sensitivity set value is directly read in both the AVCS and NORM modes.

● When setting a switch, move the cursor to the SWITCH item and press the EDIT button to call the selection screen, and then select the switch and set its ON direction.

(For a description of the switch selection method, see the description at the end of this manual.)

(Example) Setting three axis using a GYA430 and GYA431 (2)

● Wing type: Aileron 2 servos mounted fuselage selected
● Set **5CH → GYRO** (GYA431AIL), **7CH → GYRO2** (GYA431ELE), **8CH → GYRO3** (GYA430RUD), **Control and Trim → NULL** : at the Function menu of the Linkage menu.
● GYRO setting of the Model menu.

Rate	ACT	Type	Switch	GYRO	GYRO 2	GYRO 3
1	OFF/ON	GY	SE	AVCS : 60%	AVCS : 60%	AVCS : 60%
2	INH					
3	ON/OFF	GY	SE	NORM : 60%	NORM : 60%	NORM : 60%

*Set so that Rate 1 is turned on at the back position of switch E and Rate 3 is turned ON at the front position. Since switch E is turned OFF at the center, Rate 2 remains [INH].

AVCS

GAIN 0%

NORMAL

When AVCS is used we recommend that the sensitivity CH be set to the 3-position.

FMR-01

S.BUS2 port

GYA431

GYA431

GYA430

Aileron servo

Elevator servo
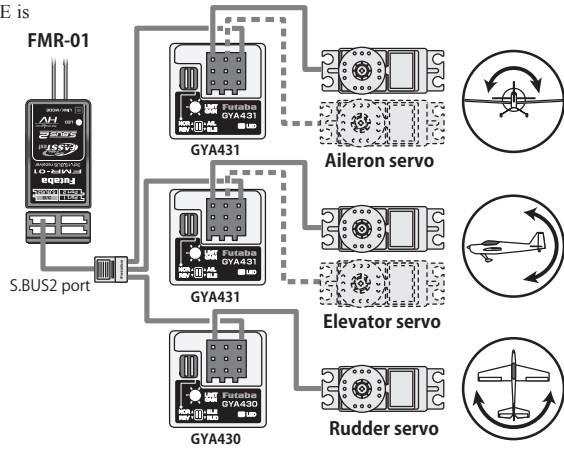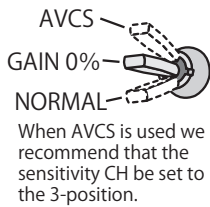
Rudder servo

V-TAIL

[Corresponding model type]: Airplane/glider, V-tail

This function let's you adjust for left and right rudder angle changes at elevator and rudder operation of a V-tail airplane.

V-tail is when 2 servos are used together to control rudder movement as elevators. In addition to each rudder side moving up and down together, each side moves in opposite directions when moving as elevators. On a V-tail, this is also known as a ruddervator, as they can serve the same purpose.

ELEVATOR
(RUDDER 2)

RUDDER
(ELEVATOR 2)
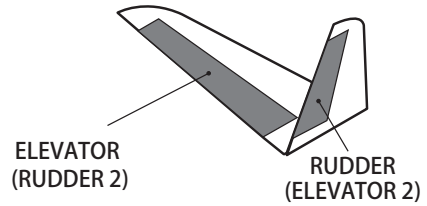
● Select [V-TAIL] at the model menu and call the setup screen shown below by touching the RTN button.

● Group/single mode switching
(For more information, see the description at the back of this manual.)

(Currently selected condition name)

●Select the function name and return to the preceding screen by touching the RTN button or pushing the Home/Exit button.

V-TAIL		CONDIT1	7.4V 1/1
GROUP	**GROUP**		
FUNCTION	ELEVATOR		RUDDER
	DOWN	UP	LEFT	RIGHT
ELE (RUD2)	+50%	+50%	+50%	+50%
RUD (ELE2)	+50%	+50%	+50%	+50%

<SensorTouch™>

LNK SYS RTN MDL S1

Scrolling
● Moving cursor
● Selecting mode
● Adjusting value

(Elevator function)
Up and down travel adjustment at CH1 and CH2 elevator operation

(Rudder function)
Left and right travel adjustment at CH1 and CH2 rudder operation

● Travel adjustment
Move the cursor to the item you want to adjust and touch the RTN button to switch to the data input mode.

Adjust the rate by scrolling the touch sensor.

Touch the RTN button to end adjustment and return to the cursor move mode.

*If the mixing direction is reversed by the linkage, adjustments can be made by changing the mixing rate polarity (+ or -).

*If a large value of travel is specified, when the sticks are moved at the same time, the controls may bind or run out of travel. Decrease the travel until no binding occurs.

AILEVATOR

[Corresponding model type]: Airplane/glider, V-Tail
(Effective only when 2 servos used at the elevators)

This function improves the operating performance of the roll axis by operating the elevators as ailerons.

Ailevator is where each elevator in a standard (conventional) or v-tail moves independently, like ailerons on a wing. In addition to each elevator side moving up and down together, each side moves in opposite directions when moving as an ailevator. On a V-tail, this is also known as a ruddervator, as they can serve the same purpose. Typically, both ailevator and ailerons are coupled together to maximize roll performance, especially on larger wingspan planes.

ELEVATOR
(AILERON 5)

ELEVATOR 2
(AILERON 6)
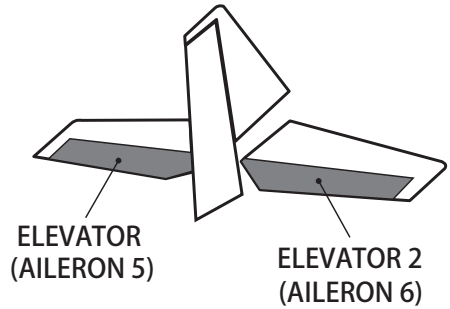
Note: Select ailevator as the Model type at the Model type screen. This changes the output channel. Check the Function menu.

● Group/single mode switching
(For more information, see the description at the back of this manual.)

● Select [AILEVATOR] at the model menu and call the setup screen shown below by touching the RTN button.

(Currently selected condition name)

● Select the function name and return to the preceding screen by touching the RTN button or pushing the Home/Exit button.

```
AILEVATOR    CONDIT1  7.4V 1/1
GROUP      GROUP
FUNCTION   ELEVATOR       AILERON
           DOWN   UP      LEFT   RIGHT
ELE (AIL5) +100%+100%     +0%    +0%
ELE2(AIL6) +100%+100%     +0%    +0%
```
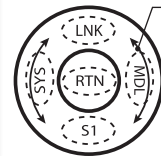
<SensorTouch™>

Scrolling
● Moving cursor
● Selecting mode
● Adjusting value

(Elevator function)

● The up and down rate of the left and right elevators when the elevator stick is manipulated can be individually adjusted.

(Aileron function)

● When the elevators are used as ailerons, aileron travel of the left and right elevators can be adjusted.

● Travel adjustment

Move the cursor to the item you want to adjust and touch the RTN button to switch to the data input mode.

Adjust the rate by scrolling the touch sensor.

Touch the RTN button to end adjustment and return to the cursor move mode.

*If the mixing direction is reversed by the linkage, adjustments can be made by changing the mixing rate polarity (+ or -).

*If a large value of travel is specified, when the sticks are moved at the same time, the controls may bind or run out of travel. Decrease the travel until no binding occurs.
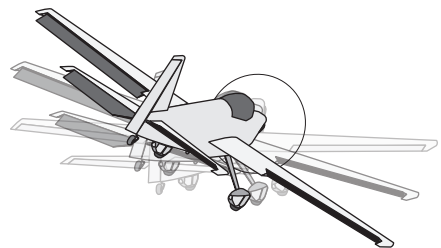
WINGLET

[Corresponding model type]: Airplane/glider, winglet

This function adjusts the left and right rudder angles of airplanes with winglets.

Winglets are used to improve the efficiency of aircraft lowering the lift-induced drag caused by wingtip vortices. The winglet is a vertical or angled extension at the tips of each wing.

Winglets work by increasing the effective aspect ratio wing without adding greatly to the structural stress and hence necessary weight of its structure - an extension of wing span would also permit lowering of induced drag, though it would cause parasitic drag and would require boosting the strength of the wing and hence its weight - there would come a point at which no overall useful saving would be made. A winglet helps to solve this by effectively increasing the aspect ratio without adding to the span of the wing.

RUDDER 1
(Winglet
at Flying wing)

RUDDER 2
(Winglet
at Flying wing)
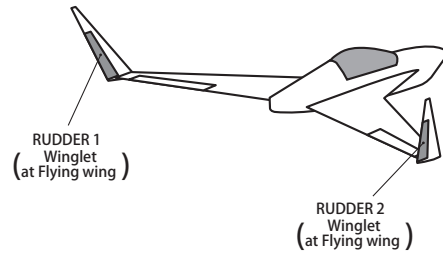
● Select [WINGLET] at the model menu and call the setup screen shown below by touching the RTN button.

● Group/single mode switching
(For more information, see the description at the back of this manual.)

(Currently selected condition name)

● Select the function name and return to the preceding screen by touching the RTN button or pushing the Home/Exit button.

```
WINGLET        CONDIT1   7.4U 1/1
GROUP     GROUP
FUNCTION  RUDDER
          LEFT    RIGHT
RUDDER    +100%  +100%
RUDDER2   +100%  +100%
```

<SensorTouch™>

Scrolling
● Moving cursor
● Selecting mode
● Adjusting value

(Rudder 1/2)

● The travel at rudder stick left and right operation can be individually set.

● Travel adjustment

Move the cursor to the item you want to adjust and touch the RTN button to switch to the data input mode.

Adjust the rate by scrolling the touch sensor.

Touch the RTN button to end adjustment and return to the cursor move mode.

*If the mixing direction is reversed by the linkage, adjustments can be made by changing the mixing rate polarity (+ or -).

MOTOR

[Corresponding model type]: EP glider, general

This function lets you set the operation speed when the motor of a F5B or other EP glider is started by switch. The operation speed can be set in 2 ranges of slow speed flight and high speed flight (Speed 1/Speed 2). This function can also be operated as a safety function by setting 2 switches.

● The in side and out side operating speeds can be adjusted independently in 2 ranges (Speed 1/Speed 2).
● The boundary between the 2 ranges can be set. (From speed 1 to speed 2)
● The set operation speed operation can be activated at initial operation only. (1 time operation) However, operation can be repeated by setting the switch to OFF before operation is finished. When you want to reset 1 time operation, set the ACT/INH item to [INH] and then reset it to [ON].
● The motor (CH3) is controlled by SW-G. (Initial setting) When changing the switch or stick which controls the motor, first change Function of the Linkage Menu.

Note: When using this function, always check initial operation with the propeller removed.

● Select [MOTOR] at the model menu and call the setup screen shown below by touching the RTN button.

● Select the function name and return to the preceding screen by touching the RTN button or pushing the Home/Exit button.

(Currently selected condition name)

<SensorTouch™>

Scrolling
● Moving cursor
● Selecting mode
● Adjusting value

● To next page
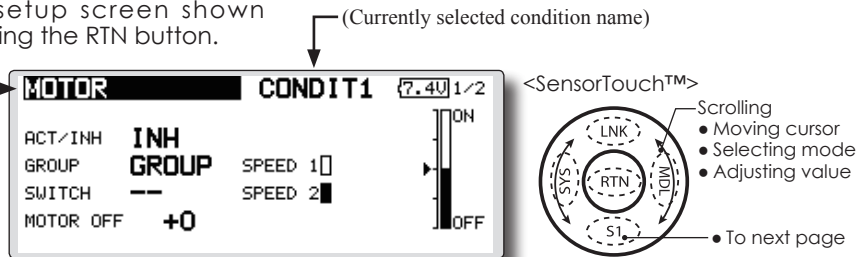
● When using this function, move the cursor to the [ACT/INH] item and touch the RTN button to switch to the data input mode. Turn the touch sensor to the left and touch the RTN button.

● Group/single mode switching

(For more information, see the description at the back of this manual.)

● Switch

A switch that turns the function itself ON/OFF can be selected.

● Motor off position

Press the EDIT button for 1 second when [SW-G] is in the motor OFF position you want to set. The direction of the motor switch is memorized. The screen graph display OFF direction also changes.

Notes

● First decide the motor OFF direction, and then set the speed. When you want to reset the motor OFF direction, also reset the speed.
● We recommend that motor OFF be set in combination with F/S.
● Set the basic operation direction with the reverse function to match the ESC used.
● Always set the motor OFF position.

● Move the cursor by set switch or VR.
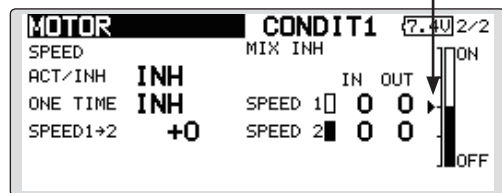
● When using this function, move the cursor to the [ACT/INH] item and touch the RTN button to switch to the data input mode. Turn the touch sensor to the left and touch the RTN button.

● When you want to set the "One time mode", move the cursor to the [ONE TIME] item and turn the touch sensor to the left and touch the RTN button.

● Speed 1 to 2

The speed 1 and speed 2 region boundary can be changed,

● Operation speed adjustment

The speed when speed 1 and speed 2 are ON (In) and OFF (Out) can be adjusted.
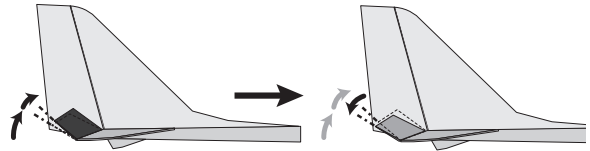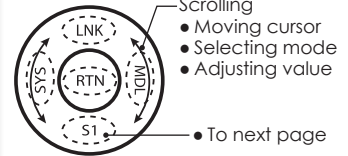
ACCELERATION

[Corresponding model type]: Glider, general

Acceleration setting can be performed at elevator, ELE to Camber and AIL to RUD.(Glider and EP glider only)

- This setting is divided into elevator setting and camber setting. The setting method is the same.
- Camber setting sets the acceleration function for ELE to camber mixing. Setting is not performed when ELE to camber mixing is INH.
- The acceleration function can be set for both the up side and down side.

- Function ON/OFF switch setting is performed for AIL to RUD setting only.
- AIL to RUD setting is acceleration function setting for AIL to RUD mixing. It is not performed when AIL to RUD mixing is INH.

- Select [ACCELERATION] at the model menu and call the setup screen shown below by touching the RTN button.
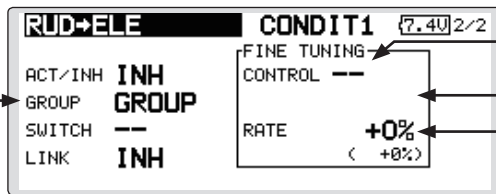
(Currently selected condition name)

- Select the function name and return to the preceding screen by touching the RTN button or pushing the Home/Exit button.

```
ACCELERATION  CONDIT1  7.5U 1/3
ELEVATOR                    100%
                      UP   DOWN
ACT/INH INH   RATE    0%    0%        D
GROUP   SNGL  DUMPING      0%
              ACT POS -50% +50%        U
                           -100%
```

- 1/3 Elevator setting

<SensorTouch™>

Scrolling
- Moving cursor
- Selecting mode
- Adjusting value

LNK   MDL   SYS   RTN   S1

- To next page

```
ACCELERATION  CONDIT1  7.5U 2/3
ELE→CAMBER                  100%
                      UP   DOWN
ACT/INH INH   RATE    0%    0%        D
GROUP   SNGL  DUMPING      0%
              ACT POS -50% +50%        U
                           -100%
```

- 2/3 Elevator → Camber setting

```
ACCELERATION  CONDIT1  7.5U 3/3
AIL→RUD                     100%
                      LFT  RIGHT
ACT/INH INH   RATE    0%    0%        L
GROUP   SNGL  DUMPING      0%
SWITCH  —     ACT POS -50% +50%        R
                           -100%
```

- 3/3 Aileron → Rudder setting

- Act position
- Current position

Setting method

- Acceleration rate setting (Rate)
- The return time after operation (Dumping) can be set.
- The operation point at acceleration and deceleration can be set. When an operation point is exceeded, acceleration is performed.

Note: When using the acceleration function, since the servo stroke is large, make your settings so there is no binding of your linkage.

RUD to ELE

[Corresponding model type]: Airplane, general

This function is used when you want to mix elevator operation with rudder operation. It is used to correct undesirable tendencies when rudder is applied in roll maneuvers, knife edge, etc. of stunt planes.

● A mixing curve can be set.
● Mixing during flight can be turned ON/OFF by setting a switch. (Always ON at [--] setting)

● Link can be set: Links this mixing to other mixings.
● The mixing rate can be fine-tuned by setting a VR. (Fine tuning)

● Select [RUD to ELE] at the model menu and call the setup screen shown below by touching the RTN button.

(Currently selected condition name)

●Select the function name and return to the preceding screen by touching the RTN button or pushing the Home/Exit button.

```
RUD→ELE      CONDIT1  7.4U 1/2
+150         MODE       OFFSET   INH
+100         EXP 1       +0.0
+50          RATE A     RATE B
 0            +0.0       +0.0
-50          EXP A      EXP B
-100          +0.0       +0.0
-150
POS  +0.0 RATE  +0.0
```

<SensorTouch™>

Scrolling
● Moving cursor
● Selecting mode
● Adjusting value

LNK
SYS   RTN   MDL
S1

● To next page

● Mixing curve setting
*For a description of the curve setting method, see the description at the back of this manual.

● Left/right overall adjustment at rate A and rate B

● Group/single mode switching

(For more information, refer to the description at the back of this manual.)

*The display screen is an example. The actual screen depends on the model type.

```
RUD→ELE      CONDIT1  7.4U 2/2
             FINE TUNING
ACT/INH  INH   CONTROL --
GROUP    GROUP
SWITCH   --    RATE      +0%
LINK     INH          (  +0%)
```

● Fine tuning VR setting

● Operation mode

● Adjustment rate

Setting method

● Move the cursor to the ACT/INH item and touch the RTN button to switch to the data input mode. Turn the touch sensor to the left and touch the RTN button. (ON is displayed.)

● When setting a switch, move the cursor to the [--] item of the switch and touch the RTN button to call the selection screen, and then select the switch and set its ON direction. (Always ON at "--" setting)

(For a description of the switch selection method, see the description at the back of this manual.)

● When setting a VR, move the cursor to the Fine Tuning "--" item and touch the RTN button to call the selection screen, and then select the VR. The fine tuning rate can be set.

The VR operation mode can also be set.

(For a description of the fine tuning VR setting method, see the description at the back of this manual.)

● When setting Link, move the cursor to the Link item and touch the RTN button to switch to the data input mode. Set it to ON.

[Fine tuning VR operation mode]

[LIN.] Mixing rate 0% at center of VR. When the VR is turned clockwise and counterclockwise, the mixing rate increases and decreases, respectively.

[ATL+] Mixing rate 0% at left end of VR. When the VR is turned, the mixing rate increases.

[ATL-] Mixing rate 0% at right end of VR. When the VR is turned, the mixing rate increases.

[SYM.] When the VR is turned to the left or right of the neutral position, the mixing rate increases.
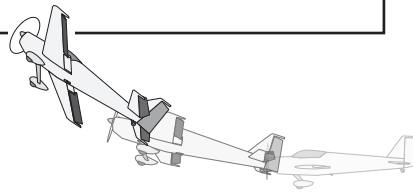
SNAP ROLL

[Corresponding model type]: Airplane, general

This function selects the switch and rate adjustment of each rudder, (ailerons, elevators, or flaps) when a snap roll is performed.

- Four snap roll directions can be set. (Right/up, right/down, left/up, left/down)
- Operation mode: When [Master] mode is selected, the Snap Roll function is turned ON/OFF by master switch in the state in which the direction switch was switched to the direction in which you want to snap roll. When [Single] mode is selected, snap roll in each direction can be executed by means of independent switches.
- A safety switch can be set. As a safety measure, the switch can be set so that snap roll is not executed when, for instance, the landing gear is lowered, even if the switch is turned on accidentally. The snap roll switch is activated only when the safety switch is ON.
- The operation speed of the aileron, elevator, and flap servos can be adjusted for each snap roll direction. (In side/out side)

(Example) Setting example for F3A

- Mode: [Master]
- Safety SW: [SW-G] (Safety measure)
- Master SW: [SW-H] (Main switch for executing snap roll)
- Direction switches:
  *The snap roll up side left and right and down side left and right direction switches are selected here.
  Right/Up: OFF [SW-D]
  Right/Down: OFF [SW-D]
  Left/Up: OFF [SW-A]
  Left/Down: OFF [SW-A]
- Speed adjustment
  The operation speed of each control surface when the snap switch is ON can be changed and snap roll executed by stick while there is switch operation can be performed.

● Select [SNAP ROLL] at the model menu and call the setup screen shown below by touching the RTN button.

●Select the function name and return to the preceding screen by touching the RTN button or pushing the Home/Exit button.

(Currently selected condition name)

SNAP ROLL		CONDIT1	7.4U 1/4
RATE	AIL	ELE	RUD
RIGHT/UP	+100%	+100%	+100%
RIGHT/DOWN	+100%	-100%	-100%
LEFT/UP	-100%	+100%	-100%
LEFT/DOWN	-100%	-100%	+100%

<SensorTouch™>

Scrolling
● Moving cursor
● Selecting mode
● Adjusting value

● To next page
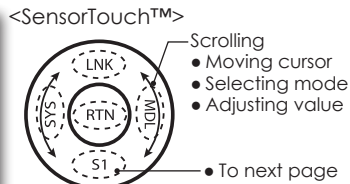
SNAP ROLL	CONDIT1	7.4U 2/4
MODE	MASTER	
MASTER-SW	--	
SAFETY-SW	--	
GROUP	GROUP	

● Rate adjustment

1. Move the cursor to the item you want to adjust and touch the RTN button to switch to the data input mode.
2. Adjust rate by scrolling the touch sensor.
3. Touch the RTN button to end adjustment and return to the cursor move mode.

● Group/single mode switching
(For more information, see the description at the back of this manual.)

SNAP ROLL		CONDIT1	7.4U 3/4
	ACT	SWITCH	
RIGHT/UP	OFF	--	
RIGHT/DOWN	OFF	--	
LEFT/UP	OFF	--	
LEFT/DOWN	OFF	--	

● Direction switches

SNAP ROLL	CONDIT1	7.4U 4/4
SPEED	AIL IN / OUT	ELE IN / OUT	RUD IN / OUT
RIGHT/UP	0 0	0 0	0 0
RIGHT/DOWN	0 0	0 0	0 0
LEFT/UP	0 0	0 0	0 0
LEFT/DOWN	0 0	0 0	0 0

● Adjustment of the servo speed of each rudder
(For a description of the setting method, see the description at the back of this manual.)

MODEL MENU (HELICOPTER)

This section contains information on the commands that apply to helicopters only. For instructions on airplanes and sailplanes, refer to the sections pertaining to those aircraft.

Use the Model Type function in the Linkage Menu to select the swash type matched to the fuselage beforehand.

Also, add flight conditions at the Condition Select screen if necessary before setting the model

data at each function. (Up to 8 conditions can be used)

The AFR function, dual rate function and other functions common to all model types, are described in a separate section.

- Select the [MODEL] at the home screen and call the model menu shown below by touching the RTN button.
- Use the touch sensor to select the function you want to set and call the setup screen by touching the RTN button.

- Select the function name and return to the preceding screen by touching the RTN button or pushing the Home/Exit button.

```
MODEL MENU      NORMAL    7.4V 1/2
SERVO MONITOR  PROG. MIXES
COND. SELECT   PIT CURVE
AFR            THR CURVE
DUAL RATE      ACCELERATION
COND.HOLD IS OFF
```

<SensorTouch™>
- Scrolling
- Moving cursor
LNK   SYS   RTN   MDL   S1
- To next page

```
MODEL MENU      IDLEUP3   7.5V 2/2
THR HOLD       PIT→RUD
SWASH MIX      GYRO
THROTTLE MIX   GOVERNOR
PIT→NEEDLE     COND.HOLD ◄
COND.HOLD IS OFF ◄
```

*Condition hold operation is displayed.

To activate/deactivate Condition Hold:

1. Move the cursor to [COND. HOLD].
2. Set the throttle stick lower than the 1/3 point and touch the RTN button to activate/deactivate the condition hold function.

*Refer to for condition hold function details.

Model Menu functions (helicopter) list

PIT CURVE: Adjusts response in different flight conditions

THR CURVE: Throttle curve and hovering trim adjustment

ACCELERATION: Allows a brief "overload" in response to sudden throttle and pitch commands

THR HOLD: Moves the throttle to idle during autorotation

SWASH MIX: Compensates for each control response

THROTTLE MIX: Compensates for power loss when cyclic applied

PIT to NEEDLE: Adjusts response curve in different flight conditions

PIT to RUD: Handles torque changes from pitch angle inputs

GYRO: Used to switch gyro sensitivity

GOVERNOR: Used to switch RPM of the helicopter's head

PIT CURVE/PIT TRIM

PIT Curve

This function adjusts the pitch operation curve for each flight condition for the optimal flight state relative to movement of the throttle stick.

*Up to 17 points can be set for the point curve types. However, when using the 3 points or 5 points specified to create a curve, a simple curve can be created by reducing the number of input points to 3 or 5, and then entering the specified value at the corresponding points that you created a curve.

● Point curve type is 9 points (initial), but for simple use, 4~5 points are sufficient.

● Select [PIT CURVE] at the model menu and call the setup screen shown below by touching the RTN button.

(Currently selected condition name)

●Select the function name and return to the preceding screen by touching the RTN button or pushing the Home/Exit button.

<SensorTouch™>

Scrolling
● Moving cursor
● Selecting mode
● Adjusting value

● To next page
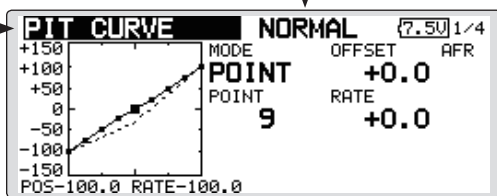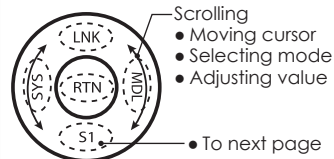
● Mixing curve setting
*For a description of the curve setting method, see the description at the back of this manual.

● Pitch trim copy
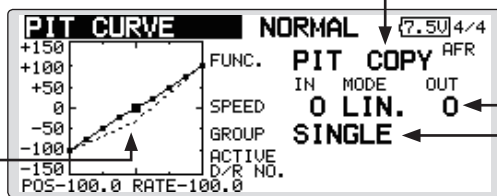
● Pitch servo speed setting
(For a description of the setting method, see the description at the back of this manual.)

● Pitch trim operating position (dotted line)

● Group/single mode switching
(For more information, refer to the description at the back of this manual.)

Normal curve adjustment

● For normal curve, usually use [POINT] type and create a basic pitch curve centered about hovering. Use this function together with the THR curve (normal) function and adjust the curve so that up/down control is best at a constant engine speed.

Idle up curve adjustment

● For the high side pitch curve, set the maximum pitch which does overload the engine. For the low side pitch curve, create curves matched to loop, roll, 3D, and other purposes and use the idle up curves according to the performance.

Throttle hold curve adjustment

● The throttle hold curve is used when executing auto rotation dives.

Operation precautions

⚠WARNING

❗When actually starting the engine and flying, always set the idle up condition switch to OFF and start the engine in the idling state.

Setting method

● Group/Single item: When you also want to input the same setting contents at other conditions, perform setting in the group mode. In this case, the same contents are input to the other conditions set in the group mode. When you want to set each condition independently, select the single mode (initial setting). Other conditions can be set independently.

● Pit trim copy (Hover/high/low)

The pitch trim operating position can be copied to the pitch curve.

Move the cursor to the [COPY] item and touch the RTN button.

After copying, return the pitch trim to the center to call the last operating position.

Curve setting examples

The screens shown below are curves created by entering the pitch rate at low, center, and high side (3 points or 5 points) at each condition. When actually creating a curve, input the rate specified at the fuselage (or the reference value).

*For a description of the curve setting method, see the description at the back of this manual.

●**Pitch Curve (Example)**

| Normal Curve | Idle-up 1 Curve | Idle-up 2 Curve | Hold Curve |
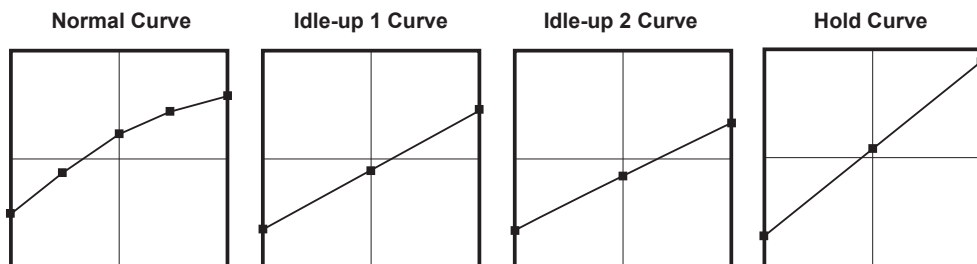
Pitch Trim (Hovering pitch, high pitch, low pitch)

The hovering pitch, low pitch, and high pitch trim setup screen can be called from the PIT curve setup screen.

● Hovering pitch trim setting

```
PIT CURVE      NORMAL    7.5V 2/4
HOVER
ACT/INH ON        MODE    CTRM
GROUP   SINGLE    RANGE   100%
CONTROL LD
RATE    +30% (-30%)
```

● Low/high pitch trim setting

```
PIT CURVE      NORMAL    7.5V 3/4
LOW PITCH          HIGH PITCH
ACT/INH INH        ACT/INH INH
GROUP   SINGLE     GROUP   SINGLE
CONTROL --         CONTROL --
RATE    +30% ( +0%) RATE  -30% ( +0%)
```

Hovering pitch trim

The Hovering Pitch trim function trims the pitch near the hovering point. Normally, it is used with the hovering condition. The hovering pitch can be fine tuned for changes in rotor speed accompanying changes in temperature, humidity, and other flight conditions. Adjust the hovering pitch so that rotor speed is constant. This function can be used together with the hovering Throttle Trim function for more delicate operation.

Setting method

- When using only the hovering (normal) condition, switch the group mode to the single mode (initial setting) before setting.
- Set the function to ACT [ON].
- Select the adjustment knob.

  Selection example: LD

- The trim operation mode (Mode: CTRM/NORM) can be selected.

  CTRM mode: Maximum amount of change near center by center trim operation (recommended)

  NORM mode: Normal trim (parallel movement trim) operation. The advantage of using this mode is that the hovering pitch can be adjusted without changing the curve.

- Trim adjustment range (Range) setting

  When this value is made small, trim can only be used near the center.

- The trim rate can be adjusted and the operation direction can be changed.

High Pitch/Low Pitch Trim

High Pitch/Low Pitch Trim is the pitch servo high side and low side trim function.

Setting method

- When setting the adjustment knobs common to all the conditions, set them in the group mode.
- Set the function to ACT (ON).
- Select the adjustment knobs.

  Selection example: LS (high side), RS (low side)

- The trim rate can be adjusted and the operation direction can be changed.
- Trim acts as high side or low side trim with the center as the standard.

THR CURVE/THROTTLE HOVER TRIM

THR Curve

This function adjusts the throttle operation curve for each condition for optimum engine speed to throttle stick movement.

Up to 17 curve points can be set for the point curve type, however, when the 5 points and other point data is used, a simple curve can be easily created by reducing the number of input points of the curve to 5 and entering the specified value at the corresponding points.

● Select [THR CURVE] at the model menu and call the setup screen shown below by touching the RTN button.

(Currently selected condition name)

●Select the function name and return to the preceding screenby touching the RTN button or pushing the Home/Exit button.

<SensorTouch™>

Scrolling
● Moving cursor
● Selecting mode
● Adjusting value

● To next page

● Throttle hover trim copy
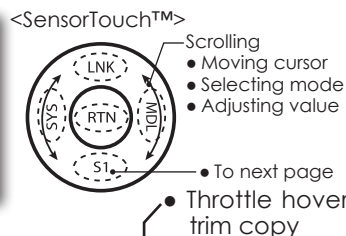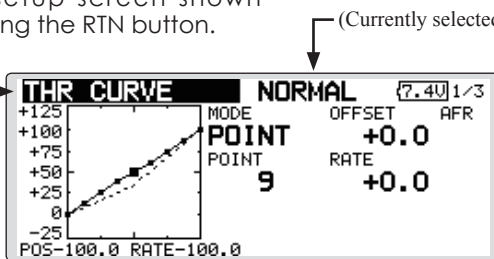
● Mixing curve setting
  *For a description of the curve setting method, see the description at the back of this manual.
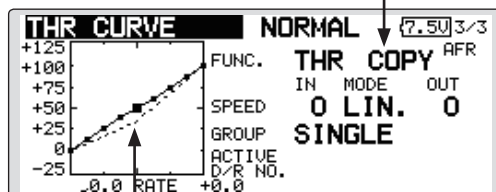
● Throttle hover trim operating position (dotted line)

Normal curve adjustment

● Normal curve creates a basic curve centered around hovering. Use it along with the normal pitch curve and adjust so that up/down control at a constant engine speed is easiest.

Idle up curve adjustment

● Set a idle up curve that maintains a constant speed at all times, even during operation which reduces the pitch performed in flight. Create a curve matched to loop, roll, 3D, or other purposes and the idle up curve according to the performance.

Operation precautions

⚠ WARNING

❗ When actually starting the engine and flying, always set the idle up condition switch to OFF and start the engine in the normal/motor at idle mode.

Setting method

● Group/single item: When you want to simultaneously enter the same settings to other functions, make the settings in the group mode. In this case, the same setting contents are entered to the all conditions. When you want to set each condition independently, make the settings after selecting the single mode (Initial setting).

● Throttle hover trim copy

The throttle hover trim operating position can be copied to the throttle curve.

Move the cursor to the [COPY] item and touch the RTN button.

After copying, return the pitch trim to the center to call the last operating position.

Curve setting examples

The curves shown below are created by using the point curve type and inputting the data of the 5 points 0% (low side), 25%, 50% (center), 75%, 100% (high) side at each condition. They are created by reducing the number points of the line to 5. When actually creating a curve, enter the data specified per the aircraft (or the reference value).

*For a description of the curve creation method, see the description at the back of this manual.

●**Throttle Curve (Example)**

Normal Curve	Idle-up 1 Curve	Idle-up 2 Curve
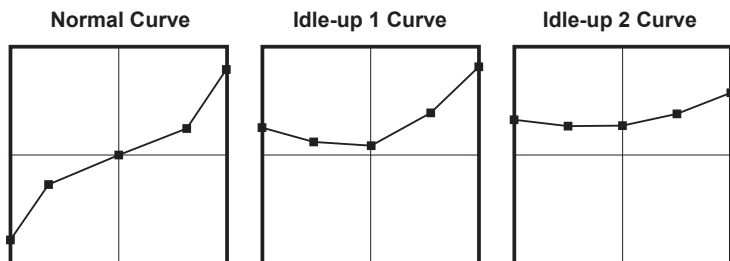
Throttle Hover trim

The Throttle Hover trim setup screen can be called from the THR Curve setup screen.
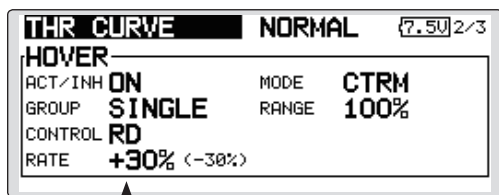
●Sets the dial used.

The Throttle Hover function trims the throttle near the hovering point. Normally, use it with hovering conditions. Changes in rotor speed accompanying changes in the temperature, humidity, and other flight conditions can be trimmed. Adjust the throttle so that rotor rotation is most stable. More delicate trimming is also possible by using this function along with the Hover Pitch function.

Setting method

● When using the hovering (normal) condition only, switch the group mode to the single mode (initial setting) and make the settings.
● Set the function to ACT ([ON]).
● Select the adjustment knob.
  Selection example: RD
● The trim operation mode (Mode: CTRM/ NORM) can be selected.
  CTRM mode: Maximum rate of change near center by center trim operation (recommended)
  NORM mode: Normal trim (horizontal movement trim) operation.
● Trim adjustment range (Range) setting
  When the value is made small, trim acts only near the center.
● The trim rate can be adjusted and the operation direction can be set.

Throttle Limiter

This function limits throttle operation to within a certain range. Control which adjusts the operating range during flight can be set. (Effective only when the model type is helicopter.)

*When the limiter operation range adjustment control is NULL, the throttle limiter function is not activated.

● Open the THR CURVE setup screen. Push S1 button to advance to next page and display page4.

● Throttle limiter function ACT/INH

● Condition group/single

● Mixing ON/OFF switch

● Throttle limiter activation position

```
THR CURVE      NORMAL    7.4U 4/4
+125           THR LIMITER        AFR
+100
+75            ACT/INH GROUP    SWITCH
+50            ON      SINGLE SB
+25
  0            HIGH  LOW  CENTER CONTROL
-25            70%  20%   28% RS
POS +65.5 RATE +83.0  RESET:ROT.KEY(1SEC)
```
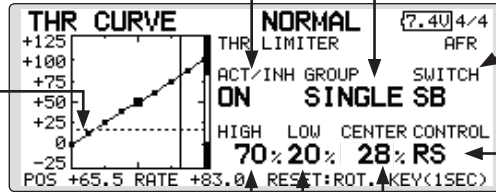
● Limiter activation position adjustment control

● High side operation range

● Low side operation range

● The limit value at the operation hardware neutral position can be adjusted using the throttle limiter.

```
THR CURVE
+125
+100
+75
+50
+25
  0
-25
```

The high side of a throttle can restrict to this range by CONTROL.

The neutral position of CONTROL

```
THR CURVE
+125
+100
+75
+50
+25
  0
-25
```
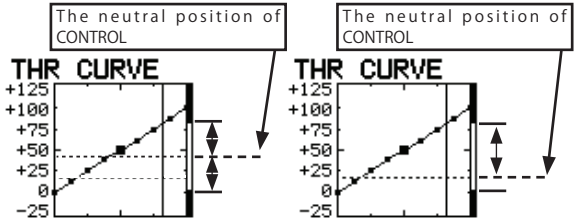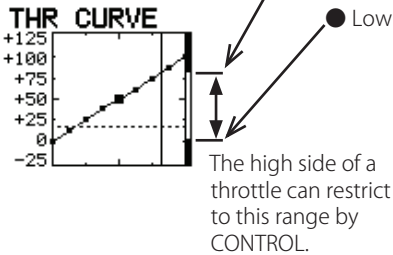
● When CENTER is INH. The motion with the equal upper and lower sides is carried out.

The neutral position of CONTROL

```
THR CURVE
+125
+100
+75
+50
+25
  0
-25
```

● When CENTER is 28%. The amount of operations above CONTROL increases.

Setting method

● Activate the function
1. Select "ACT/INH" and touch the RTN button.
2. Scrolling the touch sensor and switch the display to [INH] or [ACT].
3. Touch the RTN button.

● Group/single mode selection.
1. Select "GROUP" and touch the RTN button.
2. Scrolling the touch sensor and switch the display to [GROUP] or [SINGLE].
3. Touch the RTN button.

● ON/OFF switch setting
1. Select "SWITCH" and touch the RTN button.
2. A hardware selection screen is displayed. Select the hardware and touch the RTN button.

● High side operation range setting
1. Select "HIGH" and touch the RTN button.
2. Scrolling the touch sensor and adjust the high side operation range.
3. Touch the RTN button.

● Low side operation range setting
1. Select "LOW" and touch the RTN button.
2. Scrolling the touch sensor and adjust the low side operation range.
3. Touch the RTN button.

● The neutral position of "CONTROL" setting
1. Select "CENTER" and touch the RTN button.
2. Scrolling the touch sensor and adjust the neutral position.
3. Touch the RTN button.

● Limiter activation position adjustment control setting
1. Select "CONTROL" and touch the RTN button.
2. A hardware selection screen is displayed. Select the hardware and touch the RTN button.

ACCELERATION

This function is used to adjust the pitch and the throttle rise characteristic at acceleration/deceleration operation. An acceleration function which temporarily increases the pitch and throttle operations at throttle stick acceleration/deceleration operation can be set.


Example of acceleration function use

● When used for pitch control, the acceleration function is effective when you want to quicken the response of the model at 3D on collective pitch.

When used, high pitch temporarily exceeds maximum pitch, but immediately returns to maximum pitch.

● Select [ACCELERATION] at the model menu and call the setup screen shown below by touching the RTN button.

(Currently selected condition name)

● Select the function name and return to the preceding screenby touching the RTN button or pushing the Home/Exit button.

<SensorTouch™>

Scrolling
● Moving cursor
● Selecting mode
● Adjusting value

● To next page

● Pitch setting

● Throttle setting
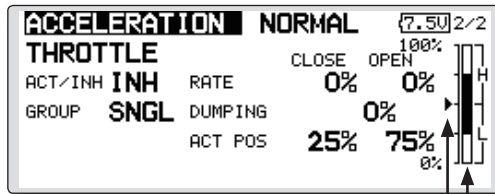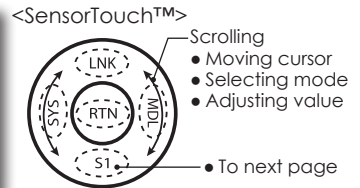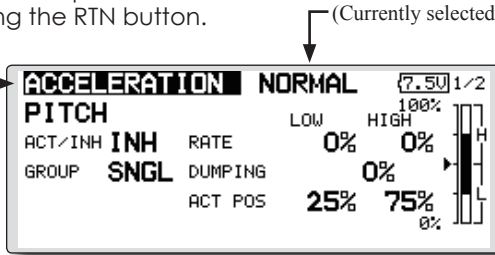
● Act position
●Current position

Setting method

● Acceleration can be set at both setting at acceleration (high) and setting at deceleration (low).

(The operation point is displayed on a graph.)

● Acceleration rate setting (Rate)

● The return time after operation (Dumping) can be set.

● The operation point at acceleration and deceleration can be set. When an operation point is exceeded, acceleration is performed.

Note: When using the acceleration function, since the pitch stroke is large, make your settings so there is no binding of your linkage.

THR HOLD

This function sets the throttle cut position for auto rotation. The throttle position can also be set to an idling position. Setting of these 2 positions can be selected by a switch. This allows use for switching during training.

● Select [THR HOLD] at the model menu and call the setup screen shown below by touching the RTN button.

(Currently selected condition name)

● Select the function name and return to the preceding screen by touching the RTN button or pushing the Home/Exit button.

```
THR HOLD      HOLD      7.5V 1/2
CUT MODE              100%
                MODE    MANUAL
ACT/INH ON
GROUP   SINGLE   HOLD POS.  17%
SWITCH  --       SPEED      0    0%
```

<SensorTouch™>

Scrolling
● Moving cursor
● Selecting mode
● Adjusting value

LNK
SYS RTN MDL
S1

● To next page
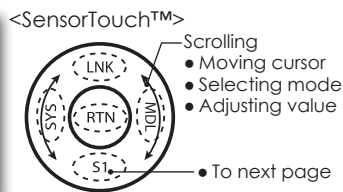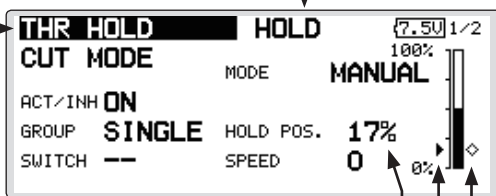
●Set to the engine stop position.

●Hold position
●Current position

```
THR HOLD      HOLD      7.5V 2/2
IDLE MODE
                MODE    MANUAL
ACT/INH INH
GROUP   SINGLE   IDLE OFFS  +0
SWITCH  --       SPEED      0
```
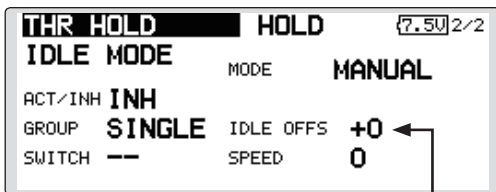
●Set to the idling position.

Setting method

● Operation mode selection

Manual mode(MANUAL): The throttle hold function is operated by switch operation only.

Auto mode(AUTO): The throttle hold function operation is linked to the throttle stick position.

Auto position setting: When the auto mode is selected, the throttle position (auto position) can be selected. Move the throttle stick to the position you want to set and touch the RTN button. (Auto position is displayed.)

● Hold position adjustment

Throttle Hold (Cut) sets the throttle cut position. Adjust it so that the carburetor is full close.

Throttle Hold (Idle): Make this adjustment to maintain idling. Adjustments can be made based on the throttle curve idle position.

● The throttle servo operating speed can be adjusted. (Speed)

● Throttle cut or training function can be switched by hold function selector switch.

Operation precautions

⚠ WARNING

❗ When starting the engine, confirm that the idle up condition and throttle hold condition are OFF.

SWASH MIX

The swash mix function is used to correct the swash plate in the aileron (roll) direction and elevator (cyclic pitch) corresponding to each operation of each condition.

Adjustment by independent curve for aileron, elevator, and pitch operations is possible. The operation can be smoothly adjusted by calling up the "Curve setup" screen by touching the EDIT button with moving the cursor to the mixing item that corresponds to the mixing and direction which needs correction.

Example of use

● As an example, use swash mixing to correct undesirable tendencies in the roll direction

● For a condition which uses AIL to ELE, set this function to ON. When raising the nose at a right roll, when the Rate B side is input and the right aileron is operated, the elevator moves to the down side. Tune by adjusting the Rate. For right roll, adjust to the rate A side.

● Select [SWASH MIX] at the model menu and call the setup screen shown below by touching the RTN button.

(Currently selected condition name)

● Select the function name and return to the preceding screenby touching the RTN button or pushing the Home/Exit button.

<SensorTouch™>

Scrolling
● Moving cursor
● Selecting mode

● To next page
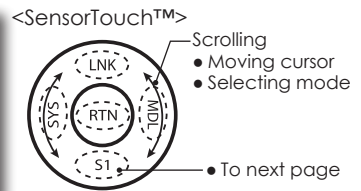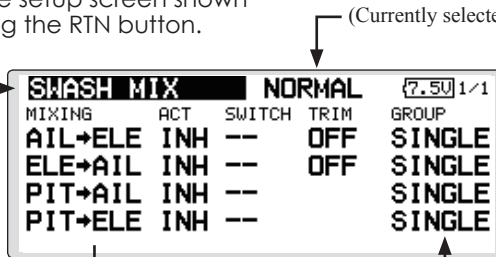
● Group/single mode switching

(For more information, refer to the description at the back of this manual.)
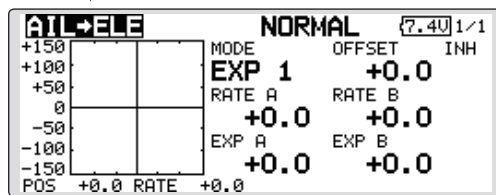
● Mixing curve setting

*For a description of the curve setting method, see the description at the back of this manual.

Setting method

● When using this function, move the cursor to the [ACT] item and touch the RTN button to switch to the data input mode. Turn the touch sensor to the left and touch the RTN button. (ON is displayed.)

● When you want to set the same contents at other conditions, select the group mode. When you want to set the selected condition only, select the single mode (initial setting).

● The correction rate can be set by curve.

● A switch can be set.

When [[--]] is set, the swash mixing function is operated by merely selecting the condition.

When setting an [ON]/[OFF] switch, move the cursor to the [--] item and touch the RTN button to call the selection screen and set the switch and its ON position.

THROTTLE MIX

This function corrects slowing of engine speed caused by swash plate operation during aileron or elevator operation. The method of applying clockwise or counterclockwise torque when pirouetting can also be corrected.

An acceleration function which temporarily increases the throttle side correction rate relative to rapid stick operation can also be set.
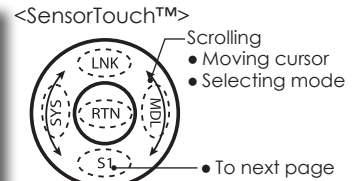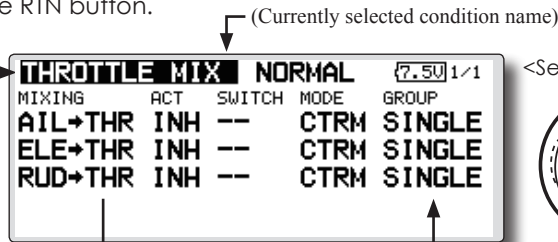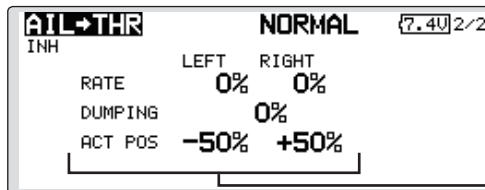
- Select [THROTTLE MIX] at the model menu and call the setup screen shown below by touching the RTN button.

• Select the function name and return to the preceding screenby touching the RTN button or pushing the Home/Exit button.

When correction is necessary, move the cursor to the mixing item corresponding to the mixing that needs correction and touch the RTN button to call the curve setup screen, and then correct the slowing.

Setting example
• AIL to THR applies a load to the engine and corrects slowing of the engine speed when the aileron stick was operated. Engine racing can be adjusted independently at the right aileron and left aileron by Rates A and B.

(Currently selected condition name)

<SensorTouch™>

Scrolling
- Moving cursor
- Selecting mode

- To next page

- Group/single mode switching

(For more information, refer to the description at the back of this manual.)
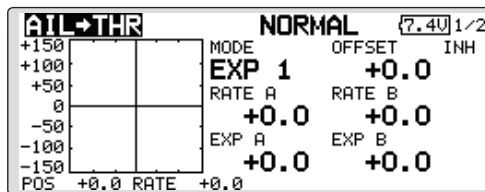
- Mixing curve setting
  *For a description of the curve setting method, see the description at the back of this manual.

• Acceleration settings

Setting method

- When using this function, move the cursor to the [ACT] item and touch the RTN button to switch to the data input mode. Turn the touch sensor to the left and touch the RTN button. (ON is displayed.)
- When you want to set the same contents at other conditions, select the group mode.

  When you want to set the selected condition only, select the single mode (initial setting).
- The correction rate can be set by curve.
- A switch can be set.

  When [[--]] is set, the swash mixing function is operated by merely selecting the condition.

  When setting an [ON]/[OFF] switch, move the cursor to the [--] item and touch the RTN button to call the selection screen and set the switch and its ON position.

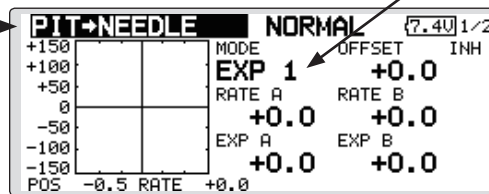| <Acceleration function setting> |
|---|
| • Acceleration can be set for both settings (Left) and (Right) |
| • Acceleration rate setting (Rate) |
| • The return time (Dumping) after operation can be set. |
| • The operation point when the correction rate is increased and decreased can be set independently. When an operation point is exceeded, acceleration operation is performed. |

PIT to NEEDLE mixing

This mixing is used when the engine is equipped with needle control or other fuel-air mixture adjustment. A needle curve can be set.

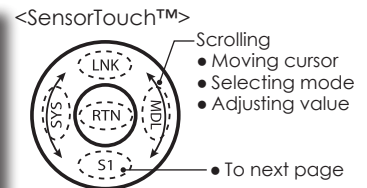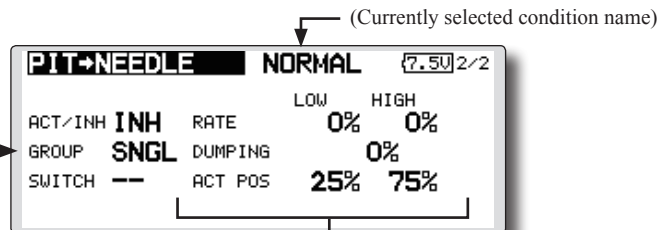An acceleration function which temporarily increases needle operation at throttle stick acceleration/deceleration operation can be set. The rise characteristic of the needle servo at acceleration and deceleration operation can be adjusted.

● Select [PIT to NEEDLE] at the model menu and call the setup screen shown below by touching the RTN button.

● Normally, use [POINT] type.

●Select the function name and return to the preceding screenby touching the RTN button or pushing the Home/Exit button.

```
PIT→NEEDLE    NORMAL    7.4U 1/2
+150                MODE       OFFSET     INH
+100                EXP 1      +0.0
+50                 RATE A     RATE B
0                   +0.0       +0.0
-50
-100                EXP A      EXP B
-150                +0.0       +0.0
POS  -0.5 RATE  +0.0
```

<SensorTouch™>

Scrolling
● Moving cursor
● Selecting mode
● Adjusting value

● To next page

● Mixing curve setting
  *For a description of the curve setting method, see the description at the back of this manual.

(Currently selected condition name)

● Group/single mode switching
  (For more information, refer to the description at the back of this manual.)

```
PIT→NEEDLE    NORMAL    7.5U 2/2
                           LOW    HIGH
ACT/INH  INH    RATE        0%     0%
GROUP    SNGL   DUMPING      0%
SWITCH   --     ACT POS     25%    75%
```

●Acceleration settings

Setting method

● When using this function, move the cursor to the [ACT] item and touch the RTN button to switch to the data input mode. Turn the touch sensor to the left and touch the RTN button. (ON is displayed.)

● When you want to set the same contents at other conditions, select the group mode.

  When you want to set the selected condition only, select the single mode (initial setting).

● A needle curve can be set.

● A switch can be set.

  When [--]] is set, the mixing function is operated by merely selecting the condition.

  When setting an [ON]/[OFF] switch, move the cursor to the [--] item and touch the RTN button to switch to the data input mode. Touch the RTN button to call the selection screen and set the switch and its ON position.

< Acceleration function setting>

●Acceleration can be set at both setting at acceleration (high) and setting at deceleration (low).

●The acceleration rate (rate) and the return time after operation (dumping) can be set.

●An operation point (act pos) at acceleration and deceleration can be set. When an operation point was exceeded, acceleration operation is performed.

PIT to RUD mixing (Revolution mixing)

Use this mix when you want to suppress the reaction torque generated by main rotor pitch and speed changes during pitch operation. Adjust so that the nose does not move in the rudder direction.

An acceleration function which temporarily increases the correction rate at throttle stick acceleration/deceleration operation can be set. The mixing rate at acceleration/deceleration can be set.

However, when a GY Series or other heading hold gyro is used, since correction is performed by the gyro, this mix is not used. If this function is used when the gyro operation mode is the AVCS mode, the neutral position will change.

● Select [PIT to RUD] at the model menu and call the setup screen shown below by touching the RTN button.

●Select the function name and return to the preceding screenby touching the RTN button or pushing the Home/Exit button.

● Normally, use [POINT] type.

\<SensorTouch™\>

Scrolling
● Moving cursor
● Selecting mode
● Adjusting value

● To next page
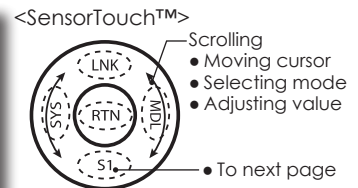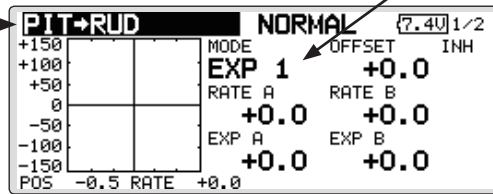
Setting method

● When using this function, move the cursor to the [ACT] item and touch the RTN button to switch to the data input mode. Turn the touch sensor to the left and touch the RTN button. (ON is displayed.)

● When you want to set the same contents at other conditions, select the group mode.

   When you want to set the selected condition only, select the single mode (initial setting).

● A mixing curve is set.

(Currently selected condition name)
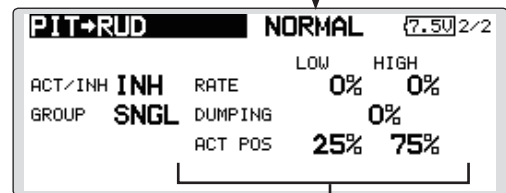
●Acceleration settings

\<Normal condition mixing curve\>

The mixing curve rate starts from a small value.

For a rotor with a clockwise operation direction (polarity), when pitch was operated at the plus side, set so that mixing is in the clockwise direction. First, trim at hovering and then adjust the neutral position.

1. Adjustment between slow and hovering

   Repeatedly hover from take off and land from hovering at a constant rate matched to your own rhythm, and adjust the pitch so the nose does not deflect when the throttle is raised and lowered.

2. Throttle high side (climbing and diving from hovering)

   Repeat climbing and diving from hovering at a constant rate matched to your own rhythm and adjust the pitch so that the nose does not deflect when the throttle is raised and lowered.

\<Idle up condition mixing curve\>

Set the mixing rate so that the rudder direction at high-speed flight is straight ahead. Adjust for each condition used.

\<Acceleration function setting\>

● Acceleration operation can be performed for both setting at acceleration (high) and setting at deceleration (low).

● Acceleration rate setting (rate)

● The return time after operation (dumping) can be set.

● An operation point (act pos) at acceleration and deceleration can be set independently. When an operation point was exceeded, acceleration operation is performed.

GYRO programming / GAIN Sensitivity

This function used to adjust gyro sensitivity. The sensitivity and operation mode (Normal mode/AVCS mode) can be set for each condition.

The gyro sensitivity can be switched with each condition or the switch. (5 sensitivities)

*Compatible with 3 axis gyro(CGY750).

Note: When using the [Gyro2]/[Gyro3] function, assign [Gyro2]/[Gyro3] to any channel on the function screen.

Always set to [--] both (control) and (trim) for the [Gyro] function at the Function menu in the Linkage menu.

● Select [GYRO] at the model menu and call the setup screen shown below by touching the RTN button.

● Select the function name and return to the preceding screenby touching the RTN button or pushing the Home/Exit button.

<SensorTouch™>
— Scrolling
● Moving cursor
● Selecting mode
● Adjusting value

● To next page
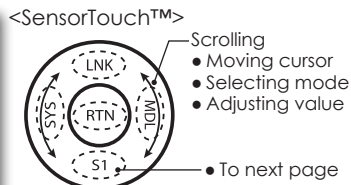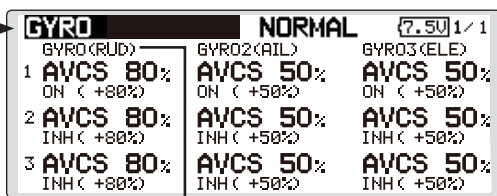
● When the GYRO function button is selected, each GYRO detailed setting screen appears.

(Rate No. display) — (Currently selected condition name)
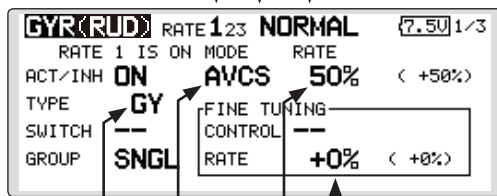
●Gyro type selection:
[GY]/[NORM]

●Mode selection:
[AVCS]/[NORM]

●Gyro sensitivity adjustment

●Fine tuning VR settings

Setting method

● When using this function, move the cursor to the [ACT] item and touch the RTN button to switch to the data input mode. Turn the touch sensor to the left and touch the RTN button. (ON is displayed.)

● When you want to set the same contents at other conditions, select the group mode.

When you want to set the selected condition only, select the single mode (initial setting).

● Three rates can be switched for each condition. (Rate 1/Rate 2/Rate 3)

● A fine tuning VR can be set.

GOVERNOR programming

When using a Futaba governor, this function is used to switch the RPM of the helicopters head. Up to 3 rates can be set for each condition.

*The governor is used by connecting the governor speed setting channel to CH7 (initial setting).

*When using an independent governor [ON]/[OFF] switch, connect the AUX([ON]/[OFF]) connector of the governor to CH8 (initial setting) and set the switch to CH8 (Governor2) at the Function menu of the Linkage Menu.

● Select [GOVERNOR] at the model menu and call the setup screen shown below by touching the RTN button.

*When using the Fuel Mixture function, the mixture servo is controlled from the governor. When transmitting the mixture curve data from the transmitter to the governor, the governor AUX (m.trm) connector must be connected to CH8 (initial setting) and governor side setting performed. See the governor instruction manual.

Note: Always set (Control) and (Trim) to [--] for [Governor] and [Governor 2] of the Function menu of the Linkage menu.

●Select the function name and return to the preceding screenby touching the RTN button or pushing the Home/Exit button.

(Currently selected condition name)

<SensorTouch™>

Scrolling
● Moving cursor
● Selecting mode
● Adjusting value

● To next page

●Unit display selection:
[%]/[rpm]

●RPM adjustment

●Fine tuning VR settings

Setting method

●Activate the mixing

When using this function, move the cursor to the [INH] item and touch the RTN button to switch to the data input mode.
Select the ACT mode by scrolling the touch sensor.

*The display blinks.

Touch the RTN button to activate the mixing and return to the cursor mode. (ON is displayed.)

When the Governor is changed from the default inhibited (INH) state to the active (ACT) state, the endpoint menu will be displayed and it is possible to utilize the endpoints for this given condition.

*When the function is set ON/OFF at the governor setup screen, the governor rpm setting channel end point servo travel and limit point are now initialized.

*When changed from INH to ACT (ON), the servo travel is initialized to 100 and the limit point is initialized to 155.

*When operation is changed to INH at all conditions, the servo travel is initialized to 100 and the limit point is initialized to 135.

●RPM adjustment

Move the cursor to the rate item and touch the RTN button to switch to the data input mode.
Adjust the rpm by scrolling the touch sensor.
Initial value: 50% (1500rpm)
Adjustment range: OFF, 0~110% (OFF, 700~3500rpm)

*When the RTN button is touched for one second, the sensitivity is reset to the initial value.)

Touch the RTN button to return to the cursor mode.

●Unit diplay selection

Move the cursor to the UNIT item and touch the RTN button to switch to the data input mode. Select the unit by scrolling the touch sensor.
Touch the RTN button to change the operation mode and return to the cursor mode.

●**Diplay mode selection**

*When [rpm] mode is selected above setting, the display mode can be selected.

*There is no change in the transmitter output even when the "MODE" is changed. Calibration should be performed via the governor.

*In order to use the Governor function of the FMT-01, it is necessary to change the settings on the governor for the low side 700 rpm mode.

When the MODE of the Governor screen's model menu is changed, the change is also indicated on-screen.
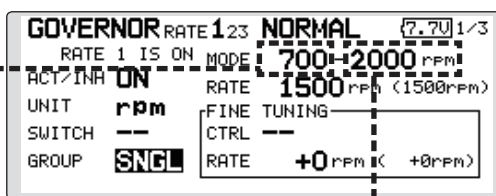
The chart below indicates the mode percentage and the corresponding RPM.
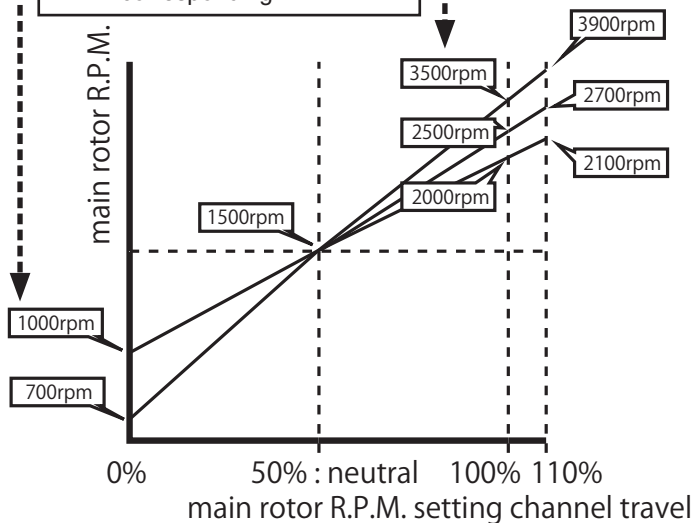
●**Fine tuning VR settings**

Move the cursor to the [--] item and touch the RTN button to access the selection screen. Select the control.

*For a description of the switch selection method, see the description at the back of this manual.

Move the cursor to the rate item and touch the RTN button to switch to the data input mode.

Adjust the trim rate by scrolling the touch sensor.

Initial value: 0% (0rpm)

Adjustment range: -20~+20% (-800~+800rpm)

*When the RTN button is touched for one second, the sensitivity is reset to the initial value.)

Touch the RTN button to return to the cursor mode.

Common operations used in function setup screen

This section describes the functions often used at the function setup screen. Refer to it when setting each function.

Operations related to flight conditions

Group/single mode switching (GROUP/SINGLE)

When setting multiple flight conditions, linking the setting contents with all conditions (group mode) or setting independently (single mode) can be selected. The mode can be changed at the [GROUP] item on each setup screen.

[Group/single mode switching]

GROUP   GROUP

GROUP ⇌ SINGLE

1. Use the touch sensor to move the cursor (reverse-will display) to the [GROUP] item on the setup screen and touch the RTN button to switch to the data input mode.

2. Turn the touch sensor to the left until switch [SINGLE] starts to blink.

   *At this point, the mode has still not been changed.

   *When changing from [SINGLE] to [GROUP], turn the touch sensor to the right.

3. Change the mode by touching the RTN button.

●Group mode (GROUP)

   The same setting contents are set to all the flight conditions.

●Single mode (SINGLE)

   Set this mode when the setting contents are not linked with other conditions.

Condition delay setting

Unnecessary fuselage motion generated when there are sudden changes in the servo position and variations in the operating time between channels can be suppressed by using the condition delay function of the condition select function [COND. SELECT].

When the delay function is set at the switching destination condition, a delay corresponding to that amount is applied and the related functions change smoothly.

[Setting method]

DELAY
0

   *At the condition delay setup screen [COND.DELAY], move the cursor to the [DELAY] item of the channel you want to set and perform the following settings:

1. Switch to the condition you want to set and touch the RTN button to switch to the data input mode.

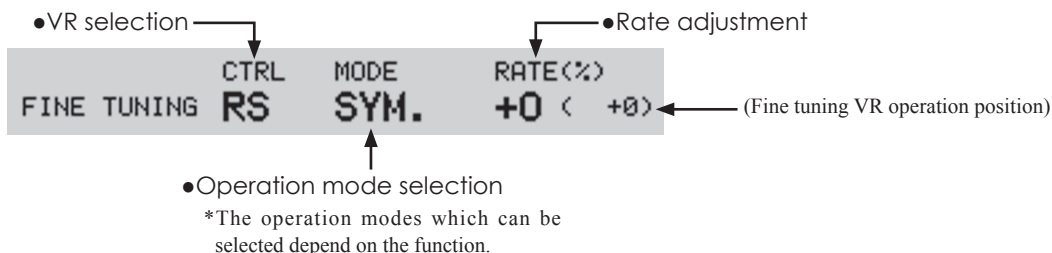2. Set the delay by turning the touch sensor.

   Initial value: 0

   Adjustment range: 0~27 (maximum delay)

   (When the RTN button is touched for 1 second, the delay is reset to the initial value.)

3. Touch the RTN button to end adjustment and return to the cursor move mode.

Operations related to fine tuning VR

●VR selection ———→   ┌──→ ●Rate adjustment

```
              CTRL   MODE    RATE(%)
FINE TUNING   RS     SYM.    +0 (  +0)  ←——— (Fine tuning VR operation position)
```

●Operation mode selection

*The operation modes which can be selected depend on the function.

[Setting method]

1. Control selection

   Use the touch sensor to move the cursor (reverse-will display) to the [CTRL] item and touch the RTN button to call the selection screen.

   Move to the control you want to set by turning the touch sensor to the left or right and touch the RTN button.

2. Mode selection

   Use the touch sensor to move the cursor to the [MODE] item and touch the RTN button to switch to the data input mode.

   Turn the touch sensor to the left or right and switch to the operation mode ([LIN.], [ATL+], [ATL-], or [SYM.]) corresponding to the set control and touch the RTN button.

3. Rate adjustment

   Move the cursor to the [RATE] item and touch the RTN button to switch to the data input mode.

   Turn the touch sensor to the left or right and set the rate.

   Initial value: 0%

   Adjustment range: -100%~+100%

   (When the RTN button is touched for 1 second, the rate is reset to the initial value.)

   Touch the RTN button to end adjustment and return to the cursor move mode.

[Fine tuning VR operation mode]

[LIN.] Mixing rate 0% at center of VR. When the VR is turned clockwise and counterclockwise, the mixing rate increases and decreases, respectively.

[ATL+] Mixing rate 0% at left end of VR. When the VR is turned, the mixing rate increases.

[ATL-] Mixing rate 0% at right end of VR. When the VR is turned, the mixing rate increases.

[SYM.] When the VR is turned to the left or right of the neutral position, the mixing rate increases.

Operations related to servo speed

Servo speed setting

The servo speed at each function operation (including flight condition switching) can be adjusted. The servos operate smoothly at a fixed speed corresponding to the set speed. The operating speed (IN side) and return speed (OUT side) can be set individually.

Switch the operation mode according to the set function.

"SYM." mode: Used with ailerons and other self neutral functions.

"LIN." mode: Used with functions which hold the operation position of the throttle and switch channel, etc.

[Setting method]

```
          IN  MODE   OUT
SPEED    [0] LIN.    0
```

1. Use the touch sensor to move the cursor (reverse-will display) to the [MODE] item and touch the RTN button to switch to the data input mode.

Turn the touch sensor to the left or right and switch to the operation mode ("SYM." or "LIN.") corresponding to the set function and touch the RTN button.

2. Move the cursor to the direction ([IN] or [OUT]) item you want to set and touch the RTN button to switch to the data input mode.

Turn the touch sensor to the left or right and set the speed.

Initial value: 0

Adjustment range: 0~27 (maximum delay)

(When the RTN button is touched for 1 second, the servo speed is reset to the initial value.)

Touch the RTN button to end adjustment and return to the edit mode.

Curve setting operation

This section describes the setting procedure of curves which are used with the AFR function and each mixing function.

Curve type selection

Three types of curves (EXP1, EXP2 and POINT) can be selected.
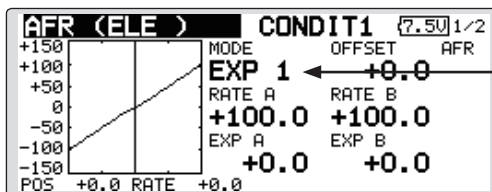
Curve type selection

1. Use the touch sensor to move the cursor (reverse-will display) to the [MODE] item and touch the RTN button to switch to the data input mode.
2. Display the curve you want to use by turning the touch sensor to the left or right.
   *The curve type blinks.
3. When the RTN button is touched, the curve type is changed. (Operate the touch sensor or S1 button to stop the change.)
   [EXP1]: EXP1 curve
   [EXP2]: EXP2 curve
   [POINT]: point curve

Setting by curve type

When the curve type is selected as described above, adjustment items corresponding to the curve type appear on the screen. Adjust each curve as described below.

EXP1/EXP2 curve adjustment

(EXP1 curve)
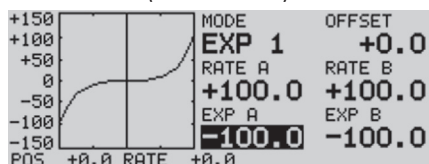
Using the EXP1 curve is effective in smoothing starting of the ailerons, elevator, rudder, etc.

(EXP2 curve)
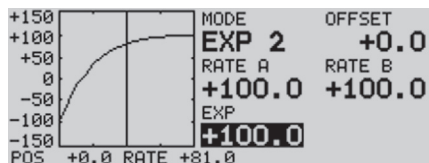
Using the EXP2 curve is effective in engine rise and other engine control.

The curve left and right rates ([RATE A], [RATE B]) and EXP curve rate ([EXP A], [EXP B]) can be adjusted individually. ([EXP] for EXP2)

The curve can also be offset horizontally ([OFFSET]) in the vertical direction.

[Rate setting]

1. Use the touch sensor to move the cursor (reverse-will display) to the [RATE A], [RATE

B], [EXP A], or [EXP B] setting item and touch the RTN button to switch to the data input mode.

2. Set the rate by turning the touch sensor to the left or right.
   Initial value: +100.0% (rate)/+0.0% (EXP rate)
   *Initial value differs depending on function.
   Adjustment range: -200.0~+200.0% (rate)/-100.0~+100.0% (EXP rate)
   (When the RTN button is touched for 1 second, the rate is reset to the initial value.)
   Touch the RTN button to end adjustment and return to the cursor move mode.

[Offsetting the curve horizontally in the vertical direction]

1. Use the touch sensor to move the cursor (reverse-will display) to the [OFFSET] setting item and touch the RTN button to switch to the data input mode.
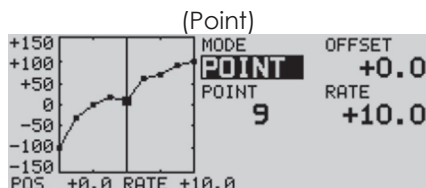2. Move the curve in the vertical direction by turning the touch sensor to the left or right.
   Initial value: +0.0%
   (When the RTN button is touched for 1 second, the rate is reset to the initial value.)
   Touch the RTN button to end adjustment and return to the cursor move mode.

Point curve (POINT) adjustment

(Point)

Up to 11 or 17 points curve can be used. (differs with function)

Initial point number: 9 points (17 points curve), 11 points (11 points curve)

*The set points can be freely increased, decreased, and offset.

[Rate adjustment of each point]

1. Use the touch sensor to move the cursor (reverse-display) to the [POINT] or [RATE] item and touch the RTN button to switch to the curve setting mode.

  *It is changed from the reverse-display to the square box display.

  *In this mode, touch the RTN button to switch the [POINT] item and [RATE] item alternately.

2. Move the cursor (square box) to the [POINT] item by touching the RTN button.

3. Turn the touch sensor to the left or right and select the point whose rate you want to set.

  *The mark ■ on the curve shows the currently selected point. The mark □ on the curve shows the currently deleted point.

4. Move the cursor (square box) to the [RATE] item by touching the RTN button and set the rate by turning the touch sensor to the left or right.

  Repeat steps 2 through 5 and adjust the curve.

  Push the S1 button to end adjustment and return to the cursor move mode.

[Point addition]

1. In the curve setting mode, touch the RTN button to move the cursor to the [POINT] item and turn the touch sensor to the left or right and move the cursor on the curve to the position (mark □) you want to add.

2. When the RTN button is touched for 1 second, the point is added.

[Point deletion]

1. In the curve setting mode, touch the RTN button to move the cursor to the [POINT] item and turn the touch sensor to the left or right and move the cursor on the curve to the position (mark ■) you want to delete.

2. When the RTN button is touched for 1 second, the point is deleted.

[Offsetting the curve horizontally in the vertical direction]

1. Use the touch sensor to move the cursor (reverse-will display) to the [OFFSET] item.

2. Move the curve in the vertical direction by turning the touch sensor to the left or right.

  Initial value: +0.0%

  (When the RTN button is touched for 1 second, the curve is reset to the initial value.)

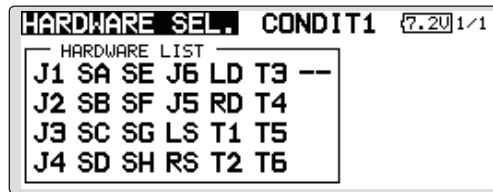 Touch the RTN button to end adjustment and return to the cursor move mode.

Switch selection method

The various functions used in the FMT-01 can be selected by switch. The switch (including when stick, trim lever, or VR are used as a switch) setting method is common to all functions.

Switch selection

When a switch is selected at a mixing function, etc., the selection screen shown below is called.

(Switch selection screen example)

```
HARDWARE SEL. CONDIT1  7.2U 1/1
 ┌─ HARDWARE LIST ──────────
 J1 SA SE J6 LD T3 --
 J2 SB SF J5 RD T4
 J3 SC SG LS T1 T5
 J4 SD SH RS T2 T6
```

Switch selection

1. Use the touch sensor to move the cursor (highlights) to the switch you want to select and touch the RTN button.

   *The switch blinks.

2. To return to the preceeding screen, move the cursor to the [HARDWARE SEL.] at the top of the screen and touch the RTN button.

   Or, move the cursor to the [ON/OFF] and call the ON/OFF position setting screen by touching the RTN button.

When switch was selected

When switch was selected, ON/OFF position setting is also performed.

```
ON/OFF        CONDIT 1  7.5U 1/1
 SA
        ▶OFF
         OFF
         ON
               ALTERNATE NORMAL
```
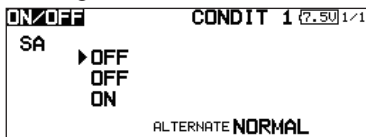
*The ON/OFF setting state of each position is displayed.

1. When you want to change the ON/OFF setting, use the touch sensor to move the cursor and touch the RTN button to switch to the data input mode. Switch the ON/Off display by turning the touch sensor to the left or right.
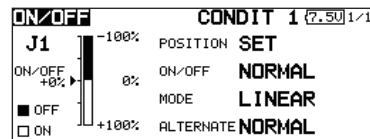
   *ON/OFF display blinks.

3. When the EDIT button is pressed, the ON/OFF setting is changed. (Operate the touch sensor or S1 button to stop the change.)

4. To return to the preceeding screen, move the cursor to the [ON/OFF] at the top of the screen and touch the RTN button.

When stick, trim lever, or knob selected

When a stick, trim lever, or knob is used as a switch, four operation modes can be selected by the following mode and type combination:

```
ON/OFF            CONDIT 1  7.5U 1/1
 J1       -100%  POSITION  SET
 ON/OFF          ON/OFF    NORMAL
 +0% ▶      0%   MODE      LINEAR
 ■ OFF           ALTERNATE NORMAL
 □ ON     +100%
```

1. When you want to change the mode, move the cursor to [MODE] and touch the RTN button to switch to the data input mode. Switch the display to the mode you want to change by turning the touch sensor to the left or right and then make the change by touching the RTN button.

   ●Mode: [LINEAR]/[SYMMETRY]

   *Set the ON/Off point by the method described on the next page.

Alternate mode setting

   ●Mode: [NORMAL]/[ALTERNATE]

1. Move the cursor to the [ALTERNATE] item and touch the RTN button to switch to the data input mode.

2. Change to the mode you want to set by turning the touch sensor to the left or right.

   *The mode display blinks.

3. Touch the RTN button. (Operate the touch sensor or S1 button to stop the change.)

4. To return to the preceeding screen, move the cursor to the [ON/OFF] at the top of the screen and touch the RTN button.

Operation modes

The operation modes when stick, trim lever, or knob was selected are described below.

Linear mode

This mode sets ON/OFF at the left or right (up or down) with the set point as the reference.
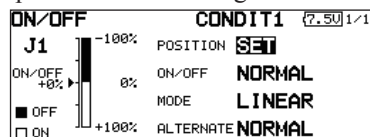
Symmetrical mode

Left and right (up and down) operations are symmetrical about the neutral position. For instance, when you want to switch DR1 with the aileron stick, when the stick is moved to the left or right, DR1 can be turned on at the same left and right position.

Shifting the ON/Off point

The ON/OFF point can be shifted. ON/OFF at a free position can be changed.

●Black range: OFF range

●White range: ON range

[Setting method]

1. First, use the touch sensor to move the cursor to the [POSITION] item.
2. Move the stick, trim lever, or knob to the point you want to change and touch the RTN button. The point is shifted.
3. To return to the preceeding screen, move the cursor to the [ON/OFF] at the top of the screen and touch the RTN button.

## Logic switch (Condition Select function only)

The logic switch function lets you turn operation on and off by combining two switches. For instance, the condition is activated when 2 switches are turned on.

Logic mode

AND: When both switches are ON, the condition is ON.

OR: When either switches is ON, the condition is ON.

EOR: When the two switches are in different states, the condition is ON.

```
SWITCH          CONDIT1  7.5V 1/1
          MODE
          SINGLE
          SWITCH
          --
```
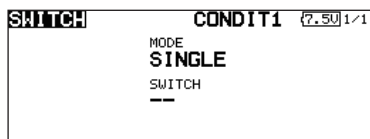
Switch mode selection

1. Move the cursor to the [MODE] item and touch the RTN button to switch to the data input mode.
2. Turn the touch sensor to the left and select the [LOGIC].

   *[LOGIC] display blinks.

3. Touch the RTN button to change to the logic switch mode.

         (Logic switch setting screen)

```
SWITCH          CONDIT2  7.4V 1/1
          MODE
          LOGIC
SWITCH A    LOGIC       SWITCH B
--          AND         --
```
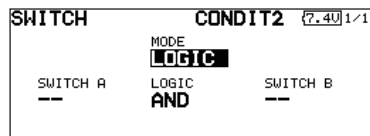
Swich selection

1. Select the switch A and B. (Refer to the description at the previous page.)

Logic mode selection

1. Move the cursor to the [LOGIC] item and touch the RTN button to switch to the data input mode.
2. Turn the touch sensor to the left or right and select the logic mode.

   *The mode display blinks.

3. Touch the RTN button to change to the logic mode.

4. To return to the preceeding screen, move the cursor to the [SWITCH] at the top of the screen and touch the RTN button.

UPDATING

Your Futaba FMT-01 transmitter programming can be updated easily online. When functions are added or improved, the update file can be downloaded from our website. Copy the update files to the SD card and then use the following procedure to update the program.
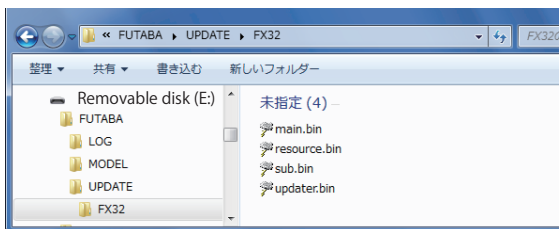
Check our web site for the FAQ regarding updating for more information.
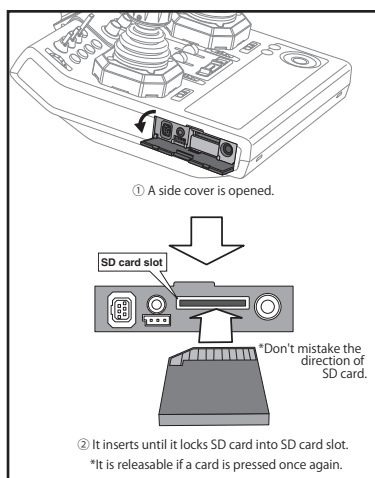
Updating procedure

Note: If the battery fully discharges during program updating, updating will fail. When the remaining battery capacity is 50% or less, always recharge the battery before updating.

Note: The model data in the transmitter can be used unchanged after updating, but to be safe, back up the model data before updating.
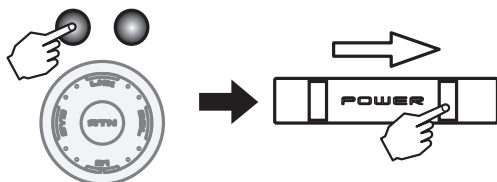
1. Copy update files to a SD card. Typical structure of folders of the card for update are following.


2. Attach the SD card into the SD slot of the FMT-01.

① A side cover is opened.

SD card slot

*Don't mistake the direction of SD card.

② It inserts until it locks SD card into SD card slot.
*It is releasable if a card is pressed once again.

3. Press the Home/Exit switch and turn on the power switch, and FMT-01 should begin to update.

4. When updating is complete, the screen shown below appears.

UPDATNG MAIN PROGRAM...

UPDATNG RESOURCE DATA...

UPDATNG SUB PROGRAM...
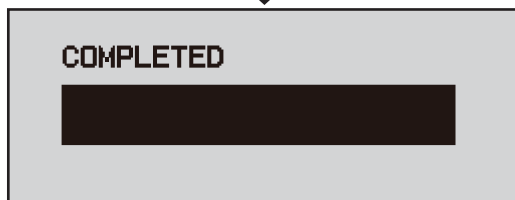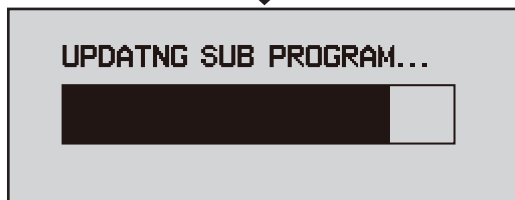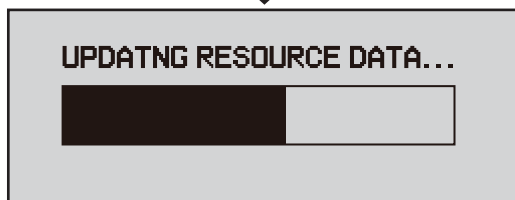
COMPLETED

5. Turn off the power switch. After the monitor LED goes off, switch the update switch in the down direction.

After the updating above has been completed, turn on the power and then check the system program version at the system menu information screen.

6. If writing goes wrong, the following error message will come out.

"LOW BATTERY"

"UPDATE FILE NOT FOUND"

"BROKEN FILE"

"WRITE ERROR"