LDARC

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240924

Drone Ball

--Instruction Manual--

14+

Please read this manual carefully before using,this is very important.

Safety notice

○ The model is not toy, please read the manual carefully before use.
○ Do not put your hands inside the ball shell until the propeller stops turning.
○ Please stay away from crowds when flying, and do not operate the aircraft to collide with people or animals.
○ When removing the propellers or protective covers for maintenance and inspection, please disconnect the ball's battery first.
○ This product contains small parts. Children under the age of 14 are strictly prohibited from using it to avoid the risk of suffocation caused by accidental ingestion; children over the age of 14 must use it in the presence of a guardian,and do not leave the guardian's line of sight to avoid accidents
○ Adults must be present when charging; please place it out of the reach of children when charging and storing.
○ Due to functional requirements, this product contains sharp parts, please operate according to the correct steps and usage methods, and pay special attention to eye safety.
○ Please do not bend, throw or use this product in other violent ways to avoid damage to the product or cause an accidents.
○ This product's battery, please do not put it into water or fire (such as stove, gas stove, etc.), to avoid explosion.
○ Any accidents such as injury to others or damage to items caused by operating errors are the responsibility of the operator, and the company will not be responsible.

Scenario warning

○ Impact may cause damage to indoor objects.
○ It will cause sthe aircraft loss of control when flying beyond the controllable distance an visual distance.
○ The flying experience will be reduced due to the wind when flying outdoors. It is recommended to fly indoors.
○ The aircraft and transmitter isn't waterproof, please don't use or store it in the environment of high temperature , low temperature, hight humidity etc.
○ Please stay away from crowds and places with runing car when flying, and do not flying aircraft towards people or animals to avoid accidents.
○ Do not fly in the areas with sandy, waterlogged or dusty to avoid product failure.
○ If the propeller is entangled or obstructed, continuous refueling may cause damage to the aircraft.

Maintenance

○ It may cause device damage if falling or impacting hard objects .
○ Low voltage status alarm, the drone ball lights flashed, please land the aircraft immediately and turn off the battery to avoid battery damage.
○ Please check the ball's propeller motor and calibrate the gyro before each flight.
○ When storing for a long time, keep the battery voltage at 3.8V, and charge and discharge once every 3 months.

Note

○ The products, accessories, Transmitter etc. in the manual are schematic diagrams and are for reference only.
○ Due to product updates and upgrades, there may be slight differences between the actual product and the schematic diagram, please refer to the actual product.
○ LDARC reserves the right of final interpretation of relevant regulations.

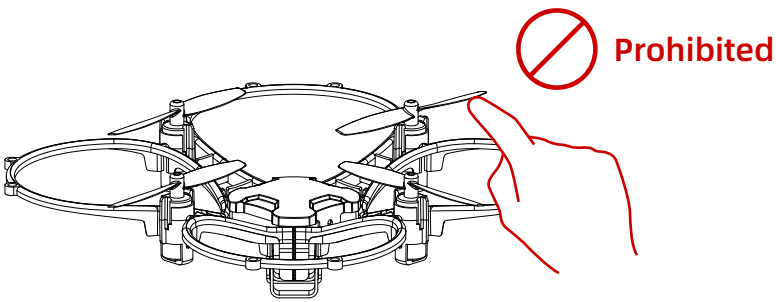
DongGuang LDARC Technology Co.,Ltd has the final right of interpretation of the relevant action guides and can decide to update all guides,guarantee content and attached documents at its own discretion. The latest information about the product will be updated and published on the official website WWW.LDARC.COM

WARNING

Do not touch the propeller blade when powered on

Do not fly over crowed or over people

Please follow the laws and regulations



1、Please read the ENTIRE instruction manual to familiarize with the product features before using.Failure to operate the product correctly can result in product damage, property damage and cause serious injury.

2、Always keep a safe distance in all directions around your ball to avoid collision or damage. This ball is controlled by radio signals may be subject to interference from many sources (Wi-Fi routers,cell towers, microwaves,large home appliances, radio stations, etc.) that is out of your control. These interference can cause momentary control loss to the ball.

3、Always keep all chemicals,small parts and anything electrical(flight/device battery) out of the reach of children.

4、Never place any portion of the drone ball in your mouth, as it could cause serious injury or even death.

5、Always move the throttle down at the time of the crash.

6、To operate this product in various countries and regions such as China, North America, Europe, Japan, Korea, etc., you may need to meet different legal requirements in your country or region. For details, please study the law and regulations imposed by your local aviation and radio administration. It is extremely important to always fly legally.

= Parameter =

Name:	Lightning drone ball	Transmitter:	EA8 V2
Model No.:	FBB200	Wheelbase:	112mm
Color:	Red/Blue	Drone ball size:	200*200*182mm
Propeller:	65mm-2blades	Take-off weight:	~98g
Battery:	7.6V 390mAh	Input voltage:	7.6V
Motor:	1020-5600KV	Flight endurance:	5mins
LED:	Rear light adjustable	Control distance:	~100m
Fuction:	Self-stabilization, altitude hold, height limit, one-key rollover, headless mode	Charging time:	USB charger:50mins C3 charger:30mins

Can equip with a large-capacity battery by yourself according the technical requirement of the competition.

1、Equip standard battery with 7.6V 390mAh, The take-off weight is about 98g, and flight endurance is about 5 minutes.

2、Equip battery with 7.6V 530mAh,the take-off weight is about 103g, and flight endurance is about 6 minutes 30 seconds.

= Quick start =

1、Fully charged the ball's battery and transmitter.

2、Pulling the throttle joystick of transmitter to the lowest position. Then flip the "CH5" switch to the "— " position, after then turn on the transmitter.

3、Power on the ball and place it horizontally, then calibrate the both of transmitter's joystick by turning it inward.

4、Switch CH5 of transmitter to the "二" position (unlock); push the throttle joystick to control the ball takes off.

= Package list =

RTF advanced version

C3 Charger*1

Battery*3pcs

Propeller*10pairs

Charger cable*1

Manual*1

Parts bag *1 (contains:prop tool*1, screwdriver *1, screws *12 , rubbe band*5)

RTF version

USB Charger*1

Battery*1

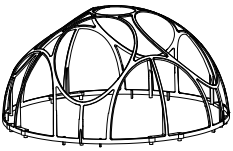
Propeller*2pairs

Charger cable*1

Manual*1

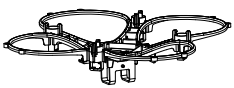
Parts bag *1 (contains:prop tool*1, screwdriver *1, screws *12 , rubbe band*5)

= Component =



Upper hemisphere cover

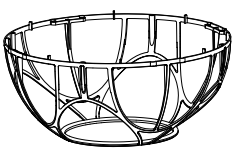
65mm-2balaes



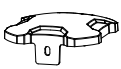
Center frame

1020 Motor

Battery

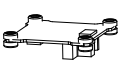


Lower hemisphere

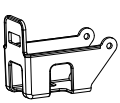


Frame shell

PA1.2*6



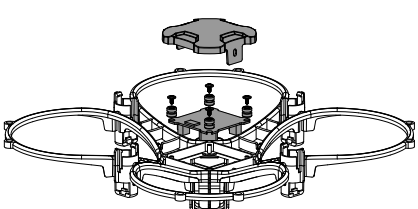
TG04 FC



Battery compartment cover

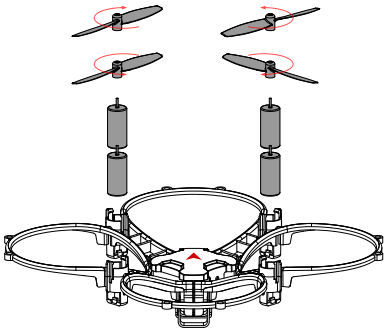
ST1.2*4

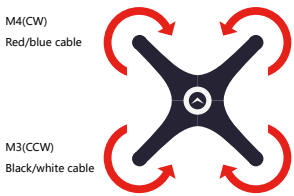
= FC installation =



Please refer to the diagram and use the ST1.2*4 screws to correct install the flight controller in the center bracket of ball .

= Motor and propeller installation =

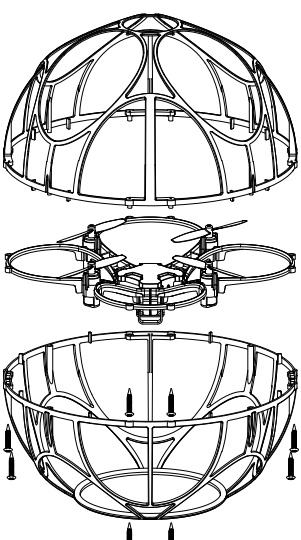




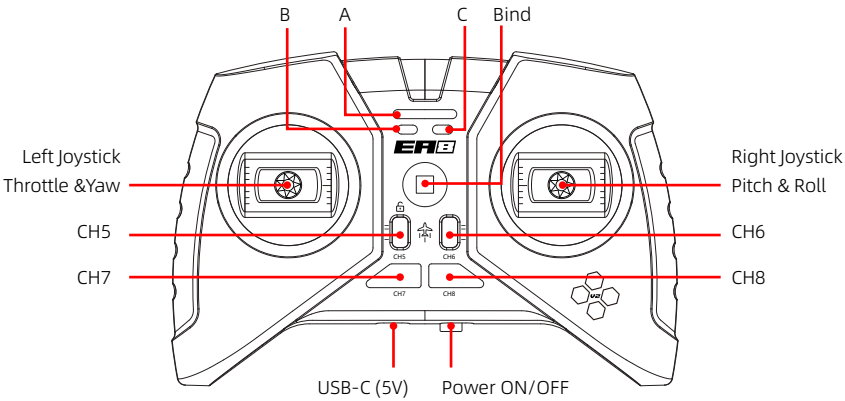
1、Forbidden to connect the motor and flight controller in reverse ,otherwise it will cause serious damage to the ball.
2、Forbidden to pull the motor wire,otherwise it will cause the circuit to break and the motor will not work normally .
3、Please install the propeller in correct rotation direction.
4、If install the motor and propeller in incorrect rotation direction will cause the ball unable to take off normally.

= Ball Cover Installation =

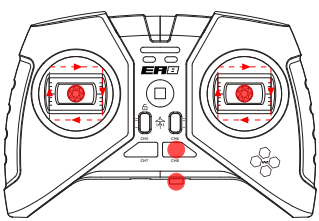
Use PA1.2*6 screws to screw in from the bottom to install the center bracket and upper and lower hemispheres cover.



= Transmitter fuction =

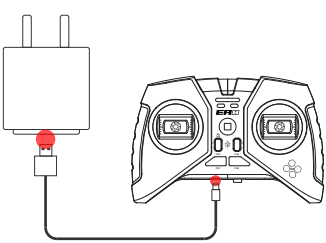


= Transmitter calibration =



1、Press and hold the "CH8" button and power on, the indicator light "A" flashes red.
2、Rotate the left and right joysticks to the maximum extent.
3、Short press the "CH8" button, and the indicator light" A" flashes green.
4、Calibration is complete.

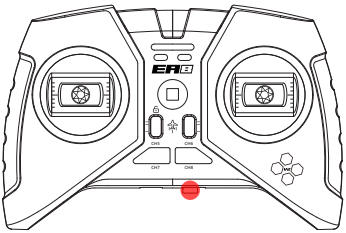
= Transmitter charging =



1、Connect transmitter and 5V output adapter via USB-C cable, then start to charging.
2、The Indicator of "A" on the transmitter is red and breathing flash, it means charging.
3、The Transmitter indicator light "A" turns green and always on, it means charging finished.

Warning: Do not charge with voltage input above 5V, otherwise it will cause serious damage to the transmitter.

= Power on/off =



1、Turn on the transmitter before flying, and then power on the ball. It is don't need to turn off the transmitter when changing the battery midway.

2、After the flight, first turn off the power of the ball, then turn off the transmitter.

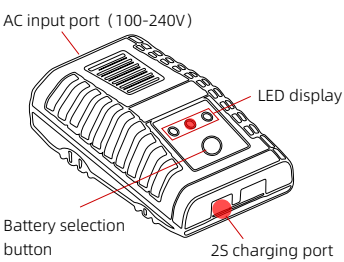
Tips:

1、If you turn off the transmitter during flight or the transmitter shots down due to low battery , the ball will enter the out-of-control protection and automatically shut down.

2、When transmitter in low battery, the transmitter will emit alarm with "Beep,Beep ".

3、When ball in low voltage, it is lights flash, the transmitter vibrates and alarm with"beep, beep" , please land on time.

= Charging battery of drone ball =



1、Connect the power cord with charge and power it on , the LED will light up.

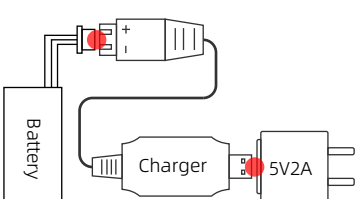
2、Short press the "battery selection" button until the middle LED lights up (LIHV).

3、Connect the battery to the 2S charging port.

4、If the indicator light of charger is always on red, it indicate battery is charging.

5、If the indicator light of charger is always on green, and indicate charging is finished.

The left LED lights up (LIPO), only charging for batteries with single full-voltage of 4.2V
The middle LED lights up (LIHV), only charging for batteries with single full-voltage of 4.35V
The right LED lights up (LI-STO), storage mode



1、Connect the battery as shown in the figure.

2、The USB charger indicator light is always red ,it is charging.

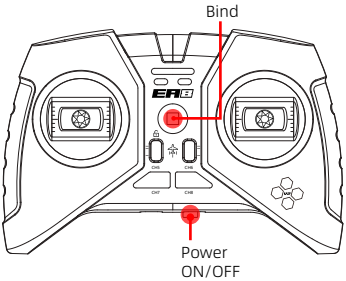
3、The USB charger indicator goes out, and the charging is finished.

4、The adapter (purchased separately) is recommended to be a 5V 2A charging adapter.

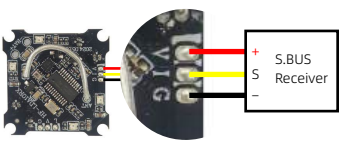
Warning: When connecting the battery to the ball, please pay attention to the positive and negative poles.
Tie a rubber band to the battery as figure shown and then install it into the battery compartment of the ball.

= Bind =

1、Switch the CH5 button to the "—" position (lock state).
2、Press and hold the bind button on the transmitter and turn on the transmitter.The transmitter indicator light A flashes quickly.
3、When the ball is powered on, the flashing light of the ball turns to steady on, and the transmitter indicator light "A" turns to steady on, indicating successful Bind.
Tip: The ball and transmitter has been successful bind at the factory, so don't need to bind again.

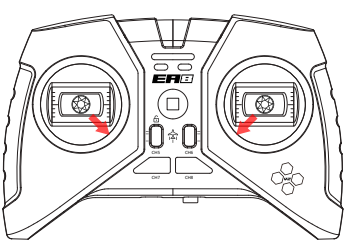


= Extended S.Bus receiver =



1、The ball will give priority to the extended S.Bus receiver.
2、Please refer to the instructions of the extended receiver to pair it.

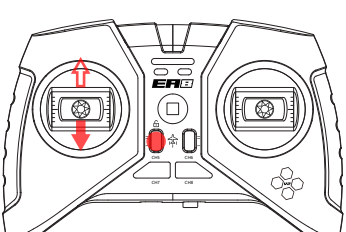
= Gyro calibration =



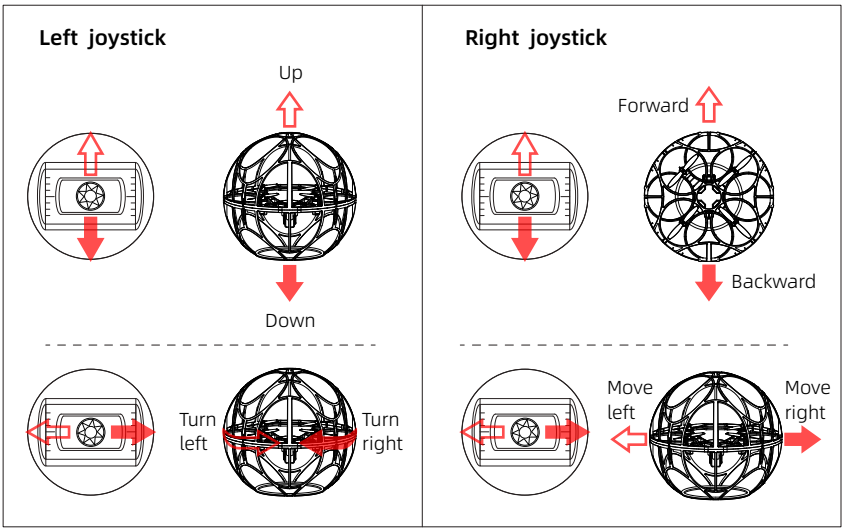
1、Switch the CH5 button to the "—" position (lock state).
2、Keep the ball place horizontally, then push the both of transmitter's joystick by turning it inward in the same time .
3、Enter the gyro calibration, the ball tail light flashes quickly, wait for 3 seconds.
4、Release the joystick, the ball light becomes steady on, and the calibration is completed.

= Unlock the drone ball =

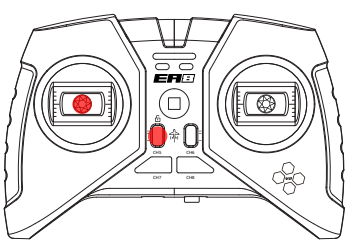
1、Pull the throttle joystick at the lowest position.
2、Switch the CH5 key to the "二" position (unlock state).
3、Push the throttle stick to take off.



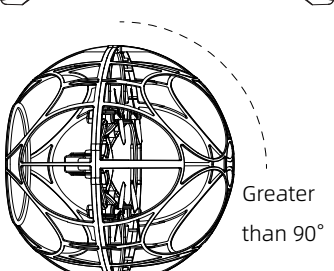
= Direction control and operations =



= Shutdown lock =



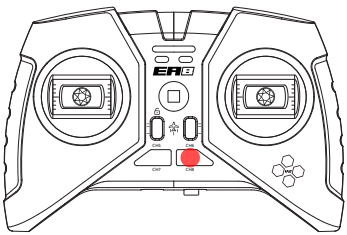
1、Pull the throttle joystick to the lowest position and hold for more than 2 seconds, the motor stops rotating.
2、Switch the CH5 key to the "—" option (Lock state).



If the overall angle of the drone ball exceeds 90°, the motors will automatically stop.This situation occurs when the ball undergoes significant changes in flight attitude after asevere collision, which can be avoided through flying skills.

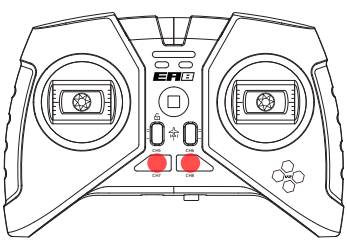
Note: Speed adjustment, light switching, rolling mode, headless mode, and height-limited mode require the aircraft to be powered on and operated through the remote control to be effective.

= Speed adjustment =



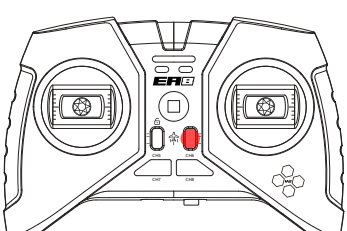
1、Switch the CH5 button to the "—" position (Locked state).
2、Long press the CH8 button on the transmitter to change the flight speed.
Tips: The transmitter is accompanied by a sound prompt when speed is adjusted.
"Beep" one prompt sound: low speed
"Beep, beep" two prompt sounds: medium speed
"Beep, beep, beep" three prompt sounds: high speed

= Light switch =



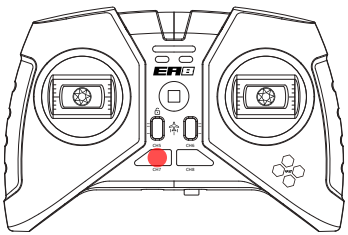
1、Switch the CH5 button to the "—" position (Locked state).
2、 Short press the CH7 button to switch the drone ball headlight color.
3、 Short press the CH8 button to switch the drone ball taillight color.

= Flight mode =



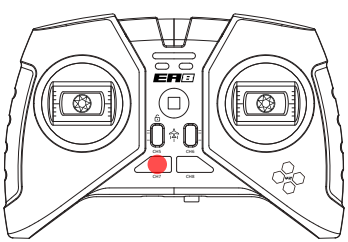
1、Self-stabilization + fixed altitude mode: CH6 key is switched to the "二" position.
2、Self-stabilization mode: CH6 key is switched to the "—" position.

= Rolling mode =



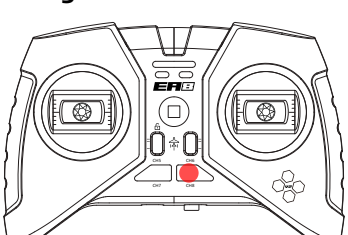
1、After the ball takes off, short press the CH7 button once,The transmitter will continue to "beep, beep" alarm.
2、At this time, move the right joystick to achieve forward, backward, left and right flips.
Tip: Please keep the ball altitude above 1.5 meters before performing the flip action. The ball cannot be flipped when the low battery alarm is on.

= Headless Mode =



1、CH5 button to the "二" position (unlock)
2、 Short press CH7 twice, the ball lights flash, the transmitter indicator “B” flashes green, and enters headless mode.
3、 Short press CH7 twice again, the ball lights stay on, the tranmitter indicator “B” stays on red, and exits headless mode.

= Height Limit Mode =



1、CH5 button to the "二" position (unlock).
2、CH6 button to the "二" position (fixed altitude).
3、 Short press CH8 button once, the indicator light “C” on the remote control turns green,Enter height limit mode.
4、Short press CH8 button once, the indicator light “C” on the remote control turns red, exit height limit mode.

= Troubleshooting =

Fault description: After unlocking the transmitter and pushing the throttle, the ball's propeller doesn't rotate.
Solution: Lock the transmitter and turning the throttle joystick to the lowest position, unlock the transmitter again and push the throttle.

Issue	Reason	Solution
Transmitter emit alarm with "Beep,Beep ".	CH5 button to the "二" position (unlock)and power on	CH5 button to the "—" position (unlock)and power on
	Transmitter's battery is empty	Charging for transmitter
	Drone ball's battery is empty	Replace with a full battery
Transmitter can not power on	Transmitter's battery is empty	Charging for transmitter
Unable to start the ball	Transmitter not turned on	Turn on the transmitter
	Ball's battery not inserted	Insert the battery in the correct direction
	Exceeded effective transmitter distance	Ensure flying within a radius of 100 meters
	Transmitter not paired with drone football	Re-bind
	Ball still undergoing power initialization	Wait for initialization to finish, tail light not flashing
Cannot unlock/lock/horizontal calibration	Joystick not pushed to the correct position	Reposition joystick
	TX joystick travel distance is incorrect	Recalibrate joystick travel
Can not maintain a fixed altitued	Altitude hold mode not activated	Activate altitude hold mode
	Barometric altimeter is faulty	Replace
	Excessive impact causing altitude hold to fail	Recalibrate ball's gyro
In altitude hold mode,it bumps againstthe ceiling	Ball experiencing excessive vibrations	Check if propellers,center frame, protective ring,and shell are damaged
Flight shake (Poor posture)	Damaged propeller blades	Check or replace
	Loose screws	Tighten
	Damaged center support	Check or replace
	Damaged hemisphere support	Check or replace
Take of in circles	Severe propeller blade damage or incorrent positioning	Check or replace
Motor does not rotate	Faulty motor	Replace the motor
	Faulty FC	Replace the FC board
Take off is not stable	Horizontal deviation	Perform gyro calibration
Ball cannot ascend	Wrong propeller installation	Install propellers correctly
	Insufficient power in the ball	Replace ball's battery
The propeller not stop turning when land	Throttle stick not pulled to the bottom and held for more than 2 seconds	Pull throttle stick to the bottom and hold for more than 2 seconds

= Inspection report =

Flight test

Transmitter function

Flying in good condition

Package check

Ball

Transmitter

Other parts

The ID labels on the drone ball and the transmitter are consistent.

All components of the ball are installed in place without missing parts.

The heat shrink tube install is in place.

The manual and documents are complete.

The accessories are complete.

Factory inspection items.

Please check the product certificate in the package for the inspection results.

= Campany information =

WWW.LDARC.COM

Manufacturer：DongGuan LDARC Technology Co.,Ltd

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B2B/Complaint：BOSS@LDARC.COM

= More =

WWW.LDARC.COM

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LDARC007.YSEPAN.COM
Manual

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.

Any 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.

* RF warning for Portable device:
The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.