F200C SPECTER

BRUSHLESS DRONE WITH **GPS**

USER MANUAL







FOR MORE INFORMATION

Visit us online at force1rc.com for info, replacement parts and flight tutorials.

ATTENTION:
PLEASE WATCH THIS FLIGHT INSTRUCTION VIDEO BEFORE FLYING YOUR DRONE.

https://youtu.be/tk3qzsUwoWs

FORCE1

CONTENTS

Welcome & General Safety Precautions ····· 3

LI-PO Battery Care ····· 4

Drone Battery Charging ····· 5

Contents & Drone Overview ····· 6

Transmitter Overview ····· 7

Transmitter Battery Installation ····· 8

Throttle Mode Selection ····· 9

Drone Assembly ····· 10

Calibration ····· 12

Basic Flight Controls ····· 14

Functions ····· 15

Indicator Lights Overview ····· 18

Spare Parts ····· 20

Troubleshooting ····· 21

WELCOME!

Welcome to the Force1 Team, and thank you for your Force1 drone purchase. Please read this manual carefully before drone operation.

(1) This drone is not a toy! It's a pro-level drone suitable for experienced RC drone users aged 14 years and older. You accept all liability for operation.

(2) This drone does not require FAA registration or permitting, but FAA rules still apply. Please download the B4UFLY mobile app for the most up-to-date zoning info, and heed all local government ordinances.

(3) The flying field must be legally approved by your local government.

Any questions? We'd love to hear from you! Please contact us at support@force1rc.com any time and we'll be happy to help.

***Please use only original Force1 parts and accessories.**
***Please keep the packaging and this user manual for future reference.**

SAFETY PRECAUTIONS

This drone is suitable for experienced RC drone operators aged 14 years and older. It contains small parts, and should be kept out of reach of small children.

Please follow these safety procedures:

(1) Flight Zone
This drone does not require FAA registration or permitting, but FAA rules still apply. Please download the B4UFLY mobile app for the most up-to-date zoning info, and heed all local government ordinances.

(2) Avoid Moisture
Humidity and water can damage your drone, which in turn may cause accidents.

(3) Fly Safely
Please operate your drone as your skill level allows. User fatigue, impairment and improper operation can cause accidents.

(4) Avoid Moving Parts & Hot Motors
Do not touch propellers, motors or other moving parts while your drone is on.

(5) Avoid Heat
Keep your drone away from heat and prolonged exposure to direct sunlight to avoid damage.

LI-PO BATTERY CARE

Avoid Overheating
Your batteries will sometimes be warm/hot to the touch after use. This is normal, but beware that battery components will fail it not allowed to cool down between uses. Also, do not leave batteries exposed to direct sunlight.

Store Properly
Store batteries at room temperature, between 5C°/40°F and 27°C/80°F.

Use Carefully: Follow these tips when charging your battery

- Leave time between charging and using the battery
- To extend the lifetime of the battery time your flights to leave about 20% power remaining in the batteries (rather than completely draining them)
- If the battery is pushed beyond its limits, the battery could get hot and the performance will drop
- When using the battery for a long time, the battery will increase in temperature. If it is sealed, the air inside will inflate rapidly causing further heating

Charging:

- DO NOT overcharge the battery; never charge batteries unattended, and stop charging as soon as your batteries indicate they are charged
- DO NOT attempt to charge batteries that appear damaged in any way (cracking, swelling, discoloration, etc.)
- If you feel a battery isn't charging properly, try using another charger if possible. If you find your battery or charger is defective, please visit force1rc.com for a replacement, or email us at support@force1rc.com
- To inspect a battery, remove it from the device and examine the battery, battery pins and contacts. If you notice damage, please visit force1rc.com for a replacement, or email us at support@force1rc.com
- Check your battery and connections after every crash
- Please use genuine factory parts and replacements from force1rc.com

WARNING:
DO NOT LEAVE BATTERY CHARGING UNSUPERVISED

DRONE BATTERY CHARGING

Follow the steps below to charge your battery (failure to follow instructions precisely may result in damage to your battery charger):

1. Connect the charging cord to the charger.
2. Plug in the charger.
3. **Carefully connect the battery cable to the charger as shown below.**



4. Charger indicator light will turn green when charging is complete.

NOTE

DO NOT plug the battery cable into the battery charger upside down. This will render the charger inoperable.

LI-PO BATTERY DISPOSAL & RECYCLING

Do not put lithium-polymer batteries in household trash. Please contact your local waste management agency or LI-PO battery recycling center for more info.

BOX CONTENTS



DRONE WITH CAMERA



TRANSMITTER



7.4V 1800MAH LIPO BATTERY (2)



PROPELLERS (4)



DRONE TOOLS

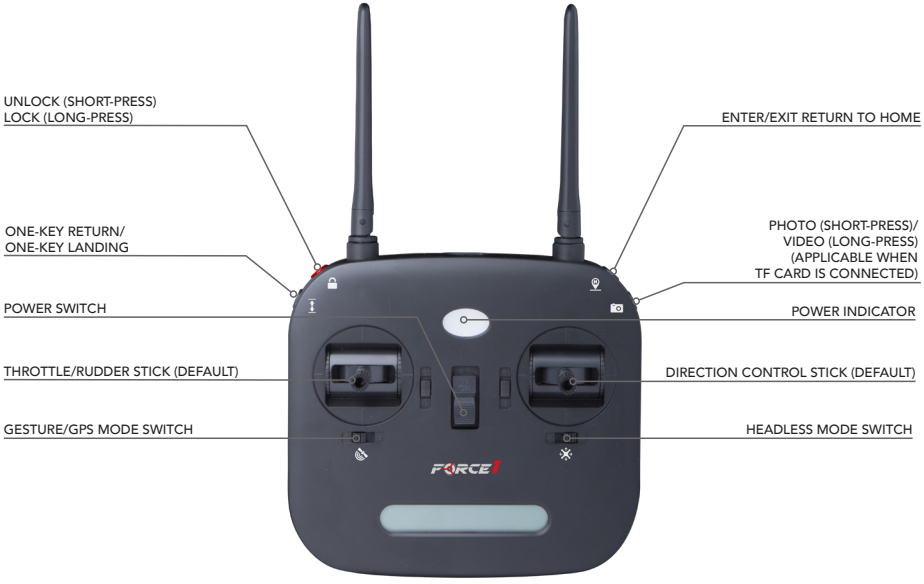


BALANCE CHARGER

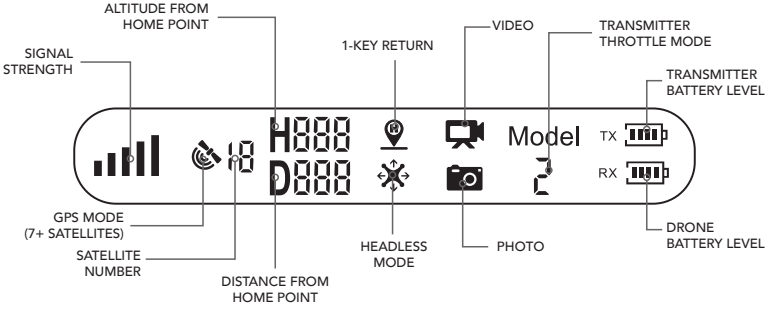
DRONE OVERVIEW



TRANSMITTER OVERVIEW



LCD SCREEN



TRANSMITTER BATTERY INSTALLATION

Open the battery cover and insert 4 AA batteries as shown below.



CAUTION:

- The transmitter needs 4 AA batteries to work
- Insert batteries in correct polarity (+) and (-)
- Don't mix old and new batteries
- Don't mix alkaline, standard (carbon-zinc) and rechargeable (nickel-cadmium) batteries
- Remove rechargeable batteries before charging
- Only charge batteries under adult supervision
- Remove spent batteries from the transmitter
- Regularly inspect the charging cable, cord, plug, enclose and other parts; if you notice damage, please visit Force1rc.com for a replacement, or email us at support@force1rc.com

TRANSMITTER SIGNAL CONNECTION

Press and hold the top-left red button and then power on the transmitter (Fig. 1). It will beep twice, and the indicator light will flash as the transmitter establishes a GPS satellite signal. Flashing will stop when a signal is found.



FIGURE 1

CAUTION:

Keep the transmitter steady during this process, or it may result in signal connection failure.

THROTTLE MODE SELECTION

Your transmitter allows for left or right-hand throttle in a total of 4 different modes, depending on your preference.

To change the throttle mode press and hold the top-right button for 3 seconds (Fig. 2). The mode number is shown on the LCD screen (Fig. 3). Keep pressing to cycle through modes, but note: Mode 2 is the default.

NOTE
Mode selection must occur when your transmitter is in signal connection and the transmitter light is blinking.



FIGURE 2





FIGURE 3

DRONE ASSEMBLY

BATTERY INSTALLATION

Insert the battery into the battery compartment until you hear a click. Turn the lock button on the bottom 90° to the "lock position."



SLIDE BATTERY IN COMPARTMENT



LOCK COMPARTMENT

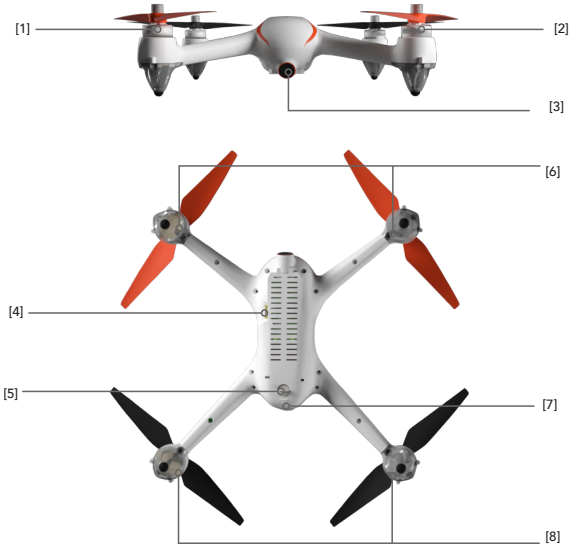
CAUTION:

Install the battery firmly; failure to do so may affect flight safety.

BATTERY REMOVAL

Turn the lock button counterclockwise 90° to the "unlock position." Use your thumb to press down the tab and remove the battery. NOTE: Battery removal is the ONLY WAY to power off the drone.

DRONE OVERVIEW



[1] BRUSHLESS MOTOR
[2] PROPELLER
[3] CAMERA

[4] TF CARD SLOT
[5] LOCK/UNLOCK
[6] FRONT INDICATOR LIGHT
[7] BATTERY
[8] REAR INDICATOR LIGHT

DRONE ASSEMBLY CONT.

PROPELLER INSTALLATION/REMOVAL

PROPELLER A INSTALLATION

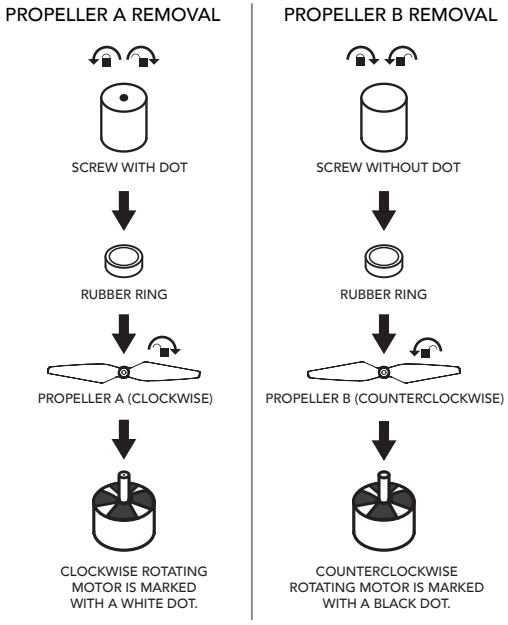
Place propeller A on the corresponding motor shaft (Fig. 4). The side marked A should be facing upwards. Fix the rotor propellers by rotating them as per the "lock direction shown on the propellers." Place the rubber ring into the center bore of the propeller, then tighten the screws counterclockwise. Propeller A screws have a dot on top.

PROPELLER B INSTALLATION

Place propeller B on the corresponding motor shaft (Fig. 4). The side marked B should be facing upwards. Fix the rotor propellers by rotating them as per the "lock direction shown on the propellers." Place the rubber ring into the center bore of the propeller, then tighten the screws clockwise. Propeller B screws do not contain a dot on the top.

REMOVAL

Hold the brushless motor and unscrew the A screws clockwise and the B screws counterclockwise. Then rotate and remove the propellers as per the "unlock" direction shown on the propellers.



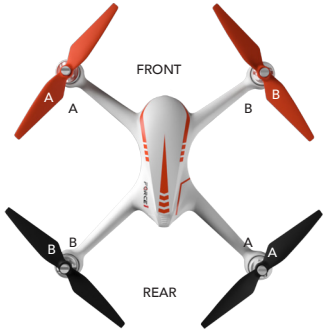


FIGURE 4

CAUTION:

- Please be sure to install the correct propellers (matching A and B)
- Be careful with propellers, as they can be sharp
- Purchase extra propellers at force1rc.com

TURN ON YOUR DRONE

SIGNAL CONNECTION AND PAIRING

Press and hold the top-left red button while powering on the transmitter (Fig. 2). The transmitter will beep twice, and the indicator light will flash green as it establishes a GPS satellite signal. Immediately insert the drone battery once the indicator light starts flashing. The transmitter will emit a single beep sound, and the signal icon will appear on the LCD screen. This means that the drone has successfully paired with the transmitter.



FIGURE 2

CAUTION:

Keep the transmitter steady during this process, or it may result in signal connection failure.

DRONE CALIBRATION

GYROSCOPE CALIBRATION

Set the drone on a horizontal surface. Move both sticks to the bottom-left position (Fig. 8). The drone lights will flash green rapidly. Wait for the lights to flash yellow alternately. At this point, the gyroscope calibration is successful, and your drone is ready for compass calibration.



FIGURE 8

COMPASS CALIBRATION

Drone compass calibration should be done before every flight, after every battery change and after every transmitter pairing.

HORIZONTAL CALIBRATION
When the drone's front and rear lights flash yellow, rotate the drone horizontally 3 times (parallel to the ground) or until the lights start flashing green (Fig. 9).

VERTICAL CALIBRATION
Now, point the drone nose down and rotate the drone 3 times (perpendicular to the ground) until you see solid red and yellow lights. (Fig. 10).
Now compass calibration is successful.



FIGURE 9



FIGURE 10

NOTE

- **To fly in GPS mode, choose an open flight area and make sure the satellite number is 7+**
- Don't calibrate the compass in strong magnetic areas like parking lots or construction areas
- Don't carry magnetic materials with you like key fobs and cellphones

2 WAYS TO LOCK/UNLOCK YOUR DRONE

UNLOCK

1. Press the red button; the motors rotate and the drone is unlocked (Fig. 6).
2. Push both joysticks down and inward (Fig. 11). The propellers will start, and your drone is ready to fly.

LOCK

3. Pull the throttle control stick to the bottom position, then press and hold the red button (Fig. 6) for 3 seconds. The motor will stop immediately and the drone will lock.
4. After the drone lands on the ground, push both joysticks down and outward. The motor will stop immediately and the drone will lock.



FIGURE 11

PREFLIGHT CHECKLIST

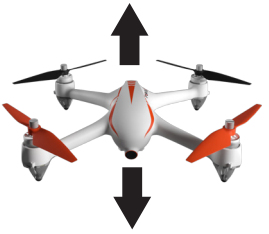
1. Fly in an open area and abide by all local and federal guidelines. Check the FAA's B4UFLY mobile app for up-to-date drone flight info.
2. Make sure your drone and transmitter batteries are fully charged.
3. Put the left stick of the transmitter in the middle position.
4. Follow power on instructions closely. Always turn ON your transmitter first before flying, and turn OFF the drone first when you're finished.
5. Make sure the connection is solid between your battery and motor; vibration may cause loosening.
6. Make sure the propellers are installed correctly and the motors are working normally after unlocking.

BASIC FLIGHT CONTROLS

HOVER UP AND DOWN

Push the **THROTTLE/RUDDER STICK** up to fly the drone up, and pull the **THROTTLE/RUDDER STICK** down to fly the drone down.





FLY FORWARD OR BACKWARD

Push the **DIRECTION CONTROL STICK** up to fly the drone forward, and pull the **DIRECTION CONTROL STICK** down to fly the drone backward.





FLY LEFT OR RIGHT

Move the **DIRECTION CONTROL STICK** to the left to fly the drone to the left, and move the **DIRECTION CONTROL STICK** to the right to fly the drone to the right.





ROTATE LEFT OR RIGHT

Move the **THROTTLE/RUDDER STICK** to the left to rotate the drone to the left, and move the **THROTTLE/RUDDER STICK** to the right to rotate the drone to the right.





FUNCTIONS

ONE-KEY TAKEOFF / LANDING

- After the drone is unlocked, press the one-key button (Fig. 11). The drone will automatically take off and hover at an altitude of around 5 feet
- When the drone is flying, press the one-key button; drone will automatically land



FIGURE 11

GESTURE MODE

To activate Gesture Mode, slide the Gesture/GPS button to position A (Fig. 12). In Gesture Mode, the drone uses its barometer to maintain altitude rather than GPS. It cannot fly with precise positioning and hovering. Gesture Mode requires a skilled pilot.



FIGURE 12

GPS MODE

In GPS mode, the drone can precisely position and hover using the GPS module. To activate GPS mode, slide the Gesture/GPS button to position B (Fig. 12).

HEADLESS MODE

Headless Mode allows you to fly your drone without knowing its orientation. Slide the Headless Mode button to position B. When the drone is in Headless Mode, push the right stick forward/backward/left/right and the drone will fly accordingly.
Prerequisite: Position the drone in such a way that its front is your front (Fig. 13).

TIP: Do not change the orientation of the transmitter (Fig. 14) after entering Headless Mode.



FIGURE 13



FIGURE 14

FUNCTIONS CONT.

RETURN TO HOME (RTH)

The Return-to-Home function brings your drone back to the last recorded home point. **A GPS signal of 7+ must be available for the drone to record its home point (Fig. 15).** There are three RTH functions: Smart RTH, Failsafe RTH and Low-Battery RTH.

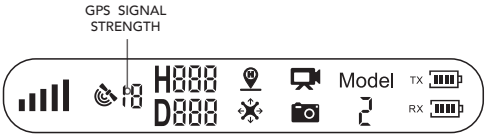


FIGURE 15

SMART RTH

If you have a 7+ GPS signal and your home point is recorded, press the RTH button (Fig. 16) and the drone will return to the previously recorded home point. During Smart RTH, you can use the transmitter to guide the drone around obstacles. Press the button again to exit RTH and regain drone control.



FIGURE 16

FAILSAFE RTH

If you have a 7+ GPS signal and your home point is recorded, Failsafe RTH is triggered when the transmitter signal is lost for more than 6 seconds. The drone will automatically return to the previously recorded home point. Press the button again to exit RTH and regain drone control if you regain the signal.

NOTE

- Your drone will not avoid obstacles during Failsafe RTH
- The drone cannot return if the GPS signal is weak (less than 7+ GPS signal)
- Your drone will land slowly if there is no GPS signal and the transmitter signal is lost for more than 6 seconds

LOW-BATTERY RTH

Your drone will return automatically if it detects a low battery while flying at an altitude of 100+ meters or at a distance of 300+ meters when you see this battery icon: RX . Your drone's lights will also slowly flash red.

Similarly, your drone will return automatically if it detects a low battery while flying at an altitude of 15+ meters or at a distance of 15+ meters when you see this battery icon: RX . Your drone's lights will also slowly flash red.

NOTE

You can't regain control of your drone in Low-Battery RTH Mode.

FUNCTIONS CONT.

PHOTO / VIDEO

- Press the photo/video button on the top right of the transmitter to take a photo (Fig. 17). The camera icon on the LCD screen will flash once indicating that a photo has been taken
- Press and hold the photo/video button to start recording video. The video icon on the LCD screen will flash slowly, indicating that a video is being recorded. Press the button again to stop recording



FIGURE 17

NOTE

Photos/video can't be taken when the drone camera has no memory card inserted.

LOW BATTERY WARNING

- The battery is nearing low voltage when the battery icon in Figure 18 appears on the LCD screen and the rear lights of the drone flash slowly (the front lights remain the same)
- Low voltage is indicated by the battery icon in Figure 19, and the rear lights of the drone flash rapidly (the front lights remain the same)

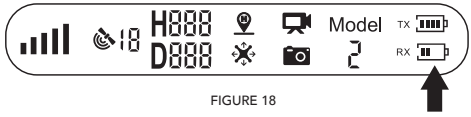


FIGURE 18

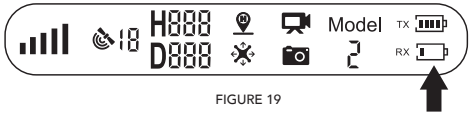


FIGURE 19



DRONE INDICATOR LIGHT

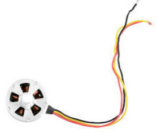
NO.	STATUS	DESCRIPTION
1	The front and rear lights of the drone flash yellow rapidly.	The transmitter is not linked to the aircraft, and it requires completing the signal connection steps.
2	Front and rear lights flash green rapidly.	The drone is in gyroscope calibration mode.
3	The front and rear lights alternate flashing yellow.	The drone is in horizontal compass calibration.
4	The front and rear lights alternate flashing green.	The drone is in vertical compass calibration.
5	The front and rear lights of the drone alternate flashing green, red and yellow.	The drone is in initialization detection mode.
6	The front lights glow solid red, the rear lights glow solid yellow.	No GPS signal, the drone is in gesture mode.
7	The front lights glow solid red, the rear lights glow solid green.	Good GPS signal, drone is preparing for GPS mode.
8	The front lights glow solid red, the rear lights flash red slowly.	The drone is nearly low voltage, 1/4 of the battery is left.
9	The front lights glow solid red, the rear lights flash red rapidly.	The drone is in low voltage, only 1/6 of the battery is remaining.
10	The front and rear lights flash once, then stop for 1.5 seconds.	Something is wrong with the gyroscope.
11	The front and rear lights flash twice, then stop for 1.5 seconds.	Something is wrong with the barometer.
12	The front and rear lights flash three times, then stop for 1.5 seconds.	Something is wrong with the compass.
13	The front and rear lights flash four times, then stop for 1.5 seconds.	Something is wrong with the GPS module.

TRANSMITTER INDICATOR LIGHT



	TRANSMITTER STATUS	OPERATION
1	Indicator lights flash rapidly.	The transmitter is under signal connection status.
2	Indicator lights flash slowly with a steady beep and the battery icon RX on display is flashing.	The transmitter has low voltage.
3	Battery icon RX on LCD display is shown, with a steady beeping sound.	Battery is running out. The aircraft will return when drone is at an altitude is over 100m or a distance of over 300m.
4	Battery icon RX on LCD display is shown, with a long beeping sound.	Battery is low. The drone will return when the alititude is over 15m or the distance is over 15m.
5	Signal legend on LCD display is less than two grids or not displaying, with a steady beeping sound.	1) The distance between the drone and transmitter is so far that the signal is weak. 2) The battery was removed after the drone connected to the transmitter.

SPARE PARTS

			
Upper Cover 001	Lower Cover 002	Propellers A/B 003	Front/Rear Light Covers 004
			
Propeller Screws (A/B) 005	Front/Rear LED Indicator 006	Camera PCB 007	GPS Module 008
			
ESC 009	Interleaving Paper B010	Compass 011	Receiver PCB 012
			
Clockwise Motor 013	Counterclockwise Motor 014	Battery 015	Screws Pack 016
			
Propeller Changing Tool 017	Silicone Rubber Ring 018	Anti-Vibration Pad 019	Transmitter 020

TROUBLESHOOTING

NO.	PROBLEM	SOLUTION
1	The front and rear lights of the drone flash green rapidly.	The transmitter is not linked to the aircraft, and it requires completing the signal connection steps.
2	The front and rear lights of the drone flash red, yellow and green alternately and do not change.	1) Check to see if the drone is in the stationary state. 2) Recalibrate the gyroscope.
3	The front and rear lights of the drone flash yellow alternately.	1) Complete the horizontal compass calibration steps. 2) The compass of the drone is broken and needs to be replaced.
4	The front and rear lights of the drone flash green alternately.	1) Complete the vertical compass calibration steps. 2) The compass of the drone is broken and needs to be replaced.
5	The drone isn't positioning propertly.	1) The GPS signal is weak; fly in another location.
6	The return point of the drone is far away from the takeoff point.	1) The GPS signal is weak; fly in another location. 2) The drone cannot receive a satellite signal while taking off; fly the drone again when you have a 7+ GPS signal.
7	The drone fails to unlock.	1) The battery of the drone is low; replace/charge the battery. 2) The drone is in initialization status; re-calibrate the gyroscope.

NOTE

- Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment
- 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 guaantee 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 antenna
  - Increase the separation between the equipment and receiver
  - Connect the equipment to an outlet on a circuit different from that to which the reciever is connected
  - Consult the dealer or an experience radio/TV technician for help

FCC INFORMATION

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 residential 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 the circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced technician for help.

FCC WARNING

The equipment may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. Modifications not authorized by the manufacturer may void user's authority to operate this device.

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.

force1rc.com