

# TELEMETRY : GPS [ALTITUDE, VARIOMETER, POSITION]

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

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

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

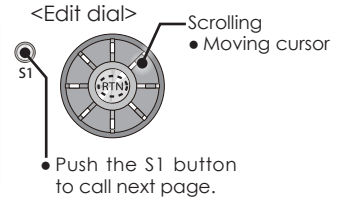
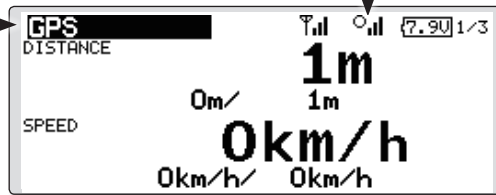
\*Only receiver voltage can be used in FASSTest 12CH mode.

\*The FASSTest 18CH mode can use all the telemetry functions.

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

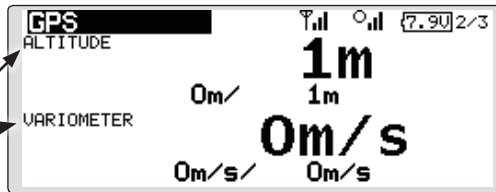
• This indicates the receiving accuracy from a GPS Satellite. When three bars are displayed, the GPS is ready for use.

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

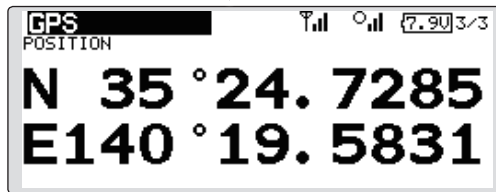


• Push S1 button to advance to next page.

- Refer to the former page for a setup about ALTITUDE and VARIOMETER.



• Push S1 button to advance to next page.



- The position of the present model is displayed.

# TELEMETRY : Servo sensor [Current] [Temperature] [Angle]

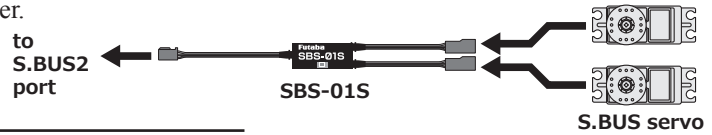
The SBS-01S can monitor and display the in-flight current, operating angle, and internal temperature of up to two S.BUS2 servos.

If you forget to connect the servo wiring during fuselage assembly, or the servo was disconnected, an alarm can be activated at the transmitter.

\*SBS-01S must be installed in the aircraft.

\*Only receiver voltage will be received in the FASSTest 12CH mode.

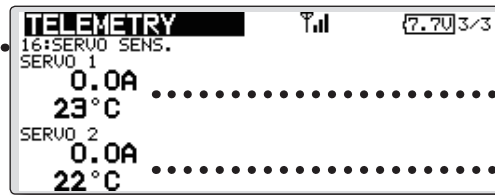
\*The FASSTest 18CH mode will display all telemetry data.



## Calling of a servo sensor screen.

① [Linkage menu]→[Telemetry]

② Select [SERVO SENS] in the TELEMETRY screen and access the next screen shown below by pushing the RTN button.



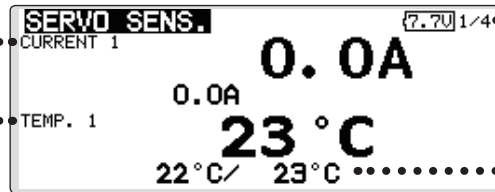
The current and the temperature of servo 1

The current and the temperature of servo 2

## Servo sensor screen

To current setup screen

To temperature setup screen



Page	
1/4	Servo1: Current • Temp
2/4	Servo1: Angle Servo2: Current
3/4	Servo2: Temp • Angle
4/4	Servo1 • 2 : Connect

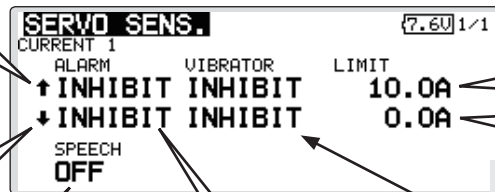
Max. and min. values since the power was turned ON will display.

## Alarm setting

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

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

The ON/OFF switch of Speech is chosen.



A setup of the current on which the alarm operates.

**"VIBRATOR" type**  
If the following types are selected, the transmitter will vibrate during the warning.

TYPE 1 → → → →

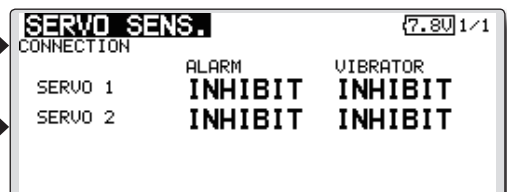
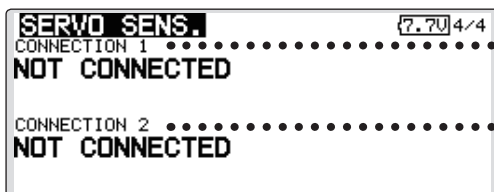
TYPE 2 → → → →

TYPE 3 → → → →

## Connect Alarm setting

If you forget to connect the servo wiring during fuselage assembly, or the servo was disconnected, an alarm can be activated at the transmitter.

When the Alarm or Vibrator options are activated, the servo connection will display.



\*This alarm and display is limited to the S.BUS servos connected to the servo sensors.

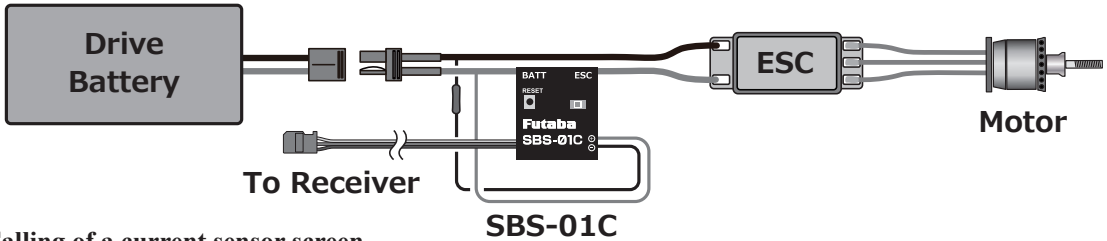
# TELEMETRY : Current sensor [Current] [Voltage] [Capacity]

The SBS-01C has the capability of measuring current, voltage and capacity (consumption) from drive battery at the same time.

\*Current sensor must be installed in the aircraft.

\*Only receiver voltage will be received in the FASSTest 12CH mode.

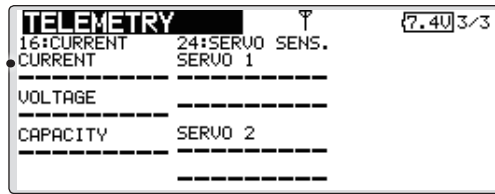
\*The FASSTest 18CH mode will display all telemetry data.



## Calling of a current sensor screen.

① [Linkage menu]→[Telemetry]

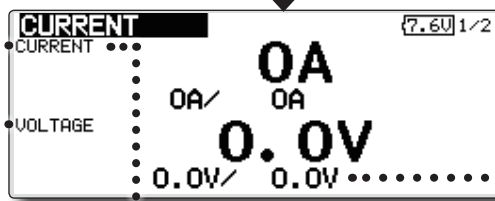
② Select [Current] in the TELEMETRY screen and access the next screen shown below by pushing the RTN button.



## Current sensor screen

To current setup screen

To voltage setup screen



Page	
1/2	: Current • Voltage
2/2	: Capacity

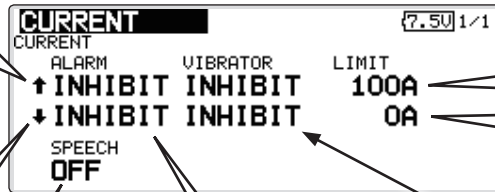
Max. and min. values since the power was turned ON will display.

## Alarm setting

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

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

The ON/OFF switch of Speech is chosen.



A setup of the current on which the alarm operates.

Alarm is chosen from Buzzer, Voice, and Inhibit.

**"VIBRATOR" type**  
If the following types are selected, the transmitter will vibrate during the warning.

TYPE 1 → → → →

TYPE 2 → → → →

TYPE 3 → → → →

# 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 pushing the RTN button.

**[What is a slot?]**

Servos are classified by CH, but **sensors** are classified in units called "slot". There are **slots** from #1 to #31.

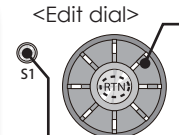
**Altitude sensors, GPS sensors** and other data sensor units may use **multiple slots**.

Using a sensor which uses two or more slots, the required number of slots is automatically assigned by setting up a **start slot**.

When 2 or more of the same kind of sensor are used, the sensors themselves must allocate unused slots and memorize that slot.

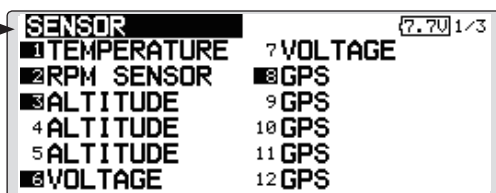
- Select the function name and return to the Linkage menu by pushing the RTN button or pushing the Home/Exit button.

<Edit dial>



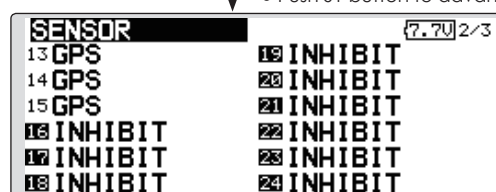
• Scrolling  
• Moving cursor

• Push the S1 button to call next page.

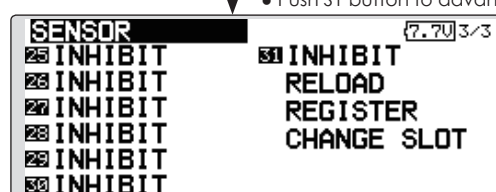


- \*3 slots of altitude sensor are used.
- \*8 slots of GPS sensor are used.

- Push S1 button to advance to next page.



- Push S1 button to advance to next page.



- As shown in the table below, an altimeter requires 3 contiguous slots and a GPS sensor requires 8 contiguous slots. In addition, since the GPS (SBS-01G) start slots are 8, 16, and 24.

### < Assignable slot >

- \*Altimeter, GPS, and other sensors that display a large amount of data require multiple slots.
- \*Depending on the type of sensor, the slot numbers that can be allocated may be limited.

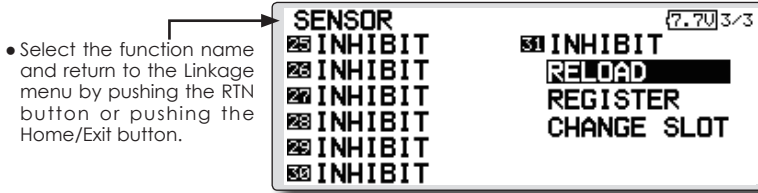
Sensor	The required number of slots	The number which can be used as a start slot	Selling area
TEMP (SBS-01T/TE)	1 slot	1 ~ 31	Global
RPM (SBS01RM/RO/RB)	1 slot	1 ~ 31	
Voltage (SBS-01V)	2 slots	1,2,3,4,5,6,8,9,10,11,12,13,14,16,17,18,19,20,21,22,24,25,26,27,28,29,30	
Altitude (SBS-01A/02A)	3 slots	1,2,3,4,5,8,9,10,11,12,13,16,17,18,19,20,21,24,25,26,27,28,29	
Current (SBS-01C)	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	
S.BUS Servo (SBS-01S)	6 slots	1,2,8,9,10,16,17,18,24,25,26	
GPS (SBS-01G)	8 slots	8, 16, 24	Europe
TEMP125-F1713	1 slot	1 ~ 31	
VARIO-F1712	2 slots	1,2,3,4,5,6,8,9,10,11,12,13,14,16,17,18,19,20,21,22,24,25,26,27,28,29,30	
VARIO-F1672	2 slots	1,2,3,4,5,6,8,9,10,11,12,13,14,16,17,18,19,20,21,22,24,25,26,27,28,29,30	
GPS-F1675	8 slots	8, 16, 24	

## SENSOR : RELOAD

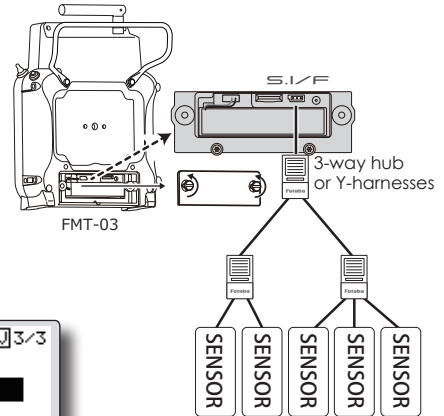
This page is set when using multiple telemetry sensors of the same type.

When using multiple sensors of the same type the sensors must be registered in the transmitter. Connect all the sensors to be used to the FMT-03 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 pushing the S1 button 2 times from the [SENSOR] menu.



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



All the sensors to be used are connected.

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

### Reading all the sensors to be used

1. Connect all the sensors to be used to the FMT-03 through a hub as shown in the figure above.
2. Move the cursor to "RELOAD" on page 3/3 of the [SENSOR] screen.
3. Push the RTN button.

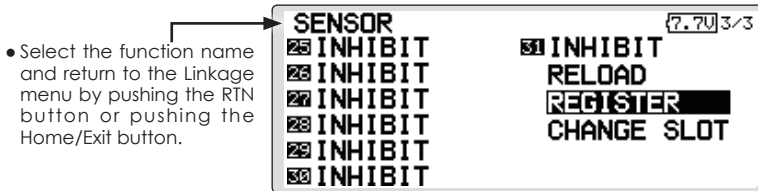
All the sensors are registered and can be used.

## SENSOR : REGISTER

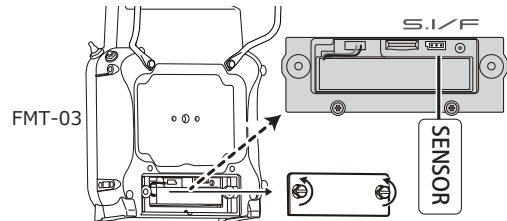
This page is set when using multiple telemetry sensors of the same type.

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 pushing the S1 button 2 times from the [SENSOR] menu.



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



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

### Additional sensor registration

1. Connect the sensor to be used to the FMT-03 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. Push the RTN button.

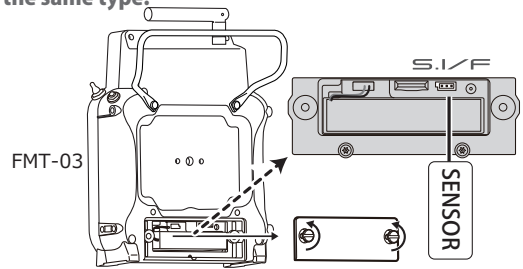
The sensor is registered and can be used.

- \*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

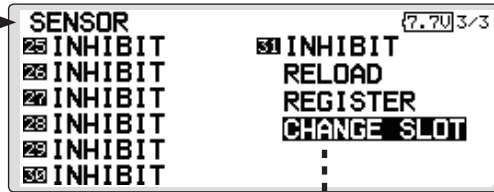
This page is set when using multiple telemetry sensors of the same type.

This procedure changes the slot number of one registered sensor.



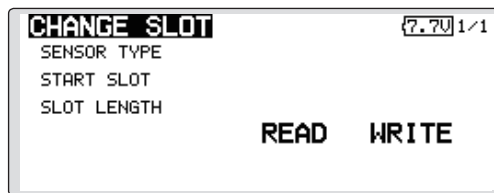
- Call page 3/3 by pushing the S1 button 2 times from the [SENSOR] menu.

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



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

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



### Sensor slot change

1. Connect the sensor to be changed to the FMT-03 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. Push the RTN button. A sensor details screen appears.
4. Move the cursor to "READ" and push 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 push the RTN button.

## TELE. SETTING

Speech interval set, data logging of telemetry.

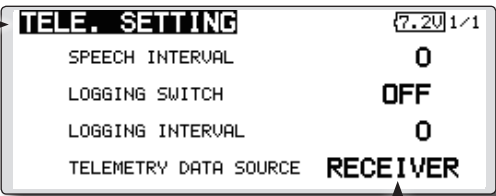
The set of the speech interval of telemetry data, and a switch setup for carrying out logging of the telemetry data to micro SD card and a setup of a logging interval are carried out.

Telemetry data can be checked with PC after a flight.

\*The software which displays the logging data of micro 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 pushing the RTN button.

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



The screenshot shows the TELE. SETTING menu with the following items: SPEECH INTERVAL (0), LOGGING SWITCH (OFF), LOGGING INTERVAL (0), and TELEMETRY DATA SOURCE (RECEIVER). The top right corner of the screen displays '7.20 1/1'. To the right of the screen is an 'Edit dial' with a central 'RTN' button and four directional arrows. A label 'SI' is next to the dial.

<Edit dial>

- Scrolling
- Moving cursor
- Selecting mode
- Adjusting value

• RECEIVER : Data from a receiver is recorded.

• TRAINER : Data from a trainer connector is recorded.

\*The special use for which usual isn't used.

### Speech interval setting

1. Select the Linkage Menu [TELE. SETTING] and push the RTN button.
2. The TELE. SETTING setup screen is displayed.
3. Select numerical value beside [SPEECH INTERVAL] and push the RTN button.
4. Adjust the time by scrolling the edit dial.  
Initial value: 0  
Adjustment range 0~30
5. Push the RTN button.

### Logging switch setting

1. Select the Linkage Menu [TELE. SETTING] and push the RTN button.
2. The TELE. SETTING setup screen is displayed.
3. Select [OFF] beside [LOGGING SWITCH] and push the RTN button.
4. Move the cursor to the [SWITCH] item and call the switch setup screen by pushing 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 push the RTN button.
2. The TELE. SETTING setup screen is displayed.
3. Select numerical value beside [LOGGING INTERVAL] and push the RTN button.
4. Adjust the time by scrolling the edit dial.  
Initial value: 0  
Adjustment range 0~100
5. Push the RTN button.

## WARNING

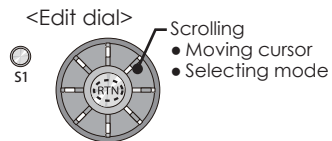
### Mixing warning normal reset

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 push the RTN button.

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

WARNING				7.50	1/1
CONDITION	ON	MOTOR	ON		
THROTTLE CUT	ON	AIRBRAKE	ON		
IDLE DOWN	ON	SNAP ROLL	ON		
THR. POSITION	ON				



### Warning ON/OFF setting

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



FMT-03 trainer system makes it possible for the instructor to choose which channels and operation modes that can be used in the student's 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 FMT-03s must be connected by an optional Trainer Cord, and the Instructor's transmitter should be programmed for trainer operation, as described below.

When the Instructor activates the trainer switch, the student has control of the aircraft (if MIX/FUNC/NORM mode is turned on, the Instructor can make corrections while the student has control). When the switch is released the Instructor regains control. This is very useful if the student gets the aircraft into an undesirable situation.

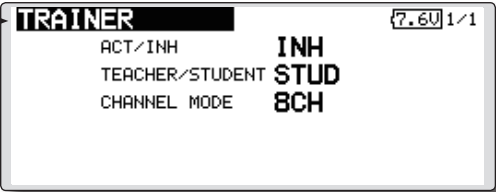
- Setting data are stored to model data.
- Student rate can be adjusted at MIX/FUNC/NORM mode.
- Activated student channels can be selected by switches.

NOTE: This trainer system can be used in the following manner;

1. With the FMT-03 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. A transmitter of anything but FMT-03 doesn't correspond to this trainer system.
3. Be sure that all channels work correctly in both transmitters before flying.

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

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



The screenshot shows a menu titled "TRAINER" with a page indicator "(7.60) 1/1". The menu items are: ACT/INH (set to INH), TEACHER/STUDENT (set to STUD), and CHANNEL MODE (set to 8CH). To the right is a diagram of a rotary "Edit dial" with a central button labeled "RTN". Arrows point to the dial with the text "<Edit dial>". A legend indicates: "Scrolling" (with a dot), "Moving cursor" (with a dot), and "Selecting mode" (with a dot).

### When using at the student side

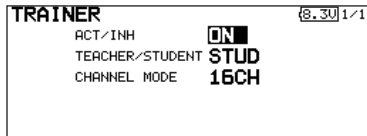
#### 1. Select the mode.

\*When changing the mode, use the edit dial to move to the item you want to change and push the RTN button to switch to the data input mode and change the mode by turning the edit dial to the left or right. The display blinks. Push the RTN button to change the mode.

"TEACHER/STUDENT": Select [STUD] (student).

"ACT/INH": Enable operation by changing to [ON].

"CHANNEL MODE": Select [16CH].



Note: In "student mode", only the teacher side can turn on and off the power to the student's transmitter. Keep the power switch always at off position.

### When using at the teacher side

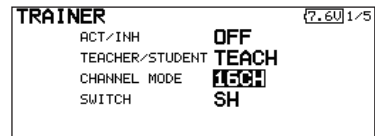
#### 1. Select the mode.

\*When changing the mode, use the edit dial to move to the item you want to change and push the RTN button to switch to the data input mode and change the mode by turning the edit dial to the left or right. The display blinks. Push the RTN button to change the mode.

"TEACHER/STUDENT": Select [TEACH].

"ACT/INH": Enable operation by changing to [OFF] or [ON].

"CHANNEL MODE": Select [16CH].



#### 2. Select the trainer switch.

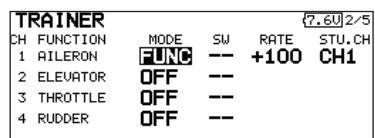
\*When setting or changing the switch, use the edit dial to move to the "SWITCH" item, call the switch setup screen by pushing the RTN button and set the desired switch and ON/OFF direction.

(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.

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 edit dial scrolling to move the cursor to the "MODE" item of the channel you want to change and push the RTN button to switch to the data input mode and change the mode by turning the edit dial to the left or right. The display blinks. Push 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 edit dial scrolling to move the cursor to the [RATE] item of the channel you want to change and use the edit dial to adjust the rate.

Setting range: -100~+100

Initial value: +100

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

\*When the RTN button is pushed 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 edit dial to move to the "SW" item of the channel you want to change, call the switch setup screen by pushing the RTN button, and select the switch.

"--" : Always ON.

"SA"- "SH": The switch which enables student side operation can be selected. (See "Switch selection method" at the end of this manual for selection method details.)

TRAINER					(7.60) 2/5
CH	FUNCTION	MODE	SW	RATE	STU.CH
1	AILERON	FUNC	--	+100	CH1
2	ELEVATOR	OFF	--		
3	THROTTLE	OFF	--		
4	RUDDER	OFF	--		

### Trainer student channel setting function

Which channel of the signal from the student's transmitter can be assigned as the instructor functions input signal when "FUNC" or "MIX" was set as the trainer function instructor's transmitter mode setting can be set. This makes trainer connection easy even when the instructor side and student side channel assignment is different.

\*When the instructor's transmitter mode is set to "NORM", the signal of the same channel of the student's transmitter is output as is. (The same as before.)

# STICK ALARM

## Throttle stick positional alarm

An alarm (single beep) can be sounded at the specified throttle stick position.

\*Alarm function ON/OFF can be set by switch.

- Select [STICK ALARM] at the linkage menu and call the setup screen shown below by pushing the RTN button.
- When INH is selected, the function cannot be used. When ON or OFF is selected, the function is activated. ON and OFF changes are linked to the switch.
- Select the function name and return to the Linkage menu by pushing the RTN button or pushing the Home/Exit button.
- The current throttle stick position.
- Stick alarm position.
- e.g., Always to make them stick alarm in spite of switch.

### Stick alarm setting procedure

\*Perform the following settings after using the edit dial to move the cursor to the item you want to set.

#### 1. Activate the function:

Move the cursor to the [ACT/INH] item and push the RTN button to switch to the data input mode.

Switch the blinking from "INH" to "ACT" by turning the edit dial to the left and then push the RTN button.

#### 2. Switch setting:

Move the cursor to the [SWITCH] item, call the switch setup screen by pushing the RTN button, and select the switch and ON direction.

(For a detailed description of the setting method, see [Switch Setting Method] at the back of this manual.)

#### 3. Alarm position setting:

Move the cursor to the [POSITION] item and push the RTN button to switch to the data input mode.

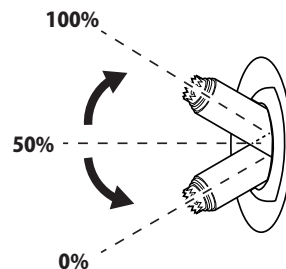
Adjust the alarm position operation by turning the edit dial to the left or right.

Initial value: 50%

Adjustment range: 0%-100%

(When the RTN button is pushed for 1 second, the offset rate is reset to the initial value.)

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



# 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.

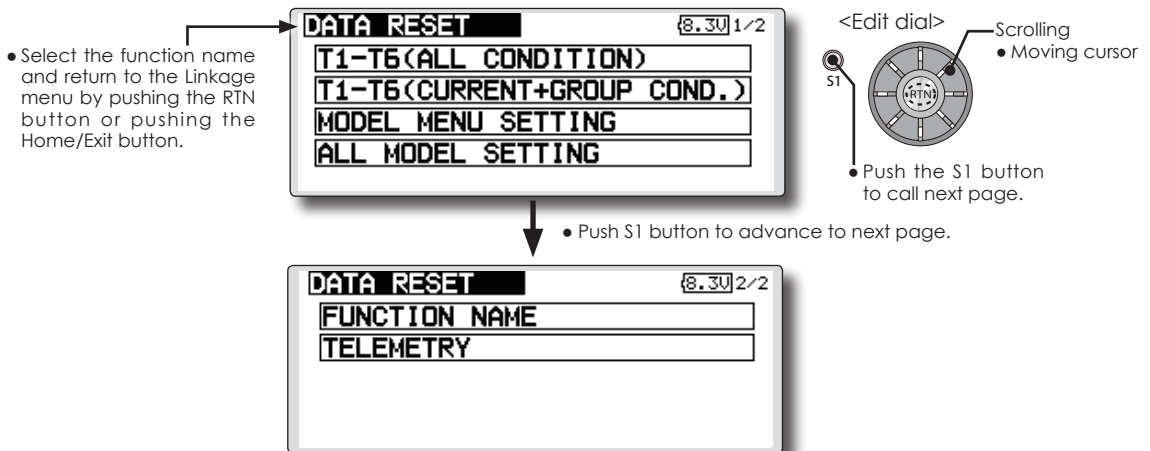
## Function Name:

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 pushing the RTN button.



## Data resetting method

1. Move the cursor to the item you want to reset and push the RTN button.

\*A confirmation message appears.

2. Execute reset by pushing the RTN button again. (Operate edit dial or S1 button to stop resetting.)

[T1-T6 (ALL CONDITION)]: Resets only the T1-T6 (all conditions)

[T1-T6 (CURRNT+GROUP COND.)]: Resets only the data of T1-T6 (condition in use and all the conditions set to group mode)

[MODEL MENU SETTING]: Resets all the functions in the model menu, except the condition selection functions.

[ALL MODEL SETTING]: Resets all the functions in the linkage menu and model menu except the frequency, model select, and model type functions.

[FUNCTION NAME]: Resets only the function name functions.

[TELEMETRY]: Resets only the telemetry functions.

## MODEL MENU (COMMON FUNCTIONS)

This section describes the AFR, program mixing, and other functions common to all model types.

Before setting the model data, use the Model Type function of the Linkage Menu to select the model type matched to the fuselage. When another model type is selected thereafter, the AFR, program mixing, and other setting data will be reset.

The functions in the Model Menu can be set for each flight condition. When you want to use the system by switching the settings for each condition by switch, stick position, etc., use the Condition

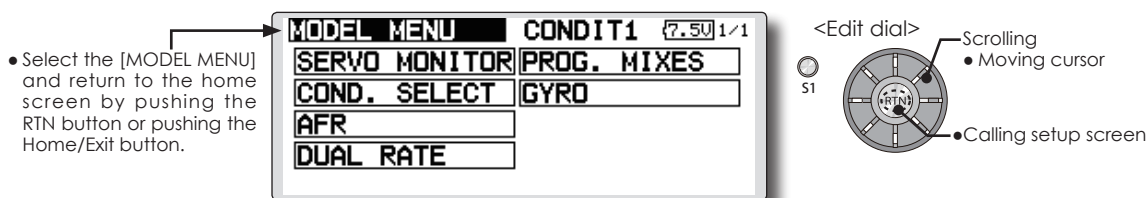
Select function to add flight conditions. (Up to 8 conditions can be used)

Note: The setup screens in the instruction manual are typical examples.

(Model Menu screen example)

\*The Model Menu screen depends on the model type.

- Select the [MODEL] at the home screen and call the model menu shown below by pushing the RTN button.
- Use the edit dial to select the function you want to set and call the setup screen by pushing the RTN button.



### Model Menu functions (Common) list

#### •SERVO MONITOR

Servo test and servo position display (For a description of its functions, see the Linkage Menu section.)

#### •COND.SELECT

Flight conditions addition, deletion, copy, condition renaming, and condition delay can be set.

#### •AFR

Sets the function rate 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.

#### •GYRO

This is a dedicated mix when a Futaba GY series gyro is used.

# 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.

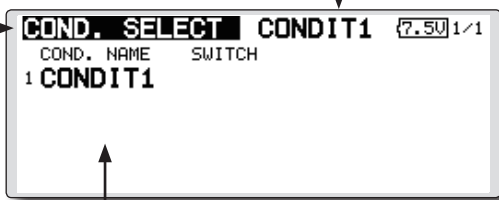
- Since switching by stick and lever position, in addition to ordinary toggle switch, is possible as the flight condition selector switch, this function can be linked with other operations.
- A Condition Delay function can be set. Unnecessary fuselage motion generated

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.

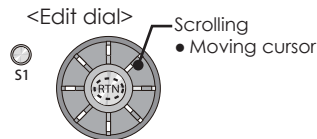
When setting the delay function at the switching destination condition, the related function changes after a delay corresponding to the set amount.

- 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 pushing the RTN button.



(Currently selected condition name)



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

(Conditions List)

\*Perform the settings below after using the edit dial to move the cursor to the item you want to set.

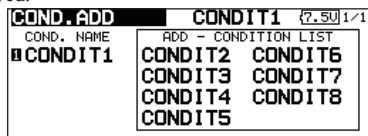
## Condition addition

1. Use the edit dial to move the cursor to any condition in the conditions list and push the RTN button.

Move the cursor to the condition you want to add.

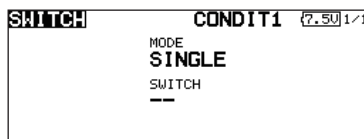
2. Move the cursor to [ADD] and push the RTN button.

\*Only the number of the conditions which can be added is displayed.



3. Add the condition by pushing the RTN button again. Push the RTN button to end adjustment and return to the cursor move mode.

4. Move the cursor to [SWITCH] item, call the switch setup screen by pushing 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 edit dial to move the cursor to the condition you want to delete in the conditions list and push 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 push 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 pushed again, the condition is deleted. (Operate the edit dial or S1 button to stop deletion.)

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

## Condition name change

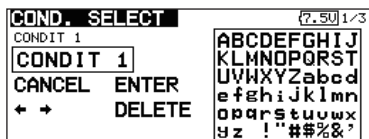
1. Use the edit dial to move the cursor to the condition you want to change in the

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 push 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 push the RTN button.

[Deleting a character]

When [DELETE] is selected and the RTN button is pushed, 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 pushed, that character is added at the position immediately after the cursor.

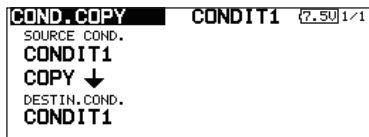
\*A name of up to 8 characters long can be entered as the condition name. (A space is also counted as 1 character.)

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

### Condition copy

1. Use the edit dial to move the cursor to any condition in the conditions list and push the RTN button.
2. Use the edit dial to move to [COPY].
3. Push the RTN button.

\*The copy screen appears.



4. Use the edit dial to move the cursor to the "SOURCE COND." (copy source) item and push the RTN button.

\*The models already saved are displayed at the right side of the screen.

5. After using the edit dial to move the cursor to the copy source condition, push the RTN button.

\*The copy source condition is displayed at the "SOURCE COND." position.

6. Use the edit dial to move the cursor to "DESTIN.CND." (copy destination) and push the RTN button.

\*The models already saved are displayed at the right side of the screen.

7. After using the edit dial to move the cursor to the copy destination condition, push the RTN button.

\*The copy destination conditions are displayed at the "DESTIN.COND." position.

8. Use the edit dial to move the cursor to [COPY] and push the RTN button.

9. When the RTN button is pushed again, copy is executed. (Operate edit dial or S1 button to stop copying.)

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

### Priority change

1. Use the edit dial 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 push 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 edit dial to move the cursor to the condition you want to change in the condition list and push the RTN button.

2. Move the cursor to [DELAY] and push the RTN button.

\*The condition delay setup screen appears.

COND. DELAY		CONDIT1 (7.50) 1/4	
CH	FUNCTION	DELAY	GROUP
CH1	ELEVATOR	0	GROUP
CH2	RUDDER	0	GROUP
CH3	THROTTLE	0	GROUP
CH4	AILERON	0	GROUP

3. Use the edit dial to move the cursor to the "DELAY" item of the channel you want to set and push the RTN button to switch to the data input mode.

Adjust the delay amount with the edit dial.

Initial value: 0

Adjustment range: 0~27 (maximum delay)

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

- The setting mode (group [GROUP]/single [SINGLE] mode) can be switched.

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



# AFR

The function rate 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 pushing the RTN button.

(Currently selected condition name)

[AFR, D/R]: Displays the currently selected rate (AFR, D/R).

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

<Edit dial>

- Scrolling
- Moving cursor
- Selecting mode
- Adjusting value

• Push the S1 button to call next page.

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

• Function selection

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

• Group/single mode switch (GROUP/SINGLE)  
(For more information, see the description at the back of this manual.)

(Number of D/R curves set at the currently selected condition)

## Function selection method

1. Use the edit dial to move the cursor to [FUNC.] and push the RTN button to switch to the data input mode.
2. Select the desired function by scrolling the edit dial to the left or right, push 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.)

D/R curves which can be switched by switch, etc. can be added. The curve can be adjusted by the AFR function.

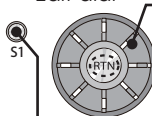
- Up to 6 rates can be added for each condition.
- D/R is set for each condition and is not reflected at other conditions.
- D/R at the top of the D/R list has priority.

- Select [DUAL RATE] at the model menu and call the setup screen shown below by pushing the RTN button.

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

DUAL RATE		CONDIT1		7.50 1/2
D/R NAME	STATUS	FUNCTION	SWITCH	
1 D/R 1	INH	AILERON	---	
2 D/R 2	INH	AILERON	---	
3 D/R 3	INH	AILERON	---	
4 D/R 4	INH	AILERON	---	

<Edit dial>



- Scrolling
- Moving cursor
- Selecting mode
- Adjusting value

• Push the S1 button to call next page.

## Dual rate adding

1. Move the cursor to the [INH] display of an unused D/R and push the RTN button to switch to the data input mode.

Turn it off by scrolling the edit dial to the left and activate the D/R function by pushing the RTN button.

2. Move the cursor to the "FUNCTION" item and push the RTN button to switch to the data input mode.

Select the function by scrolling the edit dial and push the RTN button.

3. Move the cursor to the [SWITCH] item and call the switch setup screen by pushing the RTN button and select the switch and ON direction. Alternate mode can be assigned to dual rate switch.

(For a detailed description of the setting method, see [Switch Setting Method] at the end of this manual.)

# PROG. MIXES

Program mixing which can be freely customized. Up to 10 mixings can be used for each condition. [All model types]

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

You may choose to have the Master's trim added to the Slave channel response ("Trim" setting). The mixing curve can be changed so that the undesired tendencies can be corrected effectively by setting the EXP1/EXP2/POINT modes. The Delay function can be programmed for each rate. The Delay is used to change the rate smoothly when switching mixes. You may define Mixing ON/OFF switch, control or you may choose to have mixing remaining on all the time. Mixing ON/OFF delay

time can be adjusted.

The Programmable mixing includes a powerful link function, which allows Programmable mixing to be linked with the special mixing functions, or with other programmable mixing functions. The link function can be set up for Master and Slave channel individually.

The slave channel AFR mode (STK-STK mode) may be selected, where the slave channel AFR and D/R settings are observed when Link function is set. The knob for fine tuning can be set up for every mixing circuit. (Fine tune function)

The programmable mixing (in mixing mode) STK to STK mixing function can be used even when the Master is a stick or other hardware.

- Select [PROG. MIXES] at the model menu and call the setup screen shown below by pushing the RTN button.

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

<b>PROG. MIXES</b>			CONDIT1	(7.50) 1/3
MIXING	MODE	GROUP		
1 INHIBIT	MIXING	GROUP		
2 INHIBIT	MIXING	GROUP		
3 INHIBIT	MIXING	GROUP		
4 INHIBIT	MIXING	GROUP		

<Edit dial>

- Scrolling
- Moving cursor
- Selecting mode
- Adjusting value

• Push the S1 button to call next page.

**Mix setup screen call**

- Move the cursor to the mix No. whose function you want to activate and call the setup screen by pushing the RTN button.

\*When the function is activated, the master and slave channel name or is displayed.

- Group/single mode switching (GROUP/SINGLE)

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

- Current mix number

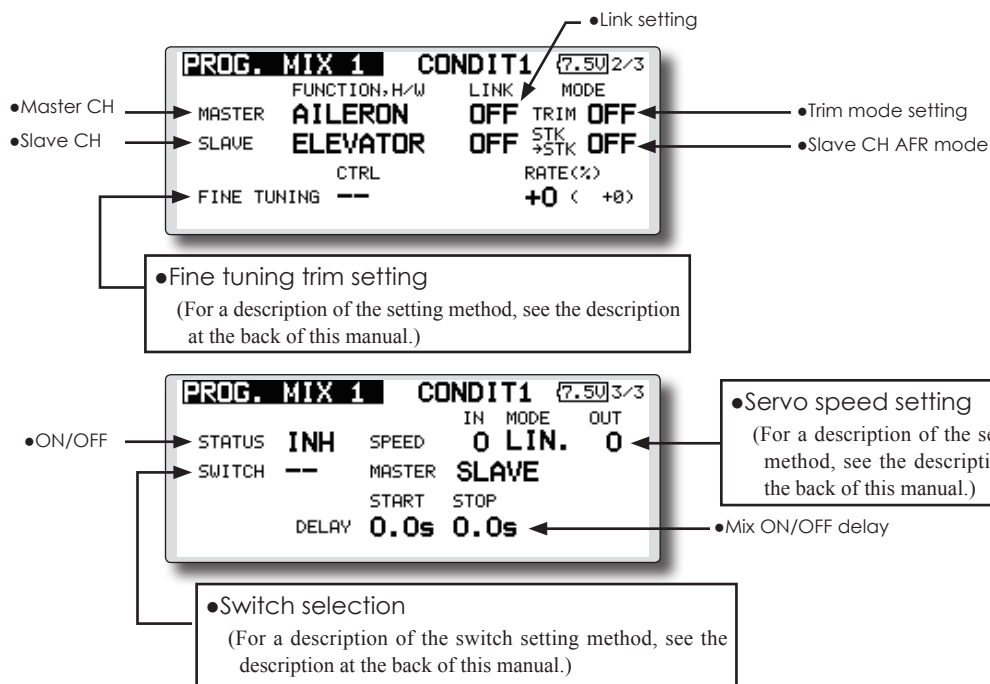
<b>PROG. MIX 1</b>		CONDIT1	(7.50) 1/3								
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>+150</td></tr> <tr><td>+100</td></tr> <tr><td>+50</td></tr> <tr><td>0</td></tr> <tr><td>-50</td></tr> <tr><td>-100</td></tr> <tr><td>-150</td></tr> </table>	+150	+100	+50	0	-50	-100	-150	MODE	EXP 1	OFFSET	INH
	+150										
	+100										
	+50										
	0										
	-50										
-100											
-150											
RATE A	+0.0	+0.0									
EXP A	+0.0	EXP B	+0.0								
POS +0.0	RATE	+0.0									

(Currently selected condition name)

- Mix operating display

- Operation curve setting

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



\*Perform the settings below after using the edit dial 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 push the RTN button to switch to the data input mode.
2. Turn the edit dial to the left until [SINGLE] starts to blink and then push 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 push the RTN button to switch to the data input mode.
2. Turn the edit dial to the left until [ACT] starts to blink and then push 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 pushing 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 push the RTN button to switch to the data input mode. Select the function by scrolling the edit dial and push the RTN button.

2. When you want to link this mixing with other mixes, move the cursor to the [LINK] item and push the RTN button to switch to the data input mode.

Set the link mode to [+] or [-] by scrolling the edit dial and push 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 pushing 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 push the RTN button.

### ●Slave channel setting

1. Move the cursor to the [FUNCTION.H/W] item of [SLAVE] and push the RTN button to switch to the data input mode. Select the function by scrolling the edit dial and push the RTN button.

2. When you want to link this mix with other mixes, move the cursor to the [LINK] item and push the RTN button to switch to the data input mode.

Set the link mode to [+] or [-] by scrolling the edit dial and push 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 push the RTN button to switch to the data input mode.

Select ON/OFF by scrolling the edit dial and set the selection by pushing 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 edit dial, and change the mode by pushing 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 push the RTN button to switch to the data input mode.
2. Adjust the delay time by scrolling the edit dial.

Initial value: 0.0 sec

Adjustment range: 0~4 sec

(When the RTN button is pushed for 1 second, the delay time is reset to the initial value.)

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

### ●Offset mode setting

Offset mode is function which allows simultaneous offset control of up 4 slave functions per circuit.

1. Use [MODE] setting to select the program mixing operation 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 push 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 data input mode by pushing the RTN button.
5. Turn the dial to the left and right until [ACT] blinks, and then push 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 pushing 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 data input mode by pushing the RTN button. Select the function by scrolling the dial and then push 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 data input mode by pushing 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 pushing the RTN button.

\*At adjustment, the offset rate is reset to the initial value by pushing 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 data input mode by pushing 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 pushing the RTN button.

\*At adjustment, the delay time can be reset to the initial value by pushing the RTN button for 1 second.

# GYRO

[Corresponding model type]: Multicopter/Airplane/glider, general

This function is used when a GYA Series gyro is used to stabilize the aircraft's attitude. The sensitivity and operation mode (Normal mode/GY mode) can be switched with a switch.

- Three rates (Rate 1/Rate 2/Rate 3) can be switched.
- Up to 3 axes (Gyro/Gyro 2/Gyro 3) can be simultaneously controlled.

\*Initial setting does not assign a sensitivity channel. Use the Function menu of the Linkage Menu to assign the sensitivity channel (Gyro/Gyro2/Gyro3) used to a vacant channel beforehand.

Set [Control] and [Trim] other than Function to [--].

• Select [GYRO] at the model menu and call the setup screen shown below by pushing the RTN button.

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

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

• The operation mode (AVCS/NOR) and sensitivity of the 3 axis controlled by Gyro/Gyro2/Gyro3 can be set.

(Currently selected condition name)

GYRO		RATE123		CONDIT1		7.40 1/3	
ACT/INH	INH			MODE		RATE	
TYPE	GY	GYRO	AVCS			0%	
SWITCH	--	GYRO2	AVCS			0%	
GROUP	GRP	GYRO3	AVCS			0%	

<Edit dial>

- Scrolling
- Moving cursor
- Selecting mode
- Adjusting value

• Push the S1 button to call next page.

- Three rates (Rate 1/Rate 2/Rate 3) can be used.  
Move the cursor to the [RATE] item and push the RTN button to switch to the data input mode. Adjust the rate by scrolling the edit dial.
- When using this function, move the cursor to the [ACT] item and push the RTN button to switch to the data input mode. Turn the edit dial to the left and push 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 RTN 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.)

## 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 edit dial to move the cursor (reverse-will display) to the [GROUP] item on the setup screen and push the RTN button to switch to the data input mode.

2. Turn the edit dial 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 edit dial to the right.

3. Change the mode by pushing 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 push the RTN button to switch to the data input mode.

2. Set the delay by turning the edit dial.

Initial value: 0

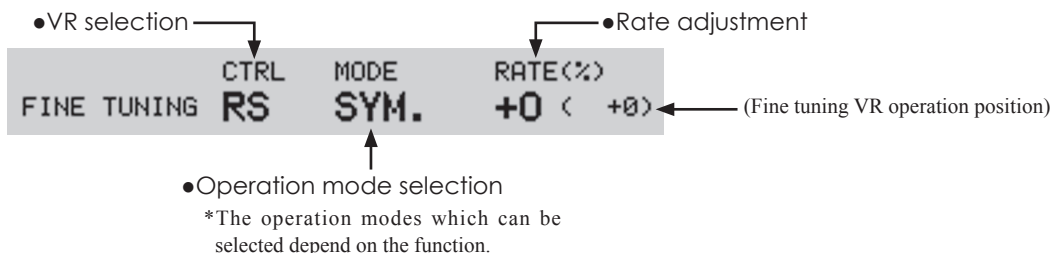
Adjustment range: 0~27 (maximum delay)

(When the RTN button is pushed for 1 second, the delay is reset to the initial value.)

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



## Operations related to fine tuning VR



### [Setting method]

#### 1. Control selection

Use the edit dial to move the cursor (reverse-will display) to the [CTRL] item and push the RTN button to call the selection screen.

Move to the control you want to set by turning the edit dial to the left or right and push the RTN button.

#### 2. Mode selection

Use the edit dial to move the cursor to the [MODE] item and push the RTN button to switch to the data input mode.

Turn the edit dial to the left or right and switch to the operation mode ([LIN.], [ATL+], [ATL-], or [SYM.]) corresponding to the set control and push the RTN button.

#### 3. Rate adjustment

Move the cursor to the [RATE] item and push the RTN button to switch to the data input mode.

Turn the edit dial to the left or right and set the rate.

Initial value: 0%

Adjustment range: -100%~+100%

(When the RTN button is pushed for 1 second, the rate is reset to the initial value.)

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

### [Fine tuning VR operation mode]

[LIN.] Mixing rate 0% at center of VR. When the VR is turned clockwise and counterclockwise, the mixing rate increases and decreases, respectively.

[ATL+] Mixing rate 0% at left end of VR. When the VR is turned, the mixing rate increases.

[ATL-] Mixing rate 0% at right end of VR. When the VR is turned, the mixing rate increases.

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

## Operations related to servo speed

### Servo speed setting

The servo speed at each function operation (including flight condition switching) can be adjusted. The servos operate smoothly at a fixed speed corresponding to the set speed. The operating speed (IN side) and return speed (OUT side) can be set individually.

Switch the operation mode according to the set function.

"SYM." mode: Used with ailerons and other self neutral functions.

"LIN." mode: Used with functions which hold the operation position of the throttle and switch channel, etc.

[Setting method]



1. Use the edit dial to move the cursor (reverse-will display) to the [MODE] item and push the RTN button to switch to the data input mode.

Turn the edit dial to the left or right and switch to the operation mode ("SYM." or "LIN.") corresponding to the set function and push the RTN button.

2. Move the cursor to the direction ([IN] or [OUT]) item you want to set and push the RTN button to switch to the data input mode.

Turn the edit dial to the left or right and set the speed.

Initial value: 0

Adjustment range: 0~27 (maximum delay)

(When the RTN button is pushed for 1 second, the servo speed is reset to the initial value.)

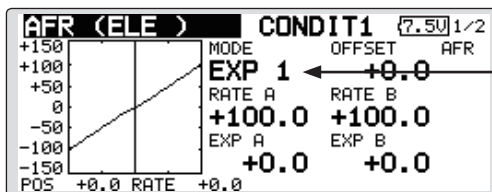
Push the RTN button to end adjustment and return to the edit mode.

## 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

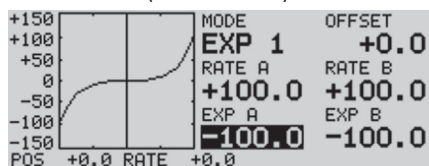
1. Use the edit dial to move the cursor (reverse-will display) to the [MODE] item and push the RTN button to switch to the data input mode.
2. Display the curve you want to use by turning the edit dial to the left or right.  
\*The curve type blinks.
3. When the RTN button is pushed, the curve type is changed. (Operate the edit dial 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.

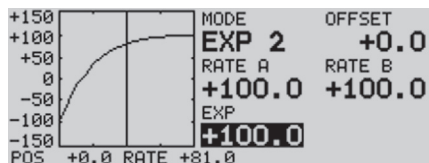
#### EXP1/EXP2 curve adjustment

(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 edit dial to move the cursor (reverse-will display) to the [RATE A], [RATE

B], [EXP A], or [EXP B] setting item and push the RTN button to switch to the data input mode.

2. Set the rate by turning the edit dial 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 pushed for 1 second, the rate is reset to the initial value.)

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

[Offsetting the curve horizontally in the vertical direction]

1. Use the edit dial to move the cursor (reverse-will display) to the [OFFSET] setting item and push the RTN button to switch to the data input mode.

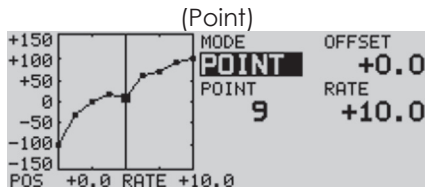
2. Move the curve in the vertical direction by turning the edit dial to the left or right.

Initial value: +0.0%

(When the RTN button is pushed for 1 second, the rate is reset to the initial value.)

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

## Point curve (POINT) adjustment



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

Initial point number: 9 points (17 points curve), 11 points (11 points curve)

\*The set points can be freely increased, decreased, and offset.

[Rate adjustment of each point]

1. Use the edit dial to move the cursor (reverse-display) to the [POINT] or [RATE] item and push 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, push the RTN button to switch the [POINT] item and [RATE] item alternately.

2. Move the cursor (square box) to the [POINT] item by pushing the RTN button.
3. Turn the edit dial 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 pushing the RTN button and set the rate by turning the edit dial 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, push the RTN button to move the cursor to the [POINT] item and turn the edit dial 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 pushed for 1 second, the point is added.

[Point deletion]

1. In the curve setting mode, push the RTN

button to move the cursor to the [POINT] item and turn the edit dial 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 pushed for 1 second, the point is deleted.

[Offsetting the curve horizontally in the vertical direction]

1. Use the edit dial to move the cursor (reverse-will display) to the [OFFSET] item.
2. Move the curve in the vertical direction by turning the edit dial to the left or right.

Initial value: +0.0%

(When the RTN button is pushed for 1 second, the curve is reset to the initial value.)

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

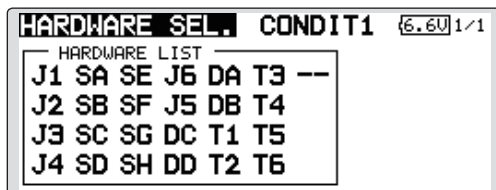
## Switch selection method

The various functions used in the FMT-03 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 edit dial to move the cursor (highlights) to the switch you want to select and push the RTN button.

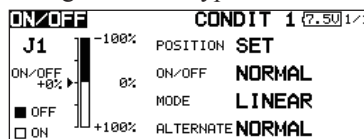
\*The switch blinks.

2. To return to the preceding screen, move the cursor to the [HARDWARE SEL.] at the top of the screen and push the RTN button.

Or, move the cursor to the [ON/OFF] and call the ON/OFF position setting screen by pushing 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:



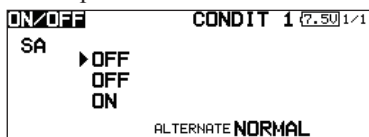
1. When you want to change the mode, move the cursor to [MODE] and push the RTN button to switch to the data input mode. Switch the display to the mode you want to change by turning the edit dial to the left or right and then make the change by pushing the RTN button.

●Mode: [LINEAR]/[SYMMETRY]

\*Set the ON/Off point by the method described on the next page.

#### When switch was selected

When switch was selected, ON/OFF position setting is also performed.



\*The ON/OFF setting state of each position is displayed.

1. When you want to change the ON/OFF setting, use the edit dial to move the cursor and push the RTN button to switch to the data input mode. Switch the ON/Off display by turning the edit dial to the left or right.

\*ON/OFF display blinks.

2. When the EDIT button is pressed, the ON/OFF setting is changed. (Operate the edit dial or S1 button to stop the change.)
3. To return to the preceding screen, move the cursor to the [ON/OFF] at the top of the screen and push the RTN button.

#### Alternate mode setting

●Mode: [NORMAL]/[ALTERNATE]

1. Move the cursor to the [ALTERNATE] item and push the RTN button to switch to the data input mode.
2. Change to the mode you want to set by turning the edit dial to the left or right.
  - \*The mode display blinks.
3. Push the RTN button. (Operate the edit dial or S1 button to stop the change.)
4. To return to the preceding screen, move the cursor to the [ON/OFF] at the top of the screen and push the RTN button.

## Operation modes

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

### Linear mode



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

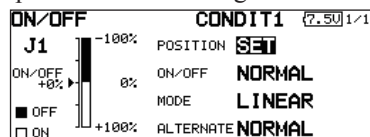
### Symmetrical mode



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

## Shifting the ON/Off point

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



- Black range: OFF range
- White range: ON range

[Setting method]

1. First, use the edit dial to move the cursor to the [POSITION] item.
2. Move the stick, trim lever, or knob to the point you want to change and push the RTN button. The point is shifted.
3. To return to the preceding screen, move the cursor to the [ON/OFF] at the top of the screen and push the RTN button.

## Logic switch (Condition Select function only)

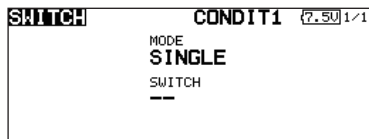
The logic switch function lets you turn operation on and off by combining two switches. For instance, the condition is activated when 2 switches are turned on.

### Logic mode

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

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

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



### Switch mode selection

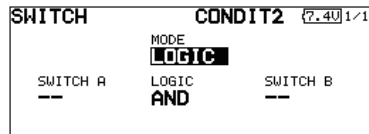
1. Move the cursor to the [MODE] item and push the RTN button to switch to the data input mode.

2. Turn the edit dial to the left and select the [LOGIC].

\*[LOGIC] display blinks.

3. Push 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 push the RTN button to switch to the data input mode.

2. Turn the edit dial to the left or right and select the logic mode.

\*The mode display blinks.

3. Push 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 push the RTN button.

# UPDATING

Your Futaba FMT-03 transmitter programming can be updated easily online. When functions are added or improved, the update file can be downloaded from our website. Copy the update files to the SD card and then use the following procedure to update the program.

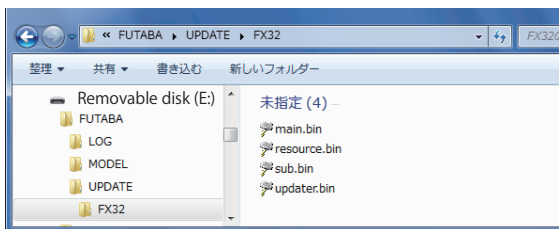
Check our web site for the FAQ regarding updating for more information.

## Updating procedure

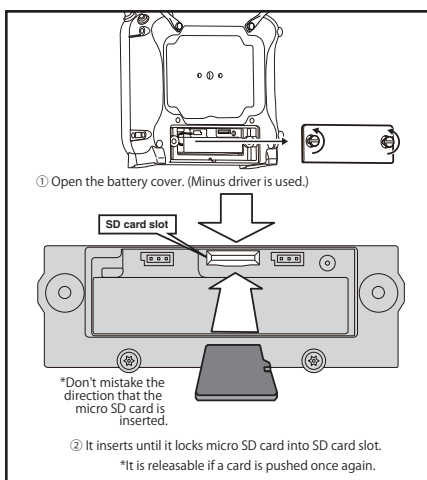
Note: If the battery fully discharges during program updating, updating will fail. When the remaining battery capacity is 50% or less, always recharge the battery before updating.

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

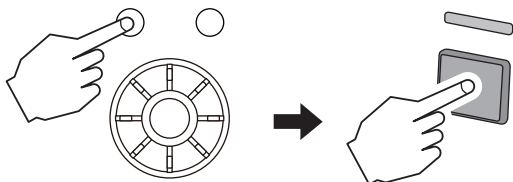
1. Copy update files to a SD card. Typical structure of folders of the card for update are following.



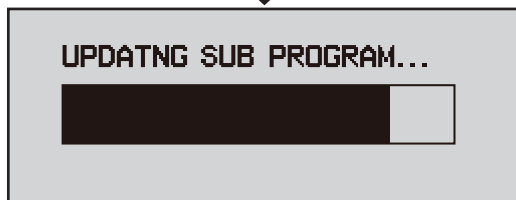
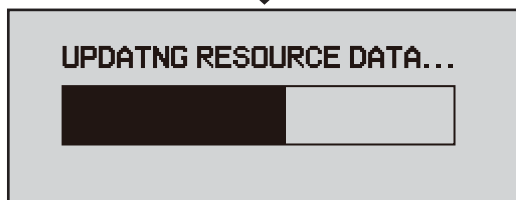
2. Attach the SD card into the SD slot of the FMT-03.



3. Press the Home/Exit switch and turn on the power switch, and FMT-03 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"



## AIRPLANE/GLIDER/HELICOPTER FUNCTIONS

**FMT-03 is equipped with a stick of multi-copter exclusive use. Therefore it's unsuitable for use of airplane, glider and helicopter. But, FMT-03 is also equipped with the function of the airplane, glider and helicopter. It's indicated on a page after this by reference.**

## MODEL MENU (AIRPLANE/GLIDER FUNCTIONS)

The dedicated mixes, etc. usable when airplane or glider model type is selected are displayed in this Model Menu functions section. First use the Model Type function of the Linkage Menu to preset the model type, wing type, and tail type matched to the fuselage used. Other settings reset the data used in mixing function, etc.

These dedicated mixes can be set for each flight condition, as required. When you want to use the system by switching the settings for each condition by switch or stick position, use the

Condition Select function to add flight conditions. (Up to 8 conditions can be used)

Note: The FMT-03 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.

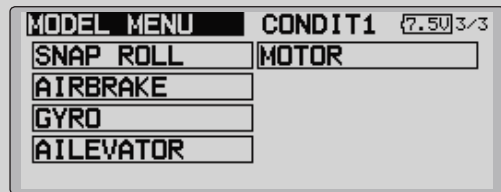
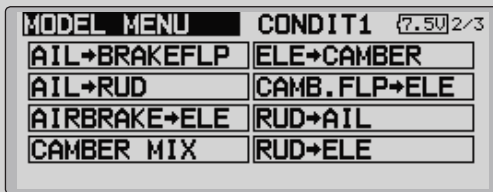
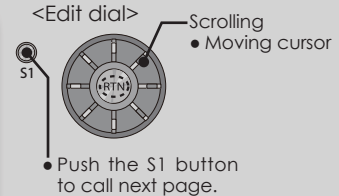
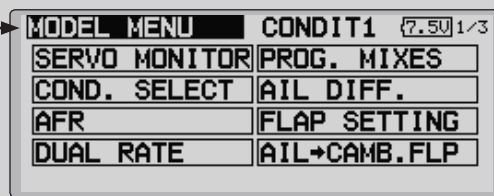
The setting items are different, depending on the number of servos, etc. according to the wing type used. The setup screens in the instruction manual are typical examples.

- Select the [MODEL] at the home screen and call the model menu shown below by pushing the RTN button.
- Use the edit dial to select the function you want to set and call the setup screen by pushing the RTN button.

(Model Menu screen example)

\*The Model Menu screen depends on the model type. This screen is for model type 4AIL+4FLP.

- Select the [MODEL MENU] and return to the home screen by pushing the RTN button or pushing the Home/Exit button.



### Model Menu functions list

#### AIR 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

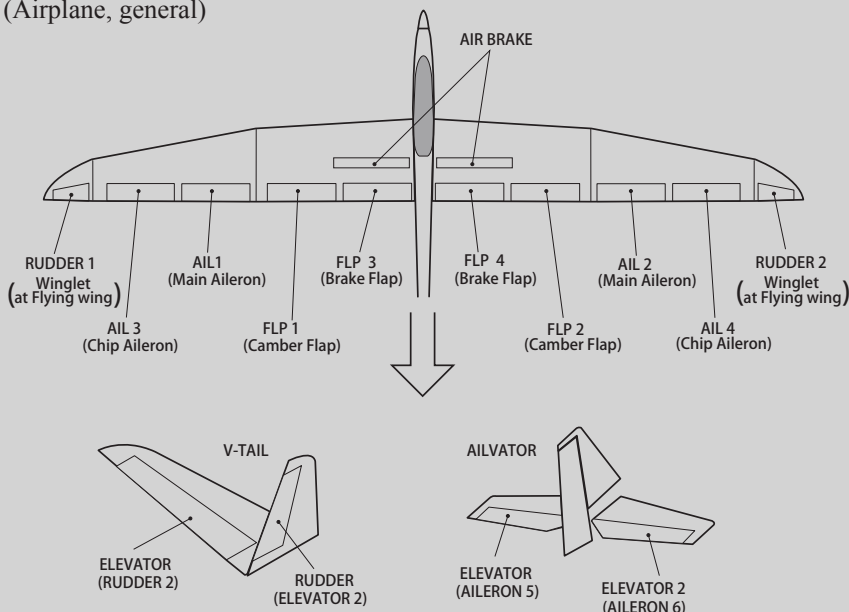
The operation speed when the motor of F5B and other EP gliders is started by switch can be set. [EP glider, general]

## 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]



## Servo connection by Airplane/glider type

The FMT-03 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 airplane/glider 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			The output CH of each system FASTest 18CH FASTest 12CH
	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	

RX CH	2AIL+4FLAP			4AIL+2FLAP			4AIL+4FLAP			The output CH of each system FASTest 18CH FASTest 12CH
	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	

# Reference

FMT-03 is equipped with a stick of multi-copter exclusive use. Therefore it's unsuitable for use of an airplane, a glider and a helicopter.

## ●Ailevator

RX CH	1AIL			2AIL			2AIL+1FLAP			2AIL+2FLAP			The output CH of each system FASTest 18CH FASTest 12CH
	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	

RX CH	2AIL+4FLAP			4AIL+2FLAP			4AIL+4FLAP			The output CH of each system FASTest 18CH FASTest 12CH
	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	

## • 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

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

## •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

The output CH of each system

FASTest 18CH

FASTest 12CH

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

The output CH of each system

FASTest 18CH

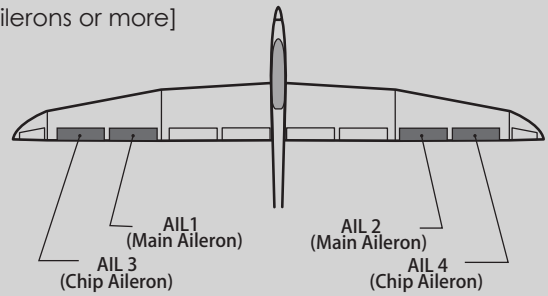
FASTest 12CH

\* 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.

## 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.



- Select [AIL DIFF.] at the model menu and call the setup screen shown below by pushing the RTN button.
- Select the function name and return to the preceding screen by pushing the RTN button or pushing the Home/Exit button.
- Aileron left/right adjustment
- Fine tuning VR setting
- Calls the AFR screen directly when adjusting aileron operation AFR.

(Currently selected condition name)

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

<Edit dial>

- Scrolling
- Moving cursor
- Selecting mode
- Adjusting value

\*The graph is operated by setting a VR, etc.

• Overall adjustment by Rate A and Rate B.

### <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 push 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.  
Push the RTN button to end adjustment and return to the cursor move mode.  
\*The aileron AFR screen can be directly called from the AIL differential setup screen. ([AIL-AFR])
- When setting the fine tuning VR, move the cursor to the "--" item and push the RTN button to call the selection screen, and then select the fine tuning VR.  
Push the RTN button to end adjustment and return to the cursor move mode.
- The fine tuning rate can be set by curve.



## FLAP SETTING

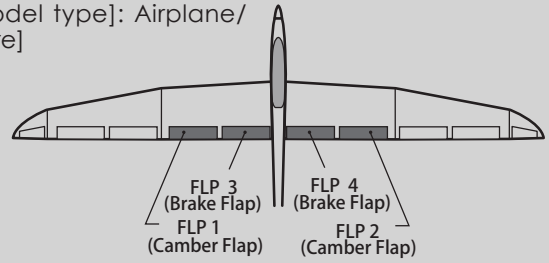
[Corresponding model type]: Airplane/  
glider, 2 flaps or more]

The up/down travel of each flap (camber flaps: FLP1/2, brake flaps: FLP3/4) can be adjusted independently at each servo according to the wing type.

- The operation reference point of each flap can be offset

The camber flaps of a 4-flap model can be mixed with the brake flaps. (Brake FLP to camber FLP)

- An ON/OFF switch can be set.



### <Wing type: 4 flaps screen>

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

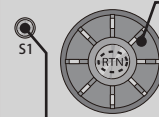
- Select [FLAP SETTING] at the model menu and call the setup screen shown below by pushing the RTN button.

(CAMBER FLP setting screen)

FLAP SETTING		CONDIT1		7.50	1/3
CAMBER FLAP		INH			
	FLAP	FLP2			
UP	+100%	+100%			
DOWN	+100%	+100%	GROUP	GROUP	
OFFSET	+0%	+0%			

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

<Edit dial>



Scrolling

- Moving cursor
- Selecting mode
- Adjusting value

- Push the S1 button to call next page.

(BRAKE FLP setting screen)

FLAP SETTING		CONDIT1		7.50	2/3
BRAKE FLAP		INH			
	FLP3	FLP4			
UP	+100%	+100%			
DOWN	+100%	+100%	GROUP	GROUP	
OFFSET	+0%	+0%			

- Up side/Down side adjustment

- Operation reference point offset

- Group/single mode switching

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

(B.FLP to C.FLP setting screen)

FLAP SETTING		CONDIT1		7.50	3/3
BRAKE FLAP → CAMBER FLAP					
UP	+100%	ACT/INH	INH		
DOWN	+100%	GROUP	GROUP		
OFFSET	+0%	SWITCH	--		

### Setting method

- Move the cursor to the flap (FLP) 1~4 up or down item according to the wing type and push 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 edit dial to offset the reference point.

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

- When using brake FLP to camber FLP mixing, move the cursor to the [ACT/INH] item and turn the edit dial to the left and push the RTN button. (ON is displayed.)

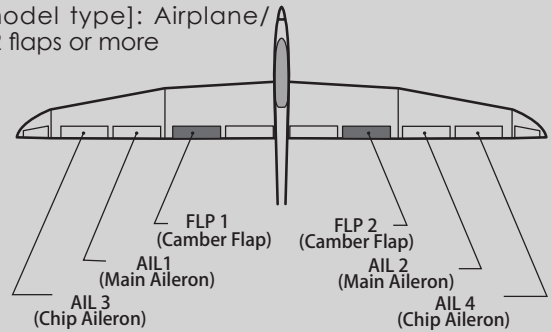
When setting a switch, move the cursor to the [--] item of the switch and push the RTN button to call the selection screen, and then select the switch and set its ON direction. (Always ON at "--" setting)

(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.

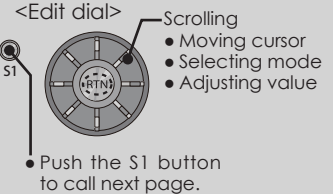
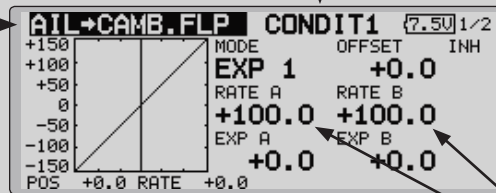
- The aileron left/right mixing rate of each flap servo can be fine-tuned.
- A mixing curve can be set.
- An ON/OFF switch can be set.
- Linking is possible: Link this mix to other mixes.



\*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 pushing the RTN button.

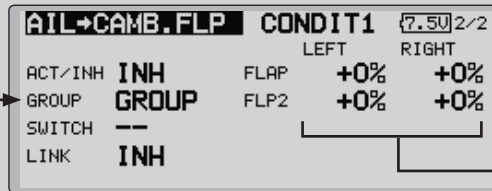
- Select the function name and return to the preceding screen by pushing the RTN button or pushing the Home/Exit button.



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

- 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 push the RTN button to switch to the data input mode.

Turn the edit dial to the left and push the RTN button. (ON is displayed.)

- When setting a switch, move the cursor to the [--] item of the switch and push 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 push the RTN button to

switch to the data input mode.

Adjust the mixing rate with the edit dial.

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

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

- A mixing curve can be set.

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

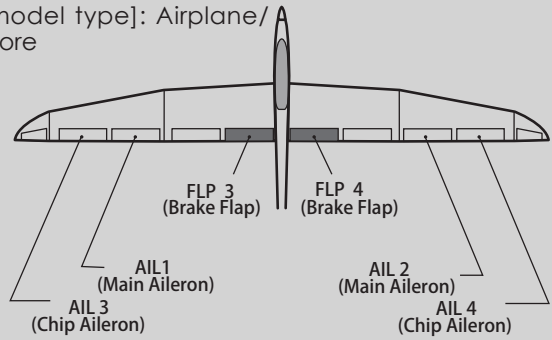
- To set linking, move the cursor to the [LINK] item and push the RTN button to switch to the data input mode.

Set it to ON and push 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.

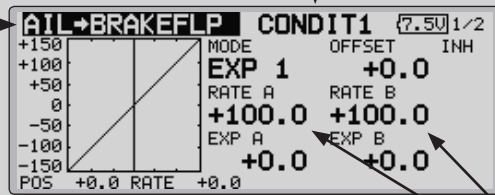
- The aileron left and right mixing rates can be adjusted for each flap servo.
- A mixing curve can be set.
- Mixing during flight can be turned ON/OFF by setting a switch. (Always ON at [-] setting)
- Linking can be set: Link this mix to other mixes.



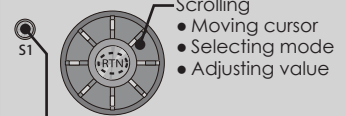
\*The display screen is an example. The actual screen depends on the model type.

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

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



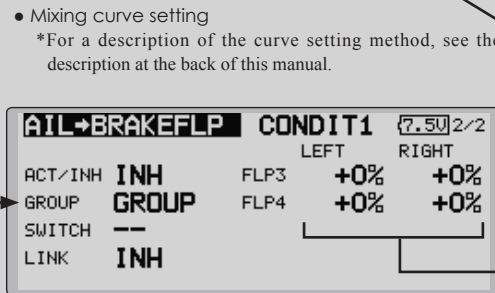
<Edit dial>



- Push the S1 button to call next page.

- 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 push the RTN button to switch to the data input mode.

Turn the edit dial to the left and push the RTN button. (ON is displayed.)

- When setting a switch, move the cursor to the [-] item of the switch and push 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 push the RTN button to switch to the data input mode.

Adjust the mixing rate with the edit dial.

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

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

- A mixing curve can be set.

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

- To set linking, move the cursor to the Link item and push the RTN button to switch to the data input mode.

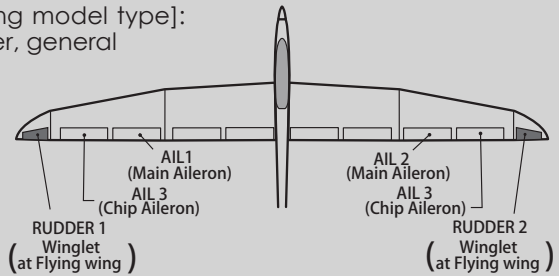
Set it to ON and push the RTN button.

## AIL to RUD

[Corresponding model type]:  
Airplane/glider, general

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

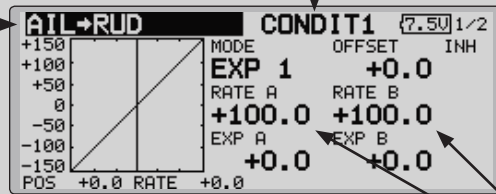
- A mixing curve can be set.
- Mixing during flight can be turned ON/OFF by setting a switch. (Always ON at [-] setting)
- The mixing rate can be fine-tuned by setting a VR.



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

(Currently selected condition name)

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



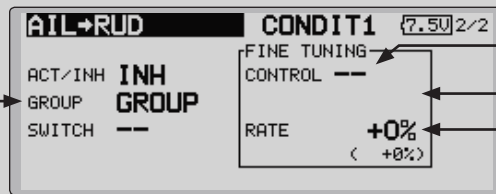
- Push the S1 button to call next page.

- 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.)



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

- Fine tuning VR setting
- Operation mode
- Adjustment rate

### Setting method

- Move the cursor to the ACT/INH item and push the RTN button to switch to the data input mode.  
Turn the edit dial to the left and push the RTN button. (ON is displayed.)
- When setting a switch, move the cursor to the [-] item of the switch and push 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 push 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.

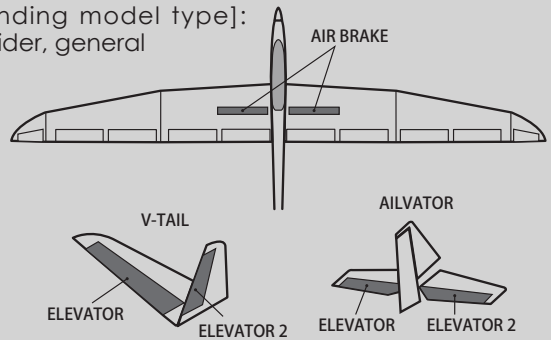
## AIRBRAKE to ELE

[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.

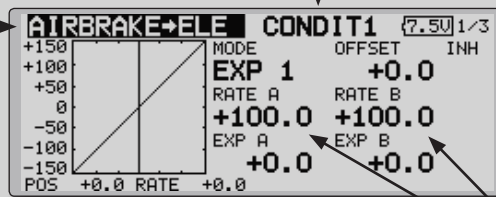
- The Rate 1 side/Rate 2 side mixing rate with the elevator servos can be adjusted.
- A mixing curve can be set.
- Mixing during flight can be turned ON/OFF by setting a switch. (Always ON at [-] setting)
- The mixing rate can be fine-tuned by setting a VR.



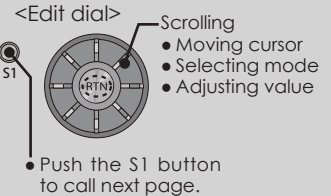
\*The display screen is an example. The actual screen depends on the model type.

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

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



(Currently selected condition name)



- 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.)



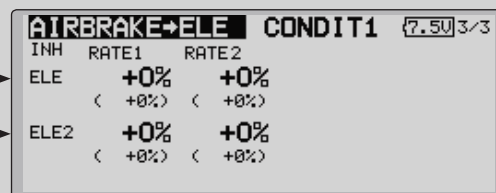
- Overall adjustment by Rate A and Rate B.

- Fine tuning VR setting

- Operation mode

- Adjustment rate

- Adjustment of each elevator servo



## Setting method

- Move the cursor to the ACT/INH item and push the RTN button to switch to the data input mode.  
Turn the edit dial to the left and push the RTN button. (ON is displayed.)
- When setting a switch, move the cursor to the [--] item of the switch and push 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 push 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.

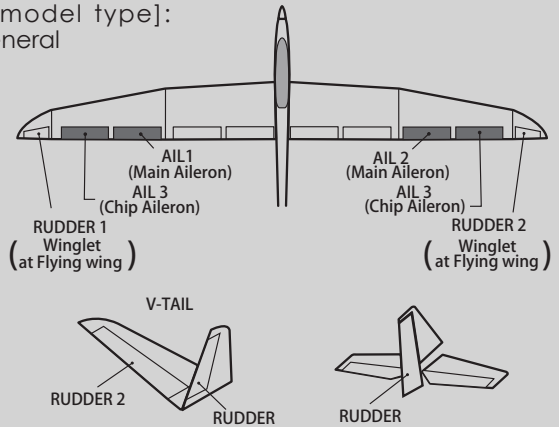
[SYM.] When the VR is turned to the left or right of the neutral position, the mixing rate increases.

## RUD to AIL

[Corresponding model type]:  
Airplane/glider, general

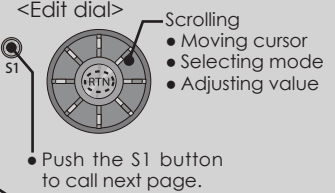
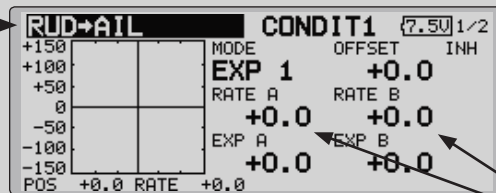
This function is used when you want to mix the ailerons with rudder operation. It is used when rudder is applied during roll maneuvers, knife edge, etc. of stunt planes. It can be used to bank scale models, large models, etc. like a full size plane.

- 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 pushing the RTN button.



(Currently selected condition name)

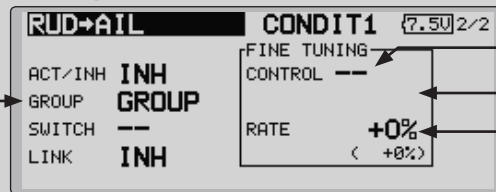
- Select the function name and return to the preceding screen by pushing the RTN button or pushing the Home/Exit button.



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

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

- Left/right overall adjustment at Rate A and Rate B



- 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 push the RTN button to switch to the data input mode.  
Turn the edit dial to the left and push the RTN button. (ON is displayed.)
- When setting a switch, move the cursor to the [-] item of the switch and push 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 push 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 push the RTN button to switch to the data input mode. Turn the edit dial to the left and push 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

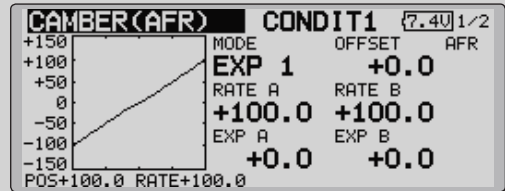
[Corresponding model type]: Airplane/glider, 2 ailerons or more

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)

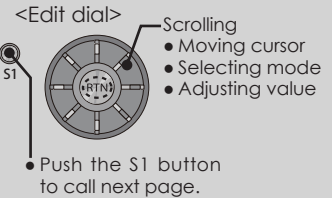
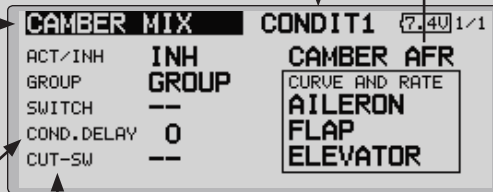


- Select [CAMBER MIX] at the model menu and call the setup screen shown below by pushing the RTN button.

- 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 pushing the RTN button or pushing the Home/Exit button.

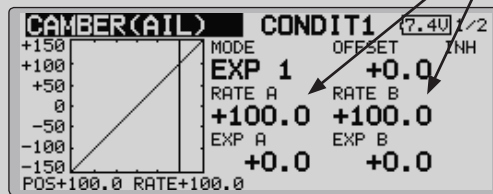


- Condition delay setting

- Condition delay cut switch

- Overall adjustment by Rate A and Rate B

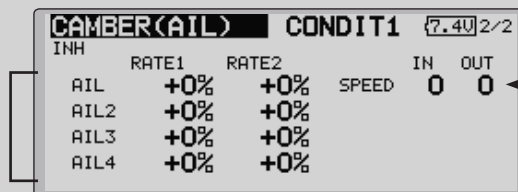
(Curve/rate setting screen)



- 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 push the RTN button to switch to the data input mode.

Turn the edit dial to the left and push the RTN button. (ON is displayed.)

- When setting a switch, move the cursor to the [--] item of the switch and push 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 push the RTN button to switch to the data input mode.

Set the delay with the edit dial.

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

When setting a cut switch, move the cursor to [CUT-SW] item and push 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

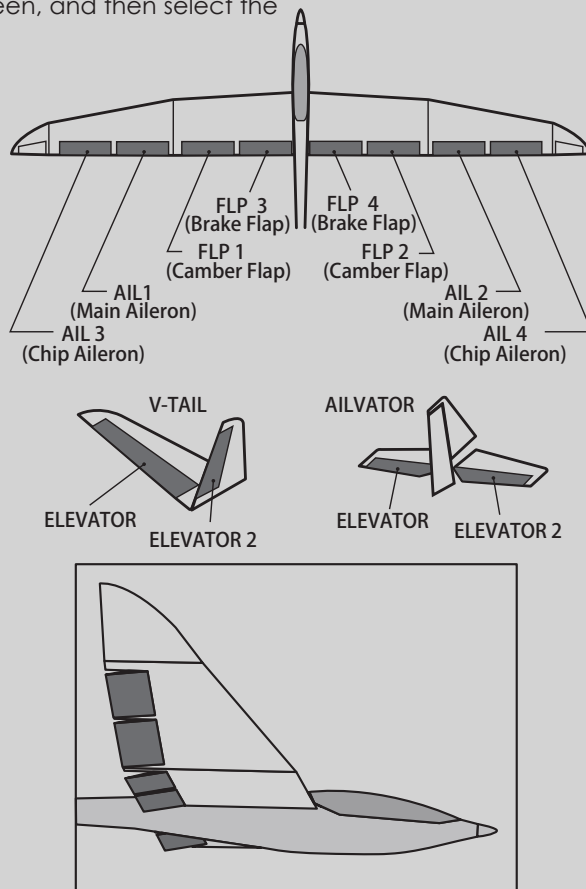
Move the cursor to the Camber AFR item and push the RTN button to call the setup screen. (For a description of the setup method, see the description at the back of this manual.)

(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.

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

**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.

(Currently selected condition name)

• Select the function name and return to the preceding screen by pushing 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.

• Overall adjustment by Rate A and Rate B.

• Ailerons and flaps rate adjustment

1. Select the rate box and push the RTN button to switch to the data input mode.
2. Adjust the rates by scrolling the edit dial.
3. Push the RTN button to end adjustment and return to the cursor move mode.

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

• Group/single mode switching  
(For more information, refer to the description at the back of this manual.)

• Fine tuning VR setting

• Operation mode

• Adjustment rate

<Edit dial>

- Scrolling
- Moving cursor
- Selecting mode
- Adjusting value

• Push the S1 button to call next page.

### Setting method

- Move the cursor to the ACT/INH item and push the RTN button to switch to the data input mode.

Turn the edit dial to the left and push the RTN button. (ON is displayed.)

- When setting a switch, move the cursor to the [-] item of the switch and push 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 push 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.

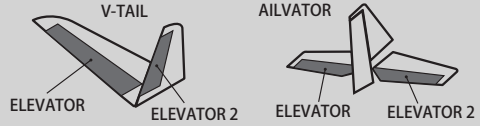
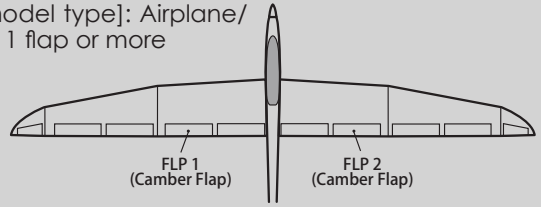
(For a description of the curve setting method, see the description at the back of this manual.)

## CAMB.FLP to ELE

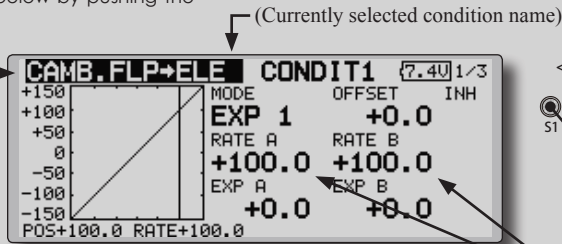
[Corresponding model type]: Airplane/  
glider, 2 ailerons + 1 flap or more

This mixing is used to correct changes (elevator direction) generated when the camber flaps (speed flaps) are used.

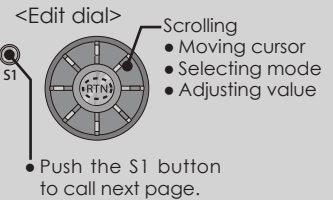
- The elevator servos up side/down side rate can be adjusted. When the mixing direction is reversed by the linkage, adjustments can be made by changing the mixing rate polarity (+ or -).
- A mixing curve can be set.
- Mixing during flight can be turned ON/OFF by setting a switch. (Always ON at [-] setting)
- 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 pushing the RTN button.



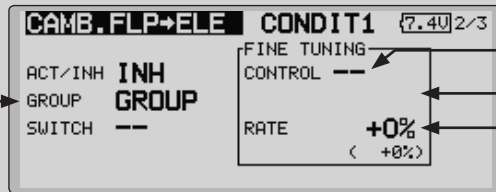
- Select the function name and return to the preceding screen by pushing the RTN button or pushing the Home/Exit button.



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

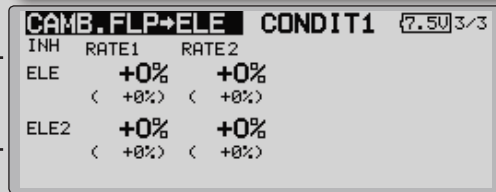
- Mixing curve setting  
\*For a description of the curve setting method, see the description at the back of this manual.

- Overall adjustment by Rate A and Rate B.



- Fine tuning VR setting
- Operation mode
- Adjustment rate

- Elevator rate adjustment



\*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 push the RTN button to switch to the data input mode.  
Turn the edit dial to the left and push the RTN button. (ON is displayed.)
- When setting a switch, move the cursor to the [-] item of the switch and push 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 push the RTN button to

switch to the data input mode. Adjust the mixing rate with the edit dial.

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

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

- When setting a VR, move the cursor to the Fine tuning "-" item and push 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).

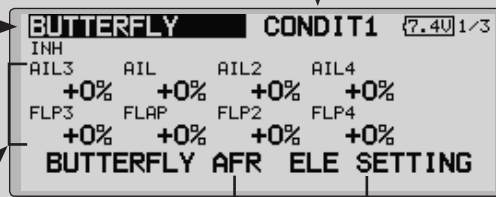
This setting will allow the ailerons to be raised while the flaps are simultaneously lowered. Butterfly (crow) produces an extremely efficient landing configuration by accomplishing the following:

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

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

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

- Select the Mixing Rate AIL and FLP box and push the RTN button to switch to the data input mode. Adjust the mixing rates. Push the RTN button to end adjustment and return to the cursor move mode.

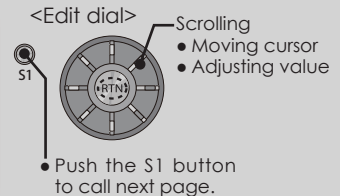


- Mixing during flight can be turned ON/OFF by setting a switch. (Always ON at [-] setting)
- The butterfly operation reference point can be offset. When the RTN button is pushed with the offset item selected when operated to the position to be changed, the reference point is offset. If the reference point is offset too much, unexpected operation may be performed.
- The ailerons and flaps operation speed can be adjusted. (IN side/OUT side)
- A delay can be set for each condition. A cut switch which can turn OFF the delay function can also be set.
- The differential rate can be adjusted.

\*When servo binding occurs when setting the ailerons and flaps in butterfly mixing, use the AFR function to adjust the rudder angle.

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

(Currently selected condition name)



- To elevator correction setup screen

- Calls the Butterfly AFR (D/R) setup screen

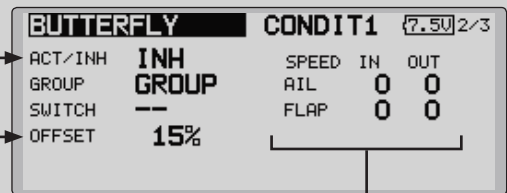
(For a description of the setting method, see the description at the back of this manual.)

- When using this function, move the cursor to the [ACT/INH] item and push the RTN button to switch to the data input mode. Turn the edit dial to the left and push 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 push the RTN button to switch to the data input mode. Press the EDIT button to call the selection screen, and then select the switch and set its ON direction.

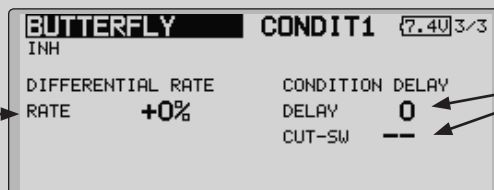


- Aileron and flap servos speed setting

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

- When offsetting the butterfly operation reference point, operate to the point you want to change and then press the EDIT button for 1 second. "INITIALIZE ELEVATOR CURVE?" is displayed. Please choose whether to initialize by YES, or not to initialize by NO.

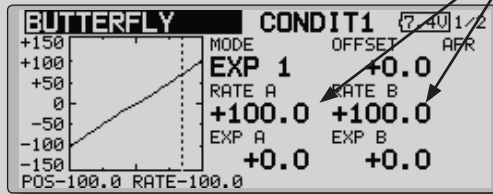
- Differential rate adjustment



- Condition delay setting and cut switch setting

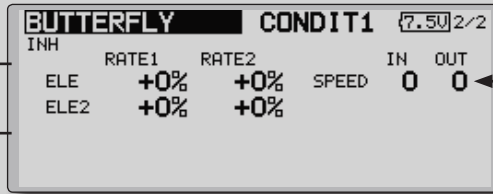
(For a description of the setting method, see the description at the back of this manual.)

(Elevator correction rate setup screen)



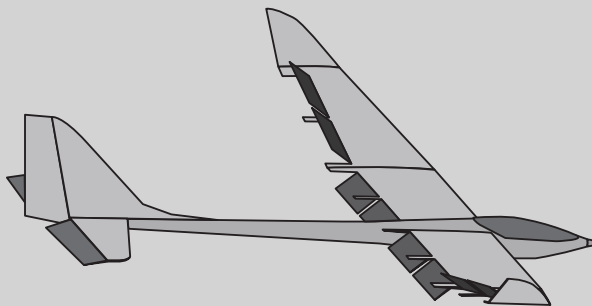
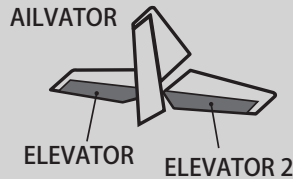
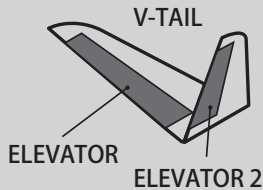
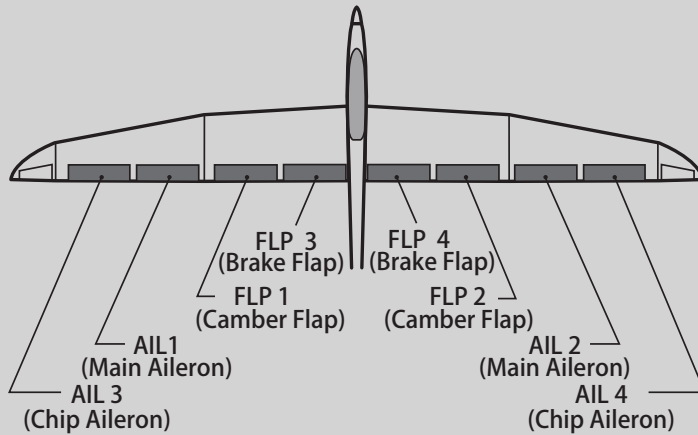
• Overall adjustment by Rate A and Rate B

- 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.

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

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

(Currently selected condition name)

**TRIM MIX 1**    **CONDIT1**    (7.40) 1/5

INH    AIL3    AIL    AIL2    AIL4

OFFSET    +0%    +0%    +0%    +0%

TUNING    +0%    +0%    +0%    +0%

          < +0%>    < +0%>    < +0%>    < +0%>

**TRIM MIX 1**    **CONDIT1**    (7.50) 2/5

INH    FLP3    FLAP    FLP2    FLP4

OFFSET    +0%    +0%    +0%    +0%

TUNING    +0%    +0%    +0%    +0%

          < +0%>    < +0%>    < +0%>    < +0%>

**TRIM MIX 1**    **CONDIT1**    (7.50) 3/5

INH          ELE    ELE2

OFFSET          +0%    +0%

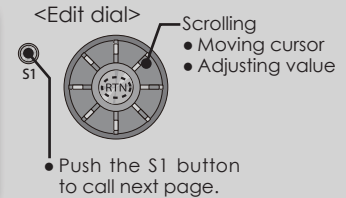
TUNING          +0%    +0%

          < +0%>    < +0%>

### Example

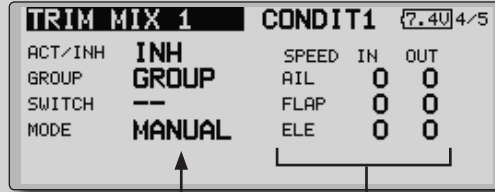
1. Move to the ACT/INH item and push the RTN button to switch to the data input mode. Set the trim mix function to [ON].
    - \*When separating the settings for each condition, move to the [GROUP] item and set it to [Single].
  2. Select the ON/OFF switch.
  3. Select the [Manual] or [Auto] mode.
    - In the [Auto] mode, also select an auto SW. This switch can be linked to a stick, etc.
- <Speed>  
 In: The operation speed at switch ON can be set.  
 Out: The return speed at switch OFF can be set.
- <Fine Tuning>  
 The offset rate can be varied in the Fine Tuning numeric range set at screen [5/5] by VR, etc. selection.
- <Condition Delay>  
 When flight conditions are set, the operation speed can be set for each condition. Condition delay operation can be interrupted and each rudder quickly returned to its original position by selecting a cut switch.

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



- 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 push the RTN button to switch to the data input mode. adjust the rate with the edit dial.  
 Push the RTN button to end adjustment and return to the cursor move mode.

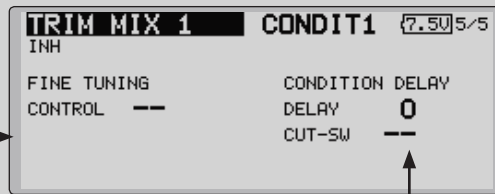
- When using this function, move the cursor to the [ACT/INH] item and push the RTN button to switch to the data input mode. Turn the edit dial to the left and push the RTN button. (ON is displayed.)
- Group/single mode switching  
(For more information, see the description at the back of this manual.)



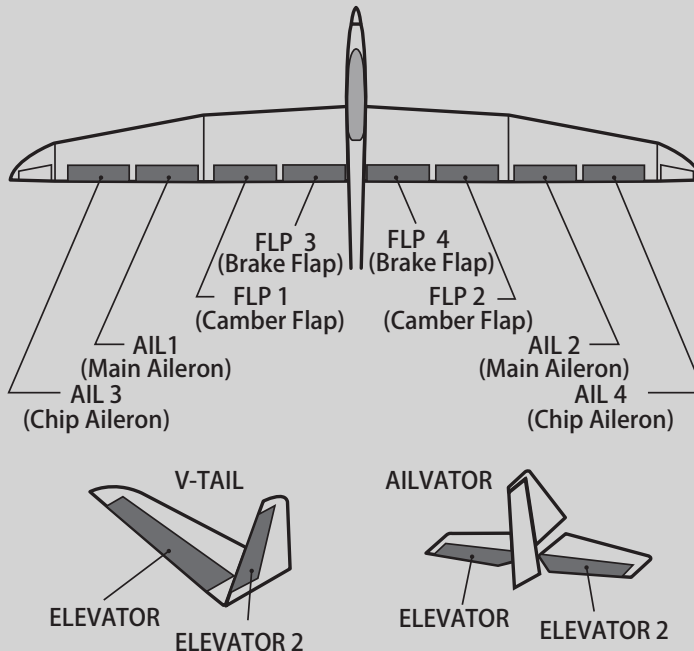
- Manual/Auto mode selection  
Manual: Switches the function ON/OFF by switch  
Auto: Trim mix function call can be linked to a stick, etc. A stick switch, etc. separate from the function ON/OFF switch is set.

- 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 item and push the RTN button to call the selection screen.  
Select the VR and push 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.

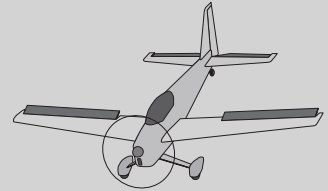
Mode setting:

ACT: [ON]

Group: [Single]

Switch: [SW-C]

Mode: [Manual]



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

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

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

(Currently selected condition name)

<Edit dial>

- Scrolling
- Moving cursor
- Adjusting value

S1

- Push the S1 button to call next page.

- The ailerons, flaps, and elevators offset rate can be adjusted.

Move the cursor to the corresponding setting item and push the RTN button to switch to the data input mode. Adjust the rate with the edit dial.

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

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

Move the cursor to the corresponding setting item and push the RTN button to switch to the data input mode. Adjust the rate with the edit dial.

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



# Reference

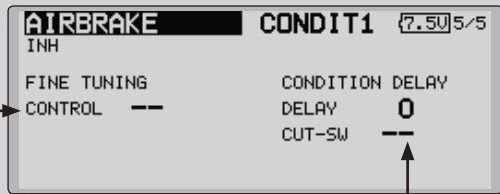
FMT-03 is equipped with a stick of multi-copter exclusive use. Therefore it's unsuitable for use of an airplane, a glider and a helicopter.

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

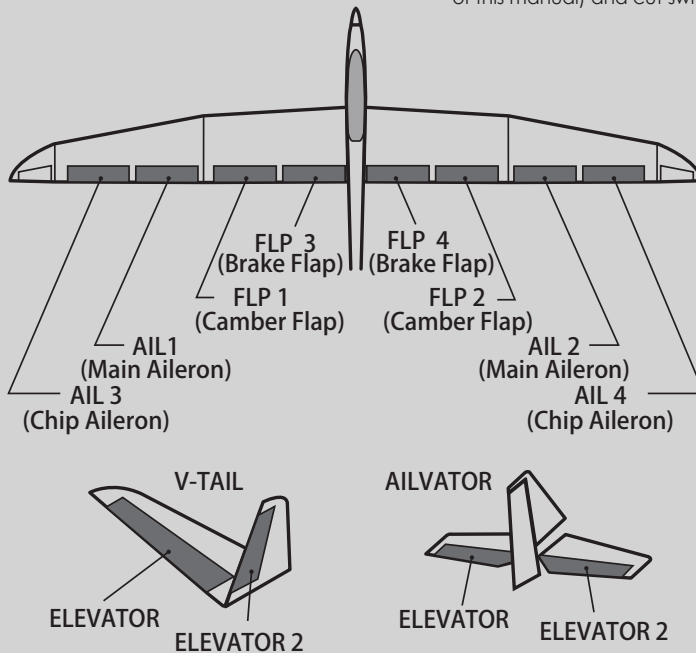


- Manual/Auto mode selection  
Manual: Switches the function ON/OFF by switch  
Auto: Trim mix function call can be linked to a stick, etc. A stick switch, etc. separate from the function ON/OFF switch is set.
- Ailerons, flaps, and elevators servo speed setting  
(For a description of the setting method, 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 push 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.

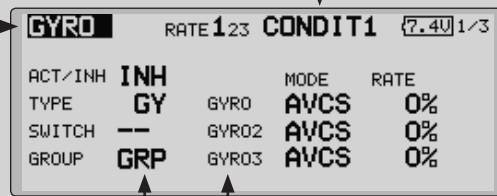
- Three rates (Rate 1/Rate 2/Rate 3) can be switched.
- Up to 3 axes (Gyro/Gyro 2/Gyro 3) can be simultaneously controlled.

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

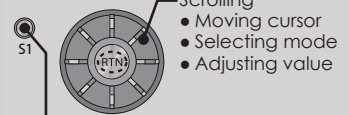
\*Initial setting does not assign a sensitivity channel. Use the Function menu of the Linkage Menu to assign the sensitivity channel (Gyro/Gyro2/Gyro3) used to a vacant channel beforehand.

Set [Control] and [Trim] other than Function to [--].

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



<Edit dial>



- Push the S1 button to call next page.

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

- The operation mode (AVCS/NOR) and sensitivity of the 3 axis controlled by Gyro/Gyro2/Gyro3 can be set.

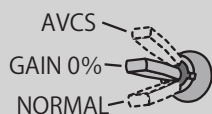
- Three rates (Rate 1/Rate 2/Rate 3) can be used.  
Move the cursor to the [RATE] item and push the RTN button to switch to the data input mode. Adjust the rate by scrolling the edit dial.
- When using this function, move the cursor to the [ACT] item and push the RTN button to switch to the data input mode. Turn the edit dial to the left and push 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 GYA440(2) and GYA441

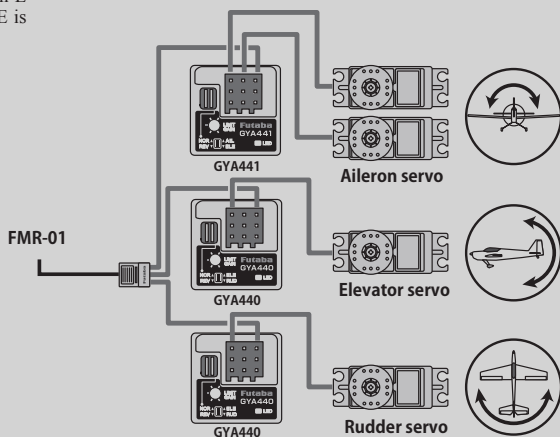
- Wing type: Aileron 2 servos mounted fuselage selected
- Set **5CH → GYRO** (GYA441AIL), **7CH → GYRO2** (GYA441ELE), **8CH → GYRO3** (GYA440RUD), **Control and Trim → NULL** : at the Function menu of the Linkage menu.
- GYRO setting of the Model menu.

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.

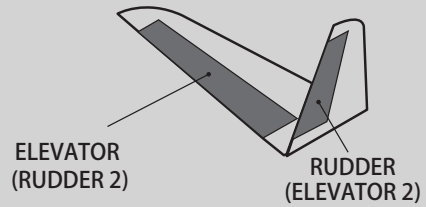


## V-TAIL

[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.



- Select [V-TAIL] at the model menu and call the setup screen shown below by pushing the RTN button.
- Select the function name and return to the preceding screen by pushing the RTN button or pushing the Home/Exit button.

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

(Currently selected condition name)

V-TAIL		CONDIT1		(7.40)	1/1
GROUP	GROUP				
FUNCTION	ELEVATOR		RUDDER		
	DOWN	UP	LEFT	RIGHT	
ELE <RUD2>	+50%	+50%	+50%	+50%	
RUD <ELE2>	+50%	+50%	+50%	+50%	

<Edit dial>

- Scrolling
- Moving cursor
- Selecting mode
- Adjusting value

(Elevator function)      (Rudder function)

Up and down travel adjustment at CH1 and CH2 elevator operation      Left and right travel adjustment at CH1 and CH2 rudder operation

- Travel adjustment  
Move the cursor to the item you want to adjust and push the RTN button to switch to the data input mode.  
Adjust the rate by scrolling the edit dial.  
Push the RTN button to end adjustment and return to the cursor move mode.
- \*If the mixing direction is reversed by the linkage, adjustments can be made by changing the mixing rate polarity (+ or -).
- \*If a large value of travel is specified, when the sticks are moved at the same time, the controls may bind or run out of travel. Decrease the travel until no binding occurs.

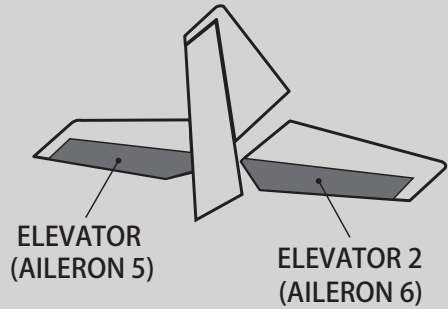
## AILEVATOR

[Corresponding model type]: Airplane/glider, V-Tail

(Effective only when 2 servos used at the elevators)

This function improves the operating performance of the roll axis by operating the elevators as ailerons.

Ailevator is where each elevator in a standard (conventional) or v-tail moves independently, like ailerons on a wing. In addition to each elevator side moving up and down together, each side moves in opposite directions when moving as an ailevator. On a V-tail, this is also known as a ruddervator, as they can serve the same purpose. Typically, both ailevator and ailerons are coupled together to maximize roll performance, especially on larger wingspan planes.



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 pushing 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 pushing the RTN button or pushing the Home/Exit button.

AILEVATOR		CONDIT1		7.40	1/1
GROUP	GROUP				
FUNCTION	ELEVATOR	UP	AILERON	RIGHT	
	DOWN		LEFT		
ELE (AIL5)	+100%	+100%	+0%	+0%	
ELE2(AIL6)	+100%	+100%	+0%	+0%	

<Edit dial>



- 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

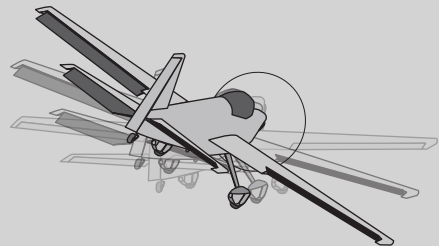
Move the cursor to the item you want to adjust and push the RTN button to switch to the data input mode.

Adjust the rate by scrolling the edit dial.

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

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

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



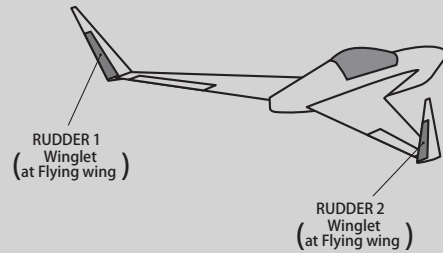
## WINGLET

[Corresponding model type]: Airplane/glider, winglet

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

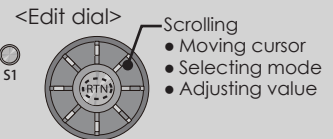
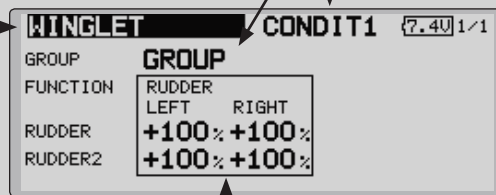
Winglets are used to improve the efficiency of aircraft lowering the lift-induced drag caused by wingtip vortices. The winglet is a vertical or angled extension at the tips of each wing.

Winglets work by increasing the effective aspect ratio wing without adding greatly to the structural stress and hence necessary weight of its structure - an extension of wing span would also permit lowering of induced drag, though it would cause parasitic drag and would require boosting the strength of the wing and hence its weight - there would come a point at which no overall useful saving would be made. A winglet helps to solve this by effectively increasing the aspect ratio without adding to the span of the wing.



- Select [WINGLET] at the model menu and call the setup screen shown below by pushing 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 pushing the RTN button or pushing the Home/Exit button.



- (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 push the RTN button to switch to the data input mode.  
Adjust the rate by scrolling the edit dial.  
Push the RTN button to end adjustment and return to the cursor move mode.  
\*If the mixing direction is reversed by the linkage, adjustments can be made by changing the mixing rate polarity (+ or -).

## MOTOR

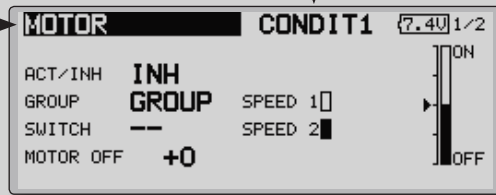
[Corresponding model type]: EP glider, general

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

- The in side and out side operating speeds can be adjusted independently in 2 ranges (Speed 1/ Speed 2).
- The boundary between the 2 ranges can be set. (From speed 1 to speed 2)
- The set operation speed operation can be activated at initial operation only. (1 time operation) However, operation can be repeated

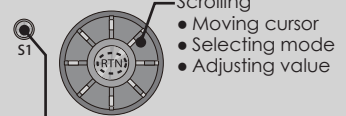
- Select [MOTOR] at the model menu and call the setup screen shown below by pushing the RTN button.

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



(Currently selected condition name)

<Edit dial>



- Push the S1 button to call next page.

- Move the cursor by set switch or VR.

- When using this function, move the cursor to the [ACT/INH] item and push the RTN button to switch to the data input mode. Turn the edit dial to the left and push the RTN button.

- Group/single mode switching

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

- Switch

A switch that turns the function itself ON/OFF can be selected.

- Motor off position

Press the EDIT button for 1 second when [SW-G] is in the motor OFF position you want to set. The direction of the motor switch is memorized. The screen graph display OFF direction also changes.

### Notes

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

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.**



- When using this function, move the cursor to the [ACT/INH] item and push the RTN button to switch to the data input mode. Turn the edit dial to the left and push the RTN button.

- When you want to set the "One time mode", move the cursor to the [ONE TIME] item and turn the edit dial to the left and push the RTN button.

- Speed 1 to 2

The speed 1 and speed 2 region boundary can be changed,

- Operation speed adjustment

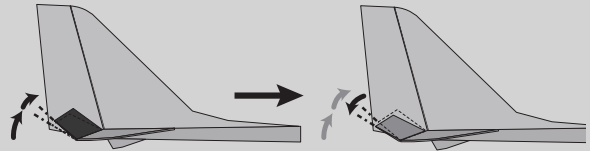
The speed when speed 1 and speed 2 are ON (In) and OFF (Out) can be adjusted.

## ACCELERATION [Corresponding model type]: Glider, general

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

- This setting is divided into elevator setting and camber setting. The setting method is the same.
- Camber setting sets the acceleration function for ELE to camber mixing. Setting is not performed when ELE to camber mixing is INH.
- The acceleration function can be set for both the up side and down side.

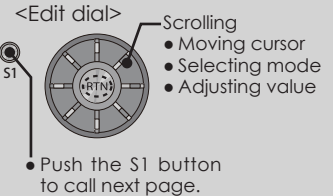
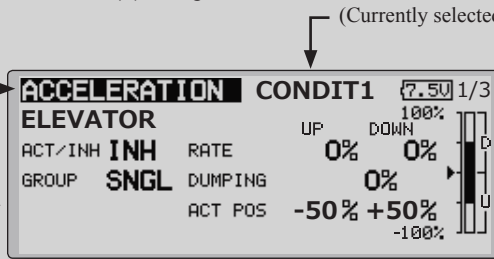
- Function ON/OFF switch setting is performed for ALL to RUD setting only.
- ALL to RUD setting is acceleration function setting for ALL to RUD mixing. It is not performed when ALL to RUD mixing is INH.



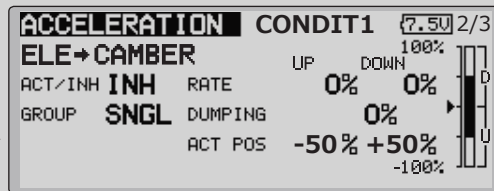
- Select [ACCELERATION] at the model menu and call the setup screen shown below by pushing the RTN button.

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

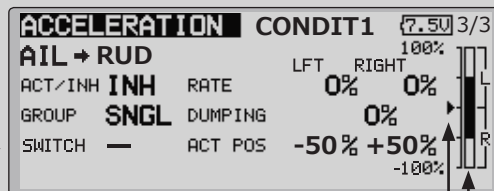
- 1/3 Elevator setting



- 2/3 Elevator → Camber setting



- 3/3 Aileron → Rudder setting



- Act position
- Current position

### Setting method

- Acceleration rate setting (Rate)
- The return time after operation (Dumping) can be set.
- The operation point at acceleration and deceleration can be set. When an operation point is exceeded, acceleration is performed.

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



## RUD to ELE

[Corresponding model type]: Airplane, general

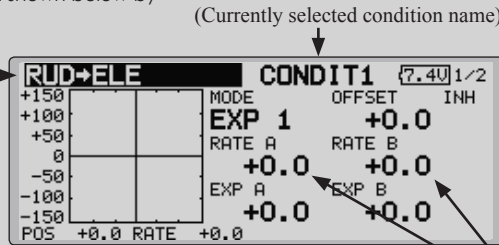
This function is used when you want to mix elevator operation with rudder operation. It is used to correct undesirable tendencies when rudder is applied in roll maneuvers, knife edge, etc. of stunt planes.

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

- Link can be set: Links this mixing to other mixings.
- The mixing rate can be fine-tuned by setting a VR. (Fine tuning)

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

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



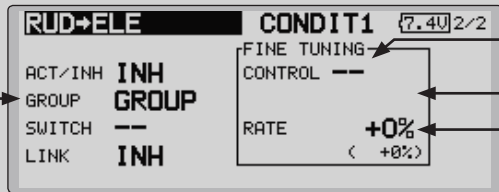
- Push the S1 button to call next page.

- 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 push the RTN button to switch to the data input mode. Turn the edit dial to the left and push the RTN button. (ON is displayed.)
- When setting a switch, move the cursor to the [-] item of the switch and push 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 push 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 push 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

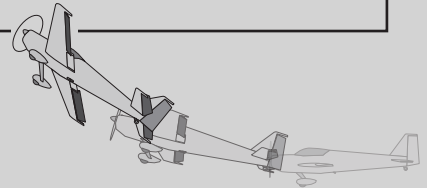
[Corresponding model type]: Airplane, general

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.

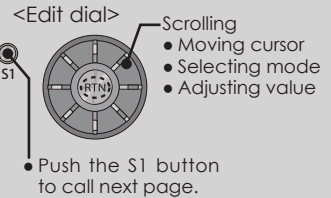


- Select [SNAP ROLL] at the model menu and call the setup screen shown below by pushing the RTN button.

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

(Currently selected condition name)

SNAP ROLL		CONDIT1		[7.4U] 1/4
RATE	AIL	ELE	RUD	
RIGHT/UP	+100%	+100%	+100%	
RIGHT/DOWN	+100%	-100%	-100%	
LEFT/UP	-100%	+100%	-100%	
LEFT/DOWN	-100%	-100%	+100%	



SNAP ROLL		CONDIT1		[7.4U] 2/4
MODE	MASTER			
MASTER-SW	--			
SAFETY-SW	--			
GROUP	GROUP			

- Rate adjustment
  1. Move the cursor to the item you want to adjust and push the RTN button to switch to the data input mode.
  2. Adjust rate by scrolling the edit dial.
  3. Push the RTN button to end adjustment and return to the cursor move mode.

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

SNAP ROLL		CONDIT1		[7.4U] 3/4
	ACT	SWITCH		
RIGHT/UP	OFF	--		
RIGHT/DOWN	OFF	--		
LEFT/UP	OFF	--		
LEFT/DOWN	OFF	--		

- Direction switches

SNAP ROLL		CONDIT1		[7.4U] 4/4		
SPEED	AIL IN	OUT	ELE IN	OUT	RUD IN	OUT
RIGHT/UP	0	0	0	0	0	0
RIGHT/DOWN	0	0	0	0	0	0
LEFT/UP	0	0	0	0	0	0
LEFT/DOWN	0	0	0	0	0	0

- Adjustment of the servo speed of each rudder  
(For a description of the setting method, see the description at the back of this manual.)

## MODEL MENU (HELICOPTER)

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

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

Also, add flight conditions at the Condition Select screen if necessary before setting the model

- Select the [MODEL] at the home screen and call the model menu shown below by pushing the RTN button.
- Use the edit dial to select the function you want to set and call the setup screen by pushing the RTN button.

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

<b>MODEL MENU</b> NORMAL 7.40 1/2	
SERVO MONITOR	PROG. MIXES
COND. SELECT	PIT CURVE
AFR	THR CURVE
DUAL RATE	ACCELERATION
COND. HOLD IS OFF	

<b>MODEL MENU</b> IDLEUP3 7.50 2/2	
THR HOLD	PIT→RUD
SWASH MIX	GYRO
THROTTLE MIX	GOVERNOR
PIT→NEEDLE	COND. HOLD ←
COND. HOLD IS OFF ←	

\*Condition hold operation is displayed.

### To activate/deactivate Condition Hold:

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

\*Refer to for condition hold function details.

## Model Menu functions (helicopter) list

**PIT CURVE:** Adjusts response in different flight conditions

**THR CURVE:** Throttle curve and hovering trim adjustment

**ACCELERATION:** Allows a brief "overload" in response to sudden throttle and pitch commands

**THR HOLD:** Moves the throttle to idle during autorotation

**SWASH MIX:** Compensates for each control response

**THROTTLE MIX:** Compensates for power loss when cyclic applied

**PIT to NEEDLE:** Adjusts response curve in different flight conditions

**PIT to RUD:** Handles torque changes from pitch angle inputs

**GYRO:** Used to switch gyro sensitivity

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

## Servo connection by Helicopter type

The FMT-03 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 helicopter 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.

### Helicopter

#### ●FASSTest 18CH

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

#### ●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	

## PIT CURVE/PIT TRIM

### PIT Curve

This function adjusts the pitch operation curve for each flight condition for the optimal flight state relative to movement of the throttle stick.

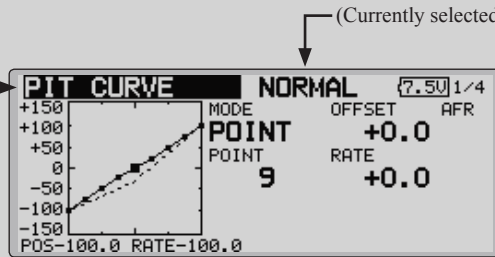
\*Up to 17 points can be set for the point curve types. However, when using the 3 points or 5 points specified to create a curve, a simple curve can be created by reducing

the number of input points to 3 or 5, and then entering the specified value at the corresponding points that you created a curve.

- Select [PIT CURVE] at the model menu and call the setup screen shown below by pushing the RTN button.

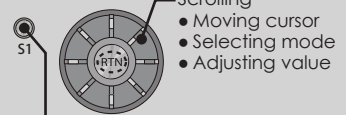
- Point curve type is 9 points (initial), but for simple use, 4~5 points are sufficient.

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



(Currently selected condition name)

<Edit dial>

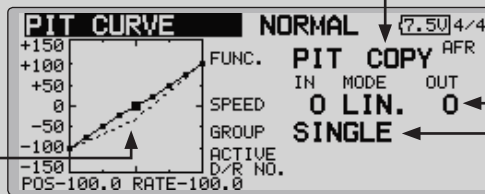


- Push the S1 button to call next page.

- Mixing curve setting

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

- Pitch trim copy



- Pitch trim operating position (dotted line)

- Pitch servo speed setting (For a description of the 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.)

#### 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

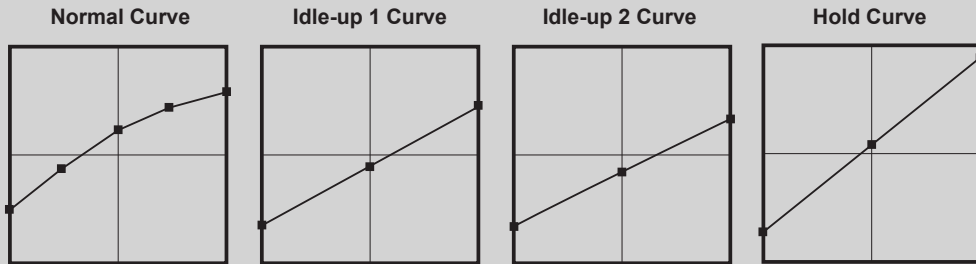
- Group/Single item: When you also want to input the same setting contents at other conditions, perform setting in the group mode. In this case, the same contents are input to the other conditions set in the group mode. When you want to set each condition independently, select the single mode (initial 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 push 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

<b>PIT CURVE</b>		<b>NORMAL</b>	7.50 2/4
<b>HOVER</b>			
ACT/INH	<b>ON</b>	MODE	<b>CTRM</b>
GROUP	<b>SINGLE</b>	RANGE	<b>100%</b>
CONTROL	<b>LD</b>		
RATE	<b>+30%</b> < -30%		

- Low/high pitch trim setting

<b>PIT CURVE</b>		<b>NORMAL</b>	7.50 3/4
<b>LOW PITCH</b>		<b>HIGH PITCH</b>	
ACT/INH	<b>INH</b>	ACT/INH	<b>INH</b>
GROUP	<b>SINGLE</b>	GROUP	<b>SINGLE</b>
CONTROL	<b>--</b>	CONTROL	<b>--</b>
RATE	<b>+30%</b> < +0%	RATE	<b>-30%</b> < +0%

(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.
- 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.
- The trim rate can be adjusted and the operation direction can be changed.
- Trim acts as high side or low side trim with the center as the standard.

## THR CURVE/THROTTLE HOVER TRIM

### THR Curve

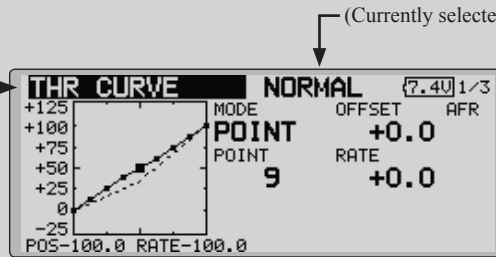
This function adjusts the throttle operation curve for each condition for optimum engine speed to throttle stick movement.

Up to 17 curve points can be set for the point curve type, however, when the 5 points and other

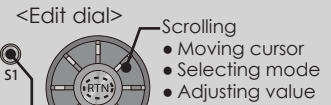
point data is used, a simple curve can be easily created by reducing the number of input points of the curve to 5 and entering the specified value at the corresponding points.

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

- Select the function name and return to the preceding screen by pushing 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.



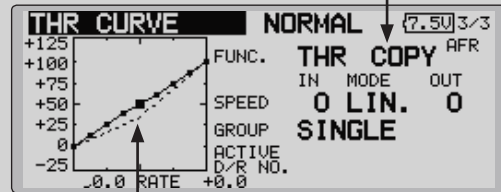
- Push the S1 button to call next page.

### 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.



- Throttle hover trim operating position (dotted line)

### Operation precautions

#### ⚠ WARNING

- ! When actually starting the engine and flying, always set the idle up condition switch to OFF and start the engine in the normal/motor at idle mode.

### Setting method

- Group/single item: When you want to simultaneously enter the same settings to other functions, make the settings in the group mode. In this case, the same setting contents are entered to the all conditions. When you want to set each condition independently, make the settings after selecting the single mode (Initial setting).
- Throttle hover trim copy  
The throttle hover trim operating position can be copied to the throttle curve.  
Move the cursor to the [COPY] item and push the RTN button.  
After copying, return the pitch trim to the center to call the last operating position.



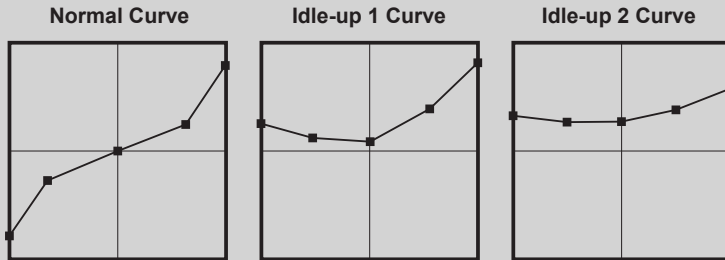
## Curve setting examples

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).

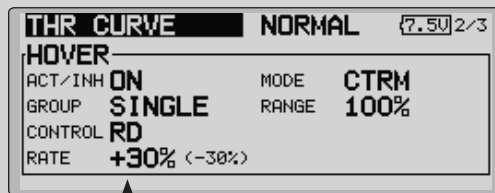
\*For a description of the curve creation method, see the description at the back of this manual.

### •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.

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.

### Setting method

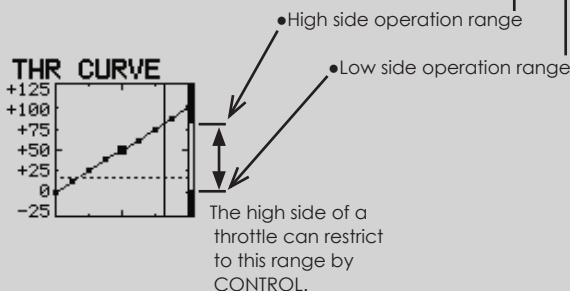
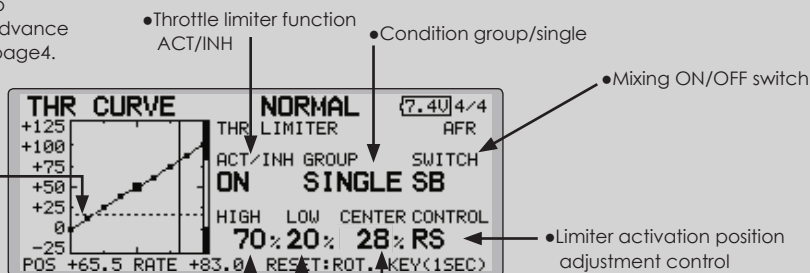
- When using the hovering (normal) condition only, switch the group mode to the single mode (initial setting) and make the settings.
- Set the function to ACT ([ON]).
- Select the adjustment knob.
- The trim operation mode (Mode: CTRM/NORM) can be selected.

## Throttle Limiter

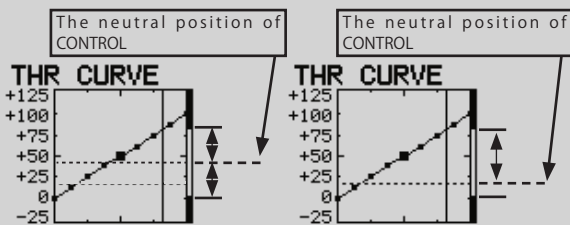
This function limits throttle operation to within a certain range. Control which adjusts the operating range during flight can be set. (Effective only when the model type is helicopter.)

\*When the limiter operation range adjustment control is NULL, the throttle limiter function is not activated.

- Open the THR CURVE setup screen. Push S1 button to advance to next page and display page4.



- The limit value at the operation hardware neutral position can be adjusted using the throttle limiter.



## Setting method

- Activate the function
  1. Select "ACT/INH" and push the RTN button.
  2. Scrolling the edit dial and switch the display to [INH] or [ACT].
  3. Push the RTN button.
- Group/single mode selection.
  1. Select "GROUP" and push the RTN button.
  2. Scrolling the edit dial and switch the display to [GROUP] or [SINGLE].
  3. Push the RTN button.
- ON/OFF switch setting
  1. Select "SWITCH" and push the RTN button.
  2. A hardware selection screen is displayed. Select the hardware and push the RTN button.
- High side operation range setting
  1. Select "HIGH" and push the RTN button.
  2. Scrolling the edit dial and adjust the high side operation range.
- Low side operation range setting
  1. Select "LOW" and push the RTN button.
  2. Scrolling the edit dial and adjust the low side operation range.
  3. Push the RTN button.
- The neutral position of "CONTROL" setting
  1. Select "CENTER" and push the RTN button.
  2. Scrolling the edit dial and adjust the neutral position.
  3. Push the RTN button.
- Limiter activation position adjustment setting
  1. Select "CONTROL" and push the RTN button.
  2. A hardware selection screen is displayed. Select the hardware and push the RTN button.

## ACCELERATION

This function is used to adjust the pitch and the throttle rise characteristic at acceleration/deceleration operation. An acceleration function which temporarily increases the pitch and throttle operations at throttle stick acceleration/deceleration operation can be set.

### Example of acceleration function use

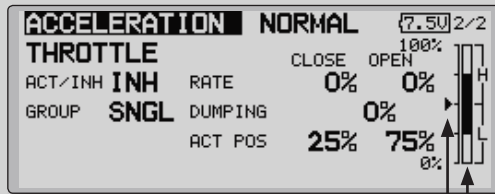
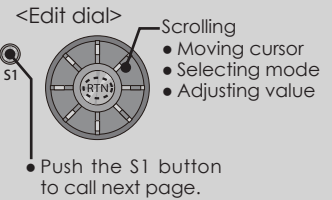
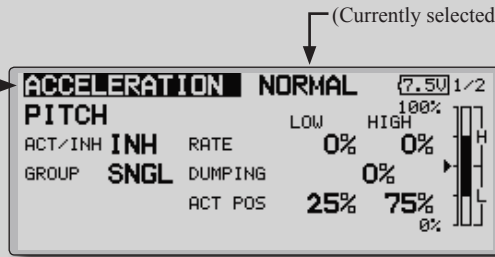
- When used for pitch control, the acceleration function is effective when you want to quicken the response of the model at 3D on collective pitch. When used, high pitch temporarily exceeds maximum pitch, but immediately returns to maximum pitch.

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

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

- Pitch setting

- Throttle setting



- Act position
- Current position

### Setting method

- Acceleration can be set at both setting at acceleration (high) and setting at deceleration (low).  
(The operation point is displayed on a graph.)
- Acceleration rate setting (Rate)
- The return time after operation (Dumping) can be set.
- The operation point at acceleration and deceleration can be set. When an operation point is exceeded, acceleration is performed.

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

## THR HOLD

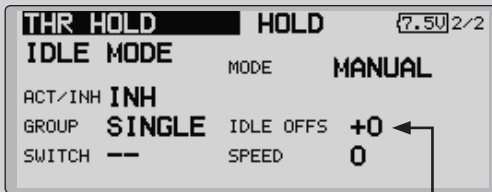
This function sets the throttle cut position for auto rotation. The throttle position can also be set to an idling position. Setting of these 2 positions can be selected by a switch. This allows use for switching during training.

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

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

- Set to the engine stop position.

- Set to the idling position.



### 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.

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.

(Currently selected condition name)

<Edit dial>

- Scrolling
- Moving cursor
- Selecting mode
- Adjusting value

- Push the S1 button to call next page.

- Hold position

- Current position

### Setting method

- Operation mode selection

Manual mode(MANUAL): The throttle hold function is operated by switch operation only.

Auto mode(AUTO): The throttle hold function operation is linked to the throttle stick position.

Auto position setting: When the auto mode is selected, the throttle position (auto position) can be selected. Move the throttle stick to the position you want to set and push the RTN button. (Auto position is displayed.)

- Hold position adjustment

Throttle Hold (Cut) sets the throttle cut position. Adjust it so that the carburetor is full close.

Throttle Hold (Idle): Make this adjustment to maintain idling. Adjustments can be made based on the throttle curve idle position.

- The throttle servo operating speed can be adjusted. (Speed)
- Throttle cut or training function can be switched by hold function selector switch.

### Operation precautions

#### ⚠ WARNING

- When starting the engine, confirm that the idle up condition and throttle hold condition are OFF.

## SWASH MIX

The swash mix function is used to correct the swash plate in the aileron (roll) direction and elevator (cyclic pitch) corresponding to each operation of each condition.

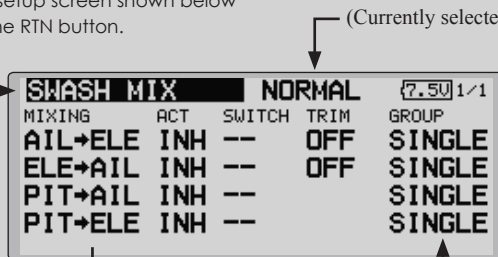
Adjustment by independent curve for aileron, elevator, and pitch operations is possible. The operation can be smoothly adjusted by calling up the "Curve setup" screen by pushing the EDIT button with moving the cursor to the mixing item that corresponds to the mixing and direction which needs correction.

### Example of use

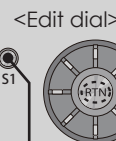
- As an example, use swash mixing to correct undesirable tendencies in the roll direction
- For a condition which uses AIL to ELE, set this function to ON. When raising the nose at a right roll, when the Rate B side is input and the right aileron is operated, the elevator moves to the down side. Tune by adjusting the Rate. For right roll, adjust to the rate A side.

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

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



(Currently selected condition name)

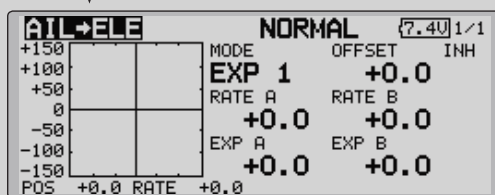


- Scrolling
- Moving cursor
- Selecting mode

- Push the S1 button to call next page.

- Group/single mode switching

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



- Mixing curve setting

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

### Setting method

- When using this function, move the cursor to the [ACT] item and push the RTN button to switch to the data input mode. Turn the edit dial to the left and push 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 push the RTN button to call the selection screen and set the switch and its ON position.

## THROTTLE MIX

This function corrects slowing of engine speed caused by swash plate operation during aileron or elevator operation. The method of applying clockwise or counterclockwise torque when pirouetting can also be corrected.

An acceleration function which temporarily increases the throttle side correction rate relative to rapid stick operation can also be set.

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

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

### Setting example

- ALL to THR applies a load to the engine and corrects slowing of the engine speed when the aileron stick was operated. Engine racing can be adjusted independently at the right aileron and left aileron by Rates A and B.

(Currently selected condition name)

- Select the function name and return to the preceding screen by pushing 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.

<Edit dial>

- Scrolling
- Moving cursor
- Selecting mode

• Push the S1 button to call next page.

• Group/single mode switching

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

THROTTLE MIX NORMAL [7.50] 1/1

MIXING	ACT	SWITCH	MODE	GROUP
AIL→THR	INH	--	CTRM	SINGLE
ELE→THR	INH	--	CTRM	SINGLE
RUD→THR	INH	--	CTRM	SINGLE

AIL→THR NORMAL [7.40] 1/2

MODE	EXP 1	OFFSET	INH
RATE A	+0.0	RATE B	+0.0
EXP A	+0.0	EXP B	+0.0

POS +0.0 RATE +0.0

AIL→THR NORMAL [7.40] 2/2

INH

RATE	LEFT	RIGHT
	0%	0%
DUMPING	0%	
ACT POS	-50%	+50%

• Acceleration settings

### Setting method

- When using this function, move the cursor to the [ACT] item and push the RTN button to switch to the data input mode. Turn the edit dial to the left and push 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 push the RTN button to call the selection screen and set the switch and its ON position.

### <Acceleration function setting>

- Acceleration can be set for both settings (Left) and (Right)
- Acceleration rate setting (Rate)
- The return time (Dumping) after operation can be set.
- The operation point when the correction rate is increased and decreased can be set independently. When an operation point is exceeded, acceleration operation is performed.

## PIT to NEEDLE MIXING

This mixing is used when the engine is equipped with needle control or other fuel-air mixture adjustment. A needle curve can be set.

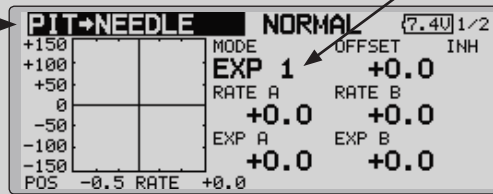
An acceleration function which temporarily increases needle operation at throttle stick

acceleration/deceleration operation can be set. The rise characteristic of the needle servo at acceleration and deceleration operation can be adjusted.

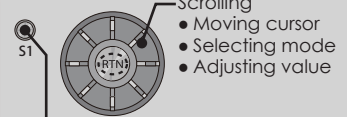
- Select [PIT to NEEDLE] at the model menu and call the setup screen shown below by pushing the RTN button.

- Normally, use [POINT] type.

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



<Edit dial>



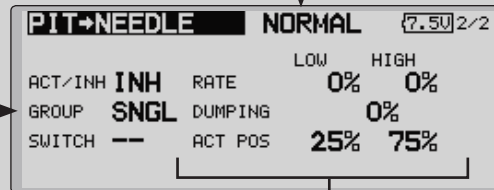
- Push the S1 button to call next page.

- 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.)



- Acceleration settings

### Setting method

- When using this function, move the cursor to the [ACT] item and push the RTN button to switch to the data input mode. Turn the edit dial to the left and push 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 push the RTN button to switch to the data input mode. Push 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)

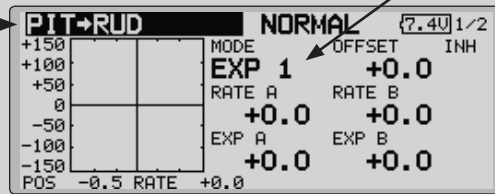
Use this mix when you want to suppress the reaction torque generated by main rotor pitch and speed changes during pitch operation. Adjust so that the nose does not move in the rudder direction.

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.

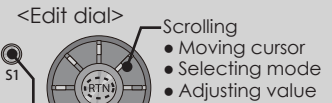
However, when a GY Series or other heading hold gyro is used, since correction is performed by the gyro, this mix is not used. If this function is used when the gyro operation mode is the AVCS mode, the neutral position will change.

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

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



- Normally, use [POINT] type.

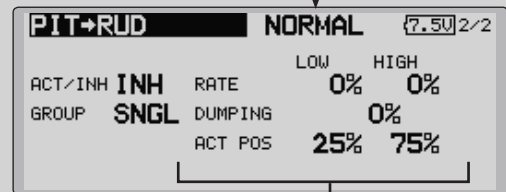


- Push the S1 button to call next page.

### Setting method

- When using this function, move the cursor to the [ACT] item and push the RTN button to switch to the data input mode. Turn the edit dial to the left and push the RTN button. (ON is displayed.)
- When you want to set the same contents at other conditions, select the group mode.  
When you want to set the selected condition only, select the single mode (initial setting).
- A mixing curve is set.

(Currently selected condition name)



- Acceleration settings

#### <Normal condition mixing curve>

The mixing curve rate starts from a small value.

For a rotor with a clockwise operation direction (polarity), when pitch was operated at the plus side, set so that mixing is in the clockwise direction. First, trim at hovering and then adjust the neutral position.

1. Adjustment between slow and hovering  
Repeatedly hover from take off and land from hovering at a constant rate matched to your own rhythm, and adjust the pitch so the nose does not deflect when the throttle is raised and lowered.
2. Throttle high side (climbing and diving from hovering)  
Repeat climbing and diving from hovering at a constant rate matched to your own rhythm and adjust the pitch so that the nose does not deflect when the throttle is raised and lowered.

#### <Idle up condition mixing curve>

Set the mixing rate so that the rudder direction at high-speed flight is straight ahead. Adjust for each condition used.

#### <Acceleration function setting>

- Acceleration operation can be performed for both setting at acceleration (high) and setting at deceleration (low).
- Acceleration rate setting (rate)
- The return time after operation (dumping) can be set.
- An operation point (act pos) at acceleration and deceleration can be set independently. When an operation point was exceeded, acceleration operation is performed.



## GYRO PROGRAMMING / GAIN SENSITIVITY

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

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

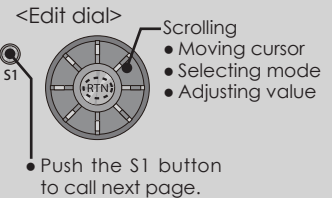
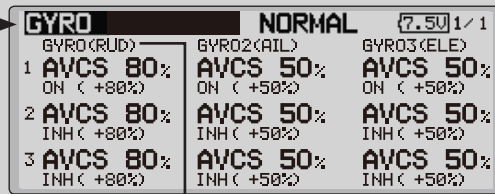
\*Compatible with 3 axis gyro (CGY750).

Note: When using the [Gyro2]/[Gyro3] function, assign [Gyro2]/[Gyro3] to any channel on the function screen.

Always set to [-] both (control) and (trim) for the [Gyro] function at the Function menu in the Linkage menu.

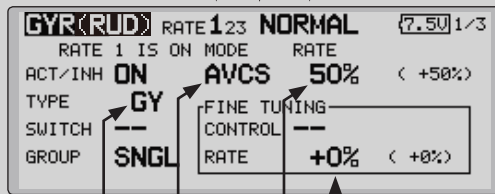
- Select [GYRO] at the model menu and call the setup screen shown below by pushing the RTN button.

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



- When the GYRO function button is selected, each GYRO detailed setting screen appears.

(Rate No. display)      (Currently selected condition name)



- Gyro type selection: [GY]/[NORM]
- Mode selection: [AVCS]/[NORM]
- Gyro sensitivity adjustment
- Fine tuning VR settings

### Setting method

- When using this function, move the cursor to the [ACT] item and push the RTN button to switch to the data input mode. Turn the edit dial to the left and push the RTN button. (ON is displayed.)
- When you want to set the same contents at other conditions, select the group mode. When you want to set the selected condition only, select the single mode (initial setting).
- Three rates can be switched for each condition. (Rate 1/Rate 2/Rate 3)
- A fine tuning VR can be set.

## GOVERNOR PROGRAMMING

When using a Futaba governor, this function is used to switch the RPM of the helicopters head. Up to 3 rates can be set for each condition.

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

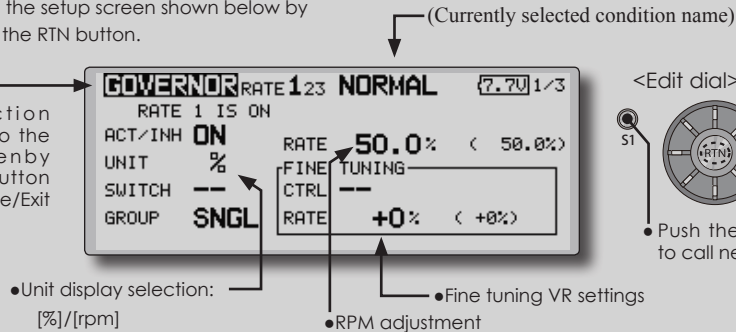
\*When using an independent governor [ON]/[OFF] switch, connect the AUX([ON]/[OFF]) connector of the governor to CH8 (initial setting) and set the switch to CH8 (Governor2) at the Function menu of the Linkage Menu.

\*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 pushing the RTN button.

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



### Setting method

#### • Activate the mixing

When using this function, move the cursor to the [INH] item and push the RTN button to switch to the data input mode.

Select the ACT mode by scrolling the edit dial.

\*The display blinks.

Push 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 push the RTN button to switch to the data input mode.

Adjust the rpm by scrolling the edit dial.

Initial value: 50% (1500rpm)

Adjustment range: OFF, 0~110% (OFF, 700~3500rpm)

\*When the RTN button is pushed for one second, the sensitivity is reset to the initial value.)

Push the RTN button to return to the cursor mode.

#### • Unit display selection

Move the cursor to the UNIT item and push the RTN button to switch to the data input mode. Select the unit by scrolling the edit dial.

Push the RTN button to change the operation mode and return to the cursor mode.

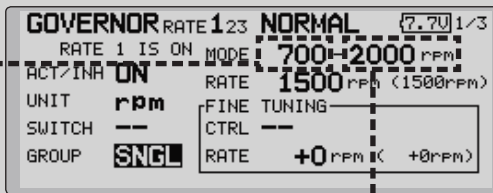
## ●Display mode selection

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

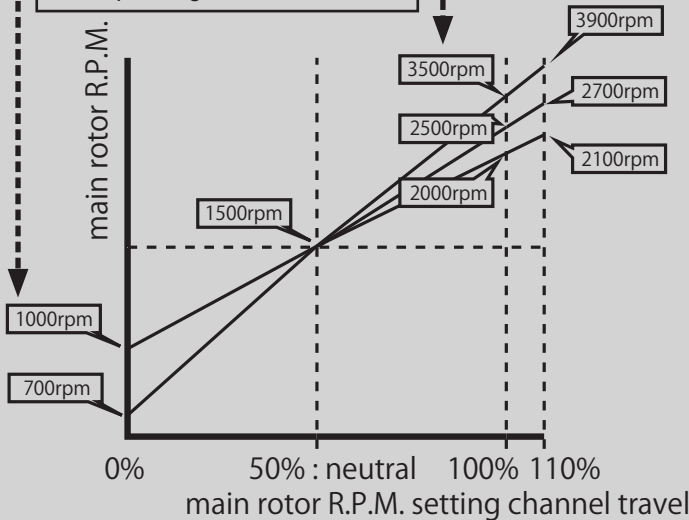
\*There is no change in the transmitter output even when the "MODE" is changed. Calibration should be performed via the governor.

\*In order to use the Governor function of the FMT-03, 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 push 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 push the RTN button to switch to the data input mode.

Adjust the trim rate by scrolling the edit dial.

Initial value: 0% (0rpm)

Adjustment range: -20~+20% (-800~+800rpm)

\*When the RTN button is pushed for one second, the sensitivity is reset to the initial value.)

Push the RTN button to return to the cursor mode.

## COND.HOLD

Condition hold function

This function may be used to fix the maximum speed of the engine so that you may adjust flight conditions when the engine is running. An alarm indicates that the function is operating. It will prevent the engine from increasing when adjusting the idle-up settings.

While this function is active, the throttle servo position is fixed at the point set from when the function is activated. You must deactivate this function when you are through making adjustments.

The system will not allow you to activate/deactivate this function in either of the following states:

- When any of the flight condition switches are on.
- When the throttle stick is higher than the 1/3 point.

### To activate/deactivate condition hold:

#### (Home screen)

1. Move the cursor to [CND HOLD].
2. Set the throttle stick lower than the 1/3 point.
3. Push 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. Push 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.

## SWASH RING

< Linkage Menu >

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.

- Select [SWASH RING] at the linkage menu and call the setup screen shown below by pushing the RTN button.
- Select the function name and return to the preceding screen by pushing the RTN button or pushing the Home/Exit button.
- The operating range display area: The vertical direction shows the elevator travel. The horizontal direction shows the aileron travel.
- The marker shows the stick position.
- When the swash ring function is activated, a circle is displayed in the operating range display area and the rate input box is displayed. Stick operation is limited to within the area of this circle.

### Swash ring setting procedure

\*Perform the following settings after using the edit dial to move the cursor to the item you want to set.

#### 1. Activate the function:

Move the cursor to the [ACT/INH] item and push the RTN button to switch to the data input mode.

Switch the blinking from "INH" to "ACT" by turning the edit dial to the left and then push the RTN button.

#### 2. Rate setting:

Use the edit dial to move the cursor to the [RATE] item push the RTN button to switch to the data input mode.

Use the edit dial to set the rate.

Initial value: 100%.

Adjustment range: 50% to 200%.

\*Adjust the rate to maximum swash tilt.

(When the RTN button is pushed for 1 second, the rate is reset to the initial value.)

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

## SWASH

< Linkage Menu >

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

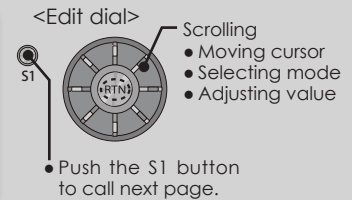
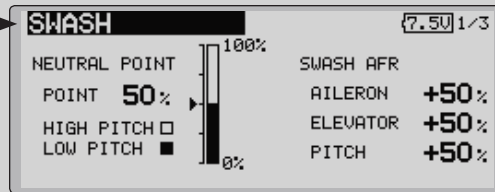
This compensation mixing is used to correct the tendency of the swash-plate for pitch control at low pitch and high pitch.

### 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 pushing the RTN button.

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



- \*Before making the following settings, use the edit dial 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 push 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 edit dial to move the cursor to the function you want to adjust and push the RTN button to switch to the data input mode.
2. Adjust the AFR rate by turning the edit dial to the left or right.

Initial value: +50%

Adjustment range: -100%~+100%

(When the RTN button is pushed for 1 second, the AFR rate is reset to the initial value.)

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

## Mixing rate setting procedure

The HR-3 is taken as an example to describe mixing rate setting. Mixing applied in other swash modes is different, but the setting procedure is the same.

SWASH		(7.50) 2/3	
MIXING RATE			
MIXING	←+↻ ↻+→	MIXING	←+↻ ↻+→
PIT→AIL	100% 100%	AIL→PIT	100% 100%
PIT→ELE	100% 100%	ELE→AIL	50% 50%
		ELE→PIT	50% 50%

\*Set the throttle stick to the preset neutral point. Adjust the length of the linkage rod so that the swash plate is horizontal at this position.

\*The sub trim function can be used to make small adjustments.

\*Adjust so that the pitch curve is a straight line and pitch operation is maximum.

\*When making the following setting, use the edit dial to move the cursor to the item you want to set and push the RTN button to switch to the data input mode. Push the RTN button to end adjustment and return to the cursor move mode.

### 1. Adjustment at aileron operation [AIL to PIT]

Adjust the AIL to PIT rate so there is no interference in the elevator or pitch direction when the aileron stick is moved to the left and right.

\*Adjust by turning the edit dial 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 edit dial 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 edit dial to the left and right.

\*The slow and high sides can be adjusted individually.

## Linkage compensation setting procedure

\*Perform linkage compensation setting after mixing rate setting.

\*Linkage compensation compensates for interference by aileron operation with the elevator or elevator operation with the aileron at collective pitch control for low pitch and high pitch.

SWASH		(8.80) 3/3	
LINKAGE COMPENSATION			
FUNCTION	DIR.	LOW PITCH	
AILERON	+	0%	0%
ELEVATOR	+	0%	0%
SPEED COMPENSATION 0			

\*When making the following setting, use the edit dial to move the cursor to the item you want to set and push the RTN button to switch to the data input mode. Push the RTN button to end adjustment and return to the cursor move mode.

### 1. Compensation at aileron operation [AILERON]

Set the throttle to the maximum slow position. Move the aileron stick to the left and right and adjust the aileron compensation amount so that interference in the elevator or pitch direction at that time is minimum.

\*Adjust the edit dial 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 edit dial to move the cursor to the "SPEED COMPENSATION" item and push 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 edit dial to the left and right.

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

# FMT-03

## Futaba®