DRONESHIELD

RfPatrol MKII User Manual

(English)

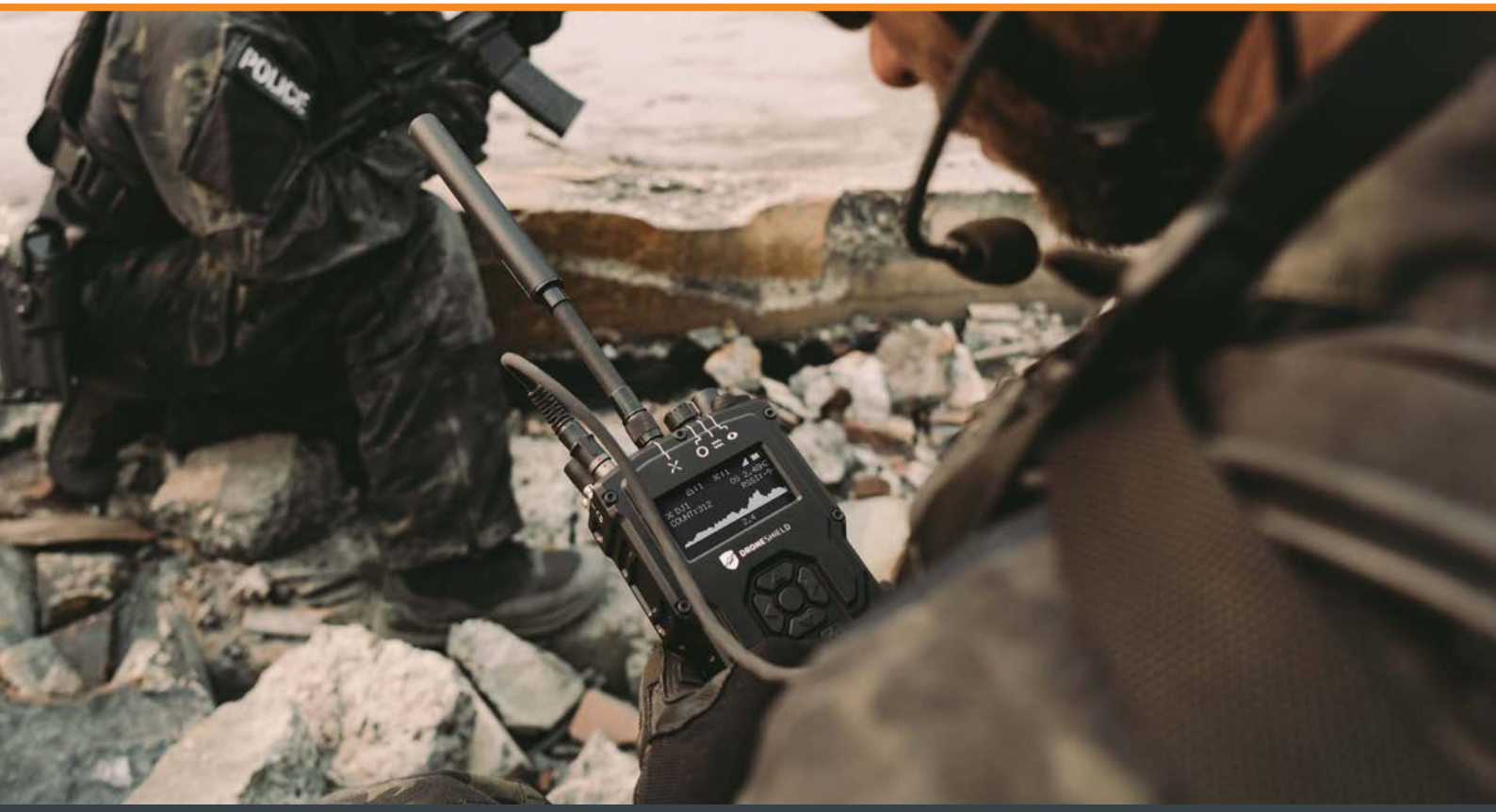


Table of Contents

1. Disclaimers

1.1 Disclaimer

DroneShield or “the Company” retains the right to make changes to the product at any time which may not be reflected in this document. Please contact DroneShield or your distributor if you require any further assistance.

It is the owner’s sole responsibility to setup and use DroneShield products in a manner that will not cause accidents, personal injury or property damage. DroneShield disclaims all liability for any use of this product in any way that may cause accident, damage or that may violate the law. The company or supplier is not liable for damage to personal property or injuries. By using this product the user acknowledges and agrees to the terms of the DroneShield EULA (End User License Agreement). For more information please contact info@droneshield.com.

1.2 ISO 9001

All DroneShield products are designed and manufactured according to a Quality Management System that is registered to ISO 9001 by SAI Global.

Certified System ™
Quality
ISO 9001
SAI GLOBAL

1.3 Warranty

12 month warranty is included in RfPatrol MKII purchase. The warranty is not transferable and does not cover damage to the exterior, nor damage caused by natural disaster, misuse, abuse, negligence, improper assembly or operation, self-modification or repair, and maintenance carried out by anyone but the manufacturer. Additional warranty is available (up to 5 years) for an additional charge.

1.4 RF Library

RfPatrol MKII will carry the latest drone library database as of time of purchase. For subscription options, please contact DroneShield or your distributor. The drone library can be updated through the Device Manager interface.

1.5 Shipping

HS Code: 85269130

1.6 Notes

Please read the user manual carefully before use

The parts included may differ slightly from the diagram shown, due to improvements to the product

The company reserves the right to alter or change any part and design of the product at any time without notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

1.7 Warnings

- Make sure the provided and/or recommended re-chargeable battery is fully charged and inserted into the battery connector as per instructions in this manual, or this product may not perform as expected
- Do not drop, physically damage or abuse the batteries. Dispose of batteries responsibly, as per your local regulations
- If RfPatrol MKII is damaged in any part or whole, please contact your local authorised distributor for further advice
- Do not attempt to charge the RfPatrol MKII battery with the supplied charger when the ambient temperature is below 0 Deg C / 32 Deg F. This may result in permanent damage to the re-chargeable battery
- Do not attempt to modify the RfPatrol MKII. Any changes or modifications not expressively approved by DroneShield could void the user's authority to use this equipment
- Modification of this device to recieve cellular radiotellephone service signals is prohibitted under FCC rules and federal law

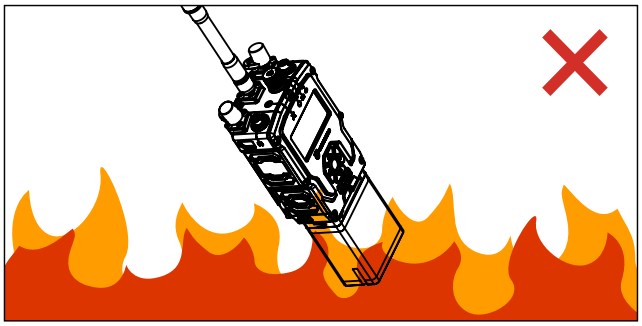
1.8 High Noise Environment

RfPatrol MKII detection range may be negatively affected when used in high noise environments due to increased noise on ISM bands.

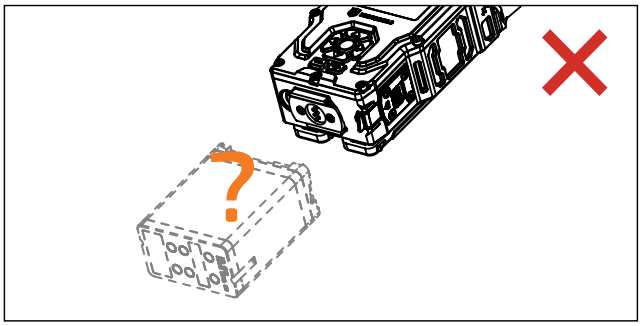
1.9 Device Security

DroneShield detection series devices have on-chip Advanced Encryption Standard (AES) decryption logic to provide a high degree of design security. Encrypted designs cannot be copied or reverse engineered for use on unintended devices. The AES system consists of software-based encryption and on-chip bit stream decryption with dedicated memory for storing the encryption key.

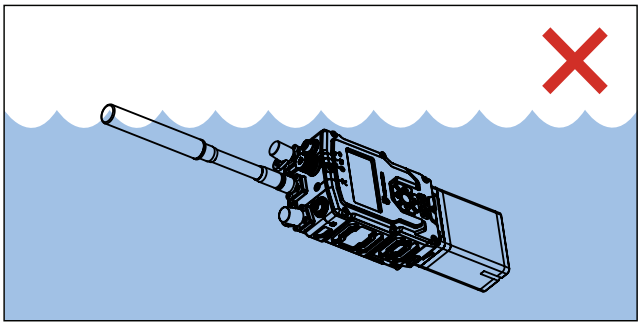
2. Safety



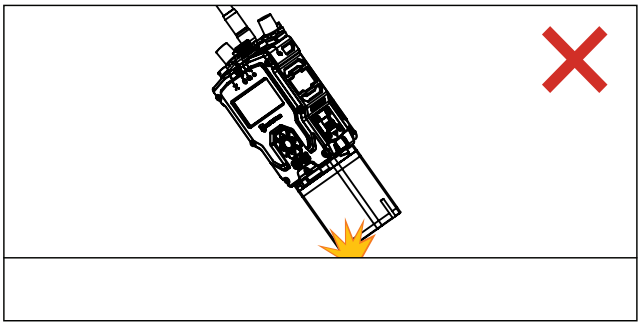
Keep RfPatrol MKII and RfPatrol MKII battery away from open flames.



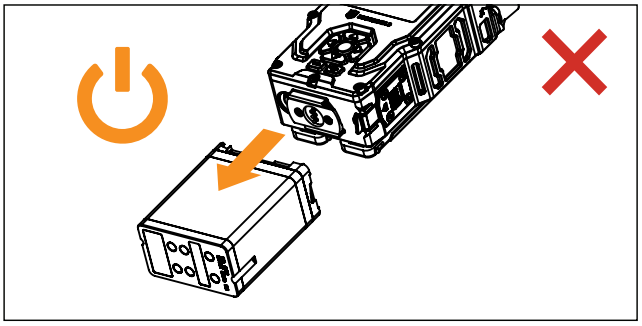
Do not use non DroneShield approved batteries with the RfPatrol MKII.



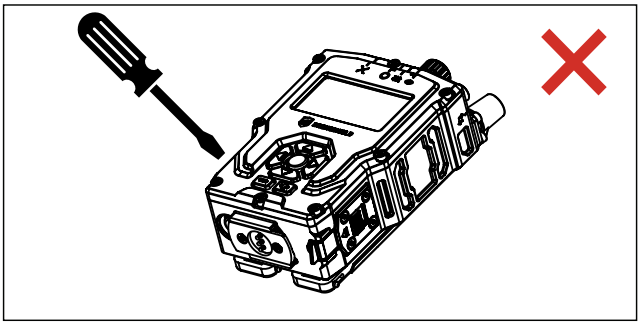
While RfPatrol MKII is designed to meet IP67 rating, avoid submerging in water to increase product lifespan.



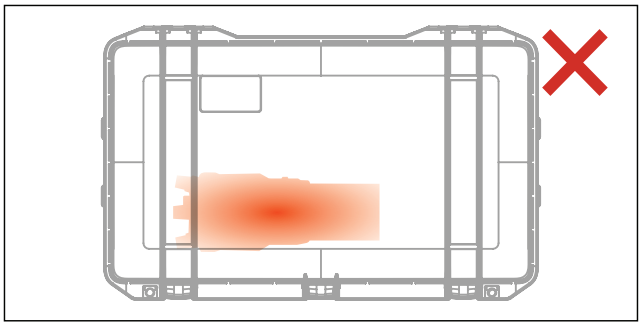
Do not allow the RfPatrol MKII to sustain heavy impacts such as dropping.



RfPatrol MKII should always be powered down by turning the mode switch to the OFF position and waiting for the countdown screen to finish. Disconnecting the power-supply without powering down the unit could corrupt detection logs.



Do not attempt to modify or disassemble the RfPatrol MKII in any way. Doing so will void the warranty and may damage or destroy the device.



Ensure RfPatrol MKII is turned OFF when placed into carry case to prevent overheating and damage.

3. Application

RfPatrol MKII is a compact and lightweight omni-directional drone detection solution. Its design and size allows it to be portable and worn by the operator.

4. Key Features

Robust & Compact Radio Style Design

- Durable aluminium construction
- Tested for use in harsh environments (tested to IP67, MIL-STD-810)
- Quick release & replace battery operation
- Secure fastening to MOLLE or dashboard mount for operational versatility

DroneShield Advanced Technology

- Integrated electronic modules for compact application
- Use of NATO Military approved batteries
- Ready for operation out of the box, no software updates required for operation
- Regular software updates to extend detection capabilities

Intuitive User Interface

- Select between “Stealth Mode” for night operation (no visible light emitted) and “Glimpse Mode” for normal operation
- Low profile display navigation buttons
- Display and audio indicates when battery is low or when mute is enabled

5. Out of the Box

DRONESHIELD

RfPatrol MKII Packing List:

Included with RfPatrol MKII:

☐ RfPatrol MKII Receiver
Black
112-0

☐ RfPatrol MKII Battery
BT-707168G
DRO-888-214
NSN: 6140016408745

☐ RfPatrol MKII Alpha Antenna
2.4GHz, 5.8GHz
DRO-555-200
NSN: 5985661653723

☐ RfPatrol MKII Bravo Antenna
420MHz - 470MHz
DRO-555-201

☐ RfPatrol MKII Charlie Antenna
900MHz - 2720MHz
DRO-555-202

☐ Data Cable
Military Connector to RJ45
DRO-111-210
NSN: 5995661653725

☐ RJ45 to USB Adaptor
Connect RfPatrol MKII to PC
DRO-228-118

☐ Audio Cable
Military Connector to 3.5mm Jack
DRO-111-500
NSN: 5995661653705

☐ Passthrough Charger Kit
Charger, PSU, Vehicle Cable, Plug Adaptors
DRO-888-442, DRO-888-443

☐ Carry Pouch
Multicam / AMCU / Black / Coyote Tan
112-10 / 112-10A / 112-10B / 112-10C

☐ RfPatrol MKII Carry Case
Pelican 1525
DRO-888-703

☐ Vehicle Power Cable
Battery Eliminator
DRO-228-123
NSN: 6150661653871

☐ MOLLE Clips
Body Mounting
DRO-888-306

☐ TNC Extension Cable (Red)
TNC(M)RA to TNC(F)
DRO-111-408

☐ TNC Extension Cable (Blue)
TNC(M)RA to TNC(F)
DRO-111-409

☐ TNC Extension Cable (Yellow)
TNC(M)RA to TNC(F)
DRO-111-410

☐ 2x Antenna Sleeve (Short)
Short - Multicam
DRO-555-603

☐ Antenna Sleeve (Long)
Long - Multicam
DRO-555-604

Serial Number:

Date: _____

Signature: _____

RfPatrol MKII Packing List | v1.9.0

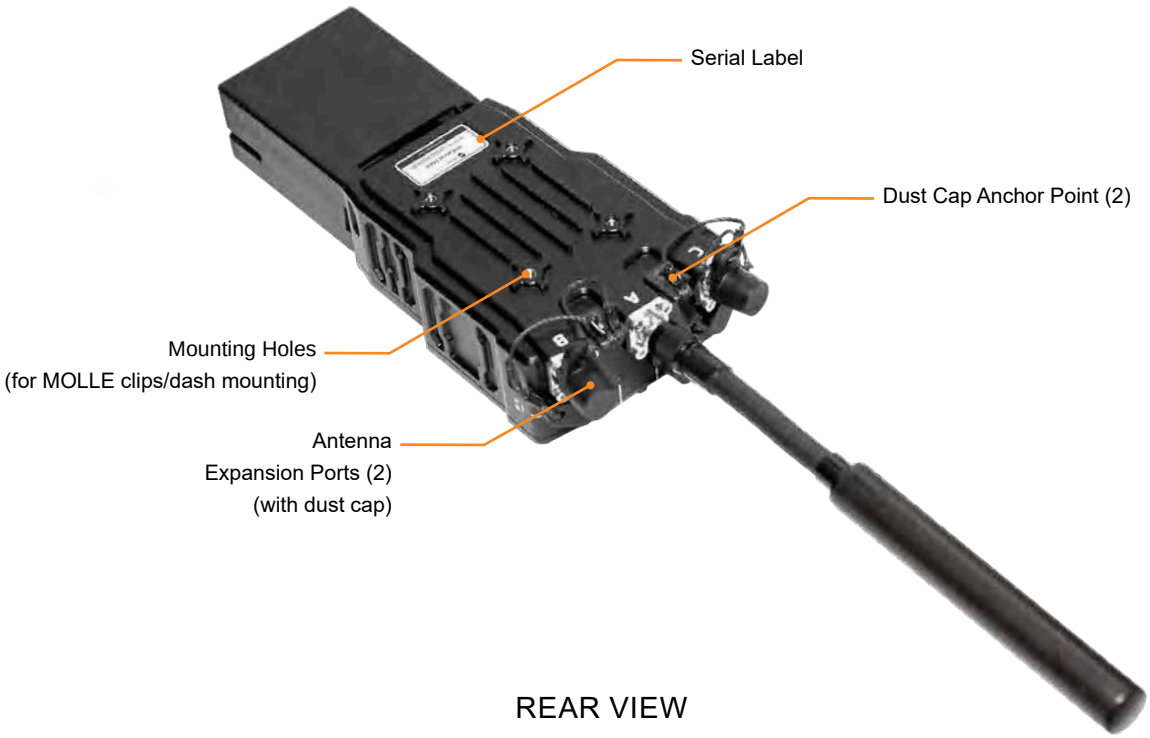
Page 1/1

Images for illustrative purposes only

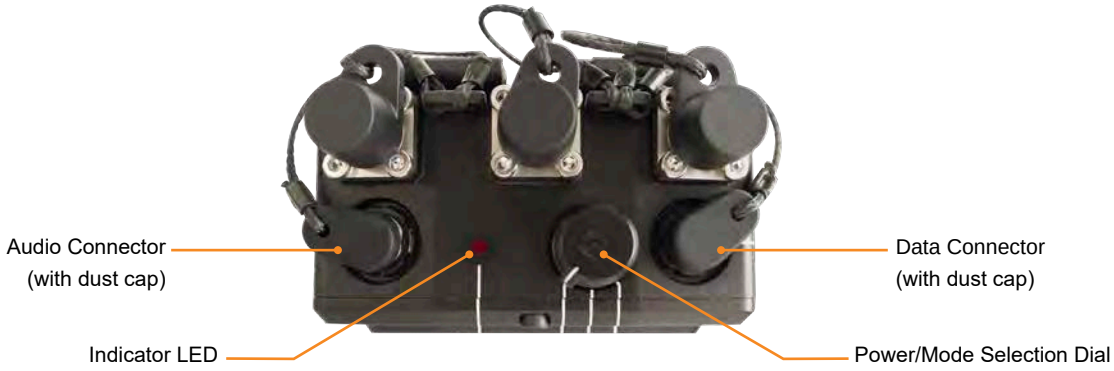
6. Product Overview

6.1 Product Details

FRONT VIEW

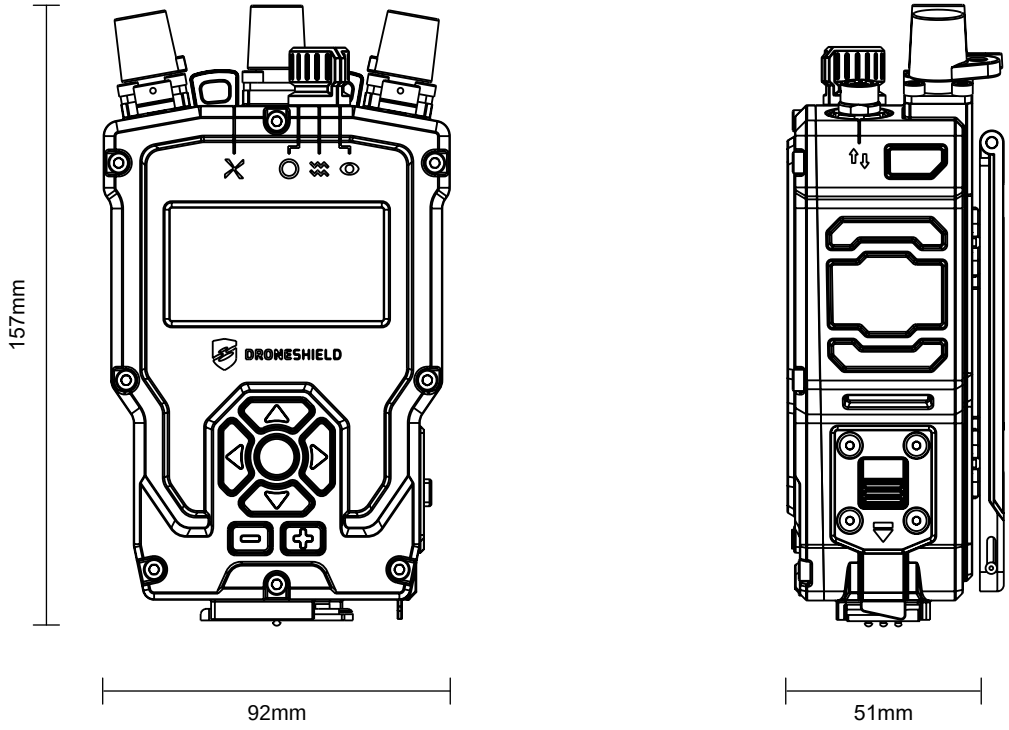


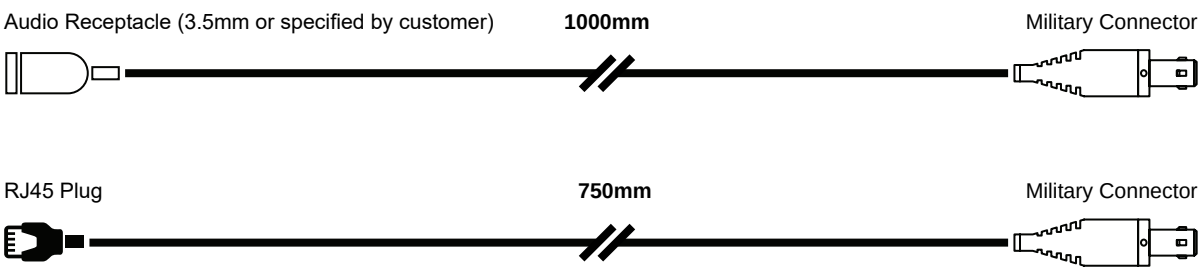
REAR VIEW



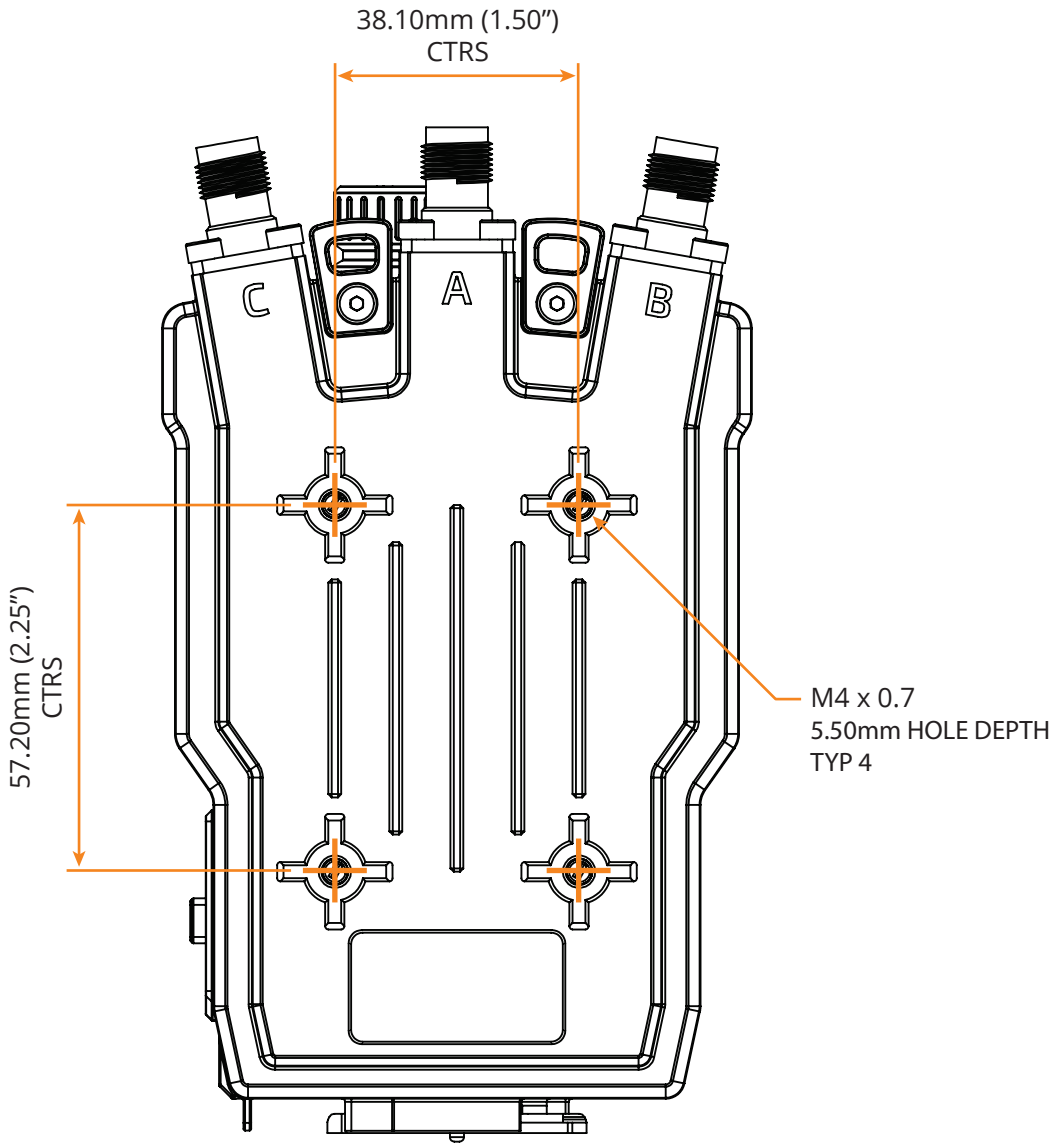
TOP VIEW

6.2 Product Dimensions





6.3 Product Mounting

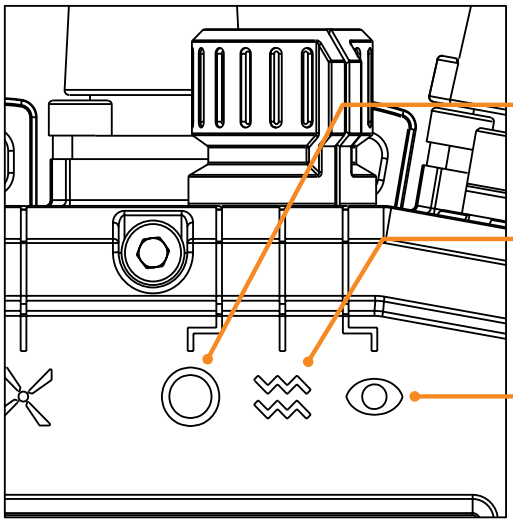


The RfPatrol MKII has 4x threaded mounting holes on the back of the device. These can be used for attaching MOLLE clips, VESA mounts or custom brackets.

7. User Interface

7.1 Controls

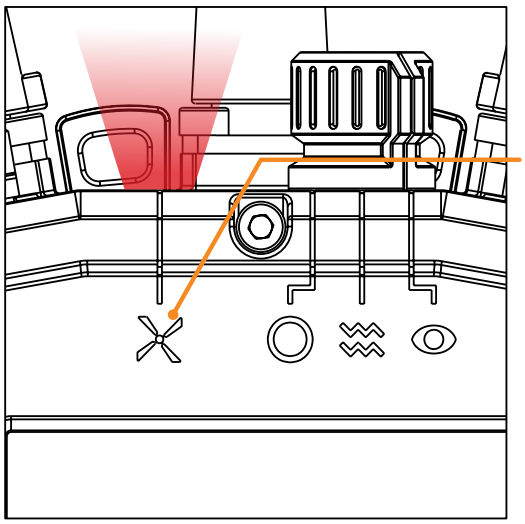
The mode switch at the top of the RfPatrol MKII has three positions that allow the user to select from three different states.



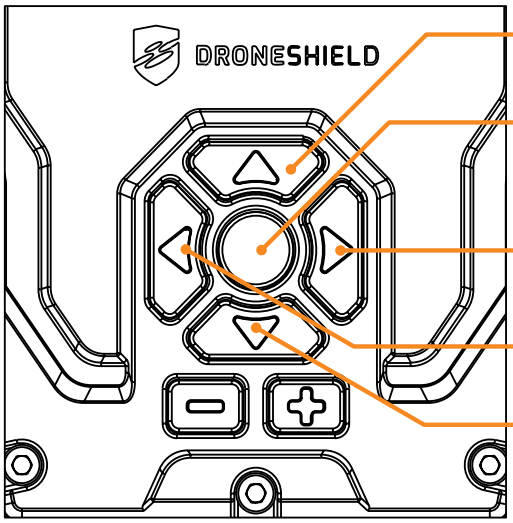
Position 1:
POWER OFF

Position 2:
POWER ON, STEALTH (Detection LED disabled, Display disabled, Audio enabled, Vibration disabled)

Position 3:
GLIMPSE (Detection LED enabled, Display enabled, Audio enabled, Vibration enabled)



Drone/Pilot Detected:
LED will illuminate when RfPatrol MKII detects a drone/pilot in mode switch Position 3 (GLIMPSE mode)



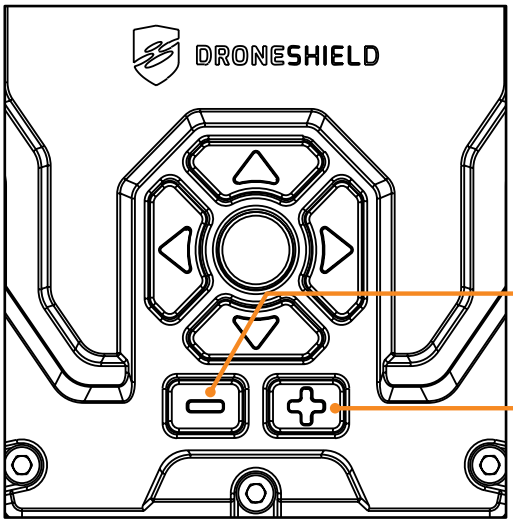
Scroll Up:
Scroll up through detections/menu

Select:
Enter menu
HOLD (2 secs): Toggles menu

Forward:
Enter menu

Back:
Exit out of menu

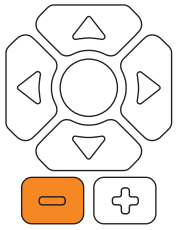
Scroll Down:
Scroll down to drone detection page



Volume Down:
Reduce volume

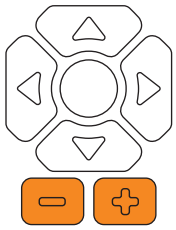
Volume Up:
Increase volume

RfPatrol Device Shortcuts



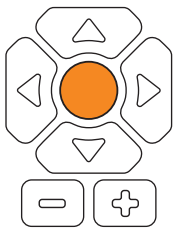
Mute Audio

To mute audio alerts, hold Volume Down button for 2 seconds



Lock / Unlock Screen

To lock the display, hold both Volume Up and Volume Down buttons for 3 seconds.



Accessing Menu and Settings

To access the RfPatrol menu, hold the Select button for 2 seconds.

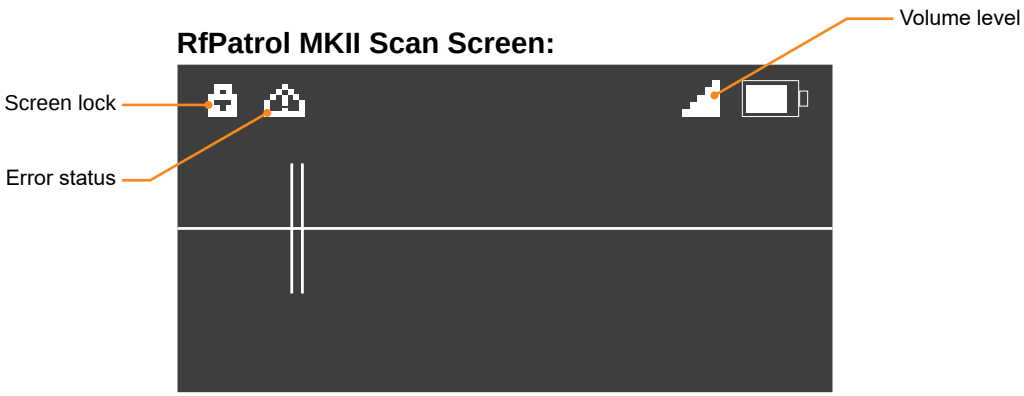
7.2 Display Navigation

7.2.1 Power On

When the device software has loaded, the device will begin scanning for drones on the default detections screen. When no detections are active, a scrolling scan bar will be shown.

RfPatrol MKII Splash Screen (Position 3 - GLIMPSE):

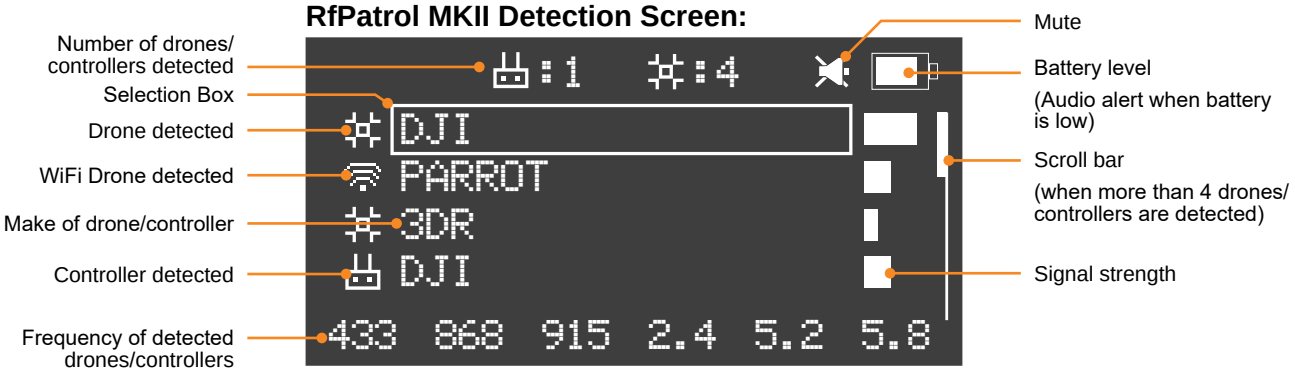
RfPatrol MKII Scan Screen:



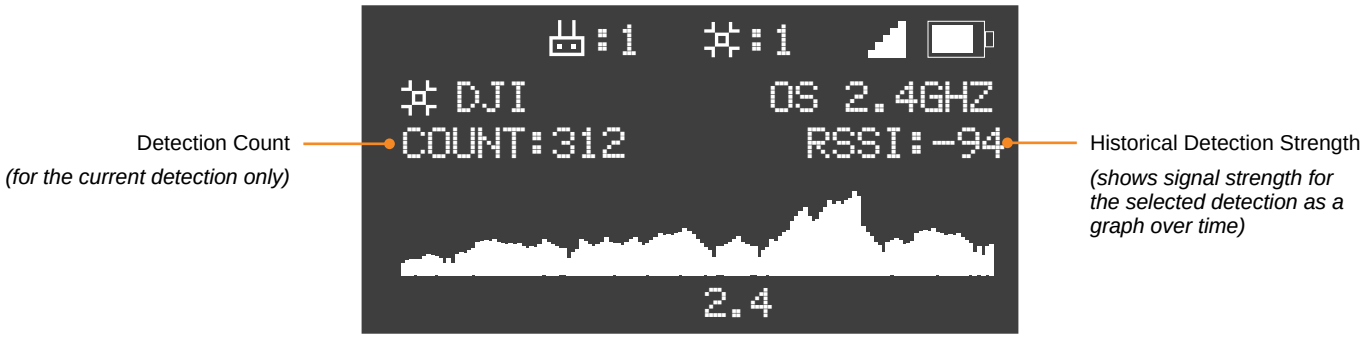
7.2.2 Viewing Detections

When drones or controllers have been detected, these will be displayed to the user on the interface.

RfPatrol MKII Detection Screen:



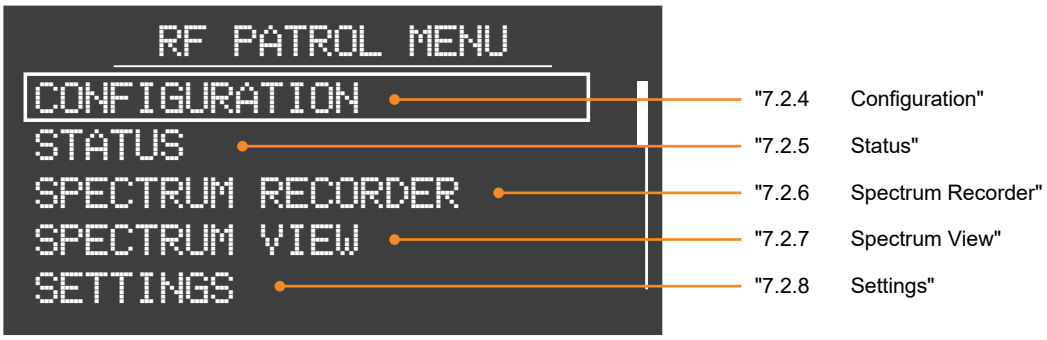
RfPatrol MKII Detailed Detection Screen:
(Scroll to a detection and press SELECT)



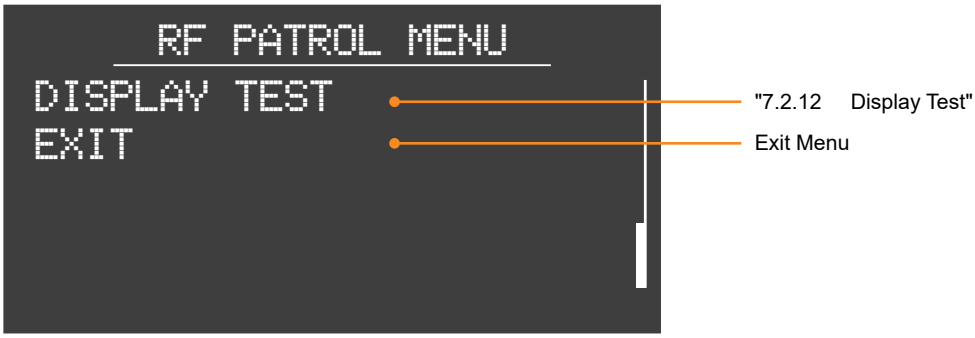
7.2.3 Accessing RfPatrol Menu

To access the on-device RfPatrol menu, hold SELECT for 2 seconds.

Page 1

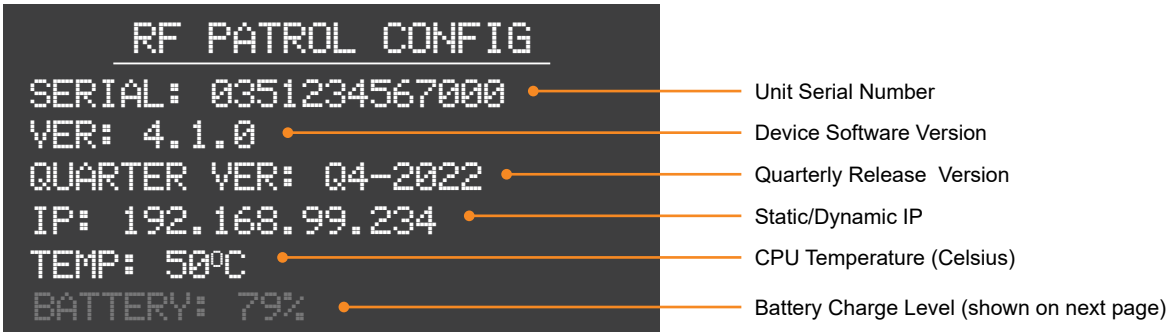


Page 2



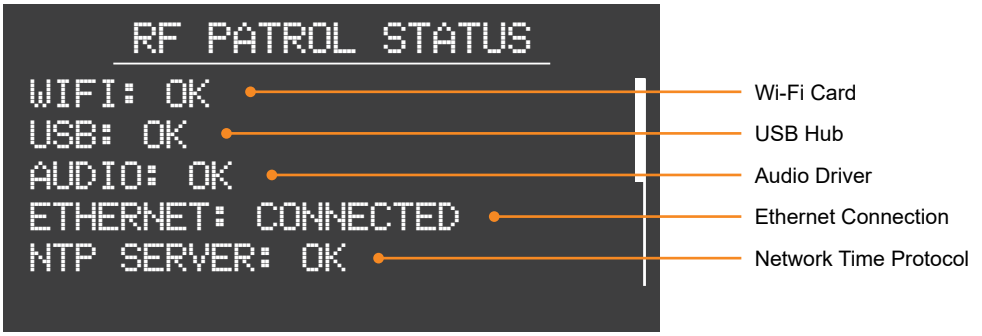
7.2.4 Configuration

RfPatrol MKII Config Screen:

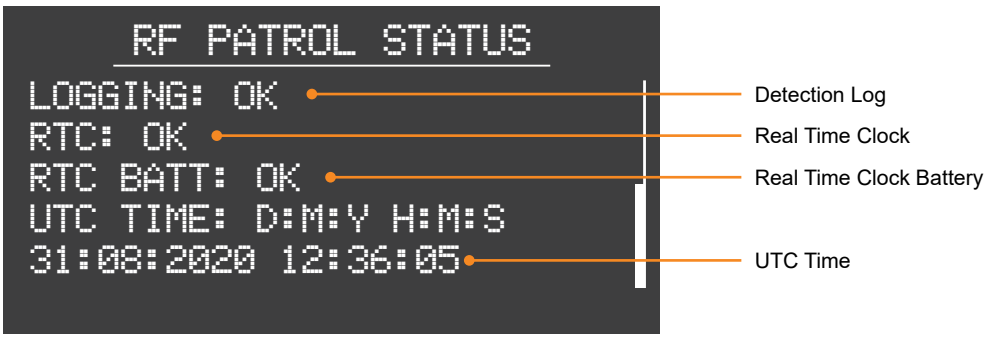


7.2.5 Status

Page 1



Page 2



7.2.6 Spectrum Recorder

The Spectrum Recorder is a feature which allows the user to record radio-frequency data on select frequency bands. This feature is useful for recording new drones, false detection signatures or conducting site surveys.

This feature is accessed via both the RfPatrol device and the device manager. For instructions on using the Spectrum Recorder on the device manager, see "10.7 Spectrum Recorder".

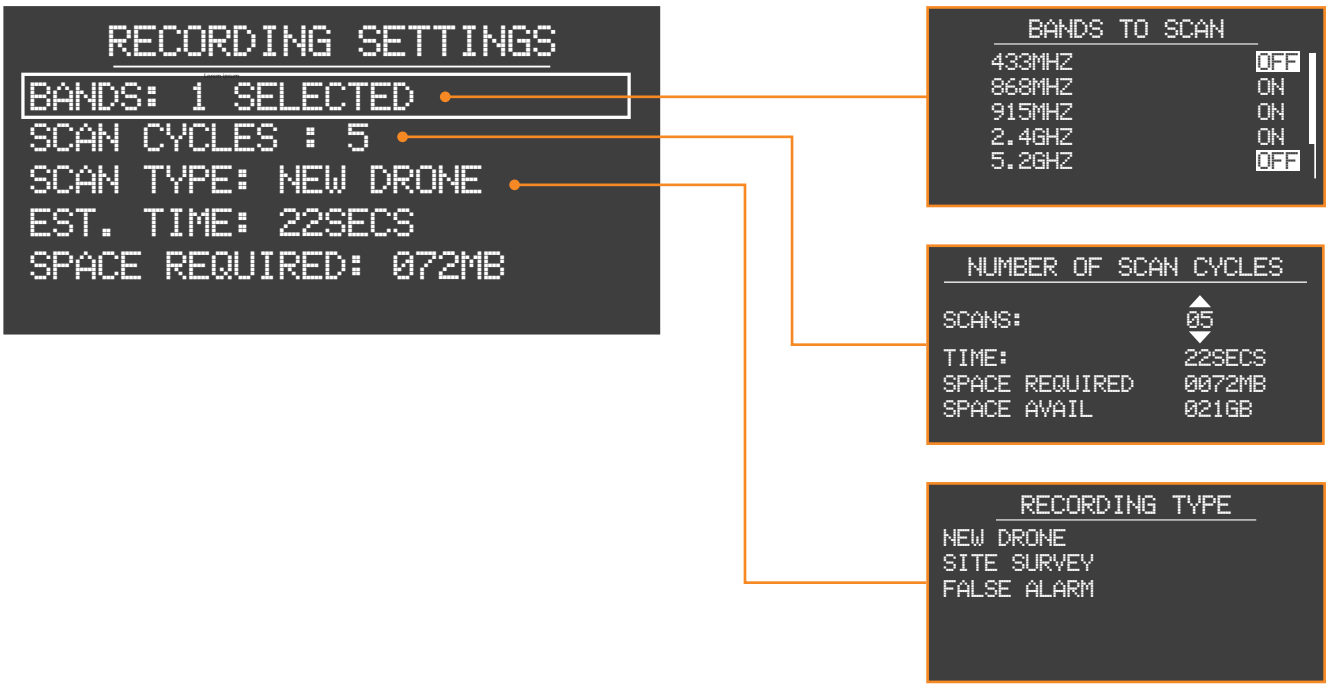
To access the Spectrum recorder on the physical device, first navigate to the **Menu**. Next, select **Spectrum Recorder.**

Recording Settings

Bands: Select which frequency bands are to be scanned. Ensure all enabled bands have an antenna attached before proceeding. Increasing the number of frequency bands will increase the duration and size of the recording.

Scan Cycles: The number of scans the device will conduct for the given recording. DroneShield recommends a minimum of 30 scans. Increasing scan cycles will increase the duration and size of the recording.

Scan Type: For a detailed explanation of use scenarios, see "10.7.1 Use Scenarios".

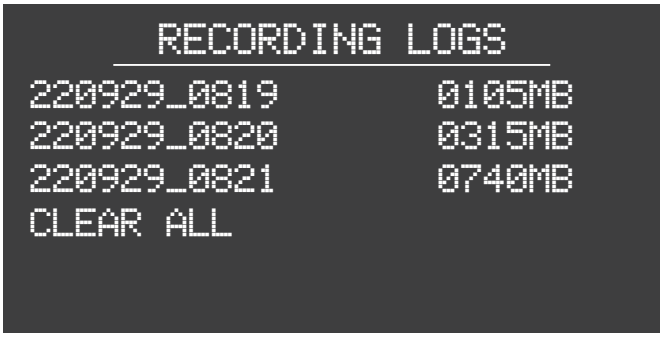


Start a Recording

When the user selects Start Recording, the progress bar will appear. This will update as each scan is completed.

View Spectrum Recordings

To view recordings stored locally on the device, navigate to **Recording Logs**. From this screen, all logs can be cleared locally from the device.



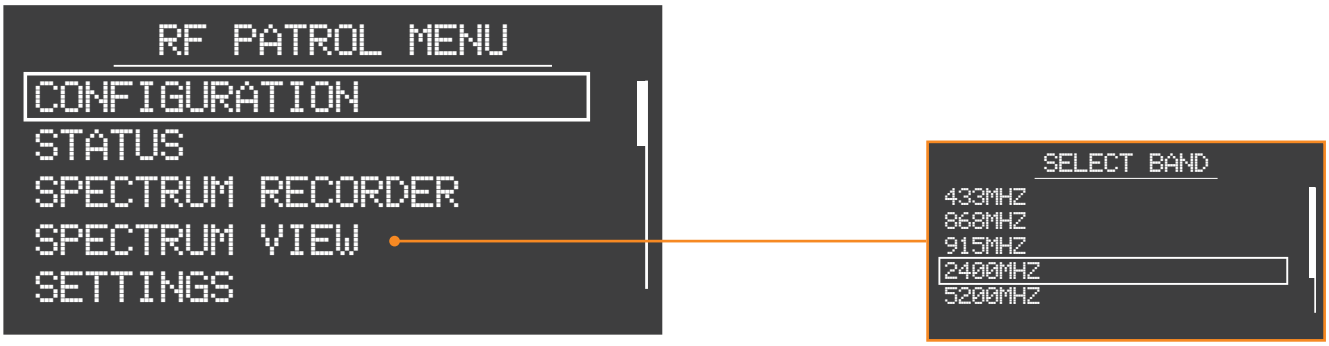
Viewing Individual Recordings

To view and individual recording, use the SELECT button. In the detailed log screen, the user can view the recording name, size and number of scan cycles. The user also has the option to delete the individual log from the device.

7.2.7 Spectrum View

The Spectrum View is a feature available on both the RfPatrol device and via the device manager. To access the Spectrum View on the RfPatrol device, select **Spectrum View** from the menu.

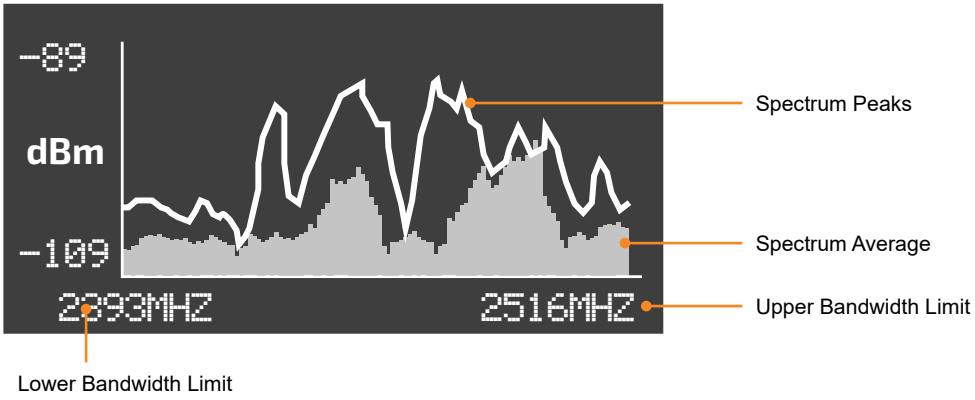
Next, the user will be prompted to select a frequency band to scan. Ensure the correct antenna is attached to the corresponding port before proceeding.



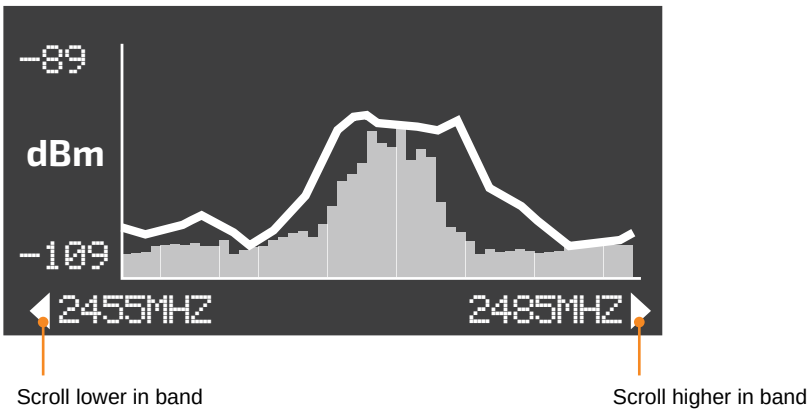
Once a frequency band has been selected, the user must select the type of Spectrum View display.

Entire Spectrum

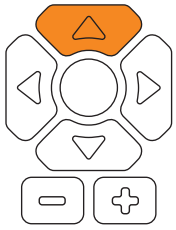
View the full bandwidth for the selected frequency. This allows the user to identify any spurious or significant emissions in the band, which can be looked at closer using a magnified view.



Magnified Spectrum: View a detailed view of the selected frequency. In this mode, the full frequency bandwidth is split into five segments. Each view will show 20% of the total frequency bandwidth.

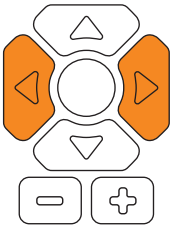


Spectrum View Controls



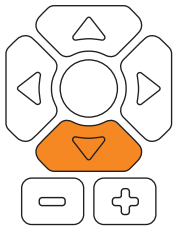
Clear Peaks

To clear spectrum peaks, press the UP button.



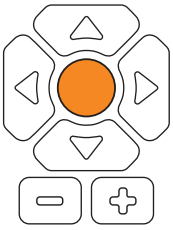
Scroll Magnified Spectrum

To scroll across the frequency, use the LEFT and RIGHT buttons.



Clear Average

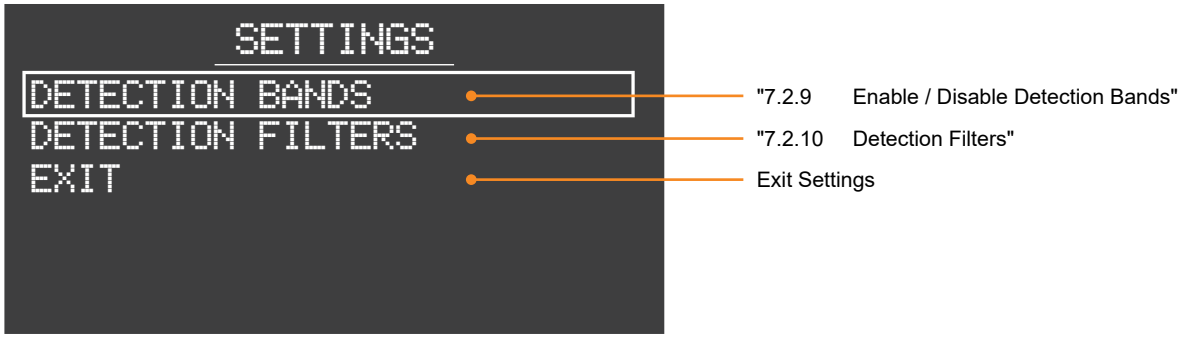
To clear spectrum average, press the DOWN button



Exit Spectrum View

To exit spectrum view, press the SELECT button.

7.2.8 Settings

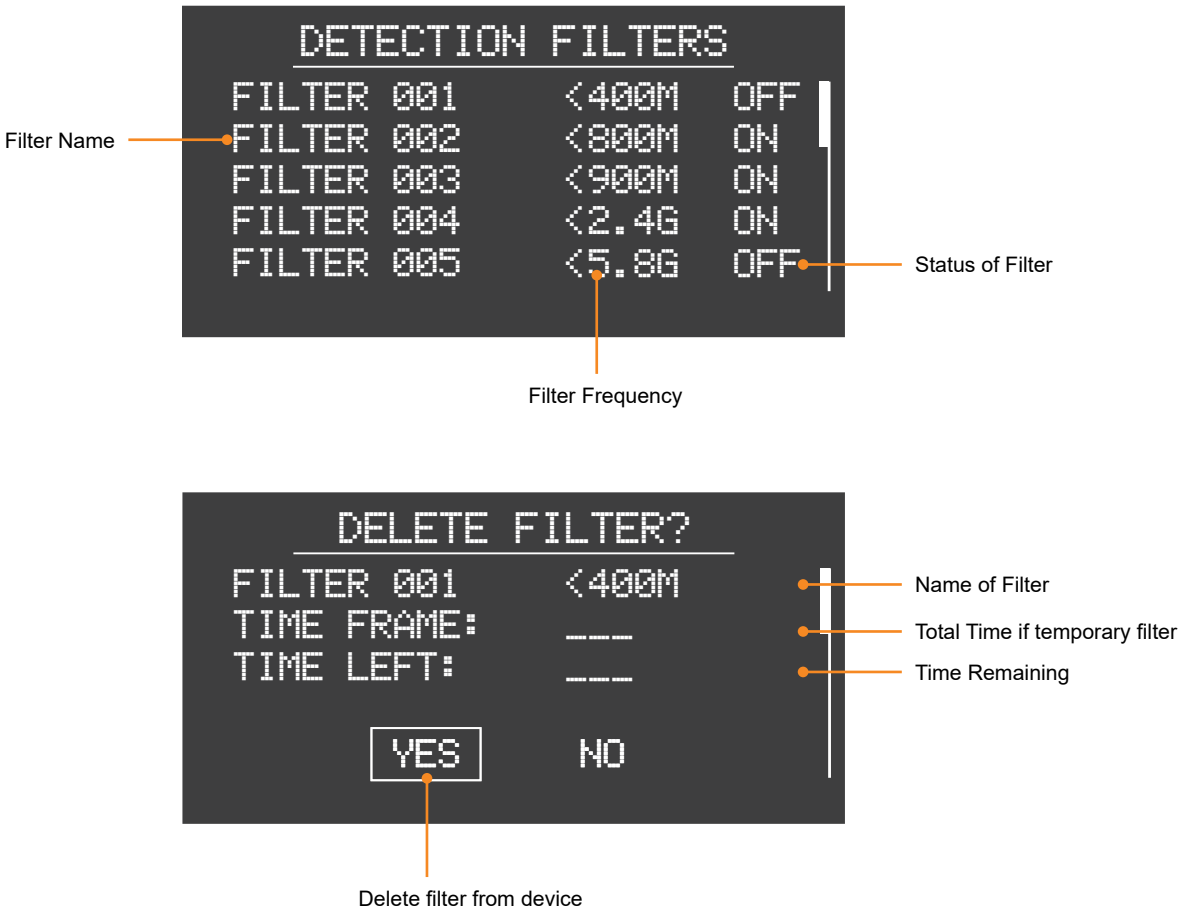


7.2.9 Enable / Disable Detection Bands

Users can enable/disable the frequency bands operating on the device. Before enabling a frequency band, the user should check the appropriate antenna has been attached to the device.

7.2.10 Detection Filters

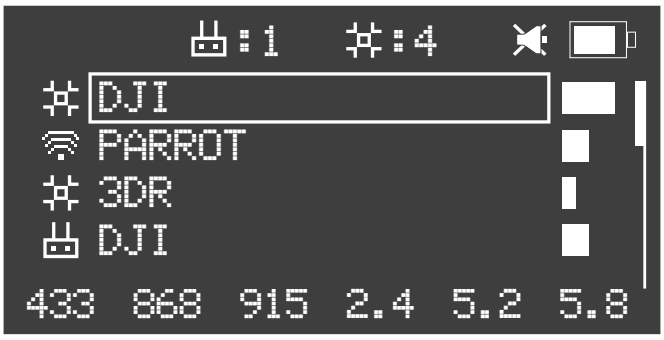
Detection filters can be viewed, enabled/disabled and deleted directly from the RfPatrol device. Selecting a filter shows time remaining if it has been configured as a temporary filter. The individual filter is deleted from this interface.



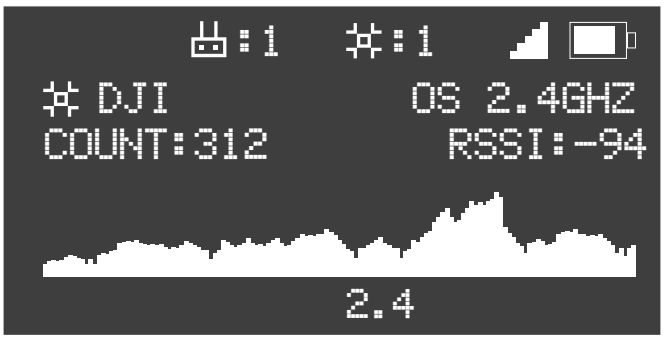
7.2.11 Adding Filter from a Detection

Users can add a live detection directly to the device filters. This is done by selecting the detection on the default detection screen.

Default Detection Screen
(Scroll to detection and press SELECT)



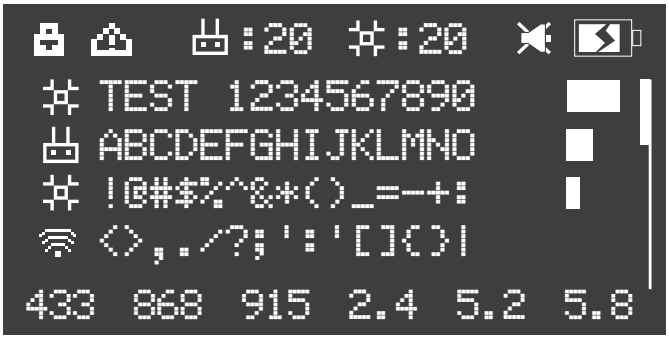
Detailed Detection Screen
(To add detection as filter, hold SELECT or Right Arrow)



Set Filter Screen
(Select time period for filter, then press SELECT)

7.2.12 Display Test

Note: When on the Display Test Screen, the RfPatrol LED will flash and buzzer will activate.



7.3 Audio Feedback

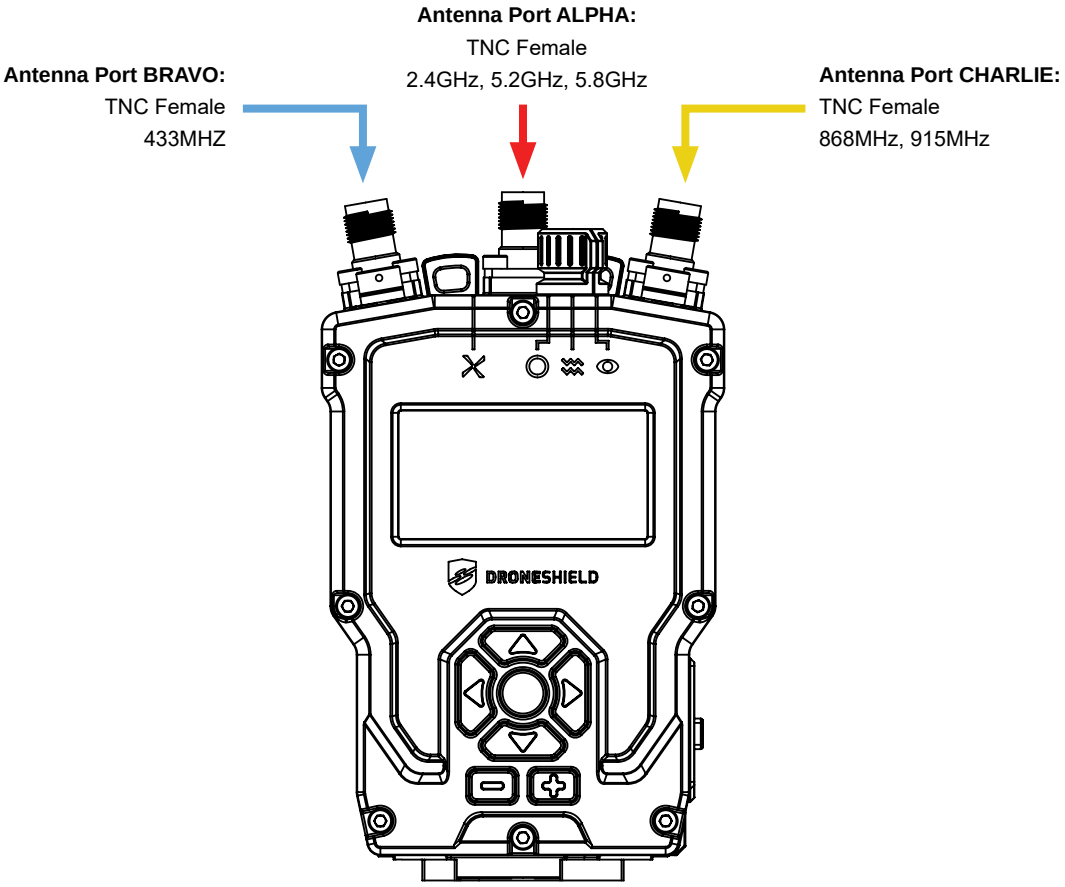
The RfPatrol MKII provides users with audio feedback via the audio connector and cable. The following audio alerts are provided:

Trigger:	**Audio Feedback:**
Single drone detected	*"Detection, one drone"*
Multiple drones detected	*"Detection, multiple drones"*
Drone has high RSSI	*"High signal strength"*
Drone has medium RSSI	*"Medium signal strength"*
Drone has low RSSI	*"Low signal strength"*
User mutes audio	*"Mute mode on"*
User un-mutes audio	*"Mute mode off"*
Battery falls below 10%	*"Battery low"*
Volume button up or down	**Beeps* progressively louder or softer*

8. Ports and Components

8.1 Antennas

There are three antenna ports on the top of the RfPatrol MKII. Each antenna provides detection capabilities for different bands.



8.1.1 Alpha Antenna

Frequency: 2000MHz - 6000MHz
Gain: 2 - 4 dBi Typ.
Polarisation: Linear (Vertical)
Beamwidth: 360° Azimuth, 45° - 65° Elevation
VSWR: 2:1
Power Rating: 10W
Mass: 96grams (0.21lbs)
Groundplane: Independent
Connector: TNC (M)
Dimensions: 212mm x 18mm

8.1.2 Bravo Antenna

Frequency: 420MHz - 470MHz
Gain: 2 dBi Typ.
Polarisation: Linear (Vertical)
Beamwidth: 360° Azimuth, 70° Elevation
VSWR: 2:1
Power Rating: 10W
Mass: 300grams (0.66lbs)
Groundplane: Independent
Connector: TNC (M)
Dimensions: 426mm x 25mm

8.1.3 Charlie Antenna

Frequency: 800MHz - 2720MHz
Gain: 3.5 dBi Typ.
Polarisation: Linear (Vertical)
Beamwidth: 360° Azimuth, 70° Elevation
VSWR: 2:1
Power Rating: 10W
Mass: 200grams (0.44lbs)
Groundplane: Independent
Connector: TNC (M)
Dimensions: 363mm x 32mm

Users should disable any frequency band that does not have a matching antenna installed on the RfPatrol MKII or risk false detections.

433MHz, 868MHz, 915MHz and 5.2GHz frequency bands are disabled by default. For instructions on frequency band activation, see section: "10.5.1 RF Detectors" on page 63.

8.1.4 Antenna Extension Cable and Pouch

RfPatrol MKII antennas can be routed elsewhere on the body with a TNC male to TNC female extension cable and antenna sleeve. It should be noted that the antenna extension cable will result in some signal loss and reduced detection range.

Alpha Antenna in sleeve

Bravo Antenna in sleeve

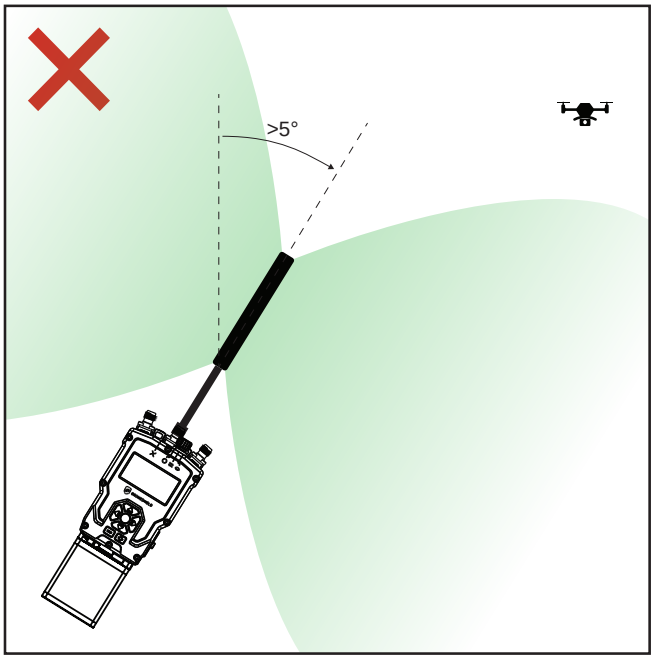
Charlie Antenna in sleeve

Antenna sleeve mounted on to MOLLE webbing

8.1.5 Correct Antenna Orientation

The Gooseneck Antennas supplied with the RfPatrol must be oriented vertically for optimal performance. Any bend which causes the antenna element to be greater than 5 degrees from vertical can significantly reduce range of the device.

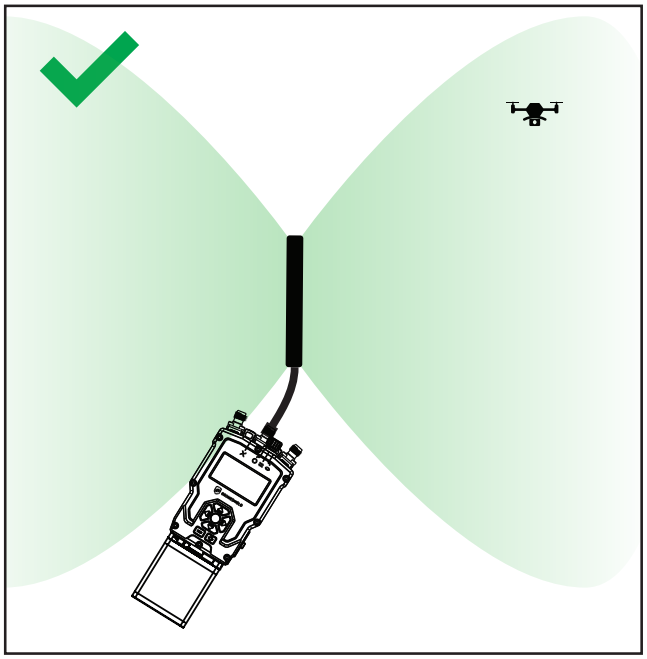
For optimal performance, the antennas should be positioned greater than 1.5m (5') from the ground.



Incorrect Antenna Orientation

Antenna lobe pattern is skewed when antenna is oriented greater than 5° from vertical.

Detection range and consistency may decrease.

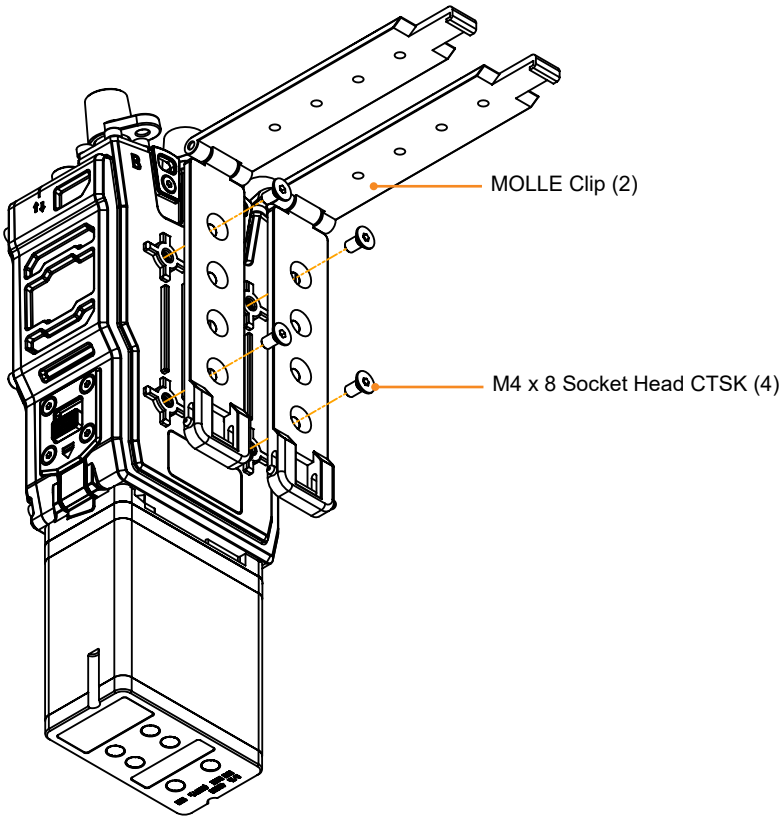


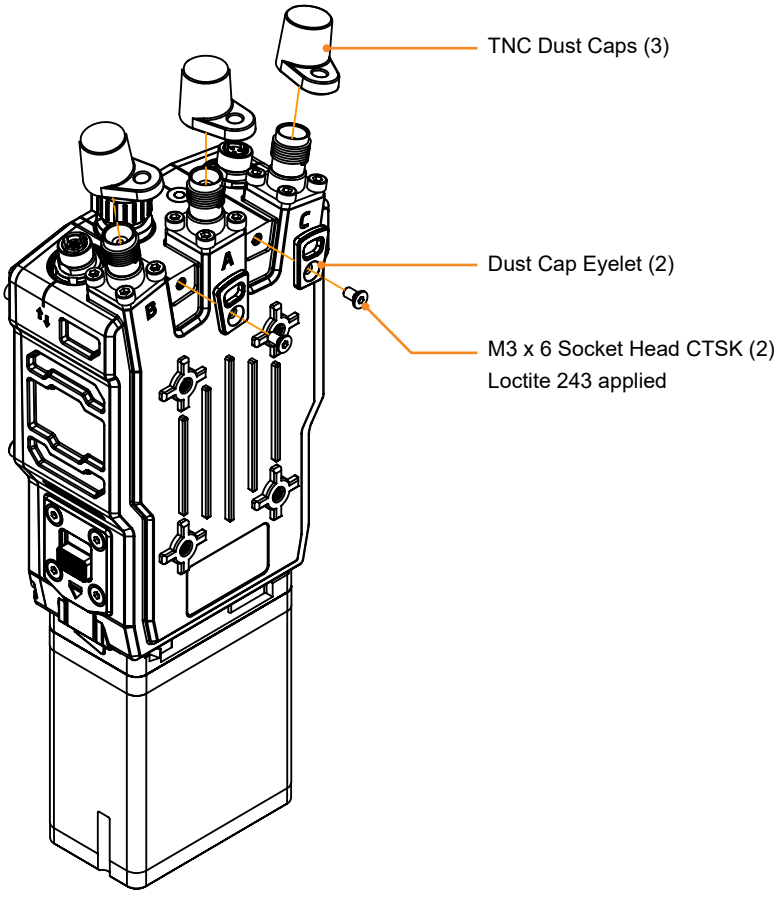
Correct Antenna Orientation

Antenna lobe pattern is aligned with horizon, providing optimal detection performance.

8.3 MOLLE Clips

MOLLE Clips (included) can be attached to the rear of the RfPatrol MKII to allow for mounting directly to the body without the use of a carry pouch.





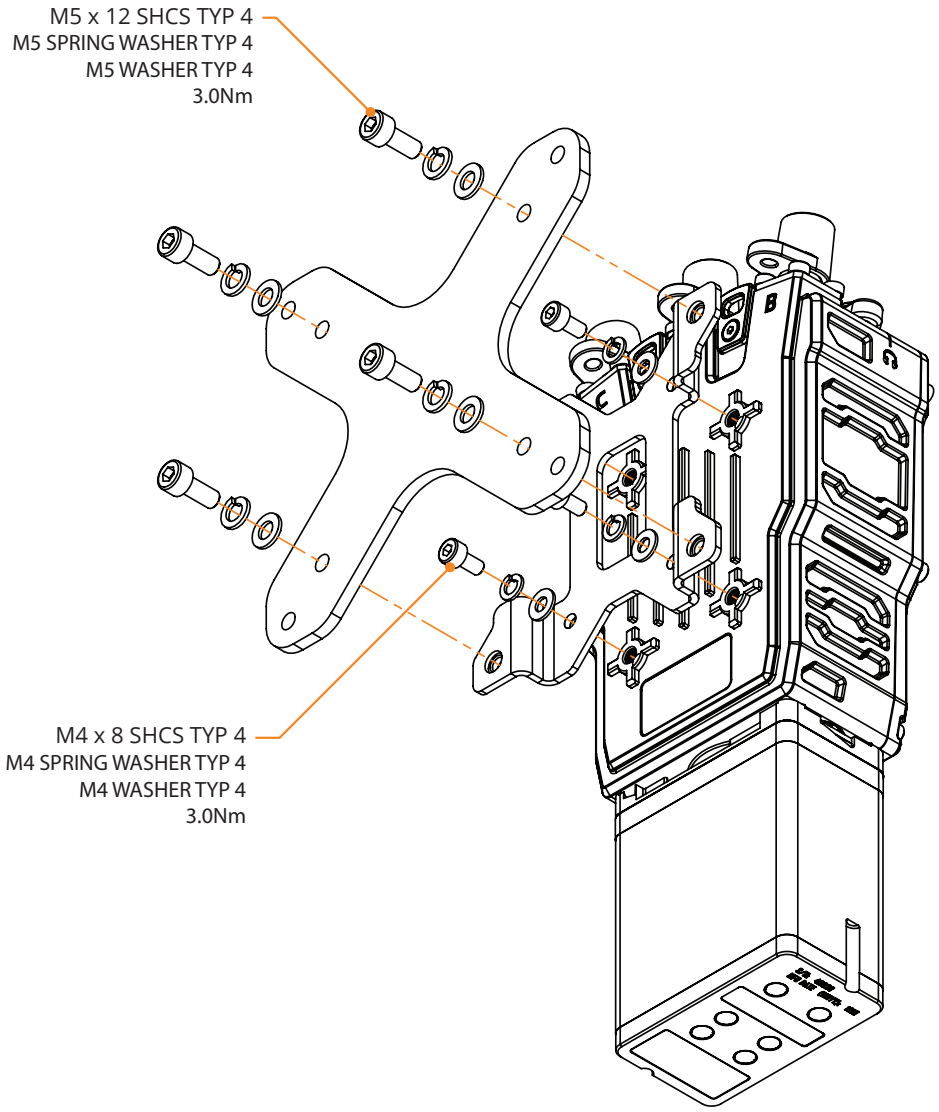
8.4 Dust Caps

To help protect the antenna and data/ audio ports, tethered dust caps are provided. These dust caps can be removed by the user if needed.

The TNC dust caps are anchored to two eyelets on the back of the RfPatrol MKII. To remove these dust caps, unscrew the eyelets.

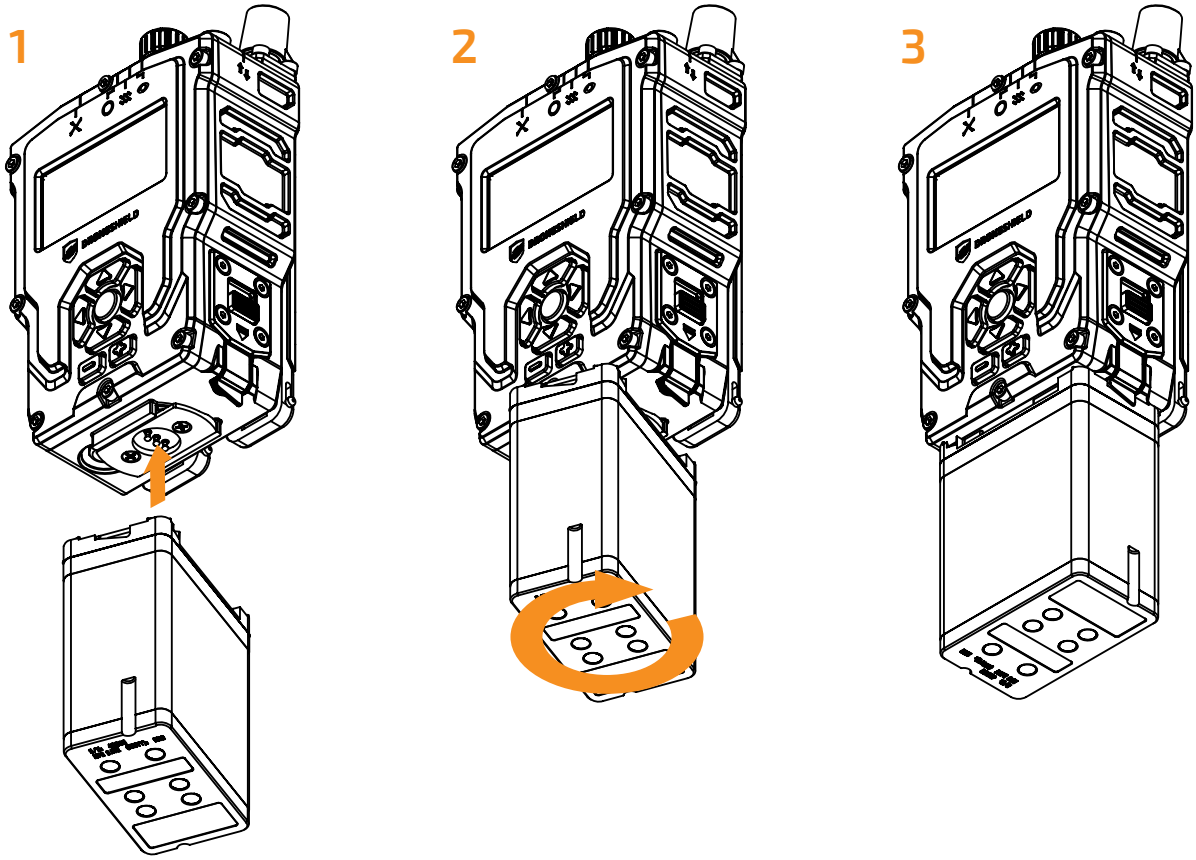
8.5 VESA Mount

The RfPatrol MKII can be mounted to a VESA mount using an optional adaptor and fastener kit. VESA mounting allows the RfPatrol MKII to be mounted to a vehicle dashboard, window or pole.



8.6 Battery

To attach the battery, make contact with the pogo-pins at 60° and turn the battery clockwise. Ensure that the battery pins are clear of debris.



Do not force the battery or battery accessories to connect. This may damage the RfPatrol MKII. If the battery does not turn smoothly, check contacts, realign and try again.

8.6.1 DroneShield Approved Batteries

Brentronics - BT-70716BG or BT-70716BV (Supplied)

THALES - 1600842-2

Harris - AN/PRC 152 Battery

RomeoSix - MP5355-7

Unapproved batteries may cause damage to the RfPatrol MKII unit and void the product warranty.

8.8 Capability Expansion Kits

The RfPatrol MKII can adapt to different user requirements with the inclusion of an expansion kit. These kits can be purchased separately and include their own user manuals. Below is a summary of the kits available:

8.8.1 Direction Finding Kit

The Direction Finding Kit allows operators to determine the direction of a drone detection with either the DAU (Directional Antenna Unit) or the Patch Antenna. The RfSwitch allows the user to switch between the Omni-antenna and the directional antenna with the flick of a switch, removing the need to detach and attach cables.

Contents:

- Directional Antenna Unit
- Patch Antenna
- RfSwitch
- RF cables
- Quick Start Guide
- Hard case

DAU:

Range: Up to 1.5km
Weight: 700g (1.54lbs)
Angular Accuracy: 45°
Frequency: 2.4GHz, 5.8GHz
Dimensions: 330mm x 83mm x 168mm

Patch Antenna:

Range: Up to 1.5km
Weight: 30g (1oz)
Angular Accuracy: 60°
Frequency: 2.4GHz, 5.8GHz
Dimensions: 80mm x 80mm x 15mm

RfSwitch:

Weight: 260g (0.57lbs)
Dimensions: 110mm x 80mm x 40mm
Connector Type: TNC (F)

8.8.2 Roof Mount Antenna Kit

The Roof Mount Antenna Kit provides operators with a combined magnetic antenna that can mount to the roof of a vehicle while the RfPatrol MKII remains in the cabin. Having the antenna on the roof greatly improves detection performance when on the move and is not impaired by the orientation of the vehicle.

Contents:

- Magnetic Wide Band Antenna
- V-mount / Triplexer
- Suction VESA mount
- RF cables
- Quick Start Guide
- Hard case

Magnetic Wide Band Antenna:

Frequencies: 433MHz, 868MHz, 915MHz, 2.4GHz, 5.2GHz, 5.8GHz

Installation requirements: Install on ferrous metal flat plane

Weight: 1450g (3.2lbs)

Dimensions: 400mm x 121mm x 121mm

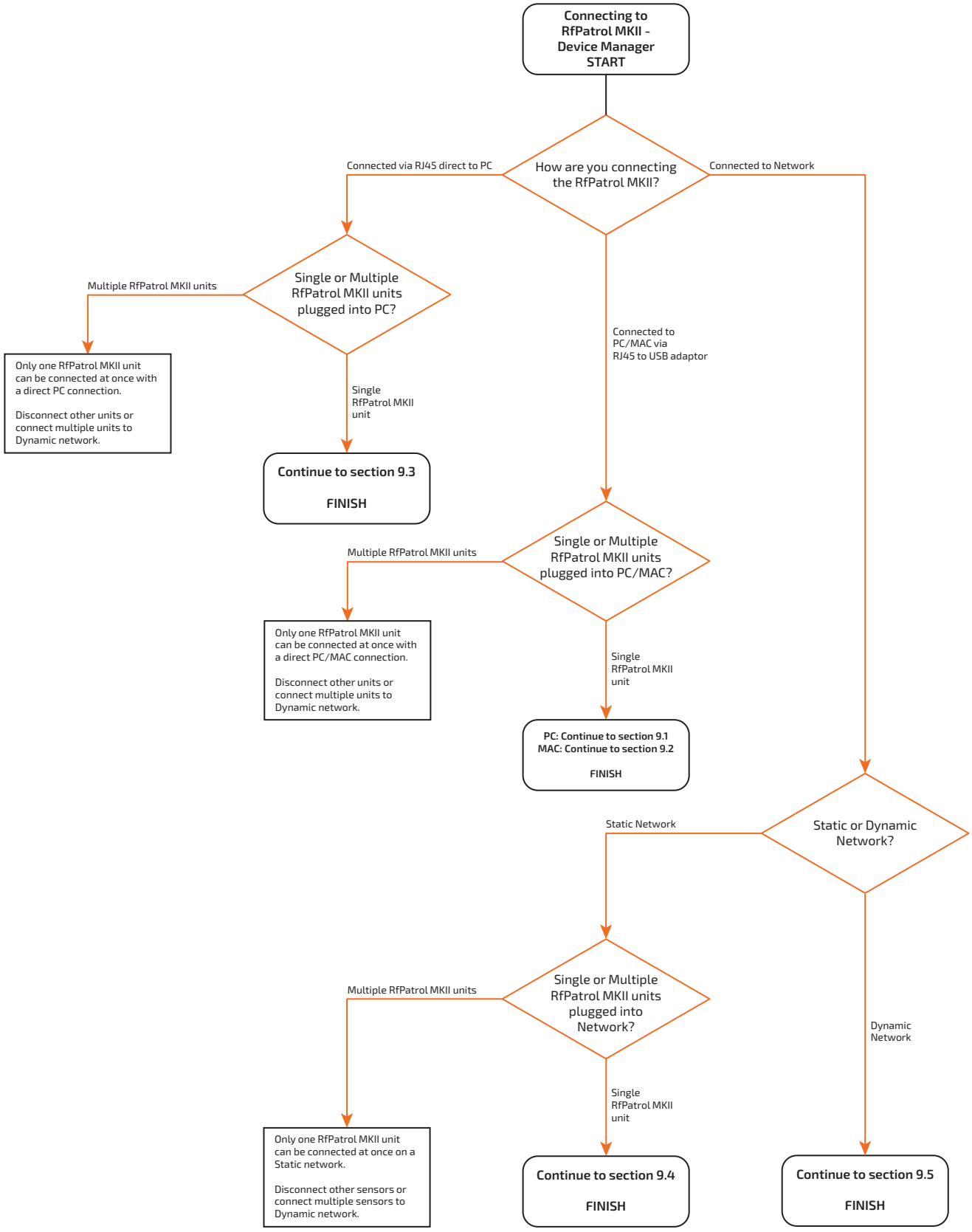
V-Mount / Triplexer:

Mounting System: VESA 75

Weight: 340g (0.75lbs)

Dimensions: 90mm x 90mm x 45mm

9. Connect to Device Manager



9.1 Connecting via RJ45 to USB Adaptor (PC)

Users can connect to the RfPatrol MKII via the included RJ45 to USB adaptor. Only one RfPatrol MKII can be connected at a time with this method.

9.1.1 Connection through USB (Windows)

1.

Plug data cable into *RJ45* to *USB adapter* (provided)

2.

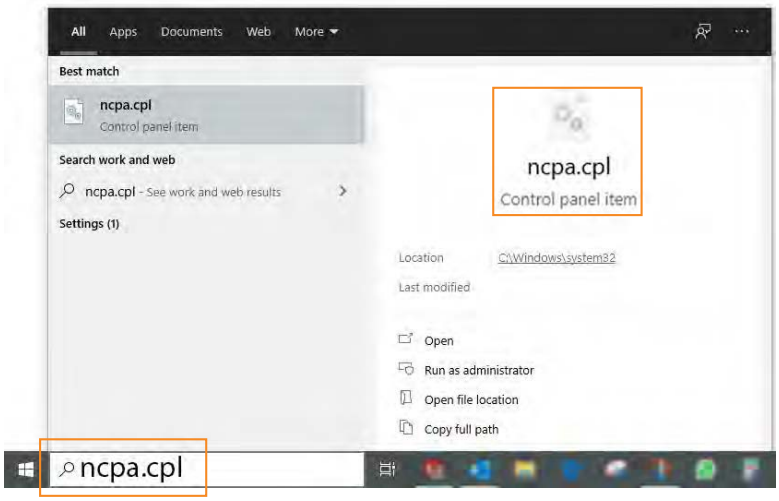
Plug *data cable* into *RfPatrol MKII data port*

3.

Plug *RJ45 to USB adapter* into PC USB port

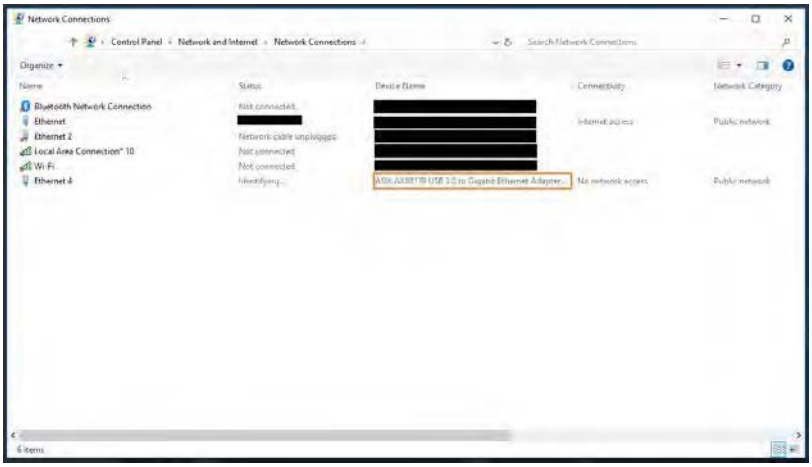
4.

Power on *RfPatrol MKII*



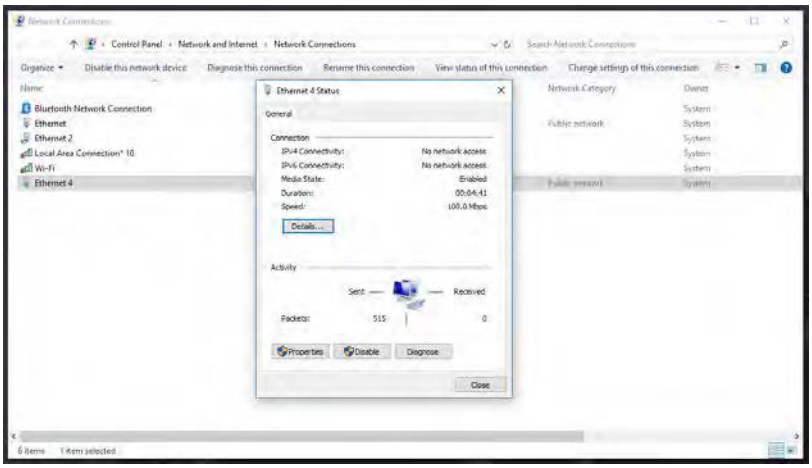
5.

Open Network Connections application, by typing **ncpa.cpl** into the search bar, and opening.



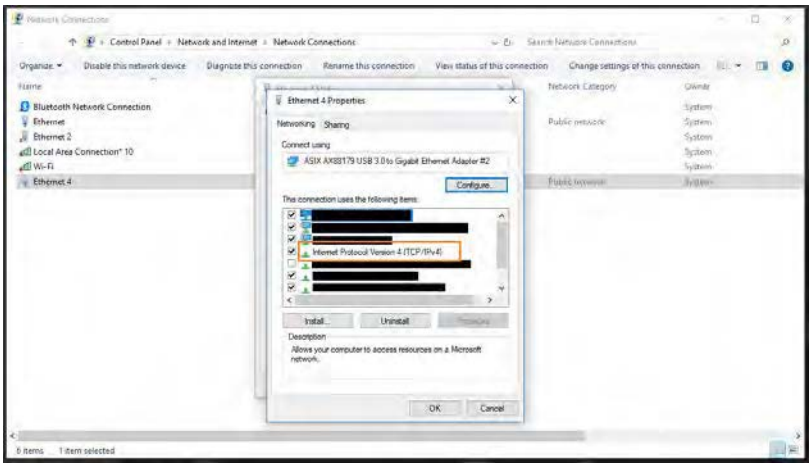
6.

Look for device name *ASIX AX88179 USB 3.0 to Gigabit Ethernet Adapter* and double click



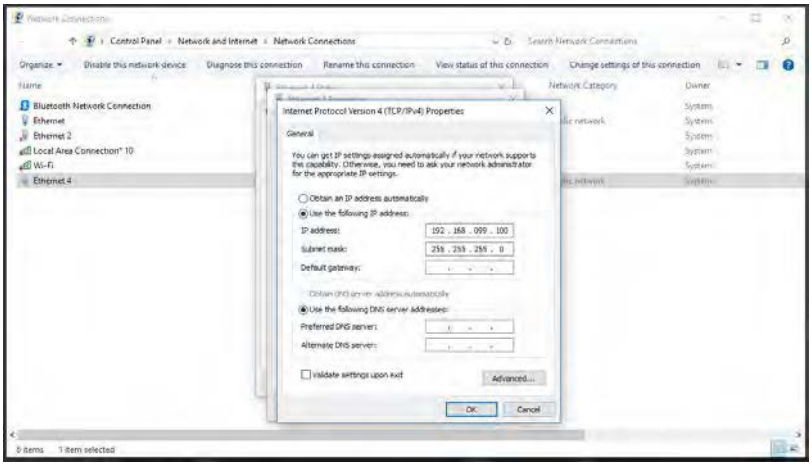
7.

Click ***Properties***



8.

Select *Internet Protocol Version 4 (TCP/IPv4)* and click *Properties*



9.

Select Use the following IP address: and change the IP address to: *192.168.99.100*

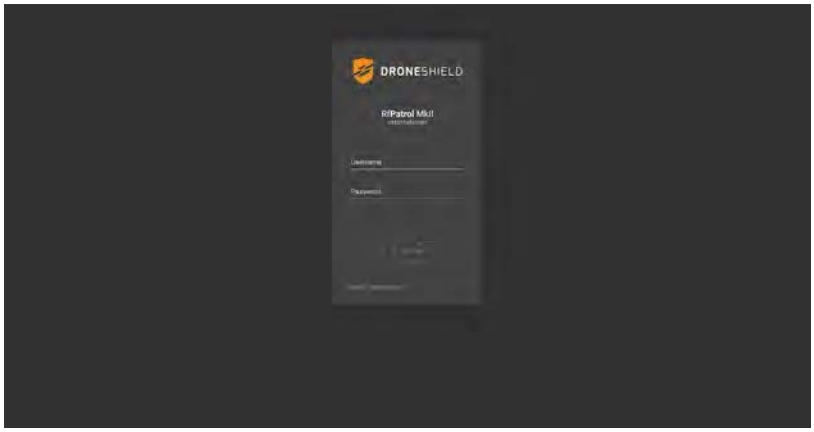
Then change subnet mask to: *255.255.255.0*

10.

Open web browser

11.

Enter the *RfPatrol MKII config screen*. Take note of the *IPV4 address*



12.

Enter the *RfPatrol MKII IPV4 address* into the search bar of the internet browser with the prefix: http://

(If Device Manager page does not load, turn the *RfPatrol MKII* off and on again)

(If Device Manager page still does not load, disable other network devices in: *Control Panel\Network and Internet\ Network Connections*)

13.

Continue to section 10 of the manual

9.2 Connecting via RJ45 to USB Adaptor (MAC)

Users can connect to the RfPatrol MKII via the included RJ45 to USB adaptor. Only one RfPatrol MKII can be connected at a time with this method.

9.2.1 Connection through USB (MAC)

1.

Plug data cable into RJ45 to USB adapter (provided)

2.

Plug data cable into RfPatrol MKII data port

3.

Plug RJ45 to USB adapter into PC USB port

4.

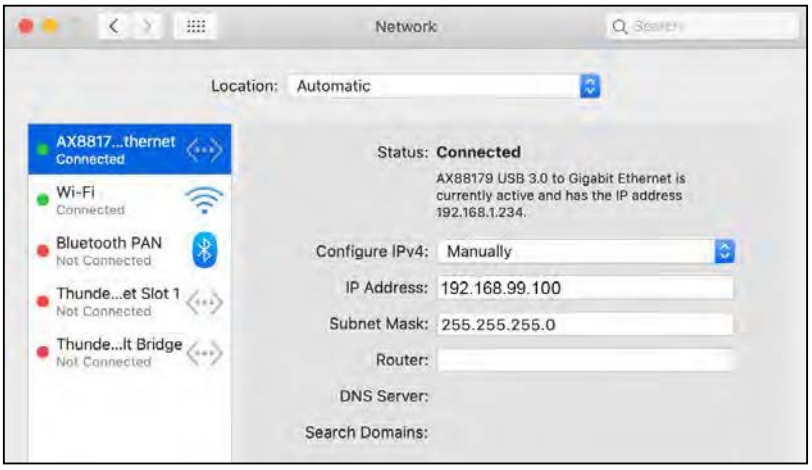
Power on RfPatrol MKII

5.

Go to ***System Preferences***

6.

Click ***Network***



7.

Look for *AX88179 USB 3.0 to Gigabit Ethernet*

If the device cannot be found, go to: *https://www.asix.com.tw/products.php?op=pItemdetail&PItemID=131;71;112*

8.

Select ***Manually*** for ***Configure IPv4***:

9.

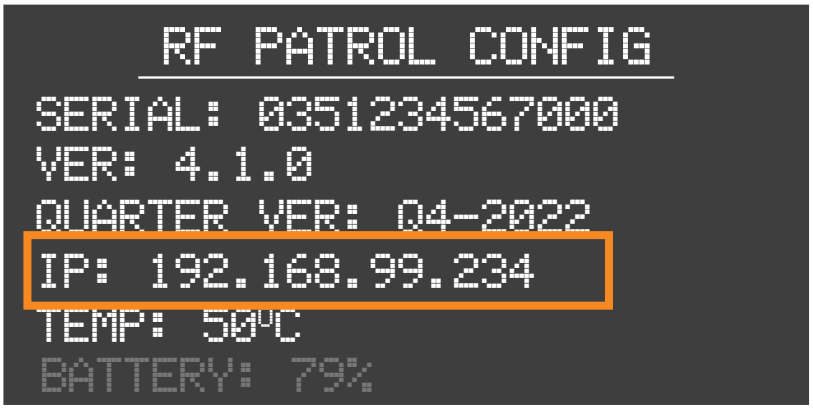
Change the IP Address: to *192.168.99.100*

10:

Change Subnet Mask: to: *255.255.255.0*

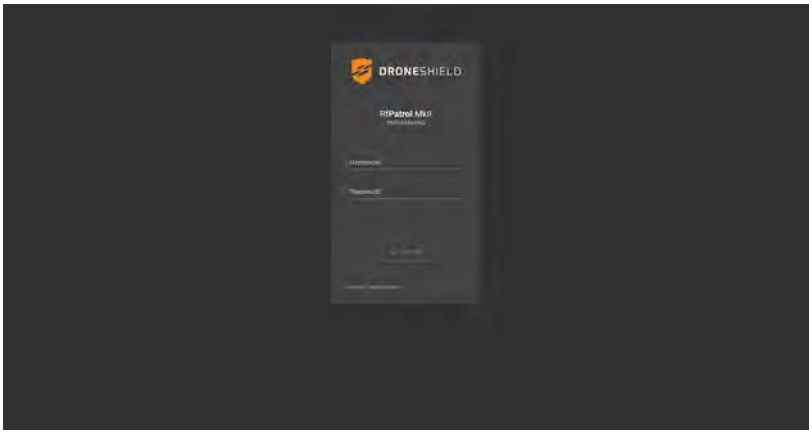
11.

Open web browser



12.

Enter the RfPatrol MKII config screen. Take note of the IPV4 address



13.

Enter the RfPatrol MKII IPV4 address into the search bar of the internet browser with the prefix: http://

(If Device Manager page does not load, turn the RfPatrol MKII off and on again)

(If Device Manager page still does not load, disable other network device)

14.

Continue to section 10 of the manual

9.3 Connecting via RJ45 direct to PC

Users can connect to the RfPatrol MKII via a direct RJ45 connection to the PC. Only one RfPatrol MKII can be connected at a time with this method.

9.3.1 Static Network Address

The RfPatrol MKII has a factory set default static IP which is used to connect to the device. When multiple RfPatrol MKII devices are in use, it is recommended that this IP address is changed. For more information on changing the static IP address of the RfPatrol MKII, contact support@droneshield.com

RfPatrol MKII Default Static IP	192.168.99.234

9.3.2 Connection through RJ45 direct to PC

1.

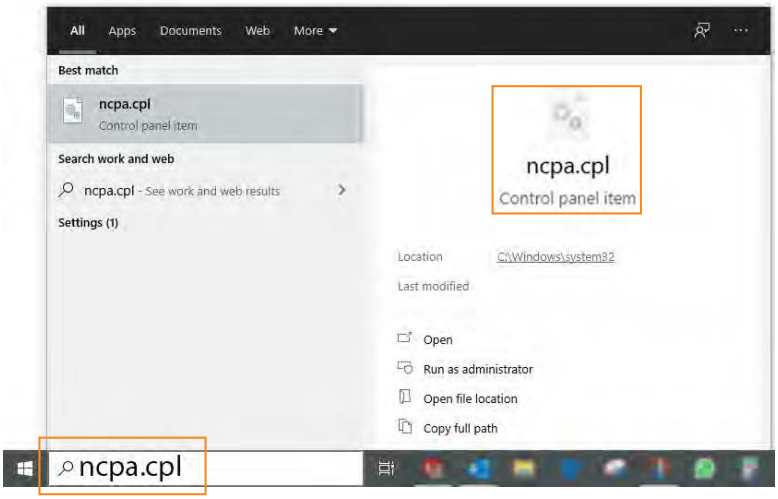
Plug data cable into RfPatrol MKII data port

2.

Plug RJ45 end of the data cable into PC

3.

Power on RfPatrol MKII

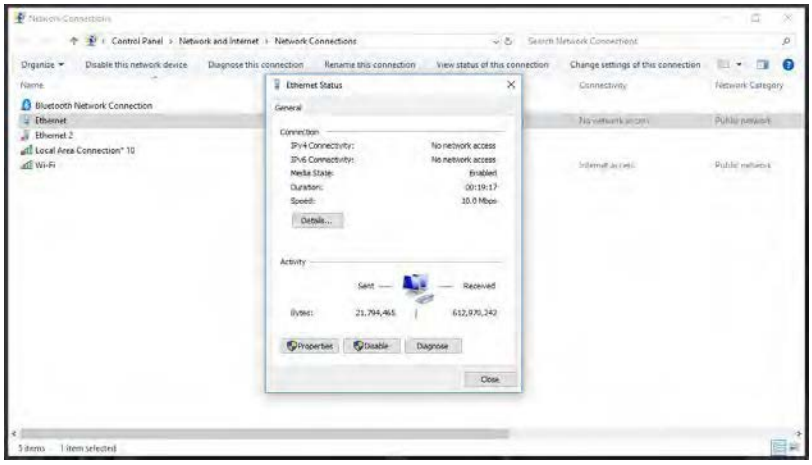


4.

Open Network Connections application, by typing ***ncpa.cpl*** into the search bar, and opening.

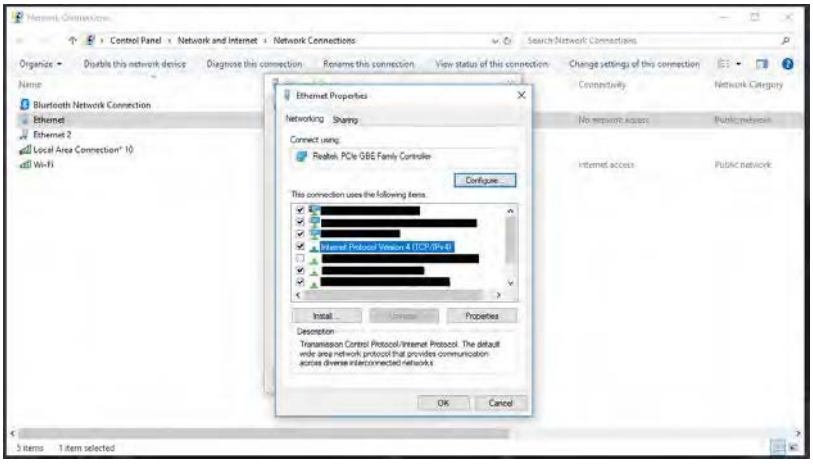
5.

Look for Ethernet port that RfPatrol MKII is plugged into and double click



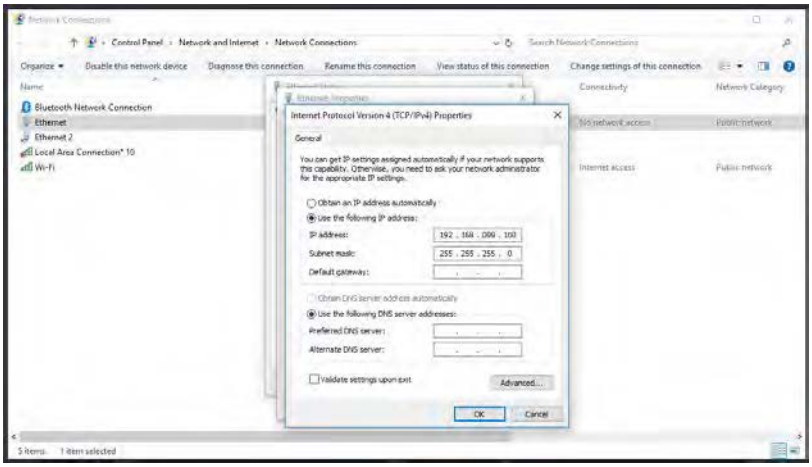
6.

Click ***Properties***



7.

Select ***Internet Protocol Version 4 (TCP/IPv4)*** and click ***Properties***



8.

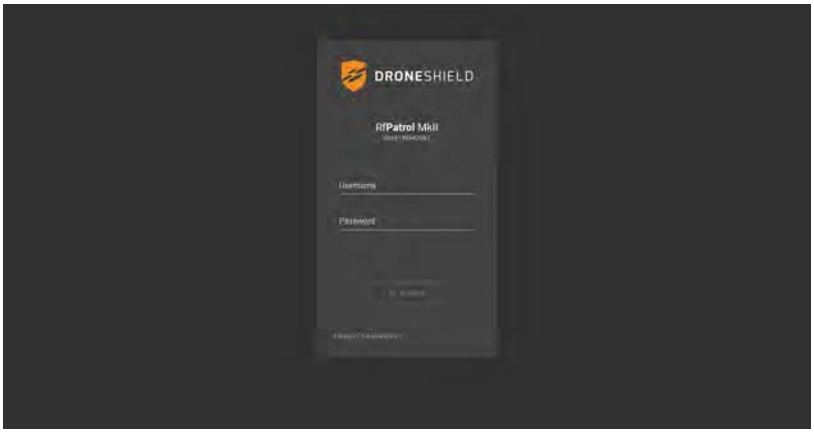
Select Use the following IP address: and change the IP address to 192.168.99.100. Then change subnet mask to 255.255.255.0

9.

Open web browser

10.

Enter the RfPatrol MKII config screen. Take note of the IPV4 address



11.

Enter the RfPatrol MKII IPV4 address into the search bar of the internet browser with the prefix: http://

(If Device Manger page does not load, turn the RfPatrol MKII off and on again)
(If Device Manager page still does not load, disable other network devices in: ***Control Panel\Network and Internet\Network Connections***)

12.

Continue to section 10 of the manual

Note: After updating, go back to step 10 and change to obtain IP address automatically so the PC can reconnect to the internet.

9.4 Connecting via Static Network

Users can connect to the RfPatrol MKII through a network using the static IP address. Only one RfPatrol MKII can be connected at a time with this method. Ensure the PC and RfPatrol MKII are on the same subnet. The PC should not be connected to the network via Wi-Fi.

9.4.1 Static Network Address

The RfPatrol MKII has a factory set default static IP which is used to connect to the device. When multiple RfPatrol MKII devices are in use, it is recommended that this IP address is changed. For more information on changing the static IP address of the RfPatrol MKII, contact support@droneshield.com

RfPatrol MKII Default Static IP	192.168.99.234

9.4.2 Connection through RJ45 direct to PC

1.

Plug data cable into RfPatrol MKII data port

2.

Plug RJ45 end of the data cable into modem/network switch

3.

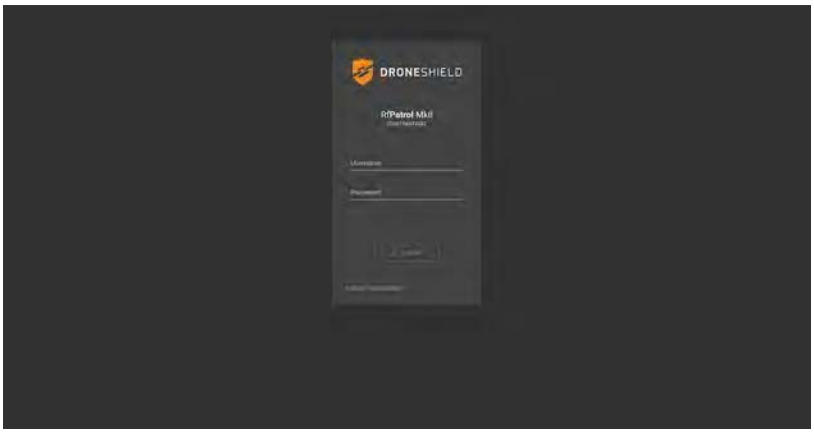
Power on RfPatrol MKII

4.

Open web browser

5.

Enter the RfPatrol MKII config screen. Take note of the IPV4 address



6.

Enter the RfPatrol MKII IPV4 address into the search bar of the internet browser with the prefix: http://

(If Device Manager page does not load, turn the RfPatrol MKII off and on again)

(If Device Manager page still does not load, disable other network devices in: ***Control Panel\Network and Internet\Network Connections***)

7.

Continue to section 10 of the manual

9.5 Connecting via Dynamic Network

Users can connect to the RfPatrol MKII through a dynamic network. Multiple RfPatrol MKII devices can be connected at a time with this method. Ensure the PC and RfPatrol MKII are on the same subnet. The PC should not be connected to the network via Wi-Fi.

9.5.1 Dynamic Network Address

The RfPatrol MKII can be accessed through a dynamic network with the following address:

http://rfpatrol-035##########.local

RfPatrol MKII Serial Label

9.5.2 Connection through Dynamic Network

1.

Plug data cable into RfPatrol MKII data port

2.

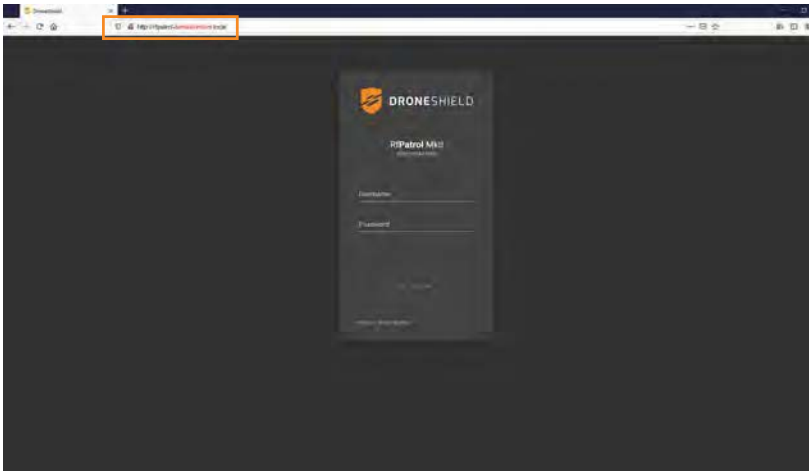
Plug RJ45 end of the data cable into modem/network switch. The network will allocate an IP address to the RfPatrol MKII. (This may take up to 2 minutes)

3.

Power on RfPatrol MKII

4.

Open web browser



5.

Enter:

http://rfpatrol-serialnumber.local into the search bar of the internet browser

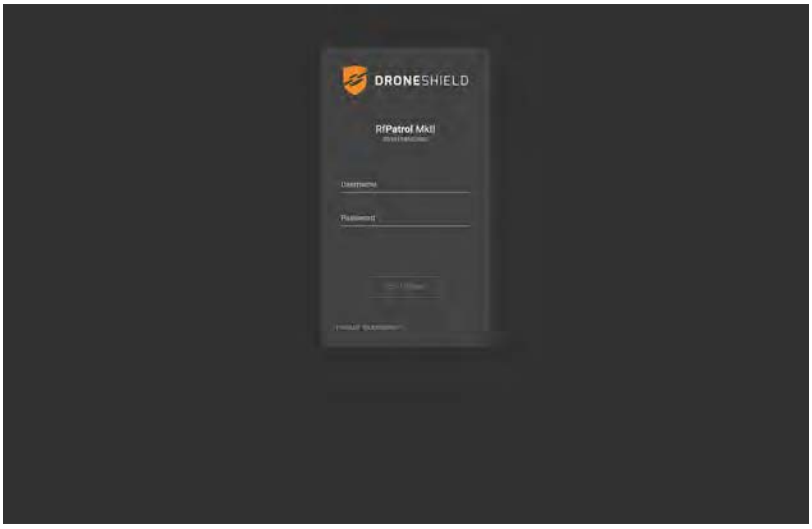
(If Device Manager page does not load, turn the RfPatrol MKII off and on again)

6.

Continue to section 10 of the manual

10. RfPatrol MKII Device Manager

10.1 Login



Enter username and password to access the RfPatrol MKII.

By default:

Username: ***user***

Password: ***user***

Note: DroneShield recommends a Chromium browser for best performance (Google Chrome, Microsoft Edge).

It is recommended for the security of the device that the username and password are changed upon receiving the RfPatrol MKII.

10.2 Dashboard

"10.3 Detections Tab"

"10.4 Device Summary"

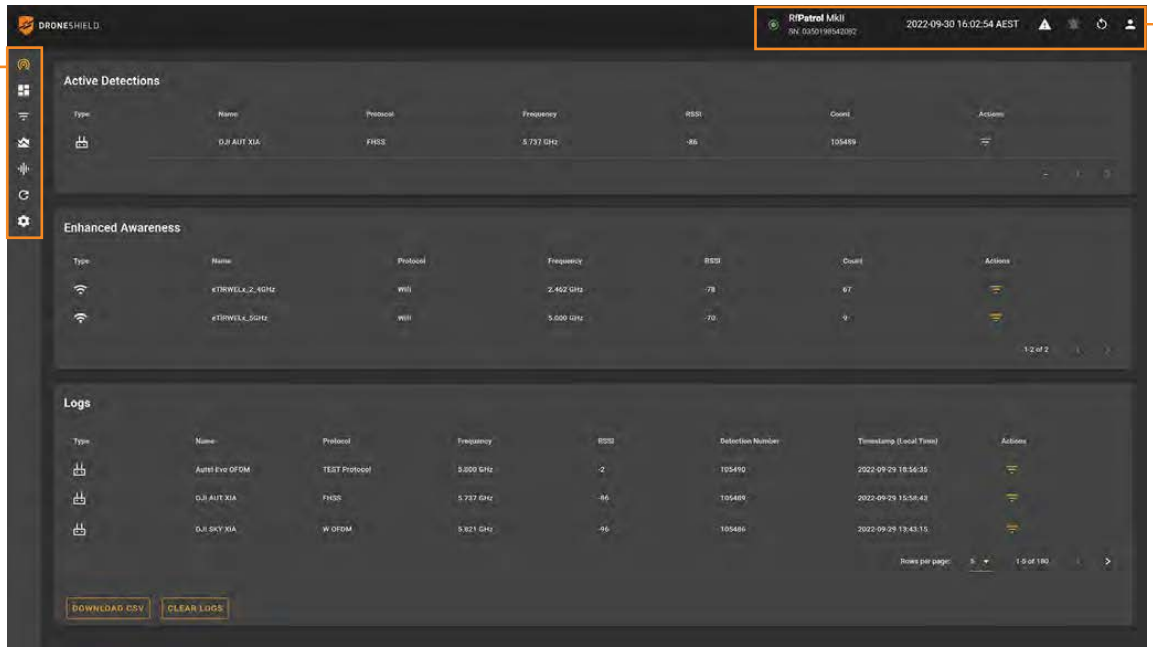
"10.5 Filters Tab"

"10.6 Spectrum View"

"10.7 Spectrum Recorder"

"10.8 Updates Tab"

"10.9 Settings"



Device Status Indicator

Device Serial Number

Date and Time (local if available)

"10.2.4 Critical Errors"

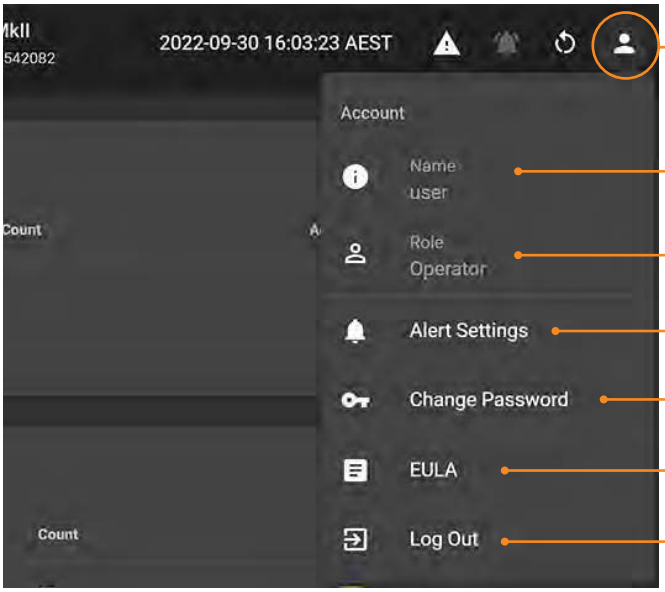
"10.2.3 Alerts"

"10.2.2 Rebooting the Device"

"10.2.1 User Settings"

10.2.1 User Settings

The RfPatrol MKII user settings is accessed via the top right of the device manager.



User Settings button

Current user name

Current user role (assigned by admin)

"10.2.3 Alerts"

Change password

View End User Licence Agreement (EULA)

Log out of RfPatrol MKII device

Change Password

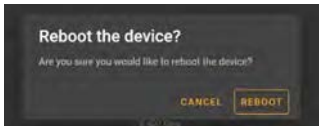
Passwords can be changed from the user settings drop-down, which prompts the user to set and confirm a new password for the current username. Password requires an uppercase, lowercase and number for security reasons.

It is recommended for the security of the device that the username and password are changed upon receiving the RfPatrol MKII.

Customers should take care to record the new username and password upon changing it. If the new username and password are forgotten, contact support@droneshield.com for assistance.

10.2.2 Rebooting the Device

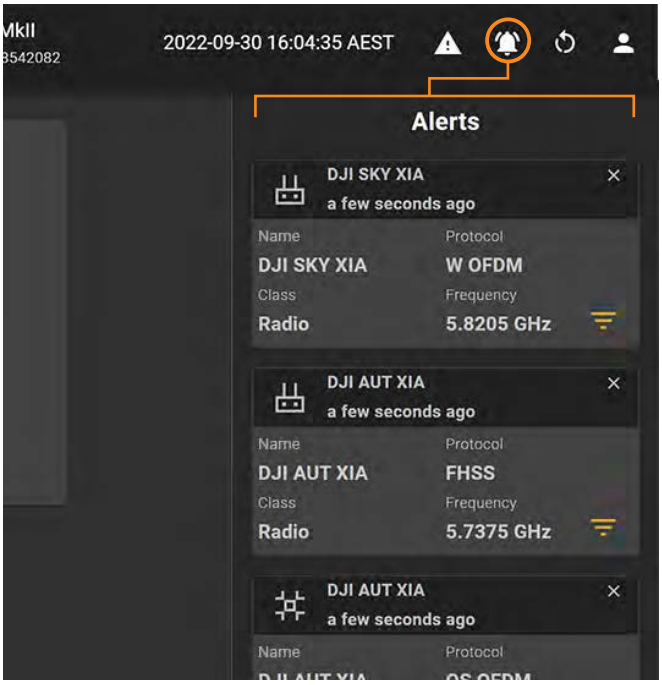
The device can be rebooted using the button located on the top right of the device manager.



Do not reboot the RfPatrol MKII device during any stage of an update, or where otherwise instructed not to do so. Rebooting the RfPatrol MKII at the incorrect time may damage the device.

10.2.3 Alerts

Alerts present current detections on the alerts bar on the right of the screen and an audible alarm sound while navigating to any tab.



Alerts Bar

Drone

Controller

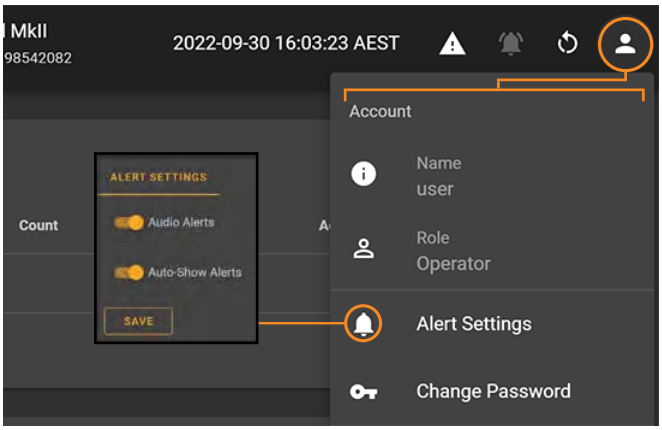
Wi-Fi Drone

Add filter directly from detection

Name
Name of drone detected, as reported by drone

Protocol
Service Set Identifier. Network name/Drone identifier

Frequency
Frequency band drone currently detected on



Alert Settings

Audio Alerts
Mute alert sound

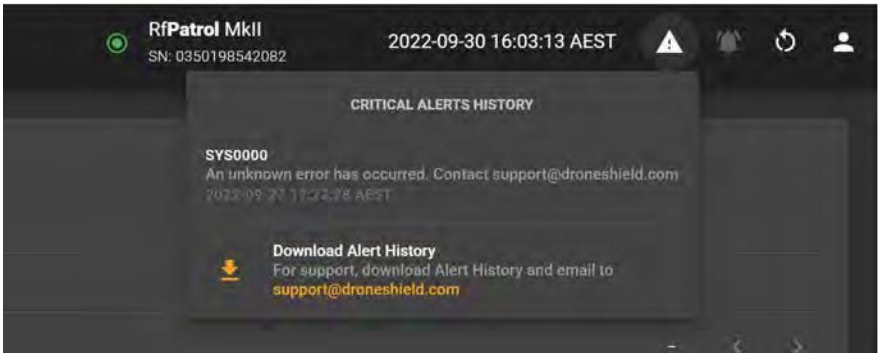
Auto Show Alerts
Show/hide alert pop-ups

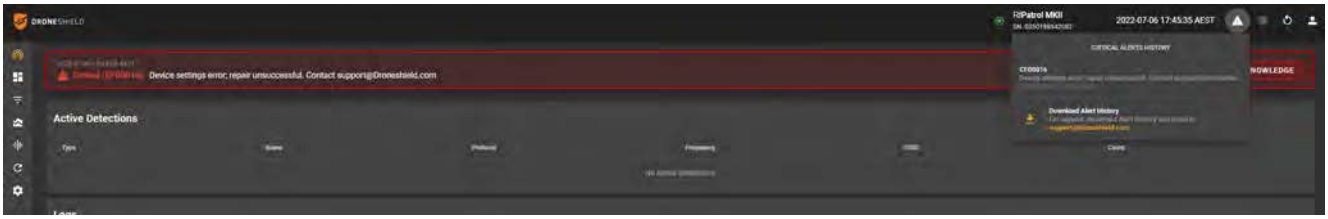
Note: If the Device Manager is displaying the Detections Tab, the alerts panel will not be accessible as live detection information will already be displayed on the interface.

10.2.4 Critical Errors

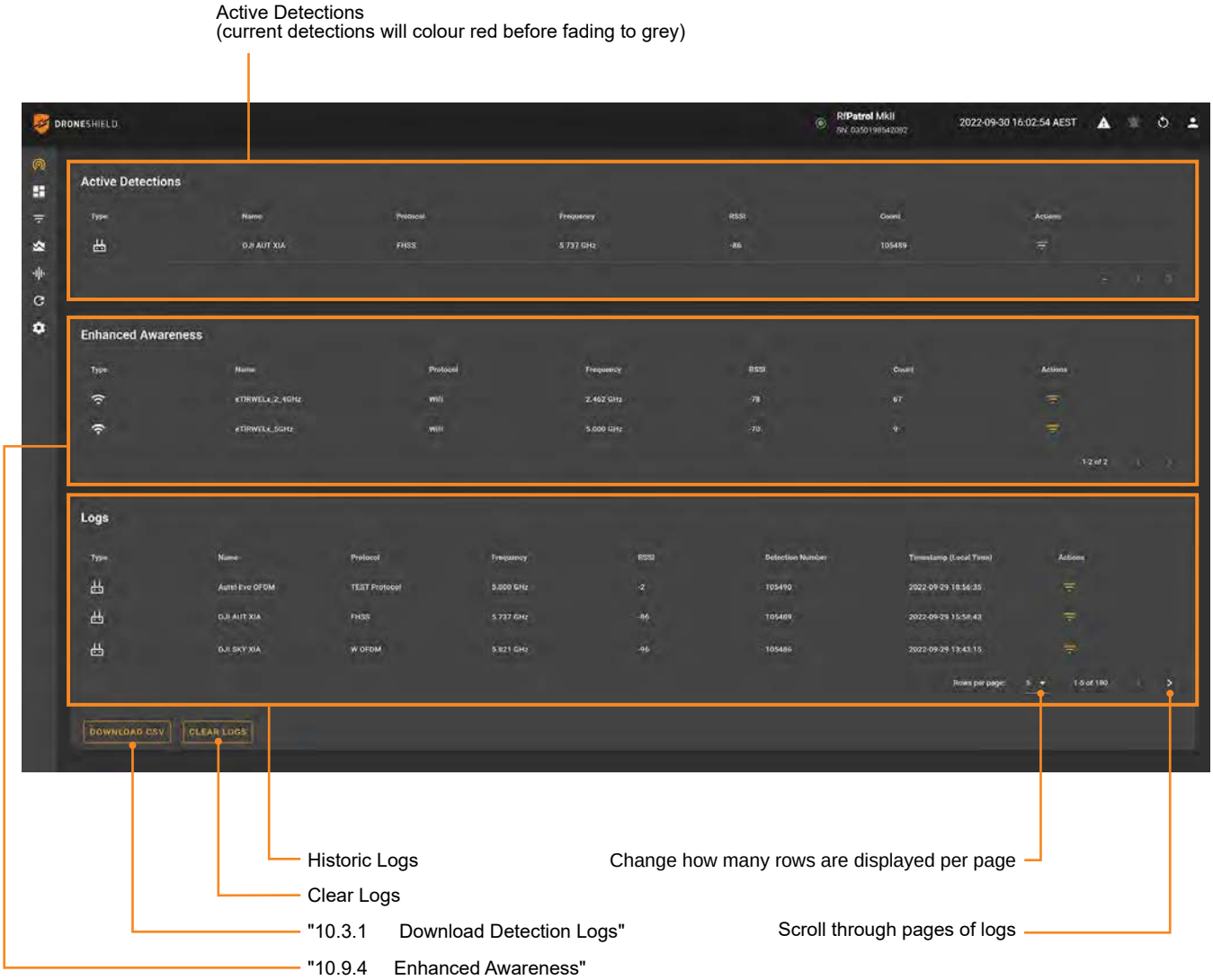
If the RfPatrol device encounters a 'critical' error, this will be reported in the Device Manager under the 'Critical Errors' dropdown. Critical errors require assistance from an authorised DroneShield representative. If a critical error appears, the user should note the error code, time and date, then contact support@droneshield.com.

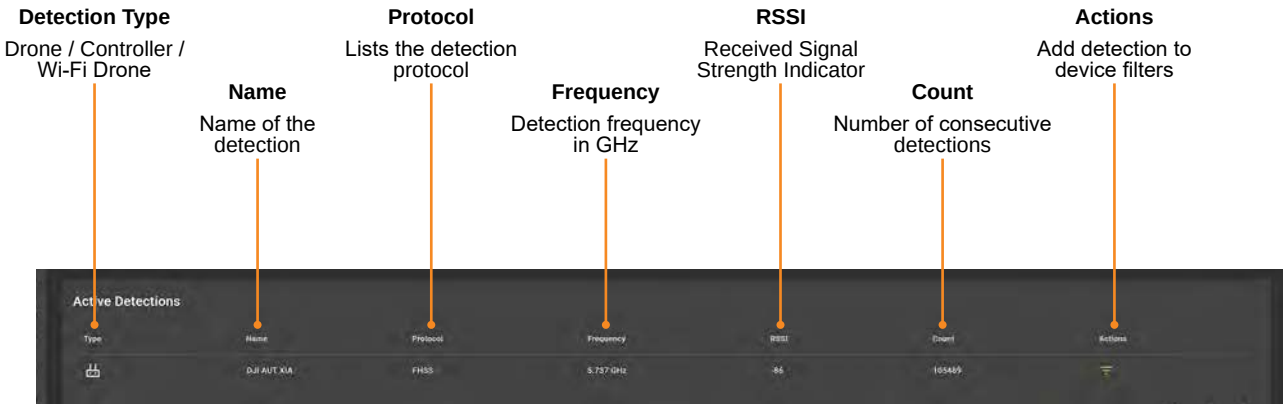
Example of an error code: "*CFG0016 - Device settings error; repair unsuccessful. Contact support@droneshield.com*"



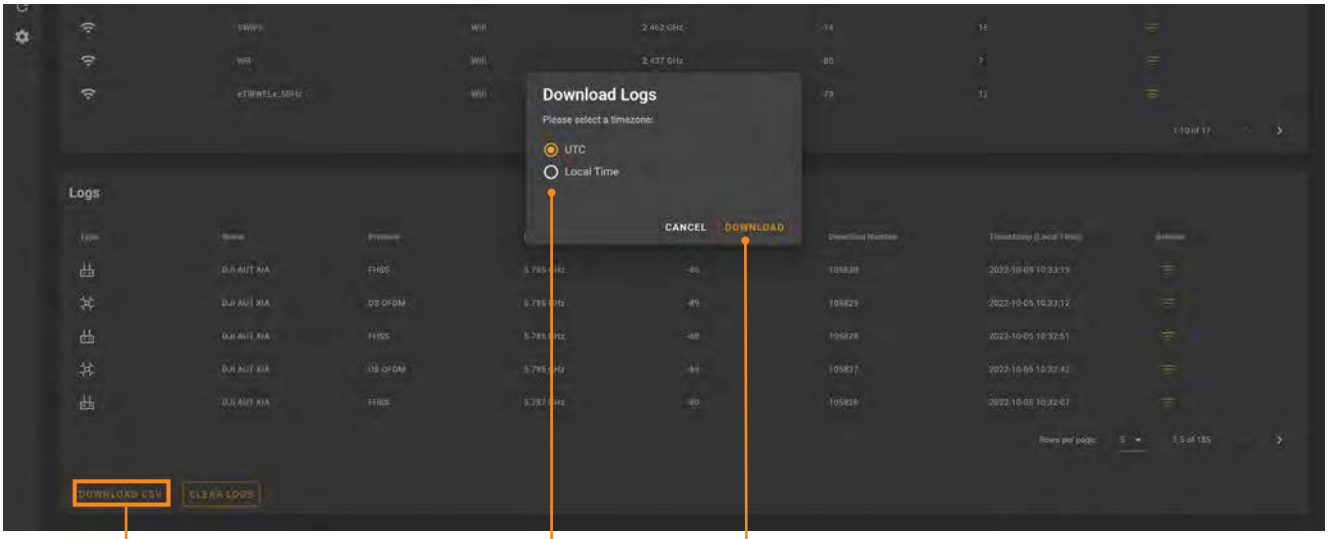


10.3 Detections Tab

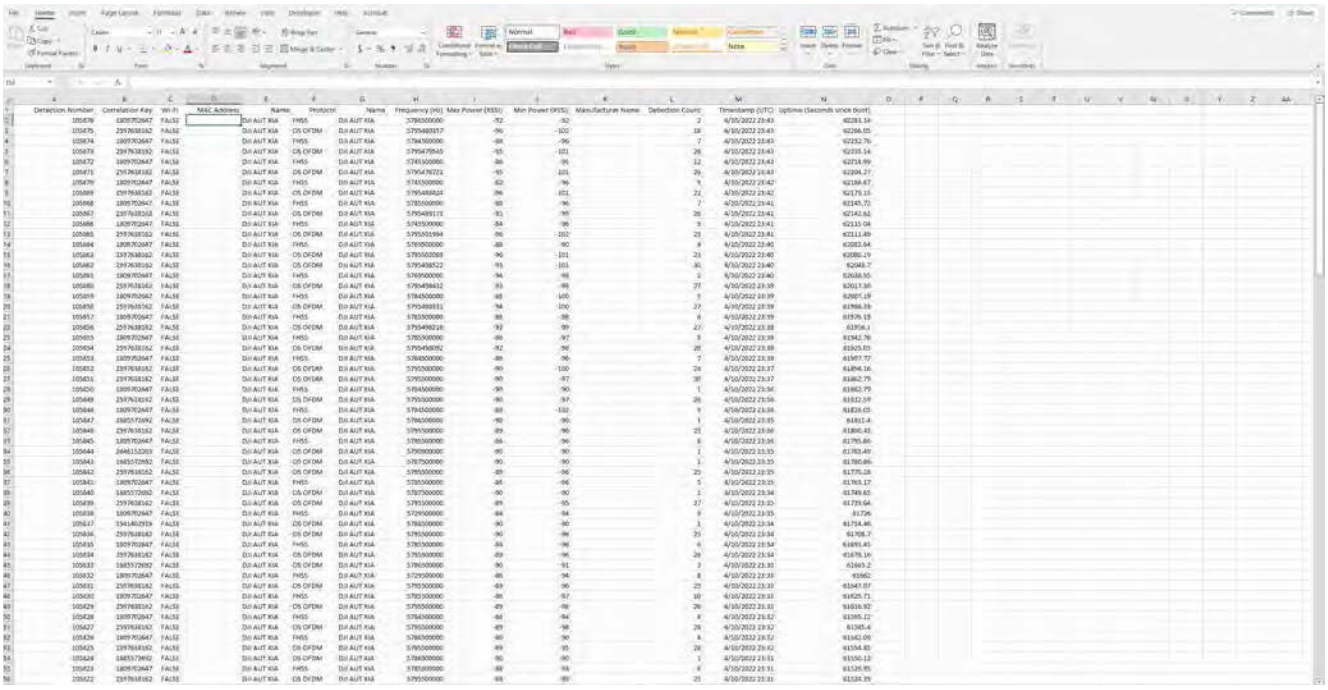




10.3.1 Download Detection Logs



Download Logs | Select timezone | Download .csv file



Downloaded logs are shown as above in a .csv format.