robbe
Futaba

Instruction Manual

FX-32

No. F8078

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INTRODUCTION

Thank you for purchasing a Futaba® FASSTest-2.4GHz* FX-32 series digital proportional R/C system. This system is extremely versatile and may be used by beginners and pros alike. In order for you to make the best use of your system and to fly safely, please read this manual carefully. If you have any difficulties while using your system, please consult the manual, our online Frequently Asked Questions (on the web pages referenced below), your hobby dealer, or the Futaba Service Center.

*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.

Support and Service: It is recommended to have your Futaba equipment serviced annually during your hobby's "off season" to ensure safe operation.

Disposal

Disposal of equipment: this symbol attached to an item of electrical and electronic equipment means that you are required to dispose of it separately from the general household waste when it reaches the end of its useful life. Take your unwanted equipment to your local specialist waste collection point or recycling centre. This applies to all countries of the European Union, and to other European countries with a separate waste collection system.

GUARANTEE

All our products, including this radio control system, are guaranteed for the full statutory period of 24 months. If you wish to make a valid claim under guarantee, please contact your dealer, who is responsible for the guarantee and the processing of any guarantee claim. During the guarantee period we will correct any material defects or faults in operation or manufacture at no cost to you. All other claims, e.g. in the case of consequent damage, are excluded from the guarantee.

The system must be returned to us carriage-paid; we will pay the cost of transport back to you. We will not accept shipments sent C.O.D. We accept no liability for damage in transit or loss of your shipment; we recommend that you take out suitable insurance to cover this.

Send your equipment to the robbe Service Centre for the country in which you live.
To process your guarantee claims the following conditions must be fulfilled:

- The purchase receipt must be included with your shipment.
- The units must have been operated in accordance with the operating instructions.
- Recommended batteries and genuine robbe accessories must have been used exclusively.
- Damage due to damp, tampering, reversed polarity, overloading and mechanical damage are not covered.
- Please be sure to include a succinct description of the problem to help us locate the fault or defect.

LIABILITY EXCLUSION

We at robbe Modellsport are not in a position to ensure that you observe the operating instructions, and have no influence on the way you install, operate and maintain the radio control system components. For this reason we are obliged to deny all liability for loss, damage or costs which are incurred due to the incompetent or incorrect use and operation of our products, or which are connected with such operation in any way.

POST OFFICE REGULATIONS

The R&TTE (Radio Equipment & Telecommunications Terminal Equipment) Directive is the new European regulation, which applies to radio systems and telecommunications apparatus, and is applicable to all such equipment, which has general conformity approval in the EC.

One section of the R&TTE Directive regulates the setting up and operation of radio systems in the European Community. An important change compared with earlier regulations is the abolition of approval procedures. The manufacturer or importer must submit the radio system to a conformity assessment procedure before marketing the equipment, and is obliged to notify the appropriate authority (register) when the process is completed.

The CE symbol is applied to all such equipment, and indicates that it fulfils the currently valid European norms. An exclamation mark is also applied to radio transmitting equipment as an indication that the approved frequencies are not uniform throughout Europe. This symbol is used in all the countries of the European Union.

Other nations such as Switzerland, Norway, Estonia and Sweden have also adopted this directive. Your radio control system is registered (i.e. approved) in all these countries, and can legally be sold and operated in all of them. We are obliged to point out that the responsibility for this, and also for operating a radio system, which fulfils the requirements of the directives, rests with you, the user.

Conformity Declaration

robbe Modellsport GmbH & Co. KG hereby declares that this device conforms to the basic requirements and other relevant regulations of corresponding CE directives. The original Conformity Declaration can be found on the Internet at www.robbe.com, by clicking on the “Conform” logo button at the relevant device description.

Support and Service

Land	Firma	Strasse	Stadt	Telefon	Fax	E-Mail
Andorra	Sorteney	Santa Anna, 13	AND-00130 Les escaldes-Princip. D'Andorre	00376-862 865	00376-825 476	sorteny@sorteny.com
Dänemark	Nordic Hobby A/S	Bogensevej 13	DK-8940 Randers SV	0045-86-43 61 00	0045-86-43 77 44	hobby@nordichobby.com
Deutschland	robbe-Service	Metzloser Str. 38	D-36355 Grebenhain	0049-6644-87-777	0049-6644-87-779	hotline@robbe.com
England	robbe-Schlüter UK	LE10-UB	GB-LE10 3DS Leicestershire	0044-1455-637151	0044-1455-635151	keith@robbeuk.co.uk
Frankreich	S.A.V Messe	6, Rue Usson du Poitou, BP 12	F-57730 Folschviller	0033 3 87 94 62 58	0033-3-87 94 62 58	sav-robbe@wanadoo.fr
Griechenland	TAG Models Hellas	18,Vriullon Str.	GR-14341 New Philadelfia/ Athen	0030-2-102584380	0030-2-102533533	info@tagmodels.gr
Italien	MC-Electronic	Via del Progresso, 25	I-36010 Cavazzale di Monticello C.Otto (Vi)	0039 0444 945992	0039 0444 945991	mcelec@libero.it
Niederlande/Belg.	Jan van Mouwerik	Slot de Houvelaan 30	NL-3155 Maasland	0031-10-59 13 594	0031-10-59 13 594	van_Mouwerik@versatel.nl
Norwegen	Norwegian Modellers	Box 2140	N-3103 Toensberg	0047-333 78 000	0047-333 78 001	per@modellers.com
Österreich	robbe-Service	Puchgasse 1	A-1220 Wien	0043-1259-66-52	0043-1258-11-79	office@robbe.at
Schweden	Minicars Hobby A.B.	Bergsbrunnagatan 18	S-75323 Uppsala	0046-186 06 571	0046-186 06 579	info@minicars.se
Schweiz	robbe Futaba Service	hinterer Schürmattweg 25	CH-4203 Grellingen	0041 61 741 23 22		info@robbefutaba.ch
Slowakische Rep.	Ivo Marhoun	Horova 9	CZ-35201 AS	00420 351 120 162		ivm2000@seznam.cz
Spanien	robbe-Service	Metzloser Str. 38	D-36355 Grebenhain	0049-6644-87-777	0049-6644-87-779	hotline@robbe.com
Tschech. Rep.	Ivo Marhoun	Horova 9	CZ-35201 AS	00420 351 120 162		ivm2000@seznam.cz

LiPo Battery Safety and Handling instructions

Safety Notes:

- **Do not submerge the battery in water or any other liquid.**
- **Do not heat or incinerate the battery, or place it in a microwave oven.**
- **Do not short-circuit the pack or charge it with reversed polarity.**
- **Do not subject the battery to physical pressure; do not deform or throw it.**
- **Do not solder directly to the battery.**
- **Do not modify or open the battery.**
- **Do not charge the battery to a voltage higher than 4.2 Volts per cell, or discharge it to a voltage lower than 2.5 Volts per cell.**
- **LiPo batteries may only be charged using a charger designed expressly for this purpose. Never connect the battery directly to a mains PSU.**
- **Never charge or discharge the battery in direct sunshine, or close to a heater or fire.**
- **Do not use the battery in any location that is subject to severe static discharges.**
- **Any of these errors may cause the battery to be damaged, explode or catch fire.**
- **Keep the battery well out of the reach of children.**
  If electrolyte should escape, keep it well away from fire; the substance is highly inflammable and may burst into flames.
- **Avoid the fluid electrolyte contacting your eyes. If this should occur, rinse the affected part immediately with plenty of clean water before seeking medical attention.**
- **If the fluid electrolyte should contact your clothes or any other object, wash it off immediately using plenty of water.**
- **Never leave the battery on charge unsupervised.**
- **Charge the battery only on a fireproof surface.**
  To protect the environment, take defective and exhausted packs to your local free battery collection point after ensuring that they are completely discharged. On no account, dispose of exhausted batteries in the domestic waste. Exhausted batteries can be recycled.

Handling:

• Li-Poly cells feature an extremely low self-discharge rate of around 0.2% per day, and for this reason they can be stored for long periods without problems. However, deep discharging must be avoided, as the pack will sustain permanent damage in the form of loss of capacity if discharged too far (the protective electronic circuit avoids this). After about five months of storage - but at the latest when the pack voltage falls to 2.5 Volts / cell - it is essential to recharge the pack. Before any protracted period of storage you should recharge the battery to at least 50% of nominal capacity. After about five months the pack should be recharged again.

• The theoretical useful life of a Lithium cell when operated at low discharge currents is around 500 charge / discharge cycles.

• Since Li-Poly cells do not suffer from the memory effect (lazy battery effect); it is not necessary to discharge them before charging (cycling, balancing, as required with NC and NiMH batteries). In fact, it is harmful to discharge the packs first, and this should be avoided. The capacity of Li-Poly cells declines slightly with each charge cycle, so prior discharging would result in premature capacity loss.

Secure Digital (SD) Memory Card Handling Instructions
(SD card is not included with this set)

- ⊘ Never remove the SD card or turn off power while entering data.
- ⊘ Never store the SD card where it may be subject to strong static electricity or magnetic fields.
- ⊘ Do not expose the SD card to direct sunlight, excessive humidity or corrosive environments.
- ⊘ Do not expose the SD card to dirt, moisture, water or fluids of any kind.
- ❗ Always hold the SD card by the edges during installation and removal.
- ❗ Be certain to insert the SD card in the correct direction.

At the flying field

To prevent possible damage to your radio gear, turn the power switches on and off in the proper sequence:

1. Pull throttle stick to idle position, or otherwise disarm your motor/engine.
2. Turn on the transmitter power and allow your transmitter to reach its home screen.
3. Confirm the proper model memory has been selected.
4. Turn on your receiver power.
5. Test all controls. If a servo operates abnormally, don't attempt to fly until you determine the cause of the problem.

   Test to ensure that the FailSafe settings are correct after adjusting them. Turn the transmitter off and confirm the proper surface/throttle movements. Turn the transmitter back on.
6. Start your engine.
7. Complete a full range check.
8. After flying, bring your throttle stick to idle position, engage any kill switches or otherwise disarm your motor/engine.
9. Turn off receiver power.
10. Turn off transmitter power.

If you do not turn on your system in this order, you may damage your servos or control surfaces, flood your engine, or in the case of electric-powered or gasoline-powered models, the engine may unexpectedly turn on and cause a severe injury.

- ❗ **While you are getting ready to fly, if you place your transmitter on the ground, be sure that the wind won't tip it over. If it is knocked over,** the throttle stick may be accidentally moved, causing the engine to speed up. Also, damage to your transmitter may occur.
- ❗ In order to maintain complete control of your aircraft it is important that **it remains visible at all times**. Flying behind large objects such as buildings, grain bins, etc. is not suggested. Doing so may result in the reduction of the quality of the radio frequency link to the model.
- ⊘ **Do not grasp the transmitter's antenna during flight.** Doing so may degrade the quality of the radio frequency transmission.
- ❗ 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.
- ⊘ **Don't fly in the rain!** Water or moisture may enter the transmitter through the antenna or stick openings and cause erratic operation or loss of control. If you must fly in wet weather during a contest, be sure to cover your transmitter with a plastic bag or waterproof barrier. Never fly if lightning is expected.

Notes:

Features

FASSTest system

The FX-32 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

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

FX-32 is operated by a 7.4 V/3,400 mAh Lithium Polymer 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 FX-32 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 FX-32 includes the following components:

1 FX-32 2.4 GHz FASSTest® transmitter
1 LiPo transmitter battery, 7.4 V / 3400 mAh
1 FASSTest®-R7008SB 2.4 GHz receiver
1 Switch harness with charge socket
1 12 V Lithium battery charger (2 A)
1 230 Volt SPS mains PSU for charging from the mains
1 Aluminium transport case

Transmitter FX-32

(2-stick, 18-channel, FASSTest-2.4G system)
Transmitting frequency: 2.4GHz band
System: FASSTest18CH, FASSTest12CH, FASST MULT, FASST 7CH, S-FHSS, switchable
Power supply: 7.4V / 3,400mAh LiPo battery

Receiver R7008SB

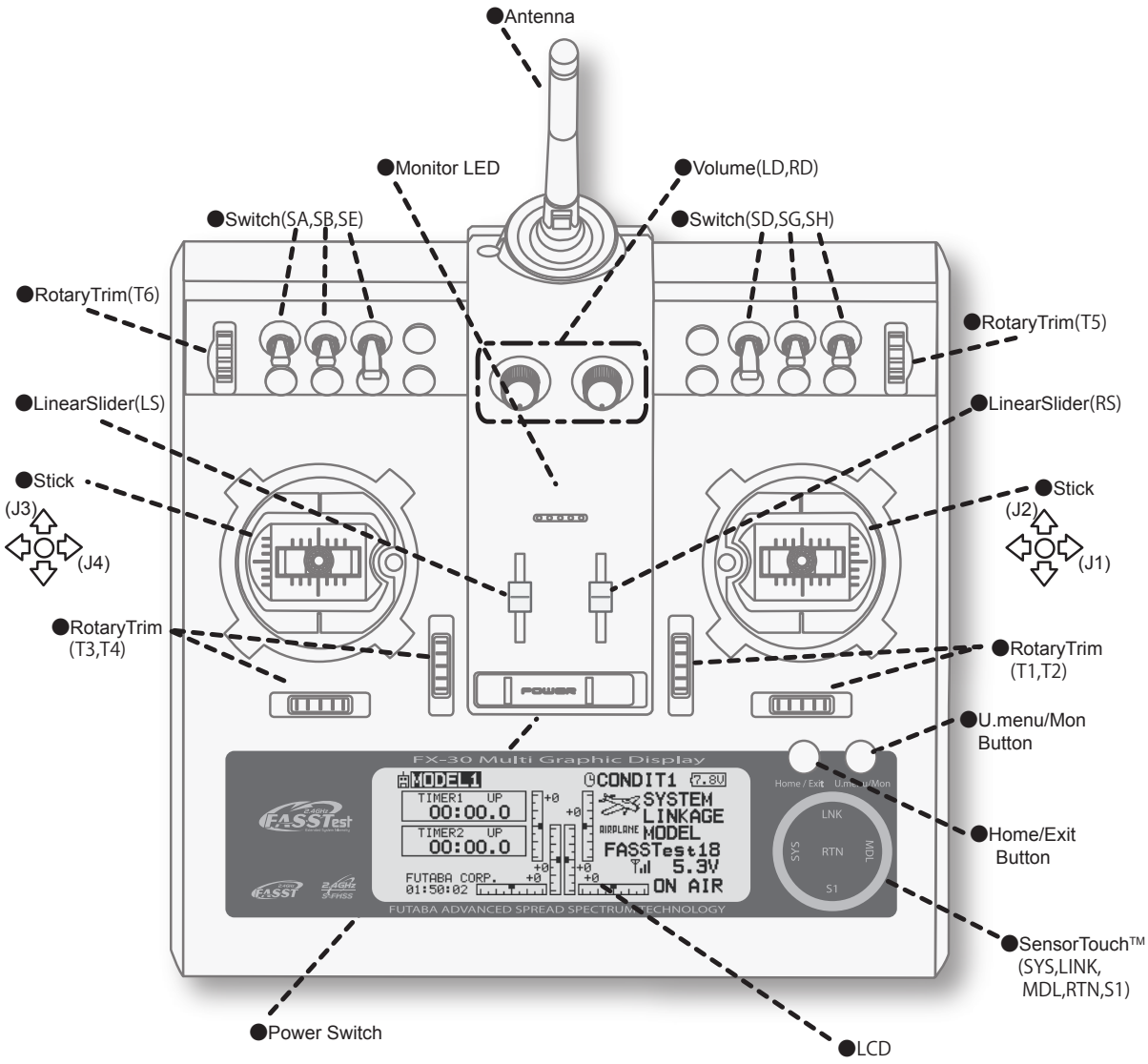
(FASSTest-2.4G system, dual antenna diversity, S.BUS/S.BUS2 system)
Power requirement: 3.7V~7.4V battery or regulated output from ESC, etc. (*1)
Size: 0.98 x 1.86 x 0.56 in. (24.9 x 47.3 x 14.3 mm)
Weight: 0.38 oz. (10.9g)
(*1) When using ESC's make sure that the regulated output capacity meets your usage application.

Note: The battery in the FX-32 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:

- 7,4V 3,400mAh transmitter battery pack - the transmitter LiPo 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 FX-32 transmitter may be connected to another FX-32 system, as well as to any other models of Futaba transmitters. The FX-32 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] [Altitude sensor : SBS-01A] [RPM sensor magnet type : SBS-01RM] [RPM sensor optical type : SBS-01RO] [GPS sensor : SBS-01G] [Voltage sensor : SBS-01V]
- Neckstrap - a neckstrap may be connected to your FX-32 system to make it easier to handle and improve your flying precision since your hands won't need to support the transmitter's weight.
- 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 and FASST,S-FHSS types are available.)

Transmitter controls

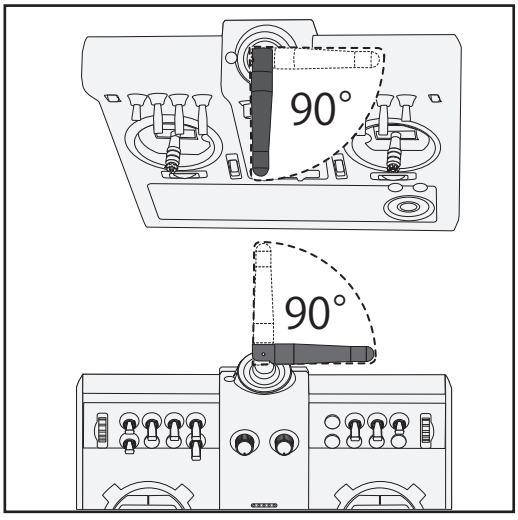


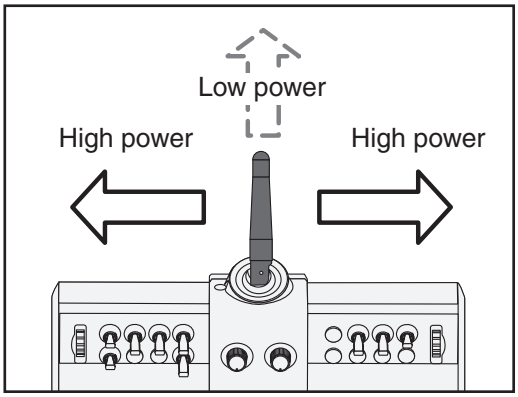
Transmitter's Antenna:

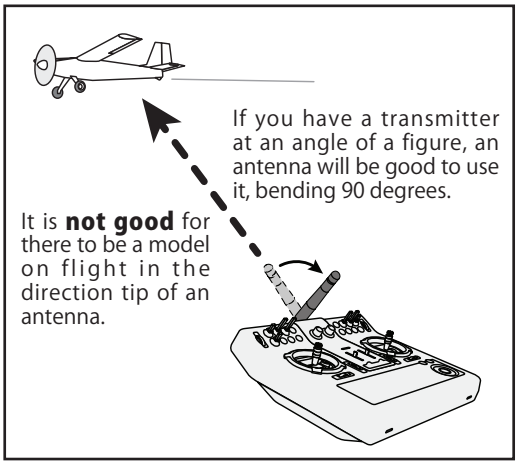
As with all radio frequency transmissions, the strongest area of signal transmission is from the sides of the transmitter's antenna. As such, the antenna should not be pointed directly at the model. If your flying style creates this situation, easily move the antenna to correct this situation.

•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.







⚠ CAUTION

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

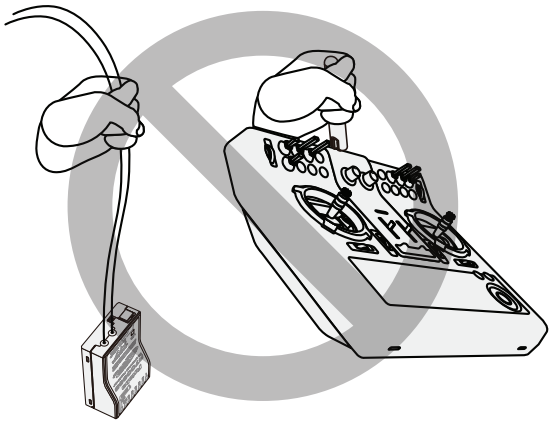
Doing so may degrade the quality of the RF transmission to the model

⃠ 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 FX-32.

- ✧ FASSTest mode → Light Blue light
- ✧ FASST mode → Green light
- ✧ S-FHSS mode → Yellow-green light
- ✧ RF-OFF → Violet light
- ✧ Starting → Red light
- ✧ Trainer Student → Blue light
- ✧ Range check mode → Slow blinking
- ✧ FASSTest receiver link mode → Fast blinking

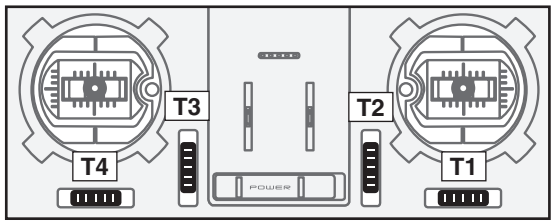
Switch (SA-SH)

(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



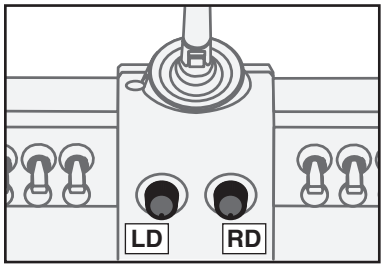
Rotary Trims T1, T2, T3 and T4:

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



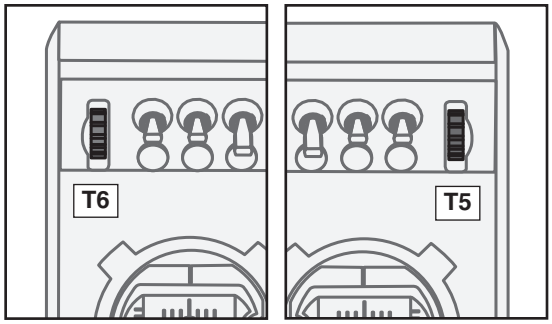
Volume LD and RD:

The volume LD and RD knobs allow analog input.

*The FX-32 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



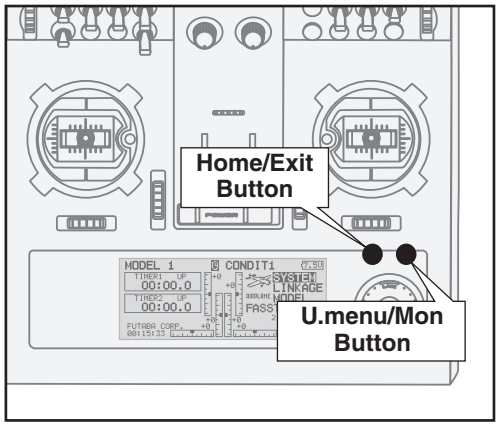
T5 (right), T6 (Left):

The upper rotary trimmers T5 and T6 offer analog input.

*The FX-32 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.

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

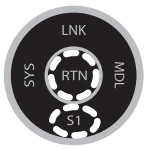
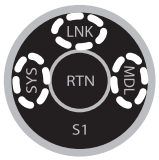
U.menu/Mon:

Press	To Servo Monitor display
Press and hold	To Model Select display

*There is no function of U.menu (user menu). It is due to add by update.

Touch sensor operation

Data input operation is performed using the touch sensor.

SensorTouch™ operation		Condition	Working
• 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	At 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:

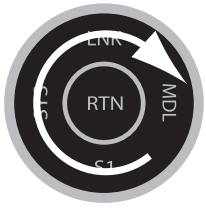
To end the operation on a setup screen and return to the menu screen, move the cursor to the screen title item and touch the RTN button.

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

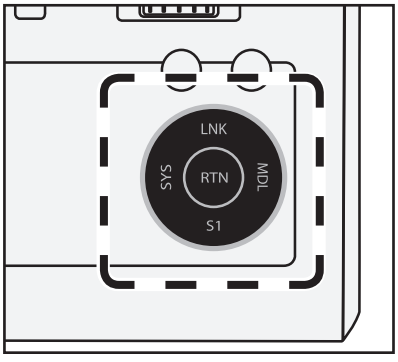
Alternatively, move the cursor to the screen title item and touch the RTN button to return to the home screen from a menu screen.

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™.



*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.

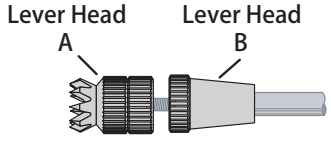
⚠ CAUTION

! 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.

Stick Adjustment

Adjustment of the stick lever length

You can adjust the length of stick levers, as you like. It is recommended to adjust the length of the sticks in line with your hand size.



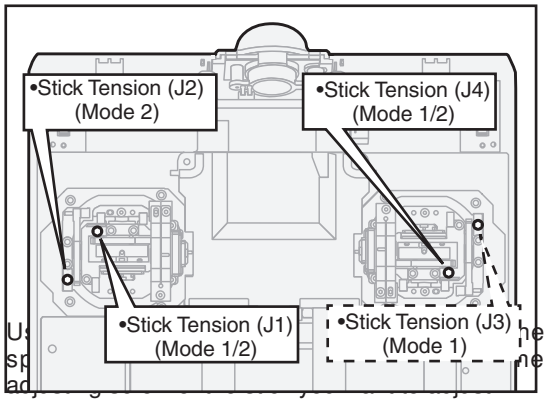
1. Hold the lever head "B" and turn the lever head "A" counter-clockwise. The lock will be released.
2. Turn the lever-head "A" clockwise as you hold the lever-head "B" after placing it as you like.

Adjustment of stick lever tension

The tension of the self-return type stick lever can be adjusted.

1. First, Remove the battery cover on the bottom of the transmitter. Next, unplug the battery wire and remove the battery from the transmitter.
2. Next, using a screwdriver, remove the five screws that hold the transmitter's rear case in position, and put them in a safe place. Gently ease off the transmitter's rear case.

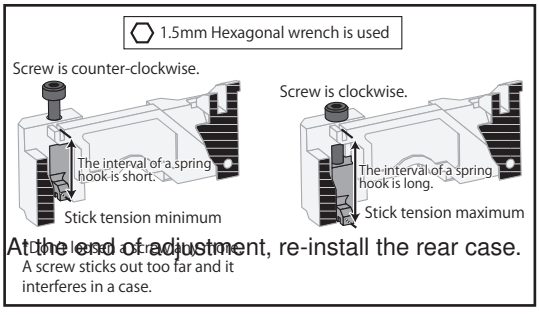
   Now you'll see the view shown in the figure below.



3. U… sp… ad… …ne …ne

*Turning the screw clockwise increases the tension.

CAUTION: If you loosen the screw too much, the stick may not operate because it is caught internally.

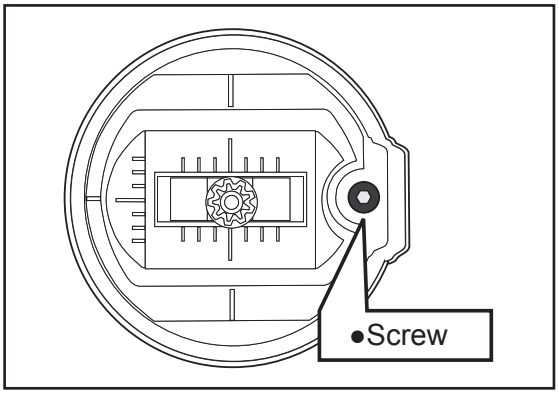


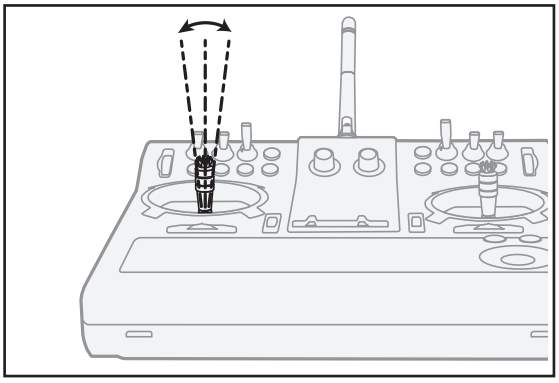
4. At the end of adjustment, re-install the rear case.

Stick Adjustment

Adjustment of the stick lever angle

You can make fine adjustments to the angle of a stick lever either inwards or outwards from the center stick position.



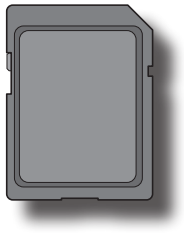


Use the attached 1.5mm hexagonal wrench (inside stylus) to turn the screw clockwise to adjust the stick outwards, or counter-clockwise to tilt it inward.

Note: Be careful not to turn the screw too far counterclockwise as it could fall out.

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

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



⚠ CAUTION

❗ 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

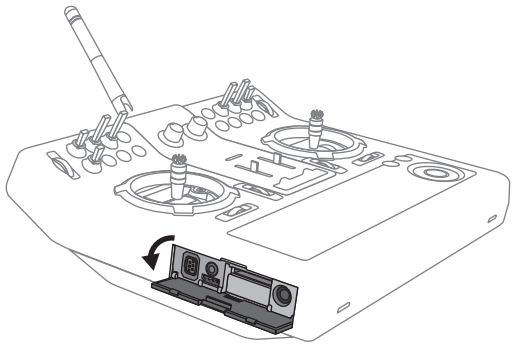
Saving model data and update files (released from Futaba) into the SD card, you can use those files on your FX-32 transmitter. Equipment for reading and writing SD cards is available at most electronics stores.

Stored data

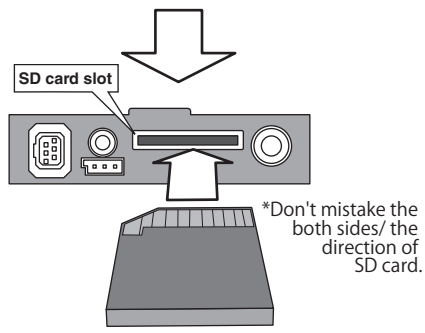
When you have a problem of saving or reading data after a long period of use, please get a new SD card.

*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 A side cover is opened.

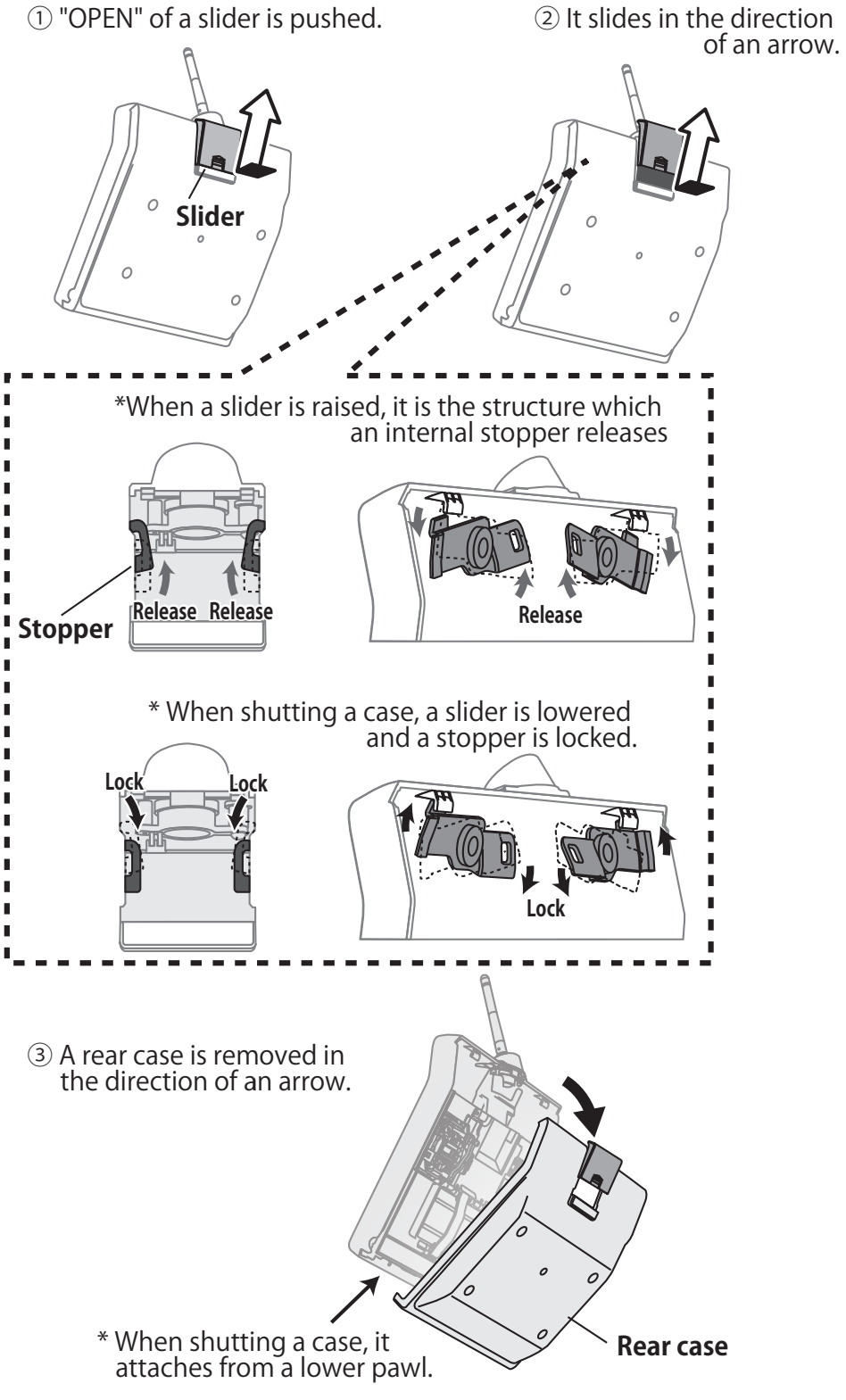


② It inserts until it locks SD card into SD card slot.

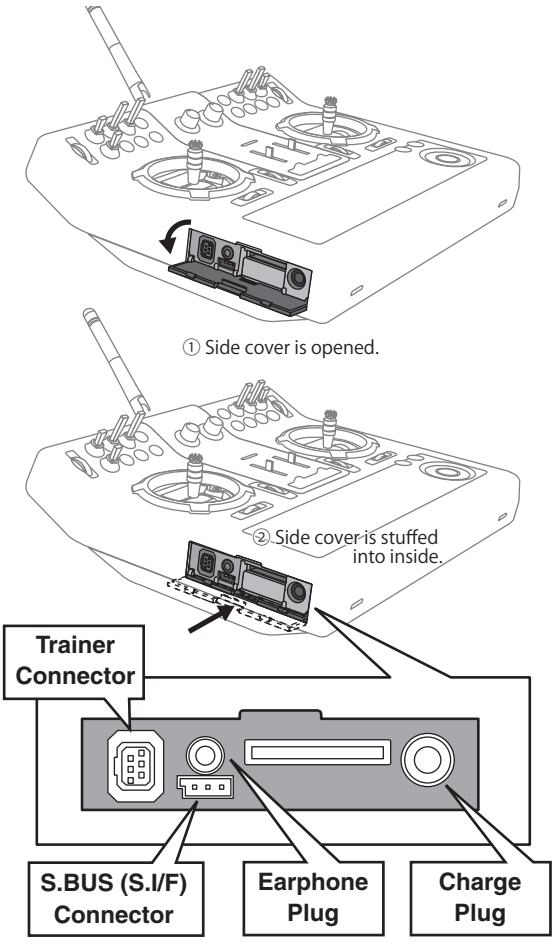
*It is releasable if a card is pushed once again.

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.



Connector/Plug



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.

Connector for battery charger

This is the connector for charging the LiPo battery 7,4V/ 3,400mAH that is installed in the transmitter. Do not use any other chargers except the attached special charger.

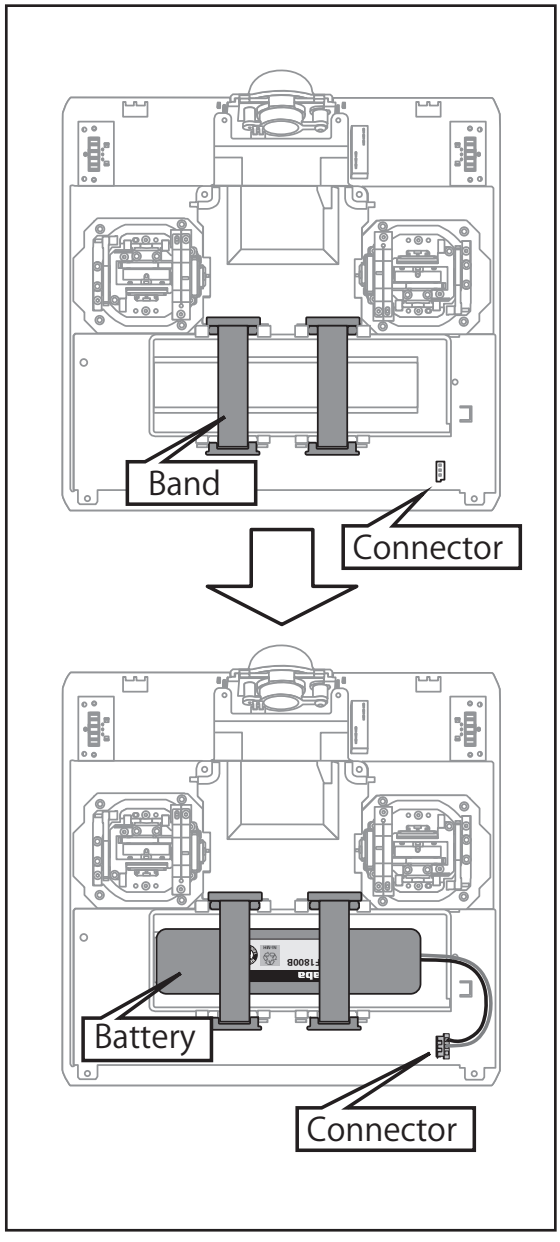
⚠ WARNING

⃠ Do not connect any other chargers except the special charger to this charging connector.

Installation and removal of the HT6F1800B transmitter battery

Attachment of the battery

1. Open the rear case.



2. A battery is fixed 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 FX-32 transmitter after turning off the power until the screen is completely blank and the transmitter has shut down completely.

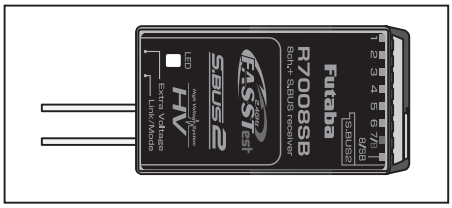
* Internal devices such as memories may be damaged.

* 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. Send it to the Futaba service center.

Receiver nomenclature

Before using the receiver, be sure to read the precautions listed in the following pages.

Receiver R7008SB



Connector

"1 through 6": outputs for the channels 1 through 6

"7/B": outputs of 7 channels and power.

"8/SB": outputs of 8 channels or S.BUS port.

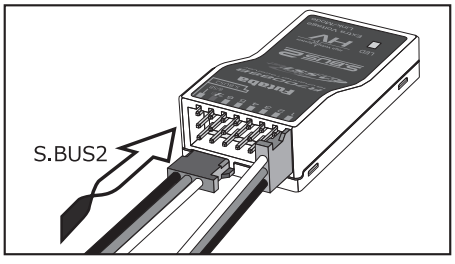
[S.BUS Servo S.BUS Gyro]

*When using 8/SB as S.BUS, you have to set CH MODE of the following page to mode B or mode D.

"S.BUS2": outputs of S.BUS2 port.

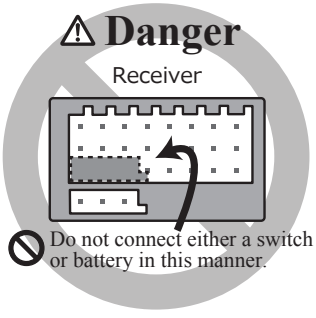
[S.BUS2 Servo S.BUS2 Gyro Telemetry Sensor]

*When using 9 or more channels, use an S.BUS function or use a second R7008SB and link both to your transmitter.



Connector insertion

Firmly insert the connector in the direction shown in the figure. Insert the S.BUS2 by turning it 90 degrees.



⚠ DANGER

Don't connect a connector, as shown in a before figure.

*It will short-circuit, if it connected in this way. A short circuit across the battery terminals may cause abnormal heating, fire and burns.

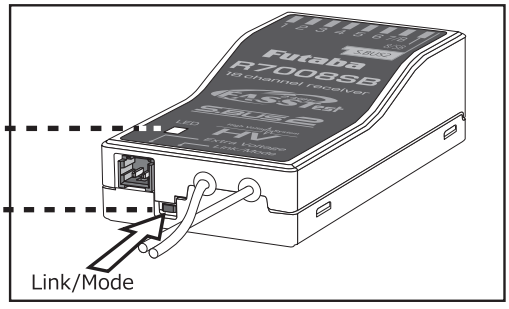
⚠ WARNING

S.BUS2 connectors

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

· LED Monitor

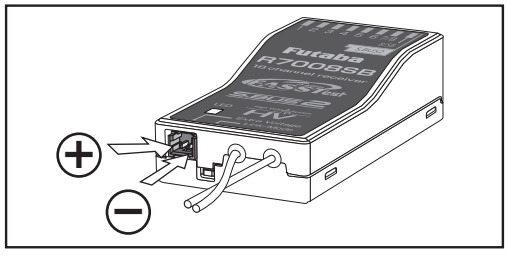
This monitor is used to check the CH mode of the receiver.



· Link/Mode Switch

Use the small plastic screw driver that was included with your receiver.

The Link/Mode Switch is also used for the CH mode selection.



Extra Voltage Connector

Use this connector when using a voltage telemetry device to send the battery voltage (DC0 ~ 70V) from the receiver to the transmitter.

You will need to purchase the optional External Voltage input cable (CA-RVIN-700) FUTM5551.

You can then make a cable with an extra connector to the External Voltage connector.

⚠ DANGER

⃠ Don't touch wiring.

* There is a danger of receiving an electric shock.

⃠ Do not short-circuit the battery terminals.

* A short circuit across the battery terminals may cause abnormal heating, fire and burns.

⃠ Please double check your polarity (＋ and －) when hooking up your connectors.

* If ＋ and － of wiring are mistaken, it will damage, ignite and explode.

⃠ Don't connection to Extra Voltage before turning on a receiver power supply.

R7008SB CH Mode

The R7008SB receiver is a very versatile unit. It has 8 PWM outputs, S.BUS and S.BUS2 outputs. Additionally the PWM outputs can be changed from channels 1-8 to channels 9-16. If you only desire to use it as an 8 channel receiver (without S.BUS), it can be used without any setting changes.

The FX-32 has the ability to link to two R7008SB receivers. One of them outputting channels 1-8 and the other outputting channels 9-16 giving you 16 PWM channels. Instructions for this configuration and S.BUS operation follow.

[How to change the R7008SB Channel mode.]

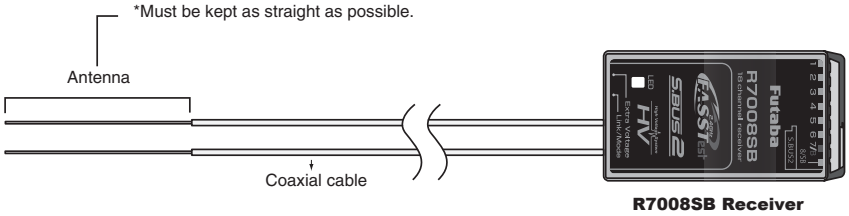
1. Press and hold down the Link/Mode button on the R7008SB receiver.
2. Turn the receiver on while holding down the Link/Mode button. when the LED begins to blink green/red the button may be released.
3. The LED should now be blinking red in one of the patterns described by the chart below.
4. Each press of the Mode/Link button advances the receiver to the next mode.
5. When you reach the mode that you wish to operate in, press and hold the Mode/Link button for more than 2 seconds.
6. Once locked into the correct mode the LED will change to a solid color.
7. Please cycle the receiver(s) power off and back on again after changing the Channel Mode.

R7008SB CH MODE TABLE

Receiver connector	Setting channel			
	Mode A 1 8CH	**Mode B** 1 7CH	**Mode C** 9 16CH	**Mode D** 9 15CH
1	1	1	9	9
2	2	2	10	10
3	3	3	11	11
4	4	4	12	12
5	5	5	13	13
6	6	6	14	14
7/B	7	7	15	15
8/SB	8	S.BUS	16	S.BUS
Red LED blink	1time	2time	3time	4time

Receiver's Antenna Installation

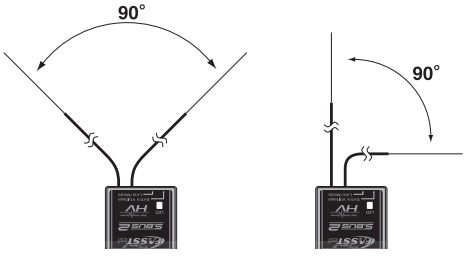
The R7008SB has two antennas. In order to maximize signal reception and promote safe modeling Futaba has adopted a diversity antenna system. This allows the receiver to obtain RF signals on both antennas and fly problem-free.



R7008SB Receiver

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.

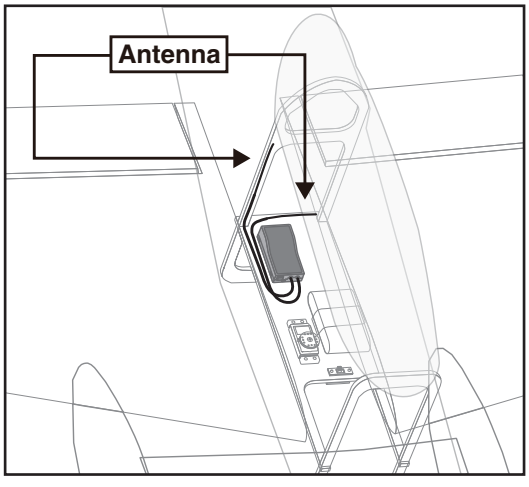


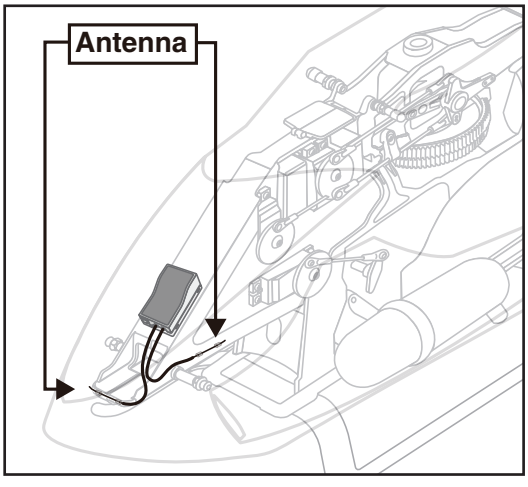
This is not a critical figure, but the most important thing is to keep the antennas away from each other as much as possible.

Larger models can have large metal objects that can attenuate 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.

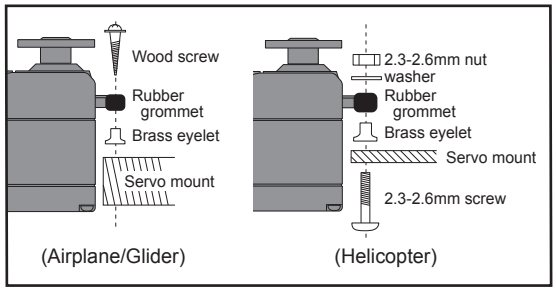




*The illustration demonstrates how the antenna should be placed.

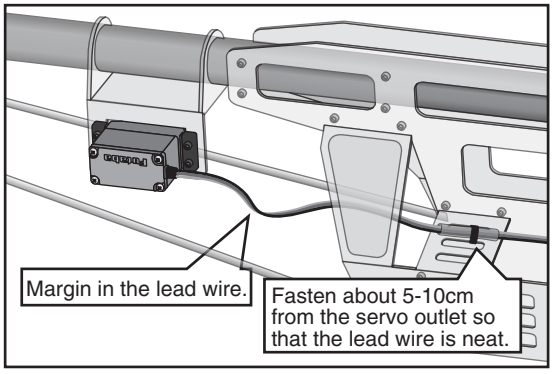
*Receiver Vibration and Waterproofing: The receiver contains precision electronic parts. Be sure to avoid vibration, shock, and temperature extremes. For protection, wrap the receiver in foam rubber or other vibration-absorbing materials. It is also a good idea to waterproof the receiver by placing it 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



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.



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.

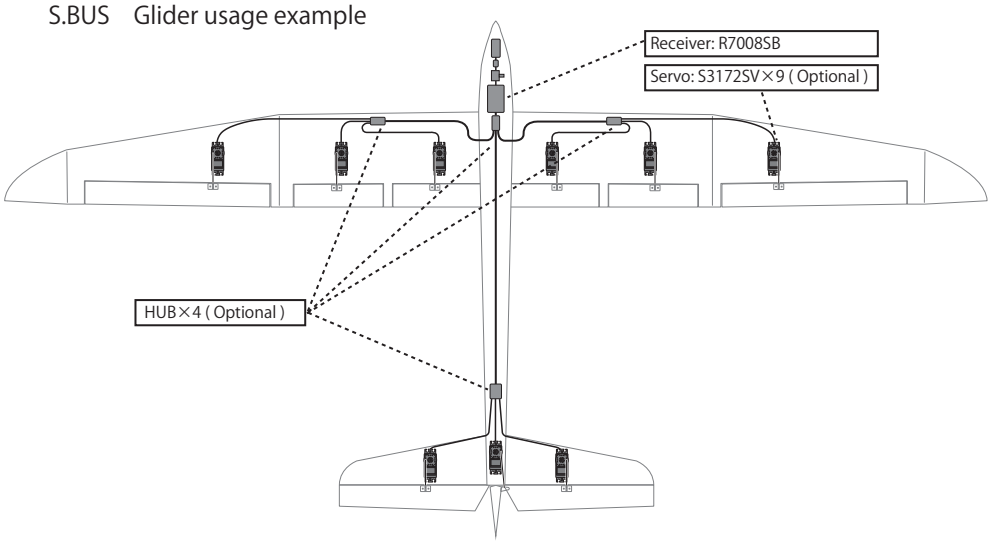
*If the servo case contacts the airframe directly, vibration will travel to and possibly damage the servo.

S.BUS/S.BUS2 Installation

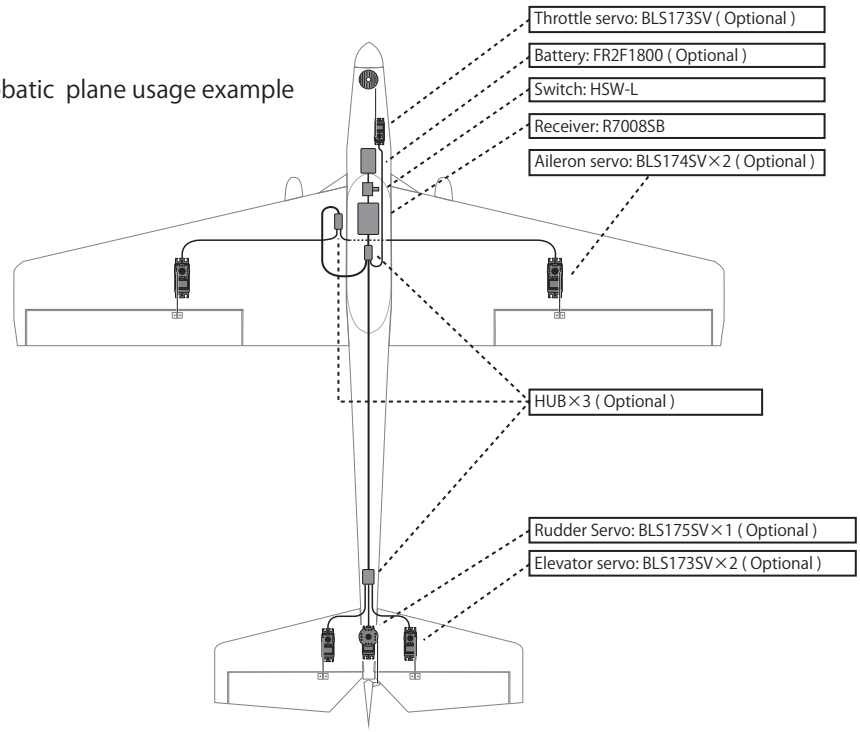
This set uses the S.BUS/S.BUS2 system. The wiring is as simplified and clean mounting as possible, even with models that use a large number of servos. In addition, the wings can be quickly installed to the fuselage without any erroneous wiring by the use of only one simple wire, even when there are a 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 FX-32)
- ●The S.BUS/S.BUS2 system and conventional system (receiver conventional CH used) can be mixed.

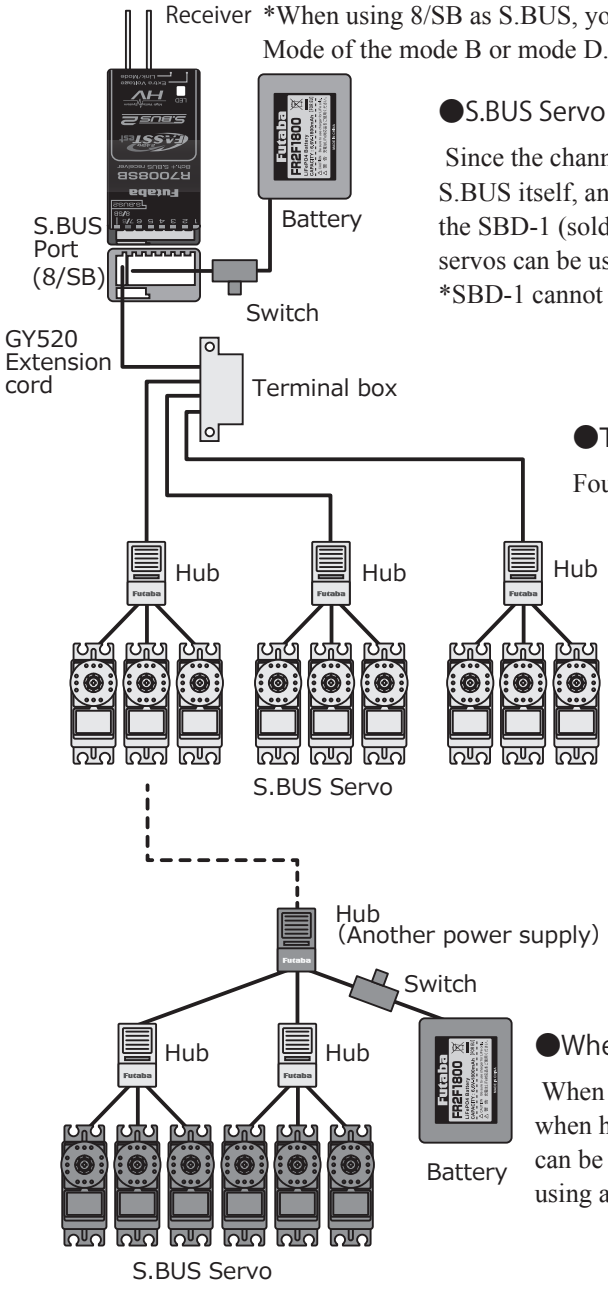
S.BUS　Glider usage example



S.BUS Aerobatic plane usage example



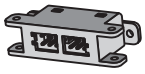
S.BUS Wiring example



●S.BUS Servo

Since the channel number is memorized by the S.BUS itself, any connector can be used. When the SBD-1 (sold separately) is used, ordinary servos can be used with the S.BUS system.
*SBD-1 cannot be used by S.BUS2 port.

●Terminal box



Four connectors can be inserted

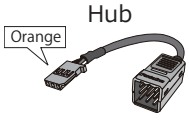
⚠WARNING

Power supply

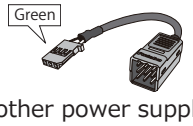
Please make sure that you use a battery that can deliver enough capacity for the number and kind of servos used. Alkaline batteries cannot be used.

●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.



Three connectors can be inserted.



(Another power supply)

Used when using a separate power supply battery.

S.BUS2 System

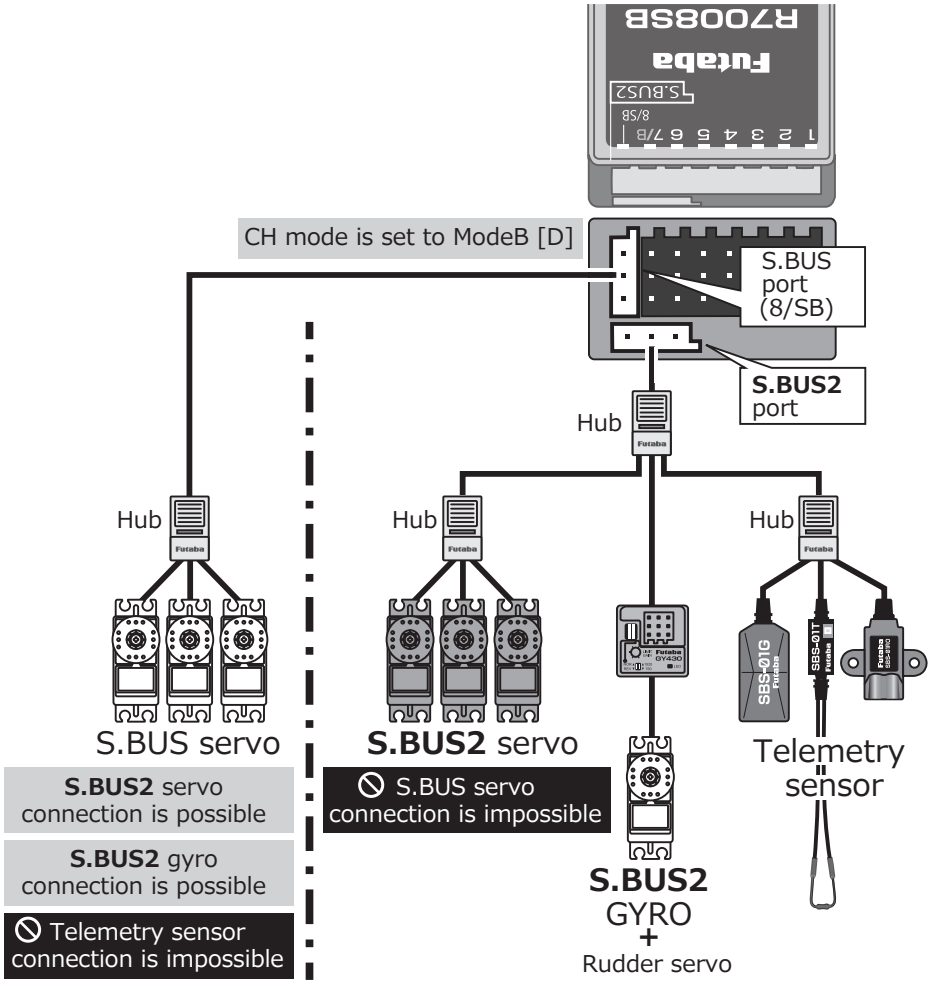
Using the S.Bus2 port an impressive array of telemetry sensors may be utilized.

S.BUS2 TABLE

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

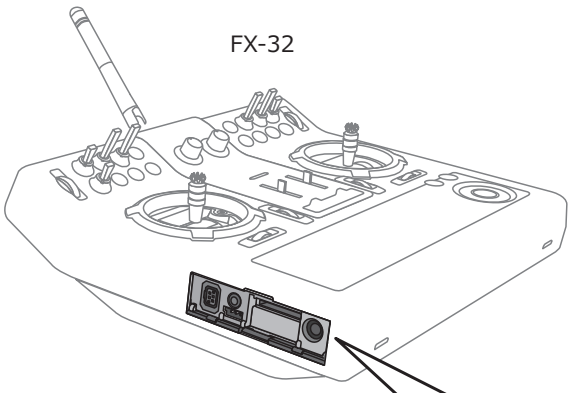
(※) Don't connect S.BUS servo, S.BUS gyro to BUS2 connector.

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

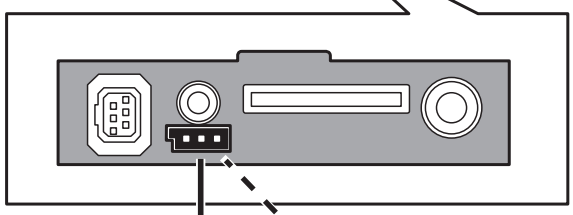


S.BUS/S.BUS2 device setting

S.BUS/S.BUS2 servos or a telemetry sensor can be connected directly to the FX-32. Channel setting and other data can be entered for the S.BUS/S.BUS2 servos or sensors.



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.

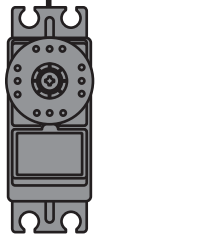


*It is not necessary to carry out multiple connection of the battery like a T18MZ/ T14SG.

(It will damage, if it connects.)

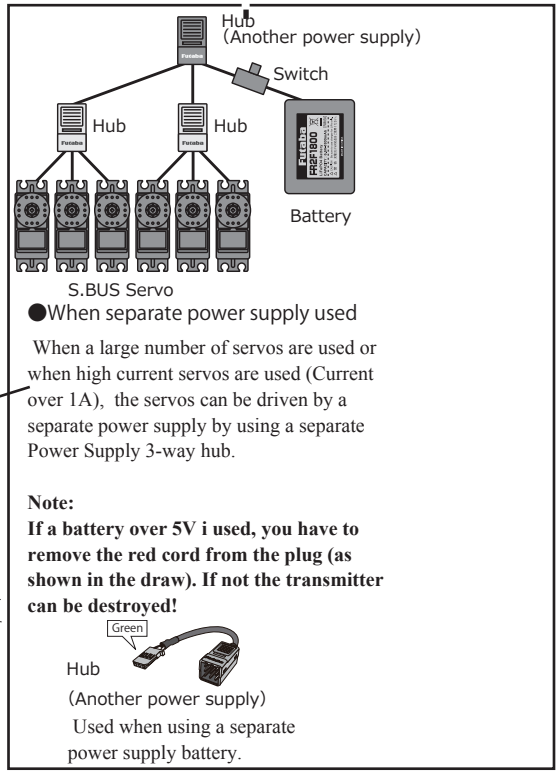
*When you connect to a transmitter many servos which consume many current, please use "Another power supply HUB".

And electric power is supplied to a servo with another power supply.



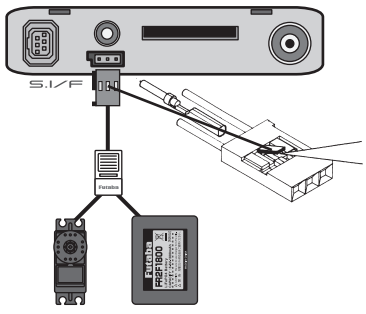
S.BUS/S.BUS2
device
(S.BUS/S.BUS2 servo)

(Telemetry sensor)



●When separate power supply used

When a large number of servos are used or when high current servos are used (Current over 1A), the servos can be driven by a separate power supply by using a separate Power Supply 3-way hub.



Note:
If a battery over 5V i used, you have to remove the red cord from the plug (as shown in the draw). If not the transmitter can be destroyed!

(Another power supply)

Used when using a separate power supply battery.

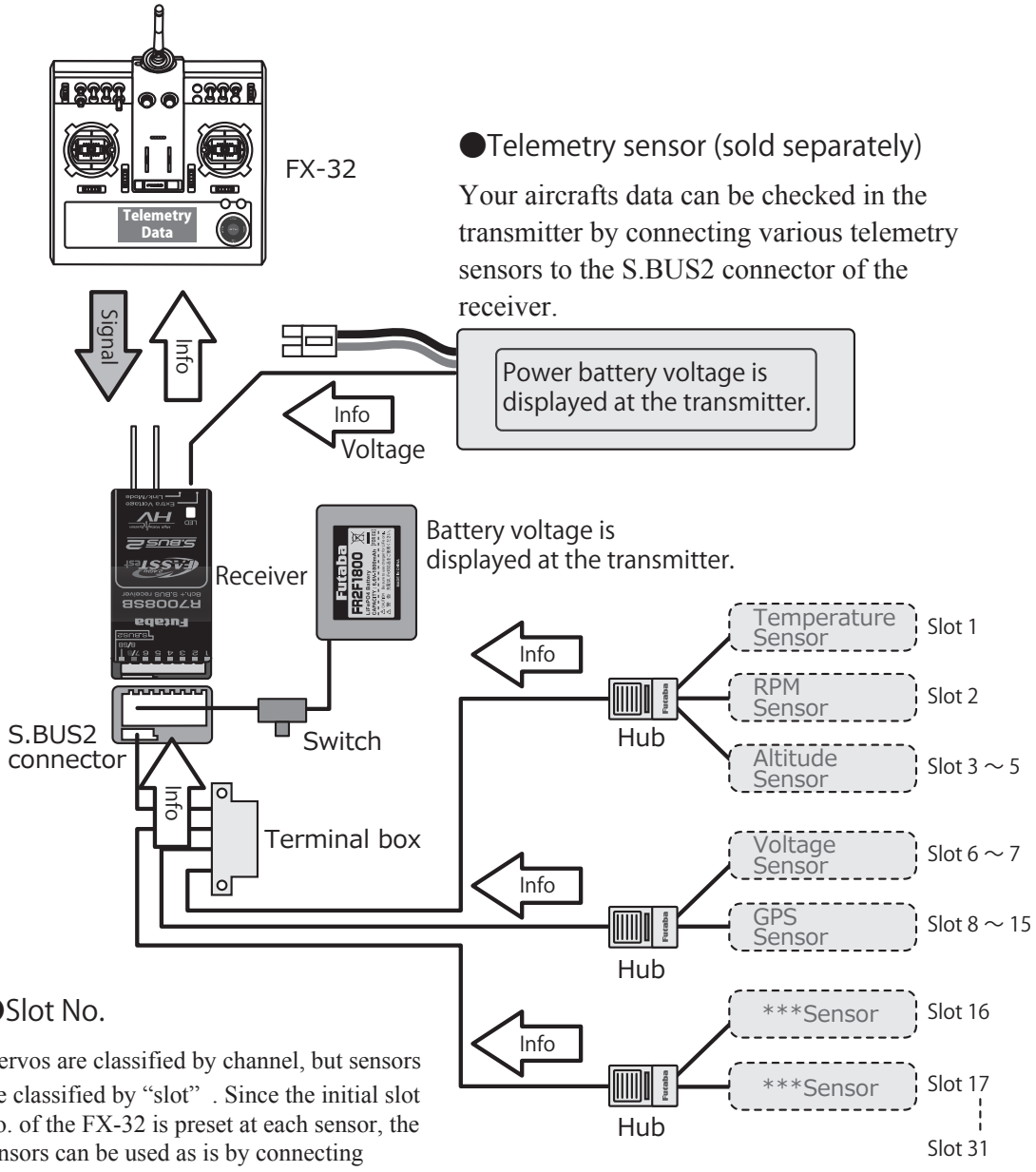
Telemetry System

The R7008SB 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 (R7008SB).

* Telemetry display only FX-32 ID of R7008SB was remembered to be.



BASIC OPERATION

Battery Charging

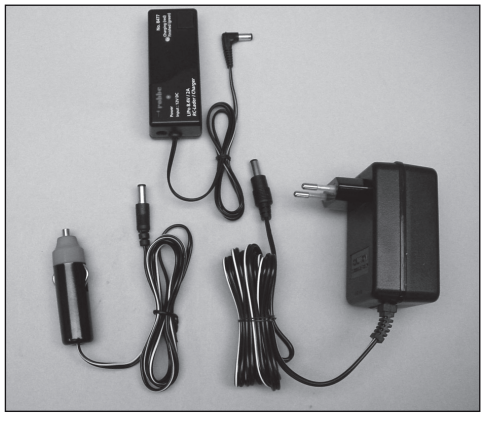
Before charging batteries, read the "Cautions for handling battery and battery charger" in the section "LiPo Battery Safety and Handling Instructions".

How to charge the LiPo battery 7,4V/ 3,400mAH for the transmitter

The RC charger included in the set is suitable for charging 7.4 Volt Lithium batteries, and features a voltage-controlled automatic cut-off circuit (8.4 Volts). The charge current is approximately 2 A.

It can be connected:

- to a 12 V car battery or 12 V DC mains PSU via the car cigar lighter adaptor (supplied);
- or to a mains socket (110 … 230 V AC) using the mains adaptor (also supplied).



Notes on handling and charging the transmitter battery

- Connect the 230 V mains charger to a mains power socket.
- Connect the plug to the 12 V Lithium charger.
- The red monitor LED will now light up.
- Locate the charge lead attached to the 12 V charger, and connect it to the transmitter.
- The charge monitor LED now lights up red to indicate that charging is in progress; the charge current is around 2 Ampere.
- The charge time is around 3.5 hours if the battery is initially discharged.
- When the charge process is almost complete (90%), the colour of the charge monitor LED changes colour to green; the charge monitor LED goes out when the charge is 100% complete. The battery can safely be disconnected at around 90%, since the remainder of the charge to 100% takes approximately a further thirty minutes using the CC-CV charge method.

Caution:

The LiPo transmitter battery is fitted with an integral balancer and a protective electronic circuit, which protects against over-voltage and deep-discharge.

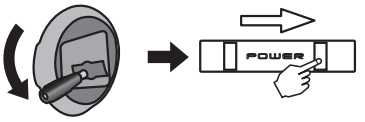
The battery must only be charged using the RC charger supplied in the set! Chargers such as the Power Peak Infinity and similar are not suitable, as these devices are designed for high cell-count packs, and generate a very high voltage at the cut-off point, which could destroy the protective battery circuit.

How to turn transmitter power ON/OFF

When turning on the power, the FX-32 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.

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.

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].

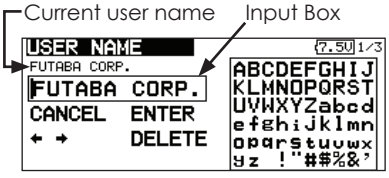
It recommends using it with an initial value.

Registration of the user's name

If so desired, the FX-32 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.



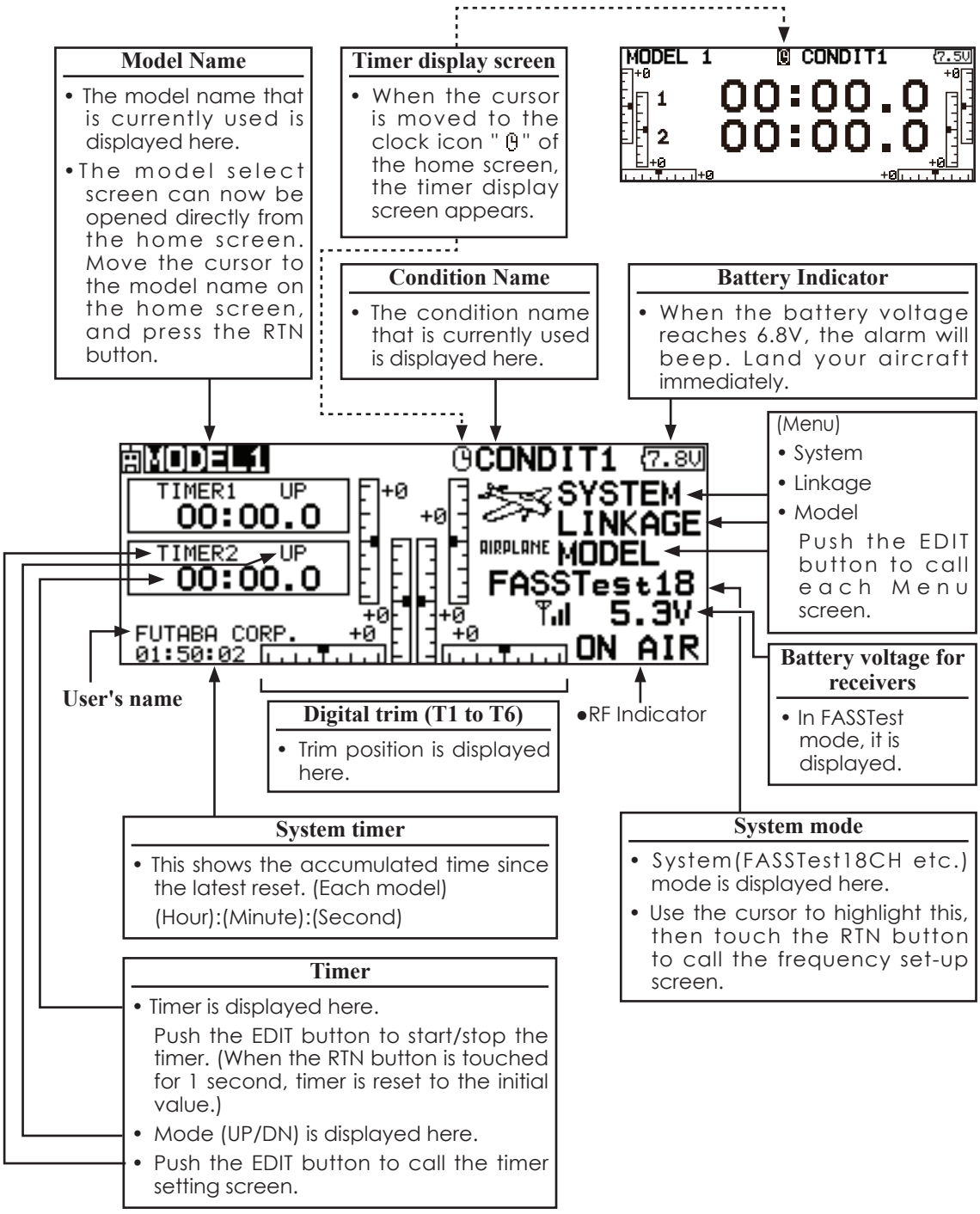
Changing the user name

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

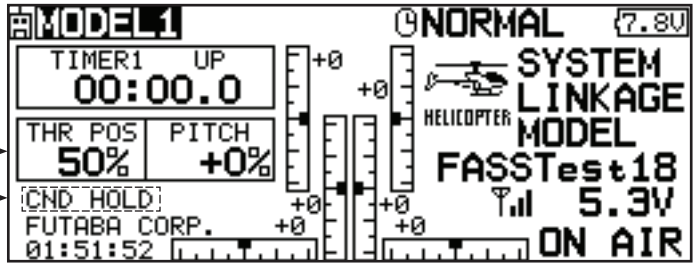
Use the touch sensor to select the following display area to call each setting screen, and push the EDIT button. The setting screen appears.

Airplane/Glider Home 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")

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.

⚠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.

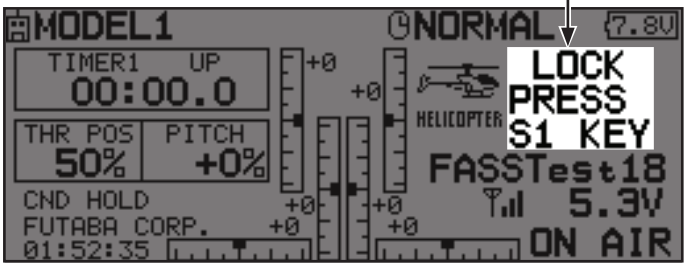
*You can adjust the LCD contrast by the display setting in the system menu.

Screen lock

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 FX-32 programming press and hold the S1 bitton for one second. Please note, the Auto Lock function timer will resume immediately once again.

AUTOMATIC LOCK

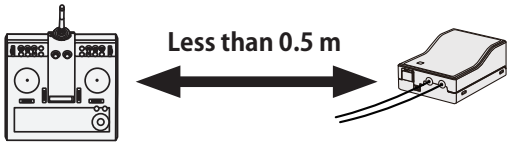
Auto Lock functions automatically when there is no operation from the HOME screen display for a chosen number of seconds.

Link procedure (FX-32/R7008SB)

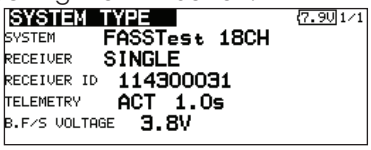
Each transmitter has an individually assigned, unique ID code. In order to start operation, the receiver must be linked with the ID code of the transmitter with which it is being paired. Once the link is made, the ID code is stored in the receiver and no further linking is necessary unless the receiver is to be used with another transmitter. When you purchase additional R7008SB 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.



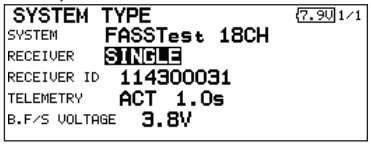
2. Turn on the transmitter.
3. Select [SYSTEM TYPE] at the Linkage menu and access the setup screen shown below by touching the RTN button.



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

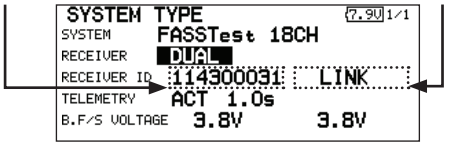
4. When you use two receivers on one model, you must change from [SINGLE] to [DUAL].

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



ID of a primary receiver displays.

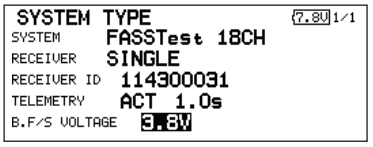
ID of a secondary receiver displays.



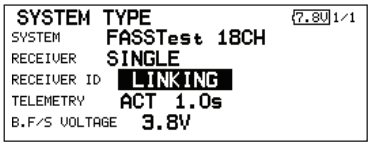
In DUAL, a primary receiver is link previously. Next, a secondary receiver is link.

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

* Only in FASSTest Mode.



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.

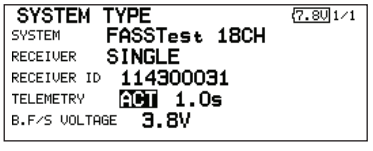


7. When the transmitter starts to chime, power on the receiver. The receiver should link to the transmitter within about 1 second.

In "Link" Mode

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

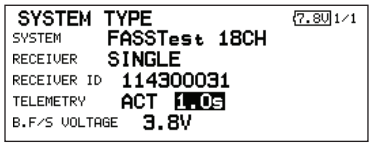
9. ACT will be chosen if telemetry is used.
It is INH when not using it.



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



*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.

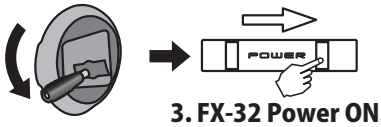
Range Testing Your R/C System

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 FX-32 transmitter incorporates a system that reduces its power output and allows you to perform such a range check.

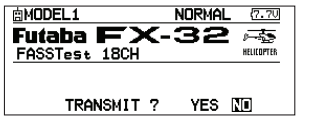
Range check mode

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

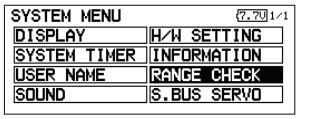
2. THR Stick Slow.



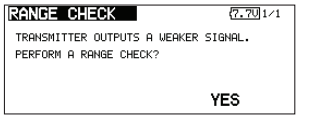
3. FX-32 Power ON.



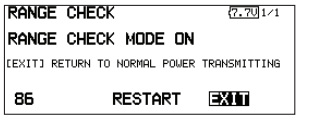
4. Scroll to "NO" and press RTN.



5. "RANGE CHECK" is chosen from "SYSTEM MENU" and press RTN.



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



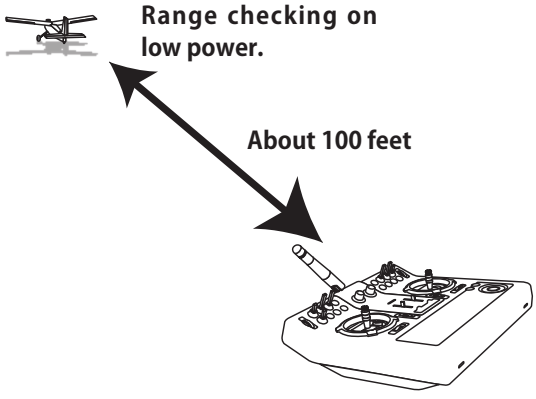
During this mode, the RF power output is reduced so the range test can be performed. In addition, when this mode is activated the right LED on the front of the transmitter starts blinking and the transmitter gives users a warning with a beeping sound every 3 seconds.

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 check mode

⚠ WARNING

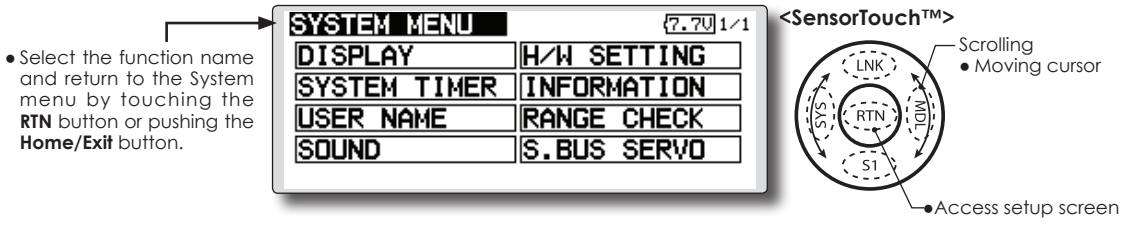
! Do not fly in the range check mode.

*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.



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.

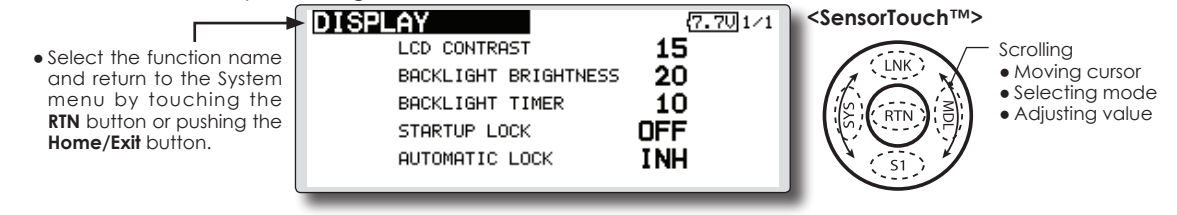
DISPLAY

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.



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 cursol 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 cursol 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 FX-32 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.

- FX-32 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.

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".

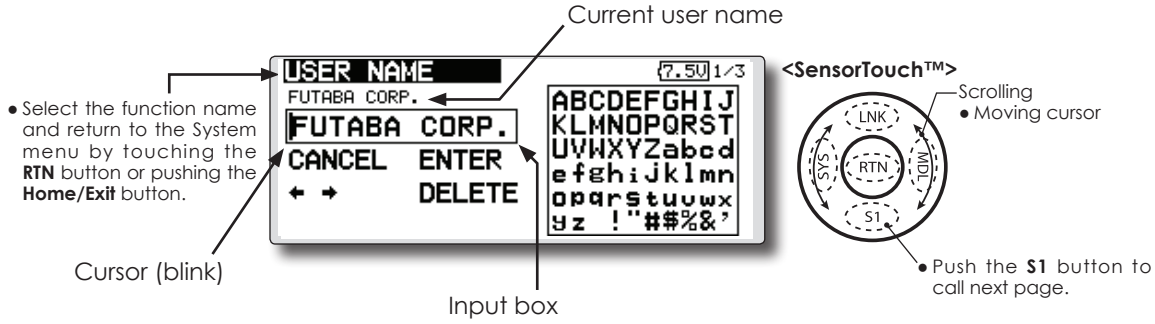
USER NAME

User name registration

This function registers the FX-32 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.



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.

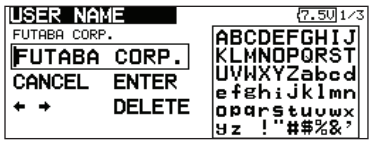
   [Adding a character]

   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.

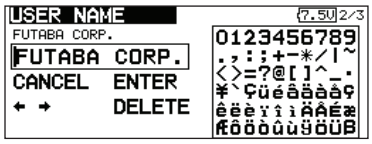
   *A name of up to 12 characters long can be entered as the user name. (A space is also counted as 1 character.)

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.)

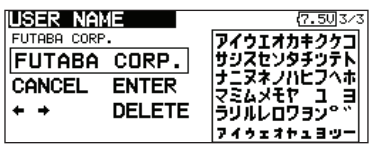
(Character list 1/3)



(Character list 2/3)



(Character list 3/3)



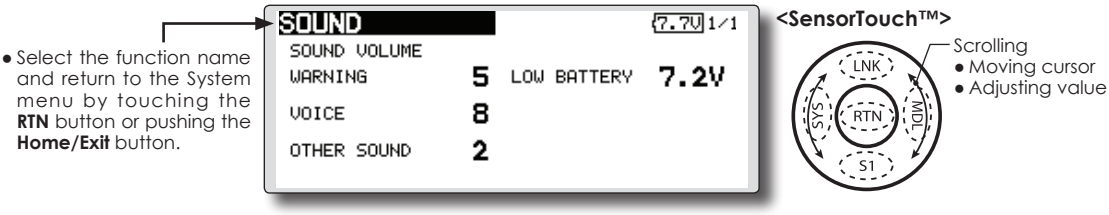
SOUND

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.



● 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 reverse

This function reverses the operation signal of the sticks, switches, trimmer levers, 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

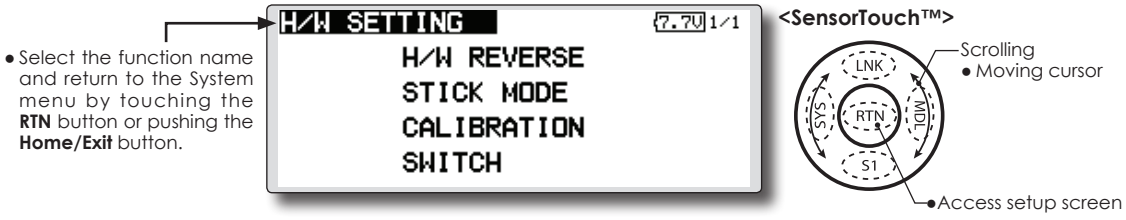
J1-J4 stick correction can be performed.

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

Switch

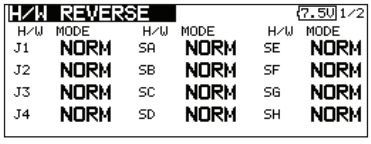
It inputs, when the kind of switch is changed or it adds.

- Select [H/W SETTING] at the system menu and call the setup screen shown below by touching the RTN button.



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.

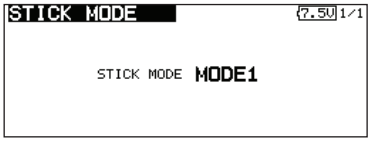
3. Change the mode by turning the touch sensor to the left or right. The display blinks. When the RTN button is touched, the operation direction is reversed. (To terminate mode change, turn the touch sensor or push the S1 button.)

"NORM": Normal operation direction

"REV" : Operation direction is reversed.

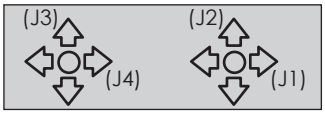
Operation direction reversal method

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.)

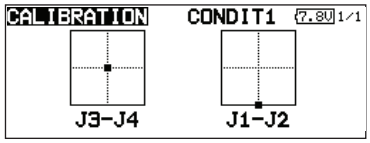


Mode	J1	J2	J3	J4
1	Aileron	Throttle	Elevator	Rudder
2	Aileron	Elevator	Throttle	Rudder
3	Rudder	Throttle	Elevator	Aileron
4	Rudder	Elevator	Throttle	Aileron

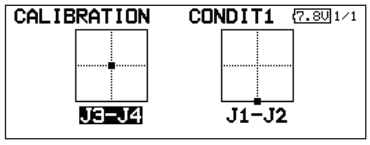
Stick calibration method

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

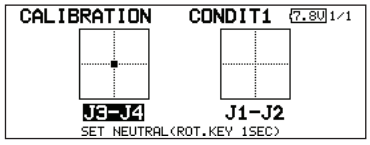
1.Select [CALIBRATION] and access the setup screen shown below by touching the RTN button.



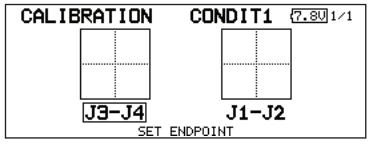
2.Move the cursor to the J3-J4 button and touch the RTN button.



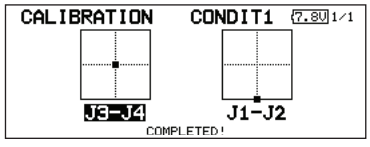
3.Move the J3 or J4 sticks to the neutral position and press the RTN button for one second.



4.Set the J3 and J4 sticks fully to the bottom right and wait until the buzzer sounds.



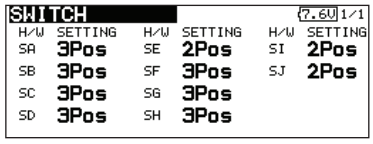
5.Set the J3 and J4 sticks fully to the top left and wait until the buzzer sounds.



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 FX-32 system program version information, SD card information (maximum and vacant number of model data), and product ID are displayed on the Information screen.

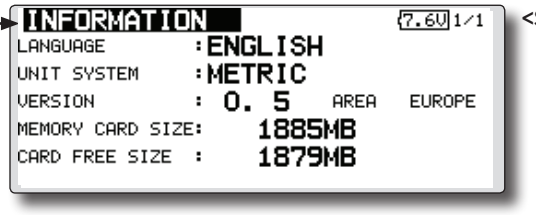
*When the SD card is not inserted, the SD card information is not displayed.

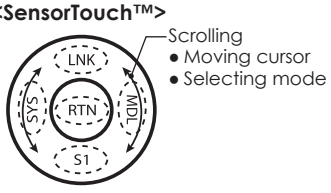
The language displayed in home, menu, and setup screen is selectable.

Moreover, 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

"VERSION": FX-32 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.)

Note:

Any change in the selected language only alters the language used in the on-screen menus, i.e. not the language used for speech output. To change the speech output language an update must be installed containing the corresponding speech software. This software can be found in the Registration area of the robbe website: www.robbe.com

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.

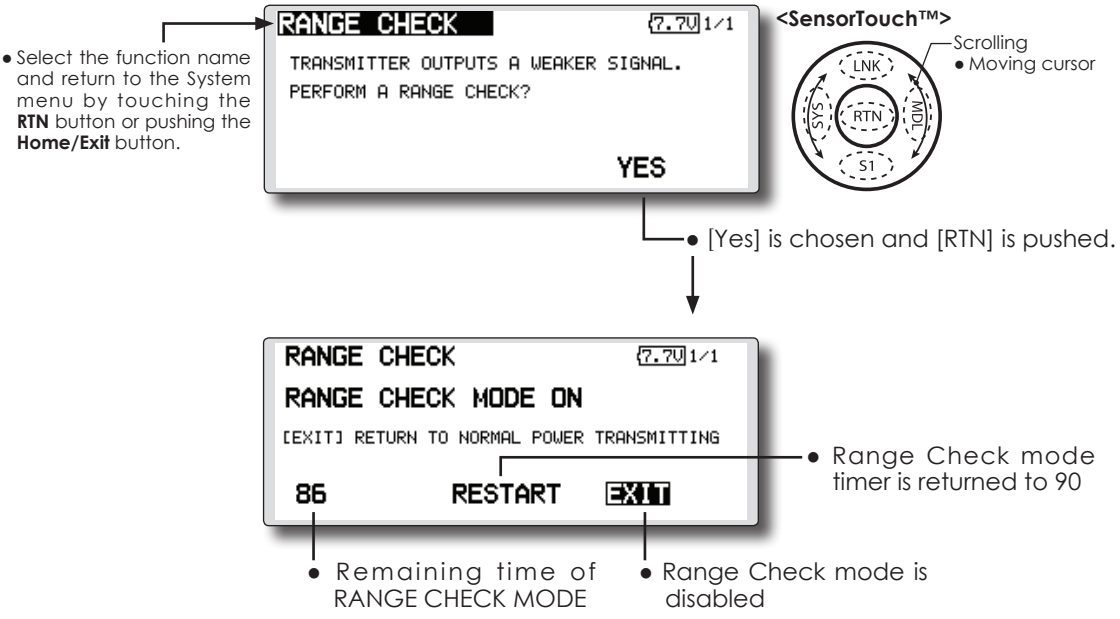
*The range check mode, when activated, will continue for90 seconds unless the user exits this mode early. When the progress bar reaches 90 second mark, the RF transmission automatically returns to the normal operating power.

⚠ 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.



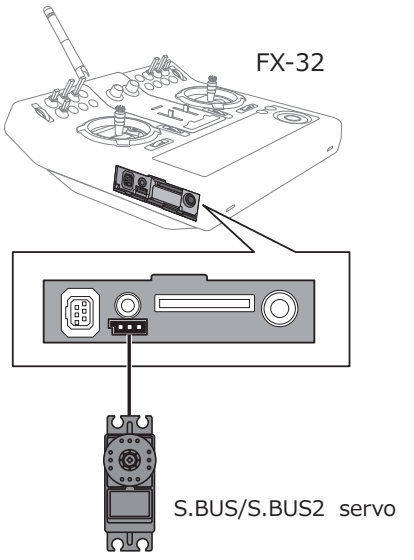
Rotation Range Check method

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 FX-32 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 FX-32 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 itself. Servo setting can be performed on the FX-32 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 FX-32. 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.

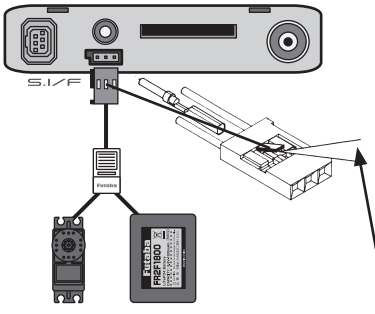
* With S.BUS/S.BUS2 servos of use, there are a function which can be used, and an impossible function and a display screen changes.
(Only the function which can be used by a servo is displayed.)

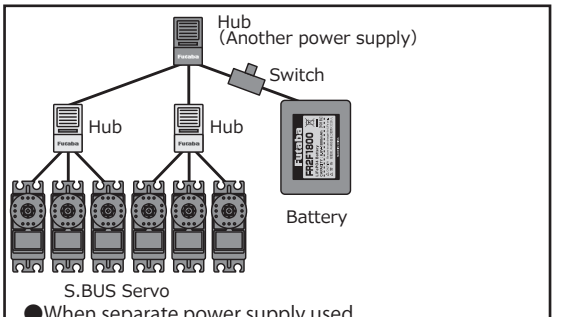
* After reading completion, with connection of the above figure, if a stick is moved, the test of operation of the servo can be operated and carried out.

*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 many servos which consume many current, please use "Another power supply HUB". And electric power is supplied to a servo with another power supply.

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





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.

●When separate power supply used

When a large number of servos are used or when high current servos are used (Current over 1A), the servos can be driven by a separate Power Supply 3-way hub.

Note:
If a battery over 5V i used, you have to remove the red cord from the plug (as shown in the draw). If not the transmitter can be destroyed!

S.BUS Servo Description of function of each parameter

*There are a function which can be used according to the kind of servo, and an impossible function.

• ID

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

• Channel

Channel of the **S.BUS** system 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 to a minute current 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 : It is the boost ON at the time of low-speed operation.(In the case of usual)

ON : It is always the boost ON.(When quick operation is hope)

• 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 worsened.

(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 previously turned on at the time of a power supply injection without taking transmit of a transmitter, the buzzer sound of about 2.5 Hz continues sounding from a servo.

(Even when the transmit of a transmitter is taken out previously, a buzzer becomes until the signal of a servo is outputted normally, but it is not unusual.)

The transmitter has been turned OFF ahead of a servo power supply → The buzzer sound of about 1.25 Hz continues sounding as servo power supply end failure alarm.

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

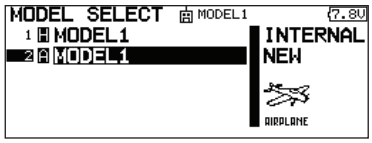
＊ Buzzer sound is generated by vibrating the motor of a servo.

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

Airplane/glider basic setting procedure

1. Model addition and call

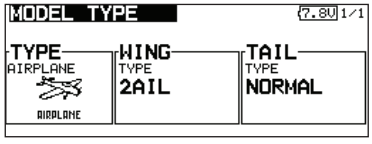
Initial setting assigns 1 model to the FX-32 transmitter. The Model Select function of the Linkage Menu is used to add models and to select models which are already set.

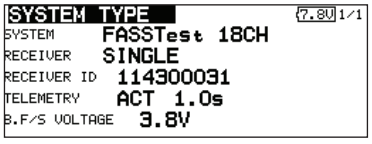


The data for up to 30 models can be saved to the transmitter. Data can also be saved to the optional SD card.

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.

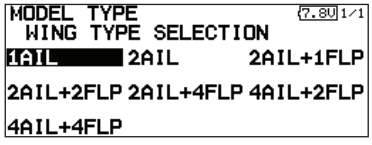


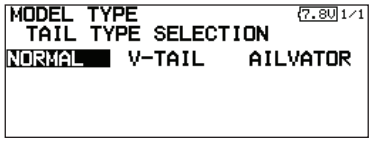


2. Model type selection

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.

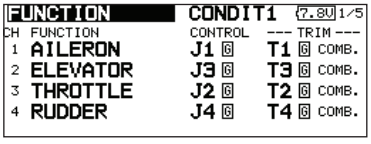




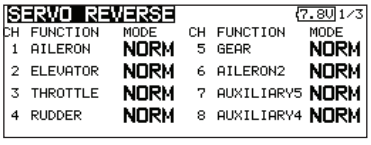
3. Fuselage linkage

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.

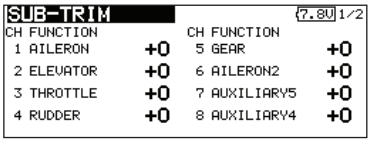
Note: The channel assignment of the FX-32 is different from that of our existing systems. Note that even for the same "airplane model", when the wing type and tail type are different, the channel assignment may be different. (The channel assigned to each function can be checked at the Function menu of the Linkage Menu.)

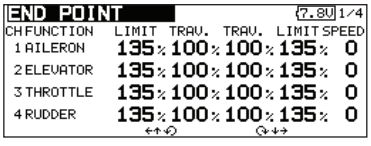


- If the direction of the servo is incorrect, adjust the direction with the Reverse function of the Linkage Menu.



- 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.

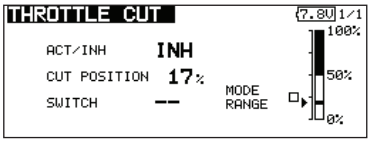




4. Throttle cut setting

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

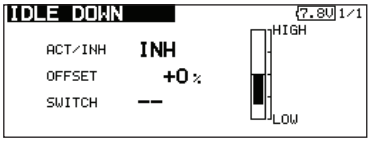
Set throttle cut with the Throttle Cut function of the Linkage Menu. After activating the throttle cut function and selecting the switch, adjust the throttle position so that the carburetor becomes fully closed. For safety, the throttle cut function operates the throttle stick in the 1/3 or less (slow side) position.



5. Idle down setting

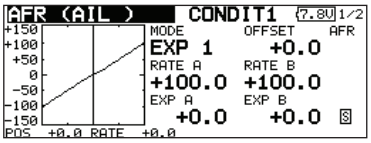
The idling speed can be lowered with one touch by a switch without changing the throttle trim position. Perform this setting with the Idle Down function of the Linkage Menu. After activating the Idle Down function and selecting the switch, adjust the idle down speed. For safety, the idle down function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

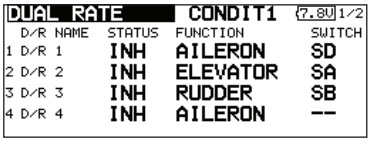
*While the Throttle Cut function is in operation, the Idle Down function does not work.



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.



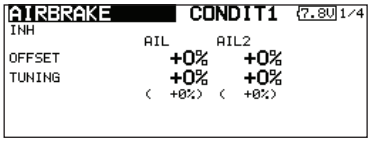


7. Airbrake

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.

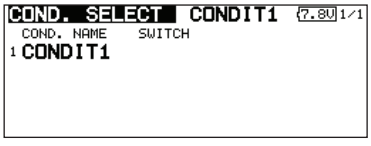
The offset amount of the aileron, elevator, and flap servos can be adjusted as needed. Also the speed of the aileron, elevator, and flap servos can be adjusted. (IN side/OUT side) A delay can be set for each condition, and a Cut switch which will turn OFF the delay can be chosen. Trim amounts can be 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.



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.



*The Condition 1 is always on, and remains on until other conditions are activated by switches.

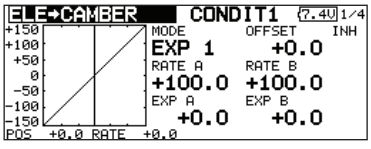
*When a new condition is added, the model data of the Condition 1 is automatically copied to the new condition.

*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 input 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.

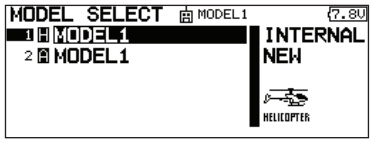


Helicopter basic setting procedure

This section outlines examples of use of the helicopter functions of the FX-32. Adjust the actual values, etc. to match the fuselage used.

1. Model addition and call

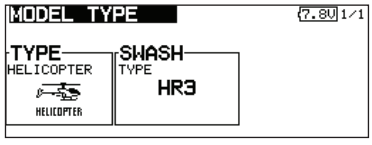
Default setting assigns 1 model to the FX-32. To add new models or to call a model already set, use the Model Select function of the Linkage Menu.

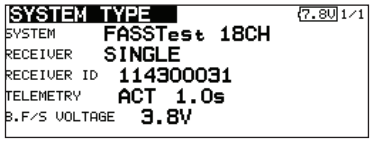


This is convenient when calling a model after registering the model names in advance. (The data of up to 30 models can be saved at the transmitter. Data can also be saved to the optional SD card.)

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

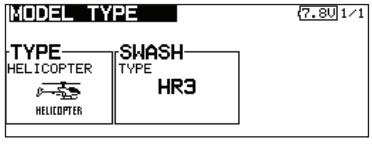
When a new model is added, the Model Type Select screen and Frequency/Modulation mode/ Receiver ID setup screen automatically appear. Change, or check that they match the type, frequency, and receiver type of the model used.

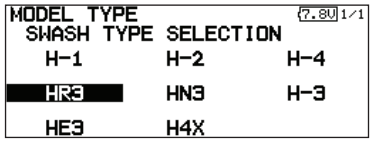




2. Model type and swash type selection

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.



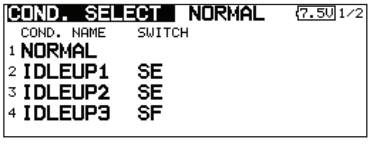


*The Model Type function automatically selects the appropriate output channels, control functions, and mixing functions for the chosen model type. Eight swash types are available for helicopters.

*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.



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 has 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.

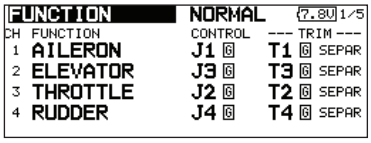
(General flight condition setting example)

- 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.

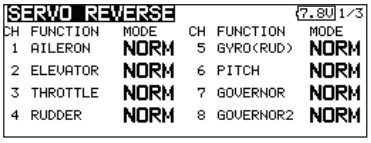
4. Fuselage linkage

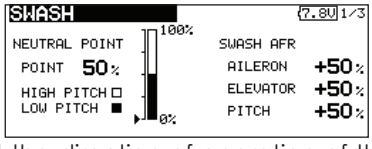
Connect the throttle rudder, aileron, elevator, pitch, and other servos in accordance with the kit instruction manual. For a description of the connection method, see "Receiver and Servos Connection".

Note: The channel assignment of the FX-32 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.)

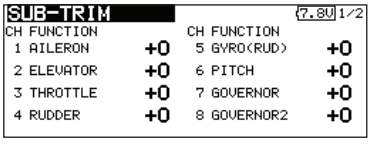


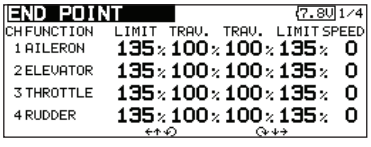
- If the direction of operation of the servo is incorrect, use the Reverse function of the Linkage Menu. Also use the swash AFR function in other than the H-1 mode.





- Adjust the direction of operation of the gyro. (Gyro side function)
- Connect the throttle linkage so that the carburetor can fully close at full trim 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.



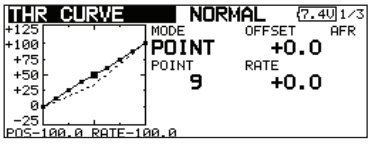


- Swash plate correction (Except H-1 mode)

*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.



<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 +5°~6°. 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.
Set to -7°~+12° as standard.

●Pitch curve (Idle up 2)
The high side pitch setting is less than idle up 1.
The standard is +8°.

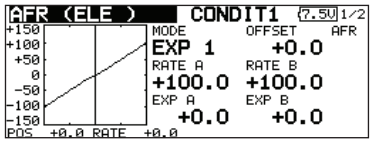
●Pitch curve (Hold)
At auto rotation, use the maximum pitch at both the high and low sides.
[Pitch angle setting example]
Throttle hold: -7°~+12°

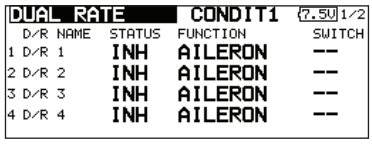
6. AFR (D/R)

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"

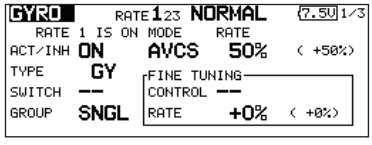
This is normally used after End Point has defined the maximum throw directions.





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.



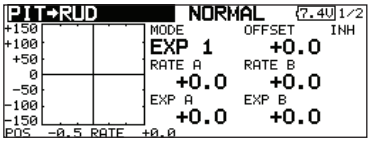
- Normal condition (hovering): Gyro sensitivity maximum
- Idle up 1/Idle up 2/Throttle hold: Gyro sensitivity minimum
- However, at auto rotation of a tail-driven helicopter, this function may not have any effect at high gyro sensitivity.

8. Pitch to RUD mixing setting

Note: When using a GY601, GY502, GY401, or other heading hold gyro, this Pitch to RUD mixing should not be used. The reaction torque is corrected at the gyro side. When operating the gyro in the AVCS mode, the mixed signal will cause neutral deviation symptoms and the gyro will not operate normally.

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 like those shown below, 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.)



<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 540° 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 0°.

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

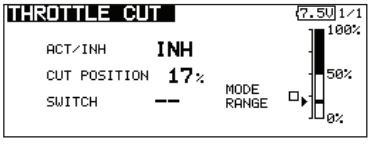
- Other settings
  The mixing rise characteristic at pitch operation can be adjusted. An acceleration function which temporarily increases and decreases the mixing amount can be set.

9. Throttle hold setting

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

10. Throttle cut setting

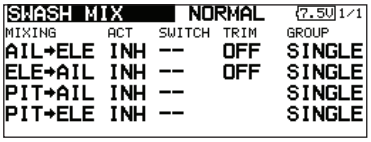
Throttle cut provides an easy way to stop the engine, by flipping a switch with the throttle stick at idle. The action is not functional at high throttle to avoid accidental dead sticks. The switch's location and direction must be chosen, as it defaults to NULL.



*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.



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

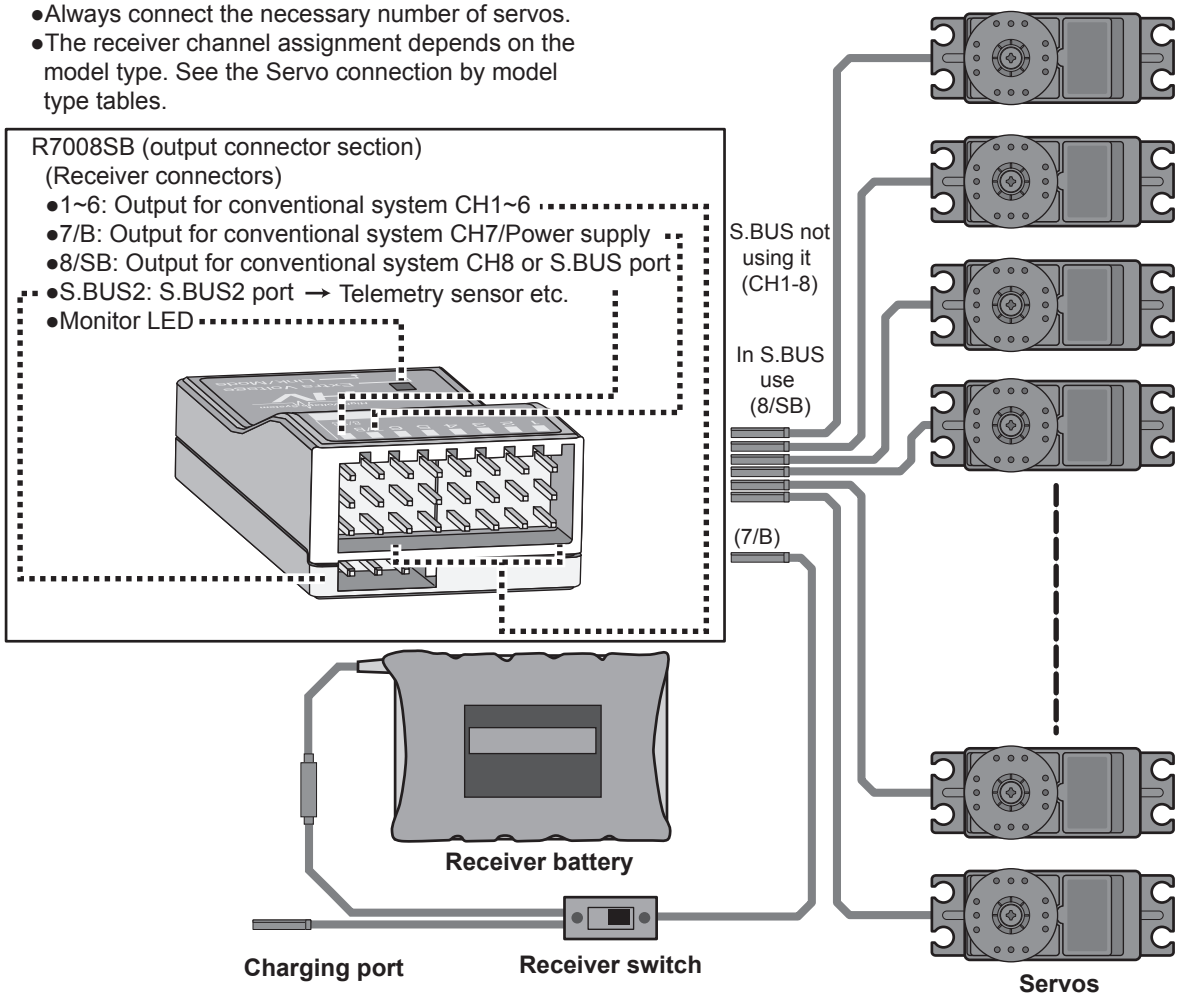
●Pitch to Needle mixing
This mixing is used with engines with a construction which allows needle control during flight (fuel-air mixture adjustment). A needle curve can be set. The needle servo rise characteristics at throttle stick acceleration/deceleration operation can be adjusted. (Acceleration function)

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

Receiver and servos connection

Connect the receiver and servos in accordance with the connection diagram shown below. Always read [Precautions when mounting the receiver and servos] and [Before using]. When mounting the receiver and servos to the fuselage, connect the necessary points in accordance with the kit instruction manual.

Receiver and servos connection diagram



●The Servo connection by model type tables are shown on the following pages. Connect the servos to match the fuselage used.

Servo connection by model type

The FX-32 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			2AIL			2AIL+1FLAP			2AIL+2FLAP		
	Airplane	Glider		Airplane	Glider		Airplane	Glider		Airplane	Glider	
		EP			EP			EP			EP	
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

FASST 7CH

S-FHSS

FASSTest 12CH

FASSTest 18CH

FASST MULT

RX CH	2AIL+4FLAP			4AIL+2FLAP			4AIL+4FLAP		
	Airplane	Glider		Airplane	Glider		Airplane	Glider	
		EP			EP			EP	
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

FASST 7CH

S-FHSS

FASSTest 12CH

FASSTest 18CH

FASST MULT

●Ailevator

RX CH	1AIL			2AIL			2AIL+1FLAP			2AIL+2FLAP		
	Airplane	Glider		Airplane	Glider		Airplane	Glider		Airplane	Glider	
		EP			EP			EP			EP	
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 / S-FHSS / FASST 7CH / FASST MULT

RX CH	2AIL+4FLAP			4AIL+2FLAP			4AIL+4FLAP		
	Airplane	Glider		Airplane	Glider		Airplane	Glider	
		EP			EP			EP	
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 / S-FHSS / FASST 7CH / FASST MULT

●Tailless wing

RX CH	2AIL			2AIL+1FLAP			2AIL+2FLAP		
	Airplane	Glider		Airplane	Glider		Airplane	Glider	
		EP			EP			EP	
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 / S-FHSS / FASST 7CH / FASST MULT

RX CH	2AIL+4FLAP			4AIL+2FLAP			4AIL+4FLAP		
	Airplane	Glider		Airplane	Glider		Airplane	Glider	
		EP			EP			EP	
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 / S-FHSS / FASST 7CH / FASST MULT

●Tailless wing Winglet 2Rudder

RX CH	2AIL			2AIL+1FLAP			2AIL+2FLAP		
	Airplane	Glider		Airplane	Glider		Airplane	Glider	
		EP			EP			EP	
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

RX CH	2AIL+4FLAP			4AIL+2FLAP			4AIL+4FLAP		
	Airplane	Glider		Airplane	Glider		Airplane	Glider	
		EP			EP			EP	
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

* 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 / FASST MULTI / FASST 7CH / S-FHSS

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 DG2	SW	

The output CH of each system
FASST 7CH
S-FHSS
FASSTest 18CH
FASST MULT

●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 DG2	SW	

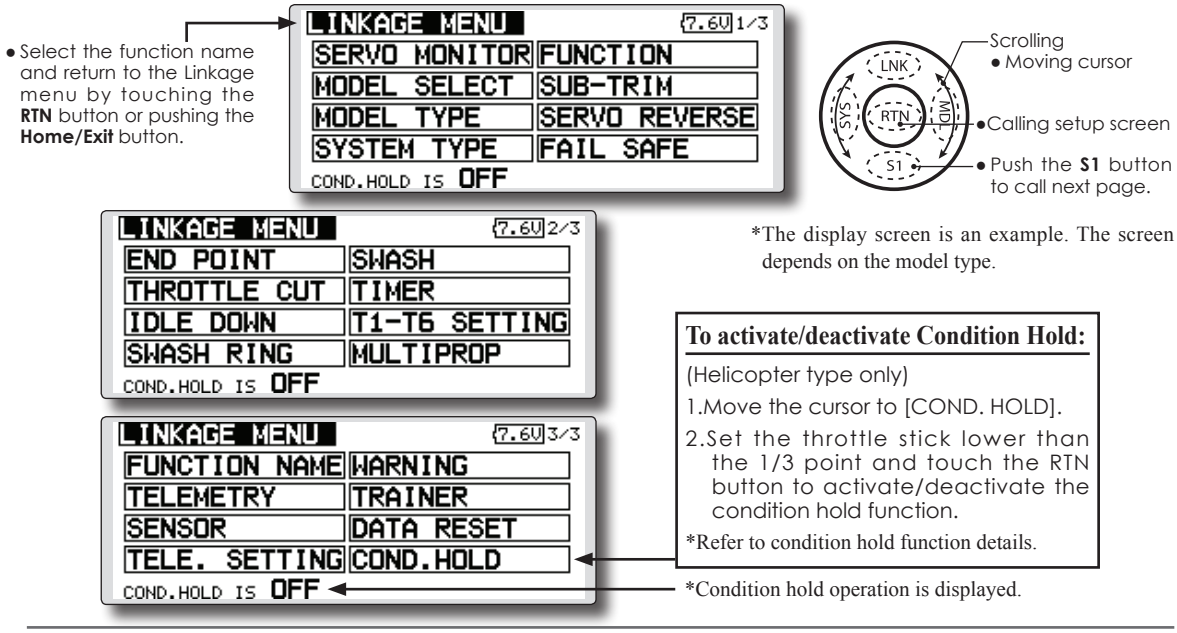
The output CH of each system
FASSTest 12CH

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.

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

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

To activate/deactivate Condition Hold:

(Helicopter type only)

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 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.
[DATA RESET]: Model memory set data reset (by item)
[COND. HOLD]: Condition hold function (helicopter only)

SERVO MONITOR

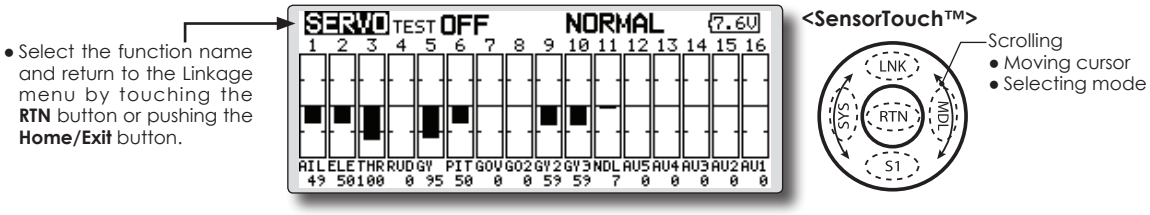
Servo Test & Graph Display / Displays servo positions.

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.



*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 was started.

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

MODEL SELECT

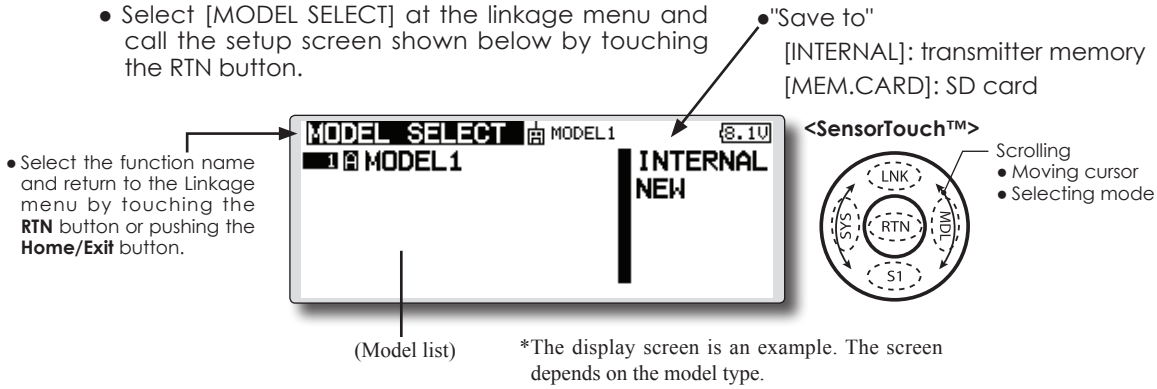
The Model Selection function performs model addition, call, deletion, copy, and model name setting.

This function is used to load the settings of the desired model into the FX-32'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.

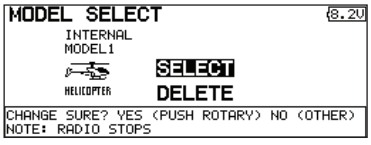
The Copy function is used to copy one set of model data into a second memory within the transmitter and the SD card. It may be used for getting a head-start on setting up models with almost the same settings (only differences need to be modified, instead of entering the complete model from scratch).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



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.



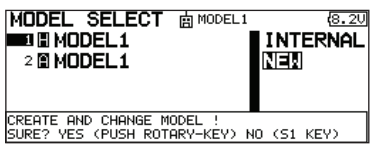
*Transmission stops and a send with new model confirmation message ("TRANSMIT?") appears.

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.

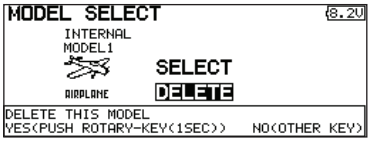
1. Use the touch sensor to move the cursor to the save destination display ("INTERNAL" or "MEM. CARD") and touch the RTN button to switch to the data input mode.

   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.

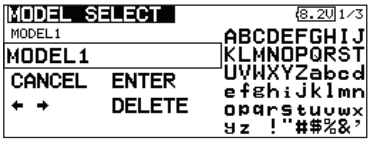


Model name change

*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.



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.)

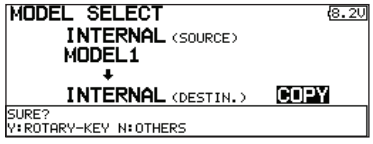
5. At the end of input, select [ENTER] and touch the RTN button. (To terminate input and return to the original state, select [CANCEL] and touch the RTN button.)

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.



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.

*FX-32 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 FX-32 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 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.

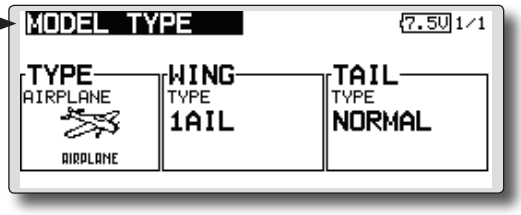
When the Model Type Selection command is accessed, all of the data in the active memory is cleared (except the following swash type.) Be sure that you don't mind losing this data, or back it up to another memory using the copying functions.

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.

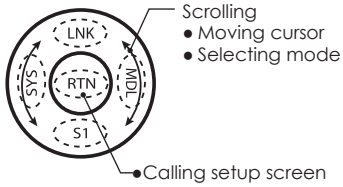
Swash type group A:
H-1, H-2, H-3, HR3, HN3, and HE3
Swash type group B:
H-4, H-4X

- 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

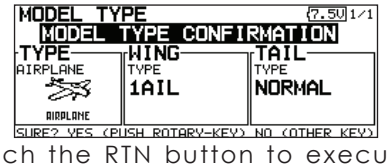
   "WING " (airplane/glider): Wing type

   "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.)

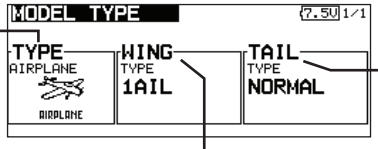
*The model types which are displayed (which can be selected) depend on the type of receiver used. See Servo Connection by Model Type.

●Model type selection

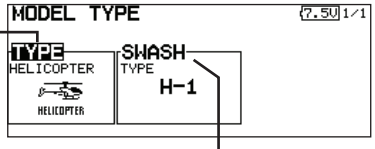
Model type

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

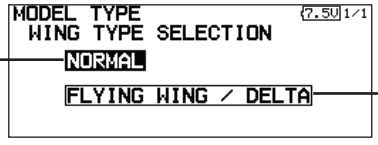
(Airplane, glider)



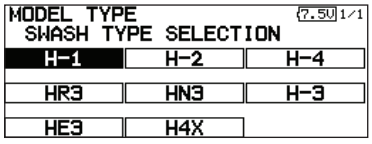
(Helicopter)



●Wing type selection



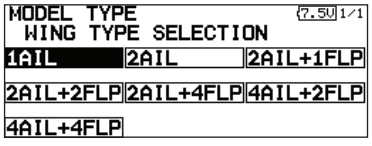
●Swash type selection



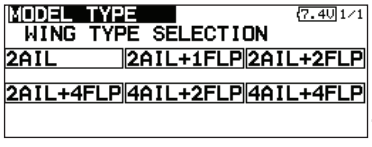
Helicopter swash type

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

●Wing type selection (Normal)



●Wing type selection (Tailless wing)



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:

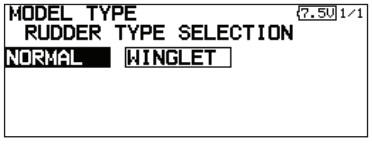
2 ailerons, 2 ailerons + 1 flap,

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

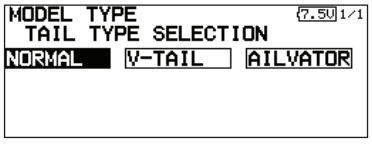
4 ailerons + 2 flaps, 4 ailerons + 4 flaps.

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

●Rudder type selection



● Tail type selection

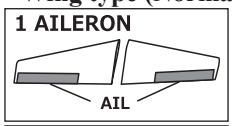


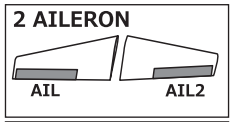
Tail type

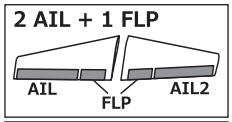
Select from normal, V tail, and ailvator.

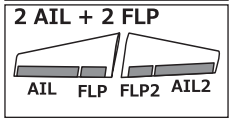
Model type selection (Airplane, Glider)

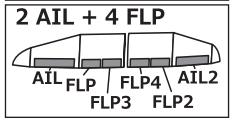
●Wing type (Normal)

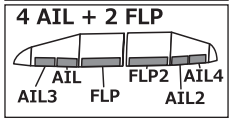


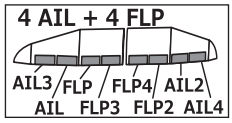




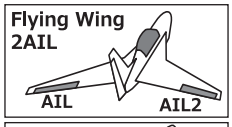


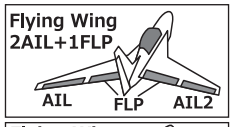


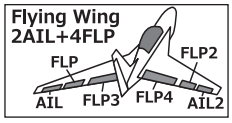


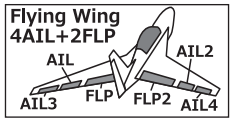


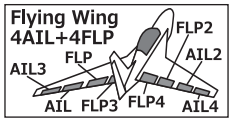
●Wing type (Tailless wing)



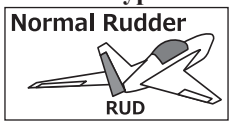


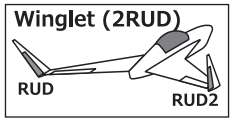




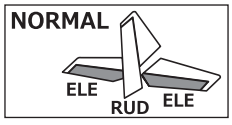


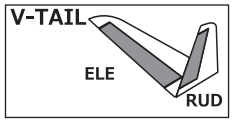
●Rudder type

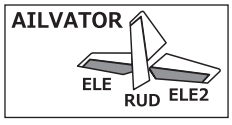




●Tail type

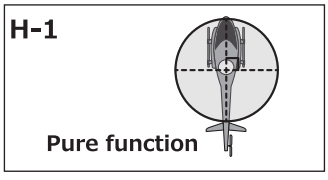


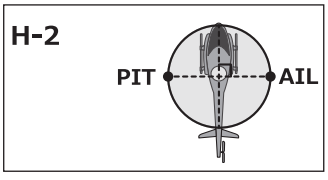


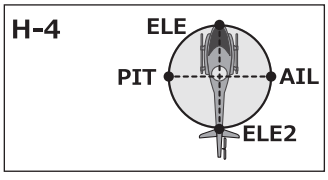


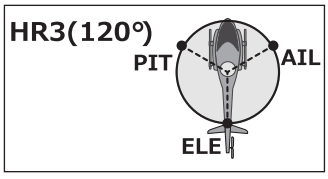
Model type selection (Helicopter)

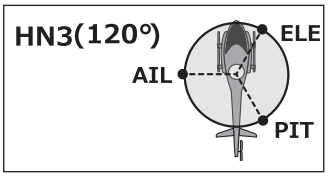
●Swash type

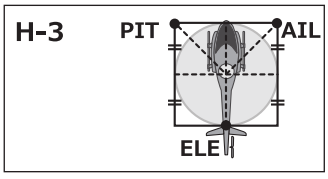


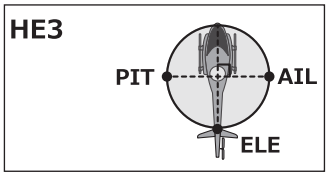


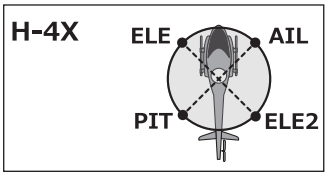












System Type selection

The FX-32 is for 2.4GHz only. The system can be changed from among 5 choices: FASSTest 18CH, FASSTest 12CH, FASST MULTI, FASST 7CH, S-FHSS. It is FASSTest18CH and FASSTest12CH which can be chosen by R7008SB 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 R7008SB in the FASSTest 12CH mode.

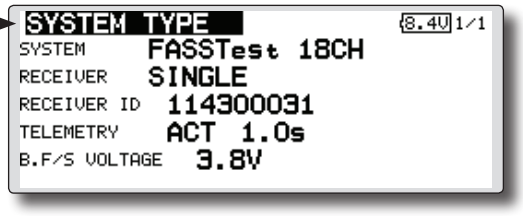
Dual receiver function (only FASSTest 18CH mode)

Dual receivers can be linked with the FX-32. Two receivers are recognized individually by ID numbers. For example, in R7008SB, CH output setting function is used, by setting the first as as "1-8CH", and setting the second as "9-16CH", two sets of receivers can be used as a set in the model, allowing you 16 channels. Separate fail-safe voltage can be set to each receiver.

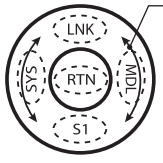
However, telemetry cannot be used for the 2nd receiver.

● 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.

Linking method P.36

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 mode only)

To use the telemetry function, set “Telemetry” to “ACT”.

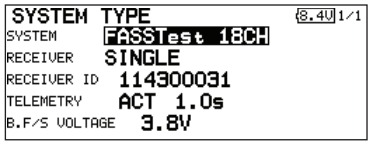
DL Interval (FASSTest mode only)

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.



2. Select the system type by scrolling the touch sensor.

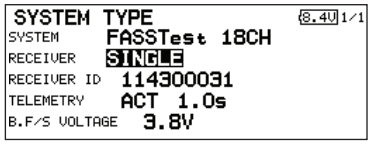
   [FASSTest-18CH][FASSTest-12CH][FASST-MULT][FASST-7CH][S-FHSS]

   *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

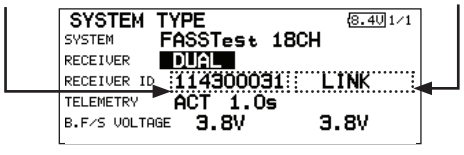
1. Move the cursor to the [SINGLE] item and touch the RTN button to switch to the data input mode.



2. Select the [SINGLE] or [DUAL] by scrolling the touch sensor.

ID of a Primary receiver displays.

ID of a Secondary receiver displays.

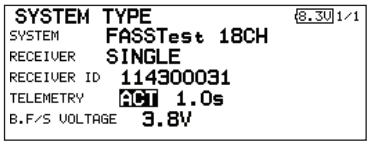


In DUAL, a primary receiver is link previously. Next, a secondary receiver is link.

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

Telemetry ACT/INH procedure

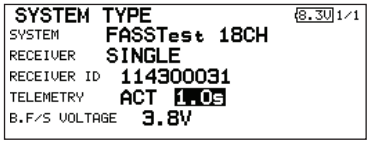
1. Move the cursor to the TELEMETRY [ACT] item and touch the RTN button to switch to the data input mode.



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.



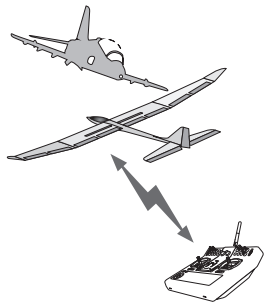
2. Select the DL time by scrolling the touch sensor. If a DL interval is increased, the response of the sensor data display becomes slower, but stick response will improve.

   Initial value: 1.0s

   Adjustment range : 0.1s~2.0s

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

The example for choosing System Type



-Want to use more channels
-Want to use a large number of telemetry functions

FASSTest 18CH

R7008SB
R7003SB

-Response speed has priority over number of channels

-Telemetry requires only the current receiver battery

FASSTest 12CH

R7008SB
R7003SB

-Want to use a previously used receiver as is

FASST MULTI

R608FS
R6008HS
R6108SB
R6208SB
R6014HS
R6014FS
R6203SB
R6203SBE
R6202SBW
R6303SB
R6303SBE

-Want to use a miniature receiver for indoor planes

FASST 7CH

R617FS
R6004FF
R616FFM
R6106HF
R6106HFC
R6203SB
R6203SBE
R6202SBW
R6303SB
R6303SBE

-Want to use an S-FHSS system miniature receiver

S-FHSS

R2006GS
R2106GF
R2008SB

(Usable receivers)
(The time of february, 2013)

System Type

■ **FASSTest 18CH** --- FASSTest system receiver mode. Applicable with the telemetry sensor unit. Up to 18 channels (linear 16+ON/OFF2) can be used.

■ **FASSTest 12CH** --- FASSTest system receiver mode. Applicable with receiver voltage display. Up to 12 channels (linear10+ON/OFF2) can be used. Telemetry Sensor cannot be used, but the response speed is a faster than that of the 18CH mode.

• **Analog servos cannot be used with the R7008SB in the FASSTest 12CH mode.**

■ **FASST MULTI** ---FASST-MULTI system receiver mode. Up to 18 channels (linear 16+ON/OFF2) can be used.

■ **FASST 7CH** --- FASST-7CH system receiver mode. Up to 7 channels can be used.

■ **S-FHSS** --- S-FHSS system receiver mode. Up to 8 channels can be used.

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

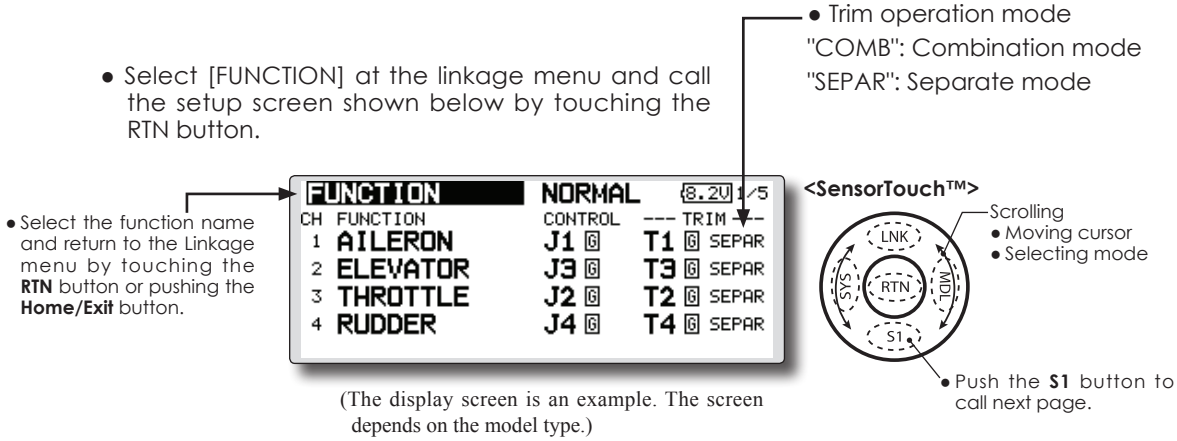
For FASSTest 14CH mode, you can set 12 linear channels and two digital channels. For FASSTest 18CH mode, you can set 10 linear channels and two digital channels. For FASST MULT mode, you can set 12 linear channels and two digital channels. For FASST 7CH mode, you can set only 7 linear channels. For S-FHSS mode, you can set only 8 linear 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.



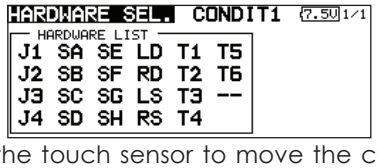
(The display screen is an example. The screen depends on the model type.)

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.

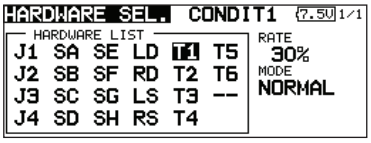


2. Use the touch sensor to move the cursor to the control you want to change, and touch the RTN button.
   *The same control can be assigned to multiple channels.
   *The setting can be changed for each condition.
   After the set mode is changed from group mode [G] to single mode [S] at the control 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.



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 cursol 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

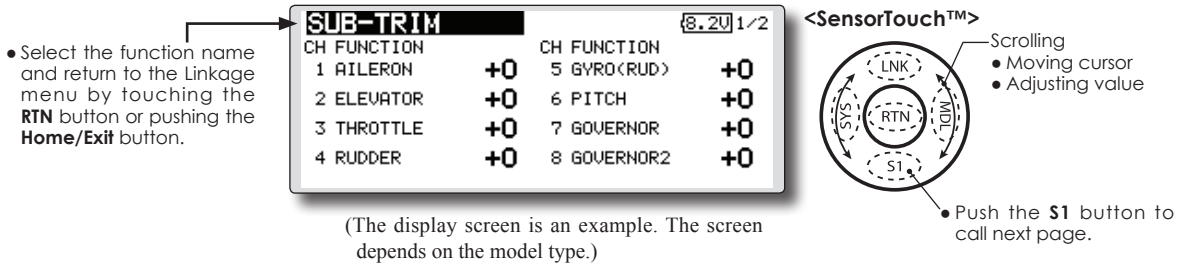
As a safety precaution to prevent the motor from starting unexpectedly, please switch off the motor accordingly. We also suggest removing the propeller from the motor as an additional precaution.

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.



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

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.

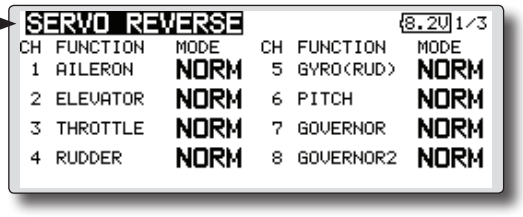
Servo Reverse changes the direction of an individual servo's response to a control stick movement.

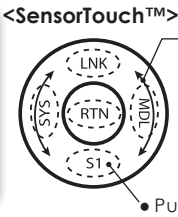
For CCPM helicopters, be sure to read the section on Swash AFR before reversing any servos. With CCPM helicopters, always complete your servo reversing prior to any other programming. If you use pre-built Airplane/Sailplane functions that control multiple servos, it may be confusing to tell whether the 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.

● Touch the **S1** button to call next page.

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





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.)

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 FX-32 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.

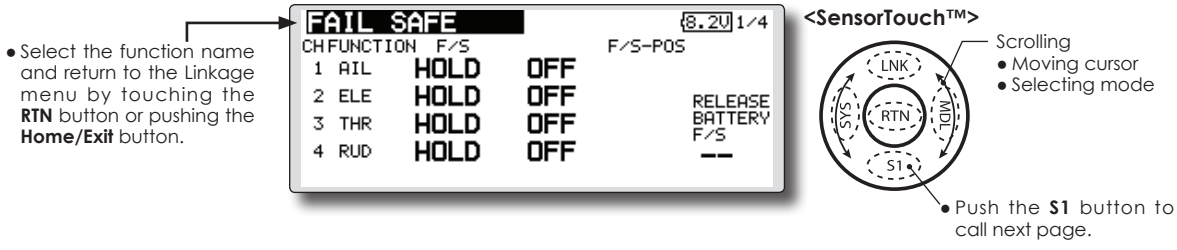
⚠ WARNING

! 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.)



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 fuselage 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

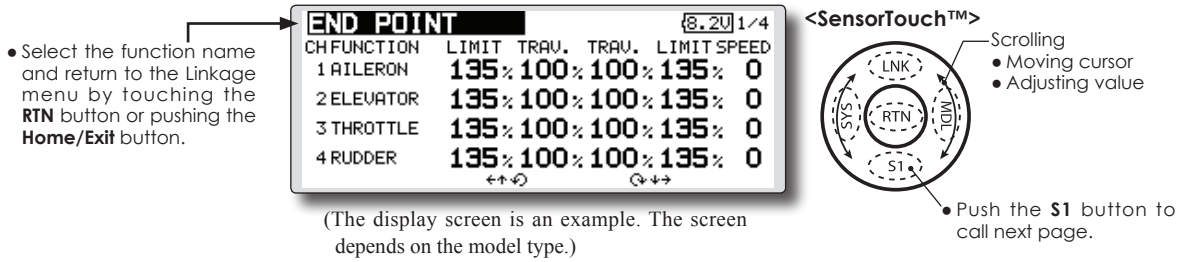
Sets the travel, limit point, and speed of each servo.

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 l 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.



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

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 cursol 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 cursol move mode.
3. Repeat this procedure for each limit point.

Servo speed setting

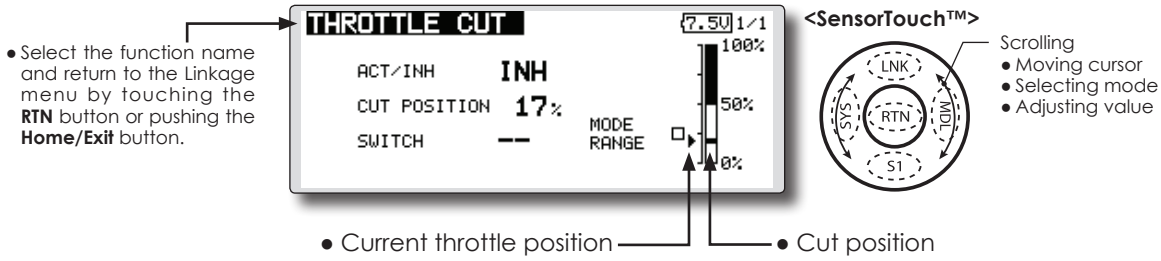
1. Use the touch sensor to move the cursor to the "SPEED" item of the channel you want to adjust and touch the RTN button to switch to the data input mode.
2. Turn the touch sensor to adjust the servo speed.
   Initial value: 0
   Adjustment range: 0~27 (steps)
   (When the RTN button is touched for 1 second, the servo speed is reset to the initial value.)
   Touch the RTN button to end adjustment and return to the cursol 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.



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 cursol move mode.

*With the selected cut switch ON and the throttle stick at idle; adjust the rate until the engine consistently cuts off.

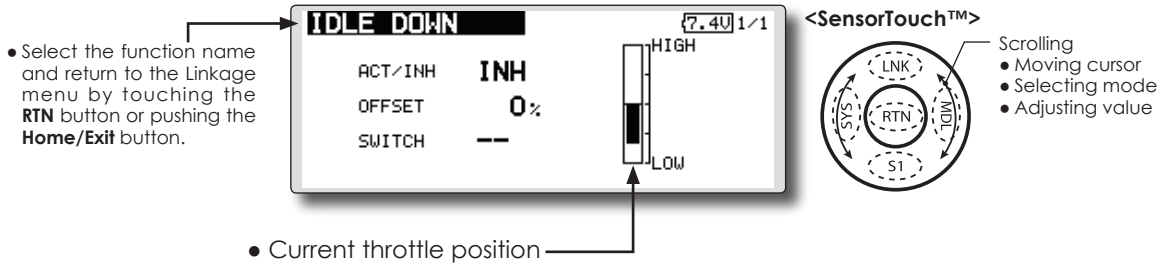
However, be sure that the throttle linkage is not pulled too tight and unreasonable force is not applied to the servo.

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.



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.

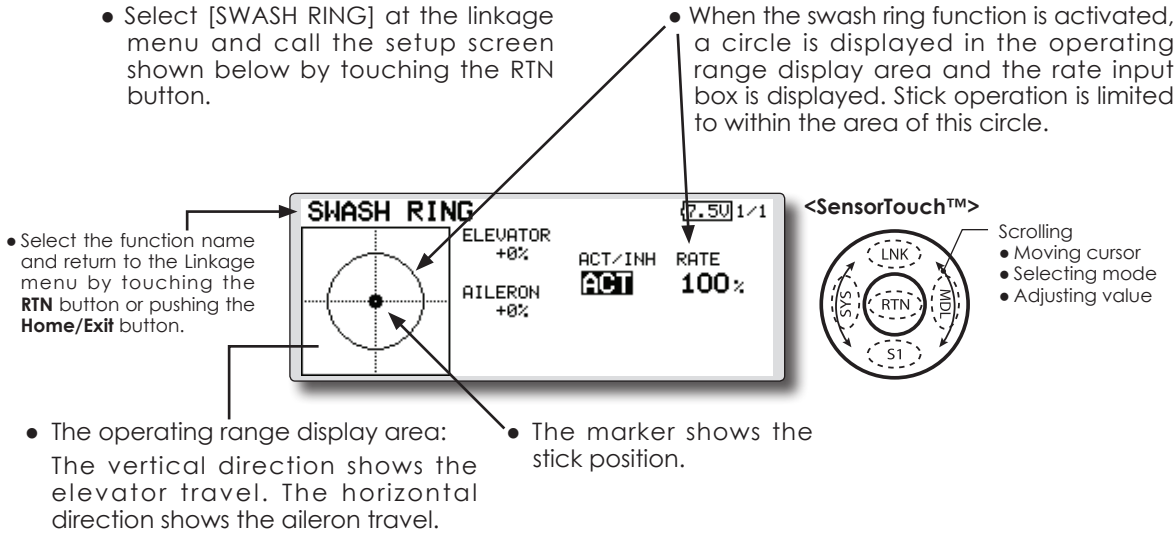
   *When a minus rate is input, offset is applied to the high side.

Touch the RTN button to end adjustment and return to the cursol 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.



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 cursol 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.

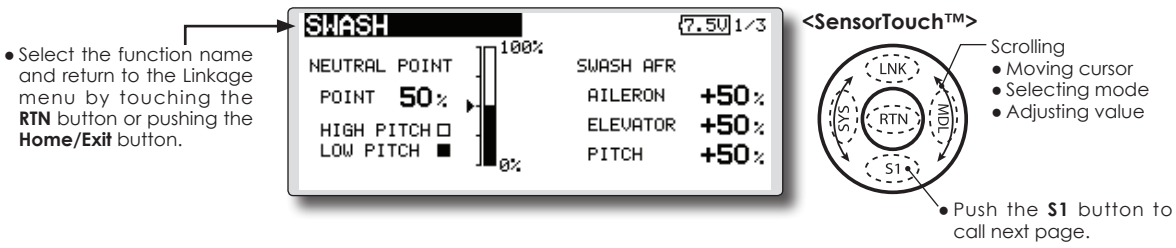
Linkage Compensation

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.



*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%

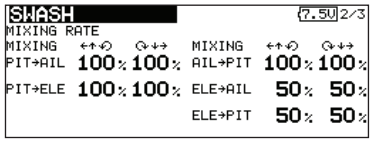
   Adjustment range: -100%~+100%

   (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 cursol 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.



*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 cursol 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.

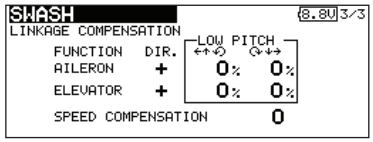
   *Adjust by turning the touch sensor to the left and right.

   *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.



*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 cursol 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 cursol move mode.

TIMER

Timer setting

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.

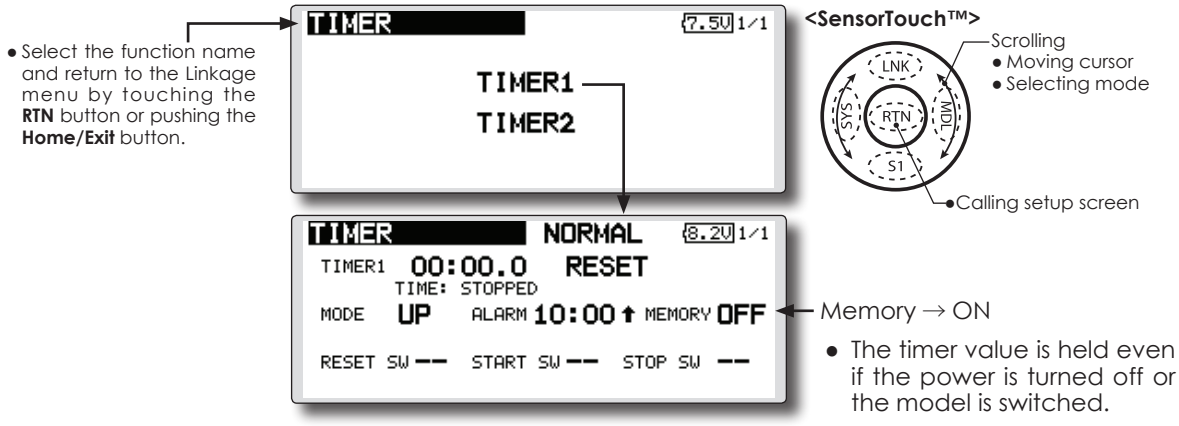
The timers may be set to start and stop from the motion of any switch or stick. You may set the ON and OFF directions freely. Each timer has a capacity of up to 59 minutes 59 seconds.

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.



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 cursol 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.

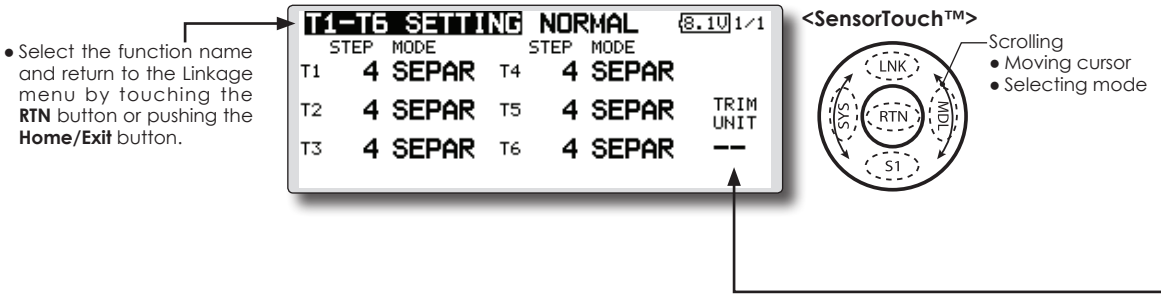
T1-T6 SETTING

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.



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 cursol 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.

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 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.

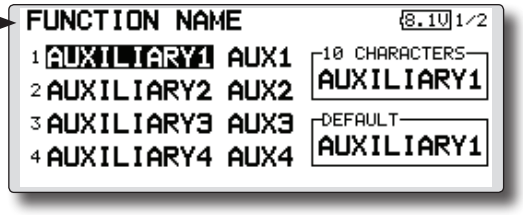
FUNCTION NAME

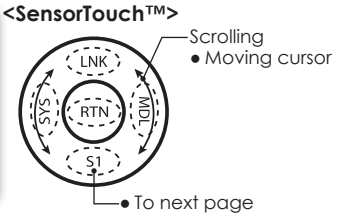
Function name can be changed

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.

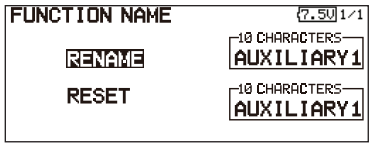
● Select the function name and return to the Linkage menu by touching the **RTN** button or pushing the **Home/Exit** button.

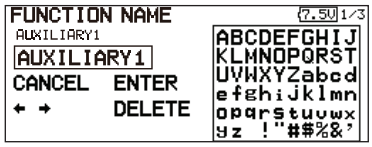




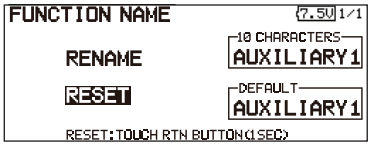
Function name change method

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.

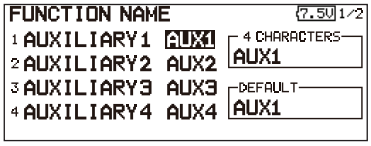




5. When [RESET] is selected and the RTN button is held down, the function name is set to the initial state function name.



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.



TELEMETRY

Displaying data from the receiver

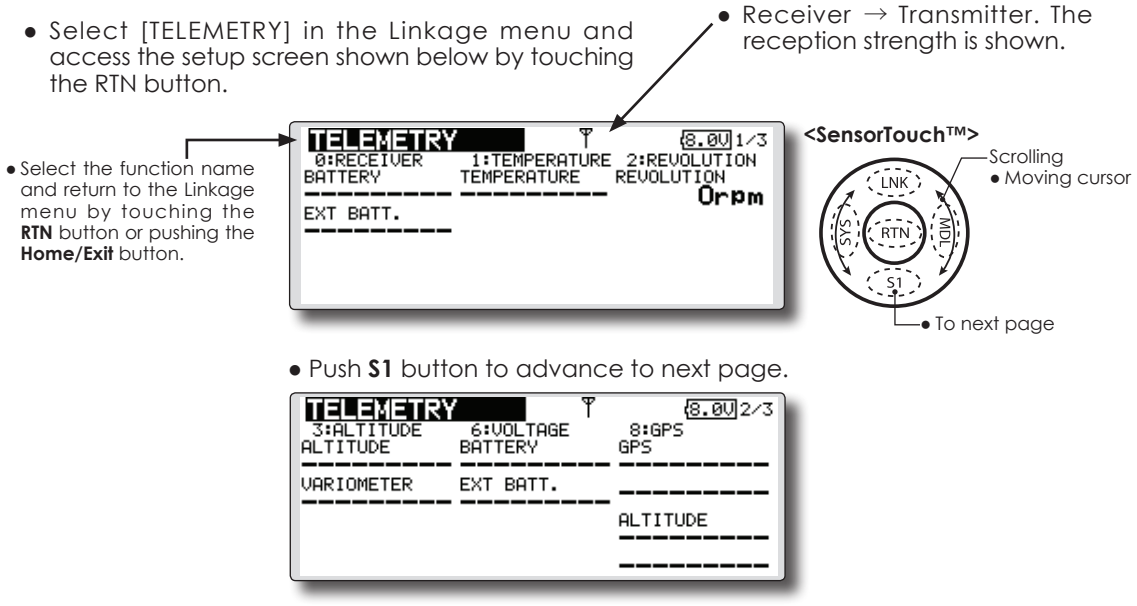
This screen displays your choice of data from the receiver.

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).

*It cannot be used in FASST mode and S-FHSS mode.

*Only receiver voltage and EXT voltage can be used in FASSTest12CH mode.

*The FASSTest18CH mode can use all the telemetry functions.



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.

Note:

Any change in the selected language only alters the language used in the on-screen menus, i.e. not the language used for speech output. To change the speech output language an update must be installed containing the corresponding speech software. This software can be found in the Registration area of the robbe website: www.robbe.com

TELEMETRY : RECEIVER [BATTERY]

Displaying data from the receiver battery voltage

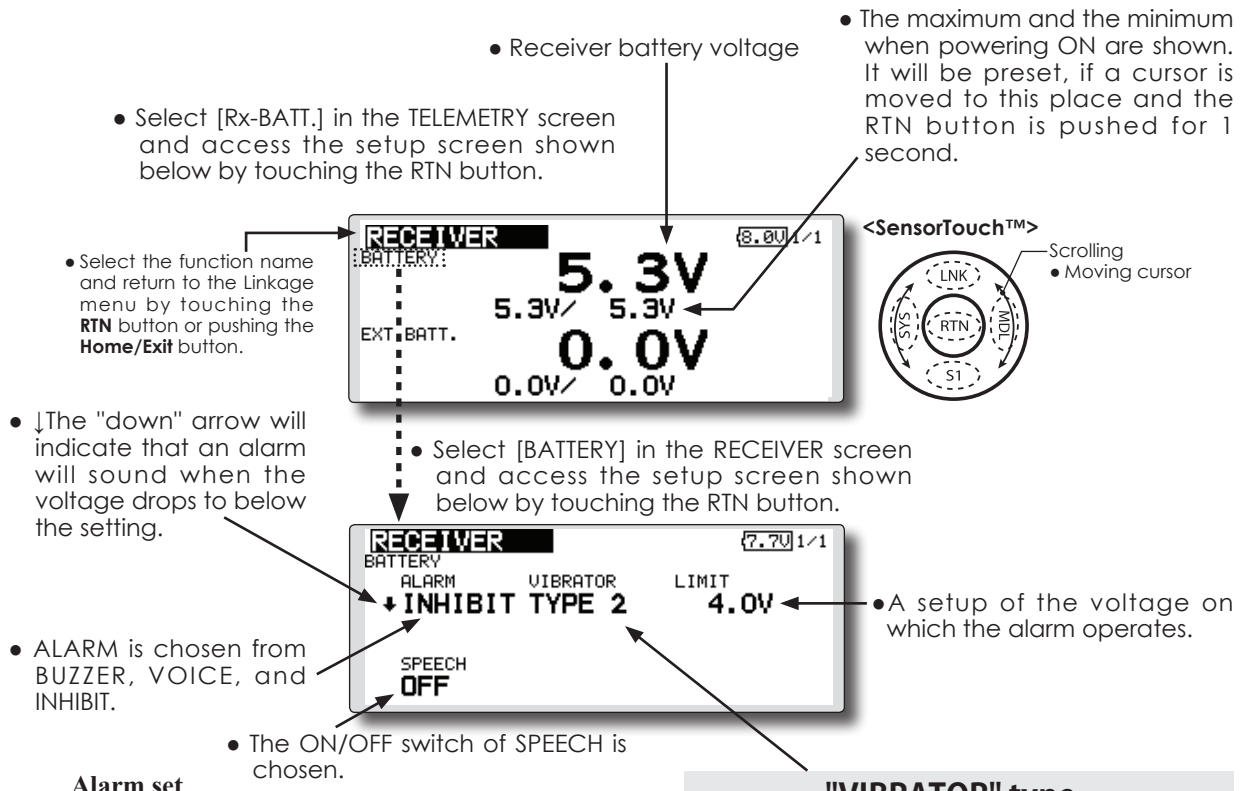
In this screen, the battery voltage of a receiver is displayed.

If it becomes higher or lower than the setting an alarm and/or vibration will alert you.

*It cannot be used in FASST mode and S-FHSS mode.

*Only receiver voltage and EXT voltage can be used in FASSTest12CH mode.

*The FASSTest18CH mode can use all the telemetry functions.



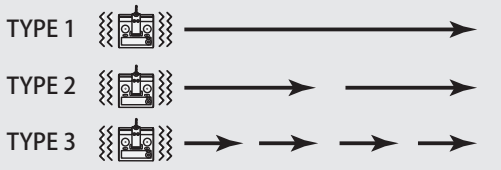
Alarm set

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.



TELEMETRY : RECEIVER [EXT BATT.]

Displaying data from the EXT battery voltage port

***CA-RVIN-700 must be installed in the aircraft.**

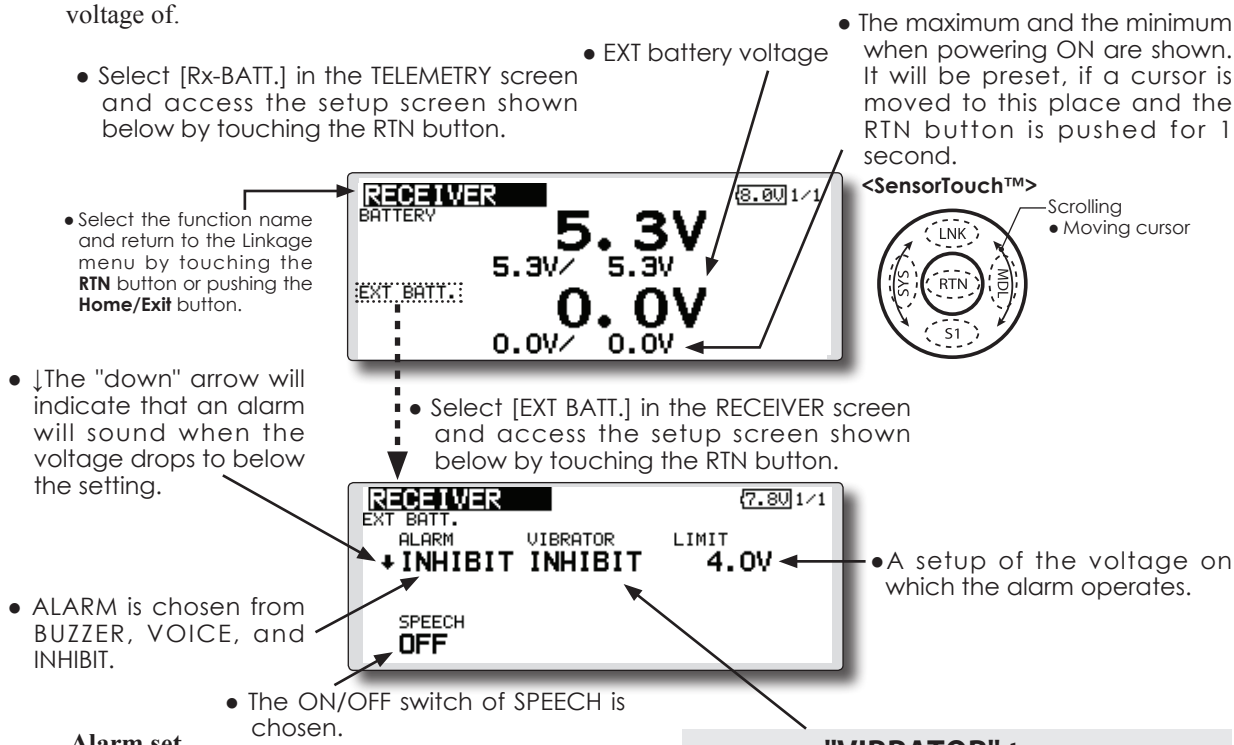
The EXT-VOLT screen will display the data from the EXT-battery output from the R7008SB receiver. In order to use this function, it is necessary to connect external voltage connector of the R7008SB receiver to a CA-RVIN-700 (FUTM5551) or SBS-01V to the battery you desire to measure the voltage of.

You will be alerted by an alarm or vibration if the voltage set by you is exceeded.

*It cannot be used in FASST mode and S-FHSS mode.

*Only receiver voltage and EXT voltage will be received in the FASSTest12CH mode.

*The FASSTest18CH mode will display all telemetry data.



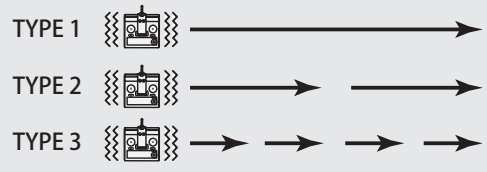
Alarm set

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.



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.

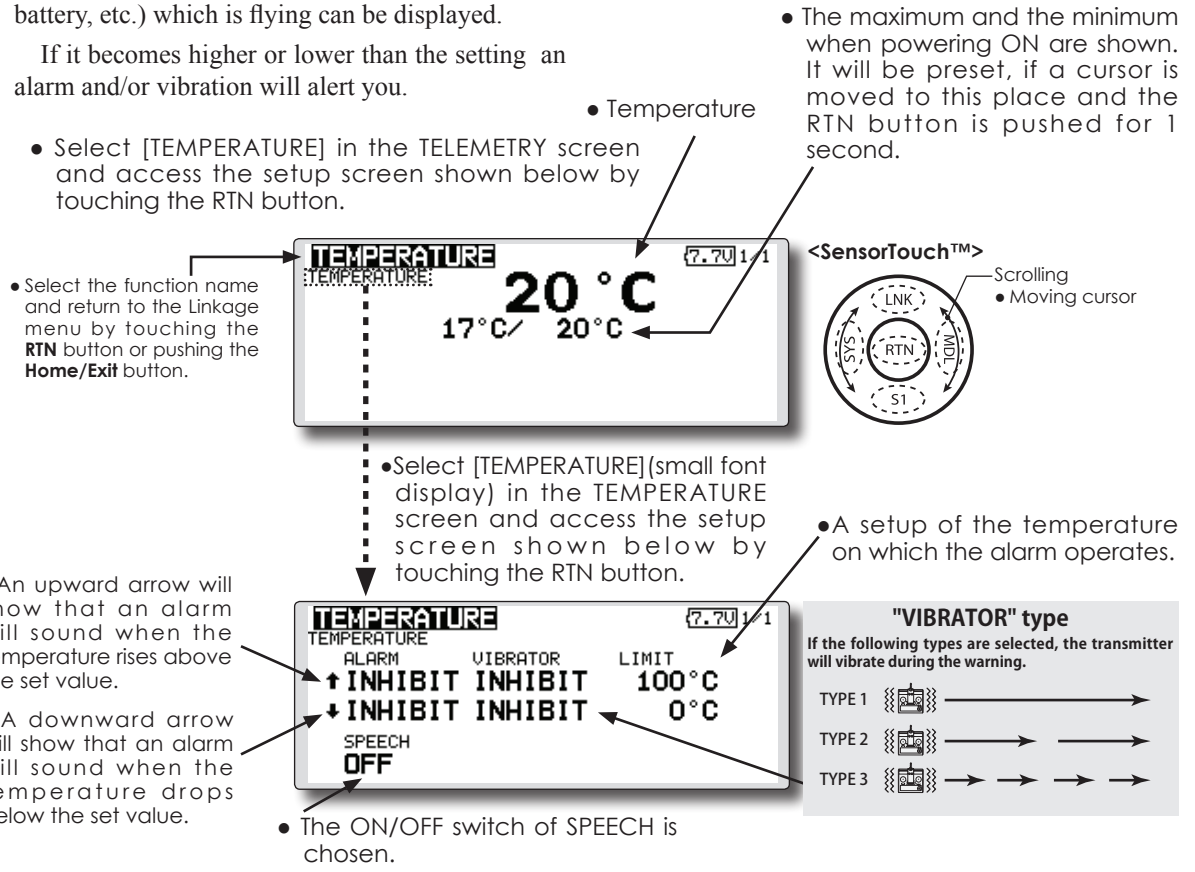
The temperature of the model (engine, motor, battery, etc.) which is flying can be displayed.

If it becomes higher or lower than the setting an alarm and/or vibration will alert you.

*It cannot be used in FASST mode and S-FHSS mode.

*Only receiver voltage and EXT voltage can be used in FASSTest12CH mode.

*The FASSTest18CH mode can use all the telemetry functions.



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.

RPM sensor is a screen which displays / sets up the rotation information from an optional RPM sensor.

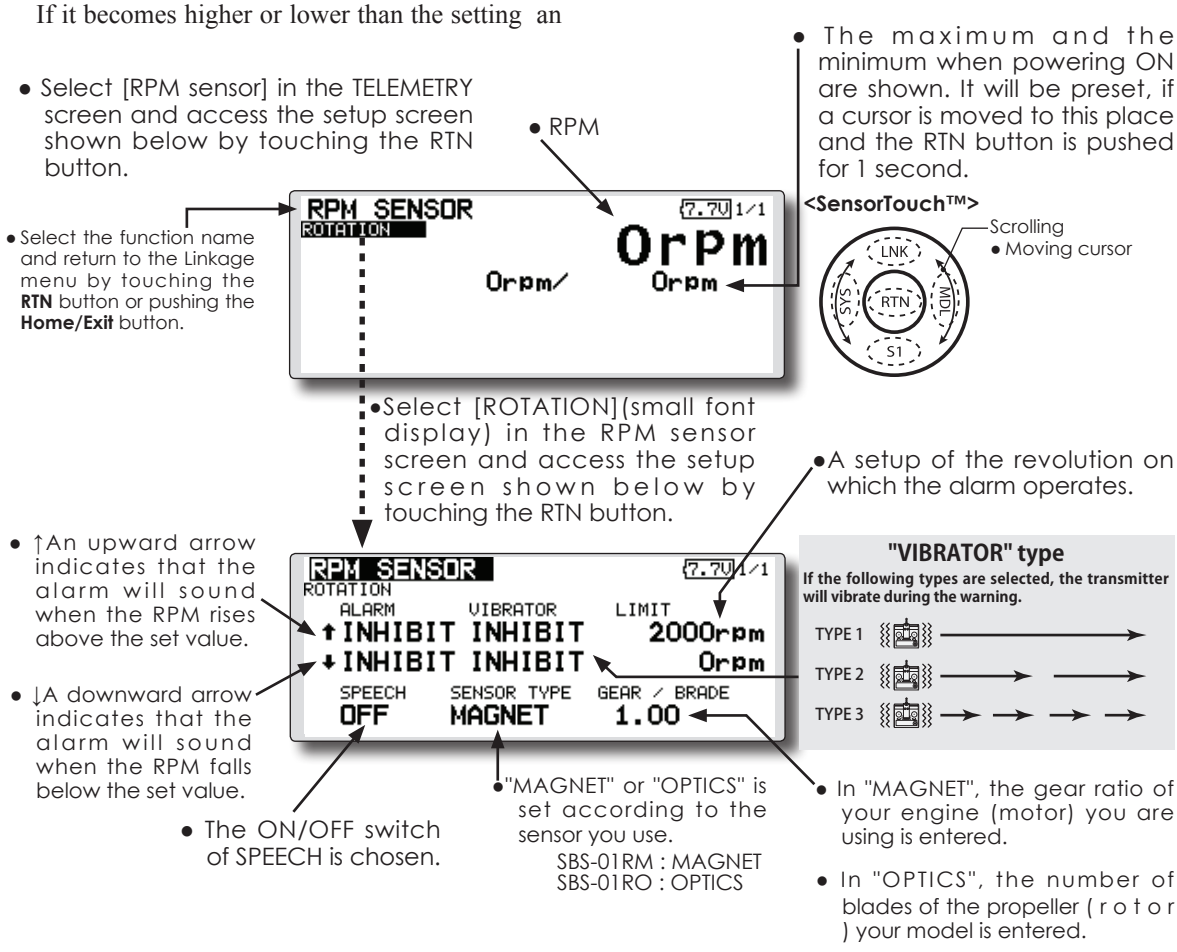
The rotation of the model (engine, motor, etc.) which is flying can be shown.

If it becomes higher or lower than the setting an alarm and/or vibration will alert you.

*It cannot be used in FASST mode and S-FHSS mode.

*Only receiver voltage and EXT voltage can be used in FASSTest12CH mode.

*The FASSTest18CH mode can use all the telemetry functions.



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.

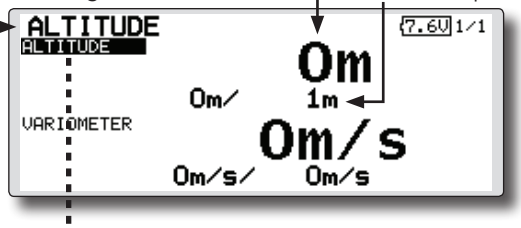
*It cannot be used in FASST mode and S-FHSS mode.
*Only receiver voltage and EXT voltage can be used in FASSTest12CH mode.
*The FASSTest18CH mode can use all the telemetry functions.

• Altitude

• 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.

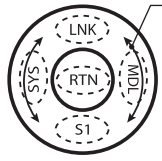
• Select [ALTITUDE] in the TELEMETRY screen and access the setup screen shown below by touching the RTN button.

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



<SensorTouch™>

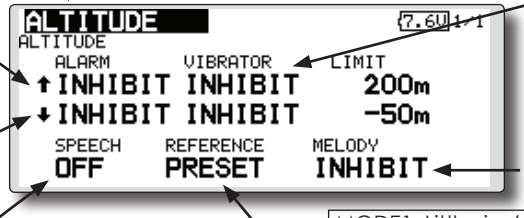
Scrolling
• Moving cursor



•Select [ALTITUDE](small font display) in the TEMPERATURE screen and access the setup screen shown below by touching the RTN button.

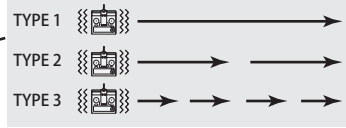
• ↑ An upward arrow indicates the alarm will sound when the altitude reaches above your set value.

• ↓ 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.



•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)

•The ON/OFF switch of SPEECH is chosen.

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.**

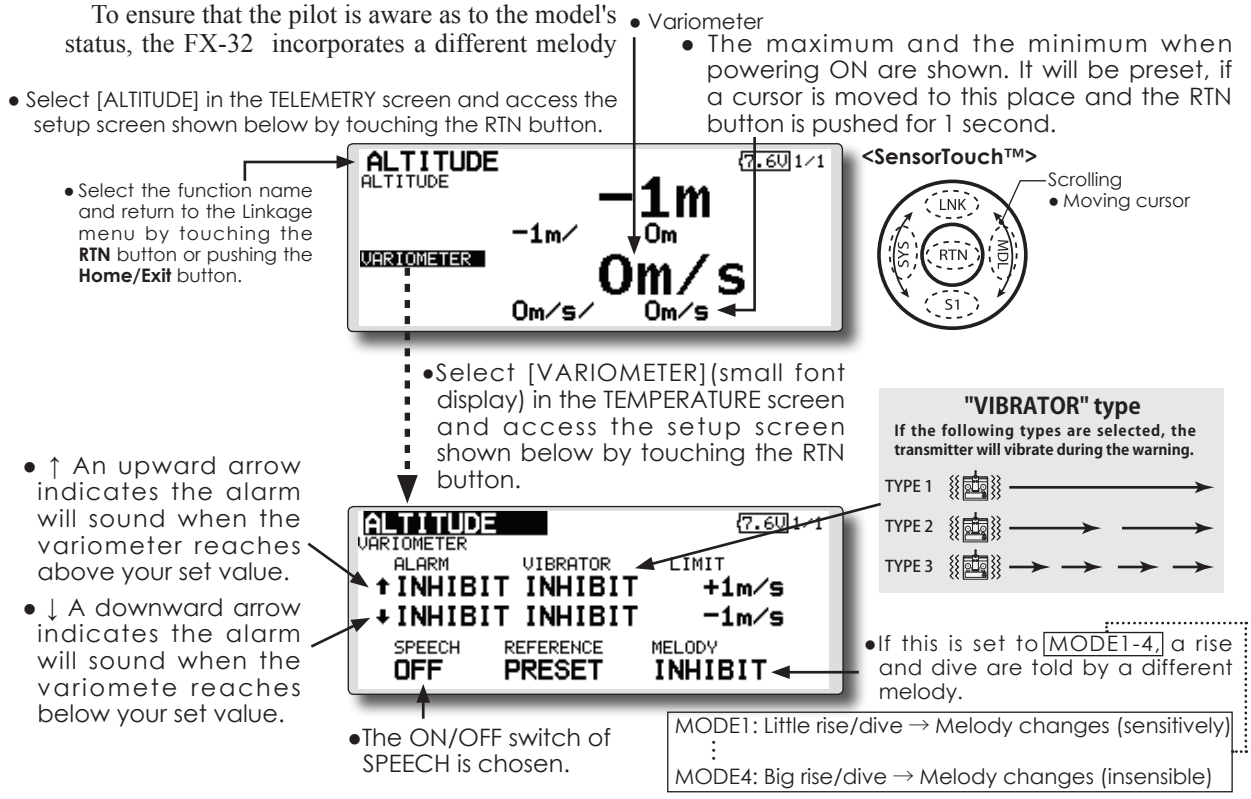
VARIO is a screen which displays / sets up the variometer information from an optional altitude sensor or GPS sensor.

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 FX-32 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.

*It cannot be used in FASST mode and S-FHSS mode.
*Only receiver voltage and EXT voltage can be used in FASSTest12CH mode.
*The FASSTest18CH mode can use all the telemetry functions.



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.**

*It cannot be used in FASST mode and S-FHSS mode.

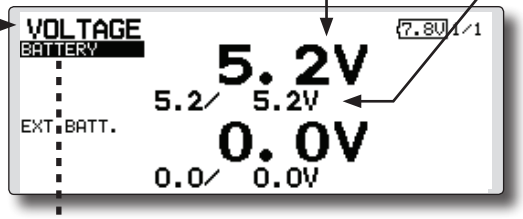
*Only receiver voltage and EXT voltage can be used in FASSTest12CH mode.

*The FASSTest18CH mode can use all the telemetry functions.

In this screen, the battery voltage is displayed. In order to use this function, it is necessary to connect External voltage connector of R7008SB ⇔ SBS-01V ⇔ Battery

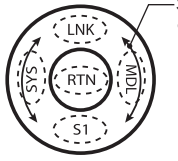
SBS-01V measures two batteries. The power battery connected to two lines is displayed on EXT-VOLT. The battery for receivers connected to 3P lines is displayed here.

- Select [VOLTAGE] in the TELEMETRY screen and access the setup screen shown below by touching the RTN button.
- 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 the function name and return to the Linkage menu by touching the **RTN** button or pushing the **Home/Exit** button.

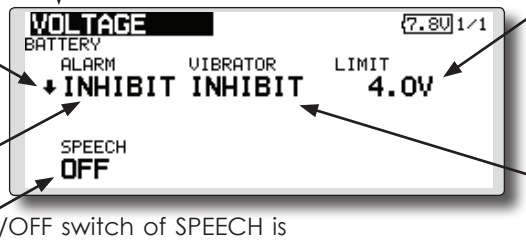


<SensorTouch™>

Scrolling
- Moving cursor



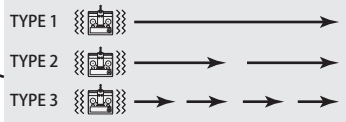
- ↓The "down" arrow will indicate that an alarm will sound when the voltage drops to below the setting.
- Select [BATTERY] in the VOLTAGE screen and access the setup screen shown below by touching the RTN button.
- A setup of the voltage on which the alarm operates.



- 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.



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.

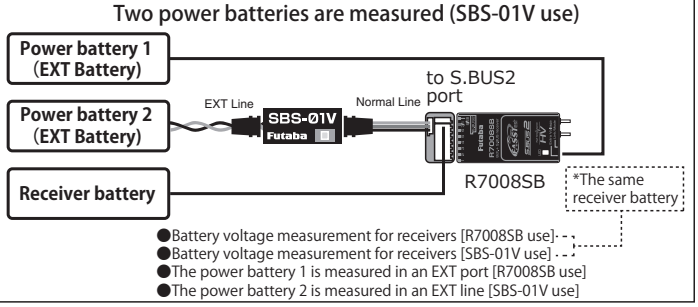
   Initial value: 4.0V

   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.)

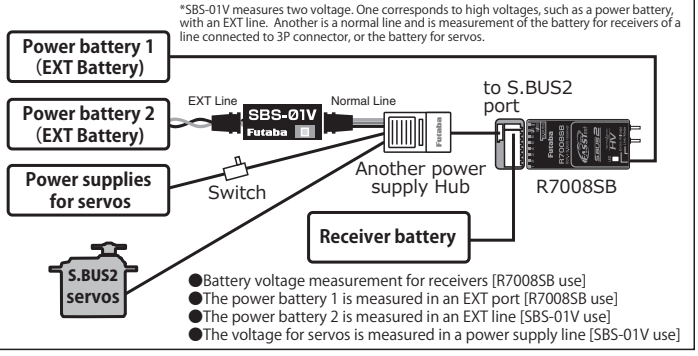
< Two examples of wiring are shown >

Two power batteries are measured (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.



*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.**

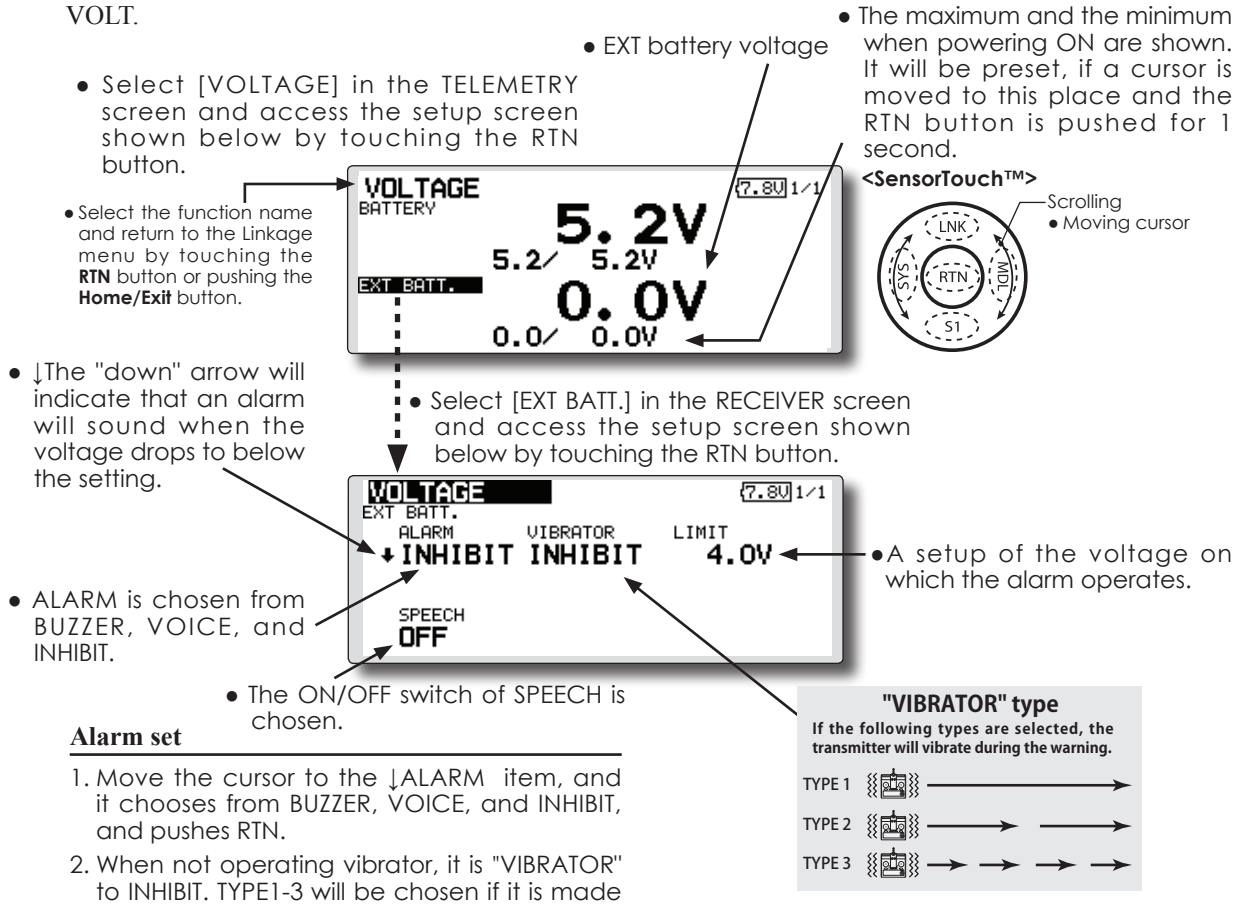
*It cannot be used in FASST mode and S-FHSS mode.

*Only receiver voltage and EXT voltage will be received in the FASSTest12CH mode.

*The FASSTest18CH mode will display all telemetry data.

In this screen, the EXT battery voltage is displayed. In order to use this function, it is necessary to connect External voltage connector of R7008SB ⇔ SBS-01V ⇔ Battery

SBS-01V measures two batteries. The power battery connected to two lines is displayed on EXT-VOLT.



"VIBRATOR" type

If the following types are selected, the transmitter will vibrate during the warning.

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.)

TELEMETRY : GPS [DISTANCE]

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.

Displaying data from the Distance Screen

***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.

*It cannot be used in FASST mode and S-FHSS mode.

*Only receiver voltage and EXT voltage can be used in FASSTest12CH mode.

*The FASSTest18CH mode can use all the telemetry functions.

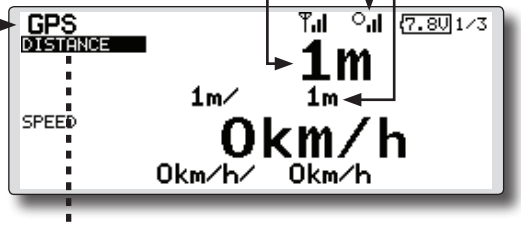
●This indicates the receiving accuracy from a GPS Satellite. When three bars are displayed, the GPS is ready for use.

● 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

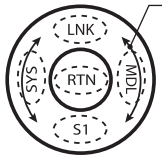
● Select [GPS] in the TELEMETRY screen and access the setup screen shown below by touching the RTN button.

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

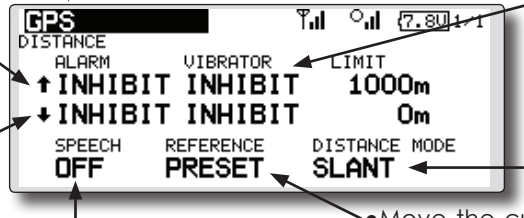


<SensorTouch™>

Scrolling
● Moving cursor



●Select [DISTANCE](small font display) in the TEMPERATURE screen and access the setup screen shown below by touching the RTN button.

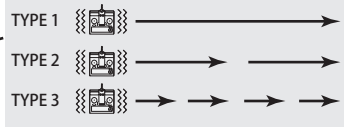


● ↑ An upward arrow indicates the alarm will sound when the distance reaches above your set value.

● ↓ A downward arrow indicates the alarm will sound when the distance reaches below your set value.

"VIBRATOR" type

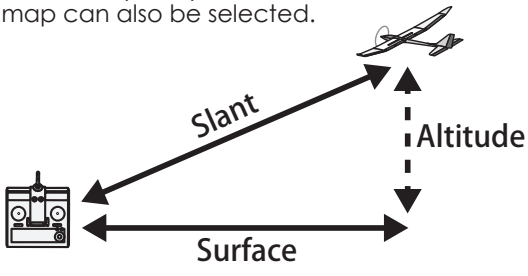
If the following types are selected, the transmitter will vibrate during the warning.



●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.

●Altitude calculated as either straight line distance (slant) or surface distance on a map can also be selected.



●Select <SLANT> <SURFACE> to "DISTANCE MODE", scroll either to the desired method and touch the RTN button.

*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.

First, the set of a reference is required.

1. The model and transmitter to which the GPS 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.)

*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.

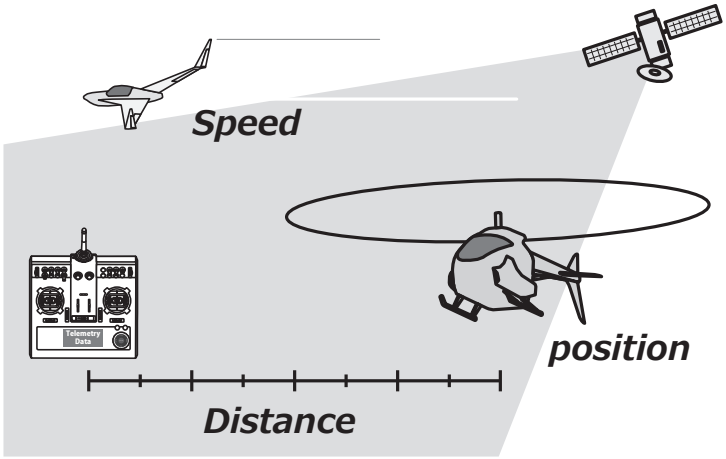
5. Touch the RTN button. (To terminate the input and return to the original state, touch the Home/Exit button.)

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]

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.

Displaying data from the speed

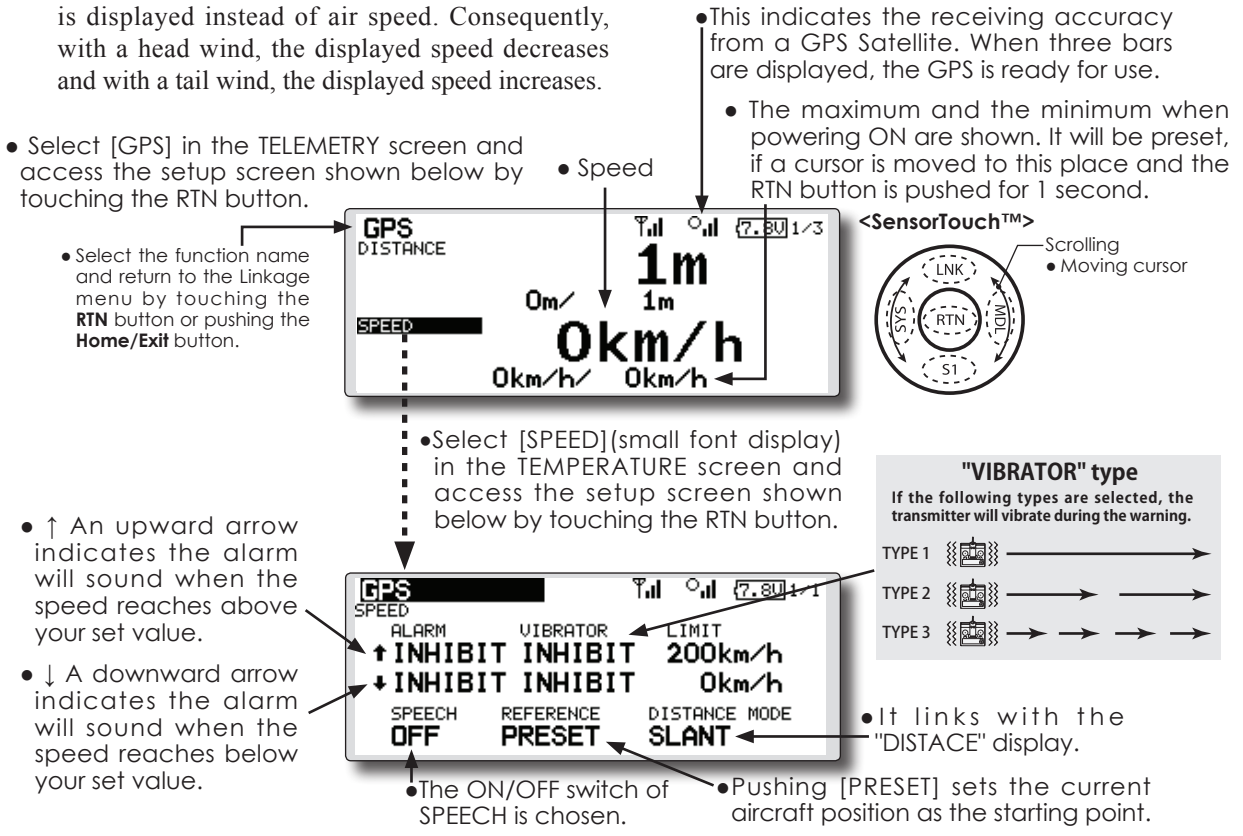
***A GPS sensor must be installed in the aircraft.**

*The GPS sensor is necessary, and is sold separately. Mount and connect the sensor in accordance with the sensor instruction manual.

*It cannot be used in FASST mode and S-FHSS mode.

*Only receiver voltage and EXT voltage can be used in FASSTest12CH mode.

*The FASSTest18CH mode can use all the telemetry functions.



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 disintegrate in midflight at 400km/h at an over-speed alarm, when the headwind reaches 30km/h the airplane will disintegrate 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.

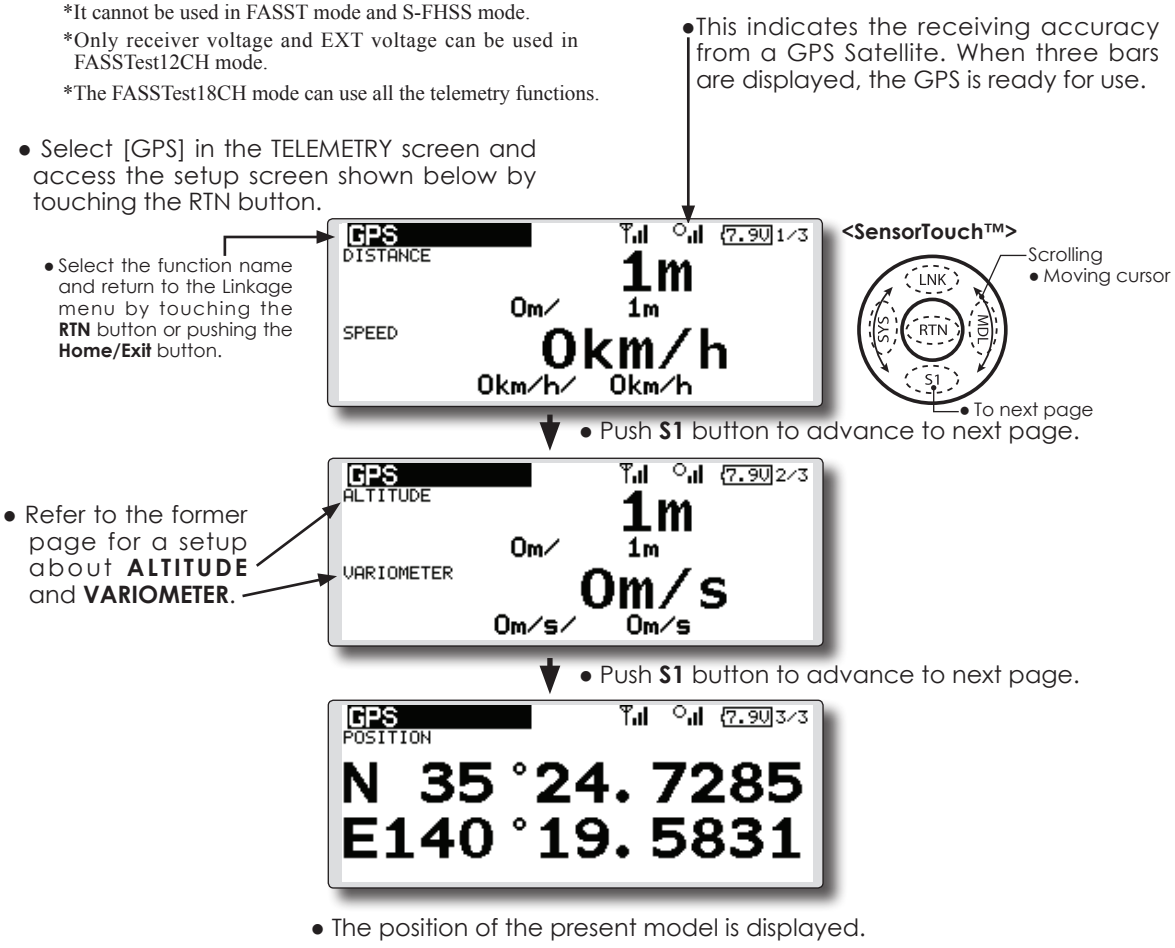
The altitude, variometer, position screen displays and sets the data from an SBS-01G (GPS sensor) sold separately.

*The GPS sensor is necessary, and is sold separately. Mount and connect the sensor in accordance with the sensor instruction manual.

*It cannot be used in FASST mode and S-FHSS mode.

*Only receiver voltage and EXT voltage can be used in FASSTest12CH mode.

*The FASSTest18CH mode can use all the telemetry functions.



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.

- Select [SENSOR] in the Linkage menu and access the setup screen shown below by touching the RTN button.

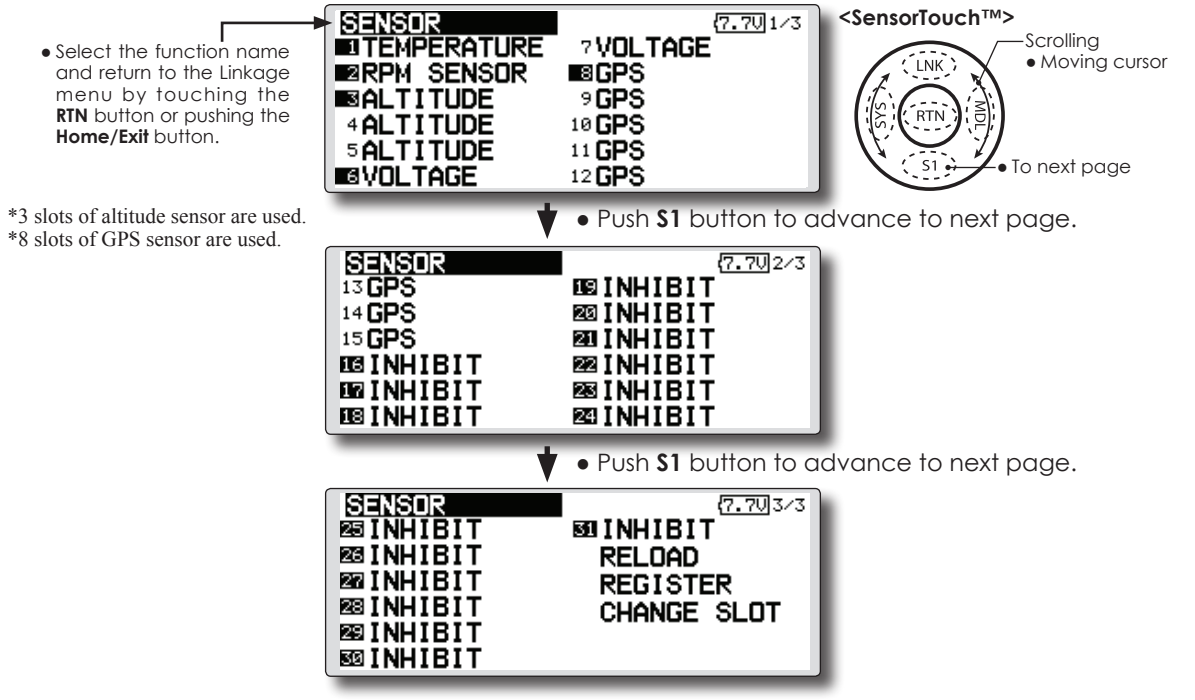
[What is a slot?]

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.



- 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.

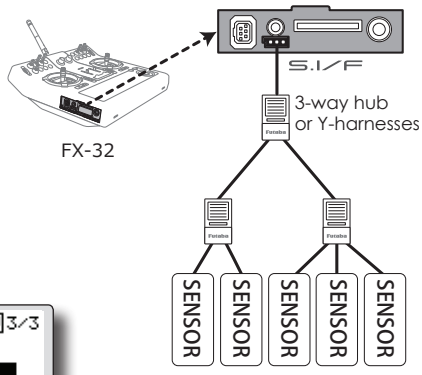
Sensor	The required number of slots	The number which can be used as a start slot	Selling area
TEMP (SBS-01T)	1 slot	1 31	Global
RPM (SBS01RM,SBS-01RO)	1 slot	1 31	
Voltage (SBS-01V)	2 slots	1,2,3,4,5,6,8,9,10,11,12,13,14,16,17,18,19,20,21,22,24,25,26,27,28,29,30	
Altitude (SBS-01A)	3 slots	1,2,3,4,5,8,9,10,11,12,13,16,17,18,19,20,21,24,25,26,27,28,29	
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 FX-32 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.

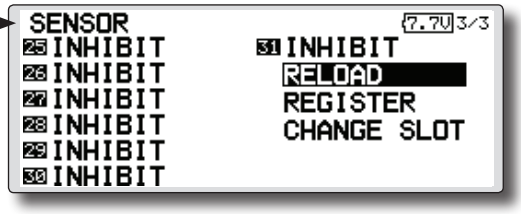


All the sensors to be used are connected.

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

(It will damage, if it connects.)

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



Reading all the sensors to be used

1. Connect all the sensors to be used to the FX-32 through a hub as shown in the figure above.
2. Move the cursor to "RELORD" on page 3/3 of the [SENSOR] screen.
3. Touch the RTN button.

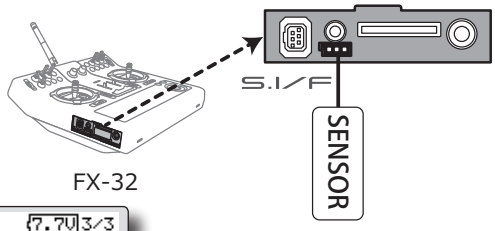
   All the sensors are registered and can be used.

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.

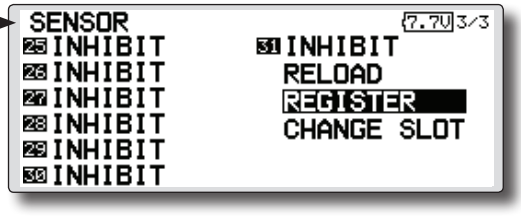
- Call page 3/3 by touching the S1 button 2 times from the [SENSOR] menu.



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

(It will damage, if it connects.)

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



Additional sensor registration

1. Connect the sensor to be used to the FX-32 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.

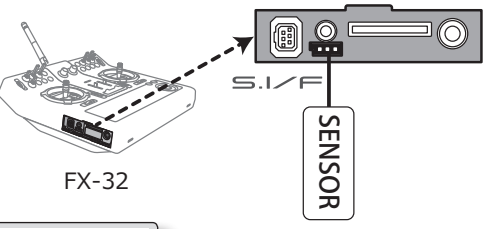
   The sensor is registered and can be used.

   *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.

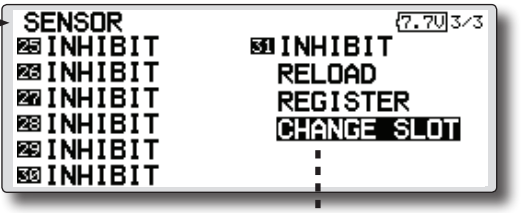


FX-32

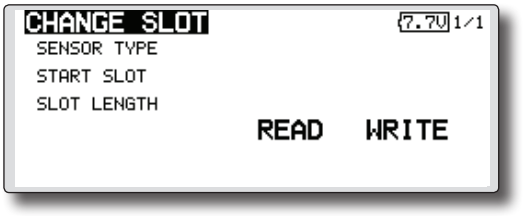
*It is not necessary to carry out multiple connection of the battery like a T18MZ/T14SG.
(It will damage, if it connects.)

- 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.



- Select [CHANGE SLOT] in the SENSOR screen and access the setup screen shown below by touching the RTN button.



Sensor slot change

1. Connect the sensor to be changed to the FX-32 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

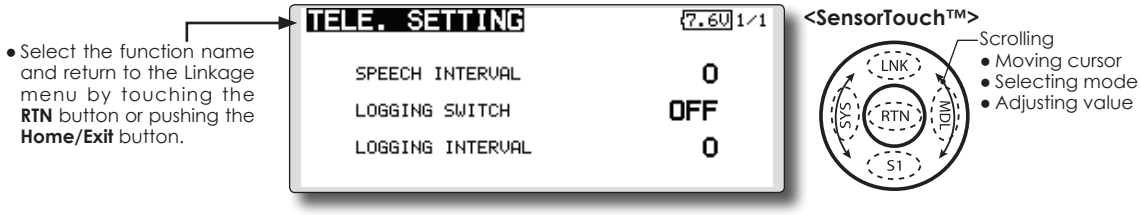
Speech interval set , data logging of telemetry.

The set of the speech interval of teremetry data, and a switch setup for carrying out logging of the teremetry data to SD card and a setup of a logging interval are carried out.

teremetry 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.



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

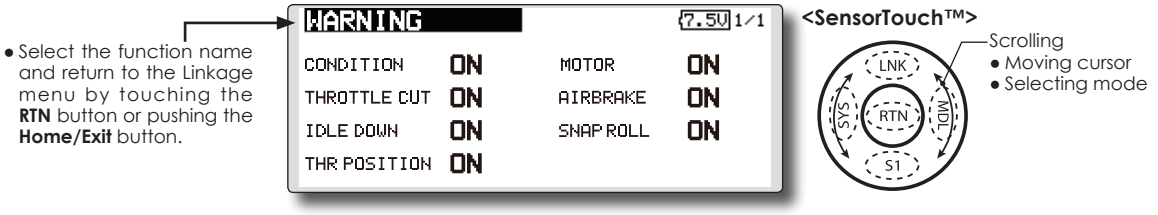
1. Select the Linkage Menu [TELE. SETTING] and touch the RTN button.
2. The TELE. SETTING setup screen is displayed.
3. Select numerical value beside[LOGGING INTERVAL] and touch the RTN button.
4. Ajust the time by scrolling the touch sensor.
   Initial value: 0
   Adjustment range 0~100
5. Touch the RTN button.

WARNING

Mixing warning normal reset

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.



Warning ON/OFF setting

1. The settings can be changed individually. When set to [OFF], a warning is not displayed at power ON.

FX-32 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 FX-32 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 FX-32 is used as the instructor's transmitter, set the modulation mode of the student's transmitter to PPM.

If being used as the student, FX-32 can be connected to the instructor's transmitter which the PPM mode as the student's modulation mode is required. FX-32 always sends PPM mode signal from the trainer jack.

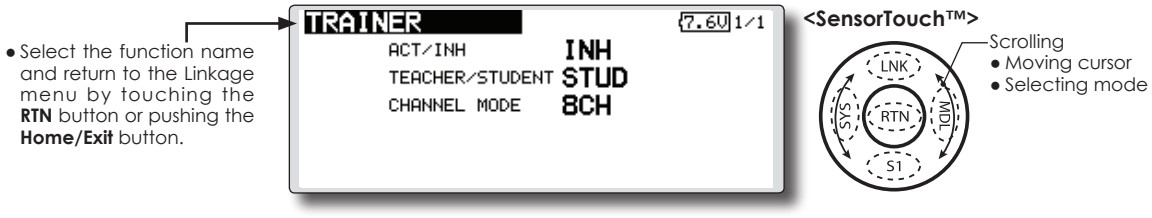
(In the case of student's transmitters other than 2.4 GHz)

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	
FX-32, T14SG,T18MZ	**FX-32**, T14SG,T18MZ	Arbitrary	16CH	Arbitrary	16CH	-	T12FG (FUTM4405) and 9C (FUTM4415) Trainer Cords
FX-32	T14MZ, FX-40, T12Z, T12FG, FX-30	Arbitrary	12CH	PCM-G3 2.4G	12CH	PPM	
FX-32	T8FG, FX-20	Arbitrary	12CH	FASST-MLT2	-	-	
			8CH	FASST-MULT			
FX-32	T10C, T9C, T7C,T6EX, T4EX	Arbitrary	8CH	PPM	-	-	T12FG (FUTM4405)
FX-32	T10CG,T7C	Arbitrary	8CH	Arbitrary	-	-	T12FG (FUTM4405)
FX-32	T8J,T6J	Arbitrary	8CH	Arbitrary	-	-	T12FG (FUTM4405) and 9C (FUTM4415) Trainer Cords
T14MZ, FX-40, T12Z, T12FG, FX-30	**FX-32**	Arbitrary	12CH	Arbitrary	12CH	-	
T8FG, FX-20	**FX-32**	Arbitrary	12CH	Arbitrary	12CH	-	
T10C, T10CG, T9C, T7C, T7C,T8J	**FX-32**	Arbitrary	-	Arbitrary	8CH	-	

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



When using at the student side

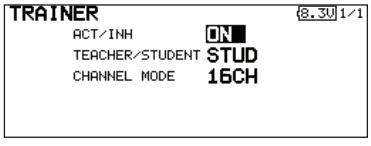
1. Select the mode.

*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 FX-32,T14SG, T18MZ, select [16CH]. When the student uses the T14MZ, T12Z, T12FG or FX-40, select [12CH]. Otherwise select [8CH].



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

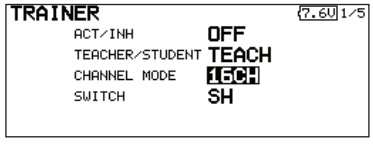
1. Select the mode.

*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 FX-32 (including the T18MZ, T14SG)select [16CH]. Otherwise select [12CH]or[8CH].



2. Select the trainer switch.

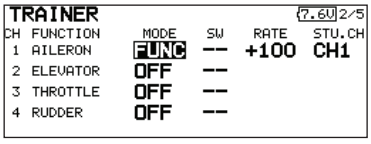
*When setting or changing the switch, use the touch sensor to move to the "SWITCH" item, call the switch setup screen by touching the RTN button and set the desired switch and ON/OFF direction.

(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.



*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.

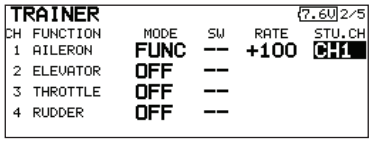
*When the RTN button is touched for 1 second, the rate is reset to the initial value.

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 student channel setting function

Which channel of the signal from the student's transmitter can be fetched 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.)

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.

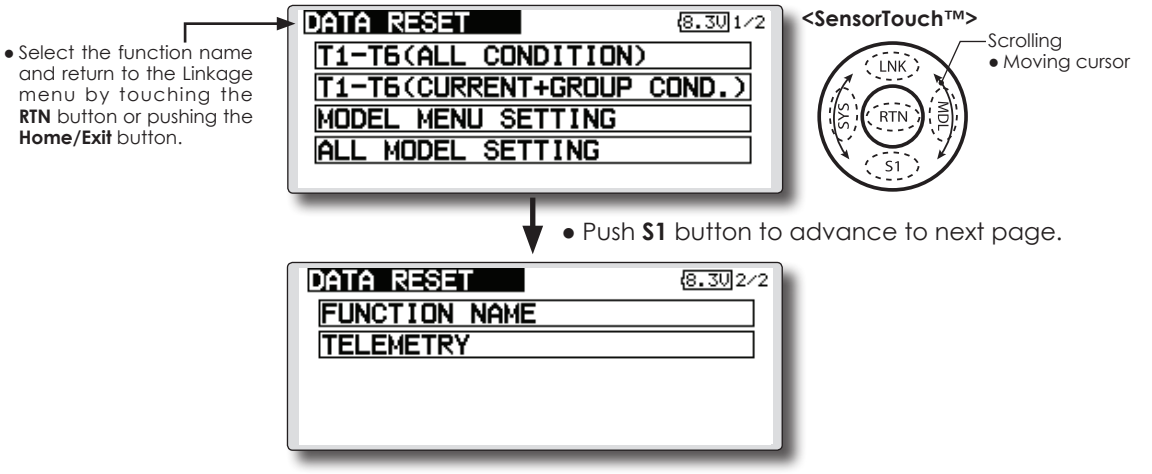
Function Name:

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.



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 teremetry 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 racing dangerously when adjusting the idle-up settings.

While this function is active, the throttle servo position is fixed at the point where you operate 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 are reset.

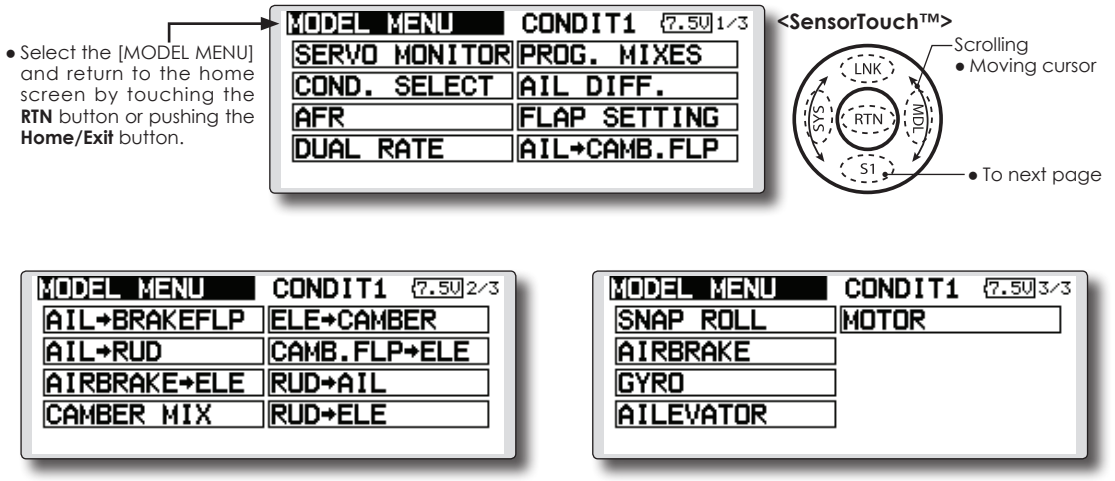
The functions in the Model Menu can be set for each flight condition. When you want to use the system by switching the settings for each condition by switch, stick position, etc., use the Condition Select function to add flight conditions. (Up to 8 conditions can be used)

Note: The FX-32 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.



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]

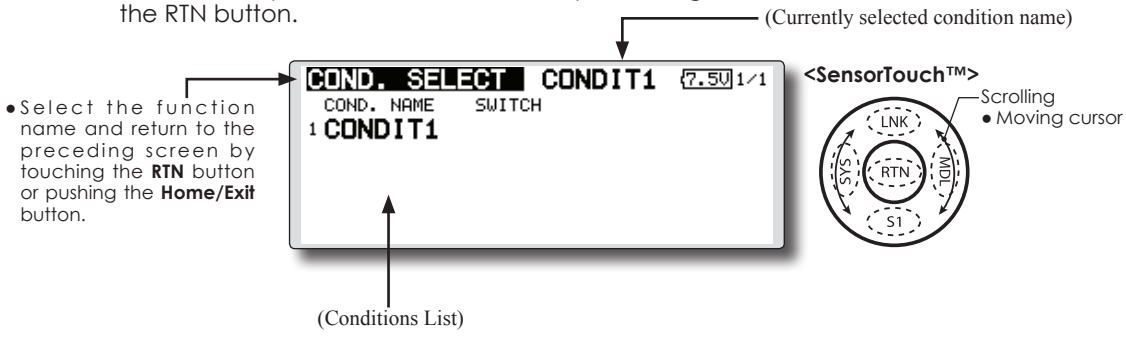
The functions in the Model Menu can be used by switching the settings of up to 8 flight conditions by using the Condition Select function to add flight conditions. Add conditions, as required.

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.



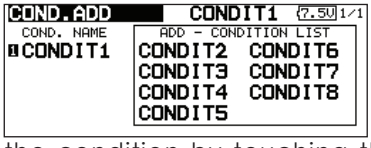
*Perform the settings below after using the touch sensor to move the cursor to the item you want to set.

Condition addition

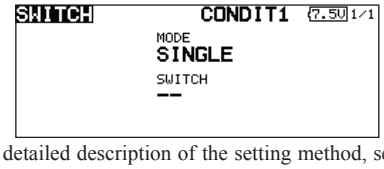
1. Use the touch sensor to move the cursor to any condition in the conditions list and touch the RTN button.

   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.



3. Add the condition by touching the RTN button again. Touch the RTN button to end adjustment and return to the cursol 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.



(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 cursol move mode.

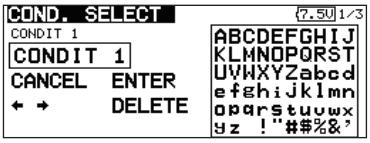
Condition name change

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.



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.

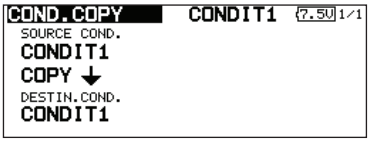
   *A name of up to 8 characters long can be entered as the condition name. (A space is also counted as 1 character.)

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.



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 cursol move mode.

Priority change

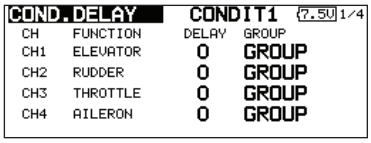
1. Use the touch sensor to move the cursor to the condition whose priority you want to change in the condition list.
2. Move the cursor to [UP] or [DOWN] of [PRIORITY] and touch the RTN button. (The last condition becomes the highest priority.)

   *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.



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 cursol 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.)

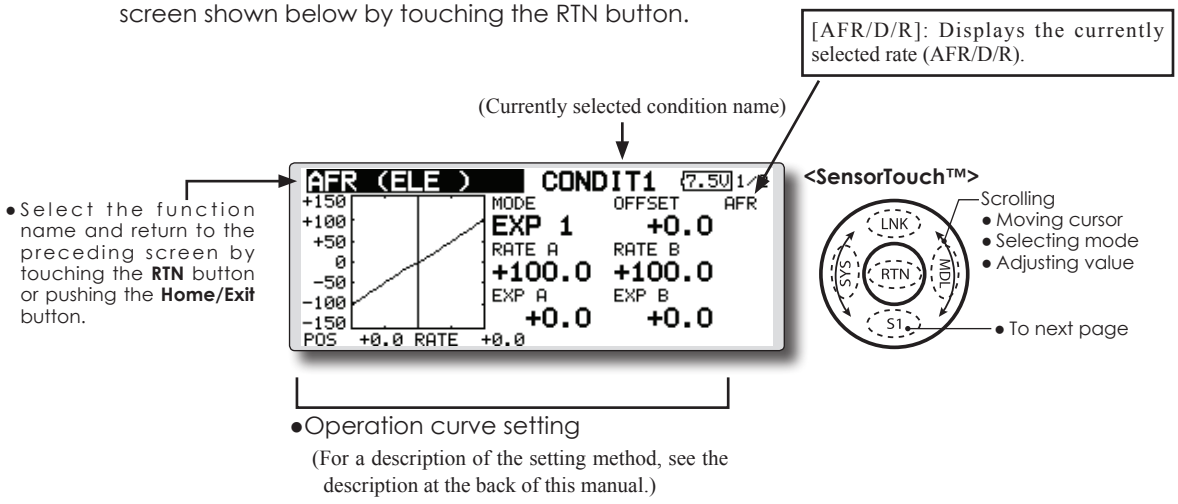
AFR

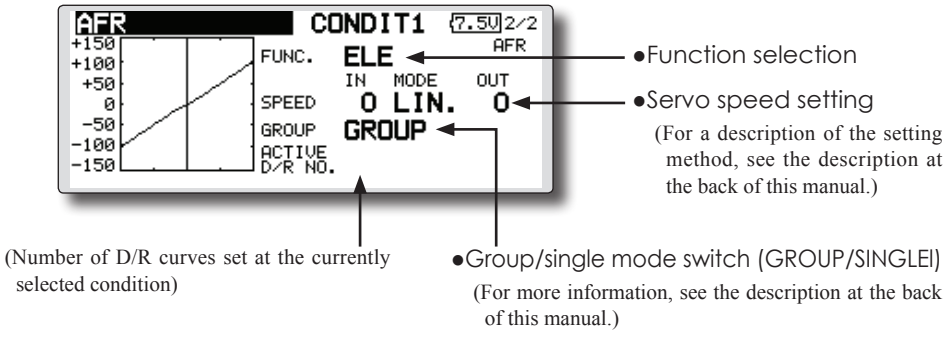
The angle and curve of each operation function can be set. [All model types]

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.





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.)

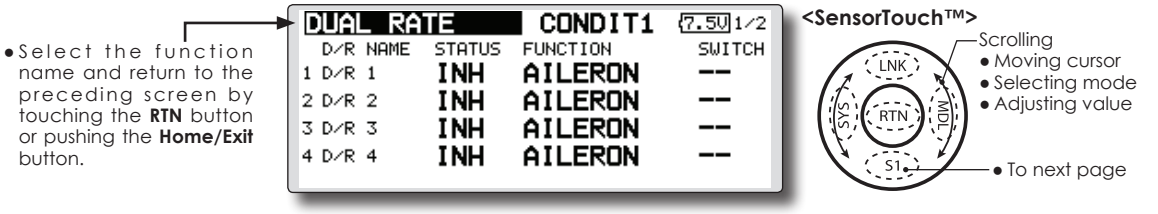
DUAL RATE

[All model types]

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.



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]

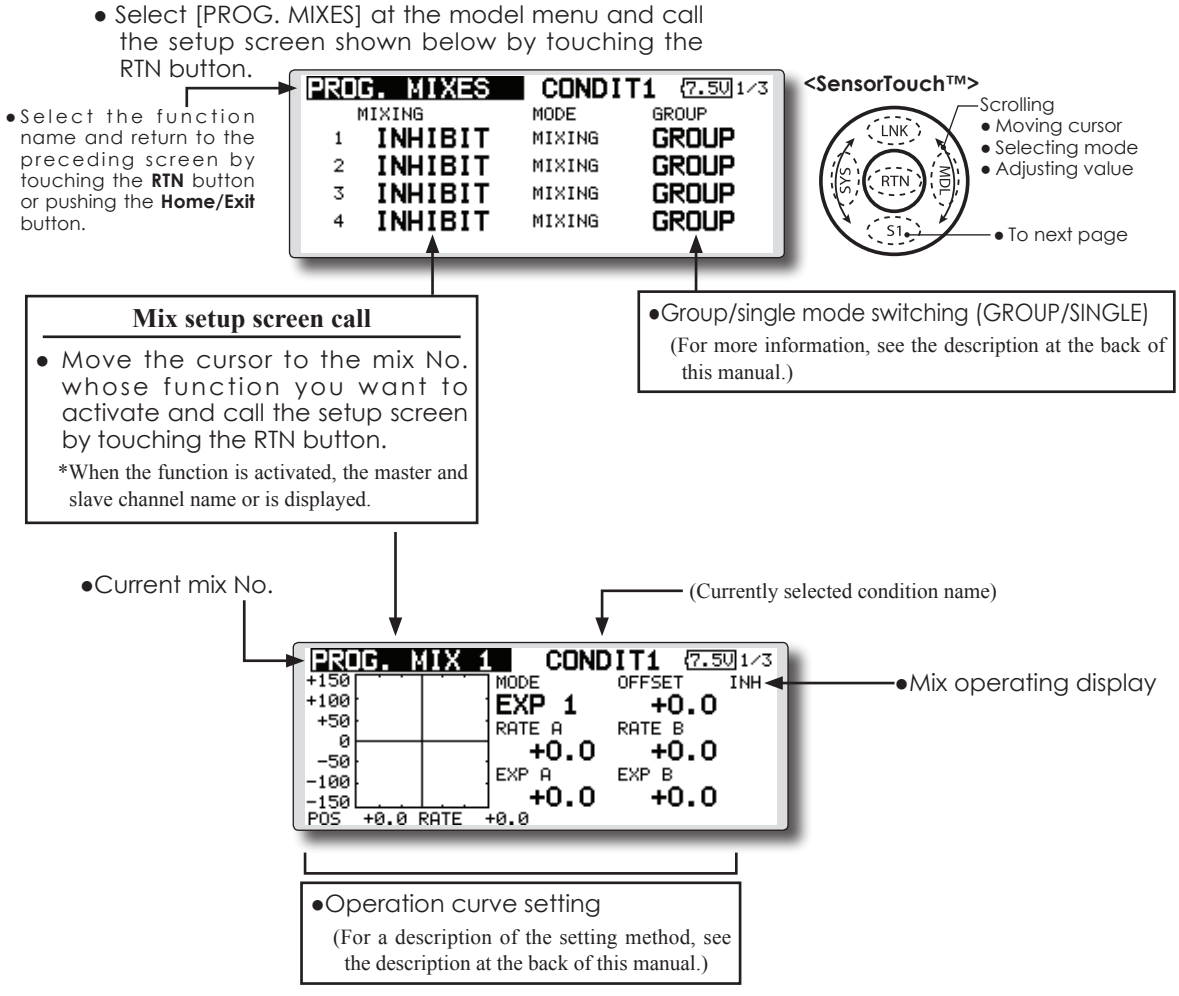
Programmable mixing may be used to correct undesired tendencies of the aircraft, and it may also be used for unusual control configurations. Mixing means that the motion of a command channel, called the "master," is added to the motion of the mixed channel, called "slave."

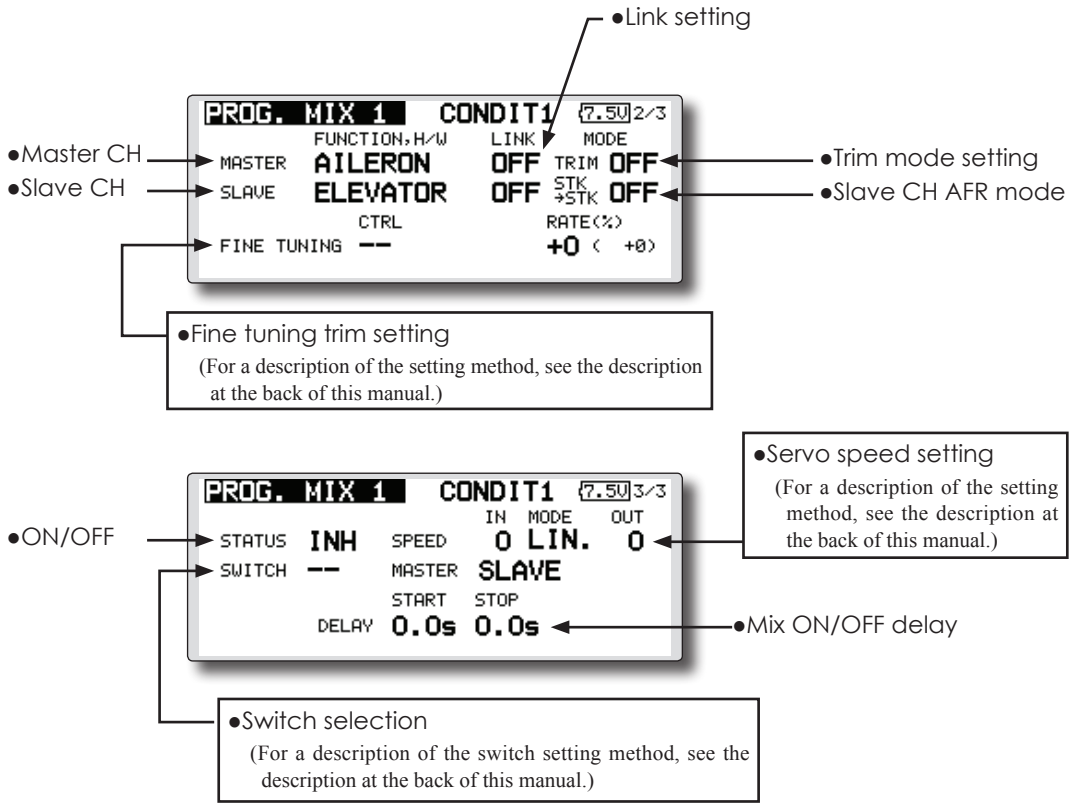
You may choose to have the Master's trim added to the Slave channel response ("Trim" setting). The mixing curve can be changed so that the undesired tendencies can be corrected effectively by setting the EXP1/EXP2/POINT modes. The Delay function can be programmed for each rate. The Delay is used to change 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.





*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 cursol 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.

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.

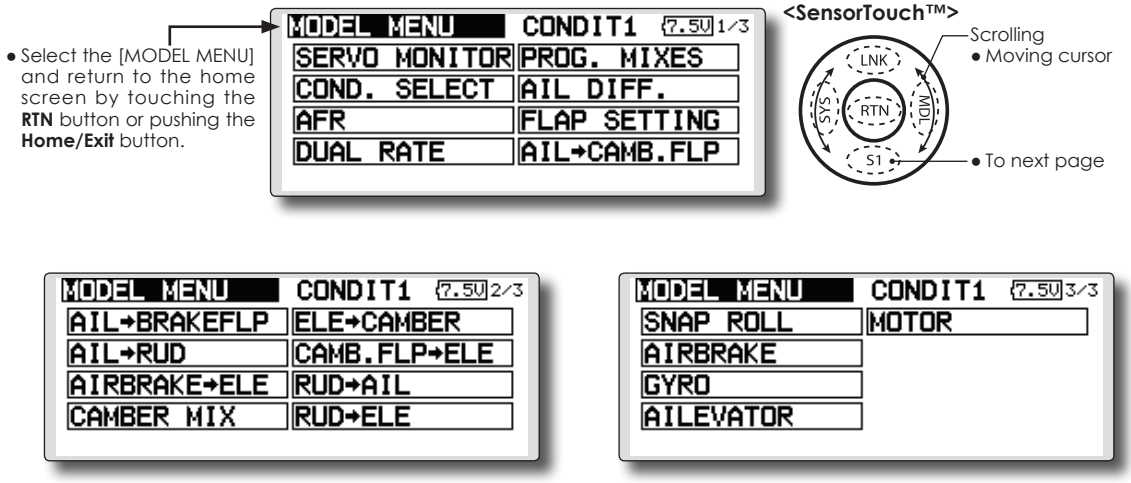
These dedicated mixes can be set for each flight condition, as required. When you want to use the system by switching the settings for each condition by switch or stick position, use the Condition Select function to add flight conditions. (Up to 8 conditions can be used)

Note: The FX-32 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.

- 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.



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

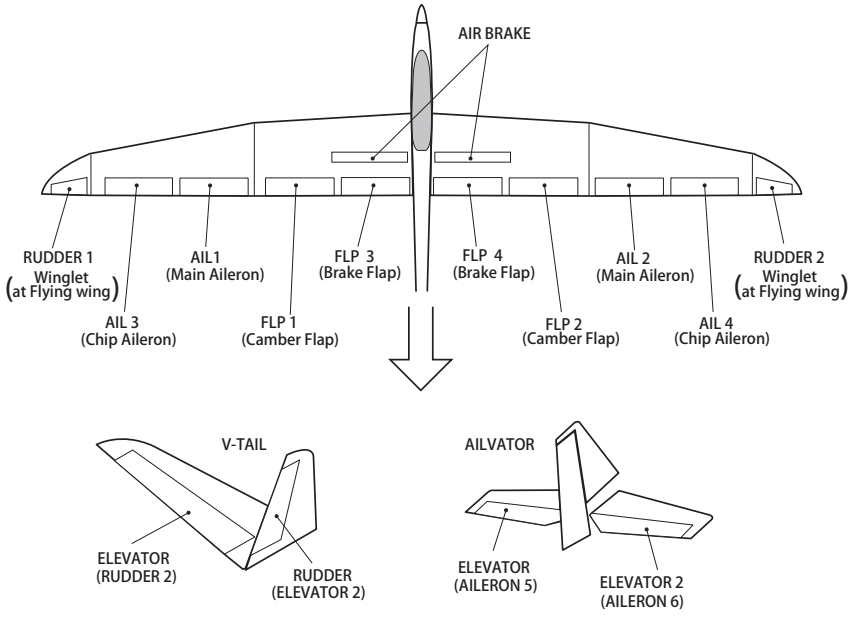
The operation speed when the motor of F5B and other EP gliders is started by switch can be set. [EP glider, general]

RUD to ELE

This function is used to correct roll maneuvers, knife edge, etc. of stunt planes. [Airplane, general]

SNAP ROLL

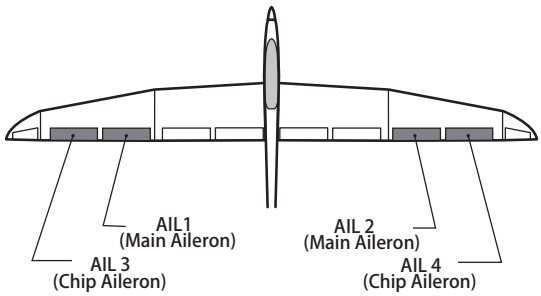
This function selects the snap roll switch and adjusts the steering angle of each rudder. Servo speed can also be adjusted. [Airplane general]

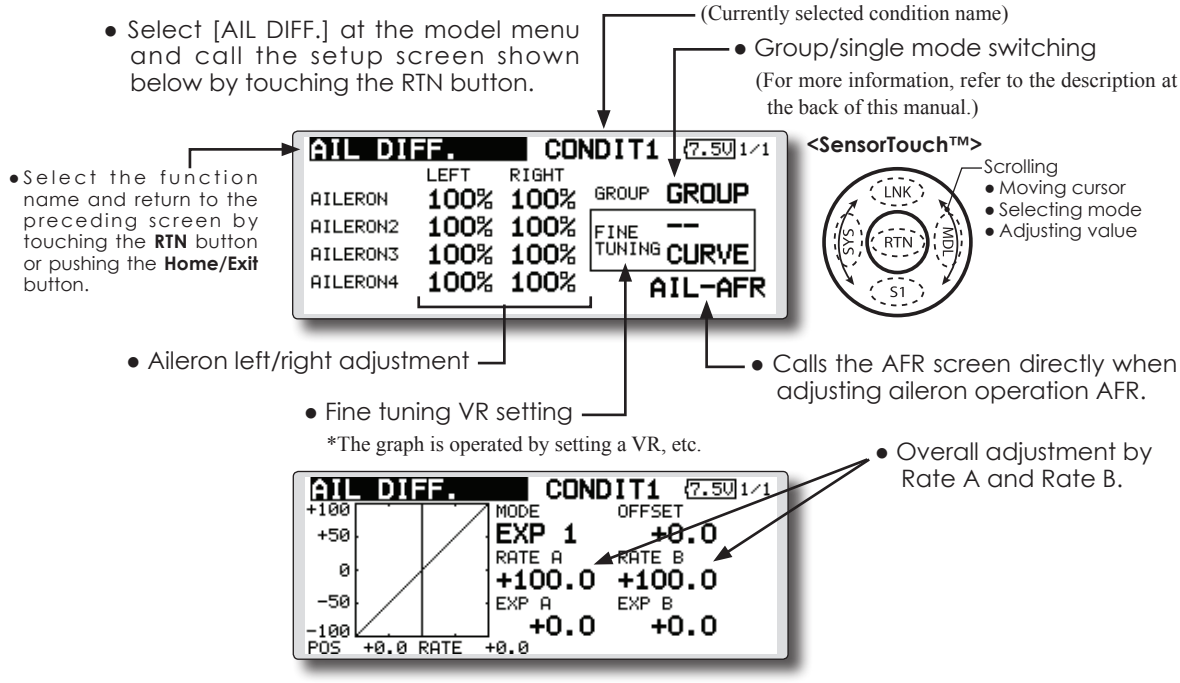


AIL DIFF.

[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.





<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 cursol 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 cursol move mode.

- The fine tuning rate can be set by curve.

FLAP SETTING

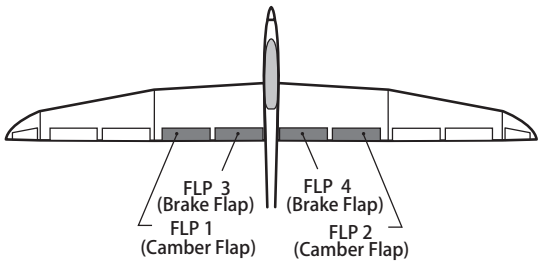
[Corresponding model type]: Airplane/glider, 2 flaps or more

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.

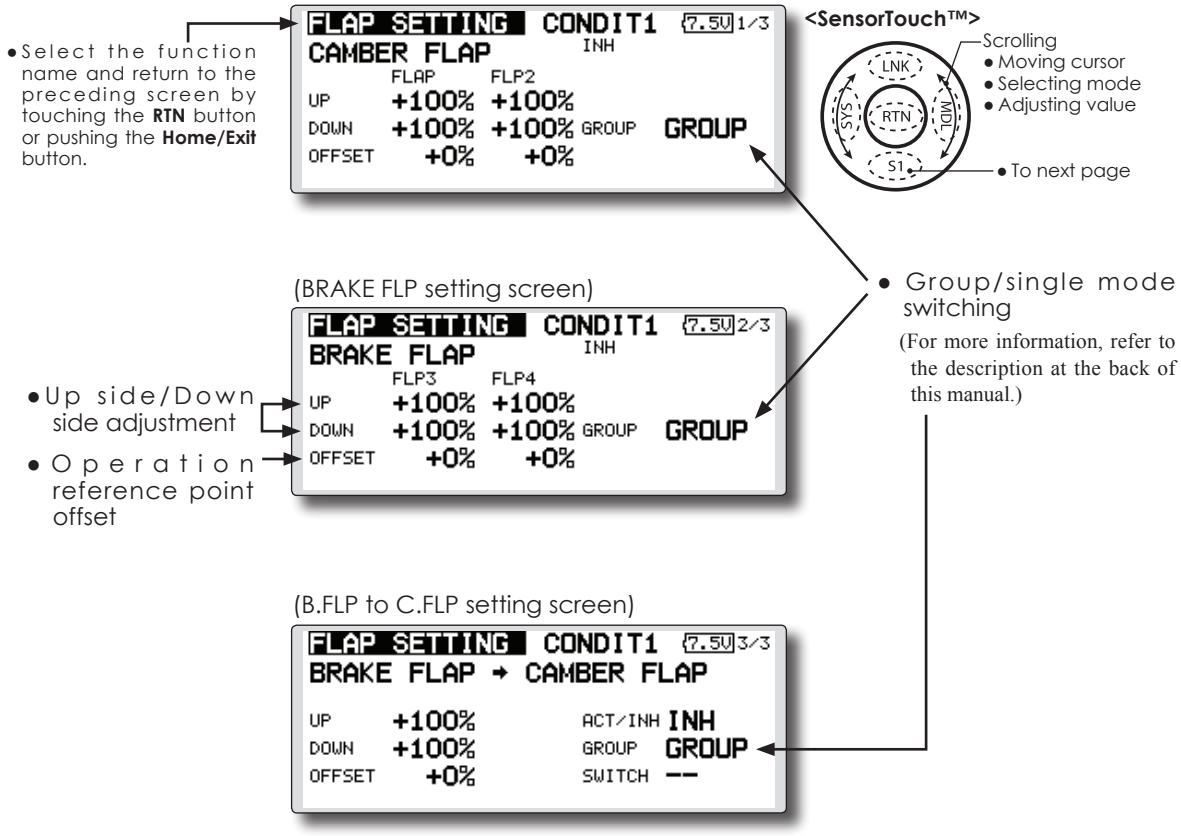


<Wing type: 4 flaps screen>

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

- Select [FLAP SETTING] at the model menu and call the setup screen shown below by touching the RTN button.

(CAMBER FLP setting screen)



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 cursol 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)

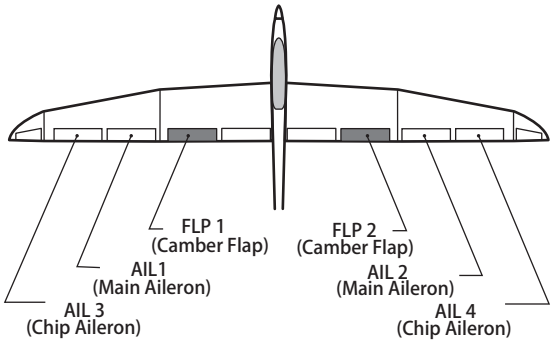
  (For a description of the switch selection method, see the description at the back of this manual.)

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.

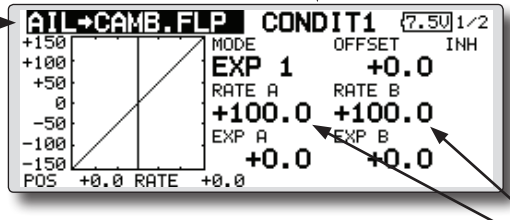
- The aileron left/right mixing rate of each flap servo can be fine-tuned.
- A mixing curve can be set.
- An ON/OFF switch can be set.
- Linking is possible: Link this mix to other mixes.



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

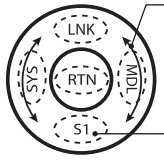
- Select [AIL to CAMB.FLP] at the model menu and call the setup screen shown below by touching the RTN button.

(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.

<SensorTouch™>



- Scrolling
- Moving cursor
- Selecting mode
- Adjusting value
- To next page

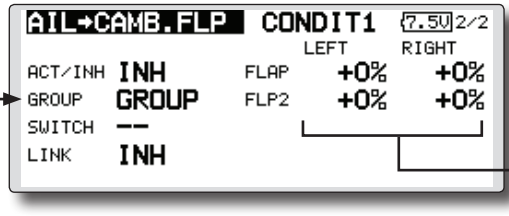
- Mixing curve setting

*For a description of the curve setting method, see the description at the back of this manual.

- 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.)



- 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 cursol 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.

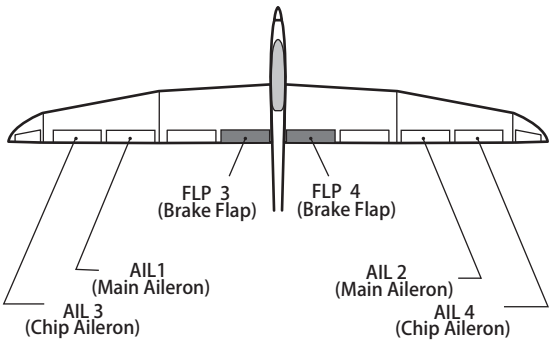
  Set it to ON and touch the RTN button.

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.

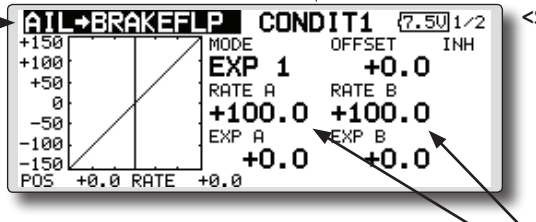
- The aileron left and right mixing rates can be adjusted for each flap servo.
- A mixing curve can be set.
- Mixing during flight can be turned ON/OFF by setting a switch. (Always ON at [--] setting)
- Linking can be set: Link this mix to other mixes.



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

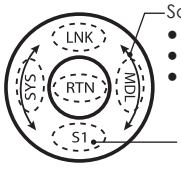
- Select [AIL to BRAKEFLP] at the model menu and call the setup screen shown below by touching the RTN button.

(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.

<SensorTouch™>



- Scrolling
- Moving cursor
- Selecting mode
- Adjusting value
- To next page

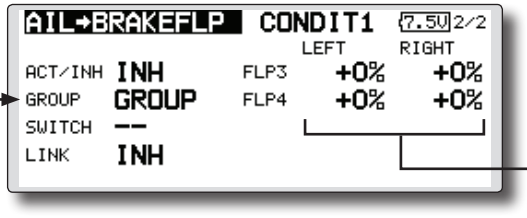
- Mixing curve setting

*For a description of the curve setting method, see the description at the back of this manual.

- Group/single mode switching

(For more information, refer to the description at the back of this manual.)

- 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 cursol 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.

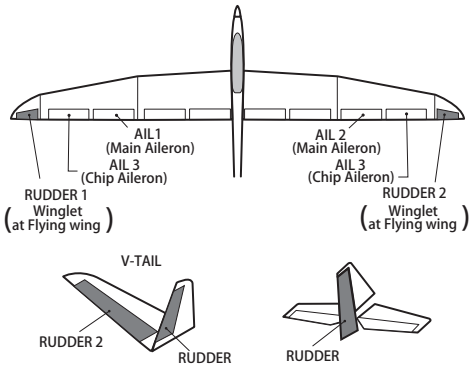
  Set it to ON and touch the RTN button.

AIL to RUD

[Corresponding model type]: Airplane/glider, general

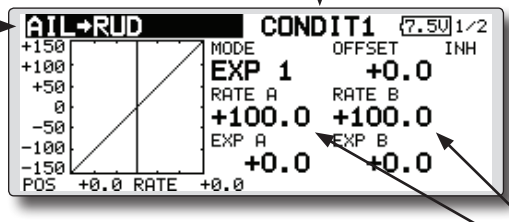
Use this mix when you want to mix the rudders with aileron operation.

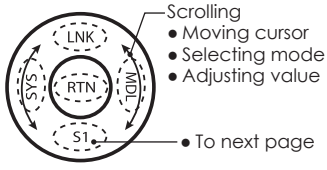
- A mixing curve can be set.
- Mixing during flight can be turned ON/OFF by setting a switch. (Always ON at [--] setting)
- The mixing rate can be fine-tuned by setting a VR.



- 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.

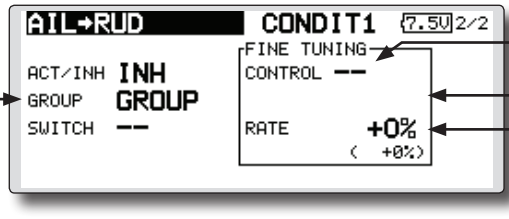
• Mixing curve setting

*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.)



• 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 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.

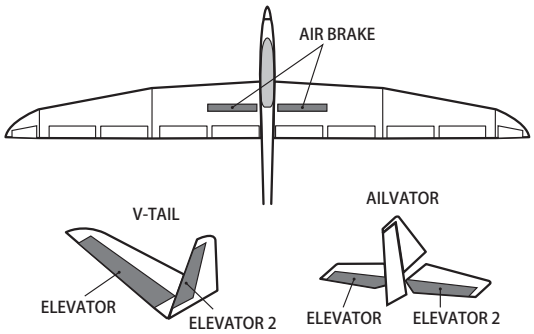
AIRBRAKE to ELE

[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.

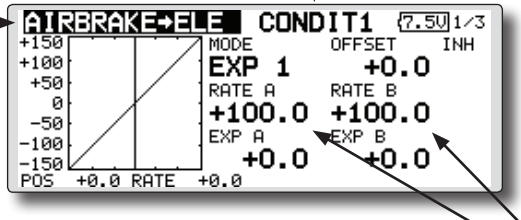
- The Rate 1 side/Rate 2 side mixing rate with the elevator servos can be adjusted.
- A mixing curve can be set.
- Mixing during flight can be turned ON/OFF by setting a switch. (Always ON at [--] setting)
- The mixing rate can be fine-tuned by setting a VR.



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

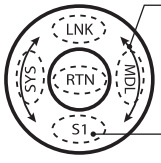
- Select [AIRBRAKE to ELE] at the model menu and call the setup screen shown below by touching the RTN button.

(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.

<SensorTouch™>



- Scrolling
- Moving cursor
- Selecting mode
- Adjusting value
- To next page

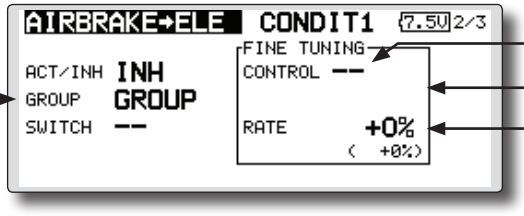
- Mixing curve setting

*For a description of the curve setting method, see the description at the back of this manual.

- Overall adjustment by Rate A and Rate B.

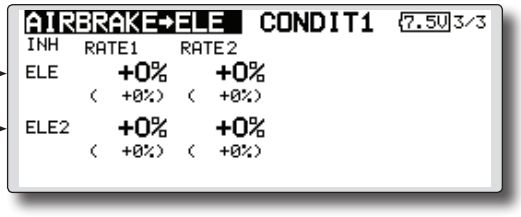
- Group/single mode switching

(For more information, refer to the description at the back of this manual.)



- Fine tuning VR setting
- Operation mode
- Adjustment rate

- Adjustment of each elevator 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.
- 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.

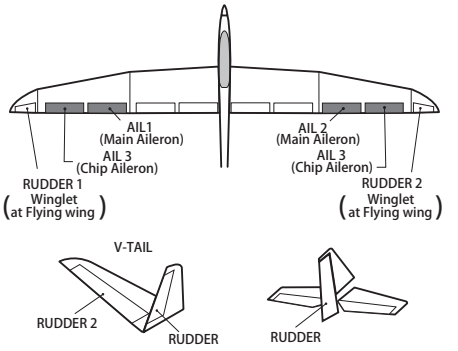
[SYM.] When the VR is turned to the left or right of the neutral position, the mixing rate increases.

RUD to AIL

[Corresponding model type]: Airplane/glider, general

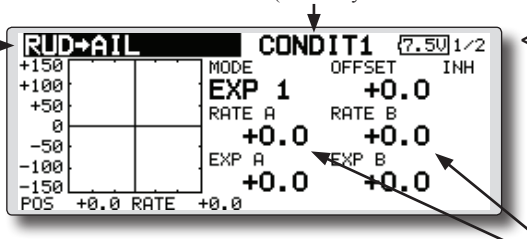
This function is used when you want to mix the ailerons with rudder operation. It is used when rudder is applied during roll maneuvers, knife edge, etc. of stunt planes. It can be used to bank scale models, large models, etc. like a full size plane.

- 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.



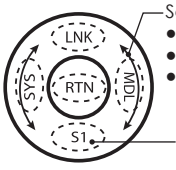
- Select [RUD to AIL] at the model menu and call the setup screen shown below by touching the RTN button.

(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.

<SensorTouch™>



- Scrolling
  - Moving cursor
  - Selecting mode
  - Adjusting value
- To next page

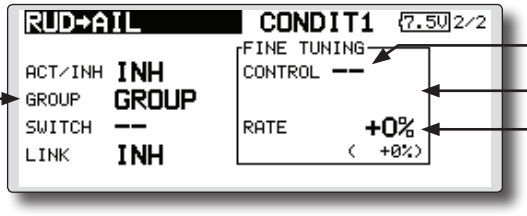
- Mixing curve setting

*For a description of the curve setting method, see the description at the back of this manual.

- 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.)



- 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.

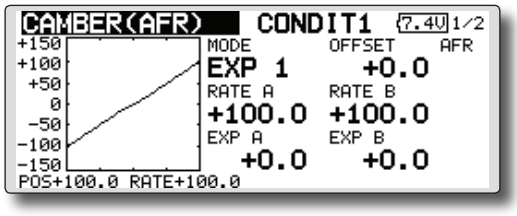
CAMBER MIX

[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)

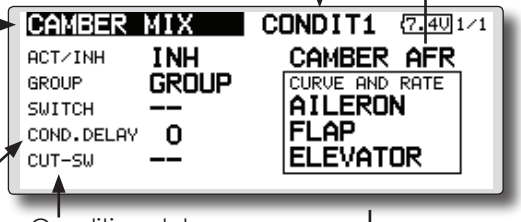


- Select [CAMBER MIX] at the model menu and call the setup screen shown below by touching the RTN button.

- Camber AFR (D/R) setup screen call

(For a description of the setting method, refer to the AFR function.)

(Currently selected condition name)

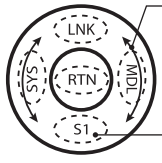


- Select the function name and return to the preceding screen by touching the **RTN** button or pushing the **Home/Exit** button.

- Condition delay setting

- Condition delay cut switch

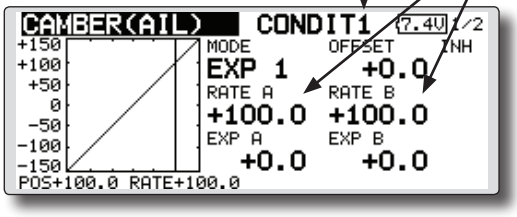
<SensorTouch™>



- Scrolling
- Moving cursor
- Selecting mode
- Adjusting value
- To next page

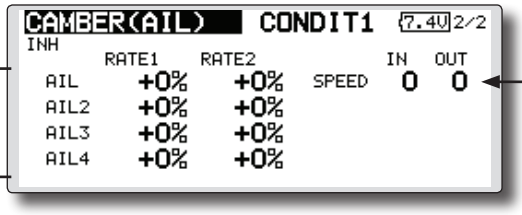
- Overall adjustment by Rate A and Rate B

(Curve/rate setting screen)



- Mixing curve setting

*For a description of the curve setting method, see the description at the back of this manual.



- 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 cursol 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

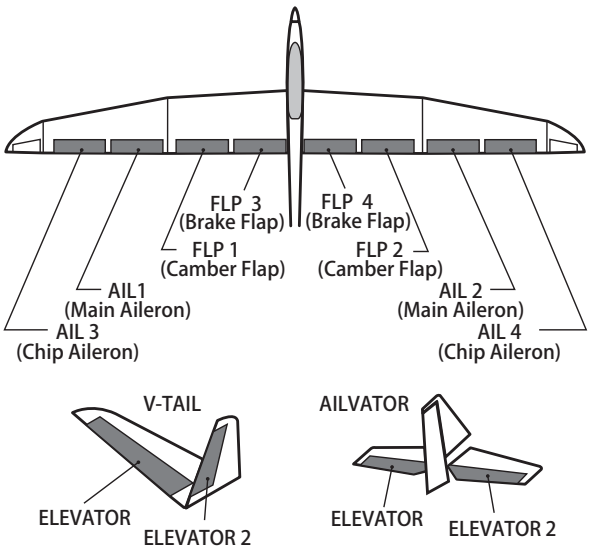
  Move the cursor to the Camber AFR item and touch the RTN button to call the setup screen. (For a description of the setup method, see the description at the back of this manual.)

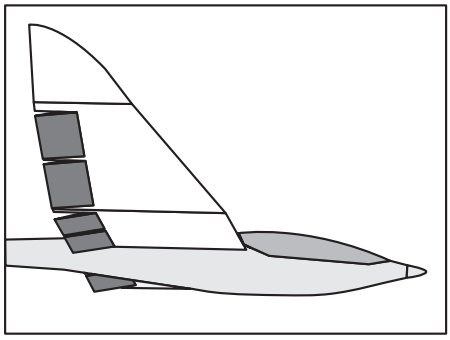
(Curve/rate setup screen)

- 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.





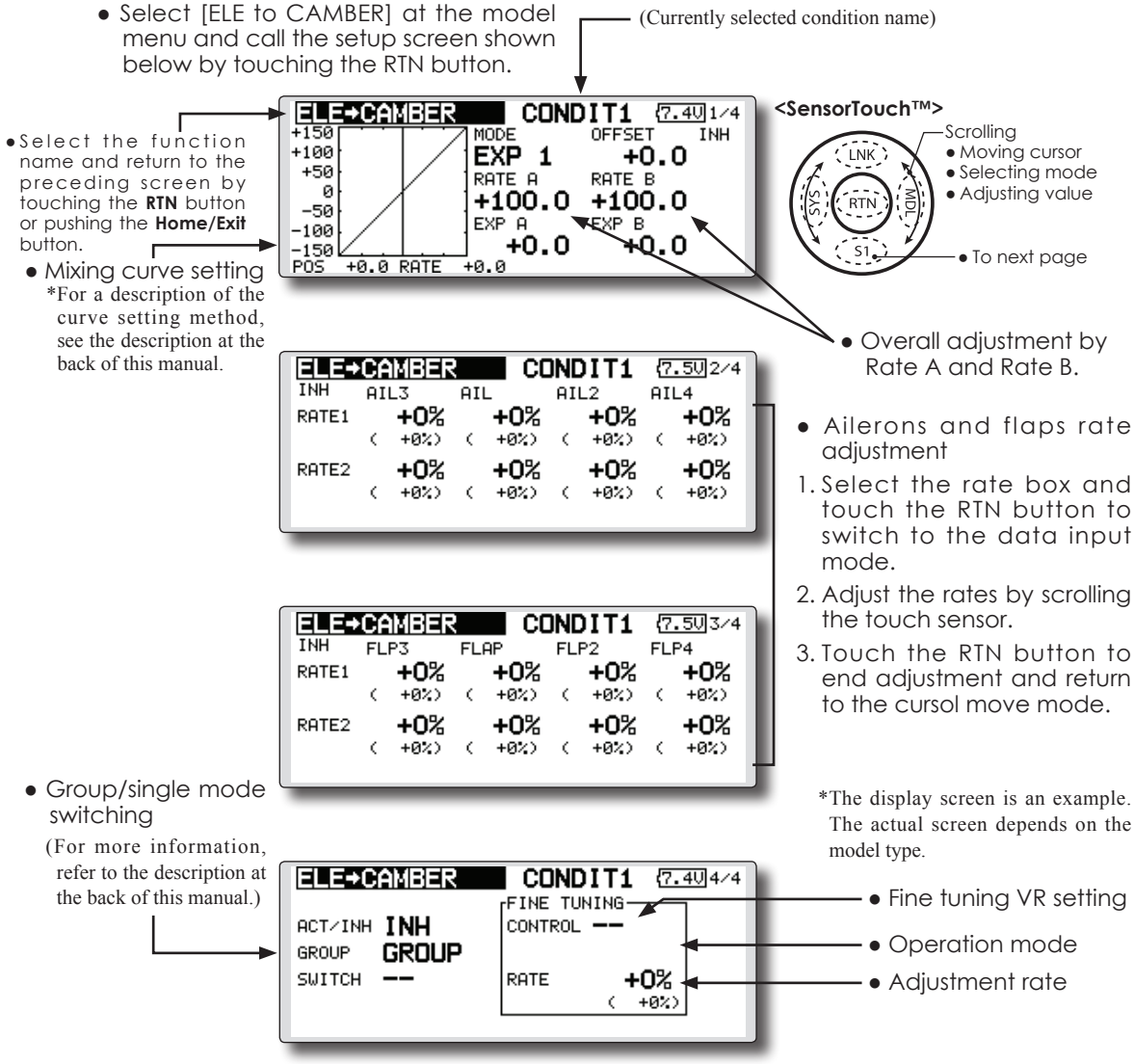
ELE to CAMBER

[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.



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.

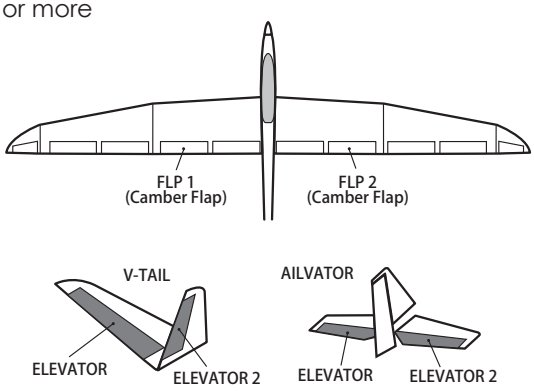
  (For a description of the curve setting method, see the description at the back of this manual.)

CAMB.FLP to ELE

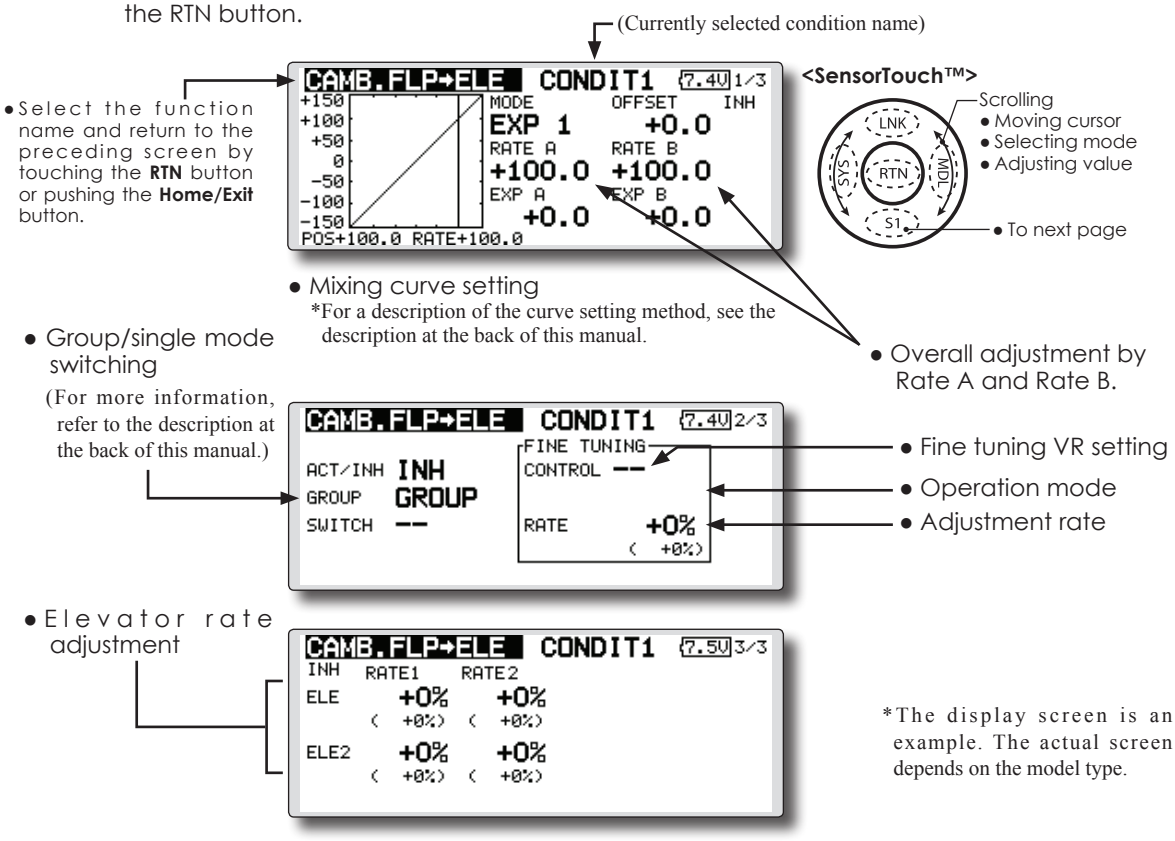
[Corresponding model type]: Airplane/glider, 2 ailerons + 1 flap or more

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.



- Select [CAMB.FLP to ELE] at the model menu and call the setup screen shown below by touching the RTN button.



*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 cursol 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.)

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

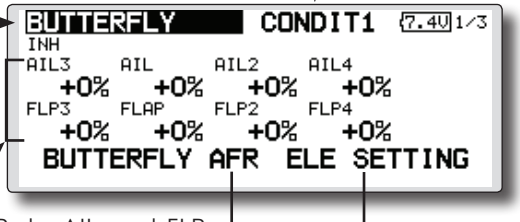
- Mixing during flight can be turned ON/OFF by setting a switch. (Always ON at [--] setting)
- The butterfly operation reference point can be offset. When the RTN button is touched with the offset item selected when operated to the position to be changed, the reference point is offset. If the reference 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.

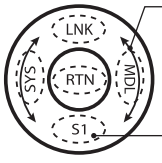
*The display screen is an example. The actual screen depends on the model type.

- Select [BUTTERFLY] at the model menu and call the setup screen shown below by touching the RTN button.

(Currently selected condition name)



<SensorTouch™>



Scrolling
- Moving cursor
- Adjusting value

- To next page

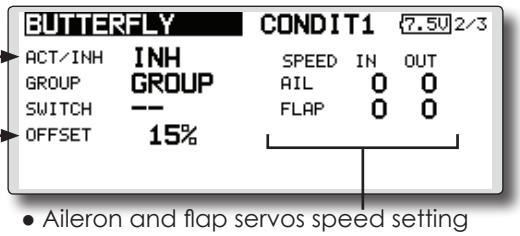
- Select the function name and return to the preceding screen by touching the **RTN** button or pushing the **Home/Exit** button.

- 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 cursol 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

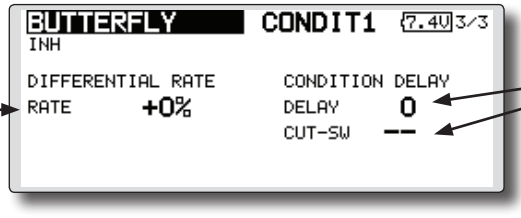
(For more information, see the description at the back of this manual.)

- 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.



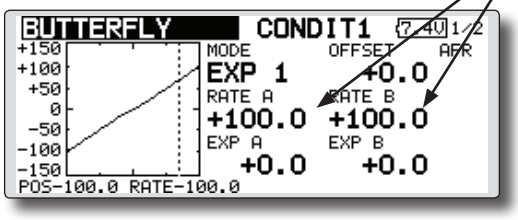
- Differential rate adjustment

- Condition delay setting and cut switch setting

(For a description of the setting method, see the description at the back of this manual.)

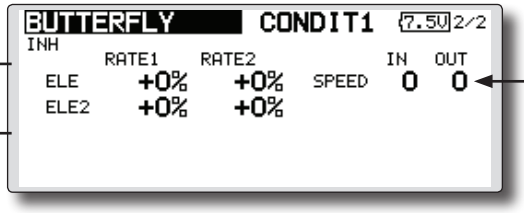
●Overall adjustment by Rate A and Rate B

(Elevator correction rate setup screen)



● Mixing curve setting

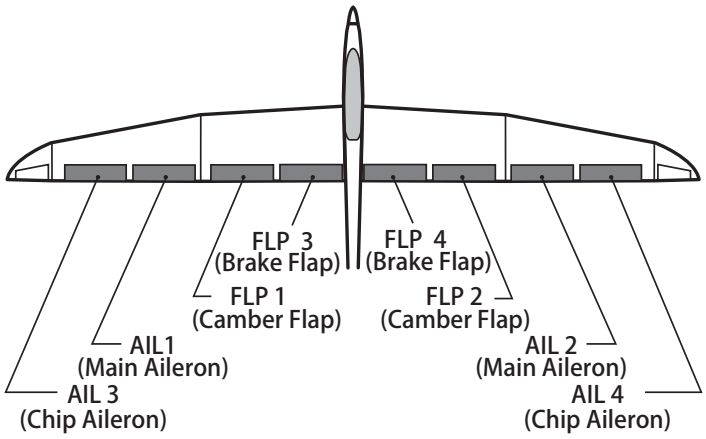
*For a description of the curve setting method, see the description at the back of this manual.

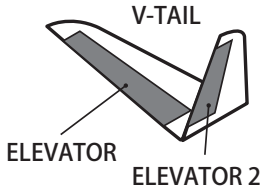


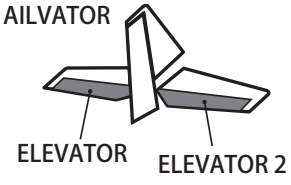
●Elevator rate adjustment

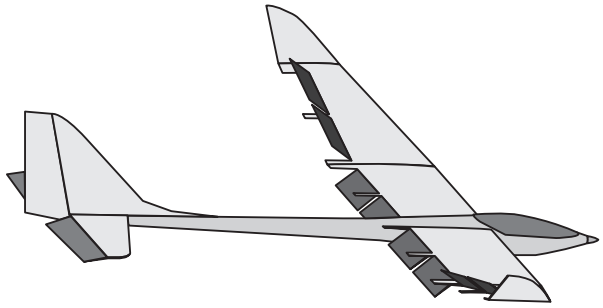
● Servo speed setting

(For a description of the setting method, see the description at the back of this manual.)









TRIM MIX 1/2

[Corresponding model type]: Glider, 2 ailerons or more

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>

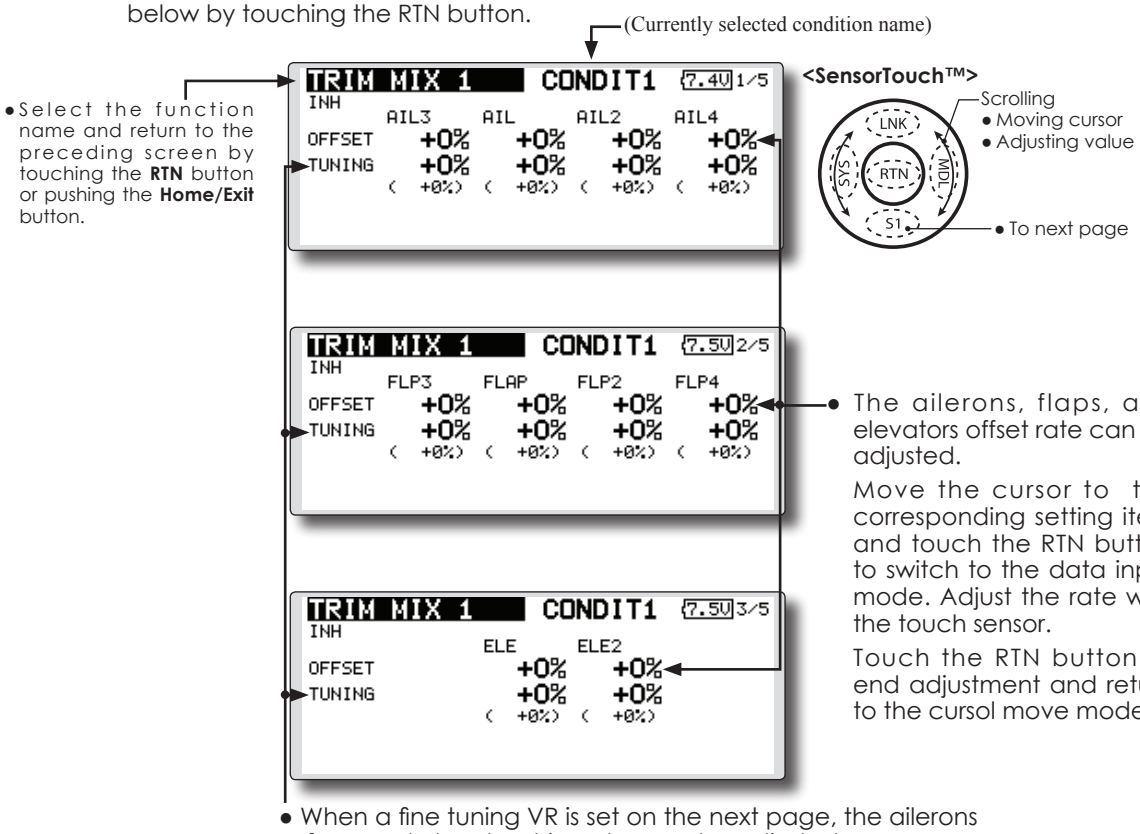
The offset rate can be varied in the Fine Tuning numeric range set at screen [5/5] by VR, etc. selection.

<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.

- Select [TRIM MIX1 or 2] at the model menu and call the setup screen shown below by touching the RTN button.

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



- 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.

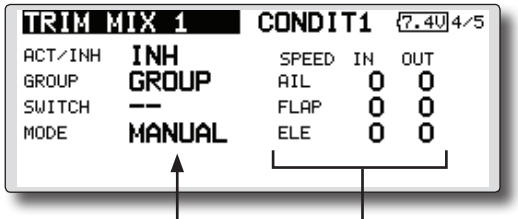
  Touch the RTN button to end adjustment and return to the cursol move mode.

- 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 cursol move mode.

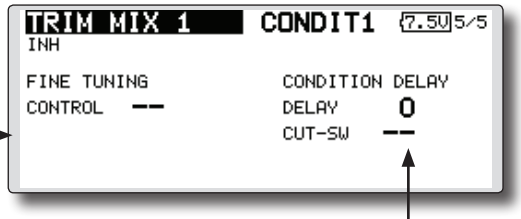
- When using this function, move the cursor to the [ACT/INH] item and touch the RTN button to switch to the data input mode. Turn the touch sensor to the left and touch the RTN button. (ON is displayed.)
- Group/single mode switching
  (For more information, see the description at the back of this manual.)



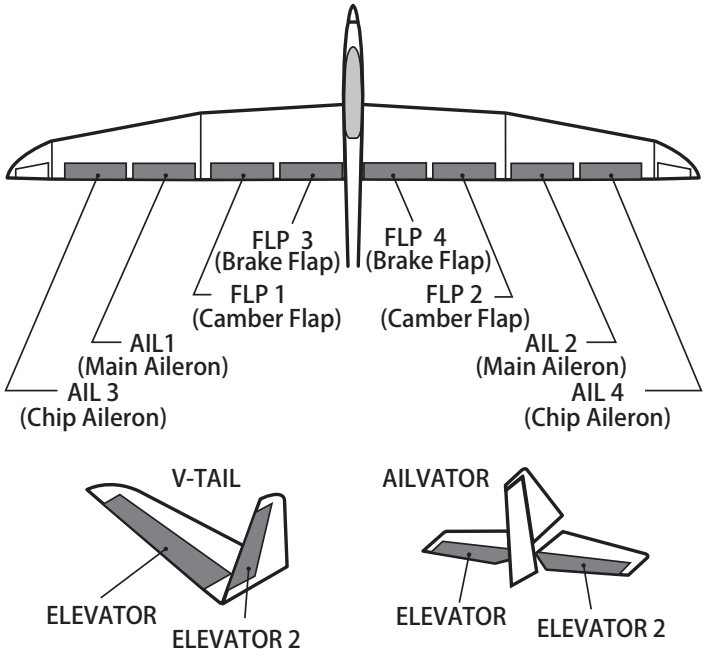
- Ailerons, flaps, an elevators servo speed setting
  (For a description of the setting method, see the description at the back of this manual.)

- 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.

- 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.



- Condition delay setting (for a description of the setting method, see the description at the back of this manual) and cut switch setting.



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)

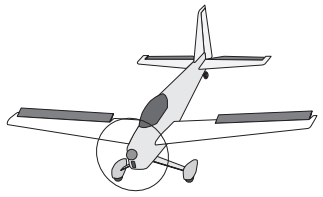
Offset rate:

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]

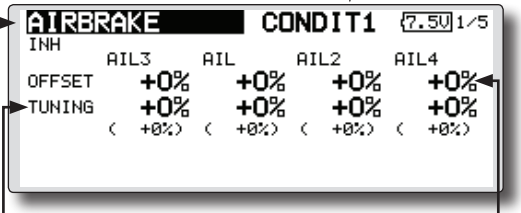


*The display screen is an example. The actual screen depends on the model type.

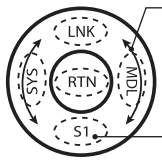
(Currently selected condition name)

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

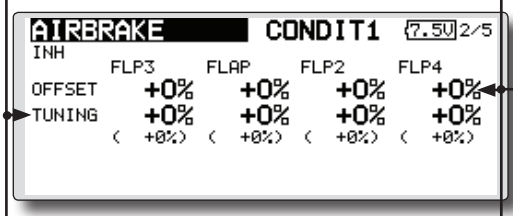
●Select the function name and return to the preceding screen by touching the **RTN** button or pushing the **Home/Exit** button.



<SensorTouch™>



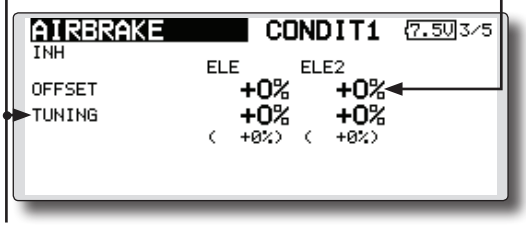
Scrolling
● Moving cursor
● Adjusting value
● To next page



● 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 cursol move mode.

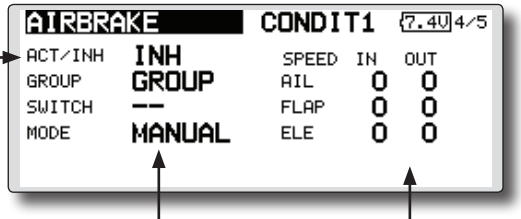


● When a fine tuning VR is set on the next page, the ailerons', flaps', and elevators' trim rates can be adjusted.

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 cursol move mode.

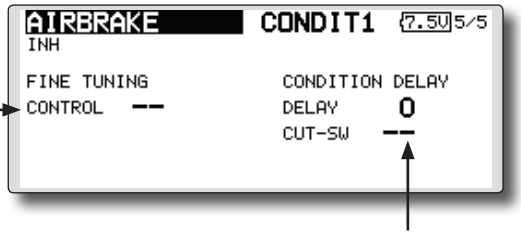
- When using this function, move the cursor to the [ACT/INH] item and turn the touch sensor to the left and touch the RTN button. (ON is displayed.)
- Group/single mode switching
  (For more information, see the description at the back of this manual.)



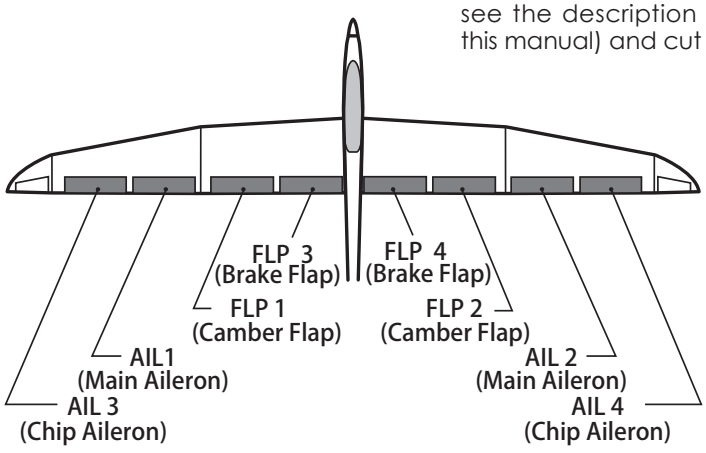
- Manual/Auto mode selection
  Manual: Switches the function ON/OFF by switch
  Auto: Trim mix function call can be linked to a stick, etc. A stick switch, etc. separate from the function ON/OFF switch is set.

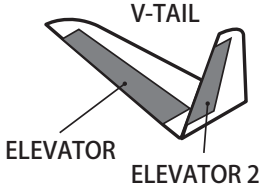
- Ailerons, flaps, an elevators servo speed setting
  (For a description of the setting method, see the description at the back of this manual.)

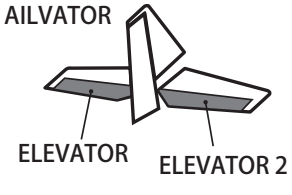
- When using a fine tuning VR, move the cursor to this setting item and press the EDIT button to call the selection screen.
  Select the VR and touch the RTN button.



- Condition delay setting (for a description of the setting method, see the description at the back of this manual) and cut switch setting.







GYRO

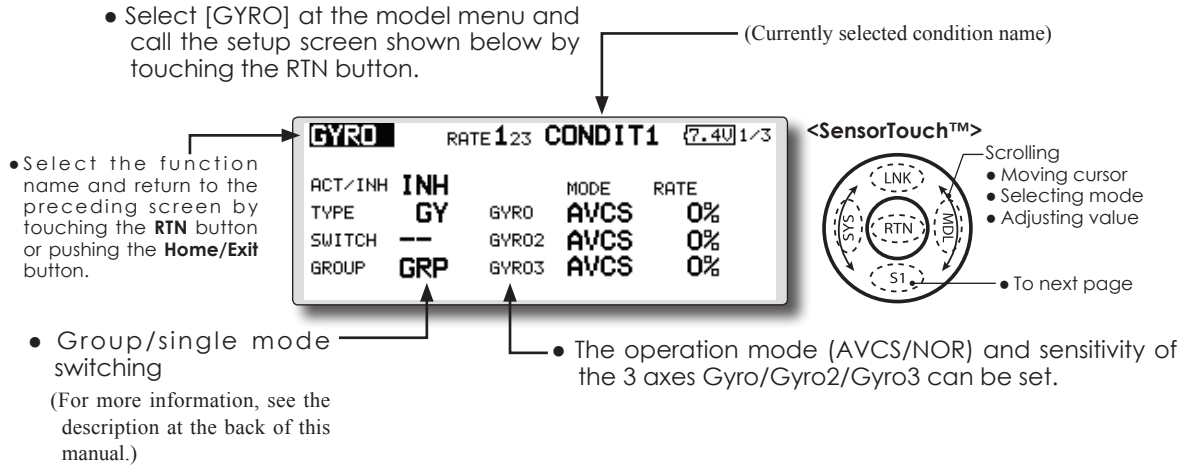
[Corresponding model type]: Airplane/glider, general

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 [--].



- 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.

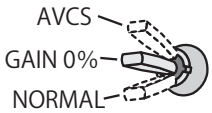
  (For a description of the switch selection method, see the description at the end of this manual.)

(Example) Setting three axis using a GYA430 and GYA431 (2)

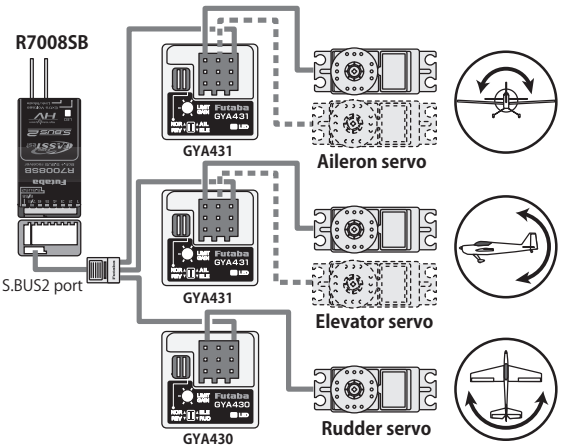
- Wing type: Aileron 2 servos mounted fuselage selected
- Set **5CH → GYRO** (GYA431AIL), **7CH → GYRO2** (GYA431ELE), **8CH → GYRO3** (GYA430RUD), **Control and Trim → NULL** : at the Function menu of the Linkage menu.
- GYRO setting of the Model menu.

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].



When AVCS is used we recommend that the sensitivity CH be set to the 3-position.

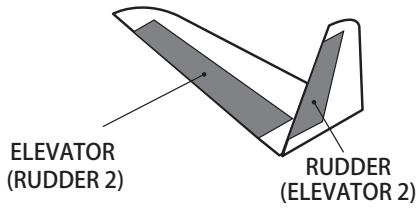


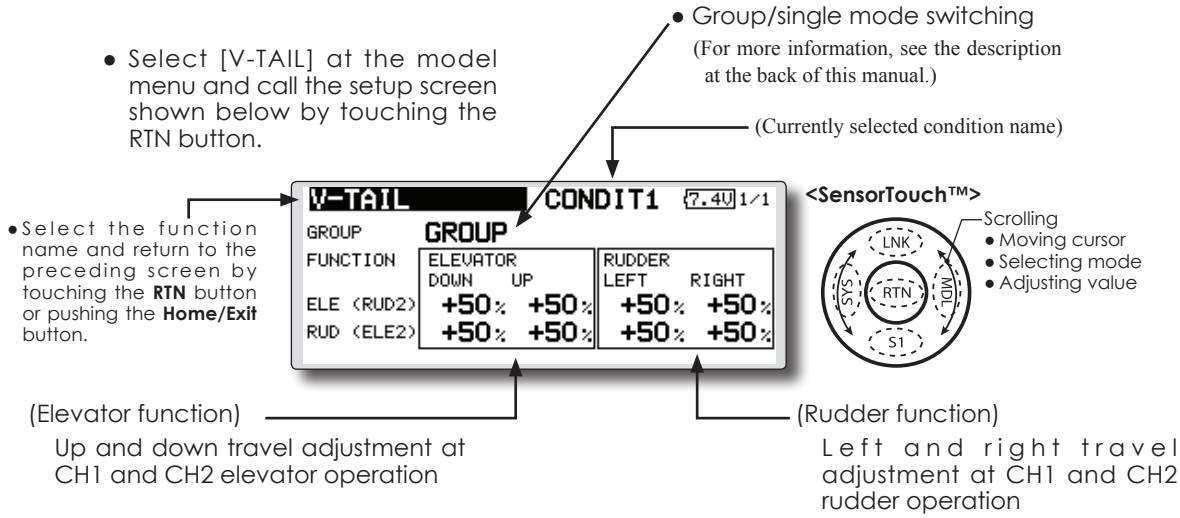
V-TAIL

[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.





● 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 cursol move mode.

*If the mixing direction is reversed by the linkage, adjustments can be made by changing the mixing rate polarity (+ or -).

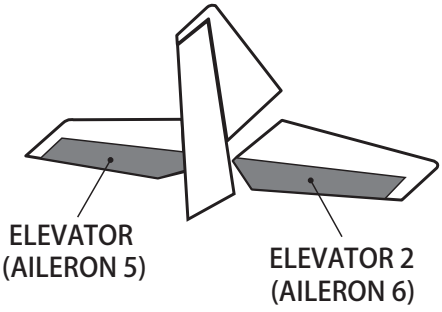
*If a large value of travel is specified, when the sticks are moved at the same time, the controls may bind or run out of travel. Decrease the travel until no binding occurs.

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.

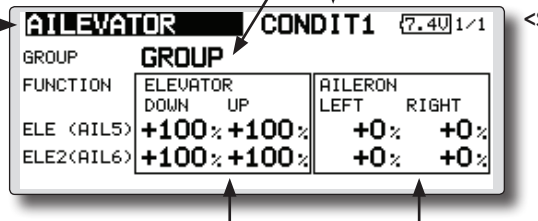


Note: Select ailevator as the Model type at the Model type screen. This changes the output channel. Check the Function menu.

- Select [AILEVATOR] at the model menu and call the setup screen shown below by touching the RTN button.

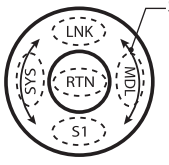
- Group/single mode switching
(For more information, see the description at the back of this manual.)

(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.

<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

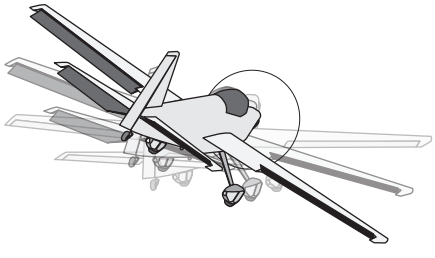
Move the cursor to the item you want to adjust and touch the RTN button to switch to the data input mode.

Adjust the rate by scrolling the touch sensor.

Touch the RTN button to end adjustment and return to the cursol 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.



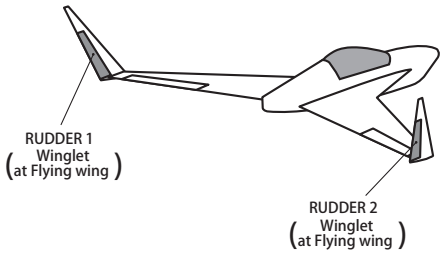
WINGLET

[Corresponding model type]: Airplane/glider, winglet

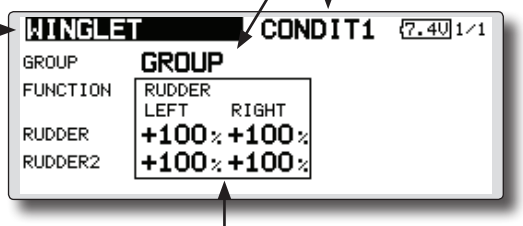
This function adjusts the left and right rudder angles of airplanes with winglets.

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.



- 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.



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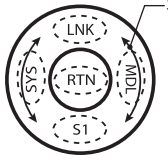


Scrolling
- Moving cursor
- Selecting mode
- Adjusting value

(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 cursol 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

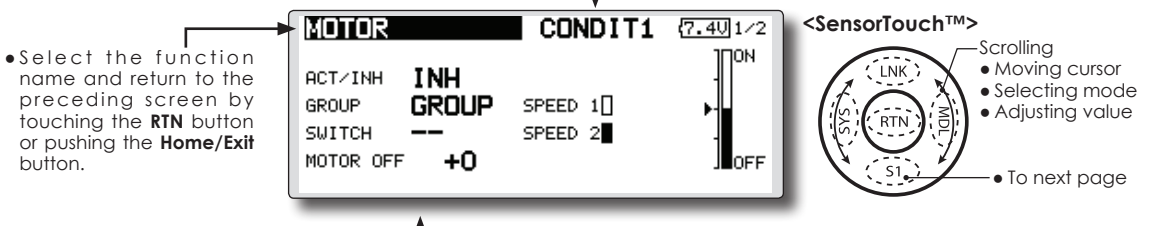
This function lets you set the operation speed when the motor of a F5B or other EP glider is started by switch. The operation speed can be set in 2 ranges of slow speed flight and high speed flight (Speed 1/Speed 2). This function can also be operated as a safety function by setting 2 switches.

- 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.

(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

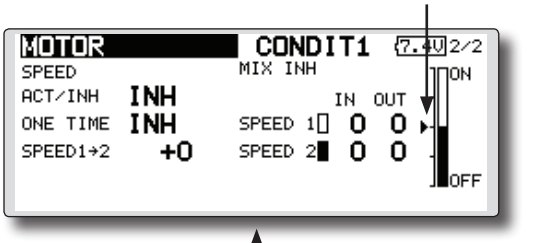
- When using this function, move the cursor to the [ACT/INH] item and touch the RTN button to switch to the data input mode. Turn the touch sensor to the left and touch the RTN button.
- Group/single mode switching

  (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.

- 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.

Notes

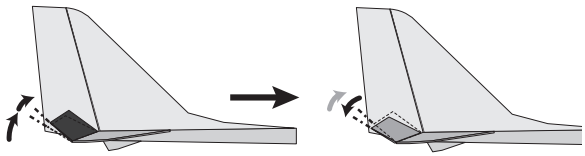
- First decide the motor OFF direction, and then set the speed. When you want to reset the motor OFF direction, also reset the speed.
- We recommend that motor OFF be set in combination with F/S.
- Set the basic operation direction with the reverse function to match the ESC used.
- Always set the motor OFF position.

ACCELERATION

[Corresponding model type]: Glider, general

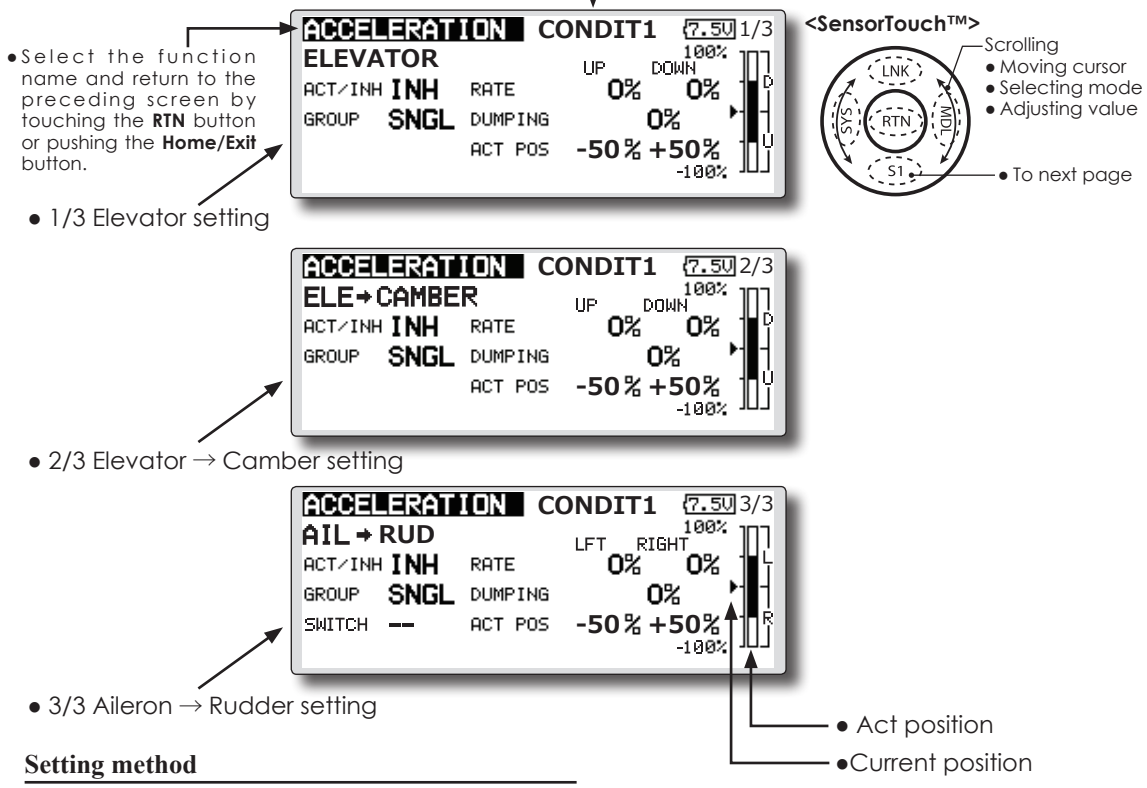
Acceleration setting can be performed at elevator, ELE to Camber and AIL to RUD.(Glider and EP glider only)

- 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.
- 1/3 Elevator setting
- 2/3 Elevator → Camber setting
- 3/3 Aileron → Rudder setting
- Act position
- Current position

<SensorTouch™>

Scrolling
- Moving cursor
- Selecting mode
- Adjusting value

- To next page

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.

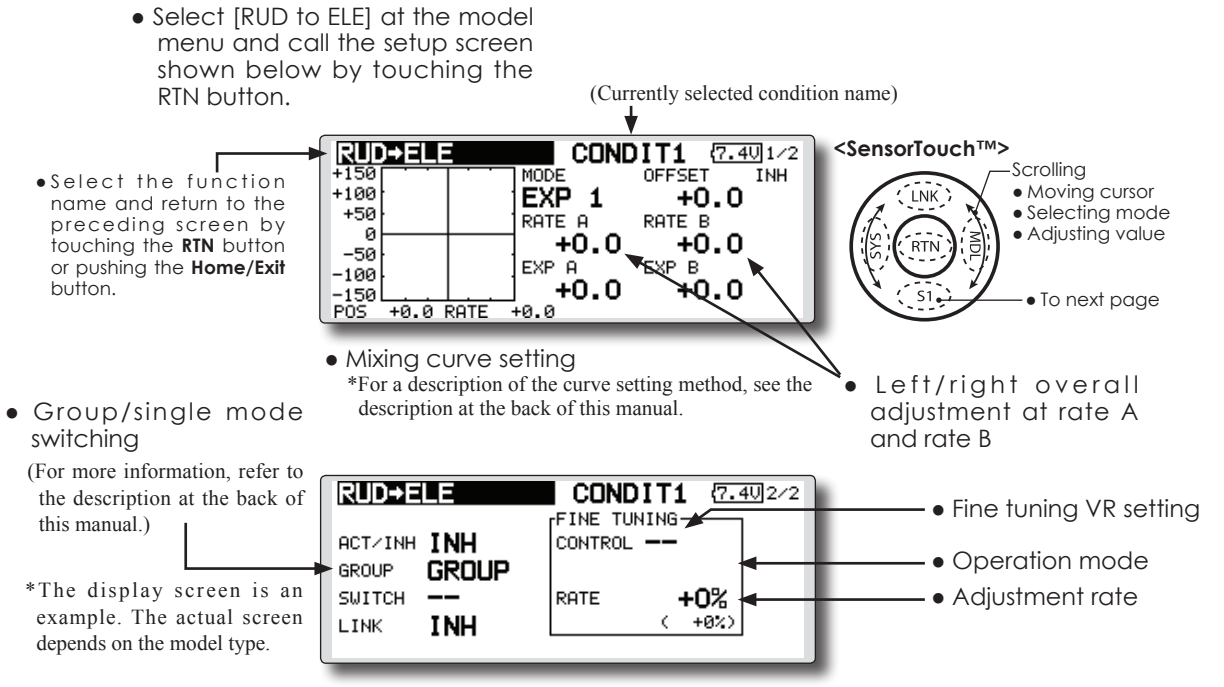
Note: When using the acceleration funtion, since the servo stroke is large, make your settings so there is no binding of your linkage.

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)



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

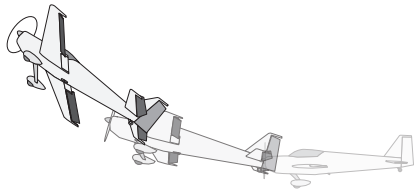
[Corresponding model type]: Airplane, general

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

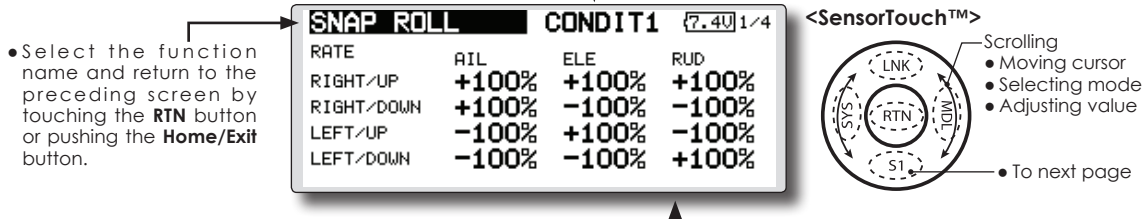
- Mode: [Master]
- Safety SW: [SW-G] (Safety measure)
- Master SW: [SW-H] (Main switch for executing snap roll)
- Direction switches:
  *The snap roll up side left and right and down side left and right direction switches are selected here.
  Right/Up: OFF [SW-D]
  Right/Down: OFF [SW-D]
  Left/Up: OFF [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.

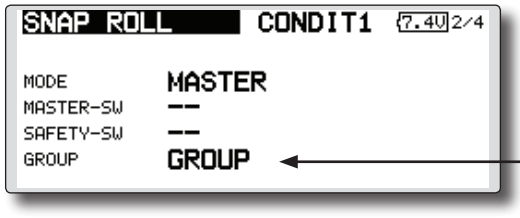


- Select [SNAP ROLL] at the model menu and call the setup screen shown below by touching the RTN button.

(Currently selected condition name)

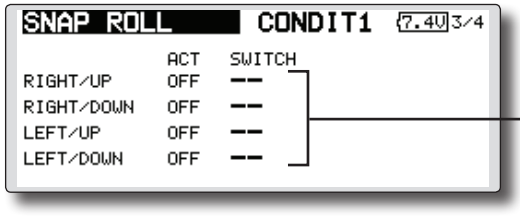
- Select the function name and return to the preceding screen by touching the **RTN** button or pushing the **Home/Exit** button.



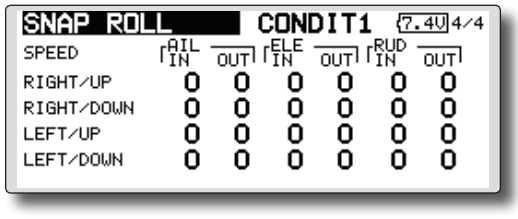


- Rate adjustment
1. Move the cursor to the item you want to adjust and touch the RTN button to switch to the data input mode.
2. Adjust rate by scrolling the touch sensor.
3. Touch the RTN button to end adjustment and return to the cursol move mode.

- Group/single mode switching
  (For more information, see the description at the back of this manual.)



- Direction switches



- 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)

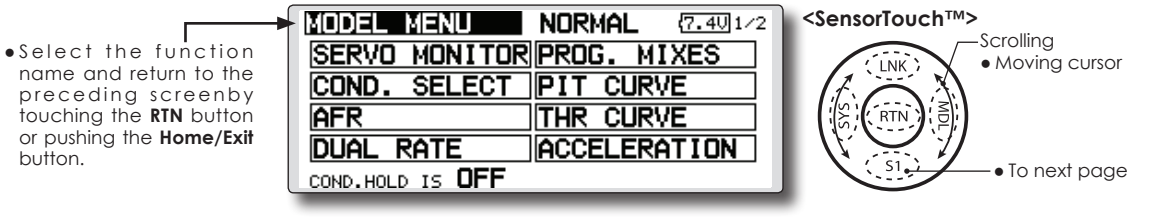
This section contains information on the commands that apply to helicopters only. For instructions on airplanes and sailplanes, refer to the sections pertaining to those aircraft.

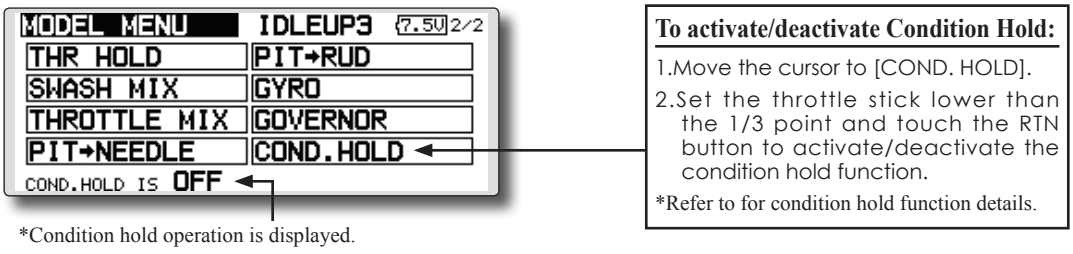
Use the Model Type function in the Linkage Menu to select the swash type matched to the fuselage beforehand.

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.





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

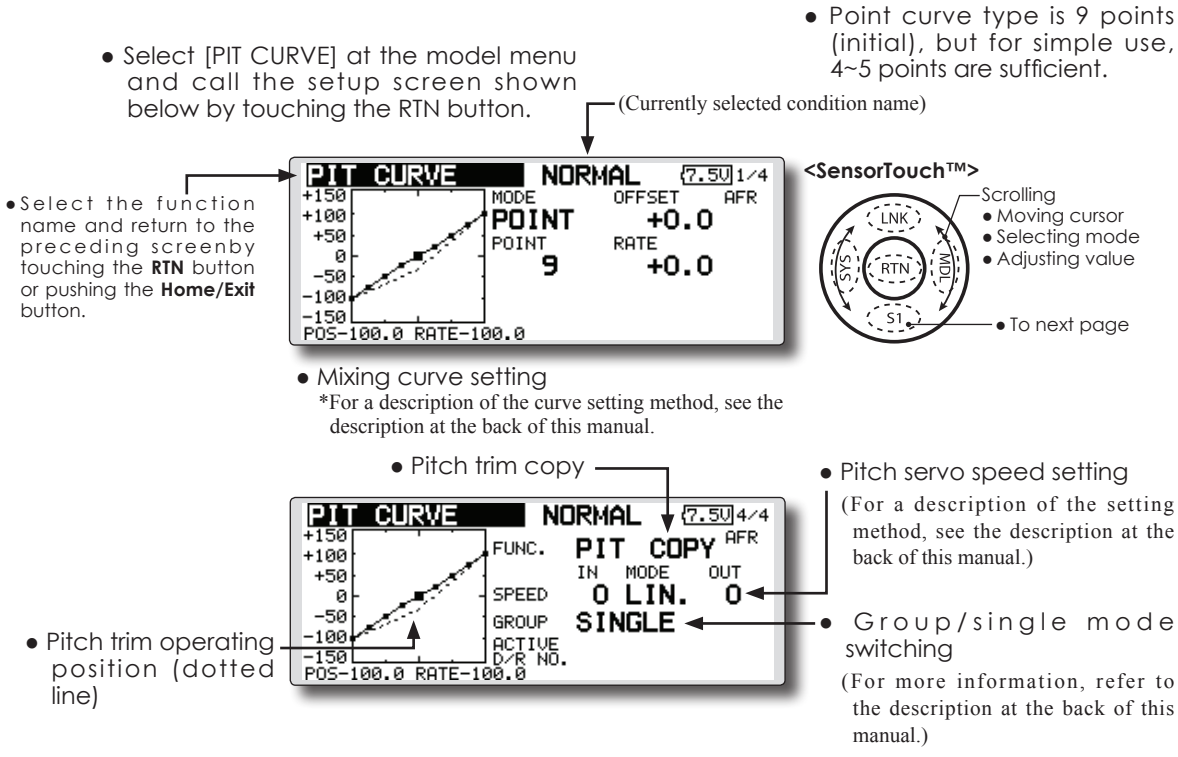
GYRO: Used to switch gyro sensitivity

GOVERNOR: Used to switch RPM of the helicopter's head

PIT Curve

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.



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.

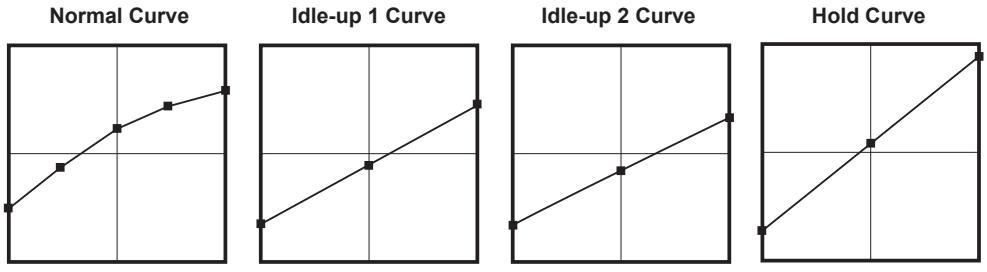
  After copying, return the pitch trim to the center to call the last operating position.

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.

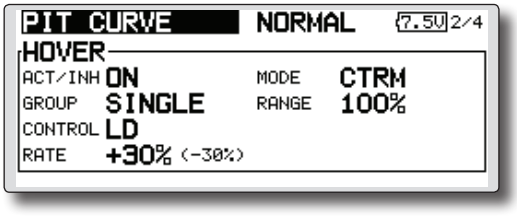
●Pitch Curve (Example)



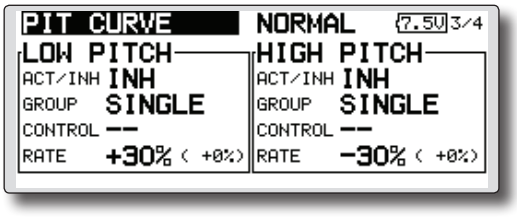
Pitch Trim (Hovering pitch, high pitch, low pitch)

The hovering pitch, low pitch, and high pitch trim setup screen can be called from the PIT curve setup screen.

- Hovering pitch trim setting



- Low/high pitch trim setting



(Continued on next page)

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.

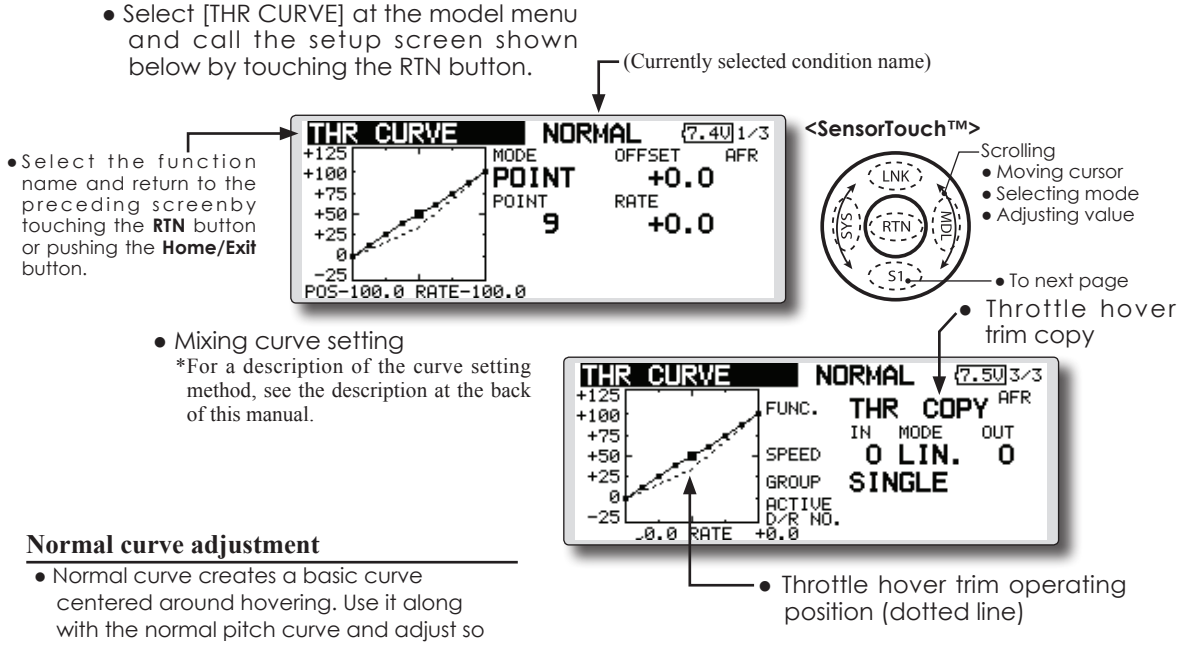
  Selection example: LS (high side), RS (low side)
- The trim rate can be adjusted and the operation direction can be changed.
- Trim acts as high side or low side trim with the center as the standard.

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.



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 idling 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.

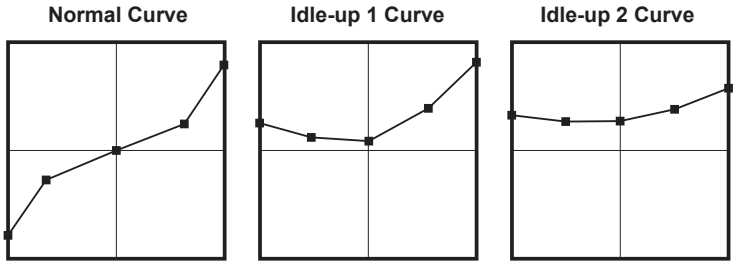
  After copying, return the pitch trim to the center to call the last operating position.

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).

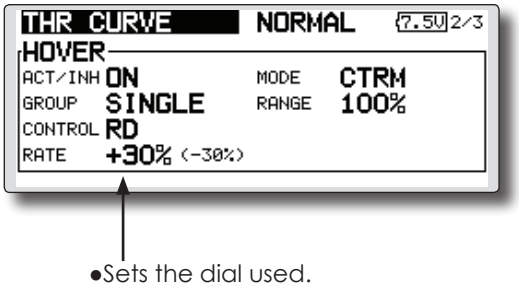
*For a description of the curve creation method, see the description at the back of this manual.

●**Throttle Curve (Example)**



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.

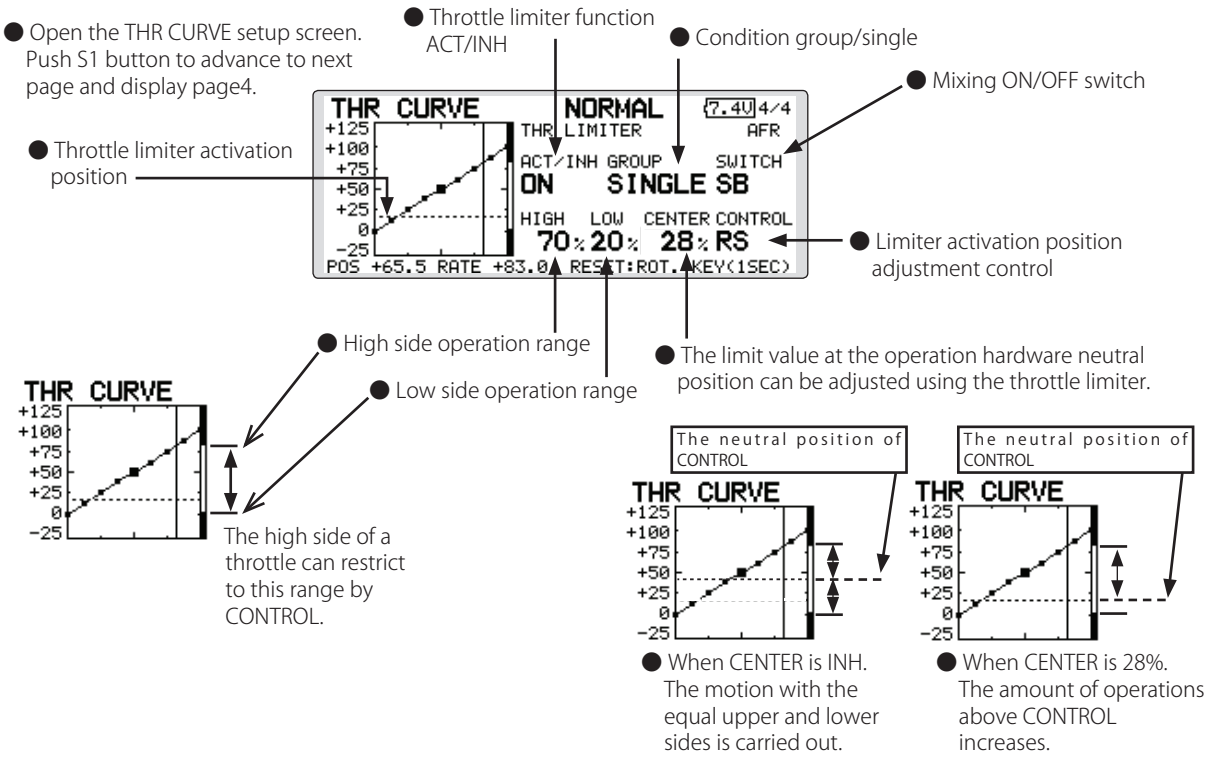
Setting method

- 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.



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.

- Hight 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.

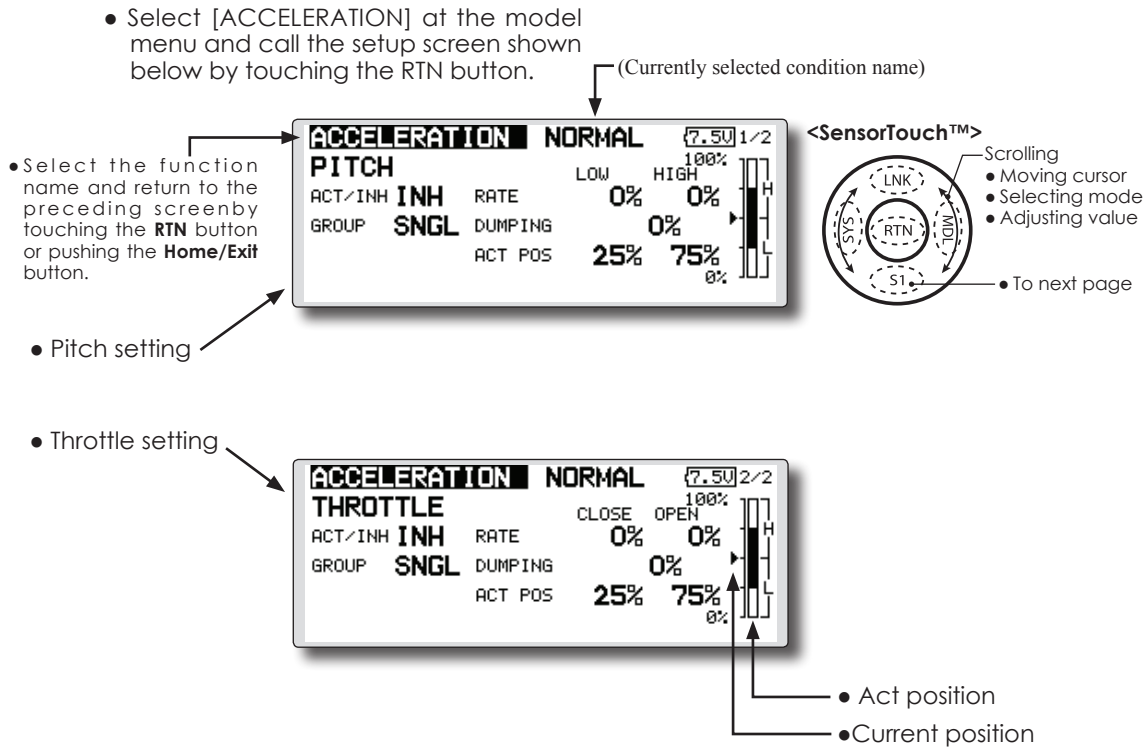
ACCELERATION

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 at pitch, the acceleration function is effective when you want to quicken the response of the fuselage at 3D flight flip, etc.

  When used, high pitch temporarily exceeds maximum pitch, but immediately returns to maximum pitch.



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 funtion, since the pitch stroke is large, make your settings so there is no binding of your linkage.

THR HOLD

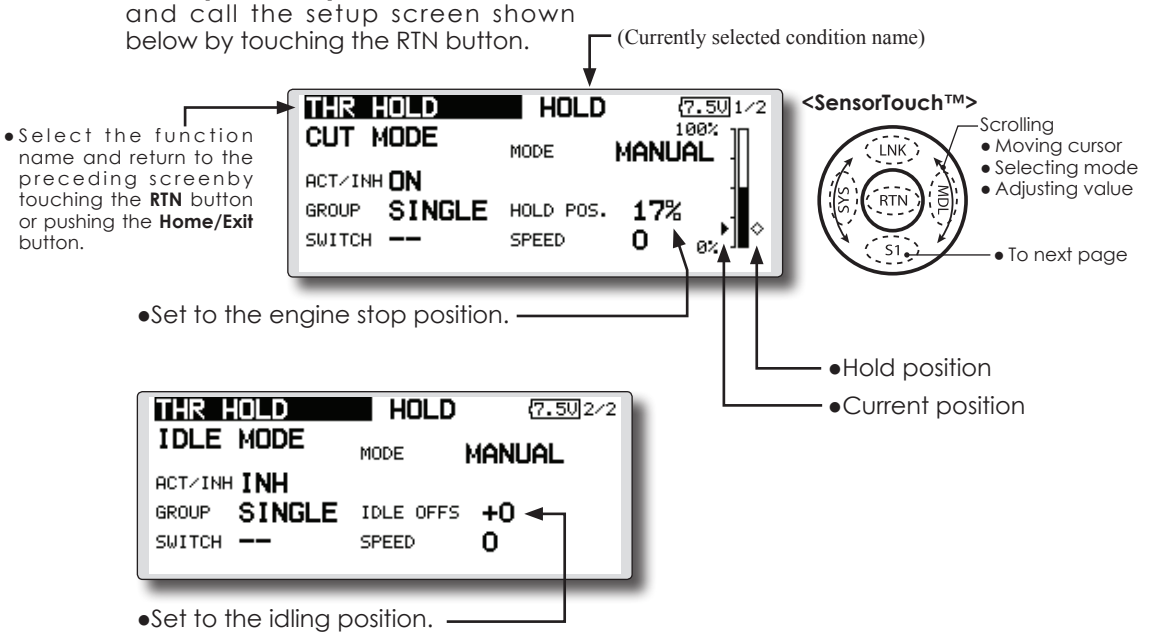
This function sets the throttle cut position for auto rotation. The throttle position can also be set to an idling position. Setting of these 2 positions can be selected by switch. This allows use for switching during training.

Example of use

- Since throttle hold has 2 modes (Cut) and (Idle), using it in the Idling mode during training and in the Cut mode when stopping the engine at meets, etc. is convenient.

Note: When throttle hold is set to ON in the normal condition, throttle hold acts and the throttle servo is deactivated. Always set throttle hold to ON in the hold condition.

- Select [THR HOLD] at the model menu and call the setup screen shown below by touching the RTN button.



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 for training. 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.

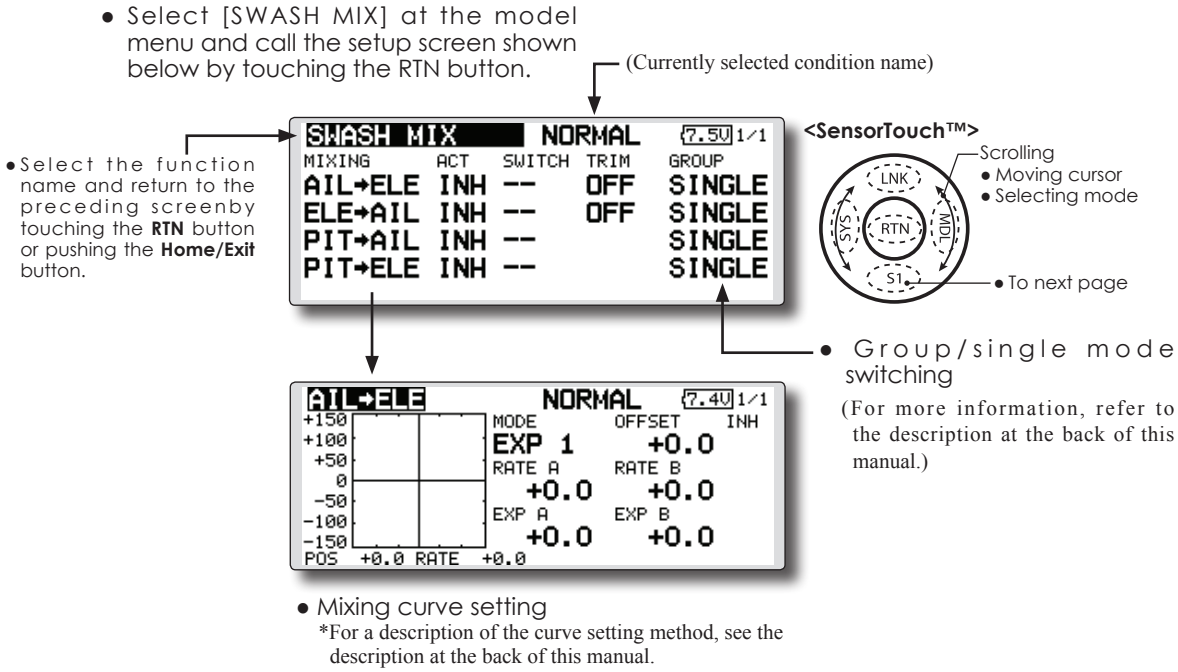
SWASH MIX

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.



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.

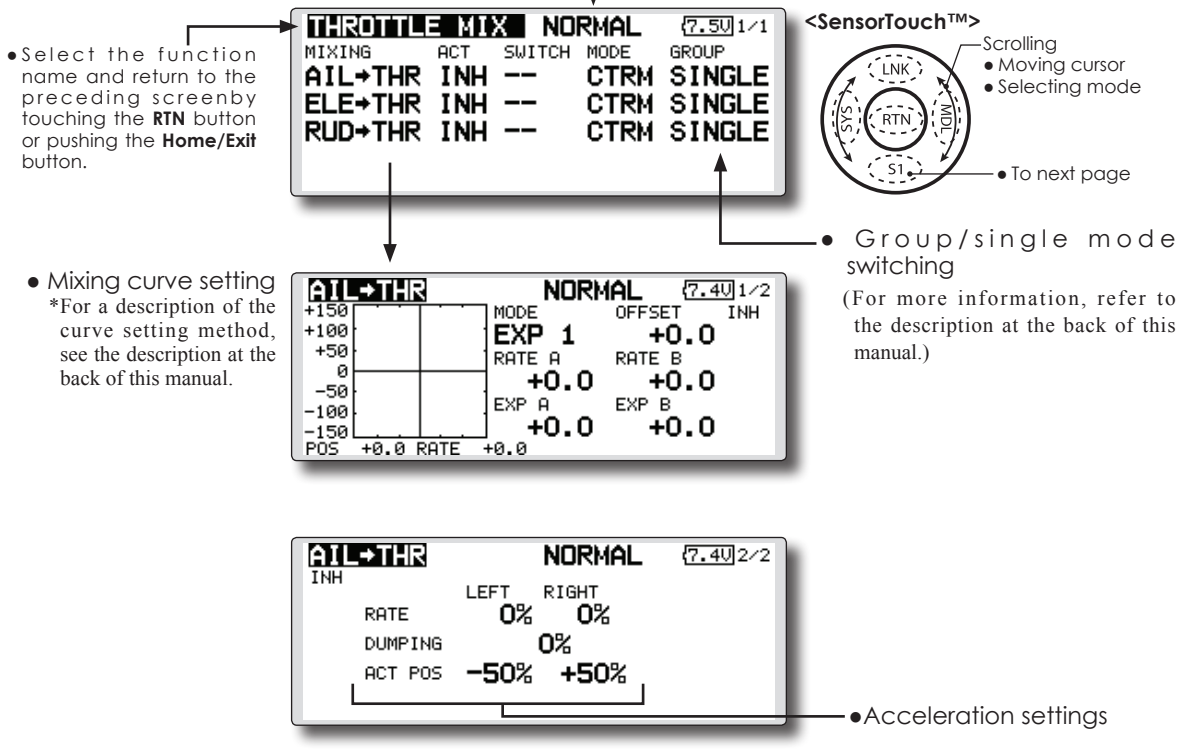
When correction is necessary, move the cursor to the mixing item corresponding to the mixing that needs correction and touch the RTN button to call the curve setup screen, and then correct the slowing.

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.

- Select [THROTTLE 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.

- 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.

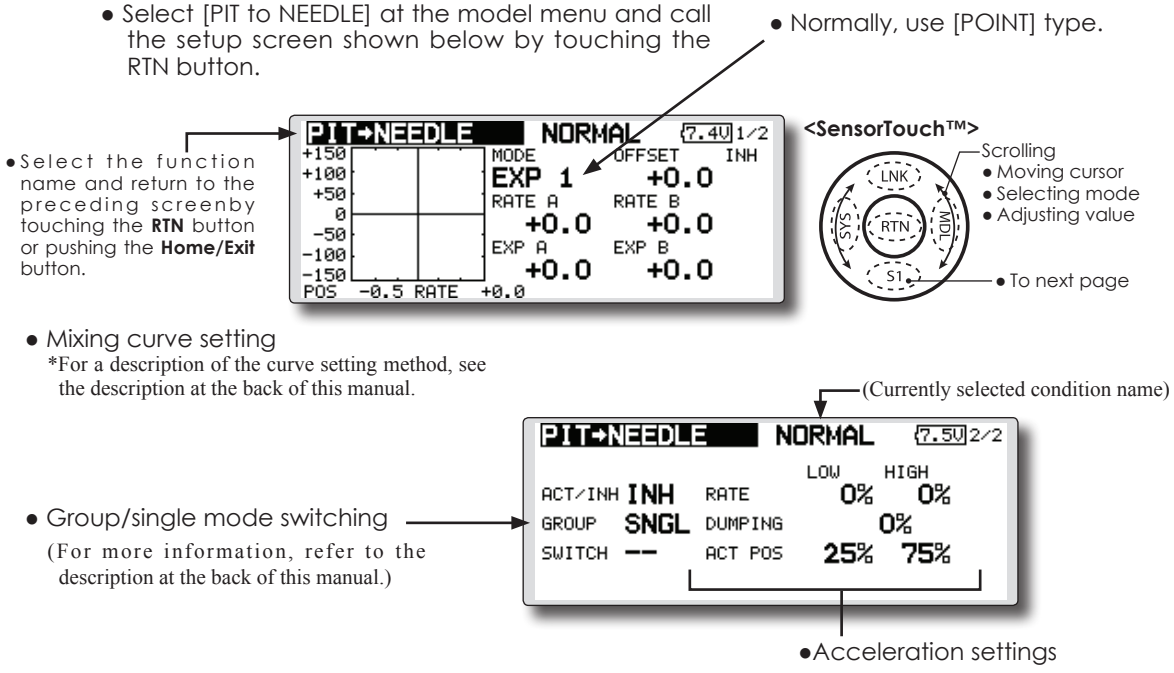
<Acceleration function setting>

- 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.



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)

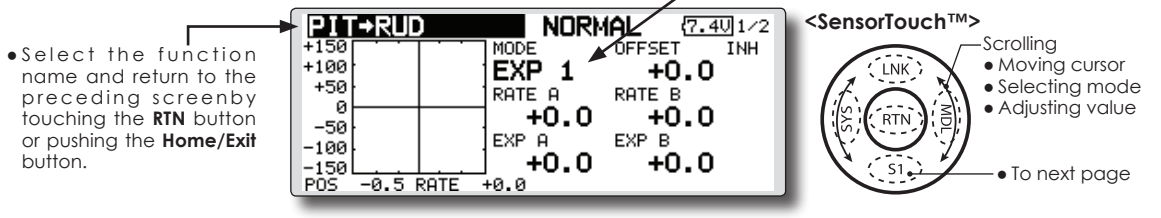
Use this mix when you want to suppress the reaction torque generated by main rotor pitch and speed changes during pitch operation. Adjust so that the nose does not move in the rudder direction.

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.

● Normally, use [POINT] type.



● 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

Setting method

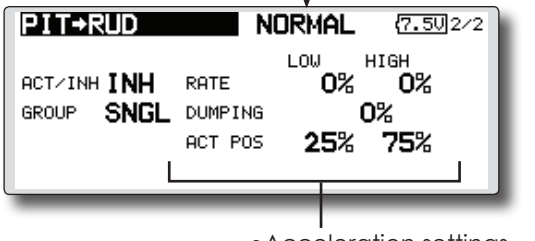
● When using this function, move the cursor to the [ACT] item and touch the RTN button to switch to the data input mode. Turn the touch sensor to the left and touch the RTN button. (ON is displayed.)

● 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 mixing

This function used to adjust gyro sensitivity. The sensitivity and operation mode (Normal mode/ AVCS mode) can be set for each condition.

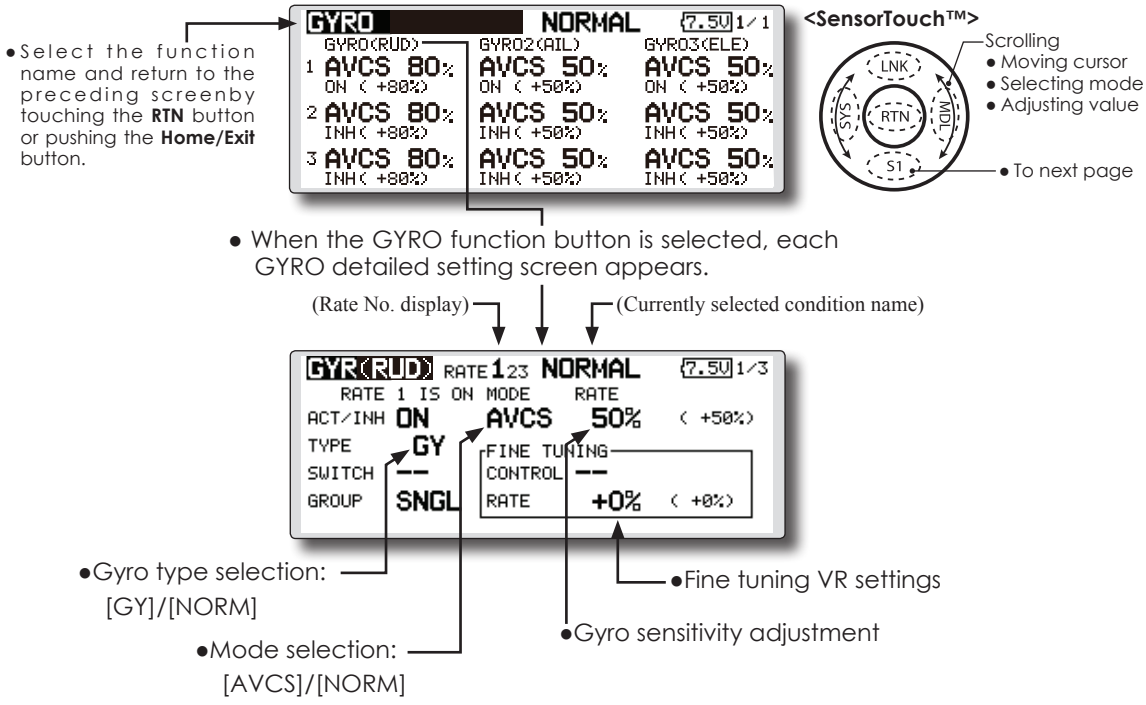
The gyro sensitivity can be switched with each condition or the switch. (5 sensitivities)

*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.



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 mixing

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.

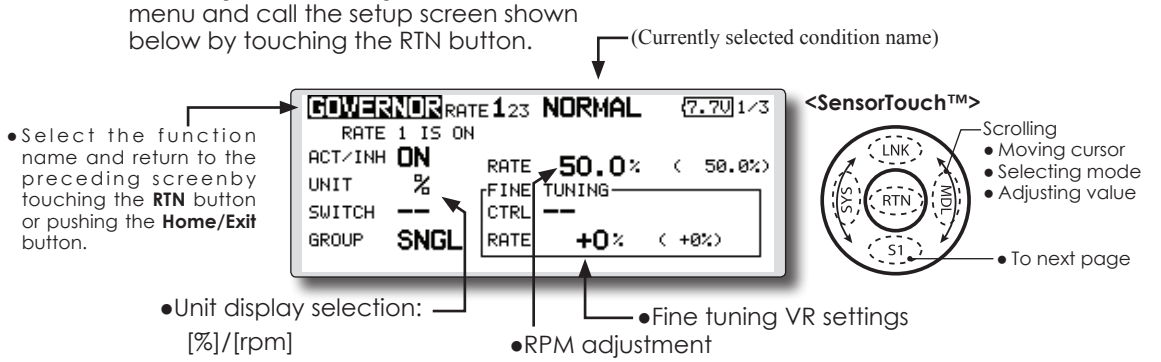
*The governor is used by connecting the governor speed setting channel to CH7 (initial setting).

*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.

*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 [GOVERNOR] at the model menu and call the setup screen shown below by touching the RTN button.



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.

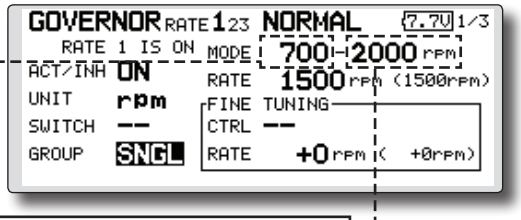
●Diplay mode selection

*When [rpm] mode is selected above setting, the display mode can be selected.

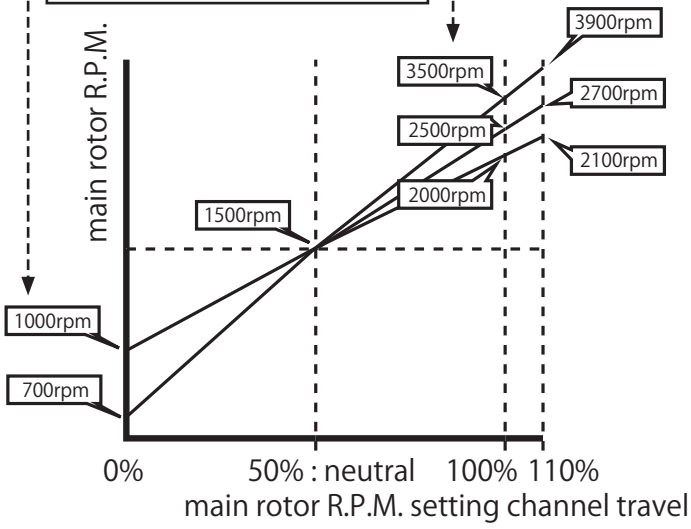
*There is no change in the transmitter output even when the "MODE" is changed. Calibration should be performed via the governor.

*In order to use the Governor function of the FX-32, 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

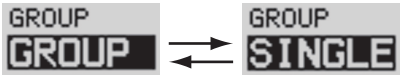
This section describes the functions often used at the function setup screen. Refer to it when setting each function.

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]



1. Use the touch sensor to move the cursor (reverse-video) 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]

*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.

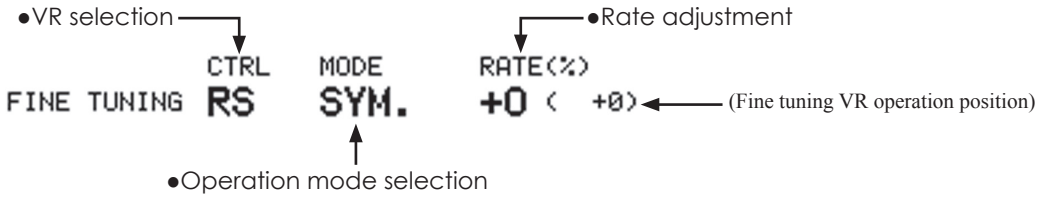
Initial value: 0

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 cursol move mode.

Operations related to fine tuning VR



[Setting method]

1. Control selection

   Use the touch sensor to move the cursor (reverse-video) 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 cursol 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]

1. Use the touch sensor to move the cursor (reverse-video) 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.)

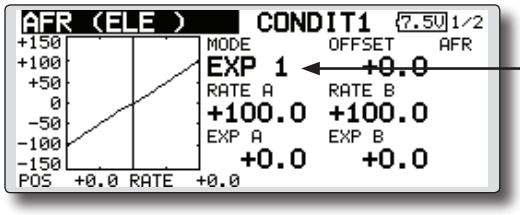
   Touch the RTN button to end adjustment and return to the edit mode.

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

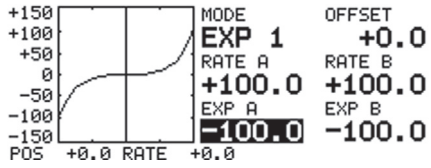
1. Use the touch sensor to move the cursor (reverse-video) to the [MODE] item and touch the RTN button to switch to the data input mode.
2. Display the curve you want to use by turning the touch sensor to the left or right.
   *The curve type blinks.
3. When the RTN button is touched, the curve type 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.

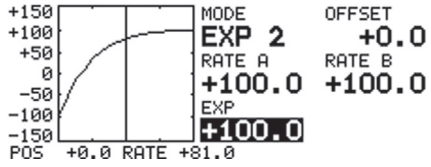
EXP1/EXP2 curve adjustment

(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-video) 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.)

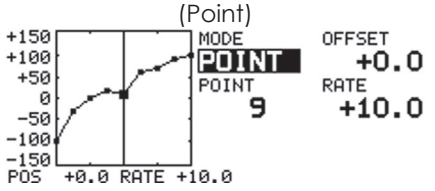
Touch the RTN button to end adjustment and return to the cursol move mode.

[Offsetting the curve horizontally in the vertical direction]

1. Use the touch sensor to move the cursor (reverse-video) 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 cursol move mode.

Point curve (POINT) adjustment



Up to 11 or 17 points curve can be used. (differs with functuion)

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-video) 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 cursol move mode.

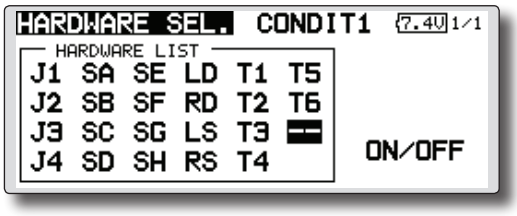
Switch selection method

The various functions used in the FX-32 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)

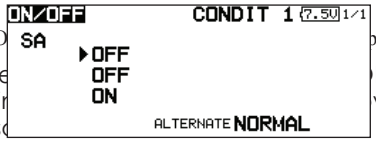


Switch selection

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.

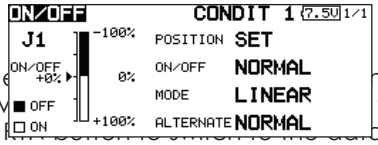


*The O…played.

1. Whe…N/OFF setti…ve the curs… 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:



1. Whe…mode, mov…touch the …a 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

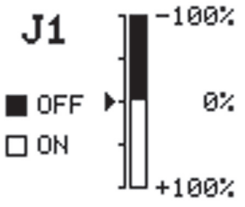
●Mode: [NORMAL]/[ALTERNATE]

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

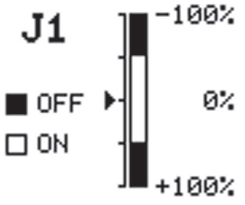
The operation modes when stick, trim lever, or knob was selected are described below.

Linear mode



This mode sets ON/OFF at the left or right (up or down) with the set point as the reference.

Symmetrical mode

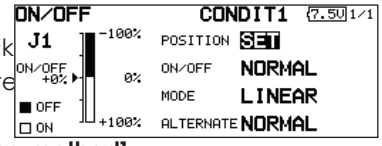


Left and right (up and down) operations are symmetrical about the neutral position. For instance, when you want to switch DR1 with the aileron stick, when the stick is moved to the left or right, DR1 can be turned on at the same left and right position.

Shifting the ON/Off point

The ON/OFF point can be shifted. ON/OFF at a free position can be changed.

●Black
●White



[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)

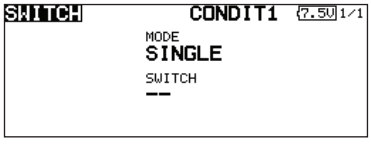
The logic switch function lets you turn operation on and off by combining two switches. For instance, the condition is activated when 2 switches are turned on.

Logic mode

AND: When both switches are ON, the condition is ON.

OR: When either switche is ON, the condition is ON.

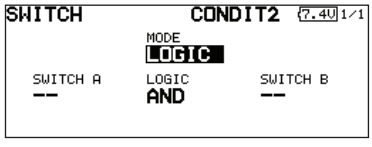
EOR: When the two switches are in different states, the condition is ON.



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)



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

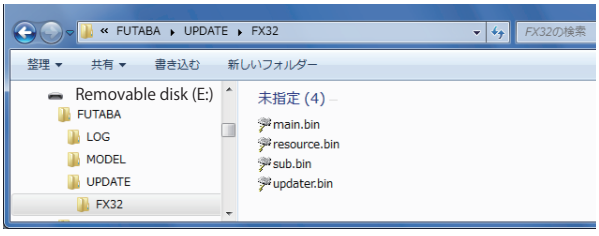
Your Futaba FX-32 transmitter programming can be updated easily online. When functions are added or improved, the update file can be downloaded from our website. Copy the update files to the SD card and then use the following procedure to update the program.
Check our web site for the FAQ regarding updating for more information.

Updating procedure

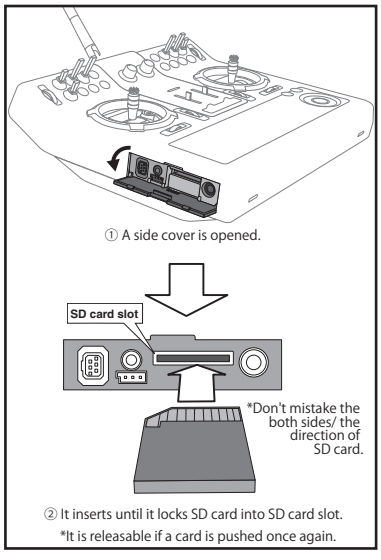
Note: If the battery fully discharges during program updating, updating will fail. When the remaining battery capacity is 50% or less, always recharge the battery before updating.

Note: The model data in the transmitter can be used unchanged after updating, but to be safe, back up the model data before updating.

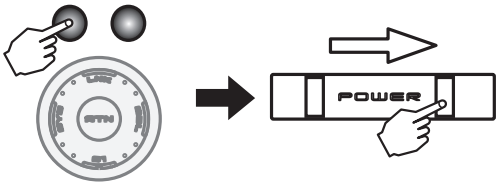
1. Copy update files to a SD card. Typical structure of folders of the card for update are following.



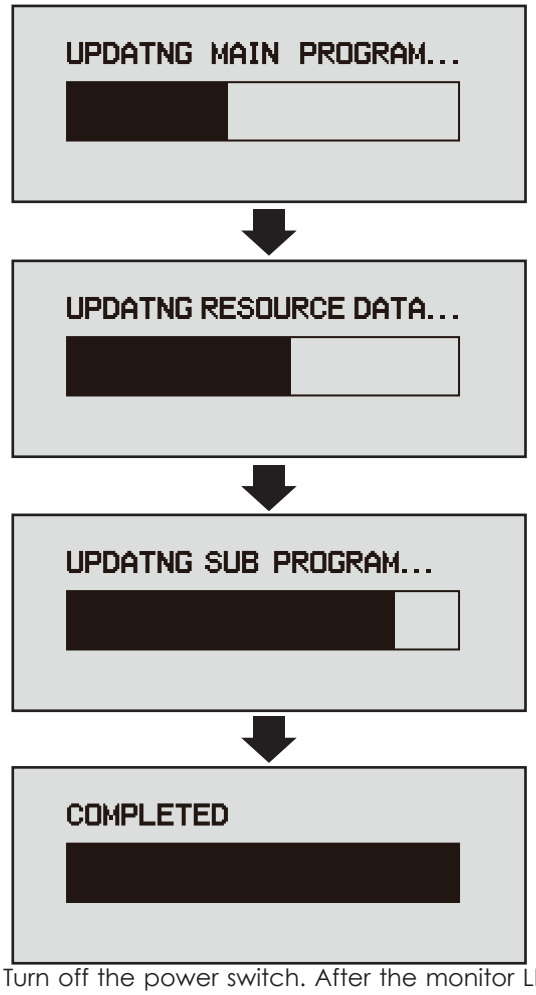
2. Attach the SD card into the SD slot of the FX-32.



3. Press the Home/Exit switch and turn on the power switch, and FX-32 should begin to update.



4. When updating is complete, the screen shown below appears.



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"

FX-30/T12FG →FX-32 MODEL DATA CONVERSION

The model data (only latest version) of FX-30/T12FG can be copied to FX-32.

* The card reader of a personal computer, SD card, and CF card is required.
* The model data of FX-32 cannot be copied to FX-30/T12FG.

[Model data conversion method]

1. Attach a SD card that contains model data of T12FG or FX-30 to the SD slot of a FX-32.
2. Turn on the power switch, and the Data Converter should run.

3. The converter shows a list of model data in the card. Select a model data that you want to convert and push "RTN" key, and the converter should begin converting data.
4. If the convert succeeds, the converter will show the following message. The converted data are copied to the internal memory of the FX-32. Hence, if the FX-32 does not have free spaces of its internal memory, converts must fail.

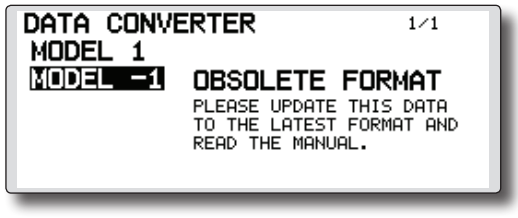
5. The converter can accept model data made by T12FG or FX-30 with the latest software (Ver.3.0) only. If you try to convert model data made by old version software, the converter must fail to convert and show the following error message. If this message is shown, do the following procedure to update the model data in order to avoid this limitation.

(a) First, update a T12FG or FX-30 to the latest software (Ver. 3.0).

(b) Load the model data failed to convert into the T12FG or FX-30 with the latest software, and the model data should be updated to the latest format.

(c) Save the updated model data to a SD card.

(d) Retry to convert the updated model data on a FX-32.



* When SD card cannot be recognized, it may be able to be used if it reformats by SD formatter offered from SD Association. SD formatter is downloadable from SD Association (https://www.sdcard.org/).

(As of January, 2013)

⚠CAUTION

After the completion of a data copy should fully perform a check of operation on the model to be used.

Check well all the directions of operation and all the operation switches.

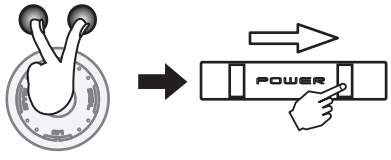
Compulsive reset of data *Usually, it is not used.

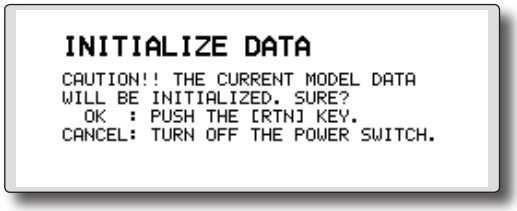
Operation will become unusual if imperfect model data should be read.

In that case, the forcible reset of the model data can be carried out by the following method.

[Model data compulsive reset method]

1. First, "HOME/Exit" and "U.menu/Mon" are pushed. The power supply of FX-32 is then turned on.





2. A "INITIALIZE DATE" screen comes out. "RTN" will be pushed if forcible reset is carried out. In a stop, a power supply is turned off.

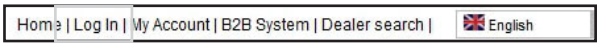
FUTABA CORPORATION Phone: +81 475 32 6982, Facsimile: +81 475 32 6983
1080 Yabutsuka, Chosei-mura, Chosei-gun, Chiba-ken, 299-4395, Japan

Registration of the Transmitter

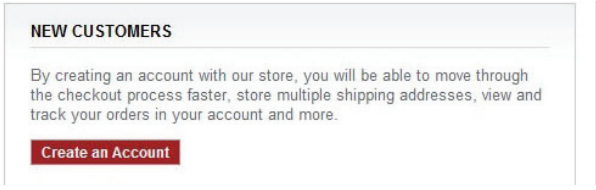
To update your transmittersoftware, you have to subscribe and register your transmitter at our homepage, www. robbe.com.

SUBSCRIBE FOR NEW CUSTOMERS

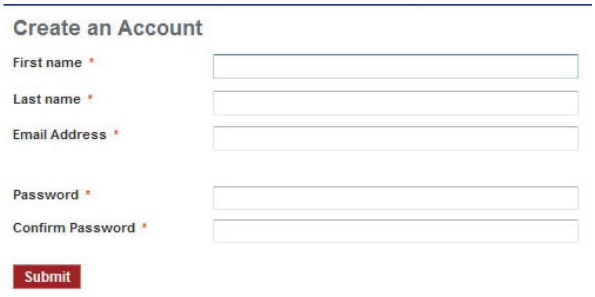
Open the homepage www.robbe.com and choose the button „LOG IN“.



Now you have to create a new account. Chosse the button „create a new account“.



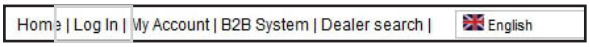
In this menu you have to write your personal data.



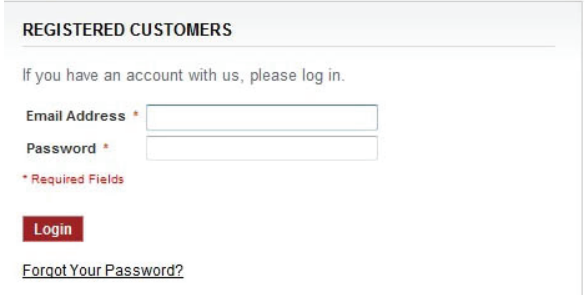
After you click the button „submit“, you are registered. Furthermore you receive an Email with your own access data.

SUBSCRIBE FOR REGISTERED CUSTOMERS

Open the homepage www.robbe.com and choose the button „LOG IN“.



Now you must subscribe with your own access data.



PRODUCT REGISTRATION

Choose the button „Product Registration“

After this the button „Register Product“ appears. Click this one.

Like in the following picture you can select the Product with the Product number and write down the serial number of your product and the day of purchase.

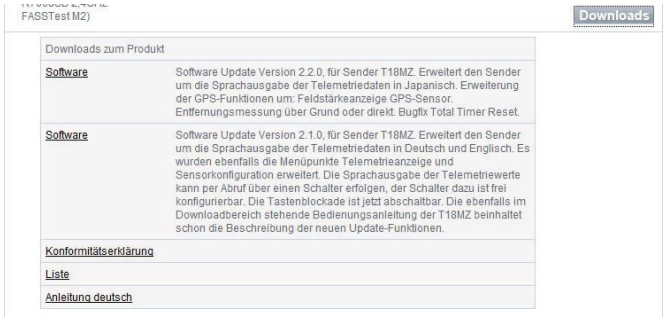
Note:
The Serialnumber of your transmitter is printed on a sticker on the bottom of your transmitter.

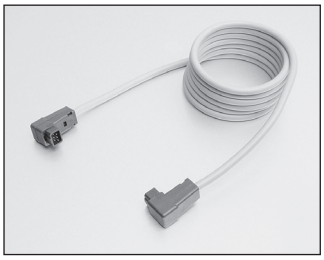
DOWNLOAD OF SOFTWARE

After you have registered your transmitter, you can download an Softwareupdate. For this you have to be signed in.

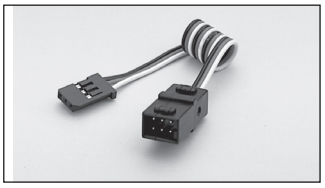
Klick the button „Downloads“ in the area „Product Registration“. After this a list of Downloads is displayed.

Now you can choose the Software and save it on your Computer.



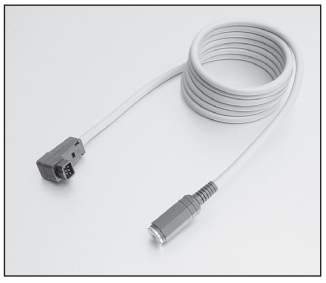


Trainer cord
No. F1591
Skysport T4YF, T4EX, FF9, T12Z, T14MZ, FX-40, FX-30



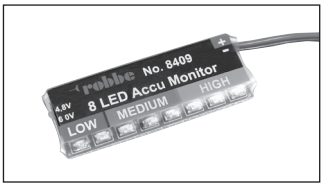
Y-lead **No. F1423**

To connect two servos in parallel, to one receiver output socket.



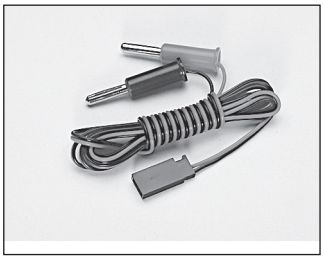
Adaptor lead for use with flight simulators
No. 8239

Skysport T4YF, T4EX, FF9, T12Z, T14MZ, FX-40,FX-30



Accu monitor **No. 8409**

The robbe 8-LED Battery Monitor is an accurate digital Voltmeter to monitor of receiver batteries with 4.8 V or 6 V nominal voltage (4 or 5-cell
NC / NiMH battery).



Receiver battery charge lead
No. F 1416

T12FG transmitter battery charge lead
No. 8260

S-BUS Kanal Programmer SBC-1 No. F1696
Handy programmer to allocate the S-BUS channel numbers to S-BUS servos or S-BUS PWM adapters

USB Adapter CIU 2
No. F1405

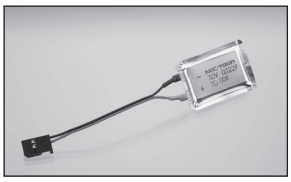
USB adapter for adjusting the servo, gyro and speed controller parameters via a PC. Suitable for Windows Vista / XP / 2000

SMM Gyro GY520
No. F1244

Ultra small and light AVCS heli gyro with the latest MEMS sensor technology.

Rx Capacitor 1800 uF
No. F1621

Minimises voltage breaks to the receiver. Which can lead to short breaks in power supply. Capacitance 1800 uF



Rx Capacitor 22.000 uF
No. F1622

Minimises voltage breaks to the receiver. Which can lead to short breaks in power supply. Capacitance 22,000 uF

Wireless Trainer System
No. F1414

The WTR7 is a Wireless Trainer System designed for 2,4 GHz FASST radios and replaces the Trainer Lead with a radio system. The Receiver is connected to the Trainer socket of the Teacher transmitter, thereafter the 2,4 Ghz FASST Pupil transmitter is bound to it. Transmission is made in 7-channel mode set in the Teacher Tx. The range of the system is approximately 100m. A very convenient alternative solution that make the tiresome Trainer Cord a thing of the past. Also different FASST pupil Tx can be bound very quickly to it.

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