

T12FG Software Update

Function Modification Contents

(Version: 1.2, 1.3)

Program Mixing [PROG. MIXES]

[All model types]

An offset mode has been added to the program mixing function. "Offset mode" is a function which allows simultaneous offset control of up to 4 slave functions per circuit.

Setting Methods

Activate the function.

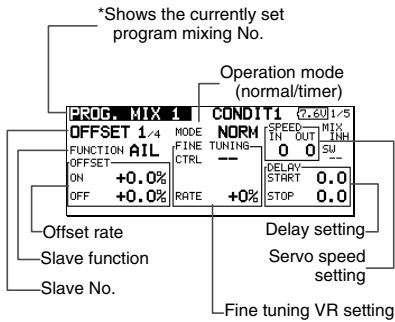
1. Select [PROG.MIXES] at the model menu and call the setup screen by pushing the EDIT button.

PROG. MIXES			CONDIT1 (2.60) 1/3		
MIXING	MODE	GROUP			
1 INHIBIT	MIXING	GROUP			
2 INHIBIT	MIXING	GROUP			
3 INHIBIT	MIXING	GROUP			
4 INHIBIT	MIXING	GROUP			

2. Use [MODE] setting to select the program mixing operation mode. [MIXING] is the normal mixing mode and [OFFSET] is the offset mode.

PROG. MIXES			CONDIT1 (2.60) 1/3		
MIXING	MODE	GROUP			
1 INHIBIT	OFFSET	GROUP			
2 INHIBIT	MIXING	GROUP			
3 INHIBIT	MIXING	GROUP			
4 INHIBIT	MIXING	GROUP			

3. Move the cursor to [INHIBIT] of the mixing No. set to the offset mode and push the EDIT button. The setup screen is displayed.



4. Press the S1 button. Page 5/5 is displayed.

PROG. MIX 1 CONDIT1 (2.60) 5/5	
SETTING	
STATUS	INH
SWITCH	--

Switch selection

Function ON/OFF

5. Move the cursor to the [STATUS] item and switch to the data input mode by pushing the EDIT button.
6. Turn the dial to the left and right until [ACT] blinks, and then push the EDIT button. To deactivate the function, switch to [INH].

ON/OFF switch selection

Press 'S1' to move the cursor to page five (5). This page will be utilized to select the [STATUS] and the activation method for the offset mix(es). Bring up the switch setup screen by pressing the EDIT button, then select the switch and activation (ON) direction. For further information on how to do so, please refer to the [Switch Selection Method] located elsewhere in the T12FG 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 EDIT button. Select the function by turning the dial and then push the EDIT 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 EDIT 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 EDIT button.

*At adjustment, the offset rate is reset to the initial value by pushing the EDIT 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 setting method, refer to [Fine tuning trim setting] at the back of the instruction 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 EDIT button.
2. Turn the dial left and right and set the mixing operation delay time at switch ON or OFF.

Initial value : 0 sec

Setting range : 0 ~ 35 sec

3. After adjustment, switch to the cursor move mode by pushing the EDIT button.

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

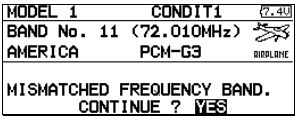
Changing the RF Modulation

The T12FG transmitter is compatible with Futaba's TM-14 Module FASST 2.4GHz system.

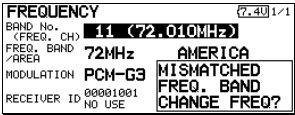
- *When switching from the existing MZ-FM module to the TM-14, the TM-14 to the MZ-FM module, or similar situation, it is necessary to reset the band accordingly.
- *When using the TM-14 and Futaba FASST receiver, it is necessary to link the transmitter module to the respective receiver prior to using 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.

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 EDIT button.

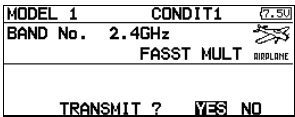


3. In the linkage menu, select the frequency setting [FREQUENCY], and push the EDIT button. A message confirming the band change is displayed. Press the EDIT button once again.



Please note: This will automatically select Futaba's FASST MULT setting. If, however, you are using a receiver which employs the FASST 7-Channel settings, please see the section entitled Channel Mode Selection which follows.

4. 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

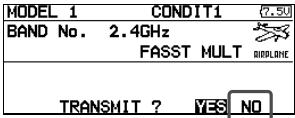
The 'range check mode' reduces the transmission range of the radio waves to allow for a ground range check.

- *The range check mode, when activated, will continue for 90 seconds unless the user exits this mode early. When the on-screen timer reaches zero (0), the RF transmission automatically returns to the normal operating power.

⚠ WARNING

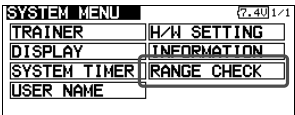
Do not fly in the range check mode. Since the range of the radio waves is short, if the model is too far from the transmitter, control will be lost and the model will crash.

1. Turn ON the transmitter's power switch. Select 'NO' on the frequency confirmation screen.

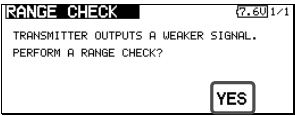


- *For safety, the RANGE CHECK mode can not be selected while the RF transmission is active.

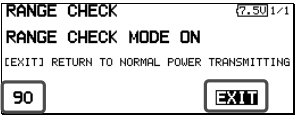
2. With the system menu selected press the EDIT button, choose the RANGE CHECK selection from the menu options and press the EDIT button.



3. The RANGE CHECK screen is displayed. To activate the RANGE CHECK mode select 'YES' and then press the EDIT button. During the RANGE CHECK period, the RF power is reduced to allow the ground range tests to be performed.



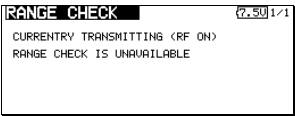
4. The RANGE CHECK mode is automatically reset after the 90 second time limit has expired. The remaining time is displayed on the left side of the transmitter's screen. Should you complete the range check before the 90 seconds has passed, select 'EXIT' and press the EDIT button.



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 transmitter is transmitting the normal RF signal, it is not possible to enter the RANGE CHECK mode once again without powering OFF the transmitter. This has been designed to prevent a modeler from inadvertently flying in the RANGE CHECK mode. If a longer period of time is needed, please turn OFF the transmitter and follow this procedure once again.

5. When "EXIT" is selected and the EDIT button is pressed, the RANGE CHECK mode is reset and radio waves are transmitted in the normal mode.



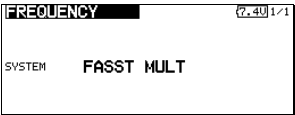
- *After the RANGE CHECK mode was reset, it cannot be selected again. To select the RANGE CHECK mode again, turn on the power switch and start from the beginning.

Channel Mode Selection

When using the TM-14 RF module with the T12FG, 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	R607FS R617FS	R608FS R6014FS
TM-14 Module	Multi-ch mode	—	—	Okay
	7ch mode	Okay	Okay	—

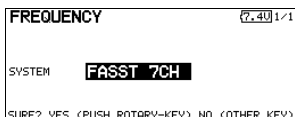
1. Access the frequency setting [FREQUENCY] in the linkage menu and then press the EDIT button. The currently selected transmission mode is displayed.



2. To change the mode selection, rotate the EDIT button to highlight the current transmission mode. Press the EDIT button once again to switch to the data input mode.

3. Rotate the EDIT button to change to the alternate transmission mode. The new transmission mode will begin to flash in the display.

[FASST MULT] : Multi channel mode
[FASST 7CH] : 7 channels mode

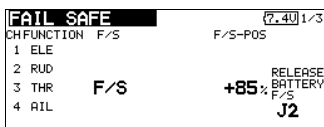


4. Press the EDIT button once again to select the currently displayed transmission mode. The display will return to the frequency confirmation screen.

(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	Governor 2	Governor	AUX5	AUX5
9	Needle	Governor 2	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.

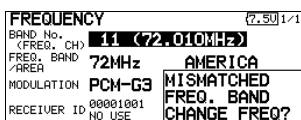
Automatic channel assignment

When using the TM-14 RF module, the T12FG channel assignment function allows the automatic relocation of the channels (servo output) to maximize performance of the FASST system.

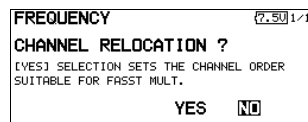
- *It is important to note that the automatic channel assignment is only functional in the helicopter mode.
- *The automatic channel assignment feature is not applicable when using either the PCM 1024 mode or the PPM RF mode.

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

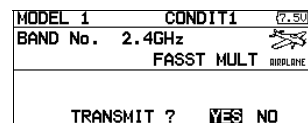
1. Replace the RF module of the T12FG with the TM-14.
2. Turn on the transmitter.
3. Select LINKAGE menu.
4. Select FREQUENCY menu.
5. A band change confirmation message is displayed. Push the EDIT button.



6. A CHANNEL RELOCATION message will appear. If you wish to relocate the channel assignments, select 'YES' and press the EDIT 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.

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, easily move 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

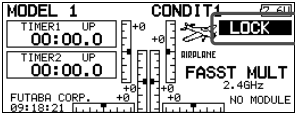
Green	Red	Status
Off	Solid	No signal received
Solid	Off	Signal received, normal operation
Blink	Off	Receiver is receiving signals but the ID is unmatched
Alternate Blink		Unrecoverable error (EEPROM, etc.)

Edit Lock Function

The purpose of the EDIT lock function is to prevent inadvertent changes to, or modifications of, the transmitter's programming and/or settings. To prevent these accidental changes, it is possible to temporarily disable the EDIT button.

How to Lock

- 1. The home screen is displayed.
- 2. Press the S1 button. "LOCK" is displayed and the EDIT dial is disabled.



How to Unlock

- 1. With the EDIT button locked, press the S1 button for approximately one second. The EDIT button will be active once again.
- 2. Alternatively, it is possible to unlock the EDIT button by turning OFF the transmitter's power.