User's Instruction Manual

2.4GHz 2 Channel Transmitter with LCD Display
(Model#: D302HT)

2.4GHz 2 Channel Transmitter
(Model#: D302T)

DHK TECHNOLOGY CO.LTD

http://www.dhkhobby.com

Thank you for purchasing DHK HOBBY 2.4GHz radio system. Please read the following instructions before you operate your transmitter. This instruction provides a general guideline for this transmitter. When you drive your vehicle together with this 2.4GHz transmitter, please pay special attention to safety precautions. Besides, good common sense in RC driving is always important. Enjoy your play!

PART I:

2.4GHz Transmitter (Standard, Model#: D302T)

Safety Precautions

1. The 2.4GHz transmitter and receiver are pre-bound at the factory.
2. Please always use the same receiver model from the factory to match your 2.4GHz transmitter when you need to replace it. Receivers from other suppliers don't work on DHK HOBBY 2.4GHz transmitter.
3. When you need to replace a receiver, please make sure that it is bound with the transmitter before use.
4. Please operate the transmitter in vast areas where no radio interference exists. It's strongly recommended that no humans, animals or high voltage grid should be nearby.
5. Please do not operate this transmitter during fatigue, sickness, intoxication or in bad mood.
6. Do not operate the transmitter at night time, in the rain and thunderstorm or at low visibility.
7. Always use the same types of batteries in the transmitter. Do not mix old and new batteries in the transmitter. Please check the battery power before use. Replace batteries whenever the power is low to avoid out of control. Ni-Mh or Ni-Cd rechargeable batteries can be used on this transmitter. Please charge the batteries to full before use.
8. Before you operate the transmitter, please check the switch, batteries, servo and ESC for proper connection.
9. ALWAYS switch on the transmitter first, and off last so as to avoid possible radio interference from other sources. Failure to do so may cause out of control of your vehicle. 10. Before operation, check the servo forward and reverse functions, motor range, and neutral position. Modify it when necessary.
11. Please handle the transmitter with care. Store the transmitter in a dry and clean place when it's not in use for some time.

Transmitter Specifications

Channels	2 channels
Model types	Cars, boats
Frequency range	2.40-2.483GHz
RF power	≤20dB
Power output	10mW
Bandwidth	1M
Band number	64
2.4GHz modulation	AFHDS
Encoding	GFSK

Channel resolution	4096
Remote range	>200M
TH range	0.9mS-2.1mS
ST range	0.9mS-2.1mS
Battery voltage	6V (1.5V*4 cells)
Low voltage protection	≤4.4V
Weight	320g
USB port	N/A
Charging port	Yes

2.4GHz Standard Transmitter Parts and Functions

1-Antenna: pull up the antenna straight before use.

2-Power switch: slide the switch to turn on or off.

3-Power LED: shows the power strength. Green LED shows full power, Yellow LED flashes when the power is running short.

4-Charging port: charges Ni-Mh or Ni-Cd batteries only. Alkaline batteries are not rechargeable. NEVER charge your alkaline batteries.

5-Throttle trigger: Please refer to the transmitter diagram.

6-Steering wheel: Please refer to the transmitter diagram.

7-ST-D/R trim: adjust the steering servo angle ranging from 0% to 120%.

8-TH-D/R trim: adjust the throttle servo angle ranging from 0% to 120%.

9-ST-TRIM: adjust the steering neutral position, from 0% to 20%.

10-TH-TRIM: adjust the throttle neutral position, from 0% to 20%.

11-ST-NOR/REV: slide to left or right to choose steering mode.

12-TH-NOR/REV: push the trigger or pull it back to choose the throttle mode.

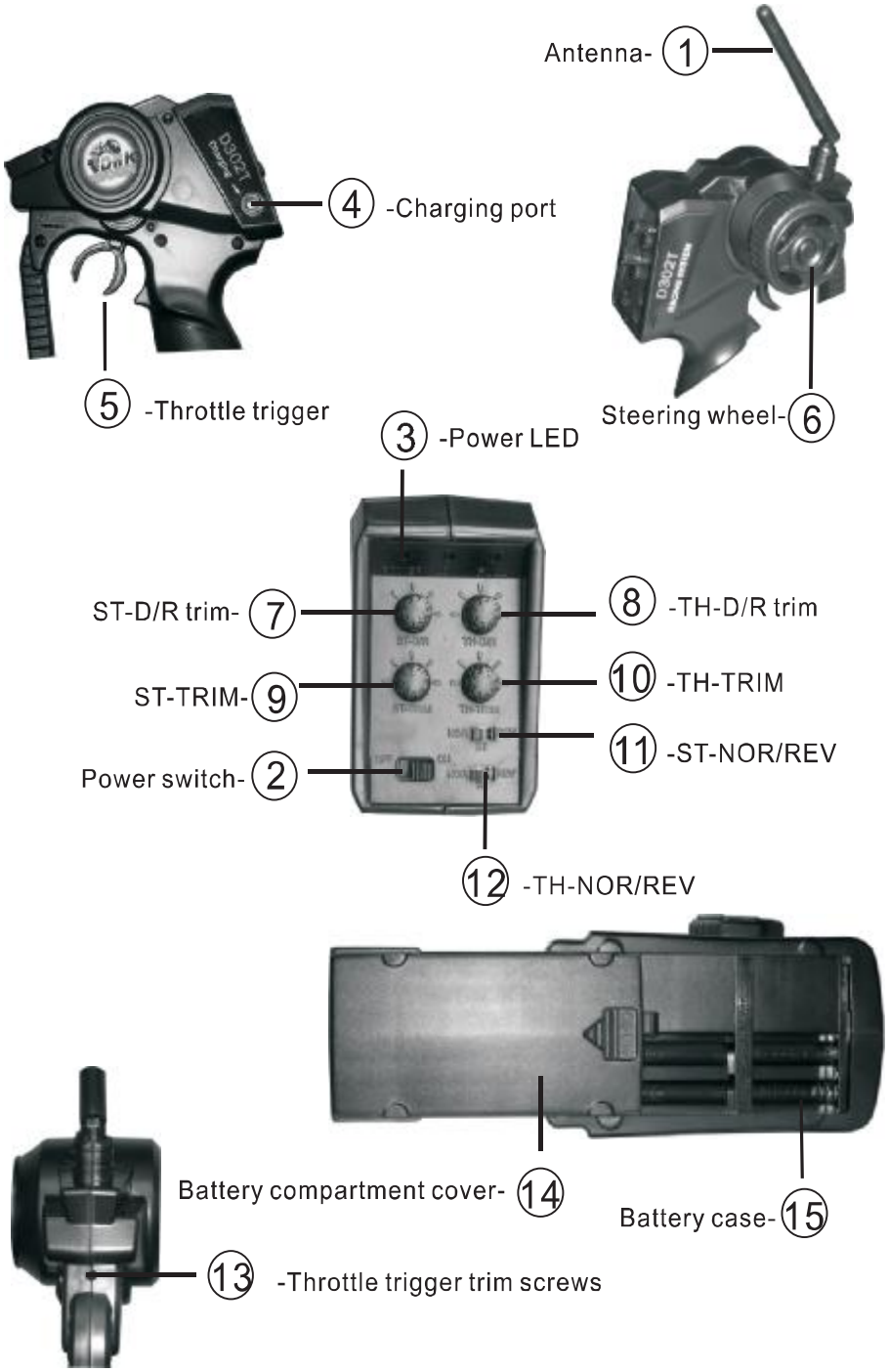
13-Throttle trigger trim screws: use a hex driver to tighten or loosen the screw to a comfortable level.

14-Battery compartment cover: to open the compartment, slide the cover to OPEN direction as indicated, snap it to close the compartment.

15-Battery case: open the battery cover, install 4 pcs AA 1.5V alkaline or rechargeable batteries based on the "+" & "-" poles.

If the status LED flashes red, the transmitter batteries may be weak, discharged or possibly installed incorrectly. Replace with new or freshly charged batteries. The power indicator light does not indicate the charge level of the battery pack installed in the model.

Parts Diagrams



Receiver Functions

Frequency range	: 2.4GHz
2.4GHz modulation	: AFHDS
Sensitivity	: -100dbm
Working voltage	: DC4.8-6.0V
Working current	: ≤25mA
Size	: 5.7*26*15.2mm
Weight	: 11.2g

1. Antenna: Pull out the antenna completely

2. Connecting ports: receiver power port and channel signal connecting ports
> ST/1: Channel 1, steering signal port
> TH/2: Channel 2, throttle servo or ESC signal port
> AUX/3: Auxiliary signal port
> BATT/4: Receiver power port, can be auxiliary signal port

3. Set keys & LED indicators
>Bind setup. Switch on the receiver, indicators flash slowly, press the setup key for 2 seconds and release it, LED indicator flash in faster motion, binding starts. When the LED indicator is on in stable status, the binding is complete. Note: To bind it quickly and effectively, please put the receiver 40-50cm away from the transmitter.

>Failsafe. Switch on the transmitter and receiver, then you can see the LED indicator on receiver is on. Adjust the throttle servo or ESC to brake or stop status, and keep it that way. Press the setup key, then receiver LED indicator flashes, keep this for 3 seconds. After this, release the setup key. Failsafe setup is complete.

>Disabling failsafe function. Switch on transmitter and receiver, once the signal is connected, LED indicator is on. Press the setup key for 2 seconds, LED indicator flashes quickly, at this point, keep pressing the setup key without release, press it for 2 more seconds, LED indicator flashes slowly. Release the setup key, LED indicator is on. The setup is complete.

PART II:

2.4GHz Transmitter (LCD Version, Model#: D302HT)

Safety precautions

Please refer to Safety Precautions in PART I.

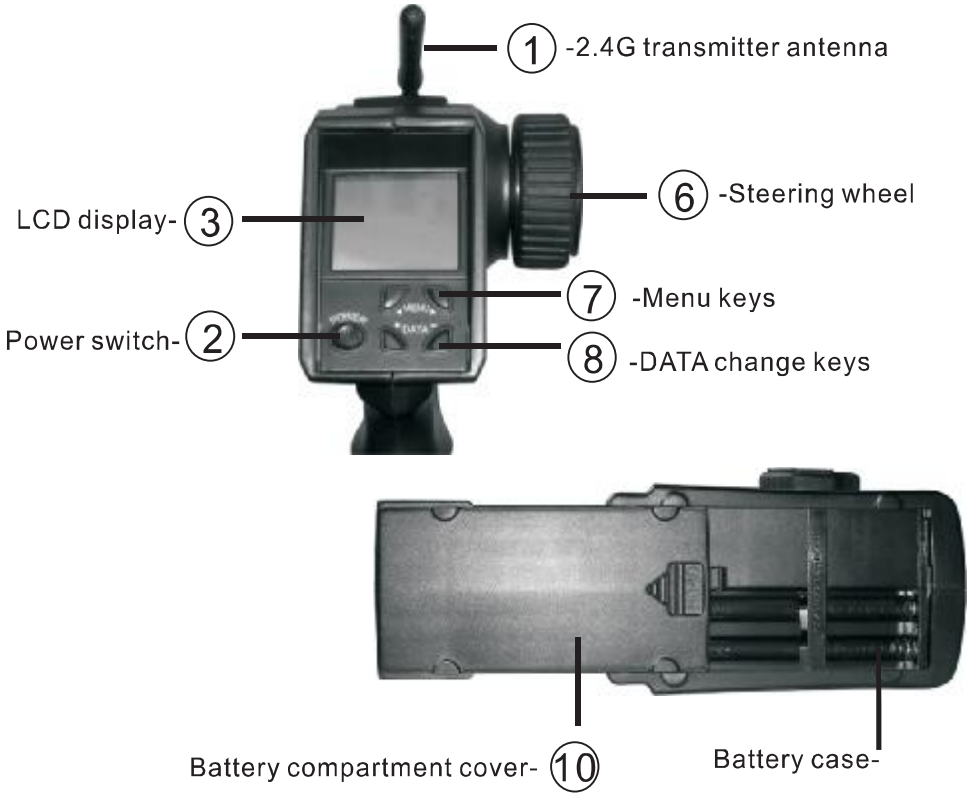
Transmitter Specifications

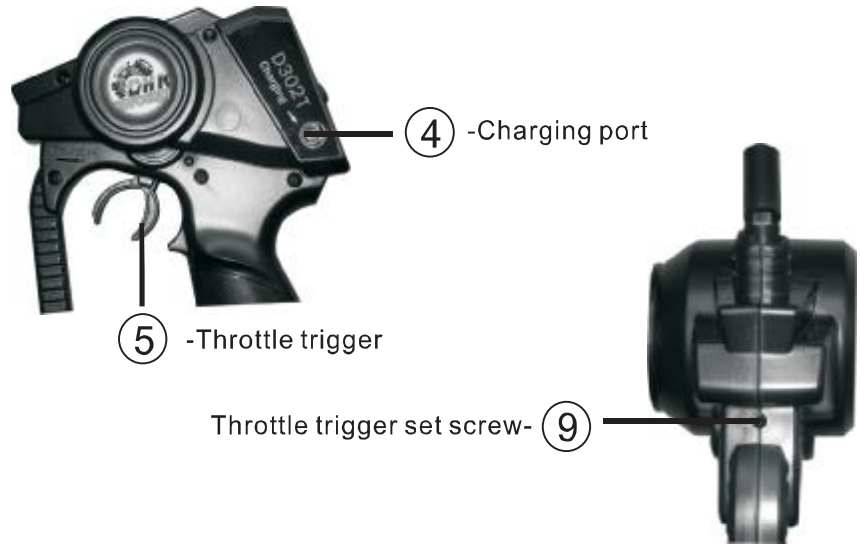
Please refer to Transmitter Specifications in PART I.

2.4GHz LCD Transmitter Parts and Functions

1. 2.4G transmitter antenna: before use, please pull the antenna straight up.
2. Power switch: Press down to turn on the transmitter, press the switch again to turn it off.
3. LCD display: shows transmitter menus, parameters and operation instructions.
4. Charging port: charging area is positive inside and negative outside. When Ni-Mh or Ni-Cd rechargeable batteries are to be charged, right charger should be selected for re-charging the batteries.
5. Throttle trigger: drag, push or make the throttle trigger to a neutral position to forward, reverse or brake your RC model.
6. Steering wheel: turn the steering wheel counterclockwise to turn the model to left. Turn the steering wheel clockwise to turn the model to right. Release it to neutral for straight driving.
7. Menu keys: Press Left key (<) or Right key (>), move the cursor to LCD display options.
8. DATA change keys: press Left key (+) or Right key (-) to change, adjust and save current parameters.
9. Throttle trigger set screw: use a 2.5mm hex screw driver to move forward or backward to adjust the throttle trigger to a comfortable hand feeling.
10. Battery compartment cover: Press the door to OPEN indicated direction to open the battery compartment cover. Snap the compartment door into the slot to close the battery compartment.
11. Installing batteries: open the battery compartment cover, install 4 pcs “AA” batteries (same type) according to the indicated “+” “-“ orientations. Turn on the transmitter and check the indicator status for a solid green light. Please take out the batteries when the transmitter is not in use. If the status LED flashs red, the transmitter batteries may be weak, discharged or possibly installed incorrectly. Replace with new or freshly charged batteries. The power indicator light does not indicate the charge level of the battery pack installed in the model.

Parts Diagrams





LCD Functions and Operations

Key Operations

Menu keys:
Press Left key (<) to main command, and Right key (>) for secondary command.
DATA keys:
Press Left key (+) or Right key (-) to adjust, set up and auto save the current chosen function.

Display Interface

Switch on the transmitter, you will hear “beep” sound (beeps once), and the LCD display mode will read the default parameters pre-set at the factory and BATT status mode (main menu).

BATT: battery status, function reset settings

Battery level display. Battery voltage appears on LCD display. When the voltage is 4.4V, the value flashes and you can hear warning sound. This means the battery voltage is deficient. When battery voltage value shows 4.0V, the value blinks fast and warning sound keeps strong. This indicates battery voltage is too low and batteries cannot be used. Please turn off the transmitter and replace batteries. If rechargeable Ni-Mh or Ni-Cd batteries are used, please charge the batteries with proper charger.

Function reposition. In case the parameters are messed up or if you don't know how to set up, please turn off the power, press and hold MENU Left key (<). Then turn on the power and you will hear “beep” sound after two seconds. Release all keys and all parameters will go back to factory default values.

Frequency duplication setting. When two transmitters are used at the same time, a frequency might be duplicated. In this case, you may choose the auto frequency function. First turn off the power, then press and hold MENU Right key (<), and turn on the power. The display will show hopping data. Release the key and the hopping data will stop. The digit shown on the display is your frequency. Bind the transmitter with the receiver through binding keys.

MOD: Setting up mode and naming

15 group memory data for choice, it's easy to manage and use. At start status, press Left key (+) or Right key (-) of the DATA to choose the necessary module (Screen shows main menu)

For easy control, you may name each module. Press Left key (<) on MENU (6 times on Main Menu) until you see 000 01 on the screen and the first digit must flash, at this moment, you may change the data here. Press Left key (+) or Right key (-) to choose necessary data. Once first change is made, press Right key (>) on MENU to move the cursor to the next position, then press Left key (-) or Right key (+) to choose the needed data. Based on the above, you can change data for the 3rd data group. Once all is changed, press Left key (<) on the MENU function to get back to Main Menu and save the setup. (Screen shows 000 01).

MOD	Range	Default
MODULE	0 – 15	01
NAMING UNITS	Digits 0-9, letters A-Z	000

REV: Servo forward and reverse setup

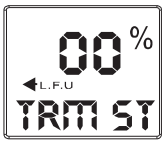
Setting up Steering servo direction. Press MENU function Left key (<) or Right key (>) (Press once under MAIN MENU) until you see" ***REV-ST", then press DATA function Left key (+) or Right key (-) to choose ON/OFF. (Screen shows OFF REV-ST).

Setting up Throttle speed neutral position. Press MENU function Left key (<) (Press once under the MAIN MENU) and then press twice of MENU Right key (>) until you see ***REV-TH. Press DATA function Left key (+) or Right key (-) ON/OFF. (Screen shows OFF REV-TH).

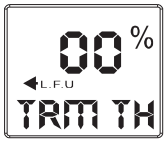
Setting up the 3rd Channel. Press MENU function Left key (<) (Press once under MAIN MENU), then press twice on Menu function Right key (>) until you see ***REV-3C, press DATA function Left key (+) or Right key (-) to choose ON/OFF. (Screen shows OFF REV-3C).

REV	Initial value	Range
ST	OFF	ON/OFF
TH	OFF	ON/OFF
3C	OFF	ON/OFF

TRM: Servo neutral trim setup



Setting up steering servo(ST) neutral position parameters. Press MENU function Left key (<) (Press twice under MAIN MENU) until you see **% TRM ST and neutral value. Press DATA function Left key (+) or Right key (-) to change the steering neutral position. On the hhscreen there is steering neutral statu← L.F. U, R. B. D→and percentage values indicating the neutral position at that setup.(Screen shows 00% TRM ST).



Setting up throttle speed (TH) neutral position parameters. Press MENU function Left key (<) (Press twice under MAIN MENU), and press MENU function Right key (<) until you see **% TRM TH and neutral value. At this point, press DATA function Left key (+) or Right key (-) for adjustment. On the screen you will see neutral positistatus ndicator ← L. F. U, R. B. D→ and percentage values. (Screen shows 00% TRM TH)

TRM	Initial value	Range
ST	0%	100%<--L. F. U—100% R.B.D.-->
TH	0%	100%<--L. F. U—100% R.B.D.-->

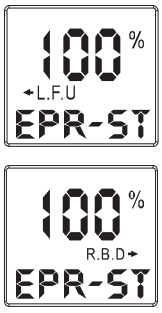
D/R: Servo angle adjustment setup

Set up Steering servo (ST) angle. Press Menu function Left key (<) (Press 3 times on MAIN MENU) until you see **% D/R ST on the screen, then press DATA function Left key (+) or Right key (-) to choose servo angle parameter. (Screen shows 100% D/R ST).

Set up Throttle servo (TH) forward and reverse angle. Press MENU function Left key (<) (Press 3 times on MAIN MENU), then press MENU function Right key (>) once, the screen shows **% D/R TH, press DATA function Left key (+) or Right key (-) for throttle angle parameters. (Screen shows 100% D/R TH)

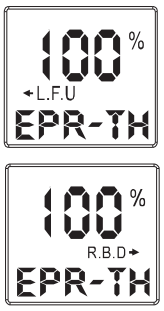
D/R	Initial value	Range
ST	100%	0% - 100%
TH	100%	0% - 100%

EPA: End point adjustment(servo single side angle setup)



Set up steering servo single side (left steering or right steering) travel angle. Press MENU function Left key (<) (Press 4 times under MAIN MENU) until the screen shows **% EPA ST. Turn the steering wheel clockwise, the screen shows the EPA value of right steering R.B.D.-->; Press DATA function Left key (+) or Right key (-) and change the data. When you turn the steering wheel counterclockwise, the screen displays the EPA value of left steering L. F. U on steering servo. Press DATA function Left key (+) or Right key (-) for desired value. (Screen shows 100% EPA-ST)

Note: for this function, the steering servo travel angle is adjusted to a wider or narrower range, hence the steering angle of the left or right tire is adjusted to desired angle.



Set up throttle speed (forward or reverse). Press MENU function Left key (<) (Press 4 times under MAIN MENU) and press once on MENU function Right key (>), the screen shows **% EPA TH. Pull back the throttle trigger and the screen displays L.F.U value of forward (F) speed. Press DATA function Left key (+) or Right key (-) to change the value. Push forward the throttle trigger and the screen shows reverse R.B.D value of reverse speed, press DATA function Left key (+) or Right key (-) to change the value. (Screen shows 100% EPA-ST)

Note: for this function, the throttle servo angle is adjusted (wider or narrower) on nitro- (gas-) powered vehicles, and for EP vehicles, speed of the electronic speed controller adjusted (faster or slower).

EPA	Initial value	Range
ST←L.F.U	100%	0% - 120%
ST R.B.D→	100%	0% - 120%
TH←L.F.U	100%	0% - 120%
TH R.B.D→	100%	0% - 120%

ABS: Setting up brake system

Set up throttle ABS brake system. Press MENU function Left key (<) (Press 5 times under MAIN MENU), screen shows *** ABS- TH, press DATA function Left key (+) or Right key (-) to choose ON/OFF. At ON status, it prevents the tires from getting stuck in powerful griping motion during brake. (Screen shows *** ABS- TH)

Receiver Functions

Please refer to Receiver Functions Section in PART I.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's 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.

Warning:

The 2.4GHz transmitters (Standard and LCD versions) are designed and produced for players of 14+ years of age. Players under that age should be guided by adult supervision. Players are responsible for any accidental occurrences due to improper operation of either transmitter.

Shenzhen Bontek Electronic Techeology Co., Ltd.

CE Attestation of Conformity

Applicant: DHK TECHNOLOGY CO. LTD.

Manufacturer: DHK TECHNOLOGY CO. LTD.

Trade Mark: DHK HOBBY

Product: 2.4GHz Transmitter & Receiver

Model:

And, in accordance to the following applicable directives:

1999/5/EC R&TTE Directive (as amended)

That this product has been assessed against the following applicable Standards:

R&TTE ETSI EN 300 440-1 V1.6.1
ETSI EN 300 440-2 V1.4.1
ETSI EN 301 489-1 V1.8.1
ETSI EN 301 489-3 V1.4.1

Therefore, SHENZHEN BONTEK ELECTRONIC TECHNOLOGY CO., LTD. hereby acknowledges that the Manufacturer may issue a DECLARATION of CONFORMITY and apply the CE mark in accordance to European Union Rules.

Attestation by:

Kenly Wang

Date of Issued: Sep. 5, 2011

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http://www.dhkhobby.com