Sanwa Electronic Instrument Co., Ltd

2.4GHz Radio Control System

670A02593A

RX-491 SSL TELEMETRY

SSL Sanwa Synchronized Link

2.4GHz

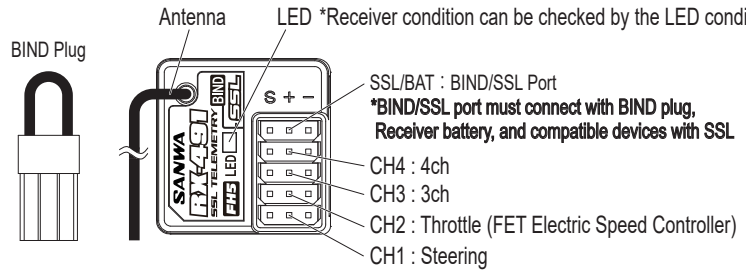
Operation Manual

Thank you for your purchasing SANWA 2.4GHz Receiver "RX-491."
This product manual explains correct uses, safe uses, and product notifications.
Please read the manual and follow steps and cautions before using.
If you read the manual, please keep it whenever you need to read.

! PRECAUTIONS AND WARNINGS

- RX-491(2.4GHz Spread spectrum transmission system receiver) is for compatible FH5 transmitter as M17. Other AM/FM/2.4GHz transmitter cannot use.
- To combine with devices compatible with SSL can be changed setting by transmitter CODE AUX function.
- Analog servos is not compatible with SUR , SSR, SHR mode. You must use analog servos by NOR mode. If using analog servos by SUR, SSR, SHR mode, the analog servos will be broken. (Analog servos: Hyper ERG series, RS-995, SZ-165T, SPEC series) BL-RACER/BL-FORCE/BL-sport, F3300, F3000, F2200, SBL-01/02/03CR cannot work by SUR, SSR, and SHR mode. You MUST use the ESC by NOR mode.
- 2.4GHz frequency band is not only for Radio Control. This frequency band is same as ISM (industrial, scientific, and medical device) use. There are some possible of interfering by the other devices as Microwave, wireless LAN, digital cordless phone, audio device, gaming device, and bluetooth device, and VICS. Also, amateur radio uses same frequency band. Please take care of interfering form other devices. In case of interfering to the radio station, please stop to use and avoid the interfere.
- Please check safe use and limit to use devices are possible to be interfered in RC circuit. Also, please follow instructions by the facility manager.
- In case of running behind the building and steel tower, transmission function would be decline or out of control. Please always operate in visible situation.
- If the 2.4GHz frequency band is saturated (too many transmitters on at once), as a safety precaution, it may not pair when turned on. Once the frequencies have been cleared, or the saturation level has dropped, your transmitter and receiver should pair when turned on without any problems.

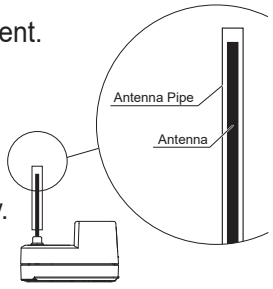
2.4GHz NAME OF PARTS, LED CONDITION INDICATOR, AND ANTENNA CONDITION



LED condition indicator

Receiving RF Signal	Blue
No connection	None
Binding Operation	Blue Flash Slow Blue Flash Fast
Battery Fail Safe Mode	Flashing Blue and Red
No connection after Battery Fail Safe	Flashing Red

- Depending on the place receiver and antenna, reception distance may be different.
- Do not antenna tip is outside antenna pipe because of antenna protection. Please put antenna in the pipe as right picture.
- MUST not hold antenna due to avoiding breaking of wire. Do not pull off antenna. It will be caused failure inside receiver.
- Please place antenna as high as possible in your model.
- Do not cut off and bundle antenna due to avoiding to decline receiver sensitivity.
- Stand antenna vertically. Please place receiver apart from motor and FET Speed Controller (include leads).



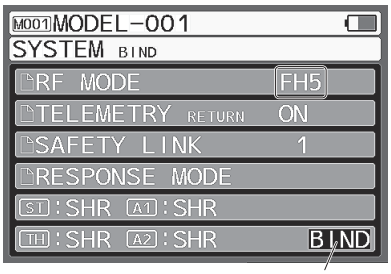
2.4GHz SSL SYSTEM

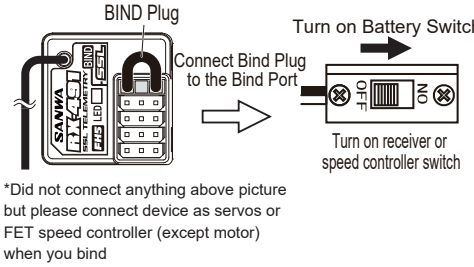
- To combine with devices compatible with SSL can be changed setting by transmitter CODE AUX function.
- In case of using CODE AUX, please change AUX TYPE is [NOR] to [CODE5 or CODE10] in System. To choose CODE5 or CODE10 depends on device which is compatible with CODE5 or CODE10.
- About CODE AUX, please refer SSL system explanation on our HP. (www.sanwa-denshi.com)

2.4GHz How to Bind with Transmitter

●About BIND : each 2.4GHz transmitter has ID Number. The bind is stored ID Number in receiver.
If receiver bind with transmitter, receiver will be worked by only the transmitter.

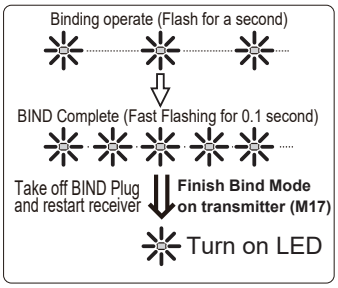
1. Please set [RF mode] is [FH5] in Transmitter System (Compatible with FH5 as M17)
2. Turn on the transmitter, and set for other devices as response mode. Then, enter [BIND] to be bind mode.
3. Connect BIND plug in RX-491 BIND/SSL port. Then, turn on receiver.
   ***When you bind transmitter with the receiver, please connect battery in empty port. (In case of EP car, speed controller connect in CH2 port)**
4. After RX-491 LED will be changed fast flashing blue from slow flashing blue, please take off BIND plug and restart RX-491 (Turn off receiver, then turn on).
5. Please finish BIND mode on transmitter to use enter/back operation by touch pad. In case of binding with transmitter, LED on the receiver turn on blue.
   Please operate device as servo to check BIND is completed.
   *** In case of turning off LED in the process or did not complete BIND setting, please reset binding form 2. in bind process.**





*Did not connect anything above picture but please connect device as servos or FET speed controller (except motor) when you bind

Receiver LED Condition



●About RX-491

RX-491 can store 2 transmitter ID Number. It is able to combine using individual transmitter which is different setting in endurance race .

If you bind with 2 different transmitter, the receiver store the different transmitter and can operate by transmitters without re-bind.

*CANNOT operate by the 2 different transmitter at the same time. 2 ID store system is only compatible with M17.

- Throttle neutral position or operation quantities might be different each transmitter. Please adjust each transmitter setting to fit chassis linkage.
- MUST set fail-safe setting on each transmitter.
- Please set same RF mode and response mode as 1st transmitter when you bind 2nd transmitter. If it was different mode, cannot bind with 2 transmitters.

*If 2nd transmitter was different RF node and response mode from 1st transmitter, 1st transmitter ID No. is deleted and only write 2nd transmitter.

*If you bound 3rd transmitter, 1st transmitter ID No. will be deleted.

WARNING

■ Default is not bind with transmitter. Please bind with transmitter before using.
■ MUST use the receiver with bound transmitter.

PRECAUTION FOR SAFE USE

- Please mount the antenna of receiver as high as possible in your model.
- Do NOT cut off the antenna and bundle the antenna.
- Stand antenna vertically. Please place receiver apart from motor and FET Speed Controller (include leads).
- Please check surely connection devices as servos and switch with the receiver. In case of loosing connection during running, it is possible to be out of control.
- The receiver is weak in extreme vibration, shock, and water. Please take care of vibration, shock, and water.
- Please mount the receiver apart from carbon and metal chassis.
- Metal to metal contact in your model will generate to noise. It will interfere the receiver ability and is possible to be out of control.
- Please take noise killer condenser to brushless motor for RC car. If not taking noise killer condenser to brushless motor for RC car, noise will be generated. It is possible to be out of control.
- Please use transmitter, servos, FET speed controller made by SANWA.

*in case of combine to use with the devices except SANWA devices, we could not take responsibility for any failures.

2.4GHz WARRANTY AND SERVICE INFORMATION

Your RX-491 is warranted against manufacture defects in materials and workmanship.
This warranty does not cover suitability for specific application, components worn by use or improper voltage, tampering, modification, misuse, abuse, improper wiring, reverse polarity, moisuture damage or acts of Gods.
For warranty and service information, please contact the SANWA distributors in your region.
For a list of distributors in your region, please visit www.sanwa-denshi.com/rc/distributors.html.

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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.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

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.

The device has been evaluated to meet general RF exposure requirement.