



PK-FSM-2.4G/R603FS

Radio Control

Instruction Manual

INTRODUCTION

Thank you for purchasing a FutabaR digital proportional R/C system. In order for you to make the best use of your system and to use it safely, please read this manual carefully. If you have any difficulties while using your system, please consult the manual, our online Frequently Asked Questions (on the web pages referenced below), your hobby dealer, or the Futaba Service Center.

Owner's Manual and Additional Technical Help

This manual has been carefully written to be as helpful to you, the new owner, as possible. There are many pages of setup procedures and examples. However, it need not be your sole resource of setup guidelines. For example, the back cover includes a quick-start set of instructions and the Frequently Asked Questions web page referenced below includes this type of step-by-step setup instructions for a variety of other model types.

Due to potential unforeseen changes in production procedures, the information contained in this manual is subject to change without notice. No part of this manual may be reproduced in any form, at any time, without prior permission.

Support and Service: It is recommended to have your Futaba equipment serviced annually during your hobby's "off season" to ensure safe operation.

IN NORTH AMERICA

Please feel free to contact the Futaba Service Center for assistance in operation, use and programming. Please be sure to regularly visit the Frequently Asked Questions web site referenced below. This page includes extensive programming, use, set up and safety information on your radio system and is updated regularly. Any technical updates and US manual corrections will be available on this web page. If you do not find the answers to your questions there, please see the end of our F.A.Q. area for information on contacting us via email for the most rapid and convenient response.

Don't have Internet access? Internet access is available at no charge at most public libraries, schools, and other public resources. We find internet support to be a fabulous reference for many modelers as items can be printed and saved for future reference, and can be accessed at any hour of the day, night, weekend or holiday. If you do not wish to access the internet for information, however, don't worry. Our support teams are available Monday through Friday 8-5 Central time to assist you.

FOR SERVICE ONLY:

Futaba Service Center
1610 Interstate Drive
Champaign IL 61822
www.hobbyservices.com

FOR SUPPORT:

(PROGRAMMING AND USER QUESTIONS)

Please start here for answers to most questions:

www.futaba-rc.com/faq/faq-3pk.html

FACSIMILE: 217-398-7721

PHONE: 217-398-8970 option 4

HOW TO SEND FOR SERVICE:

www.hobbyservices.com/techsupport/service-form-futaba.pdf

www.hobbyservices.com/techsupport/service-form-futaba.html

OUTSIDE NORTH AMERICA

Please contact your Futaba importer in your region of the world to assist you with any questions, problems or service needs.

Please recognize that all information in this manual, and all support availability, is based upon the systems sold in North America only. Products purchased elsewhere may vary. Always contact your region's support center for assistance.

The product is subject to regulations of the FCC and is restricted under United States law to such purposes.

1. Exportation precautions:

(a) When this product is exported from the country of manufacture, its use is to be approved by the laws governing the country of destination which govern devices that emit radio frequencies. If this product is then re-exported to other countries, it may be subject to restrictions on such export. Prior approval of the appropriate government authorities may be required. If you have purchased this product from an exporter outside your own country and not the authorized Futaba distributor in your country, please contact the seller immediately to determine if such export regulations have been met.

2. Modification, adjustment, and replacement of parts: Futaba is not responsible for unauthorized modification, adjustment, and replacement of parts on this product. Any such changes may void the warranty.

The Following Statement Applies to the Receiver (for U.S.A.)

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.

(2) This device must accept any interference received, including interference that may cause undesirable operation.

Physical Description

Please review the following section and take a moment to familiarize yourself with the PK-FSM-2.4G/R603FS .

IPK-FSM-2.4G (Transmitter)

PIN ASSIGNMENT



Fig.1 Serial Communication Connector Location

Table 1 Pin Description

Pin	Abbreviation	I/O	Function
1	PPM MOD	in	Pulse position data VLI 0V VHI 3V
2	Vcc	in	Vcc:9.6V
3	MET	out	Transmission indicator
4	GND	-	signal ground
5	NC	-	NC

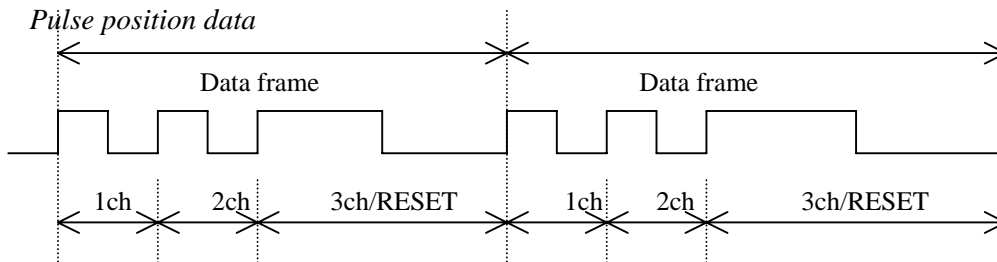


Table 2 Pulse position data

Item	minimum	center	maximum	Remarks
[1ch]	800us	1100us	1400us	1100 ± 300us
[2ch]	800us	1100us	1400us	1100 ± 300us
[3ch/RESET]	1500us	1800us	2100us	1800 ± 300us

Set Frequency Pattern in rotary SW(0 or 8)

SW 0 : 2405.376 - 2479.104 MHz 36CH

SW 8 : 2405.376 - 2450.432 MHz 22CH

PK-FSM-2.4G fires an electric wave at the frequency that I set in rotary SW by power supply re-injection.

R603FS(Receiver)

Set frequency SW 1sec PUSH (AUTO SETTING)

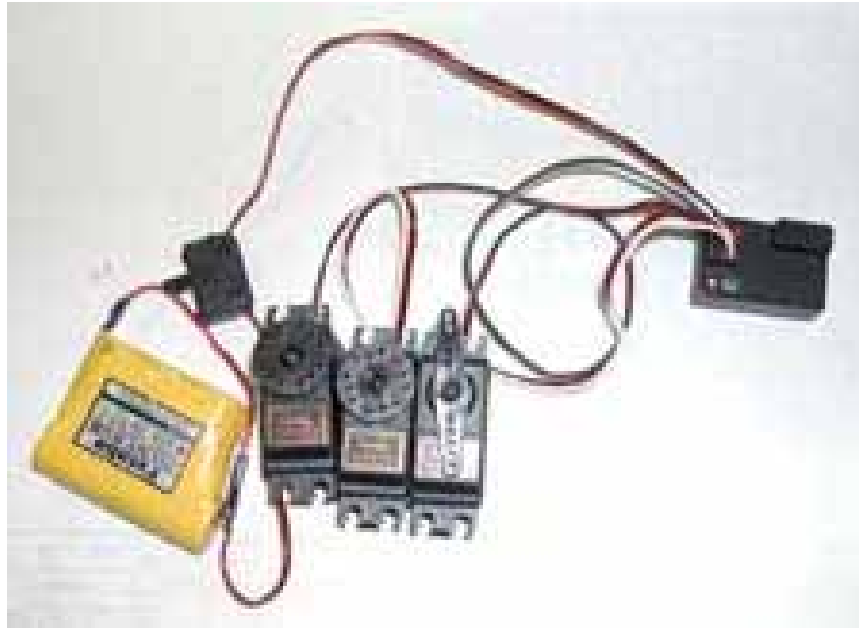


Fig.2

Frequency Allocation

The PK-FSM-2.4G/R603FS can operate on 36(or22) available frequencies between 2405.376 MHz and 2479.104 MHz with 2.048 MHz separation between each frequency. See the table below for the exact frequency assignments.

Table 3 : Frequency Channel

Channel	Frequency (MHz)	Channel	Frequency (MHz)
02	2 4 0 5 . 3 7 6	3 8	2 4 4 2 . 2 4 0
04	2 4 0 7 . 4 2 4	4 0	2 4 4 4 . 2 8 8
06	2 4 0 9 . 4 7 2	4 2	2 4 4 6 . 3 3 6
08	2 4 1 1 . 5 2 0	4 4	2 4 4 8 . 3 8 4
10	2 4 1 3 . 5 6 8	4 6	2 4 5 0 . 4 3 2
12	2 4 1 5 . 6 1 6	4 8	2 4 5 2 . 4 8 0
14	2 4 1 7 . 6 6 4	5 0	2 4 5 4 . 5 2 8
16	2 4 1 9 . 7 1 2	5 2	2 4 5 6 . 5 7 6
18	2 4 2 1 . 7 6 0	5 4	2 4 5 8 . 6 2 4
20	2 4 2 3 . 8 0 8	5 6	2 4 6 0 . 6 7 2
22	2 4 2 5 . 8 5 6	5 8	2 4 6 2 . 7 2 0
24	2 4 2 7 . 9 0 4	6 0	2 4 6 4 . 7 6 8
26	2 4 2 9 . 9 5 2	6 2	2 4 6 6 . 8 1 6
28	2 4 3 2 . 0 0 0	6 4	2 4 6 8 . 8 6 4
30	2 4 3 4 . 0 4 8	6 6	2 4 7 0 . 9 1 2
32	2 4 3 6 . 0 9 6	6 8	2 4 7 2 . 9 6 0
34	2 4 3 8 . 1 4 4	7 0	2 4 7 5 . 0 0 8
36	2 4 4 0 . 1 9 2	7 2	2 4 7 7 . 0 5 6
		7 4	2 4 7 9 . 1 0 4

Specification

PK-FSM-2.4G SPECIFICATIONS

1 Radio Characteristics

Engineering standard	Part 15.247 FCC(U.S.)
RF power output	100mW EIRP
Modulation	Direct-Sequence Spread-Spectrum
Communication scheme	Single communication
Frequency band	2405.352MHz - 2479.104MHz
Channel	36/22
Data barer rate	136 kbps
6 dB bandwidth	1.6MHz
Frequency control	Crystal controlled frequency synthesizer
Antenna	1/2 Pencil type antenna 1.6dBi
Operating Distance	150m

2 Radio communication control

Error checking	CRC-CCITT
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3 Terminal interface

Physical interface	5 pins
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4 Power Supplying

Supply voltage	9.6V DC
Current consumption	110 mA

5 Environmental

Operating temperature	-10 to +60
Storage temperature	-20 to +70

6 Miscellaneous

Indicator	2 color LED
Frequency setting	Rotary SW
Memory register	Rewritable times: approx. 1 million times
Case	Plastic
Outer dimensions	38 (W)×60(D)×21(H)mm
Weight	Aprox. 35g

R603FS SPECIFICATIONS

1 Radio Characteristics

Engineering standard	Part 15.247 FCC(U.S.)
Frequency band	2405.352MHz - 2479.104MHz
Channel	36/22
Data barer rate	136 kbps
Frequency control	Crystal controlled frequency synthesizer
Antenna	1/2 SMD type antenna -5dBi
Operating Distance	150m

2 Radio communication control

Error checking	CRC-CCITT
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3 Terminal interface

Physical interface	15 pins
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4 Power Supplying

Supply voltage	6V DC
Current consumption	80 mA

5 Environmental

Operating temperature	-10 to +60
Storage temperature	-20 to +70

6 Miscellaneous

Indicator	2 color LED
Memory register	Rewritable times: approx. 1 million times
Case	Plastic
Outer dimensions	26(W)×40(D)×14.5(H)mm
Weight	Aprox. 14g