Futaba

For cars only

# 2.4GHz System

***PK-FSM2.4G Module and R603FS Receiver***

# INSTRUCTION MANUAL

***Before using your new 2.4GHz system, please read this manual thoroughly and use the system properly and safely. After reading this manual, store it in a safe place.***

Thank you for purchasing a PK-FSM2.4G module and an R603FS receiver. This system is based on the combination of the newly developed 2.4GHz module and its correspondent receiver. The system utilizes the 2.4GHz-SS radio communication and an ultra small antenna. In addition, the system inherits Futaba's unique HRS (High Response System).

### Features

- 2.4GHzSS (Spread Spectrum) radio communication system
- Frequency channel setting unnecessary: Sifting the channels within the 2.4GHz band automatically, this system minimizes the interference from other 2.4GHz system.
- Accepts no unwanted signals by using ID code
- The function "Auto-Detect" is utilized to automatically determine which mode is active, HRS or PPM mode. (R603FS)
- Short and small antenna (PK-FSM2.4G)/Diversity antenna (R603FS)

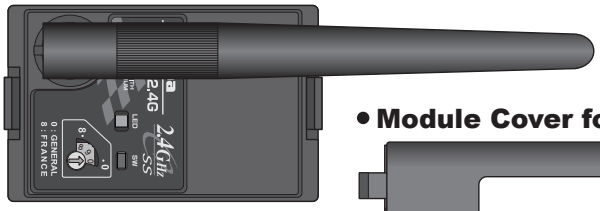
**Applicable system; T3PK or T3VC Transmitter**



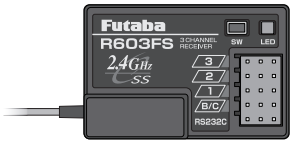
## Contents and Technical Specifications

Your 2.4GHz system includes the following components;

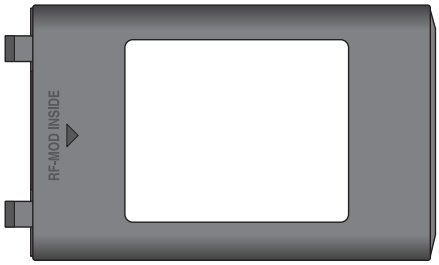
- **PK-FSM2.4G Module**



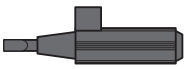
- **R603FS Receiver**




- **Module Cover for T3PK**




- **Mini screwdriver**



**[Specification]**

- Communication method: One-way operation system
- Mode: PPM, HRS (Auto-detect)
- Maximum operating range: 80m (Optimum condition)
- For safety: F/S, B-F/S, ID (About 4billion ways of pair identifications)

**PK-FSM2.4G;**

- Transmission antenna: 1/2λ mono-pole

**R603FS;**

- Reception antenna: Diversity type (Two antennas: internal and external)
- Power requirement: 6V Nicd battery
- DSC function available
- RS232C port: (for factory use only)
- Size: 39x26x14mm (excluding a projection part)
- Weight: 14.1g

## Installing the PK-FSM2.4G/R603FS

Install and adjust the PK-FSM2.4G module and R603FS receiver as described below.

### Attachment of the module

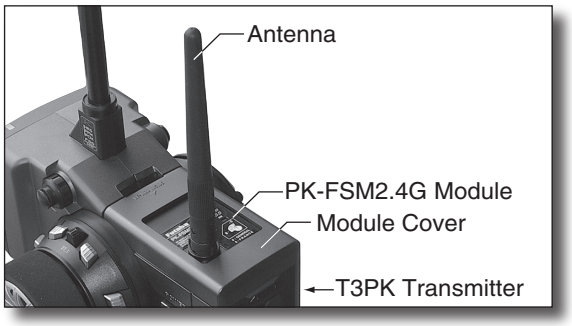
**⚠ CAUTION**

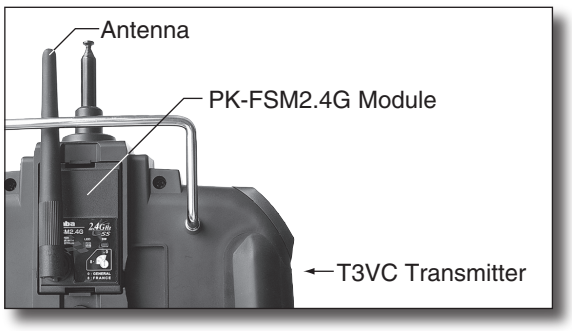
Be sure to turn off the power of the transmitter before you attach or detach the module.

**1** Insert the module with care so that the connector pins of the transmitter won't be bent.

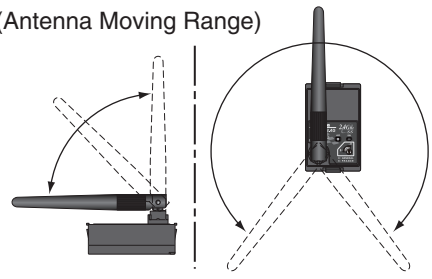
**⚠ WARNING**

Adjust the antenna vertically to the ground. Otherwise, the operating range may become shorter.



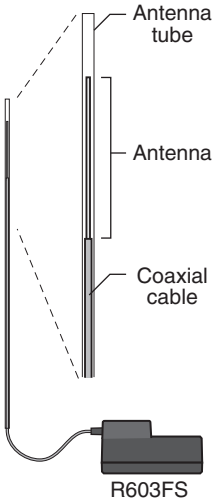

(Antenna Moving Range)



## Receiver installation

**1** Install the R603FS receiver on the car as follow;

**Note:** The operating range may become shorter, although depending on where the receiver and the antenna are mounted.




### ⚠ WARNING

- Install the antenna in the higher place as shown in the figure.
- Do not cut the antenna.
- Keep the antenna away from the motor, ESC and other noise sources as possible as you can.
- Put the antenna in the antenna tube to protect it.
- Do not bend the coaxial cable. It causes damage.
- Wrap the receiver with something soft such as foam rubber to avoid vibration. If there is a chance of getting wet, put the receiver in a waterproof bag or balloon to avoid water.

### ⚠ CAUTION

- Always use R603FS under the following conditions;
  Power supply; 6V Nicd battery (PPM/HRS mode)
  Servo; 6V type Futaba Digital Servo (HRS mode)

* If the conditions are different, control is impossible or the servo may be damaged.

## Frequency Range Setting

The frequency range of 2.4GHz system differs according to regulations of the country that it is used in.

**1** Use the rotary switches of the module to select the frequency range mode.


**0: GENERAL**
**(2405.376MHz - 2477.056MHz)**
**8: FRANCE**
**(2407.424MHz - 2450.432MHz)**

### ⚠ WARNING

- If using this system in France, always use it to set the rotary switch to "8".

* In other countries, both "0:GENERAL" and "8:FRANCE" are available.

## How to turn on the power

A certain ID number is given to the receiver automatically. Identifying this ID number, the system will minimize the interference from other transmitters.

**1** Bring the transmitter and the receiver close to each other within one meter.

**2** Turn on the transmitter.

**Note:** Check the LED on the module.

| | |
|---|---|
| Parameter check for 0.5 seconds after power-on | Red: On |
| Transmitting signals | Green: On |
| F/S is activated by the tactile switch of the module. (PPM mode) | Green: Blink |
| Unrecoverable failure (EEPROM, etc.) | Red and Green turn on alternatively. |
| PCM is improperly selected. | Red: Blink |

**3** Turn on the receiver.

**4** Push the tactile switch of the receiver. 


**Note:** Check the LED of the receiver.

| | |
|---|---|
| No signal reception | Red : On |
| Receiving signals | Green: On |
| Receiving signals, but ID is unmatched. | Green: Blink |
| Unrecoverable failure (EEPROM, etc.) | Red and Green turn on alternatively. |

## How to Set the F/S Position

### PPM mode only:

*HRS mode: Set the F/S function by the transmitter.

**1** Move and hold the throttle trigger (stick) to the F/S servo position where you want to set (slow side) then push the tactile switch on the module. 


The LED blinks green.

**Note:** Always set again when turning on the power.

## Battery F/S function

The Battery F/S function becomes active when the voltage of the receiver becomes 4.75V or less. The throttle servo move to the preset position.

## Usage Precaution

### ⚠ WARNING

- Special attention should be paid before turning on the system while other cars are running or other airplanes are flying because the 2.4GHz RC system could potentially affect them.

### ⚠ WARNING

- Be sure to set the Fail Safe function.

## Repair Service

Before requesting repair, read this instruction manual again and recheck your system. Should the problem continue, request repair service as follows:

Describe the problem in as much detail as possible and send it with a detailed packing list together with the parts that require service.

- Symptom (Including when the problem occurred)
- System(Transmitter, Receiver, Servo's and model numbers)
- Model (Model name)
- Model Numbers and Quantity
- Your Name, Address, and Telephone Number.

If you have any questions regarding this product, please consult your local hobby dealer or contact the Futaba Service Center.

## Special Markings;

Pay special attention to the safety at the parts of this manual that are indicated by the following marks.

**[Symbol]** ⃠ ; Prohibited ❗ ; Mandatory

| Mark | Meaning |
|---|---|
| ⚠DANGER | Procedures which may lead to a dangerous condition and cause death or serious injury to the user if not carried out properly. |
| ⚠WARNING | Procedures which may lead to a dangerous condition or cause death or serious injury to the user if not carried out properly, or procedures where the probability of superficial injury or physical damage is high. |
| ⚠CAUTION | Procedures where the possibility of serious injury to the user is small, but there is a danger of injury, or physical damage, if not carried out properly. |

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