

**ART-TECH R/C HOBBY CO., LTD**



## 2.4G RADIO CONTROL SYSTEM

*The ETF4SDL-2.4G transmitter is the first one of Mode 1 and Mode 2 switchover without any tool all over the world.*

*This transmitter has obtained the national patent and the patent number is 201120407999.3*

## INSTRUCTION MANUAL



# **MANUAL**

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Thanks for purchasing Art-Tech ETF4SDL-2.4G radio control system, this radio control system adopt the new FHSS digital technique, built-in antenna, creatively making use of 180 degrees rollover to achieve the switchover Mode 1 and 2, the switchover operation is more flexible and quicker than traditional radio control's one; more functions with throttle protection, new digital trim, low voltage alarm function and with LCD screen, and so on.

## FUNCTIONS & FEATURES

ETF4SDL is a 4 channel full range proportional radio at frequency 2.4G, adopt the new FHSS digital technique bring out the better performance in interference-resistance and signal stability and reliability; available for common fixed wing plane, gliders and helicopters.

Type F radio system special in the swift switchover operation, just need to turn over the controller, without any setting, include the D/R function, digital trim, swift switchover, channel inversion, low voltage alarm, and so on.



## HOW TO USE

### 1. Frequency Bind

Type F controller adopt the automatically frequency bind technique, the transmitter will match with the receiver automatically when both are turn on.

#### The Process of Frequency Bind:

- Plug the short-circuit plug into the Receiver into the position of BATT, which results to the indicator light glitters slowly.
- Turn on the transmitter, red indicator light glitters, the indicator light on receiver glitters quickly, frequency binding.
- When red indicator light stops glitter, indicator light on receiver light constantly, this means the frequency bind is successful.

#### 2. Functional Switch Introduction:

4in1 dip switch at the back of F4SDL controller, the dip switch marked with 1,2,3 which means the inversion of 1, 2,4 channel outputting of controller,4 means the calibration switch.

**3. Indicator lights and indicator sound introduction:**

Indicators	Led light Status	Sound Type
High Frequency Module Problem	Glitter 4 times	4 short
Throttle Indicator	Non glitter	3 short
Low voltage indicator	Glitter 2 times	2 short
Sound of trim	Non glitter	1 short
Calibrating	Green light	1 long
Calibration Successful	Green light	2 short 1 long
Calibration Failure	Red light	1 long

**INTRODUCTION OF INDICATORS****Throttle Indicator:**

when the throttle sticker don't stay at the lowest position after turn on the transmitter or after

Mould I and II switchover, the throttle indicator start to work, and the throttle channel at the lowest value, the indicator will closed after push the sticker to the lowest position, throttle channel outputting turns normal.

**Low Voltage Indicator:**

When the voltage of transmitter is less than 5V, the Low Voltage Indicator start to work,

the LED light glitter for twice, and indicator sound for twice.

**High Frequency Module Problem Indicator:**

2.4G high frequency transmitting module will self-check when turn

on the transmitter, the inductor will start to work once the self-check is not passed, for more details, check Point 3 Indicator lights and indicator sound introduction.

**Calibration Indicator:**

when the transmitter in calibration module, buzzer will make a sound per 3 seconds, LED

light is green, to remind the user that the transmitter in calibration module. After calibration, the buzzer make 2 short & 1 long indicating sound and LED light keep green, means calibration successful; 1 long indicating sound and LED light keep red, means calibration failure.

**4. Radio Control Calibration:**

To eliminate the differences of constructions of transmitter and potentiometer, the transmitter have the Radio Control Calibration, to obtain the better operating precision and flight performance (already calibrated in factory).

**Calibration Process:**

- A.Turn off the power of transmitter, dial the dip switch 4 to "ON"
- B.Turn on the power of transmitter, buzzer make a sound per 3 seconds, LED light keep green.
- C.Push the sticks of all channels to the maximum position of all directions, for many times, to make sure the maximum value on all directions.
- D.Push the stickers to the middle position (attention: Middle Position).
- E.Dial the dip switch 4 to inversion to finish the calibration, controller work normally.

**Attention:**

Keep power on during calibration, need to calibrate the transmitter again if power off. If the movement of the stick of any channel can not achieve 80% of the total range, the calibration is not valuable, take the previous calibration as result.

**5. Channel reversion:**

the dip switch 1,2,3 at the back of the transmitter mean the reversion of channel 1,2,4, the throttle channel don't have reversion.

**6. D/R function:**

on the front side of the transmitter, marked with "CH1.2.4 D/R" on the board, means the D/R function, dial to "EXPERT", 100% outputting; dial to "BEGINNER", 70% outputting.

**7. Introduction of trim:**

there have 6 groups of keys as trims(picture 1), trim 1 and trim 5 trim the same channel, trim 2 and trim 6 trim the same channel, trim 3 trim one channel, trim 4 trim one channel, for purpose of the convenience of trim whenever Mode 1 or Mode 2.

**Introduction of indicators of trim sound:**

- 1 short, within the normal range.
- 1 long, in the middle position or maximum position of two ends.

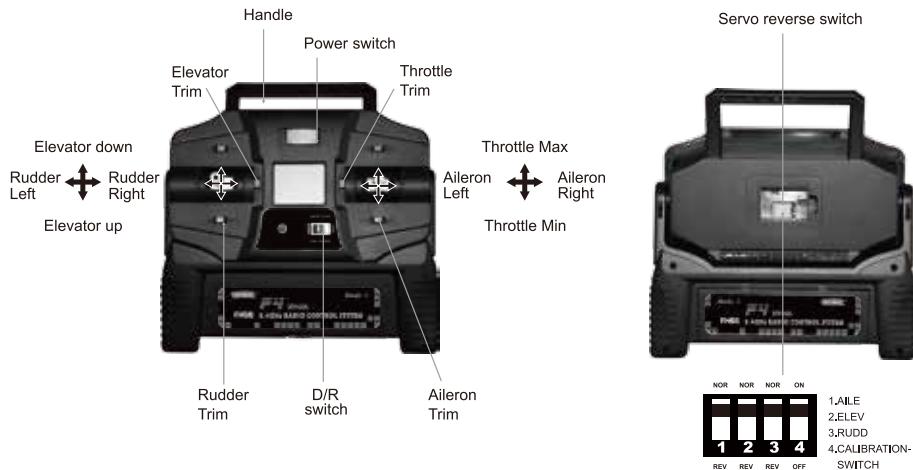
**FUNCTIONS FOR CONTROL SET**

ETF4SDL is configured with 4 channel 2.4G R/C system, adopts FHSS technology which makes it very stable and reliable. The range of application is Airplanes, gliders etc.

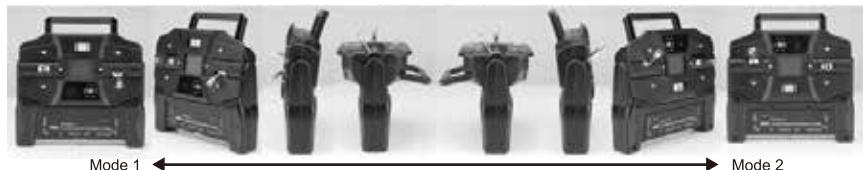
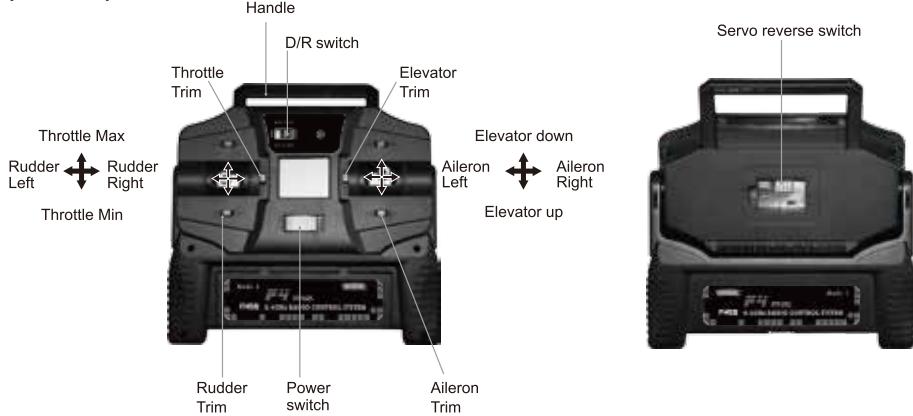
The most unique character reflects quick exchange between Mode 1 and 2, you can turn it quickly without any setting.

It contains functions of D/R reverse, new digital trimmer, switchover Mode 1 and 2, and low voltage alarm etc.

## (Mode 1)



## (Mode 2)



This Transmitter configured with 2.4G radio R/C system with control distance of 100 meters.

**FCC WARNING**

**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.

**NOTE:**

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.

Hereby, SHENZHEN ART-TECH R/C HOBBY CO., LTD. DONGGUAN BRANCH, ART-TECH Aviation Science Park, Industrial Road, Langzhou Village, ChangPing Town, DongGuan City, China. declares that this ETF4SDL-2.4G is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

**CE2200.**



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