

BYROBOT
DRONE FIGHTERS
PETRONE

User Guide

May 13, 2016 updated



Contents

1. Preparations for Flight

- 1-1. Battery Charging
- 1-2. App Download
- 1-3. Account Registration and Log In
- 1-4. Smartphone Connection

2. Flight

- 2-1. Manual for Main Screen
- 2-2. Start the Flight: Solo Play
 - 2-2-1. Basic Control(Take- off/Landing/Move)
 - 2-2-2. Control Changes by settings
 - 2-2-3. Drive Mode
- 2-3. Simulator
- 2-4. Voice control
- 2-5. Pattern Flying
- 2-6. Battle Play
 - 2-6-1. Offline Battle Play
 - 2-6-2. Online Battle Play
- 2-7. Settings

3. Update

4. My Information

5. Parts Replacement and Accessories

- 5-1. Propeller
- 5-2. Propeller Guard
- 5-3. Motor Bracket
- 5-4. Drive Kit
- 5-5. FPV Kit
- 5-6. Multi-charger

6. General Information

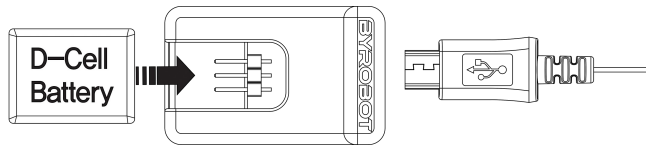
- 6-1. Precautions for Using Petrone
- 6-2. Precautions for Using the Battery
- 6-3. Recycling this product
- 6-4. Notice regarding the right to privacy
- 6-5. Warranty
- 6-6. Registered Trademark



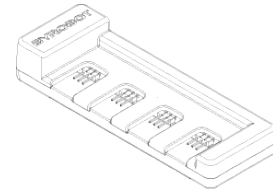
1. Preparations before Flight

1-1. Battery Charging

- 1) Insert the battery into the charger.
- 2) Connect the charger to the USB cable. Then, connect the cable to your PC or the USB port of the charger adapter.
- 3) When the LED light on the charger is turned on, it means that charging has started. It takes approximately 40 minutes to charge the battery.



<Picture 1A. Battery Charging>



Multi-charger (Sold separately)

1-2. App Download

Download the free App from App Store or Google Play.
(App name : "PETRONE")

1-3. Account Registration

Start the application and register your account on the first screen displayed. You need to open a user account to enjoy online battle games. If you do not register an account, you will be connected to the app under the 'Guest' mode. In this mode, the use of application content is limited, including access to battle game records and battle items.

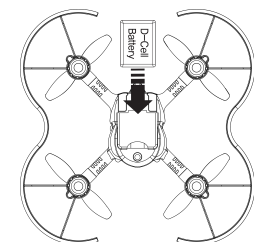


<Picture 1B. Log In Button on the Menu Bar>

1-4. Smartphone Connection

Note: To use Petrone, you need a smartphone or a tablet PC that supports Bluetooth® 4.0 or higher.

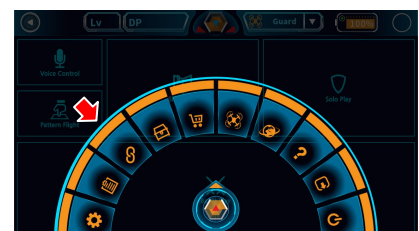
- 1) Insert the battery into the battery slot.
- 2) Place Petrone on the floor and check that the green LED light at the back blinks.
- 3) Turn on the Bluetooth function of the device you will use as a controller.
- 4) Start the Petrone application.
- 5) Proceed with pairing by following the instructions displayed in the application.
- 6) When the device is connected to Petrone, the green LED light at the back of Petrone will be turned on continuously rather than blinking.
- 7) For free flight, press the Solo Play button.



<Picture 1C. Equip the Battery on the Petrone>



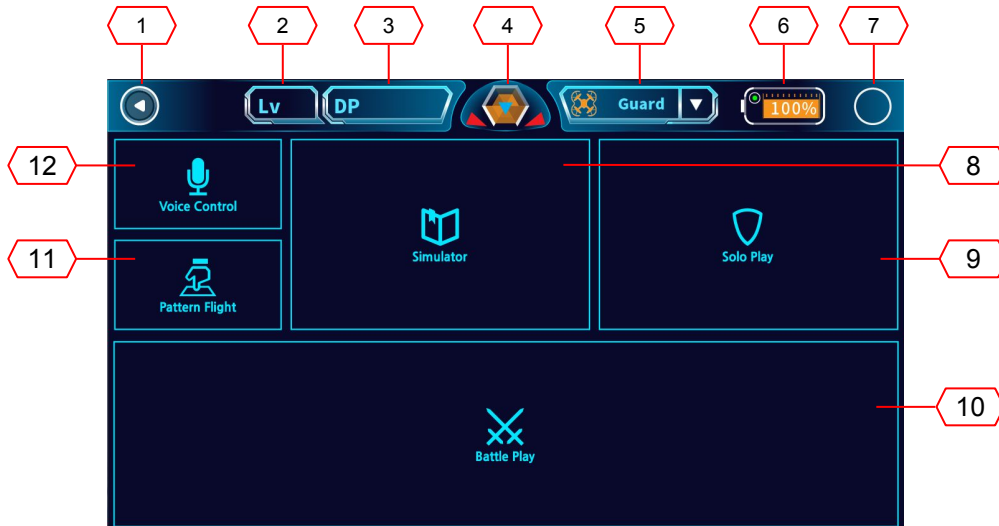
<Play the Video>



<Picture 1D. Pairing Button on the Quick Menu Bar>

2. Flight

2-1. Manual for Main Screen



<Picture 2-1A. Main Screen>

1. Back: Go back to the previous screen.
2. My Information: Check your account information and usage information for the Petrone.
3. DP Store: Battle item store for the Battle play
4. Quick Menu: Easy access to frequently used menus from anywhere
5. Change Modes: It changes the control mode according to the type of attached accessory.
6. Battery: Battery status of the Petrone
7. Connection Status: The status of the connection with the Petrone
8. Simulator: Control the Petrone in a virtual space and learn basic controls.
9. Solo Play: Fly the Petrone freely.
10. Battle Play: Flight Battle Play with more than 2 Petrones.
11. Voice Control: Control with your voice.
12. Pattern Flight: Control the Petrone by drawing a pattern on the screen.

Quick Menu Bar

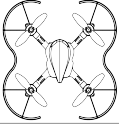
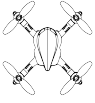
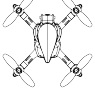
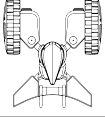
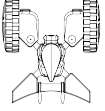


<그림 2-1B. Quick Menu Bar>

Choosing Accessories for the Petrone

When the Smartphone is connected to the Petrone, a screen for selecting accessories appears. Please select the proper controlling mode depending on the type of attached accessories. There are a total of five options.

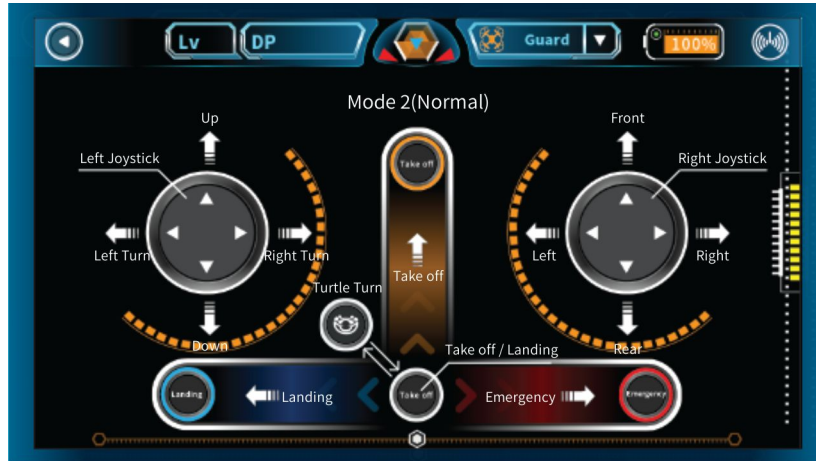
<Table 2.1. Petrone Mode>

	Guard	Propeller Guard is attached. Stable flight, suitable for beginners
	No Guard	Propeller Guard is removed. Dynamic flight, suitable for experts
	Flight FPV	Petrone FPV Kit is attached(Propeller Guard must be removed). Real-time video transmission, video/photo shooting
	Drive	Petrone Drive Kit is attached
	Drive FPV	Petrone Drive Kit and FPV kit are attached. Real-time video transmission, video/photo shooting

2-2. Start the Flight: Solo Play

Before the actual flight, please practice enough through the Simulator in the application (See 2-3. Simulator)

2-2-1. Basic Control(Take- off/Landing/Move)



<Picture 2-2A. Screen mode for Solo Play(Mode 2/Normal)>

Take-off

Place the rear green lights of Petrone on a flat ground to point at you.

Press and sweep up the 'Take off' button located in the bottom center of the screen, then it takes off.

About 20 seconds of time is required for sensor stabilization for hovering.

Please use the steering stick for Up / Down controls after takeoff.

Landing

Press and sweep to the left the 'Stop' button located in the bottom center of the screen for landing. Airframe slowly descends and when it sits down on the ground completely, propellers stop automatically.

Please make sure the ground condition is suitable for landing.

Emergency

Press and sweep to the right the 'Stop' button located at the bottom center of the screen and then hold.

Immediately stop the motor in the urgent situation or when there is a problem with the airframe.

Please be careful for the damage and injury since it may fall off directly when used in the air.

Up / down, left / right turn

Move the left stick up or down, Petrone will rise/ descend.

Move the left stick to the left or right, Petrone will turn left / right at the place.

Forward/ backward, left / right movement

Move the right stick up or down, Petrone will move Forward/ backward.

Move the right stick to the left or right, Petrone will move left / right.

Turtle Turn

If Petrone is upside down at the ground, the takeoff / landing button turns in to a turtle shape.

Press this button then 2 propellers will spin and Petrone will return to its original state.

Use on a flat ground without obstacles.

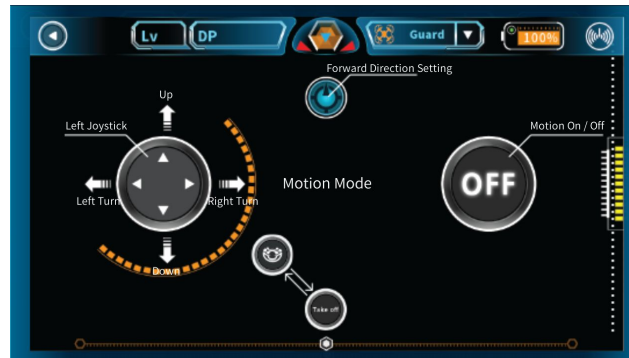
2-2-2. Control Changes by settings (See 2-7. Settings to change settings)

Motion Control

Motion Sensor is automatically turned on in Motion Control Mode and you can turn it off according in some conditions.

You can only move forward/ backward or left/right in Motion Control and to move up/ down you need to control with the left stick.

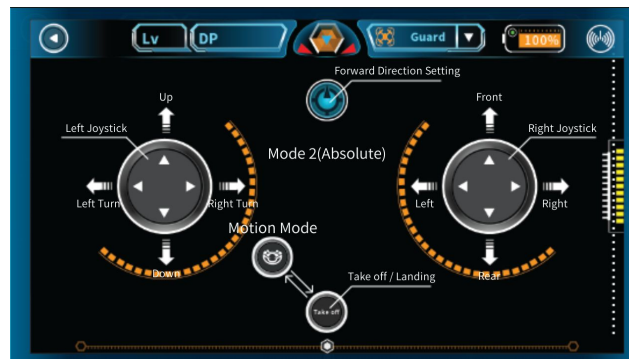
The Smartphone used as a controller must have the Gyro sensor.



<Picture 2-2B. Screen for Solo Play(Motion Control)>

Absolute(Mode 1, Mode 2, available in Motion Control)

When set for forward direction, coordinates is set depending on the placed direction of the airframe, and you can easily steer it regardless of the direction of rotation of the airframe in flight.



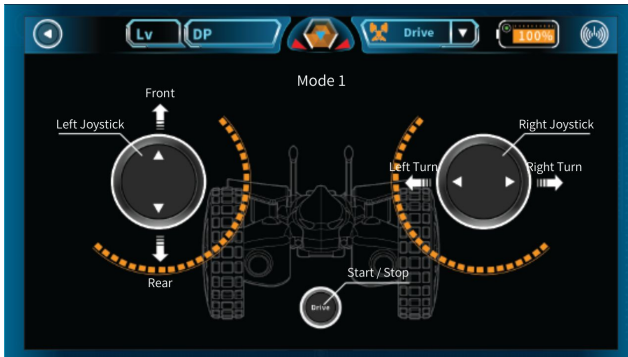
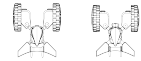
< Picture 2-2C. Screen for Solo Play(Mode 2/Absolute)>

Mode 1/Normal



<Picture 2-2D. Screen for Solo Play(Mode 1/Normal)>

2-2-3. Drive Mode (See 2-7. Settings to change settings)



<Picture 2-2E. Petrone Drive Mode 1(Mode for Both Hands)>

Mode 1(Mode for Both Hands)

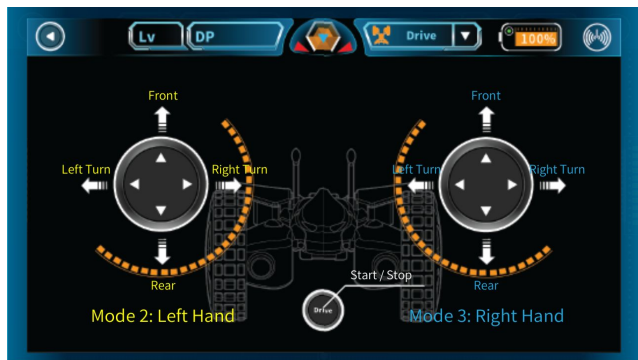
Left stick for forward/backward movement
Right stick for left/right turn

Mode 2 (Left Hand Mode)

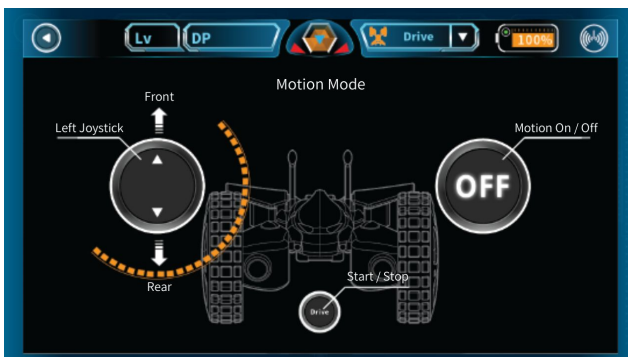
Left stick only for forward/backward movement
and left/right turn

Mode 3(Right Hand Mode)

Right stick only for forward/backward
movement and left/right turn



<Picture 2-2F. Petrone Drive Mode 2, 3>



<Picture 2-2G. Petrone Drive Motion control>

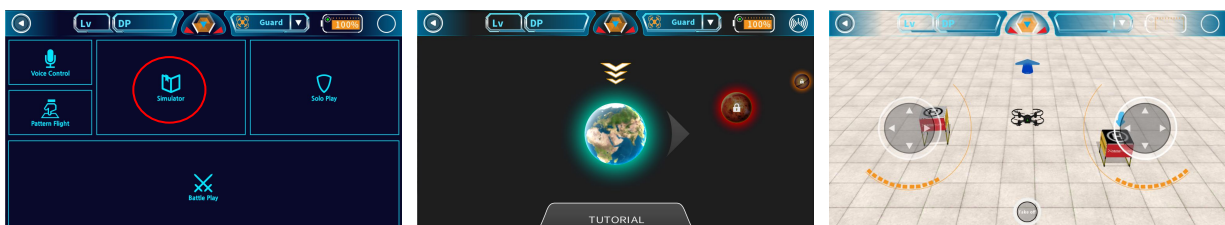
Motion Control

Motion control for left/right turn

2-3. Simulator

You can learn how to control through a game.

Before the actual flight, please practice the basic flight enough through the Simulator .



<Picture 2-3A. Screen for Simulator>

2-4. Voice Control

You can control Petrone with your voice.

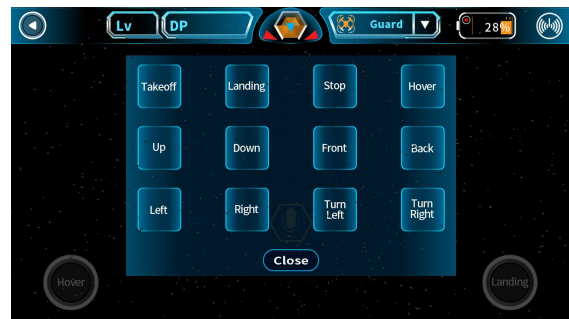
Must be connected to the Internet for the accurate voice recognition.



<Picture 2-4A. Screen for Voice Control>

Command Check

Press the speech bubble button on the right side of the screen, then you can check your voice commands you can use.



<Picture 2-4B. Screen for Command Check>



<Picture 2-4C. Recognizing Voice>

Control Value Settings

Press the left button of the steering screen, You can change the moving speed and reduce error moves.

Voice Command

Press the voice recognition button on the center of the control screen,
and say the usable voice commands clearly.
On the emergency during flight, you can control the Petrone with hovering button or landing button.



<Picture 2-4D.. Screen for Control Value Settings>

2-5. Pattern Flying

Petrone flies itself through the pattern drawn by the user.

Please ensure the enough space before flight.



<Picture 2-5A. Screen for Voice Control>

1. Press the 'Drawing Patterns' button and draw the pattern you want on the drawing screen.
2. Take off with the 'Take-off' button.
3. Use the left and right stick to move it to a suitable space for the pattern flight.
(Look around carefully for obstacles, keep the proper altitude.)
4. Press the 'Start the Flight' button to start the pattern flight.
5. In an emergency, you can control by yourself using the left and right sticks.
In addition, You can stop the pattern flight by pressing the "Delete Pattern /Cancel" button then it will hover at the spot.

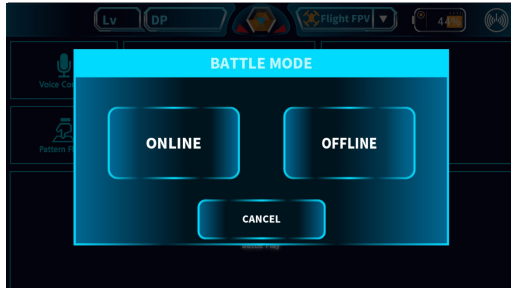


<Picture 2-5B. Drawing Patterns>

2-6. Battle Play

You can enjoy the Battle Play with more than 2 players.

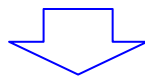
2-6-1. Offline Battle Play



Choose On/Offline

Choose Offline.

<Picture 2-6A Choose On/Offline>

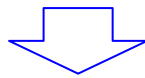


Choose Character

Choose the character you want.

- Tiger: ATK 100 / DEF 50 / TP 750 / HP300
- Rhino: ATK 75 / DEF 100 / TP 500 / HP 300
- Wolf: ATK 50 / DEF 75 / TP 1000 / HP 300

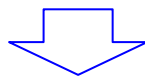
<Picture 2-6B. Choose Character>



Choose Team

Choose the Red team or the Blue team.

<Picture 2-6C. Choose Team>



Battle Play Starts

Quickly touch the right stick twice, then the missile will be launched.

<Picture 2-6D. Screen for Offline Battle Play>

2-6-1. Online Battle Play

Log In (See 1-3. Account Registration and Log In.)

You must log in for the Online Battle Play.

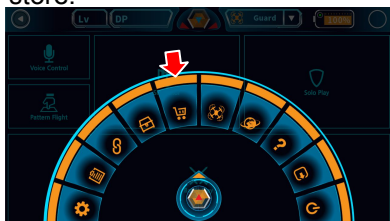
Battle Item Introduction

Enjoy more interesting game with a variety of offensive/ defensive battle items, as well as the basic missile.

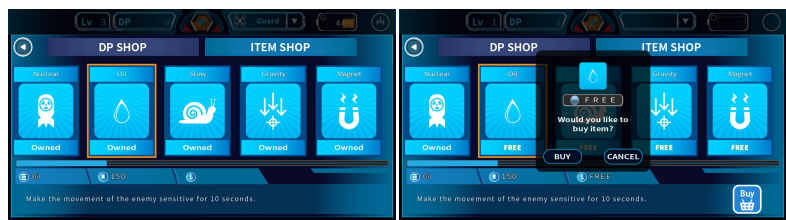
- 1) [Nuclear missile] to inflict powerful damage to the enemy
- 2) [Oil] to sensitize the enemy's movement for 10 seconds
- 3) [Slow] to slow the enemy's movement for 10 seconds
- 4) [Hyper-gravity] the enemy does not fly in altitude (up / down) for 5 seconds.
- 5) [Magnet] the enemy does not fly horizontally (forward/ backward and left / right) for 5 seconds
- 6) [V-beam] to change the enemy's altitude flight (up / down) operation in the opposite direction for 10 seconds
- 7) [H-beam] to change the enemy's horizontal flight (forward/ backward and left / right) operation in the opposite direction for 10 seconds
- 8) [Demon] to change the enemy's all flight operation in the opposite direction for 5 seconds
- 9) [Heading lock] the enemy does not turn for 10 seconds.
- 10) [Swirl] to force the enemy to turn for 3 seconds
- 11) [EMP] to stop the movement of the enemy for 5 seconds when you hit the enemy,
- 12) [Turn] to turn your airframe 180 degrees quickly.
- 13) [Cure] to consume your TP 300, and to recover the HP 100 immediately. (Maximum reduction of TP is 300)
- 14) [Recovery] to consume your HP 100, and to recover the TP 300 immediately. (Maximum reduction of HP is 100)
- 15) [Water Bomb] the enemy does not attack for 10 seconds.
- 16) [Shield] to become invulnerable with no damage for 10 seconds.
- 17) [Purify] to unlock all the debuff given to you
- 18) [Rage] to double the normal attack power when your HP is lower than 20%
- 19) [Protect] to reduce the damage you get for 50% when your HP is lower than 20%
- 20) [Virus] to reduce the enemy's total TP to 0 when your HP is lower than 20% and you hit the enemy.
- 21) [Overload]] to reduce the enemy's total TP to 0
- 22) [Team kill] to make the enemy ally team with you for 10 seconds (LED color is not changed.)

Purchasing the Battle Item

Press the 'Store' button on the Quick Menu Bar. Purchase the battle item you want on the item store.



<Picture 2-6E. 'Store' button on the Quick Menu Bar>



<Picture 2-6F. Screen for the store>

Attach the Battle Item

Press the 'Inventory' button on the Quick Menu Bar.
Move the items you want to use in the Battle Play of the items purchased at the store to the item slot on the right



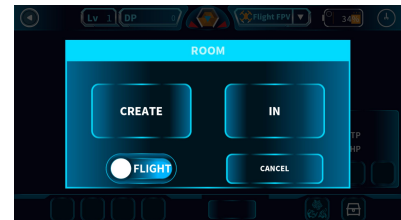
<Picture 2-6G. Inventory Button on Quick Menu Bar>



<Picture 2-6H. Screen for the Inventory>

Create a Room

Choose 'Online' at Battle Play.
At the Screen for Create/In, choose 'Create'.



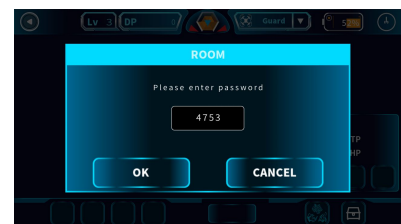
<Picture 2-6I. Create/In>



<Picture 2-6J. Screen for Waiting Room (Host)>

In

Choose 'Online' at Battle Play.
At the Screen for Create/In a Room, choose 'In'.
Enter the Room Number then In.
Press the 'Ready' button if you finish choosing team, character and items.



<Picture 2-6K. Screen for Enter a Room Number>



<Picture 2-6L. Screen for Waiting Room (Guest)>

Start the Online Battle Play

Battle time limit is 5 minutes.

If you do not take off after you start, HP is reduced by 50 for each 10 seconds automatically.

If you touch the right stick twice quickly the basic missile will be launched.

When you touch an item in the item slot it will be fired.



<Picture 2-6M. Screen for Online Battle Play>

2-7. Settings

Press the “Settings” button on the Quick Menu Bar and change the settings according to your preference.



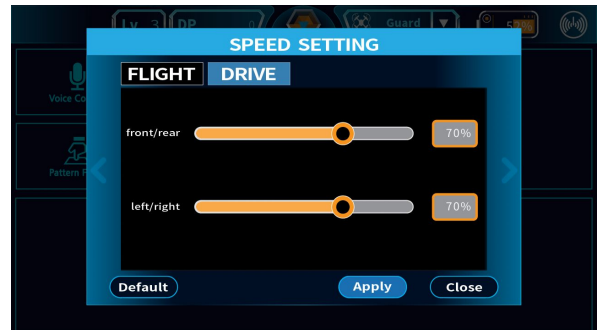
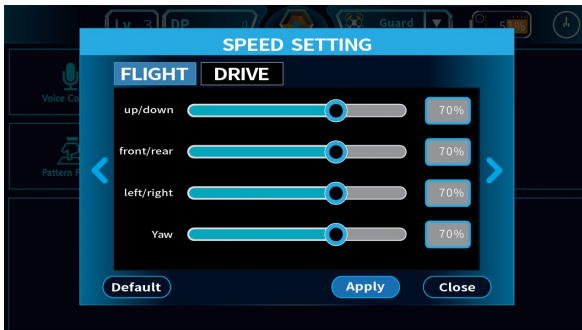
<Picture 2-7A. Settings button on the Quick Menu Bar>

Control Settings See 2-2-1. Basic Control(Take- off/Landing/Move) / 2-2-2. Control Changes by



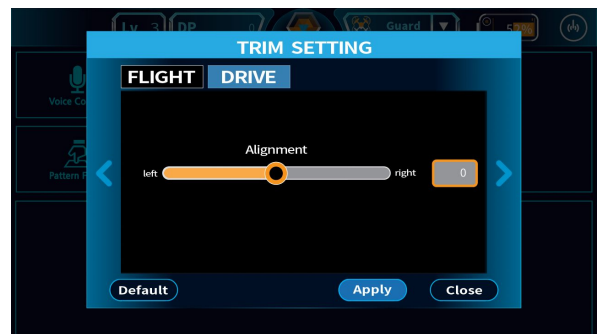
<Picture 2-7B. Screen for Control Settings>

Speed Settings You can set the maximum speed. The default is 70%.



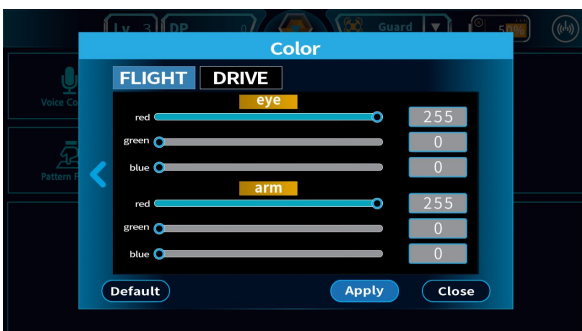
<Picture 2-7B. . Screen for Speed Settings>

Micro-tuning You can balance for each shift value.



<Picture 2-7D. Screen for Micro-tuning>

Color Settings You can set the color you want by specifying each value of the RGB LED



<Picture2-7E. Screen for Color Settings>

3. Update

1) Open the app and pair with Petrone. (See 1-4. Smartphone Connection)

2) Press 'My Information' button.



<Picture 3A. My Information>

3) Press 'Update' button.



<Picture 3B. Screen for Update>

4) Press 'Firmware Version Check' button.



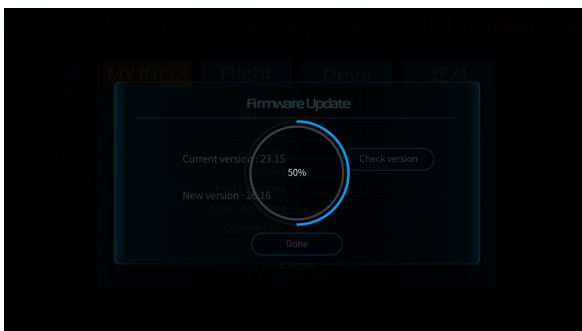
<Picture 3C. Version Check>

5) Press 'Update' button.



< Picture 3D. Start the Update>

6) Firmware will be updated.



<Picture 3E. Updating>

7) When Firmware update is finished, close the window and check My Information again. If it is the latest version, Update button disappears.



<Picture 3F. Update is finished.>

4. My Information

1) Open the app and pair with Petrone. (See 1-4. Smartphone Connection)

2) Press 'My Information' button.



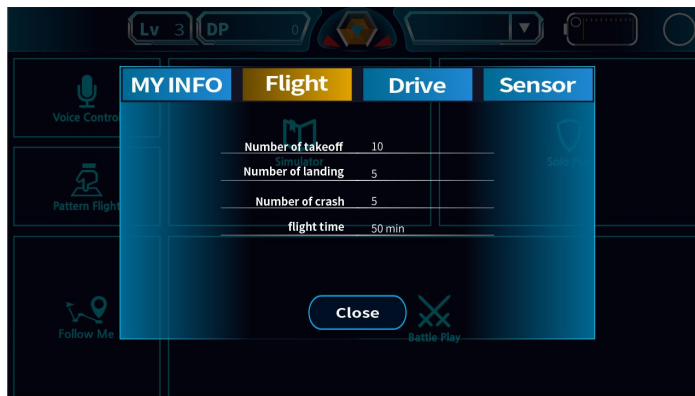
<Picture 3A. My Information>



<Picture 3A. My Information(Log In)>

Check My Information after Log In

If you login, you can check your Level / EXP / Records / Online Flight Time / Online Travel Time /Firmware Version.
(See 1-3. Account Registration and Log In)

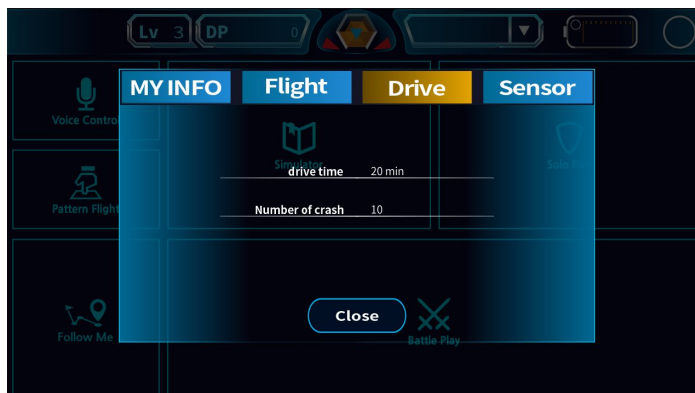


<Picture 4B. Flight Information>

Flight Information

In pairing with Petrone, you can see the number of Takeoff / Landing / Crash and Total flight time. You can check without logging in.

Since the flight time and the number of crash are reflected in the AS policies, please check before AS request.



<Picture 4C. Travel Information>

Travel Information

In pairing with Petrone, you can see the number of Crash and Travel time. You can check without logging in.

Since Travel time and the number of crash are reflected in the AS policies, please check before AS request.

5. Parts Replacement and Accessories

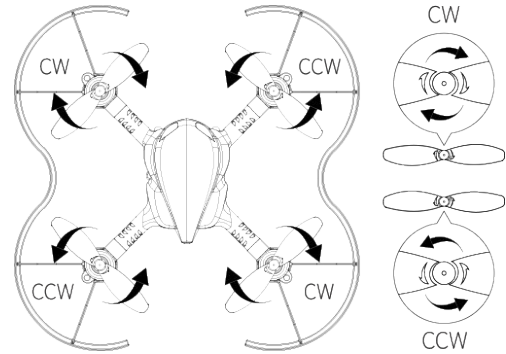
5-1 Propeller

1) Preparation



Prepare the propeller and propeller remover to replace.

2) Cautions



3) Replacement



1) Check the propeller to replace



2) Hang the propeller separator to the propeller



3) Hold the motor bracket and pull the propeller separator.



4) Check the direction of rotation of the propeller to replace.



5) Insert the propeller to fit in the motor bracket.



6) Press with your thumb.

4) Video Guide

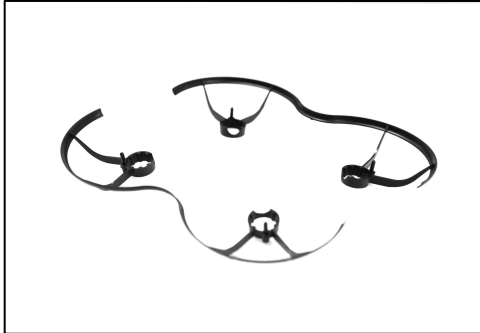


< Watch the video >

5. Parts Replacement and Accessories

5-2 Propeller Guard

1) Preparation

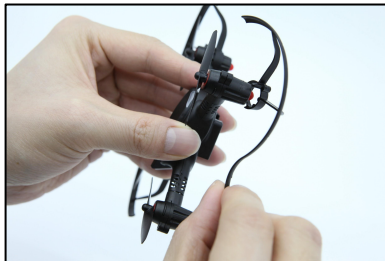


Prepare a propeller guard to replace.

2) Replacement



1) Remove the guard downward of the motor bracket .

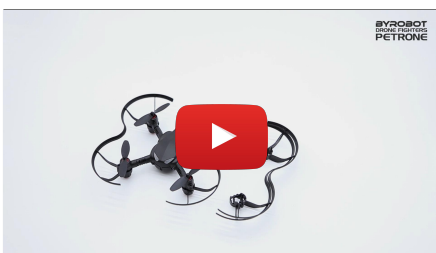


2) Insert the guard to replace aligned with a lower groove .



3) Press with your finger to prevent falling out.

3) Video Guide



< Watch the video >

5. Parts Replacement and Accessories

5-3 Motor Bracket

1) Preparation



Prepare a motor bracket to replace.

2) Replacement



1) Remove the propeller of the motor bracket to replace



2) Pull the motor bracket and remove from the body



3) After inserting the replacement motor bracket press it to the body to be fixed.

3) Video Guide



<Watch the video >

5. Parts Replacement and Accessories

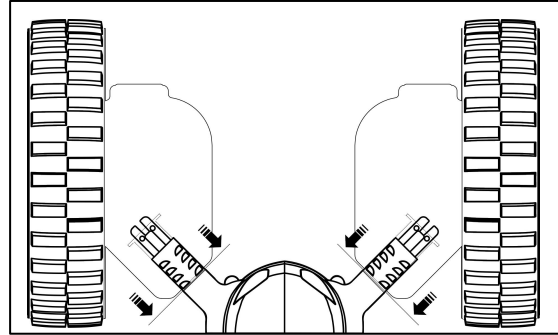
5-3 Drive Kit (Sold separately)

1) Preparation



Prepare the Drive Kit.

2) Cautions



Attach the front motor bracket of Drive Kit deep inside as shown above.

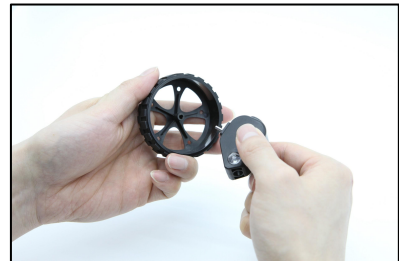
3) Replacement



1) Remove the propeller guard from the Petrone body.



2) Remove the Motor Bracket from the Petrone body.



3) Assemble drive-only motor bracket and drive-only wheel.



4) Insert the drive-only motor bracket to the front of Petrone Body.



5) Assemble the bracket and the perpendicular wings.



6) Insert the assembled wing Bracket to the rear of Petrone Body



7) Assemble the horizontal wings on the wing brackets on both sides.



8) Completed. After the battery is installed, you must use after changing to the Drive Mode.

5. Parts Replacement and Accessories

5-3 Drive Kit (Sold separately)

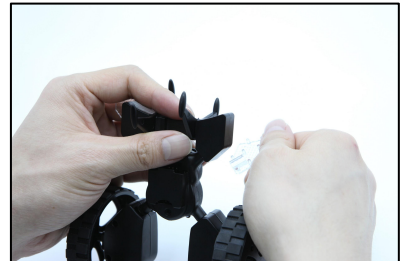
4) Remove Horizontal wing



1) Hold Petrone drive wing bracket toward the top

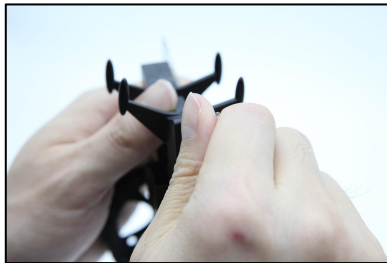


2) Hold the wing bracket with one hand And hold the horizontal wing to separate.



3) Remove the horizontal wings by twisting the hand forward.

<Side view>



5) Video Guide



<Replace Petrone to Petrone Drive>



<Replace Petrone Drive to Petrone>

5. Parts Replacement and Accessories

5-5 FPV Kit (Sold separately)



5-6 Multi-charger (Sold separately)



6. General Information

6-1. Precautions for Using Petrone

- This product is suitable for users over the age of 14.
- Sufficiently learn the control techniques by watching the tutorial provided in the application before flying the product. Make sure to follow all the instructions and precautionary procedures.
- Small components may pose a risk of choking. Keep them out of reach of children and pets.
- This product can be used both indoors and outdoors. However, keep a watch on the rotating propellers when flying in the vicinity of people or animals.
- In flight, the propellers of the Petrone can cause injury to people and property. Don't touch the Petrone while it's flying. Wait until the propellers have completely stopped before handling the Petrone.
- It is recommended NOT to fly the product at below-zero or high temperatures (40°C or higher) as it may reduce the performance of the drone and battery.
- Depending on the environment, the function for maintaining altitude following take-off (approx. 10 seconds) may not work properly.
- Fly the product within the user's range of vision.
- Do not randomly change the structure of this product.
- Lithium polymer batteries must be used. Follow the rules for lithium polymer battery use.
- After a flight, remove the battery from the product.
- Keep the product at a safe distance from other electronic devices, magnetic objects or wireless equipment.
- To charge the battery, make sure to use only the charger provided by Byrobot.
- Touching the battery with wet hands or using a wet object may result in product failure.
- Children who are not experienced in controlling the product must use the product under the guidance of an adult.

6-2. Precautions for Using the Battery

Failure to comply with instructions may cause permanent damage to the battery or its surroundings, and may cause injury.

- Do not charge the battery for long periods. The battery may become overcharged.
- Make sure to charge the battery by using the enclosed charger.
- Do not disassemble the battery.
- Avoid using the battery in a hot environment or near combustible objects.
- Charge the battery in locations with good air ventilation and be mindful of it throughout the process.
- Do not store or transport the battery together with a metallic object.
- Do not heat the battery or place it in or near a fire.
- When not using the battery, store it in a cool, dry environment.

6-3. Recycling this product



The symbol on this product and on its literature shows that at the end of its life, it is **not** to be disposed of with household waste. The uncontrolled disposal of waste is harmful to the environment: please separate this from other types of waste and dispose of responsibly. Private individuals are invited to contact the retailer who sold them the product or to ask advice from their local authority to find out how and where it can be recycled.

6-4. Notice regarding the right to privacy

Recording and distributing images of an individual without their consent could constitute a violation of their privacy, for which you may be held liable. Ask for permission before filming individuals, particularly if you want to keep your recordings and/or share them online. Do not distribute any degrading images or those that could undermine an individual's reputation or dignity.

6-5. Warranty

For the warranty conditions please refer to the retailer's General Conditions of Sale where you purchased your Petrone.

6-6. Registered Trademark

BYROBOT, Drone Fighters, Petrone and the Byrobot logo are Trademark of Byrobot.

AppStore is the service mark of Apple Inc.

Google Play is the trademark of Google Inc.

The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, inc. and any use of such marks by Byrobot is under license.

The ownership rights for all other trademarks mentioned in this manual are held by their respective owners.