

T14MZ Software Update

(Editor Version:1.6.0, Encoder Version:1.44)

The T14MZ transmitter software version has been updated; the following functions have been added or modified. Reread the instruction manual supplied with this set.

PCM-G3+ support

[PCM-G3+] improved version of the current [PCM-G3] is supported.

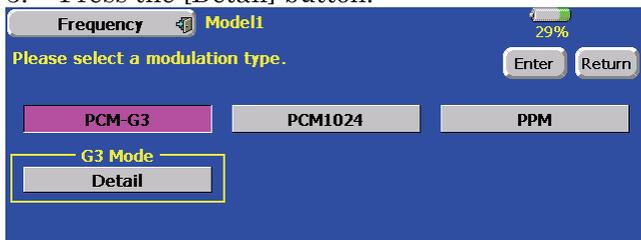
- Communication mode switching function (4L mode, 2L mode)
A 2L mode with greater stability has been added.
 - In the 2L mode, the response is approximately 40% lower than that of the 4L mode.
- Channel mode switching function (14 channel mode, 10 channel mode)
The response is improved approximately 40% over that in the past by switching to the 10 channel mode. (Compared to our PCM-G3)

Setting Method

1. Insert the MZ-FM RF module into the T14MZ, and set the power switch to ON.
2. Press the [Frequency] button of the linkage menu to call the frequency menu.
3. Press the modulation type button to call the modulation type selection screen.

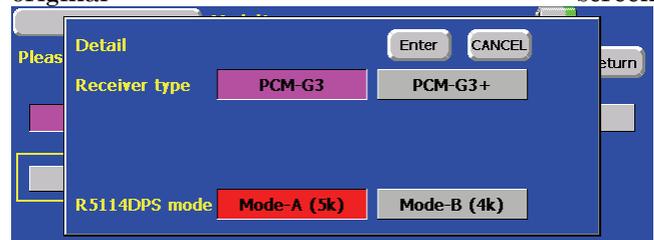


4. Select [Modulation].
5. Press the [Detail] button.

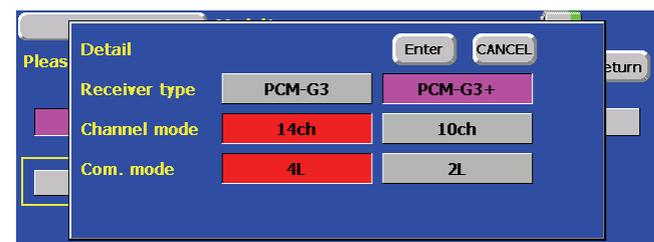


6. The PCM-G3 details setting screen opens. The following items can be set here:
 - Channel mode
 - Communication level
 - Receiver type
 - R5114DPS communication mode

When details setting is performed and the [Enter] button is pressed, the display returns to the original screen. When the [Cancel] button is pressed, the changes are canceled and the display returns to the original screen.



In case of PCM-G3 receiver



In case of PCM-G3+ receiver

Receiver Type Setting

Select the receiver type matched to the type of receiver.

1. Select the receiver type.
 - [PCM-G3]: Current PCM-G3 receiver (R5014DPS, R5114DPS)
 - [PCM-G3+]: PCM-G3+ supported receiver
2. Press the [Enter] button, and change the receiver type. When [Cancel] is pressed, the setting is canceled.

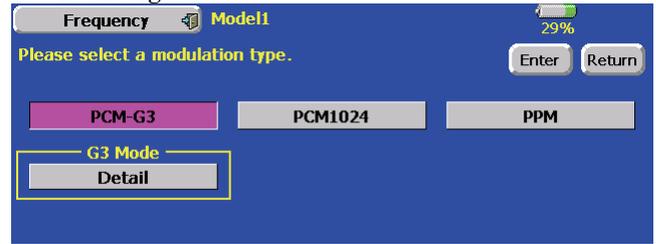
Channel Mode Setting

When a PCM-G3+ receiver is used, the channel mode can be selected.

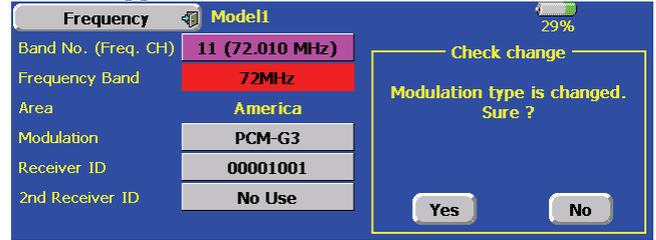
- 14 channel mode
Channels 1~12, DG1, and DG2 operate the same as the current PCM-G3 receiver.
- 10 channel mode
This mode can use channels 1~8, DG1, and DG2 for a total of 10 channels. The number of channels is smaller, but response is approximately 40% better than that of the 14 channel mode.

1. Select the channel mode.
[14ch] : 14 channel mode
[10ch] : 10 channel mode
 The 10 channel mode is 40% faster than the 14 channel mode.
 2. Press the [Enter] button to change the channel mode. When [Cancel] is pressed, the setting is canceled.
- When the receiver type was set to PCM-G3, the channel mode setting button is not displayed.

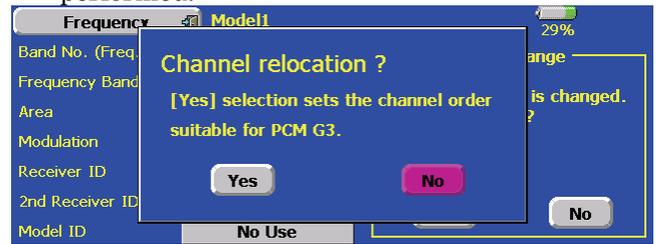
1. When the [Enter] button on the modulation type setting window is pressed, the modulation type is changed.



2. A confirmation message is displayed. When [YES] is pressed, the modulation mode is changed, and when [NO] is pressed, modulation is stopped.



3. A channel relocation confirmation message is displayed. When [YES] is pressed, the channel is changed to the default modulation mode. When [NO] is pressed, channel relocation is not performed.



Communication Mode Setting

When a PCM-G3+ receiver is used, the communication mode can be selected.

- 4L mode
This is the same high-speed mode as the current PCM-G3 receiver.
- 2L mode
This is a communication mode that emphasizes stability. When communication in the 4L mode is unstable, select the 2L mode. The response is approximately 40% lower than that of the 4L mode.

1. Select the communication level mode.
[4L] : 4L mode
[2L] : 2L mode
 2. Press the [Enter] button to change the communication level mode. When [Cancel] is pressed, the setting is canceled.
- Match the communication level changeover switch of the receiver to the transmitter setting.
 - When the receiver type was set to PCM-G3, the channel mode setting button is not displayed.

- When the PCM-G3+ 10 channel mode was selected when the model type was helicopter, the channel functions standard layout is different from that of the 14 channel mode. The 10 channel mode channel location initial values are shown below.

Channel	H-1,H-2,HE3,HR3,HN3,H-3	H4,H-4X
1	Throttle	Throttle
2	Rudder	Rudder
3	Gyro	Gyro
4	Governor	Governor
5	Needle	Aileron
6	Aileron	Elevator
7	Elevator	Pitch
8	Pitch	Elevator 2
VC1	AUX1	AUX1
VC2	AUX1	AUX1
VC3	AUX1	AUX1
VC4	AUX1	AUX1

R5114DPS communication mode setting

This is a R5114DPS only function.

1. Select the R5114DPS communication mode.
[Mode A(5k)] : Communication mode A
 2. [Mode B(4k)] : Communication mode B
 3. Press the [Enter] button to change the communication mode. When [Cancel] is pressed, the setting is canceled.
- When the receiver type was set to PCM-G3+, the R5114DPS communication mode button is not displayed.

Other function additions and modifications

2.4G module check operation

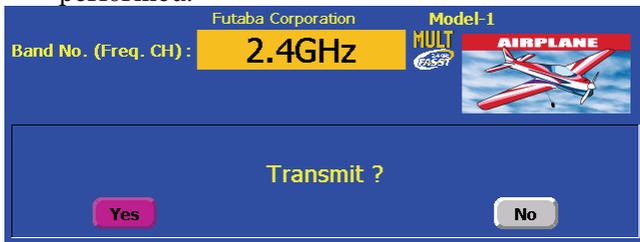
When the TM-14 2.4G module is installed, radio waves are now automatically radiated when the power is turned on.

- When the MZ-FM module is installed, a radio waves confirmation screen is displayed the same as in the past.

Range check function operation procedure

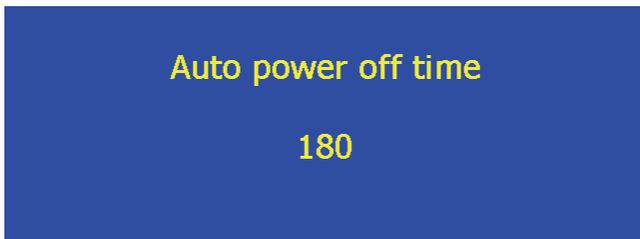
When the TM-14 is installed, start in the state in which the radio waves are stopped by the following procedure because the Range Check function cannot be used while radio waves are being radiated.

- While pressing an arbitrary point on the touch panel, turn on the power switch. A confirmation screen is displayed. Select [NO]. Since radio waves are not radiated, Range Check is performed.



Auto power off alarm

An audible alarm is sounded and an alarm screen is displayed from 3 minutes before auto power off and the time remaining until auto power off is displayed. When a stick or switch is operated while the alarm screen is being displayed, the alarm is cleared and the display is returned to the home screen.

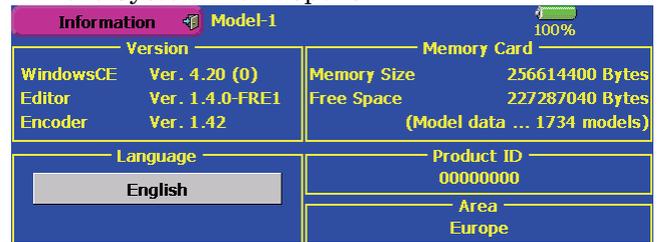


Multi-language support

Dutch, French, Spanish, Czech and Italian displays are supported.

- This function only supports transmitters marketed in Europe.
- The languages which can be selected is different depending on the update software.

- Update to the software containing the language to be used.
- Turn on the power. The Information screen of the System Menu opens.

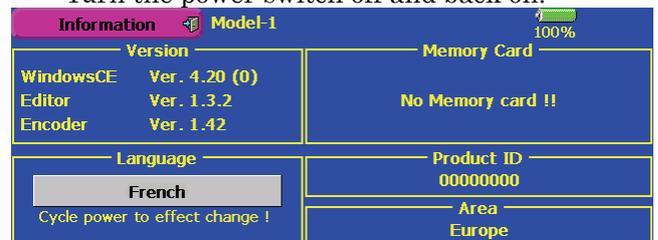


Version display	Corresponding languages
Ver. *.*	English, German
Ver. *.*-DUT1	English, Dutch
Ver. *.*-FRE1	English, French
Ver. *.*-SPA1	English, Spanish
Ver. *.*-CZE1	English, Czech
Ver. *.*-ITA1	English, Italian

- Press the [Language] setting button. The language setting screen opens.



- Select the button of the language you want to use.
- The display returns to the Information screen. Turn the power switch off and back on.



Trainer student channel setting function

Which channel of the signal from the student transmitter is fetched as the student function input signal when “FUNC” or “MIX” is set as the trainer function student’s transmitter mode can be set. This makes trainer connection easy even when the instruction 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.)

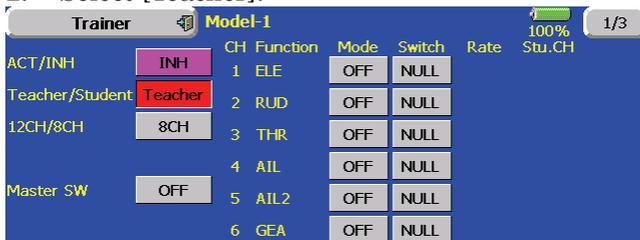
<Example of student CH setting>

Student side		Instructor side	Student CH
CH1	Aileron	Elevator	CH2
CH2	Elevator	Rudder	CH4
CH3	Throttle	Throttle	CH3
CH4	Rudder	Aileron	CH1
CH5	Gear	Aileron 2	--
CH6	Flap	Flap	CH6
CH7	Aileron 2	Gear	CH5
CH8	Aux 5	Aux 5	CH8
CH9	Aux 4	Aux 4	CH9
CH10	Aux 3	Aux 3	CH10
CH11	Aux 2	Aux 2	CH11
CH12	Aux 1	Aux 1	CH12

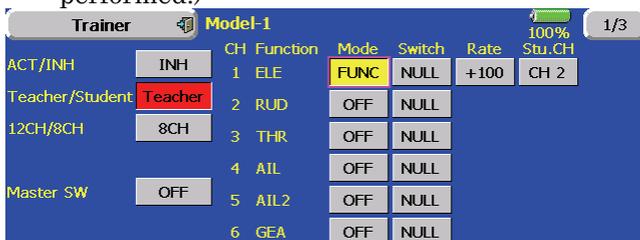
- Open the System Menu trainer screen.



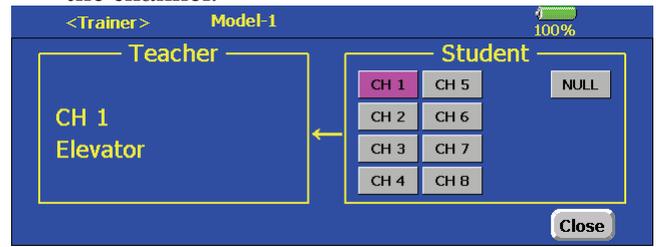
- Select [Teacher].



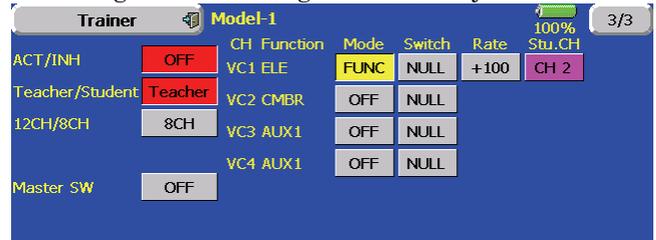
- When [FUNC] or [MIX] is selected as the mode of the channel to be set, the [STUDENT CH] setting button is displayed. (When [NORM] [OFF], [STUDENT CH] setting is not performed.)



- When the [STUDENT CH] button is pressed, the Channel Select screen is displayed. Select the channel.



- Adding the student channel function has made it possible to use mixing of the function assigned to VC by trainer function. (Tailless wing elevator and glider butterfly functions)



Model copy date

When the model data was copied, the model date data is reset to the date the model was copied.

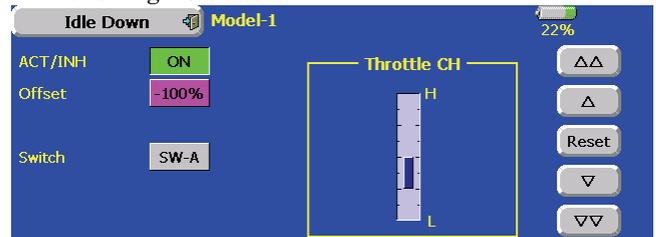
Fail safe initial value

- The throttle channel fail safe initial value has been changed to Hold.
- The throttle channel battery fail safe initial value has been changed to OFF.
- The battery fail safe release switch initial value has been changed to NULL (OFF).

IDLE DOWN

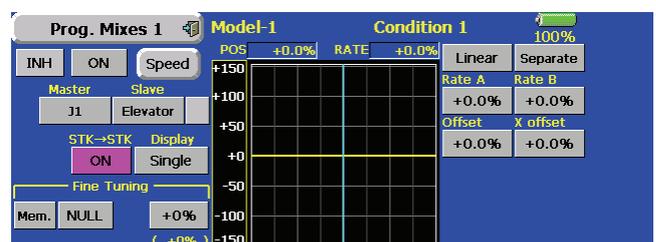
The IDLE DOWN rate input range has been changed from 0~+100% to -100~+100%.

- When a minus rate is input, offset is applied to the High side.



Programmable mixing

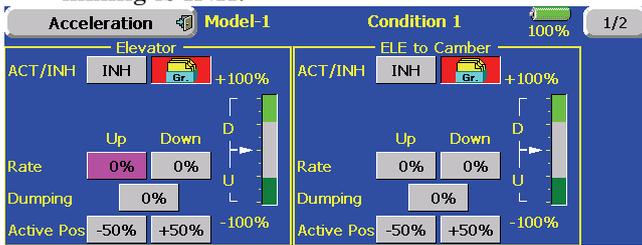
The programmable mixing (in mixing mode) STK to STK mixing function can be used even when the Master is a stick or other hardware.



Acceleration

Acceleration setting can be performed at elevator, ELE to CAMBER and AILERON to RUDDER. (Glider and EP glider only)

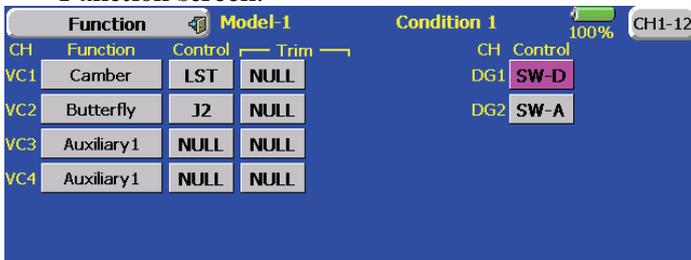
- This setting is divided into elevator setting and camber setting. The setting method is the same.
- Camber setting sets the acceleration function for ELE to CAMBER mixing. Setting is not performed when ELE to CAMBER mixing is INH.
- The acceleration function can be set for both the UP side and DOWN side.
- Function ON/OFF switch setting is performed for AILERON to RUDDER setting only.
- AILERON to RUDDER setting is acceleration function setting for aileron to rudder mixing. It is not performed when AILERON to RUDDER mixing is INH.



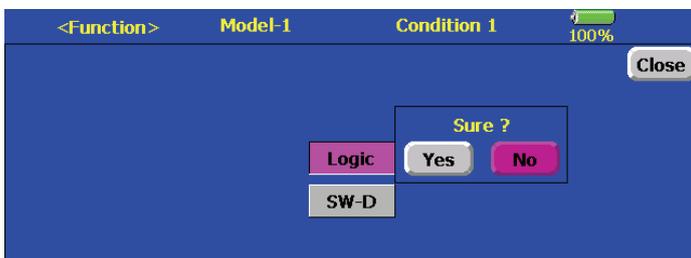
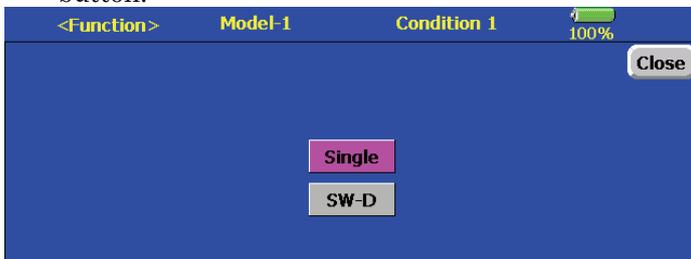
Switch channel

Logic switches can be assigned to DG1 and DG2.

- The number of logic switches which can be set in combination with the condition switch is 10.
 - Alternate setting is also possible at logic switch setting.
1. Select operation switch DG1 or DG2 on the Function screen.



2. The logic switches can be assigned by changing the mode to "Logic" by pressing the "Single" button.

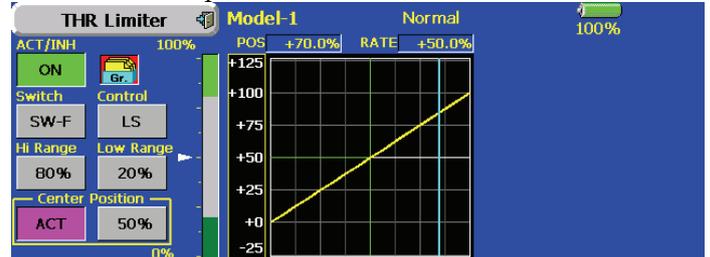


Throttle Limiter

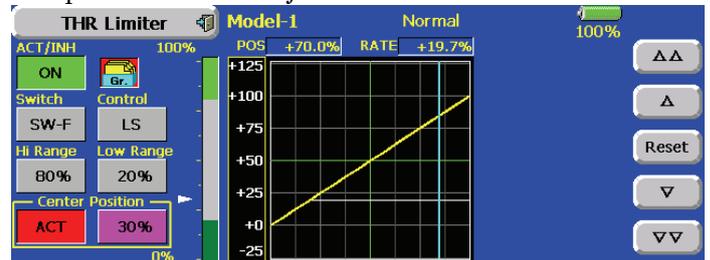
Throttle limiter limit value

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

1. Set "Center position" on the throttle limiter screen to Operate.



2. When the "Center position" rate is changed, the limit value at the operation hardware neutral position can be adjusted.

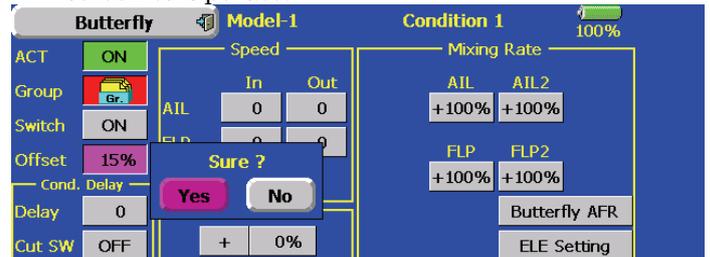


- The limit value at the operation hardware neutral position when "Center position" was changed to INH (at conventional operation) is the center value between "High side range" and "Low side range".
- When "Center position" was switched from INH to Operate, the "Center position" rate is reset to the center value between "High side range" and "Low side range".
- The "Center position" rate can be set between "High side range" and "Low side range".

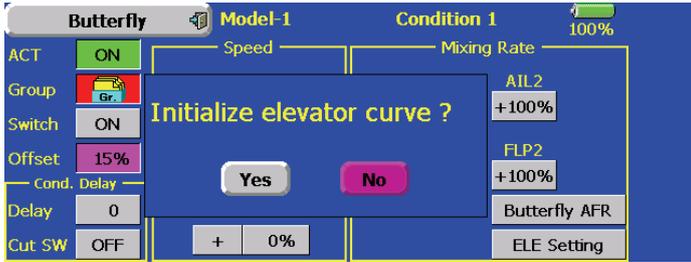
Butterfly offset setting

A function which automatically initializes the elevator setting curve when butterfly offset setting was performed has been added.

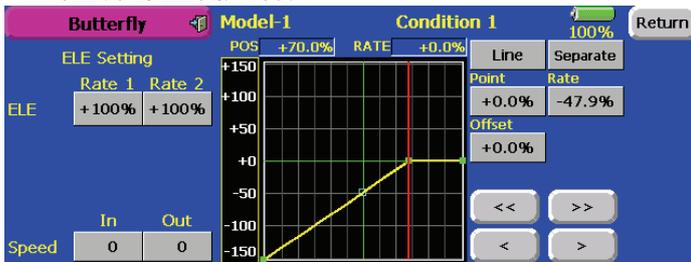
1. Set "Center position" on the throttle limiter screen to Operate.



- When YES is selected when “Initialize elevator curve?” was displayed, the elevator setting curve is initialized.



- When the ELE setting screen is opened, the curve is initialized.



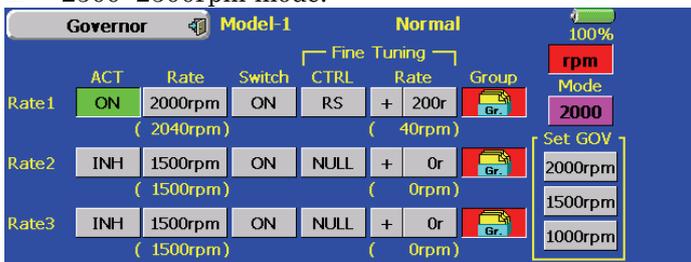
- When NO was selected at step 2, the ELE setting curve is not initialized.

Governor

Speed display mode

The governor rate speed display mode can now be selected.

- When the “Mode” button on the Governor screen is pressed, the display mode is switched.
 - 2000: 2000rpm mode
 - 2500: 2500rpm mode.



- The 2500rpm mode and 2000rpm mode are different when the rate is 50.0% (=2500rpm) or greater. At rates below 50.0%, the rpm display is the same for both modes.
- When the 2500rpm mode is set, 100.0%=2500rpm. The maximum value is 110.0%=2700rpm.
- When the 2000rpm mode is set, 100.0%=200rpm. The maximum value is 110.0%=2100rpm. (Conventional specifications)
- There is no change in the transmitter output even when the 2500rpm mode and 2000rpm mode are switched. Calibration must be performed at the governor side.

End point initialization

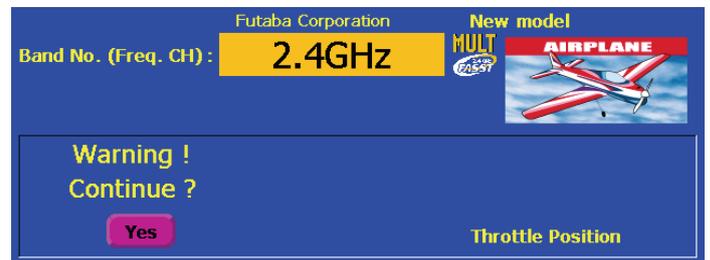
The governor output channel end point (ATV) “travel” and “limit” are now initialized when the governor setting “Operate” button was pressed.

- When switched from INH to ON or OFF, “travel” is initialized to 100 and “limit” is initialized to 155.
- When “Operate” of rates 1, 2 and 3 is switched to INH under all conditions, “travel” is initialized to 100 and “limit” is initialized to 135.

Warning display

Throttle stick position warning

A warning is displayed when the throttle stick is at the high side (1/3 or more the same as THR cut operation) at power ON. (Airplane/helicopter only)



- When the throttle stick is returned to the low side, the warning display goes off.

Warning display ON/OFF setting

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.

- “Warning” of the Linkage menu opens.



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

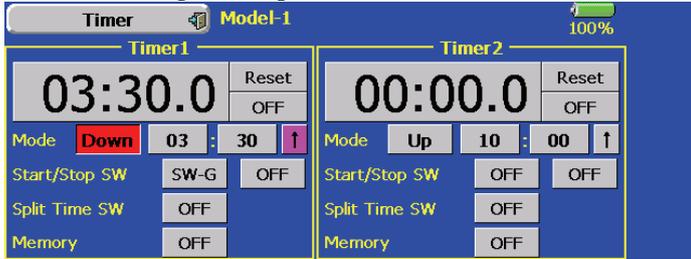


Timer

Alarm mode

A mode which sounds an alarm every minute during the remaining time up to the timer alarm time has been added.

1. Open the Timer screen.
2. Change the setting by pressing **↑** or **↓** button.
 - **↑**: An alarm sounds every minute of the elapsed time from timer start. (Conventional mode)
 - **↓**: An alarm sounds every minute of the remaining time up to the alarm time.

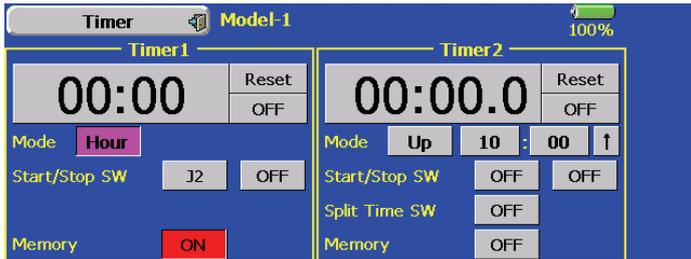


HOURL mode

An HOUR mode which counts up to 99 hours 50 minutes has been added to the timer modes.

- This mode is convenient when used at engine maintenance period and other long-term measurements.
- When the HOUR mode is set, “xx (hour) : xx (minute)” is displayed on the count time display. Seconds are not displayed.
- When the HOUR mode is set, “:” blinks each second during timer operation.
- When the HOUR mode is set, the alarm function/lap time measurement function are inhibited.

1. Open the Timer screen.
2. Set MODE of the Timer screen to HOUR.

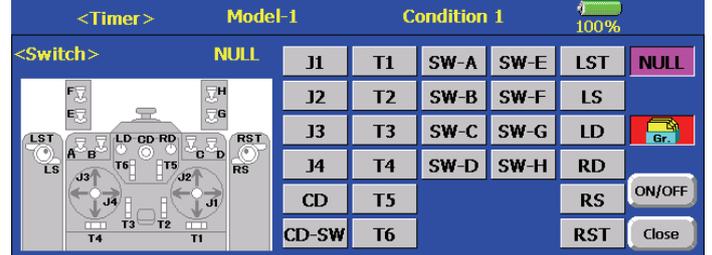


Switch setting

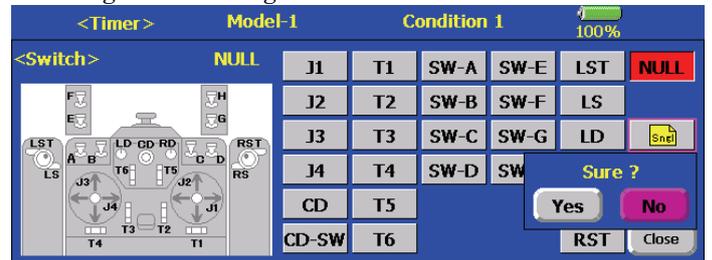
The timer switches can now be set for each condition.

- Group setting is performed at all the switches (start/stop/reset/lap).
- The default setting is Group.

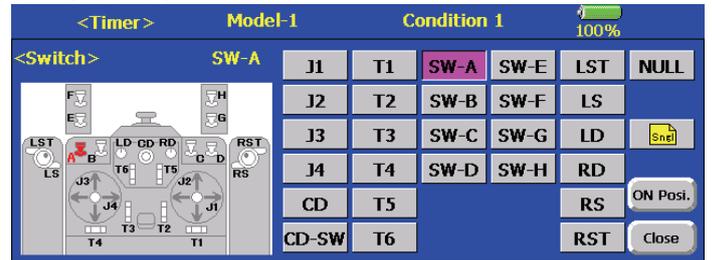
1. Open the Timer screen.



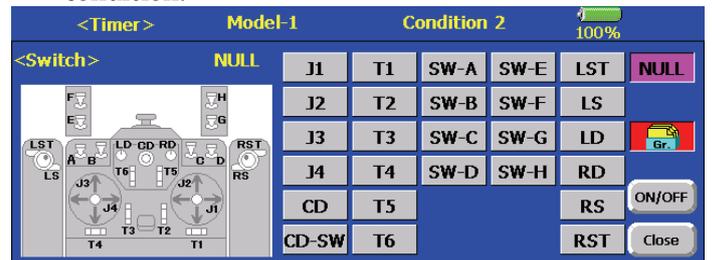
2. Set the group setting button of the condition you want to set the switches individually to the single mode “Sngl”.



3. Set the switches.



4. Switch the condition and set the switch of each condition.



CAUTION

 To support new features model memories must be updated to version 1.2.0. Once the 1.2.0 update is installed into your transmitter, the model memory update will automatically occur when you select the model the first time. After this update has been performed the model memory will no longer be compatible with software versions prior to 1.2.0.

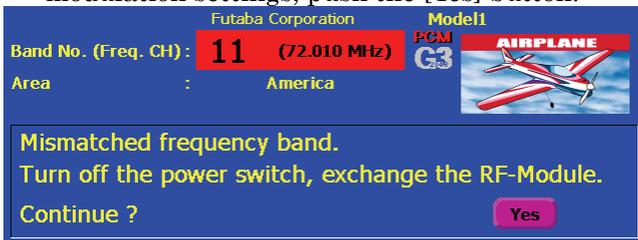
Changing the RF Modulation

The T14MZ transmitter is compatible with Futaba's TM-14 Module FASST 2.4GHz system.

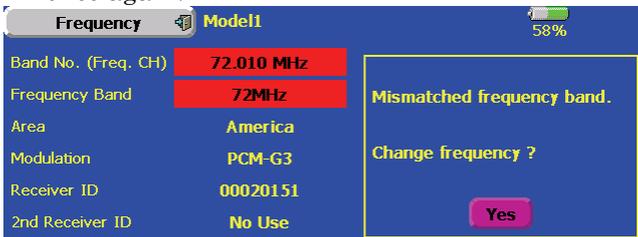
- When switching from the existing MZ-FM module to the TM-14, the TM-14 to the MZ-FM module, or similar situation, it is necessary to reset the band accordingly.
- When using the TM-14 and Futaba FASST receiver, it is necessary to link the transmitter module to the respective receiver prior to using them for the first time. This process will only be necessary the first time that these items are used. The unique identification code will be stored in the receiver.
- When using the TM-14 FASST system, the DSC function has been disabled as it is unnecessary. Futaba's FASST system will prevent any RF interference issues which might have arisen in the previous RF modulation.
- The multiprop function cannot be used.

How to Set the Band

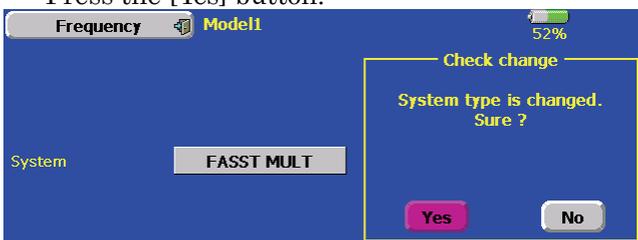
1. With the transmitter's power OFF, remove the existing RF module and replace it with the TM-14 module.
2. Turn ON the transmitter's power switch. Since the RF module was replaced by an RF module that varies from the previous settings, an on-screen warning is displayed. To change the modulation settings, push the [Yes] button.



3. In the linkage menu, select the frequency setting [Frequency]. A message confirming the band change is displayed. Press the [Yes] button once again.



4. A channel mode selection screen is displayed. Press the [Yes] button.



5. A function channel relocation confirmation screen is displayed. When the [YES] button is pressed, the function channel assignment changes to the optimum setting in the FASST system. When the [NO] button is pressed, the setting does not change.

 After the channels have been relocated you must verify that the receiver connections are correct and verify that all of the settings within the transmitter are correct before flying.

- In the FASST system, the optimum channel assignment and optimum setting in the conventional modulation mode are different.



6. The band setting changes accordingly to reflect the selection of the 2.4GHz band. The display will return to the frequency confirmation screen.



Range Check Mode Operation

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

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

⚠ WARNING

- ⊘ Do not fly in the range check mode.
- Since the range of the radio waves is short, if the model is too far from the transmitter, control will be lost and the model will crash.

1. Turn ON the transmitter's power switch. Select [No] on the frequency confirmation screen.

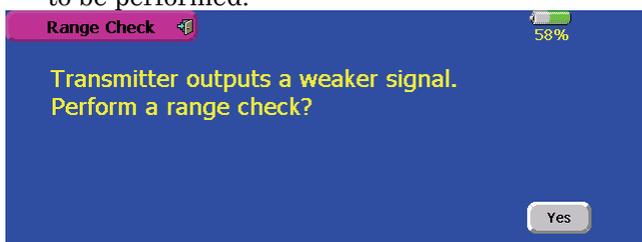


- For safety, the RANGE CHECK mode can not be selected while the RF transmission is active.

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

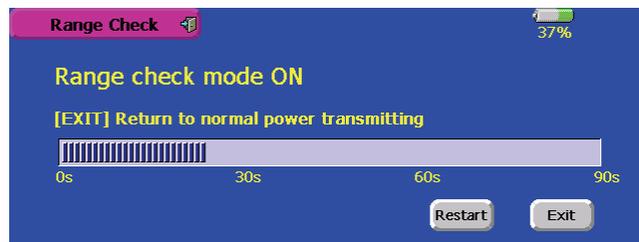


3. The Range Check screen is displayed. To activate the Range Check mode press the [Yes] button. During the Range Check period, the RF power is reduced to allow the ground range tests to be performed.



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

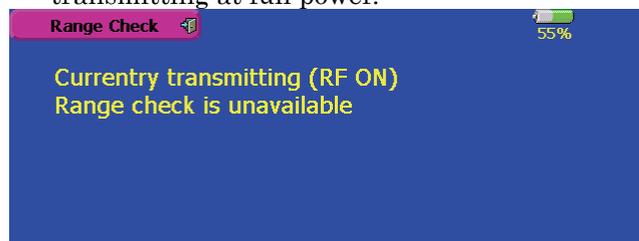
 - When the [RESTART] button is pressed, the range check mode timer is returned to 0.



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

- Once the 14MZ is transmitting at full power, it is not possible to enter the Range Check mode without first switching the transmitter Off and back On. This has been designed to prevent a modeler from inadvertently flying in the Range Check mode.

5. When the [Exit] button is pressed, the Range Check mode is disabled and the 14MZ will begin transmitting at full power.



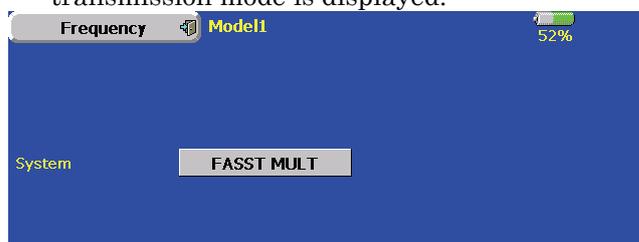
- After exiting the Range Check mode, the function cannot be selected again. To select the Range Check mode again you must cycle the transmitter power switch.

Channel Mode Selection

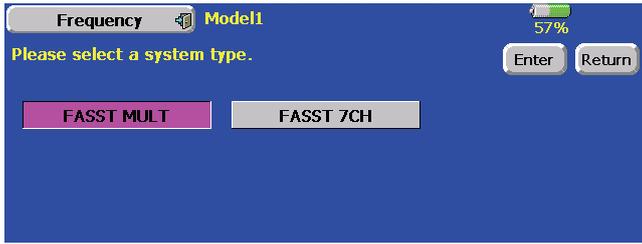
When using the TM-14 RF module with the T14MZ, there are two modes of operation available: multi-channel mode (as utilized in conjunction with the R6014FS receiver) and 7-channel mode (used for receivers such as the R617FS). It is important to set the channel mode selection to match the receiver being utilized in the model. Please refer to the chart below as a reference guide.

Transmitter		Receiver		
		R606FS R616FFM	R607FS R617FS	R608FS R6014FS
TM-14 Module	Multi-ch mode	—	—	Compatible
	7ch mode	Compatible	Compatible	—

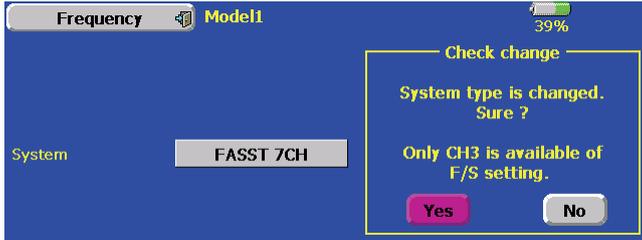
1. Access the frequency setting 'Frequency' in the linkage menu. The currently selected transmission mode is displayed.



- To change the mode selection, press the transmission mode button.
- Transmission mode buttons are displayed. Press the new transmission mode button.
[FASST MULT] : Multi channel mode
[FASST 7CH] : 7 channels mode



- Press the [Enter] button. The display will return to the confirmation screen.



- A channel relocation dialog will appear. If you wish to relocate the channel assignments, press the [Yes] button. If not, select [No]. The channel assignments will not be modified.



(Information pertaining to the 7 channel mode)
When the 7 channel mode is selected, the following conditions are applicable:

- While the setting items of channels 8 and above may appear in the various menu options (e.g., sub trims, servo reverse, etc.), the only settings which are applicable are those of channels 1-7.
- When using the 7 channel mode, fail safe is only available for channel three (throttle). If/when the fail safe for channel three has been activated, the battery fail safe is also active. Unlike the multi channel mode, the fail safe and the battery fail safe can not be set independently.

Channel Assignment

Servo connection

Below is a reference chart which has been created to obtain the optimum performance from the FASST system in conjunction with the channel mode and various swash types.

It is important to note and adhere to this reference information in order to achieve the maximum performance from the model.

As such, please connect the servos to the corresponding channels in the chart below.

CH	Multi channel mode		7 channels mode	
	Except H-4, H4X	H-4,H4X	Except H-4, H4X	H-4,H4X
1	Aileron	Aileron	Aileron	Aileron
2	Elevator	Elevator	Elevator	Elevator
3	Pitch	Pitch	Throttle	Throttle
4	Rudder	Elevator2	Pitch	Pitch
5	Gyro	Rudder	Gyro	Gyro
6	Throttle	Throttle	Rudder	Rudder
7	Governor	Gyro	Governor	Elevator2
8	Governor2	Governor	AUX5	AUX5
9	Needle	Governor2	AUX4	AUX4
10	AUX3	Needle	AUX3	AUX3
11	AUX2	AUX2	AUX2	AUX2
12	AUX1	AUX1	AUX1	AUX1
VC1	AUX1	AUX1	AUX1	AUX1
VC2	AUX1	AUX1	AUX1	AUX1
VC3	AUX1	AUX1	AUX1	AUX1
VC4	AUX1	AUX1	AUX1	AUX1

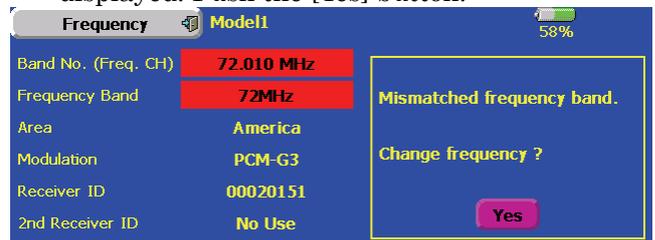
- It is important to note that these settings differ from that used in the previous G3 receivers. Utilizing the channel assignments from the G3 receivers will not allow you to obtain the ideal performance from your model.
- Please note that the settings in the chart above are the default settings. As such, when the data is reset, the channel assignments above will be utilized.

Automatic channel assignment

When using the TM-14 RF module, the T14MZ channel assignment function allows the automatic relocation of the channels (servo system) to maximize performance of the FASST system.

(Example) Change from the MZ-FM module to the TM-14 module

- Replace the RF module of the T14MZ with the TM-14.
- Turn on the transmitter.
- Select Linkage menu.
- Select 'Frequency' menu.
- A band change confirmation message is displayed. Push the [Yes] button.



- A channel relocation dialog will appear. If you wish to relocate the channel assignments, press the [Yes] button. If not, select [No]. The channel assignments will not be modified.



7. Band setting changes to 2.4GHz.



8. The channel assignment is changed to suitable assignment of FASST.
9. After the channels have been relocated you must verify that the receiver connections are correct and verify that all of the settings within the transmitter are correct before flying.

Range Check the Radio

It is extremely important to range check your models prior to each flying session. This enables you to ensure that everything is functioning as it should and to obtain maximum enjoyment from your time flying. The TM-14 transmitter module incorporates a system that reduces its power output and allows you to perform such a range check.

1. Turn on the transmitter and activate the 'RANGE CHECK' mode through the transmitter's System menu. Please note: if the RF is activated, the 'RANGE CHECK' mode will not be available to utilize. As such, do NOT activate the RF when the transmitter is turned ON.
2. The LEDs on the rear of the TM-14 module will indicate that a radio frequency link has been established between the transmitter and receiver. This is noted by a solid green LED and a blinking red LED on the TM-14 module. The solid green LED indicates that the radio frequency link has been established. As indicated by the blinking red LED, the radio frequency power has been reduced to allow for the range check.
 Note: the transmitter will remain in the RANGE CHECK mode for a maximum of 90 (ninety) seconds. This time limit has been established to ensure that the modeler not inadvertently forget to return to the standard power output when flying his/her model.
3. Walk away from the model while simultaneously operating the controls. Have an assistant stand by the model to confirm that all controls are completely and correctly operational. You should be able to walk approximately 30-50 paces from the model without losing control.

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

Antenna of TM-14

1. As with all radio frequency transmissions, the strongest area of signal transmission is from the sides of the TM-14 transmitter module's antenna. As such, the antenna should not be pointed directly at the model. If your flying style creates this situation, please pivot the antenna to correct this situation.
2. Please do not grasp the transmitter's antenna during flight. Doing so may degrade the quality of the RF transmission to the model

TM-14 LED indication

- When the transmitter is powered up, the LEDs on the rear of the module will begin to glow or blink accordingly. The chart below provides you with an easy reference as to the meaning of the LEDs.

LED Indication

Green	Red	Status
Solid	Solid	Initializing
Blink	Off	RF is off
Alternate Blink		Check nearby RF condition
Solid	Off	RF power on
Solid	Blink	RF power on (Power reduced to perform the range check function)

R6014FS LED Indication

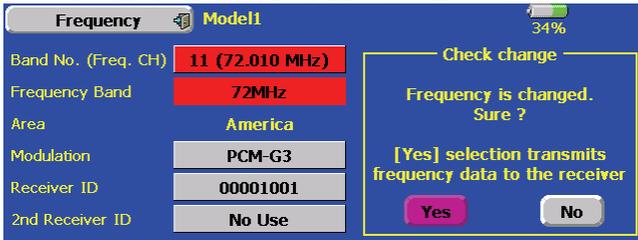
Green	Red	Status
Off	Solid	No signal received
Solid	Off	Signal received, normal operation
Blink	Off	Receiver is receiving signals but the ID is unmatched
Alternate Blink		Unrecoverable error (EEPROM, etc.)

Other modifications

Frequency setting

The frequency, modulation and receiver ID can be set at same time from this version. It is not necessary to return to the frequency setting screen for each setting.

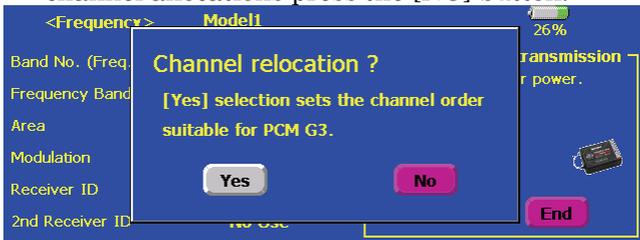
1. Change the frequency, the modulation mode or the receiver ID using [Frequency] function of the Linkage Menu.
2. A confirmation screen is displayed.
3. If you want to change other setting, press the frequency channel button, the modulation type button or the receiver ID button.



Automatic channel assignment

The 14MZ will automatically relocate channel assignments as necessary to achieve the highest performance. This automatic channel relocation will occur when you change the modulation type. To minimize latencies and obtain the highest performance you should allow the transmitter to automatically relocate the channels when requested. Once the channels have been relocated it will be necessary to verify that the servos are plugged into the proper channels on the receiver.

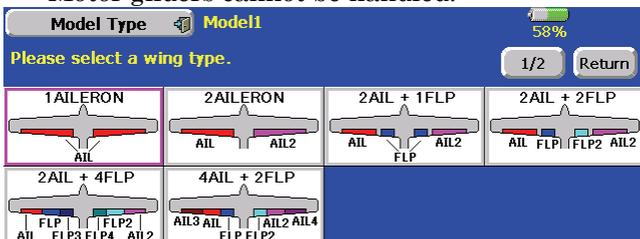
1. Change the modulation mode using the [Frequency] function of the Linkage Menu.
2. A channel relocation confirmation screen is displayed. To change the channel allocation, press the [YES] button. To maintain the current channel allocations press the [NO] button.



Model type

2 ailerons + 4 flaps and 4 ailerons + 2 flaps have been added to the glider model types which can be selected in the PCM1024 mode.

- Motor gliders cannot be handled.



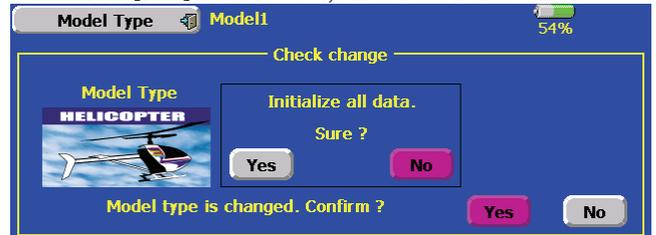
Data initialization after swash type switching

In the past when the swash type was changed, all of the model data had to be initialized. Starting with version 1.3.0 it is possible to change the swash type and the software will automatically transfer the settings. There are a few swash type conversions that are not possible, please see the table below for more information.

- If the swash type data can be retained the transmitter will prompt with "Initialize all data, Sure?" Answer [No] if you would like to retain the swash settings answer. Answer [Yes] if you would like the data initialized then answer.
- The software will not show the "Initialize all data, Sure?" prompt and all of the swash settings will be initialized if the data can not be retained.

Before modification	After modification	Continuation
H-1,H-2,HE3,HR3,HN3,H-3	H-1,H-2,HE3,HR3,HN3,H-3	Possible
H-4,H-4X	H-4,H-4X	Possible
H-1,H-2,HE3,HR3,HN3,H-3	H-4,H-4X	Impossible
H-4,H-4X	H-1,H-2,HE3,HR3,HN3,H-3	Impossible

1. When the swash type is changed, and if the data can be retained, a data initialization confirmation screen is displayed. When the [YES] button is pressed, the data is initialized. When [NO] is selected, the data is retained.

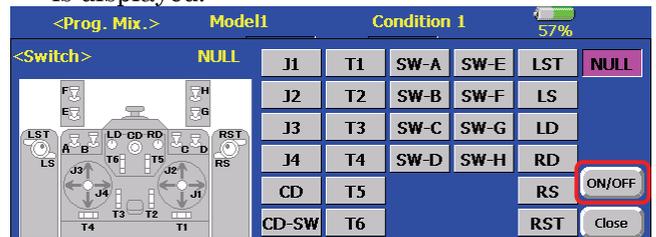


- Verify that all of the settings are correct before operating your model.

Mixing switch NULL-ON/OFF setting

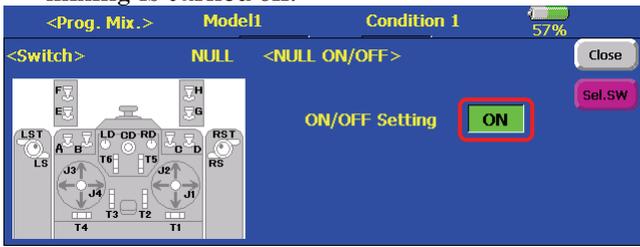
When the switch type "NULL" is selected, you can toggle the On/Off option manually.

1. Open the mixing switch selection screen. When the switch is set to NULL, an [ON/OFF] button is displayed.



2. When the [ON/OFF] button is pressed, an ON/OFF SETUP screen is displayed. When

[ON/OFF SETUP] is set to ON, mixing is always on and when [ON/OFF SETUP] is set to OFF, mixing is turned off.



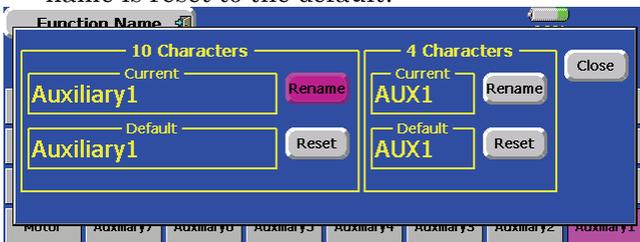
Function name

The function name can be changed for the full name (10 characters) or for the abbreviated name (4 characters).

1. Select [Function Name] in the Linkage Menu.
2. The FUNCTION NAME setup screen is displayed.



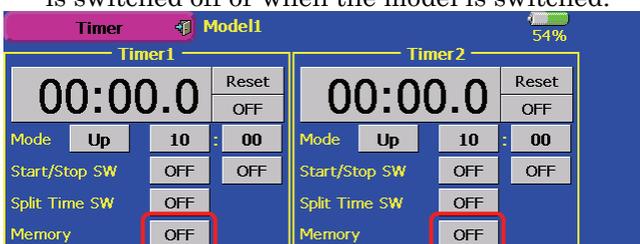
3. Select the function to be renamed and press the [Rename] button. A character input screen is displayed. Type in the new function name and press [Enter] to store the new function name, or press [Esc] to cancel.
4. When the [Reset] button is pressed, the function name is reset to the default.



Timer

A timer can now be set to maintain its value even when the power is turned off or the model is switched.

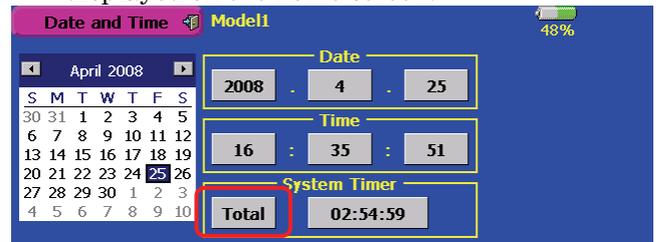
1. When the timer type is set to [Memory] on the System→Date Time function screen the cumulative model time will be shown instead of the cumulative system on time. If the [Memory] option is selected for a timer then the timer value is maintained when the transmitter power is switched off or when the model is switched.



Cumulative Model Timer

A cumulative model timer has been added to this version of the software. To show this timer on the home screen please follow the instructions below. The Cumulative Model Timer and System Timer values are maintained even if they are not displayed on the home Screen.

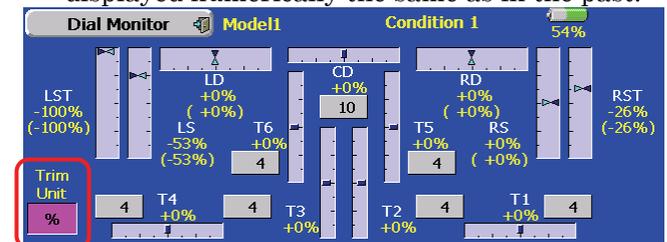
1. Open [Date and Time] of the System Menu.
2. When the system timer mode is set to [Total] the conventional system operation time displayed on the home screen. When the mode is set to [Model] the cumulative model on time is displayed on the home screen.



Trim display units

Percentage (%) display can be selected at trim.

1. Open [Dial Monitor] of the Linkage Menu. When “Trim Units” is set to [%], trim is displayed in %. When “Trim Units” is set to “Step”, trim is displayed numerically the same as in the past.



AFR, D/R

The following functions cannot be selected at AFR and D/R because they are not effective.

- Ailerons 2,3,4
- Flaps 2,4
- Rudder 2
- Throttle (helicopter only)
- Pitch
- Camber
- Gyro 1,2,3
- Governor 1,2
- Mixture
- Multiprop

Model selection

The model data display order can be specified. The following 3 modes can be selected:

- Name order mode (Model data is displayed in model name dictionary order. The system does not distinguish between uppercase and lowercase characters.)
- Date order mode (The data is displayed from the model data generated last.)
- Manual mode (The model data can be freely displayed in any order.)

1. Open [Model Type] of the Linkage Menu.
2. When the [Sort] button is pressed, the model data display order can be changed.



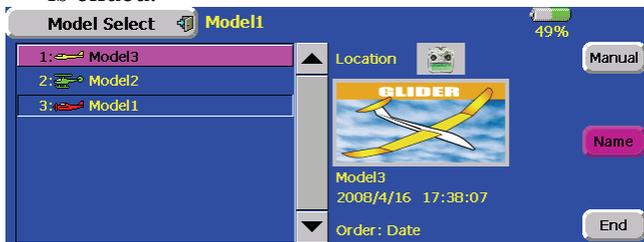
■ Name order mode

1. When the [Manual] button is pressed, the display is switched to the manual mode and when the [Date] button is pressed, the display is switched to the date order mode.
2. When the [Exit] button is pressed, mode change is ended.



■ Date order mode

1. When the [Manual] button is pressed, the display is switched to the manual mode and when the [Name] button is pressed, the display is switched to the name order mode.
2. When the [Exit] button is pressed, mode change is ended.

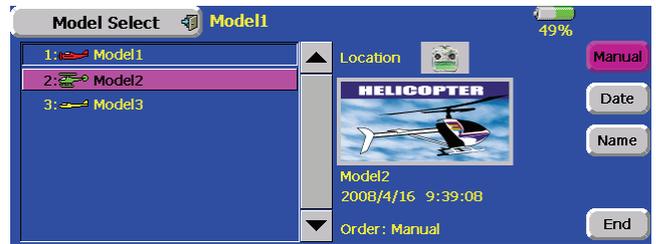


■ Manual mode

1. Select the mode whose display order is to be changed.
2. When the [▲] button is pressed, the selected model is moved up and when the [▼] button is pressed, the selected model is moved down.



3. When the [Auto] button is pressed, the [Name] and [Date] button is displayed. When the [Date] button is pressed, the display is switched to the date order mode, and when the [Name] button is pressed, the display is switched to the name order mode.



Volume modification

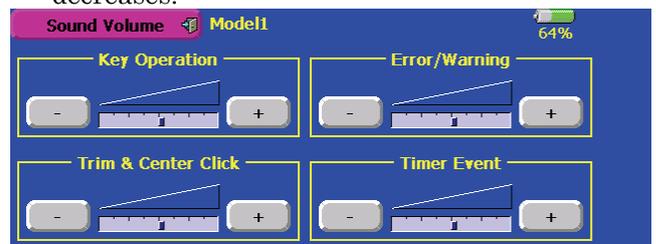
The volume can be set according to the type of sound.

The types of sound which can be selected are:

- Key operation sound
- Error/Warning sound
- Trim and center click sound
- Timer event sound

■ The volume of the Music Player can be set from the Music Player screen the same as in the past.

1. Select the [Sound Volume] button in the System Menu.
2. A sound volume setup screen opens. When the [+] button is pressed, the volume increases and when the [-] button is pressed, the volume decreases.

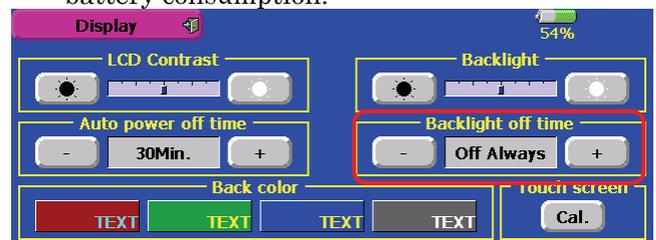


■ For safety, the Error/Warning sound cannot be set below a certain volume.

Backlighting OFF time setting

Backlighting can be permanently turned off without regard to operation.

1. Open [Screen Setup] of the System Menu.
2. When "Backlighting OFF Time" is set to [Always Off], backlighting is not turned on by touch panel, rotary key, or direct keys operation. This is effective when you want to suppress battery consumption.



Direct keys

When [Return] is assigned to the direct keys, the display is returned to the previous screen.

Stick setting

The adjustable range of the stick response is reduced to 1-16.

Function channel initialization

PCM1024 mode and PPM mode function channel setting was changed as shown below.

- If you want to see the function channel setting in other modulation modes, please see the manual.

■ Normal and V-tail

CH	1Aileron			2Aileron			2Aileron + 1Flap		
	Airplane	EP Glider	Glider	Airplane	EP Glider	Glider	Airplane	EP Glider	Glider
1	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron
2	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator
3	Throttle	Motor	AUX1	Throttle	Motor	AUX1	Throttle	Motor	AUX7
4	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder
5	Gear	AUX7	AUX7	Gear	AUX7	AUX7	Gear	AUX6	AUX6
6	Airbrake	Airbrake	Airbrake	Aileron2	Aileron2	Aileron2	Flap	Flap	Flap
7	AUX6	AUX6	AUX6	AUX6	AUX6	AUX6	Aileron2	Aileron2	Aileron2
8	AUX5	AUX5	AUX5	AUX5	AUX5	AUX5	AUX5	AUX5	AUX5
VC1	AUX1	AUX1	AUX1	Camber	Camber	Camber	Camber	Camber	Camber
VC2	AUX1	AUX1	AUX1	AUX1	Butterfly	Butterfly	AUX1	Butterfly	Butterfly
VC3	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1
VC4	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1

CH	2Aileron + 2Flap			2Aileron + 4Flap	4Aileron + 2Flap
	Airplane	EP Glider	Glider	Glider	Glider
1	Aileron	Aileron	Aileron	Aileron	Aileron
2	Elevator	Elevator	Elevator	Elevator	Elevator
3	Throttle	Motor	AUX6	Rudder	Rudder
4	Rudder	Rudder	Rudder	Aileron2	Aileron2
5	Gear	AUX5	AUX5	Flap	Aileron3
6	Aileron2	Aileron2	Aileron2	Flap2	Aileron4
7	Flap	Flap	Flap	Flap3	Flap
8	Flap2	Flap2	Flap2	Flap4	Flap2
VC1	Camber	Camber	Camber	Camber	Camber
VC2	AUX1	Butterfly	Butterfly	Butterfly	Butterfly
VC3	AUX1	AUX1	AUX1	AUX1	AUX1
VC4	AUX1	AUX1	AUX1	AUX1	AUX1

■ Flying wing

CH	2Aileron			2Aileron + 1Flap		
	Airplane	EP Glider	Glider	Airplane	EP Glider	Glider
1	Aileron	Aileron	Aileron	Aileron	Aileron	Aileron
2	Rudder2	Rudder2	Rudder2	Rudder2	Rudder2	Rudder2
3	Throttle	Motor	AUX1	Throttle	Motor	AUX7
4	Rudder	Rudder	Rudder	Rudder	Rudder	Rudder
5	Gear	AUX7	AUX7	Gear	AUX6	AUX6
6	Aileron2	Aileron2	Aileron2	Flap	Flap	Flap
7	AUX6	AUX6	AUX6	Aileron2	Aileron2	Aileron2
8	AUX5	AUX5	AUX5	AUX5	AUX5	AUX5
VC1	Elevator	Elevator	Elevator	Elevator	Elevator	Elevator
VC2	Camber	Camber	Camber	Camber	Camber	Camber
VC3	AUX1	AUX1	AUX1	AUX1	Butterfly	Butterfly
VC4	AUX1	AUX1	AUX1	AUX1	AUX1	AUX1

CH	2Aileron + 2Flap			2Aileron + 4Flap	4Aileron + 2Flap
	Airplane	EP Glider	Glider	Glider	Glider
1	Aileron	Aileron	Aileron	Aileron	Aileron
2	Rudder2	Rudder2	Rudder2	Aileron2	Aileron2
3	Throttle	Motor	AUX7	Rudder	Aileron3
4	Rudder	Rudder	Rudder	Rudder2	Aileron4
5	Gear	AUX6	AUX6	Flap	Rudder
6	Flap	Flap	Flap	Flap2	Rudder2
7	Aileron2	Aileron2	Aileron2	Flap3	Flap
8	Flap2	Flap2	Flap2	Flap4	Flap2
VC1	Elevator	Elevator	Elevator	Elevator	Elevator
VC2	Camber	Camber	Camber	Camber	Camber
VC3	AUX1	Butterfly	Butterfly	Butterfly	Butterfly
VC4	AUX1	AUX1	AUX1	AUX1	AUX1

■ Ailevator

CH	1Aileron			2Aileron			2Aileron + 1Flap		
	Airplane	EP Glider	Glider	Airplane	EP Glider	Glider	Airplane	EP Glider	Glider
1	Aileron	Aileron	Aileron						
2	Elevator	Elevator	Elevator						
3	Throttle	Motor	AUX1	Throttle	Motor	AUX1	Throttle	Motor	AUX7
4	Rudder	Rudder	Rudder						
5	Gear	AUX7	AUX7	Gear	AUX7	AUX7	Gear	AUX6	AUX6
6	Airbrake	Airbrake	Airbrake	Aileron2	Aileron2	Aileron2	Flap	Flap	Flap
7	Elevator2	Elevator2	Elevator2	Elevator2	Elevator2	Elevator2	Aileron2	Aileron2	Aileron2
8	AUX5	AUX5	AUX5	AUX5	AUX5	AUX5	Elevator2	Elevator2	Elevator2
VC1	AUX1	AUX1	AUX1	Camber	Camber	Camber	Camber	Camber	Camber
VC2	AUX1	AUX1	AUX1	AUX1	Butterfly	Butterfly	AUX1	Butterfly	Butterfly
VC3	AUX1	AUX1	AUX1						
VC4	AUX1	AUX1	AUX1						

CH	2Aileron + 2Flap		
	Airplane	EP Glider	Glider
1	Aileron	Aileron	Aileron
2	Elevator	Elevator	Elevator
3	Throttle	Motor	AUX6
4	Rudder	Rudder	Rudder
5	Elevator2	Elevator2	Elevator2
6	Aileron2	Aileron2	Aileron2
7	Flap	Flap	Flap
8	Flap2	Flap2	Flap2
VC1	Camber	Camber	Camber
VC2	AUX1	Butterfly	Butterfly
VC3	AUX1	AUX1	AUX1
VC4	AUX1	AUX1	AUX1

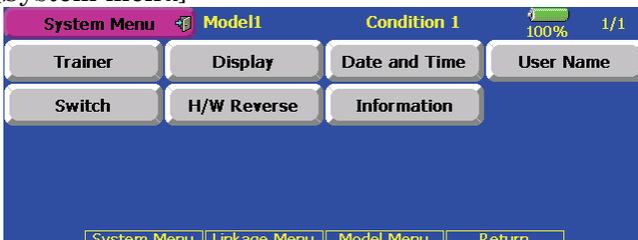
■ Helicopter

CH	H-1,H-2,HE3,HR3,HN3,H-3	H4,H-4X
1	Aileron	Aileron
2	Elevator	Elevator
3	Throttle	Throttle
4	Rudder	Rudder
5	Gyro	Gyro
6	Pitch	Pitch
7	Governor	Governor
8	Needle	Elevator2
VC1	AUX1	AUX1
VC2	AUX1	AUX1
VC3	AUX1	AUX1
VC4	AUX1	AUX1

Hardware setting

This function is for adjusting the sticks, switches and trim characteristics.

[System menu]



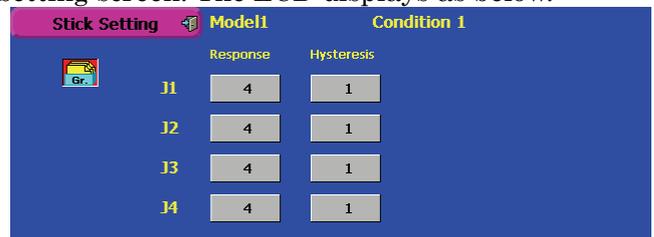
Push the “Hardware setting” button on the system menu. The LCD displays as below. The hardware reverse function is the same as before.



Stick setting

This function adjusts the stick’s response and hysteresis (null control). You can set your favorite control feeling on each flight condition.

Push the “stick setting” button on the hardware setting screen. The LCD displays as below.



Adjusting the stick response

1. Push the response button for either stick you want to adjust. The rate adjustment button appears.
2. Adjust the stick response by pushing the rate button.
Default: 4
Adjusting ranges: 1-16 (the greater value produces response)

Adjusting the hysteresis

1. Push the hysteresis button either stick you want to adjust. The rate adjustment button appears.
2. Adjust the hysteresis by pushing the rate button.

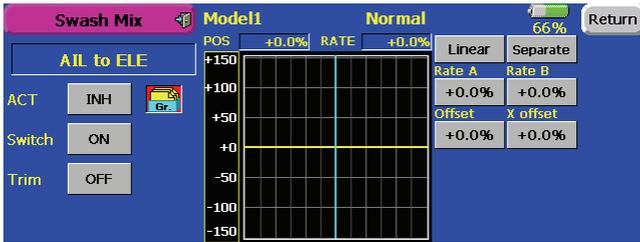
Default: 1

Adjusting ranges: 0-32 (the greater value is to be more hysteresis)

Push the "stick setting" button after finished the setting.

Swash mixing (Heli mixing)

The trim selection button is added.



■ Trim on /off setting

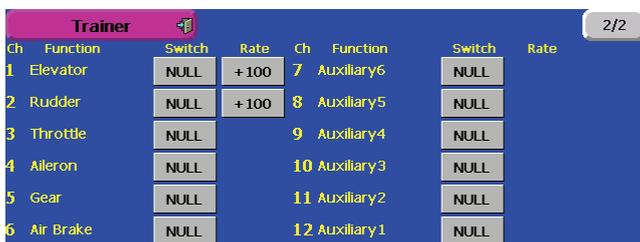
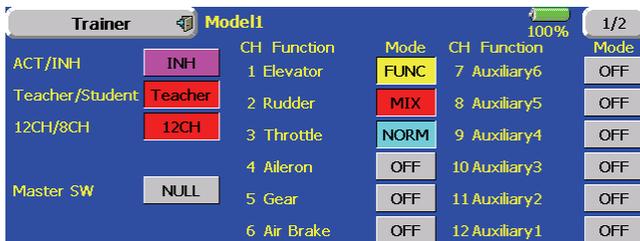
You can select mixing characteristics either with trim or without trim.

Changes the operation with model changes and frequency changes

The current software requires turning off the power switch when the model is changed or frequency is changed. The new version software moves to the confirmation screen of the radio after that operation. You will not be required to turn off the power switch as often, and continuous operation is available.

Trainer

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



Set the trainer mode to either MIX or FUNC mode. The rate buttons appear on the 2nd page of the trainer screen. Set the student rate as desired.

Push the switch button and select the desire switch.

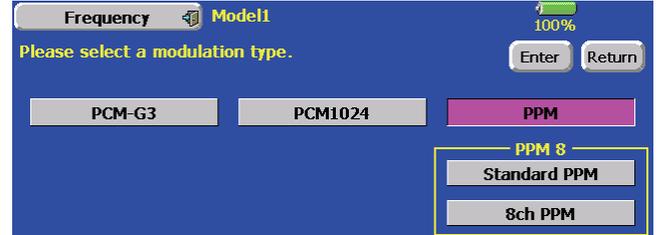
Model select

Back to start-up screen when the model is changed

Back to start-up screen when new model is added.

PPM modulation

Added the modulation polarity selection at PPM mode. Added 12 channels PPM mode.



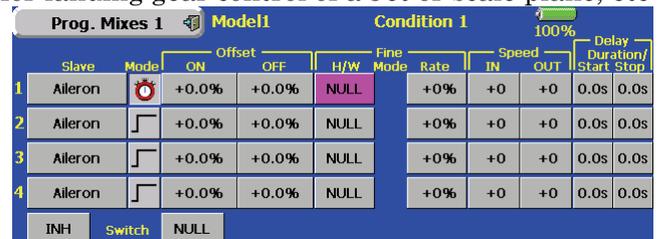
The additional dialog box appears when the PPM modulation is set. Push the upper side button to select the PPM polarity. The Standard PPM corresponds to FUTABA receivers. Push lower side button to select the PPM channels. There are 3 kinds of selections, 8ch PPM, 12ch PPM (N 1.5), 12ch PPM (N 1.3). N means neutral pulse width

PCM1024 10ch mode

Added 10th channel of the PCM1024 mode. The DG2 button is added on the function menu at the PCM1024 mode. It is 10th channel control selection.

PMIX

Added the timer mode on the offset PMIX mode. The on time can be set up to 9 seconds. It is useful for landing gear control of a Jet or scale plane, etc



- Expanded the delay time to 9 seconds (all PMIX).
- Added the ALT switching mode on mixing on/off control (all PMIX).

Flap trim

The flap-flap4 trim can be set and activated individually on the function menu.

Speed and condition delay time

Adjusting values are increased to 0-27. The delay time is doubled to 26 and four times to 27 compared to 25. The 0-25 delay times are unchanged. Some Jet pilot asked to extend the delay time for engine starting up.

Fine-tuning aileron differential and butterfly differential

- Both up and down moving rate are adjusted simultaneously. When you increase the up side, the down side is decreased.
- The butterfly differential fine tune rate is increased to 0-120 %.

Condition delay of the camber and butterfly

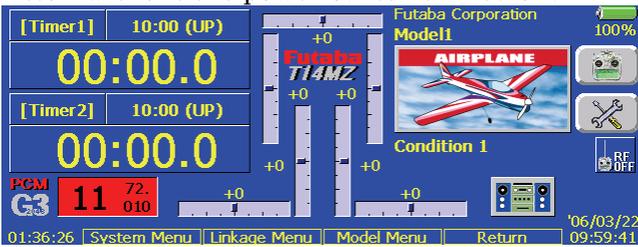
The condition delay button of the camber and butterfly on the condition menu are eliminated. They can be set by the camber mix and butterfly mix menu alternately

Idle down

The amount of the servo travel is double. The rate adjustment range is the same as 0-100 %. The rate data is automatically changed to a half when the update is done so that the servo travel should be same as before setting

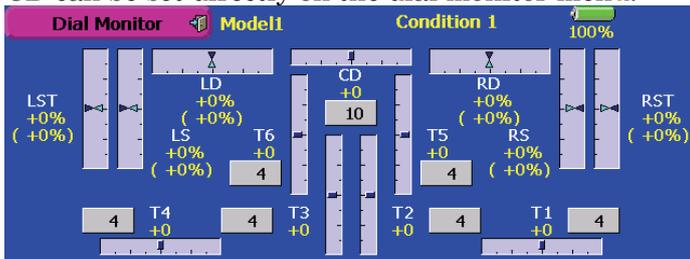
RF power on/off

The RF-off button is added on the home screen at the RF is not activated condition. You can go back to the RF on/off selection screen to push the RF-off button without the power switch turned off.



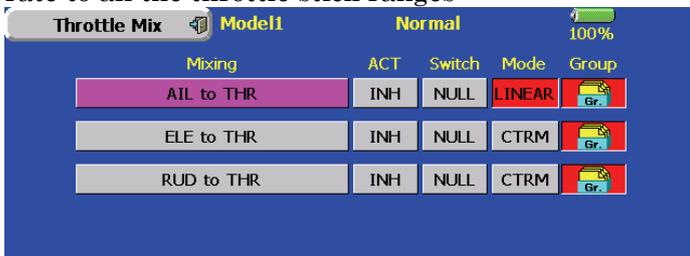
Dial monitor

The trim step of the T1-T6 (T1-T8 for FX-40) and CD can be set directly on the dial monitor menu.



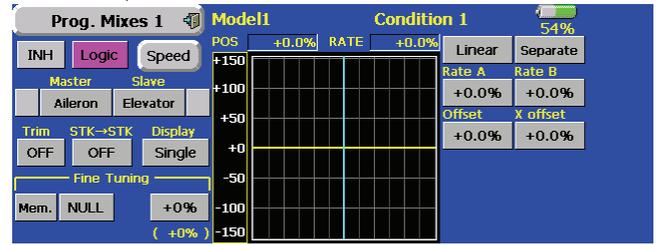
Throttle mixing on Helicopter mode

The linear and CTRM working mode are added. The current one has only CTRM mode (the mixing rate is reduced by the throttle stick high and low position). The linear mode gives constant mixing rate to all the throttle stick ranges



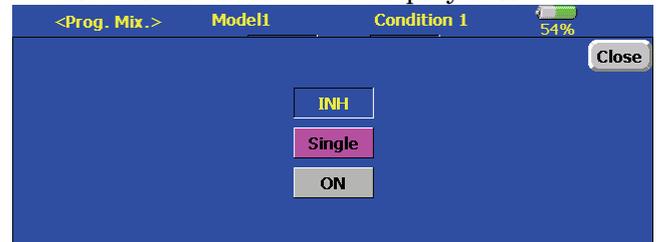
Logic switch

- The Logic switch can activate functions by some switches combination. Can be set up to 4 switch combinations.
- The Logic switch can be assigned to the mixing function as well as the flight condition select (except for Snap roll function on airplane mode).



Directions

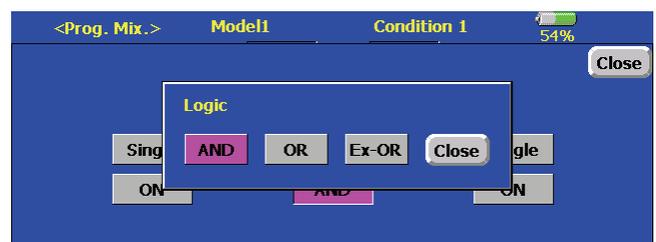
- Push the switch selection button.
 - The switch selection screen appears and displays the status.
- In case of the flight condition select, the top of the switch on/off status display is not shown.



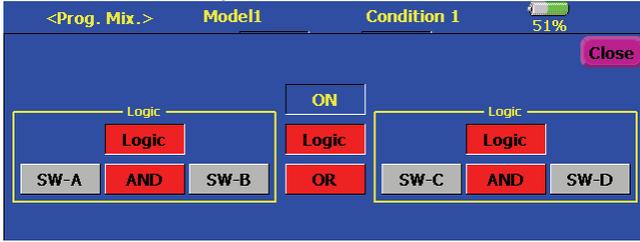
The display of the mixing on/off switch selection

- The switch mode display is changed by pushing the switch mode button. The switch selection button is changed to the logic equation button by selecting the logic switch mode. At the logic switch mode, the switch selection buttons appear on both the left and right side of the display.
- The logic selection dialogue appears when you push the logic mode button. The 3 types of logic, either AND, OR or EX-OR, can be selected.

SWITCH		LOGIC		
SW1	SW2	AND	OR	Ex-OR
off	off	off	off	off
off	on	off	on	on
on	off	off	on	on
on	on	on	on	off



- The left and right side of the switch mode can be set to the logic switch mode as well. In this case, a maximum of 4 switches can be assigned to the logic switch. The left and right logic are calculated first, then the center of the logic is calculated. Finally, switch on/off status determined by the 4 switches' combination.



- In the above case, the SW-A and SW-B are calculated by AND logic. Next the SW-C and SW-D are calculated as same way. Finally the first case and 2nd case are calculated by OR logic.
- Caution**
 - The maximum number of the logic switch is 10 for the flight condition select and 8 for the mixing on/off selection on each flight condition. The error message will appear when the exceeded logic switch is going to be selected. In this case, delete the unused logic switch first, then select the new logic switch.
 - The mixing on/off switch modes are automatically assigned by single mode, not supported the group mode.

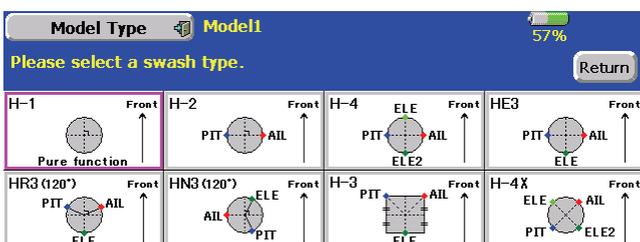
Sound playback

The repeating mode is added on the sound playback. When you select the playback mode button's repeat mode (🔄), the selected sound is played repeatedly while the switch is on.

No	Switch	Mode	File	Rec No	Switch	Mode	File	Rec
1	Start up			7	OFF	→		
2	Power off			8	OFF	→		
3	SW-A	🔄		9	OFF	→		
4	OFF	→		10	OFF	→		
5	OFF	→		11	OFF	→		
6	OFF	→		12	OFF	→		

Model type

The H-4X mode has been added to the swash types available. The H-4X swash type is the same as the H-4 type, except the control points are rotated 45 degrees.

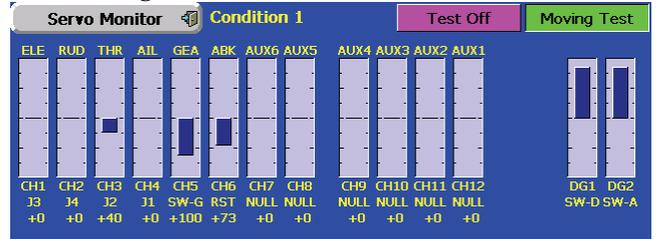


Motor mixing

The motor mixing is added to the Airplane mode. The warning message is appears when the mixing is on status at the power on for safety.

Servo monitor

The display of the servo monitor is added the function control name and changed from model name to flight condition name.

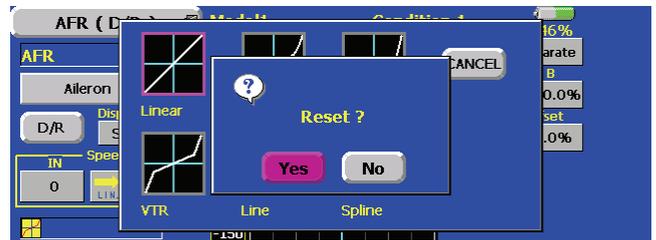


Curve mode

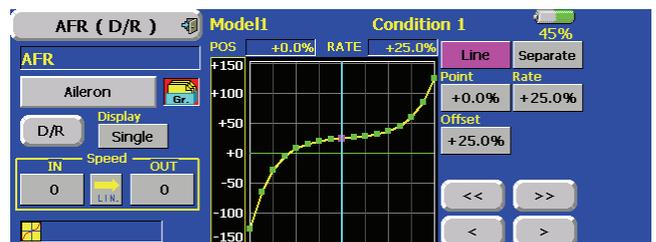
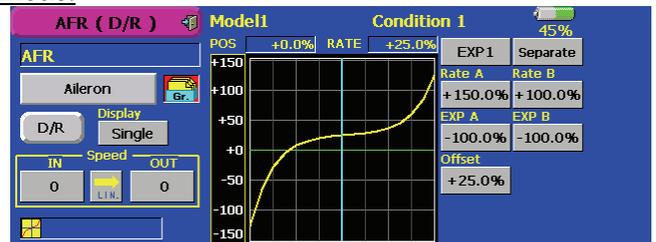
The curve shape is inherited when the curve mode is changed.

Changed to line or spline mode, the curve is retrieved as 17 points curve. The Rate A and Rate B are inherited on the linear, EXP1, EXP2 and VTR. Other data except Rate A and Rate B are retrieved from the previous setting data when changing the curve mode.

At the curve mode changes, the dialogue box asks whether the current curve is reset or inherited. The default curve is used when selecting the Yes button on the confirmation dialogue.



Example. Changes from EXP1 to Linear curve mode.



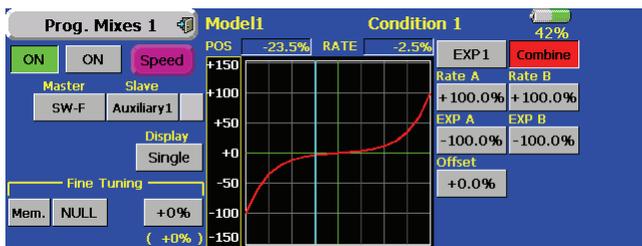
Programmable mixing

The speed mode selection is added on the programmable mixing. The slave mode works same as current speed function. The master mode is a new feature. The servo movement is traced by the setting curve at the master mode. The trace speed is adjusted by in and out speed same as before.



Directions

1. Select the programmable mixing to curve mode and push the speed button.
2. Push the speed mode button to master mode.
3. Set desired in and out speed
4. Select the master channel to any toggle switch.
5. The slave channel's servo traces the setting curve as the master toggle switch is moved. Below the case, AUX1 servo traces an EXP1 curve as the SW-F is operated.



Swash ring

This function limits the decline of the swash plate to prevent linkage damage as the aileron and elevator operation is added. It is useful for 3D heli setting.

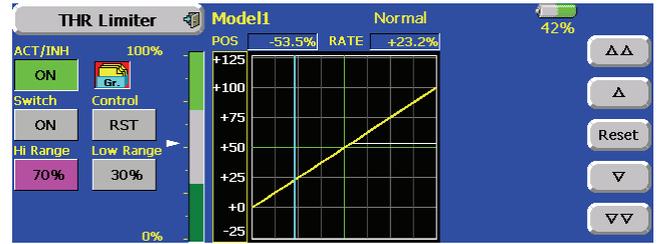


Directions

1. Push the Swash ring button on the linkage menu.
2. Push ACT/INH button to activate. The movement area monitor shows the current aileron and elevator values and limit ranges by the yellow circle.
3. Adjust the rate to the maximum amount of swash plate decline. The swash movement is limited within the circle. The rate adjustment range is 50~200%.

Throttle limiter

This function limits the high range of the throttle movement by any slider or trimmer. The adjustment range of the high and low end can be set.

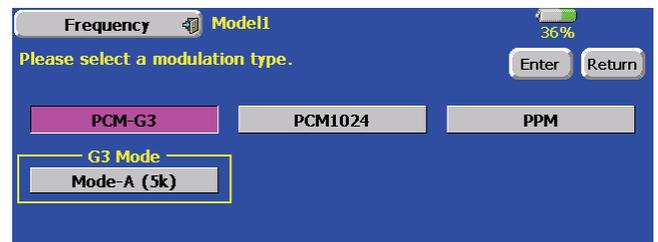


Directions

1. Push the Throttle limiter button on the model menu.
2. Activate the mixing and select the on/off switch.
3. Select the control for adjustment of the high limit.
4. Set the high range. The range gauge shows the setting position.
5. Set the low range same as high range setting.

PCM-G3 communication mode

Two PCM-G3 communication modes are added. The Mode-A is a current communication mode. Mode-B is a new one. The Mode-B is a more reliable communication mode than the Mode-A but the servo response is a little bit slower. Please choose either mode as required by your airfield.



Directions

1. Open the frequency setting menu on the linkage menu.
2. Push modulation mode button to PCM-G3 mode.
3. Select either Mode-A or Mode-B and push the Enter button.
4. The confirmation screen appears. Push yes button to activate the setting.

Caution

1. The receiver must correspond to Mode-B. (R5014DPS does not support the Mode-B).
2. The servo response is about 20% slower than the Mode-A.

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