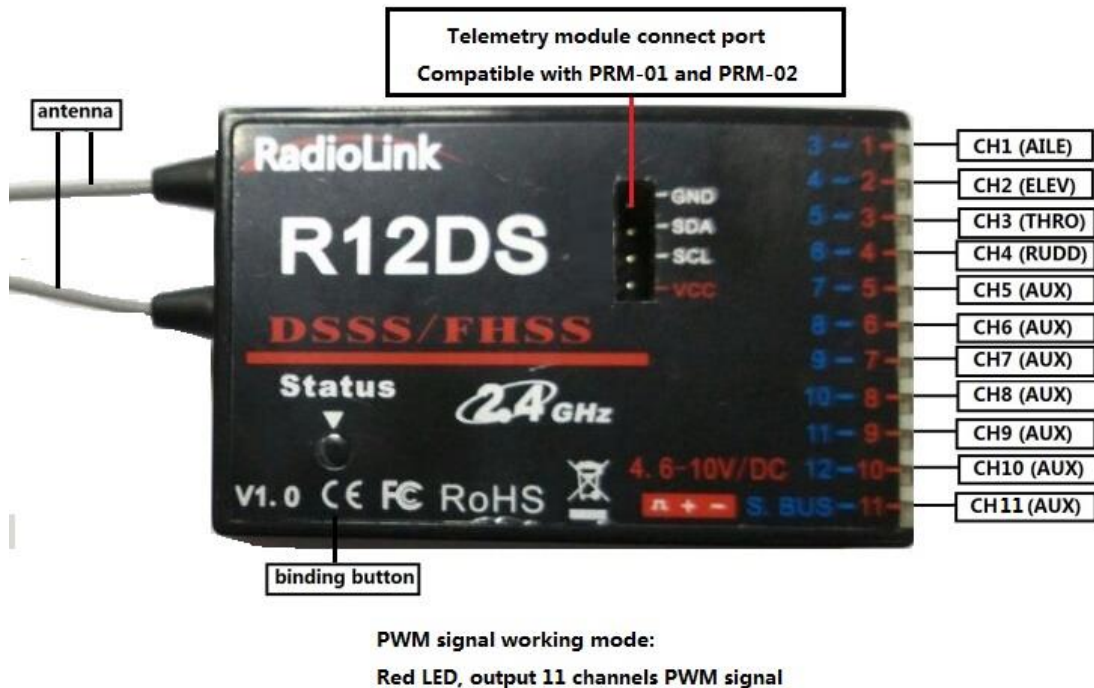# R12DS

## (FHSS and DSSS Spread Spectrum)



Radiolink R12DS, 2.4G 12 channels receiver, DSSS and FHSS spread spectrum working synchronously, compatible with Radiolink transmitters AT9, AT9S, AT9S Pro, AT10 and AT10II(AT9, AT9S, AT10 can upgrade to 12 channels just upgrade by firmware, you can download the firmware from our website: www.radiolink.com AT10II is default 12 channels).

S-BUS and PWM signal possible working at the same time.

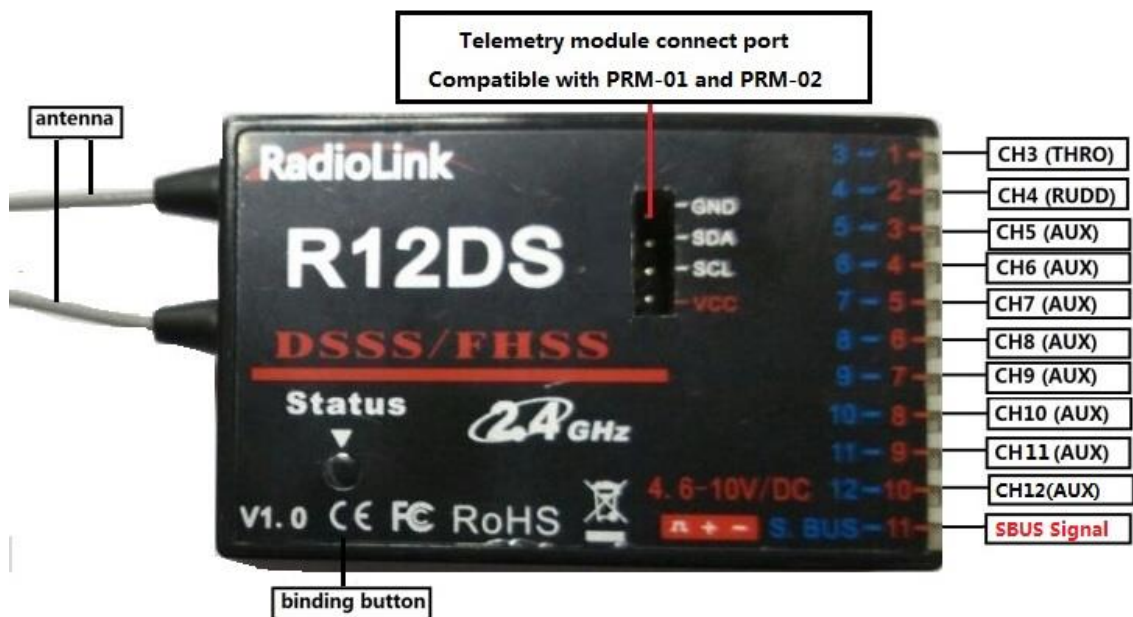**Two signal working mode:**

**1. PWM signal output working mode**

Red LED indicates PWM signal output, 11 channels totally.

Telemetry module connect port
Compatible with PRM-01 and PRM-02

antenna

RadioLink
R12DS
DSSS/FHSS
Status
V1.0 CE FC RoHS

GND
SDA
SCL
VCC

2.4GHz

4.6-10V/DC

n + -   S.BUS

3 — 1 — CH1 (AILE)
4 — 2 — CH2 (ELEV)
5 — 3 — CH3 (THRO)
6 — 4 — CH4 (RUDD)
7 — 5 — CH5 (AUX)
8 — 6 — CH6 (AUX)
9 — 7 — CH7 (AUX)
10 — 8 — CH8 (AUX)
11 — 9 — CH9 (AUX)
12 — 10 — CH10 (AUX)
11 — CH11 (AUX)

binding button

PWM signal working mode:
Red LED, output 11 channels PWM signal

**2. S-BUS signal working mode:**

Receiver indicator is Blue (Purple) with 12 channels output in total and synchronously output SBUS and PWM signal.

S-BUS signal channel (marked in BLUE) outputs 12 channels of S-BUS signal while PWM signal channels (CH3 to CH12 marked in BLUE) output PWM signals with 12 channels in total. The actual channel quantity of PWM signal output depends on that of SBUS signal output used. (E.g. If 4 channels are used for SBUS signal output then there are only 8 channels of PWM signal output                                                                                    left.)

Telemetry module connect port
Compatible with PRM-01 and PRM-02

antenna

RadioLink

R12DS

DSSS/FHSS

Status

2.4 GHz

V1.0 CE FC RoHS

4.6-10V/DC

binding button

- GND
- SDA
- SCL
- VCC

3 — 1 — CH3 (THRO)
4 — 2 — CH4 (RUDD)
5 — 3 — CH5 (AUX)
6 — 4 — CH6 (AUX)
7 — 5 — CH7 (AUX)
8 — 6 — CH8 (AUX)
9 — 7 — CH9 (AUX)
10 — 8 — CH10 (AUX)
11 — 9 — CH11 (AUX)
12 — 10 — CH12(AUX)
S. BUS — 11 — SBUS Signal

SBUS signal working mode:

Blue/purple LED , 12 channels totally

Row 11 output SBUS signal, row 1 to row 10 output PWM signal

**SBUS and PWM signal change:**

Short press the binding button twice within 1 second to switch the

S-BUS&PWM signal to PWM signal. When the Red indicator is on, signal output

is PWM of totally 11 channels. When the Blue/Purple LED is on, signal output is

SBUS&PWM of 12 channels.

**How to bind to receiver and transmitter:**

1. Put the transmitter and the receiver close to each other (about 50

centimeters) and power both on.

2. Switch on the transmitter and the RED led on R12DS will be on.

3. There is a black binding button (ID SET) on the side of receiver. Press the button for more than 1 second and release, the RED led will flash quickly, meaning binding process is ongoing.

4. When the RED led stops flashing and is always on, binding is complete and there will be a signal tower shown on top of the screen of the transmitter.
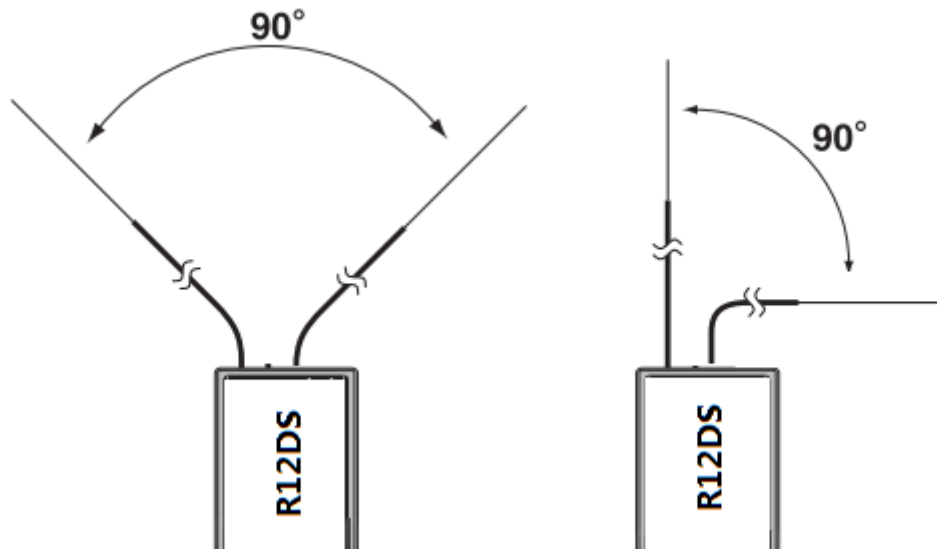
**Note:** Once upgraded with the latest firmware, the channel quantity of the transmitter (AT9/AT9S/AT10/AT10II) needs to be changed from 10 to 12 to work with R12DS, the 12-channel receiver.

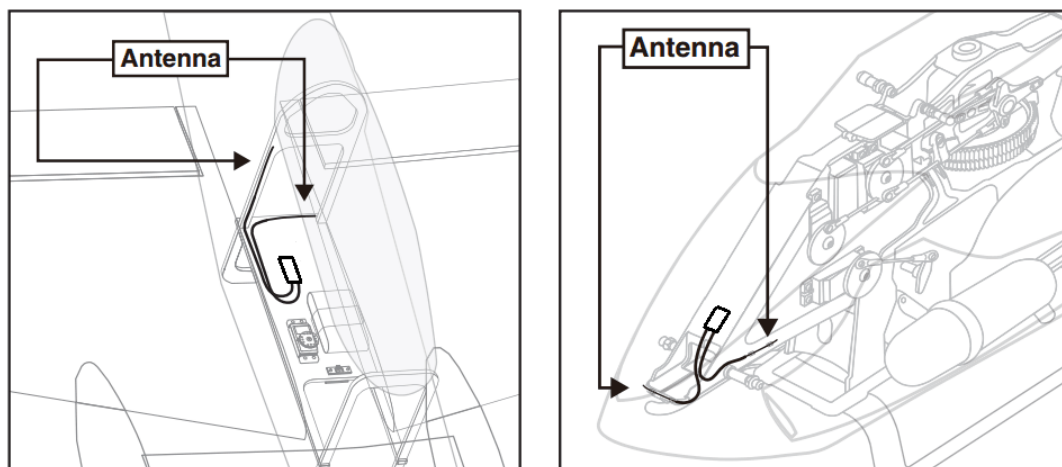**How to modify the channel setting on your radio:**

Press Mode button to enter BASIC MENU => Rotate the dial to select SYSTEM and Enter => Change CH-SELECT from 10CH to 12CH.

**Installment of receiver antenna：**

1. The antenna must be kept as straight as possible. Otherwise, it will reduce the effective range.

2. Make the two antennas keep 90 degree.

3. Large model aircraft may have some metal part interfering signal; in this case the antennas should be placed at both sides of the model. Then the best RF signal condition is obtained at any flying attitude.



4. The antennas must be kept away from conductive materials, such as metal and carbon. at least a half inch. The coaxial part of the antennas does not need to follow these guidelines, but do not bend it in a small radius.

5. Keep the antennas away from the motor, ESC, and other noise sources as far as possible.

6. Press and hold the binding button (ID SET) one second, then the receiver starts work.

7. After all of above steps were finished, the LED indicator will turn and keep in red or blue.

8. The receiver can be packed by sponge or foam for shockproof when it is installed to the model.

After all of the above steps finished, now the program functions to assure it under control of transmitter with a right connection.

**Connect to telemetry module PRM-01**



**Connect to telemetry module PRM-03(the product in the middle is flight controller Mini Pix from Radiolink)**

**Specification:**

1. 11 channels for PWM signal output;

   12 channels for SBUS&PWM signal output.

2. Working voltage: 4.8-10V

3. Working current: 38-45mA (input voltage: 5V)

4. Size: 50*32*14.5MM (1.97"*1.26"*0.57")

5. Weight: 14g (0.49oz)

6. Receiver integrate telemetry sensor including signal strength and voltage.

   Support extended engine voltage telemetry module PRM-01 and module

PRM-02 can feedback GPS info, Speed, voltage etc. on AT9/AT9S/AT9S Pro/AT10/AT10II display when work with flight controller APM or PIX.

7. 4096 section precision, 0.25us per section, servo anti-shake rudder.

8. Control distance: about 4 kilometers air. (Maximum range tested in unobstructed areas free of interference and may vary depending on local regulations).

More information please visit our website: http://www.radiolink.com

FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-- Reorient or relocate the receiving antenna.
-- Increase the separation between the equipment and receiver.
-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-- Consult the dealer or an experienced radio/TV technician for help.

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.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
The distance between user and products should be no less than 20cm.