JM912 FASST™ RF Module
INSTRUCTION MANUAL

Thank you for purchasing the JM912 RF Module. This system is designed for use only with the JR® transmitters indicated elsewhere in this manual, making them compatible with Futaba® FASST receivers. In order to use the JM912 transmitter module, you will need to carefully remove the existing transmitter module and replace it with the JM912 transmitter module.

APPLICABLE SYSTEMS

PCM10, PCM10S, PCM10SX, PCM10SXII, 8103, 9303, 10X

FEATURES

- 2.4GHz Spread Spectrum radio communications system
- Exclusive ID code to avoid interference from other systems
- Fail Safe (F/S) function (for throttle channel)-F/S, Battery F/S

USAGE PRECAUTIONS

IMPORTANT: The 2.4GHz band offers different characteristics than those of the conventional 50MHz and 72MHz. As such, we ***strongly encourage you to read this manual*** carefully prior to utilizing the JM912 RF Module.

1 Prior to utilizing any radio control system, it is strongly recommended that you read and abide by the Safety Code created by the Academy of Model Aeronautics, as well as any site specific rules and regulations that might exist. Doing so will greatly increase your enjoyment of the hobby.

2 In order to maintain complete control of your aircraft it is important that it remains visible at all times. Flying behind large objects such as buildings, grain bins, etc. is not suggested. Doing so may result in the reduction of the quality of the radio frequency link to the model.

3 Please do not grasp the transmitter module's antenna during flight. Doing so may degrade the quality of the radio frequency transmission.

CONTENTS AND TECHNICAL SPECIFICATION

Your 2.4GHz system includes the following components:

- JM912 Module
- Mini Screwdriver
- Instruction Manual

SPECIFICATIONS

- Communication system: one-way communication
- Antenna: Pencil type 1/2 wavelength, di-pole
- Current consumption: 170mA maximum
- Setting switch for Fail Safe (F/S) setting and range check
- LED (light emitting diodes) indicate the operational status

Channel Mode	Compatible Futaba Receivers
7	R6004FF, R6106HF, R6106HFC, R607FS, R617FS, R616FFM
12	R608FS, R6008HS, R6014FS, R6014HS

SPECIAL MARKINGS

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

Prohibited **Mandatory**

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.

INSTALLING THE JM912 MODULE

ATTACHMENT OF THE MODULE

Caution

Be sure to turn off the power of the transmitter before you install or replace the module.

1 Ensure that the transmitter is set to the PPM (pulse position modulation) mode. Please consult the respective owner's manual for your particular transmitter for information on how to do so.

2 While it is unlikely that the existing transmitter antenna will interfere with the radio frequency transmission of the JM912, we suggest removing it from the transmitter, if possible, as a precaution.

3 Next, with the transmitter's power off, remove the existing transmitter module and install the JM912 module with care so that the connector pins of the transmitter won't be damaged.

CHANNEL ASSIGNMENT

JR channel assignment is different than Futaba channel assignment. Following is the channel assignment for Futaba radios. Please note this channel assignment while programming your JR transmitter to work with Futaba receivers.

Channel 1 - Aileron
Channel 2 - Elevator
Channel 3 - Throttle
Channel 4 - Rudder

ANTENNA OF JM912

1 As with all radio frequency transmissions, the strongest area of signal transmission is from the sides of the JM912 transmitter module's antenna. As such, the antenna should not be pointed directly at the model. If your flying style creates this situation, 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.

EASY LINK™

Each JM912 transmitter module has an individually assigned, unique ID code. In order to start operation, the receiver must be linked to the respective JM912's ID code. Once the linking is done, the ID code is stored in the receiver and re-linking is not necessary unless the receiver is to be used with a different JM912 module.

Warning

After the linking is done, please cycle receiver power and check if the receiver to be linked is really under the control of the transmitter to be linked.

Do not perform the linking procedure while the motor's main wire is connected or the engine is operating as it may result in serious injury.

1 Ensure that the ch-mode select is set to the position of the receiver's operation protocol. Please refer to the compatibility table on page 1 for the correct ch-mode selection in conjuction with the receiver to be paired.

2 After the JM912 module has been installed into the transmitter, using the aforementioned steps, turn on the transmitter. The green LED, located on the rear of the JM912 transmitter module, should begin to blink. If not, power down the transmitter and turn it on once again.

3 With the transmitter on, and the green LED blinking, turn on the receiver.

4 With the receiver on, press and hold the Easy Link™ button, located on the receiver, for approximately two seconds and release it. Then, the receiver starts the linking procedure. When the linking process has been completed, the LED on the receiver will change to a solid green and the linking is established.

AREA SELECT

The JM912 transmitter module has been designed to function in many countries. If you will be using this module in a country other than France, please make sure that the switch is set to the "General" position. If, however, this module will be used in France, the switch must be set to "France".

OPERATION OF THE JM912

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

LED Indications			Fail safe (F/S)
Green	Red	Status	
Solid	Solid	Initializing (When Power Up)	···
Alternate blink		Check RF condition nearby	···
Solid	Off	RF power on	Off
Solid	Blink	RF power on (Power reduced to perform the range check function)	Off
Blink	Off	RF power on	***On***
Blink	Blink	RF power on (Power reduced to perform the range check function)	***On***

F/S (FAIL SAFE) MODE SETTING

The F/S is suggested for use, as it offers a safety factor when controlling your models. It is also possible to cancel the F/S operation if you do not wish to use it.

F/S POSITION SETTING PROCEDURE

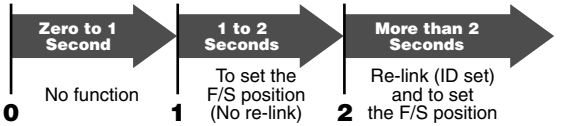
As mentioned in "Easy Link", the receiver starts the linking process when the Easy Link button is pressed for more than two seconds. Meanwhile, when the linking is done, the receiver stores 3ch (throttle) position as the F/S position automatically. If you need to change the F/S position, but do not need to re-link, set the 3ch (throttle) stick in the desired position and press and hold the Easy Link button for just one second. This allows the receiver to renew the F/S data for the current 3ch position. Prior to doing so, ensure that the F/S is active. If not, please follow the ReArming the F/S procedure as noted previously.

1 With the transmitter's throttle stick in the desired F/S position, and the receiver located within one (1) meter of the transmitter, turn on the transmitter. The green LED, located on the rear of the JM912 transmitter module, should begin to blink. If not, power down the transmitter and turn it on once again.

2 With the transmitter on, and the green LED blinking, turn on the receiver. Press and hold the Easy Link button, located on the receiver, for approximately one second.

3 Turn off the transmitter. The throttle servo should move to the pre-determined F/S position.

***F/S set* and *Easy Link* Operation**



Please refer to the table which follows for the LED status of the receiver's condition.

Green	Red	Status
Off	Solid	No signal reception
Solid	Off	Receiving signals
Blink	Off	Receiving signals but ID is unmatched
Alternate blink		Unrecoverable failure (EEPROM, etc.)

DE-ACTIVATING THE F/S (FAILSAFE)

As noted above, it is also possible to de-activate the failsafe setting of the receiver.

Depress the F/S button on the rear of the transmitter while turning the transmitter's power on. The LEDs should begin to glow. Continue holding the button until the green LED begins to glow solidly and the red LED blinks.

RE-ARMING THE F/S (FAILSAFE)

To activate the failsafe once again, depress the F/S button on the rear of the transmitter while turning the transmitter's power on. The LEDs should begin to glow. Continue holding the button until the green and red LEDs begin blinking.

PLEASE NOTE: Re-arming the F/S does not alter the pre-determined throttle servo position. To modify this setting, please follow the F/S position setting procedure.

BATTERY F/S FUNCTION

The JM912 transmitter module and receiver also provide you with a second safety system; the Battery F/S (failsafe). When the airborne voltage drops below 3.8V, the battery failsafe function moves the throttle to a pre-determined position. If this happens, you should land immediately! If you need to increase the throttle for your landing approach, you may temporarily reset the failsafe function by moving the throttle stick to the predetermined position, after which you'll have about 30 seconds of throttle control before the battery function reactivates.

PLEASE NOTE: It is suggested that you utilize a 4-cell NiCD or NiMH receiver battery pack as these allow the effective use of the battery F/S function. Additionally, we do not suggest using dry cell batteries for the receiver pack as they may cause difficulties.

WHEN YOU GET TO THE FLYING FIELD

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 JM912 transmitter module incorporates a system that reduces its power output and allows you to perform such a range check.

1 Turn on the transmitter.

2 After the radio frequency link has been established (as indicated by either a solid green LED or a blinking green LED), press and hold the "F/S, Range" switch located on the rear of the JM912 transmitter module. As indicated by the blinking red LED, the radio frequency power has been reduced to allow for the range check.

NOTE: Do not press and hold the "F/S, Range" switch prior to turning on the transmitter. This will alter the status of the F/S settings as noted previously. In order to avoid this situation, please wait for a short time after turning on the transmitter, in order to activate the low power setting, for range checking.

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, and 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.

Warning

Please make sure that you do not push and hold the "F/S, Range" switch when flying, as this reduces the power output of the transmitter and reduces the overall range of your transmitter.

OTHER PRECAUTIONS

When utilizing the trainer function of the transmitter as an instructor, please do not switch to the student's control unit until the RF is active after turning the transmitter on. Failure to adhere to this procedure may result in a malfunction.

REPAIR SERVICE (IN U.S.A.)

If any difficulties are encountered while setting up or operating your JM912 transmitter module and receiver, please consult this instruction manual first. For further assistance you may also refer to your hobby dealer, or contact the Service Center at the web site, fax or telephone number below:

www.hobbyservices.com Fax (217) 398-7721
Phone (217) 398-8970

If you are unable to resolve the issue, pack the system in its original container with a note enclosed and a thorough, accurate description of the difficulty. Include the following in your note:

- Symptoms (Including when the problem occurred)
- System (transmitter, receiver, servos & model #s.)
- Model (Model name)
- Model numbers and quantity
- Your Name, Address & Telephone number

Send the respective items to the authorized Service Center address below:

Service Center
3002 N Apollo Drive Suite 1
Champaign, IL 61822

FCC INFORMATION

To assure continued FCC compliance:

Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

FCC LABEL COMPLIANCE STATEMENT

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.