netradyne

DHUB/DHUBX Installation Guide

December 2024, Version 2.3

Table of Contents

Tools & Equipment Required

TOOLS REQUIRED

- Trim Removal Tools
- Flush Cutter Tool
- Cordless Drill/Driver (optional)
- Socket/Ratchet Set
- Multimeter
- Dielectric Grease

EQUIPMENT REQUIRED

- Netradyne Camera Kit – Cellular/GPS Module, Power Cable and Windshield Bracket
- Wiring connection – (Loose Leads)
- DHUB/DHUBX
- External Cameras
- External Camera Brackets – *This will Vary, based on Camera and or Truck type.
- External Camera Cables- This will Vary, based on Truck Type and Camera Placement.
- Zip-Ties

ADDITIONAL EQUIPMENT REQUIRED FOR EXTERNAL TRAILER CAMERAS

- **7-Way Kit** (SKU#) **7WAYSPLIT**

  Includes:
  - 7-Way Coil Cable – **SKU TPE2-7-SCBL**
  - 7-Way Male/Trailer Connector – **SKU TPW2-70TRK**
  - 7-Way Female/Truck Connector- **SKU TPE2-7CAB**
  - 7-Way Bracket and Screws – **SKU TPE-7MISC**

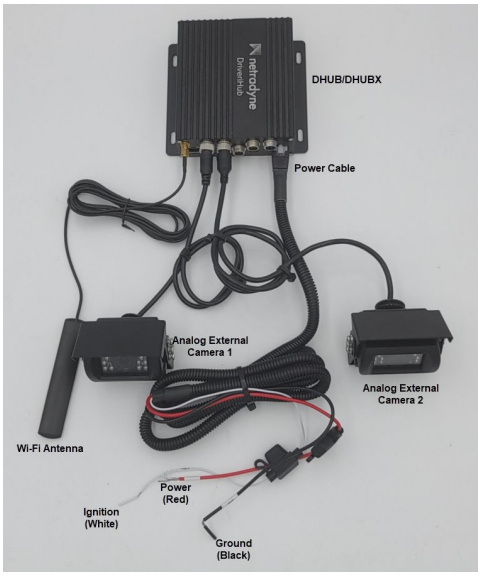
DHUB/DHBUX Installation Parts

Included in the Box:

- DHUB or DHUBX
- Wi-Fi antenna
- I/O Cable (DHUBX Only)- Red & Green Not Used *For future product use*
- Power cable
- Zip Ties
- Device Key – Must be in locked position for normal operation

DHUB/DHUBX Connectivity Outline

- The Wi-Fi Antenna is the Connection to the Driveri
- Ensure that the DHUB/DHUBX Wi-Fi antenna is connected and placed near the Driveri Device and is not obstructed or blocked by any metallic surfaces.



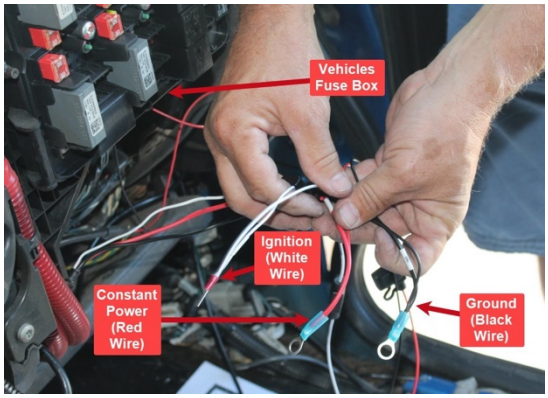
DHUB/DHUBX Light Sequence

Note: The following points regarding the DriveriHub LED indicators:

- ERR light flashes RED constantly During normal operation.
- If no flash is present (or red light is solid), it indicates that the DriveriHub is not working properly, and troubleshooting must be done.
- PWR light will be solid GREEN.
- SD light will be solid GREEN.
- The device key must be in the locked position to record.
- If the key is used to place device in the unlocked position, all lights will turn off and the device will not function.

DHUB/DHUBX Power Connections

- Connect the Black wire to a solid ground source:
    - Verify true ground by measuring resisting to frame rail or battery negative terminal (less than 5ohms)
- Connect the Red wire to a 9-36VDC battery source
- Connect the White wire to a true ignition (not ACC) 9-36VDC source
- Neatly secure excess cabling
- Plug in the DHUB/DHUBX power cable in the DHUBX power port



Placement Guidelines of DHUB/DHUBX

Choose an appropriate location within reasonable distance of the vehicles 12VDC power source. Possible locations are behind the vehicle's dashboard, in the “doghouse”, or overhead console etc. Keep in mind the power cable is 6ft long.

Behind Dashboard

Doghouse

Overhead Console

External Cameras and Extension Cable

- There are different types of Cameras, both vertically mounted and horizontally mounted. The choice of camera depends on the application. It is very important that the correct camera is installed for the correct image orientation. Should be verified with installer App.
- Every vehicle will need an extension cable to reach from the camera, to the DHUB/DHUBX.
- The length of cable may vary between vehicle types.
- Extension cable lengths range from 1 meter to 20 meters

Product Name	Product SKU
External Camera Extension Cable 1 Meter	EXCMEXCBL1
External Camera Extension Cable 3 Meter	EXCMEXCBL3
External Camera Extension Cable 5 Meter	EXCMEXCBL5
External Camera Extension Cable 10 Meter	EXCMEXCBL10
External Camera Extension Cable 15 Meter	EXCMEXCBL15
External Camera Extension Cable 20 Meter	EXCMEXCBL20

DHUB/DHUBX Routing External Camera Cable – Option A (Through Door Panel)

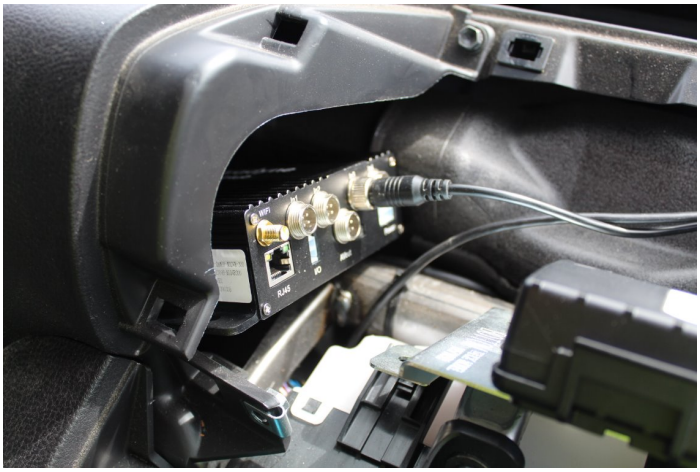
A. Remove the side mirror panel.

B. Remove the door panel.

C. Route camera cable through the mirror slot.

D. Fish out the external camera cable through the inside of the door and out the door boot.

E. Continue to route camera cables through the dash, until reaching desired DHUB/DHUBX location. Connect the camera cable to the appropriate channel on the DHUB/DHUBX.



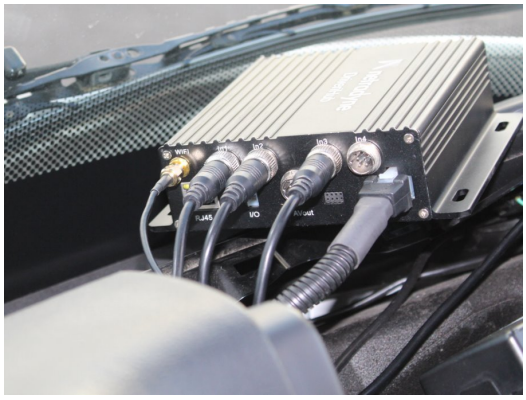
DHUB/DHUBX Routing External Camera Cable – Option B (Through Engine Firewall)

A. Open Vehicle Hood and remove the quarter panel to have access to the Firewall/Grumman.

B. Route external camera cable through the Firewall/Grumman into the vehicle cab/dash.

C. Continue to route camera cables through the dash, until reaching desired DHUB/DHUBX location.

D. Connect the camera cable to the appropriate channel on the DHUB/DHUBX.

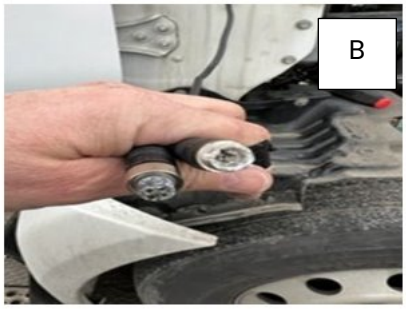


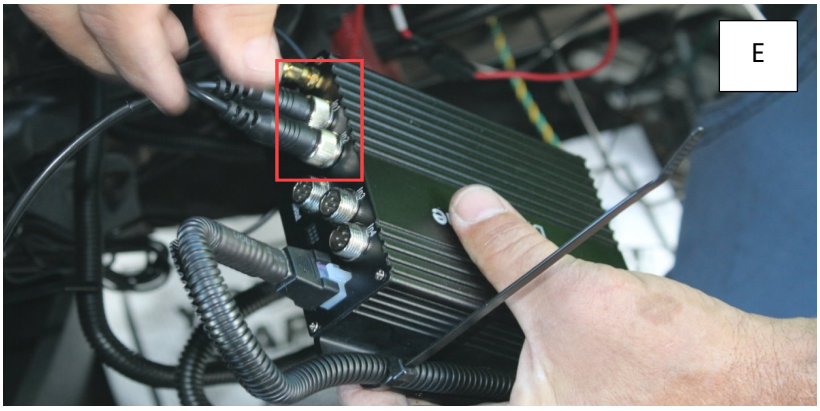
Installing External Cameras

- When mounting mirror cameras use vehicle specific and/or universal mounting brackets, attach the cameras to the vehicle facing the rear.
- Keep in mind there are vertical cameras and horizontal cameras.
- Final camera orientation adjustments will be done while connected to the installer App after installation.

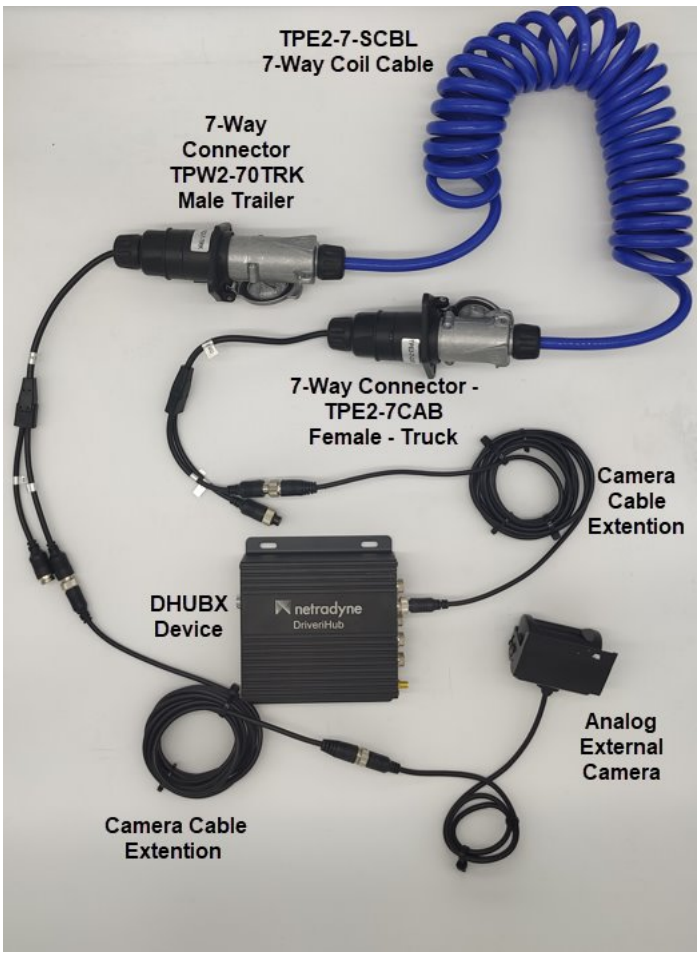
Camera Cable Routing

A. Ensure to use dielectric grease on all external cable connections to prevent corrosion.
B. Picture shows corroded connector when dielectric grease was not used.
C. Route the camera extension cable from the camera to the interior of the vehicle to the DHUB/DHUBX.
    a. Typically, cable is routed through door frame or firewall.
D. Make sure to keep the extension cable away from moving parts and pinch points, attaching with zip ties along the way.
E. Wrap up any access cable inside vehicle prior to connecting cable to the DHUB/DHUBX.
F. Connect the extension cables to the DHUB/DHUBX ports 1&2 (1 Driver side & 2 Passenger side)



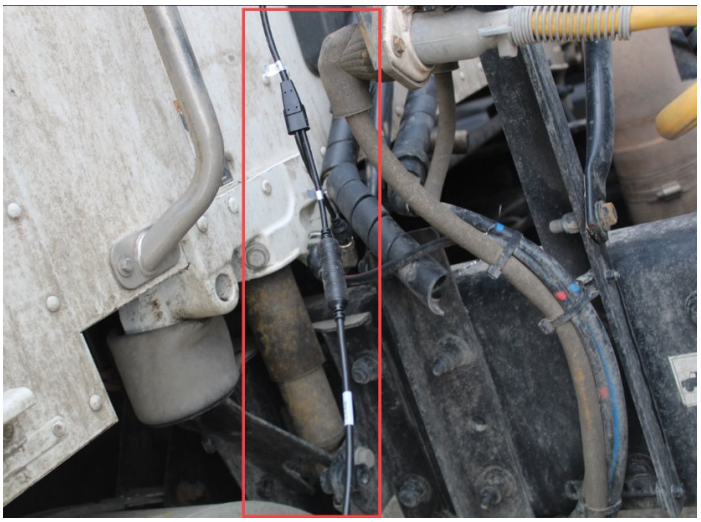


7-Way Camera Connectivity Outline



Installing the video 7-way for External Trailer Cameras

A. Route the extension cables from the DHUB/DHUBX ports 3&4 to the rear of the trucks video 7-Way connector.



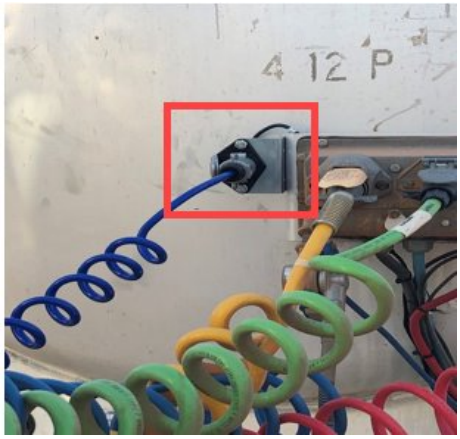
B. Labeling the extension cables on each end, helps keeps track of which camera is on which channel.

C. The Video 7-Way socket will need to be installed near the existing OEM 7-Way.

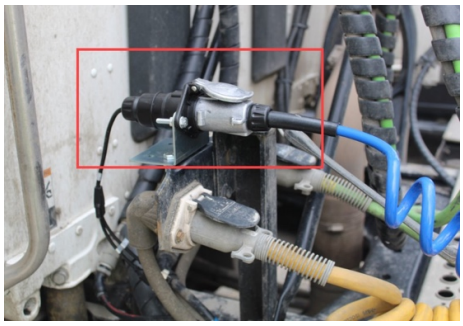
D. The truck side video 7-Way (TPE2-7CAB) has female video connectors.
    a. The trailers side video 7-Way (TPW2-70TRK) has Male video connector cable.

Mounting 7-Way Connectors

A. The two 7-Way Connectors (Male and Female) must be mounted using the 7-Way bracket and hardware. (Included in the 7-Way kit)
    - The Trailer video 7-Way (with Male video connectors) is mounted on the front of the Trailer near the 7-Way and Gladhand connections.



B. The truck side video 7-Way (with female video connectors) is mounted on the rear of the tractor near the OEM 7-Way.



C. 7-Way Coil Cable (TPE2-7-SCBL)

D. Truck side (TPE2-7CAB)

E. Trailer side (TPE2-7-TRK)

Identify desired location of Trailer Cameras

Back of Tanker Trailer

Right Side of Tanker Trailer – Next to the Pumps

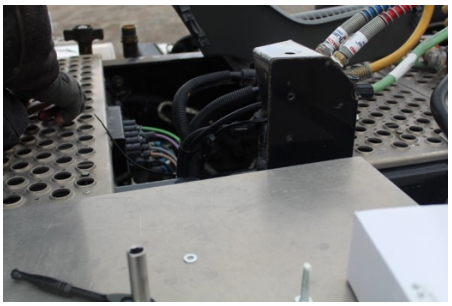
To the left of the ladder on back of Tanker Trailer

Routing 7-Way Connector

A. Route the extension cables to the chosen camera mounting position on the trailer.

B. It helps to route the cable along with existing cables or airlines.

C. Route the extension cables towards the bottom of the tractor near the OEM hoses.



D. Continue to route and zip tie the extension cables towards the bottom of the tractor into the vehicles firewall and into the cab, in order to connect into the DHUB/DHUBX proper channel.

Required External Camera Settings in IDMS – Individual Vehicle Level

The camera configurations can be made at the vehicle level and at the fleet level.

These settings are necessary for the DHUB/DHUX to upload the video feeds.

CONFIGURATION CAMERA SETTINGS AT THE VEHICLE LEVEL.

To configure the camera settings for a vehicle:

1. Navigate to **Provisioning & Configurations > Vehicles**.
2. Click the Configurations tab.

3. Click **View/Edit** corresponding to the vehicle for which you want to edit the camera settings.

All Camera views of a device can be enabled or disabled for a vehicle, except the Outward Camera.

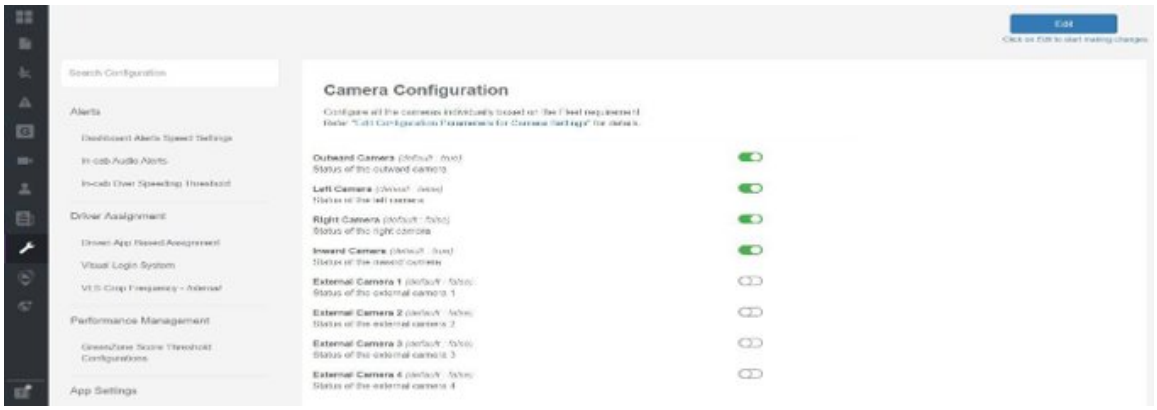
4. Click **Apply Changes** to save changes.

Required External Camera Settings in IDMS – Fleet Level

Configuration Camera Settings at the Fleet Level. (Supersedes individual vehicle level)

These settings are necessary for the DHUB/DHUX to upload the video feeds.

1. Navigate to Provisioning & Configurations > Configurations.
2. Click the Camera Settings section, click Camera Configurations.
3. Click Edit and enable/disable the camera views, as required.
4. Click Review Changes to review the change made.
5. Click Save.

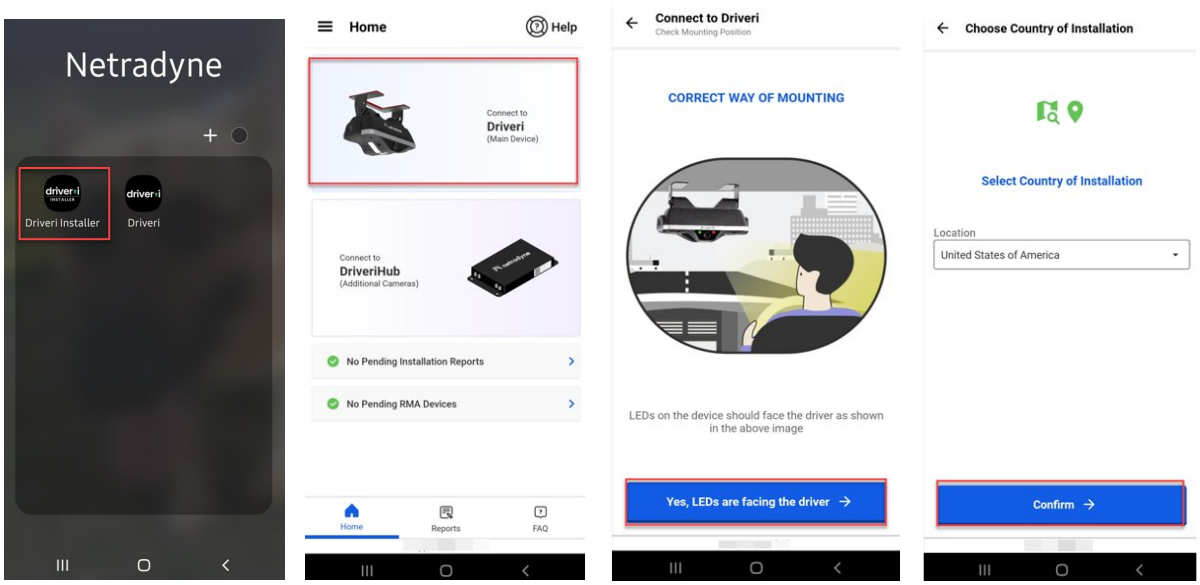


Launching Driveri™ Installer App to perform Health Check / diagnostics and pairing

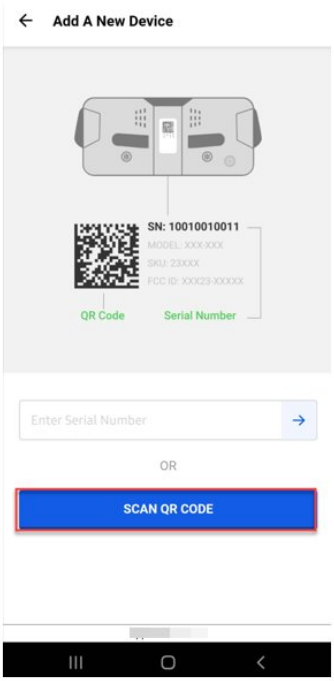
After you have completed the installation of the Driveri™ device and before vehicle reassembly, you will need to pair the device with the vehicle using the Netradyne Install app.

- Login into the Netradyne Driveri Installer app on your iOS or Android device with the installation credentials you have been provided.
- If you do not have an account, please let the trainer know or contact fei@netradyne.com and let them know you have attended the training and need an account set up.
- Download the Netradyne Installer app from the app store.
- Restart your phone after app installation
- Make sure your Wi-Fi and Bluetooth is turned **ON**
- Follow on screen prompts and complete each relevant field(see following pages).

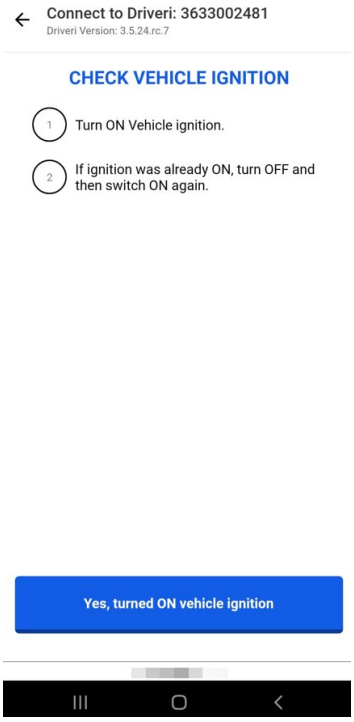
Launching Driveri™ Installer App



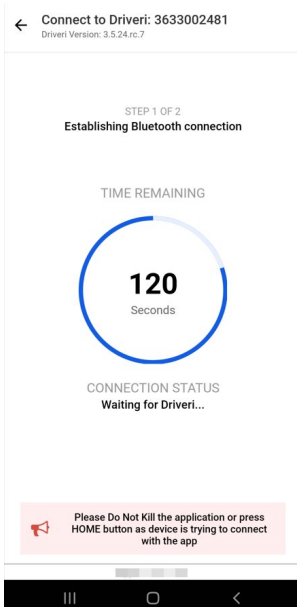
Scanning Driveri™ Serial Number



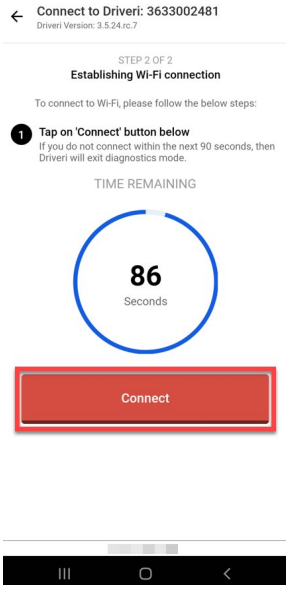
QR code located on the bottom of the camera.



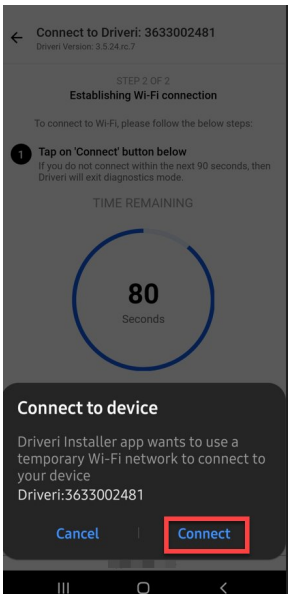
Connecting Installer App to Driveri™ device



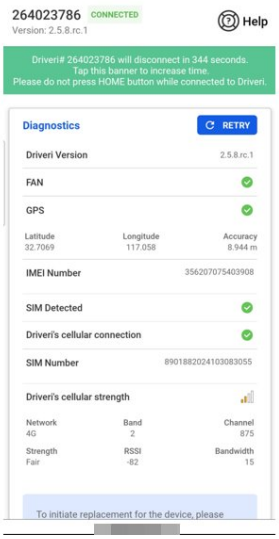
Once the Bluetooth connection has been established, the next screen will appear



After the Driveri Serial number populates, select Connect

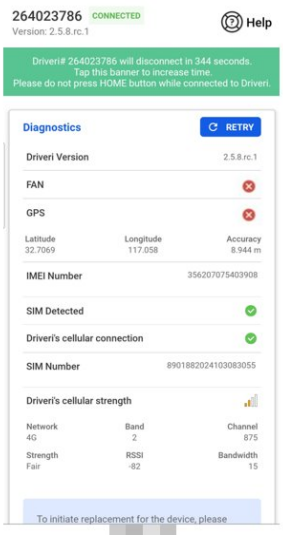


Perform Health Check / Diagnostics



Once the unit connects, it will perform a diagnostic to verify the Camera system is working properly. If you get all the green check marks, you can move forward to the next step, which is, pairing Driveri with vehicle (See page 25)

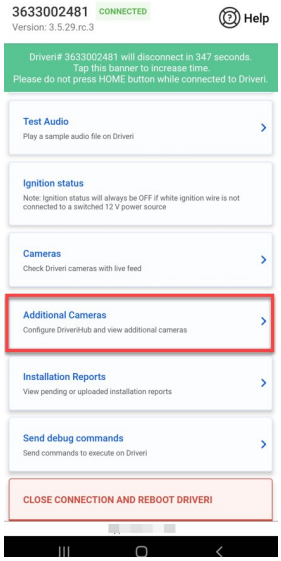
If you don't get all green check marks, Identify where you are getting a red X .



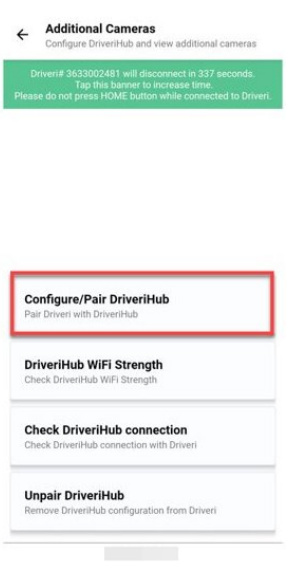
If red X is from **FAN** and or **SIM Detected**, the unit should **not** be installed. Please contact your Netradyne Rep.

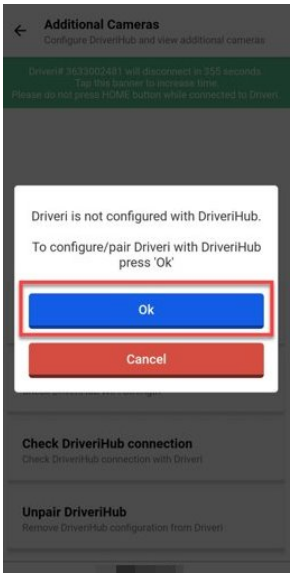
If red X is from **GPS** and or **Driveri's Cell Connection,** The unit **could** be installed, Just ensure the Lumia which houses the GPS has clear view of the SKY.

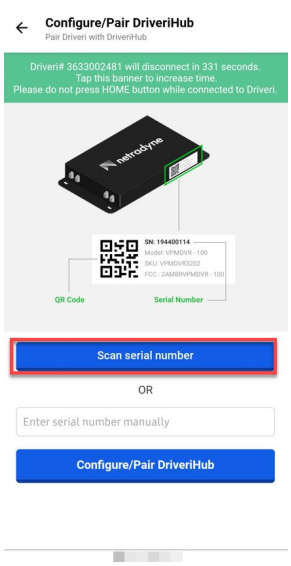
Pairing Driveri™ device with DriveriHub

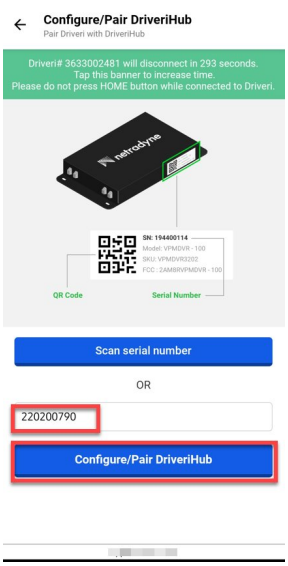


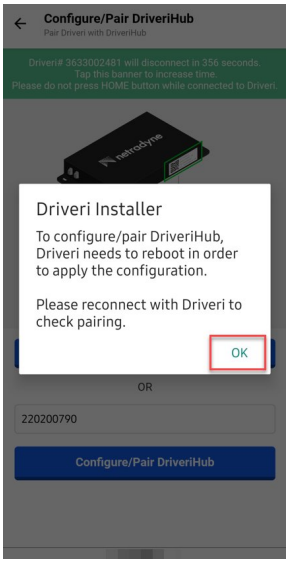
Scroll down to Additional Cameras

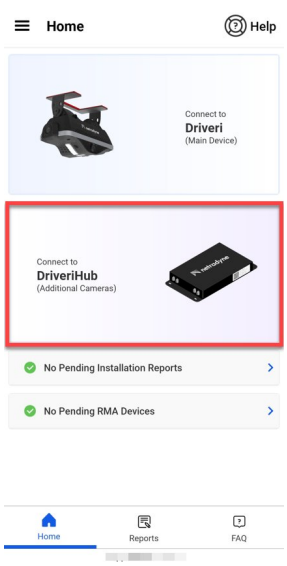


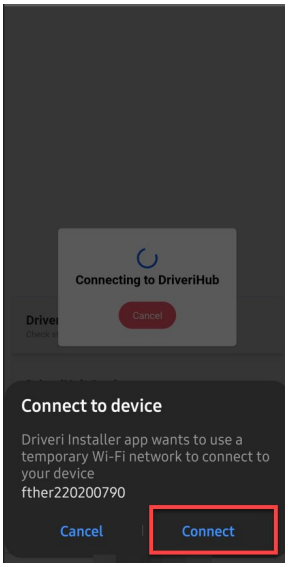


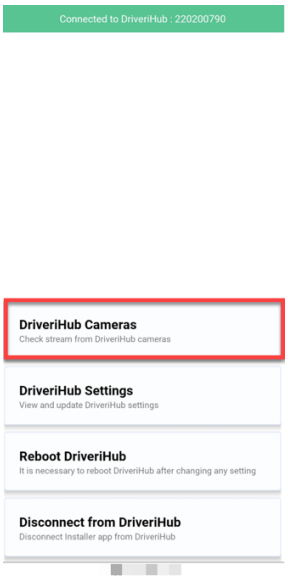


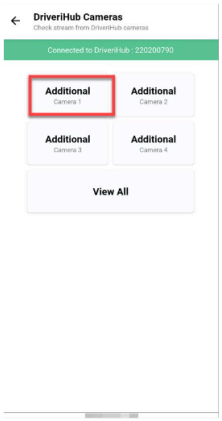




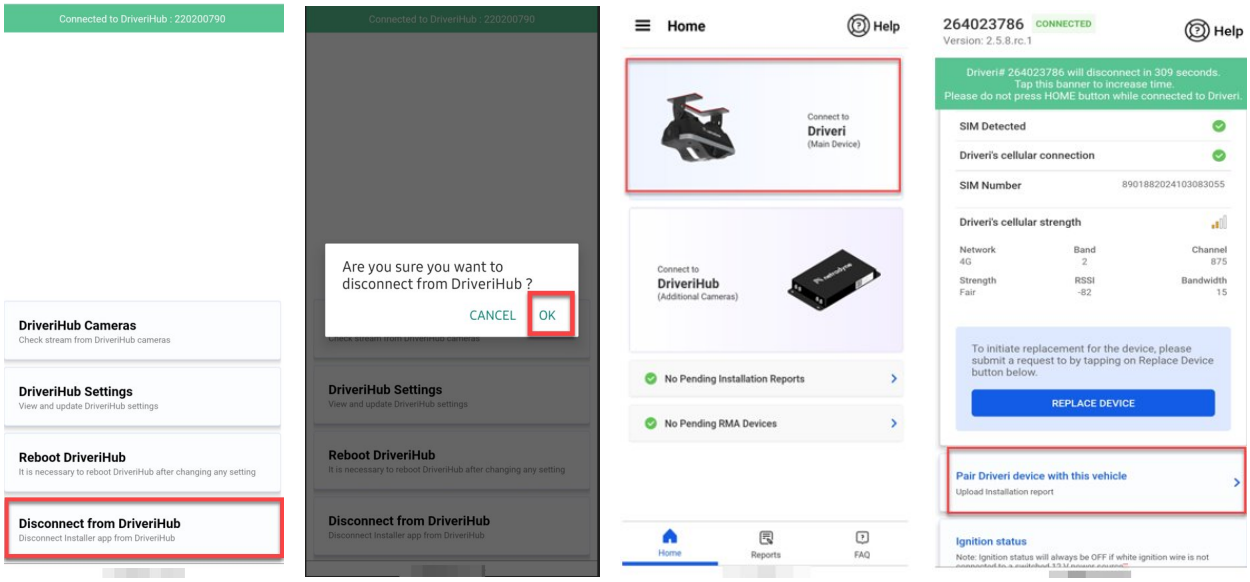




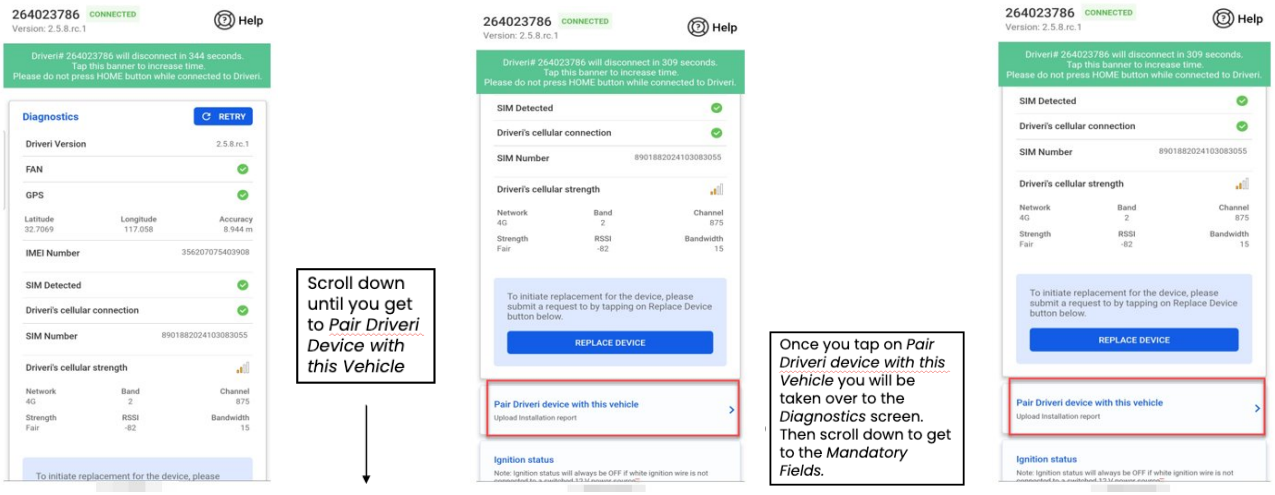


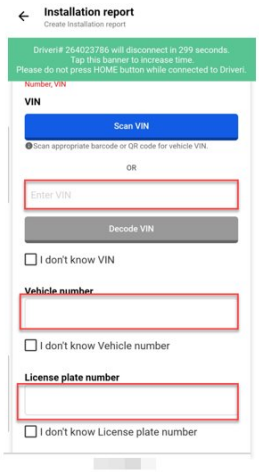


Once you check the appropriate additional camera feeds, click on Disconnect from DriveriHub.

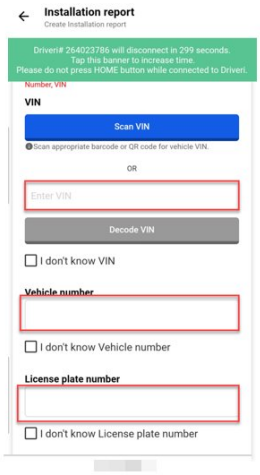


Pairing Driveri™ device with the vehicle

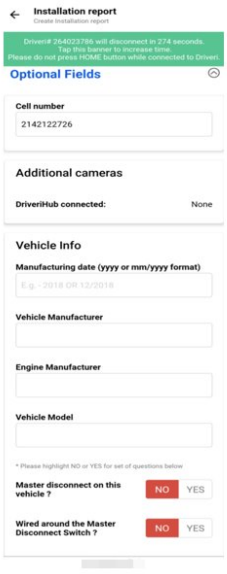


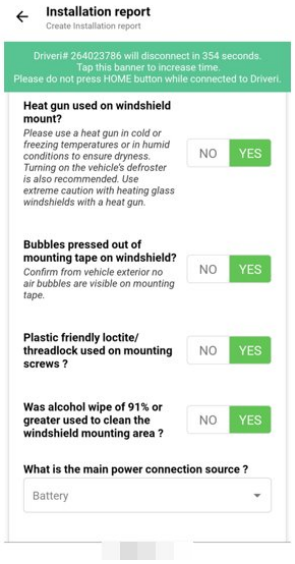


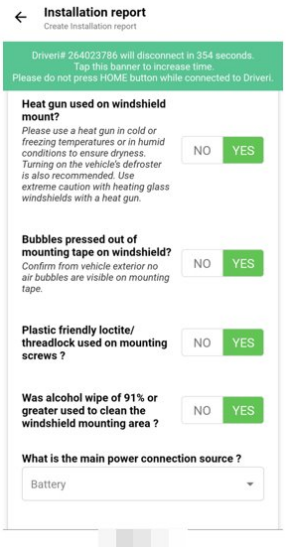
Scanning the VIN is the most accurate way to gather the vehicle information. Otherwise manually input the VIN and tap on Decode VIN, this will populate the Make, Model, Date and Vehicle Class Information.

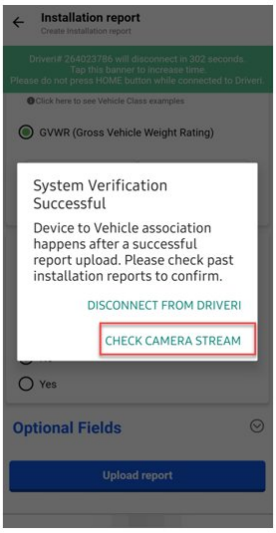


If vehicle CAN bus data will be utilized, press Yes, if not, you can choose No and skip over to Optional Fields and press on the drop down to populate those, Fields.



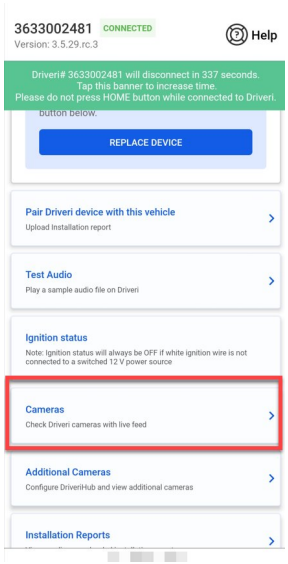


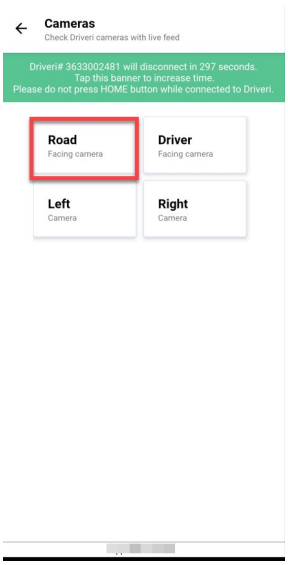




Please ensure you answer all the configuration questions as this may affect unit functionality and support. When you select Attach Images, it allows you to use your mobile device camera to take pictures of your installation and attach them. The comments section can include anything installation related.

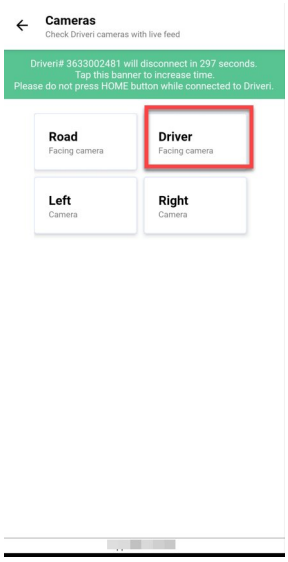
Verifying Camera alignment and Functionality

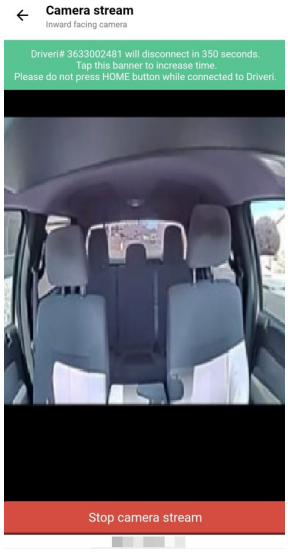




It is recommended that you select Check Camera Stream to ensure proper camera operation and alignment.

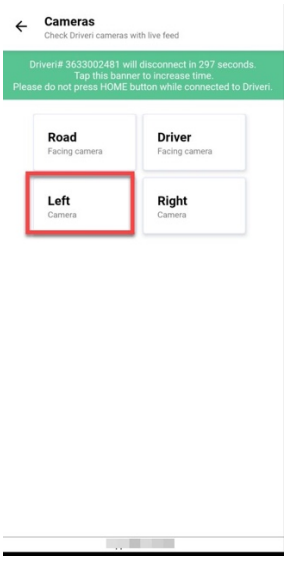
Ensure on the Outward Camera view you are able to capture just the edge of the vehicles hood.

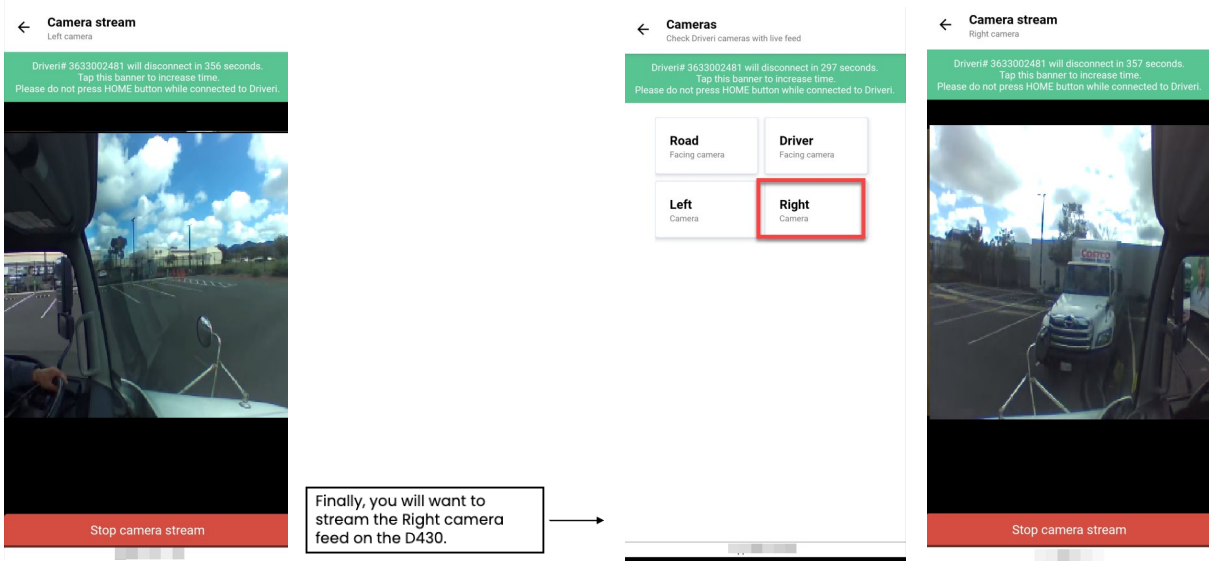


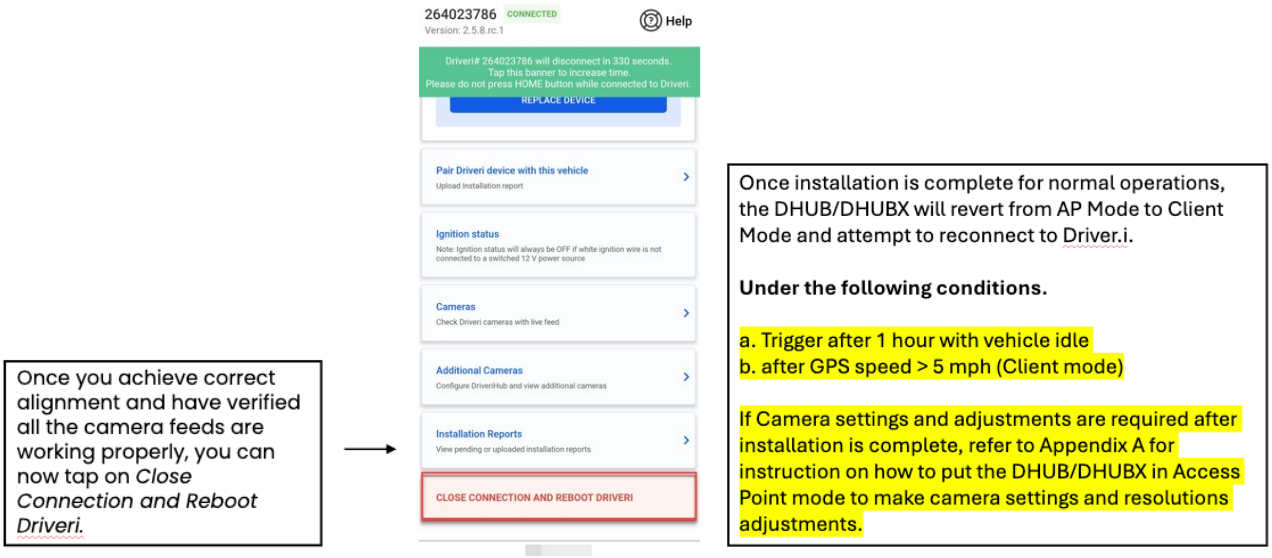


On the Inward camera view, ensure you are able to see the drivers head and left shoulder. it may be necessary to strike a balance between forward and inward view.

Next you will want to stream the left camera feed on the D430.





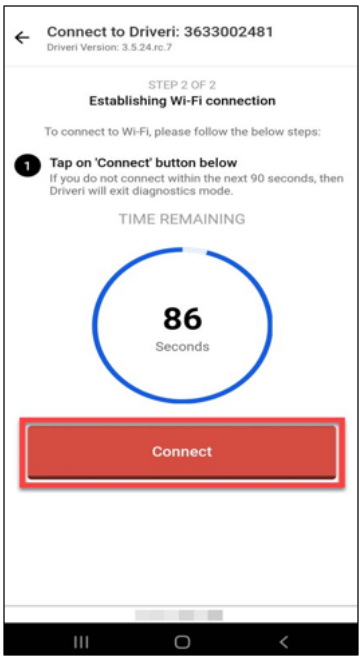


DHUBX De-Installation & Un-Pairing From Driver·i Device Process

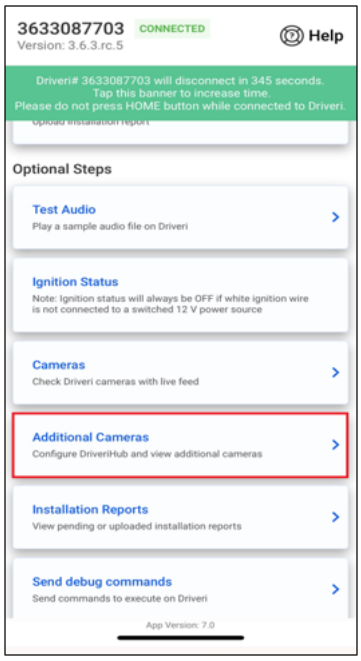
Requirements /Considerations

- If DHUBX is going to be removed, this procedure must be followed to allow for smooth re-installation.
- Failure to follow these instructions will place the DHUBX in an unpredictable state.
- You must use the Driver.i Installation App to connect to the Driver.i device.
- Prior to removing Driver.i or DHUBX from vehicle, make sure both the Driver.i and DHUBX are powered on and connected to each other. Check step 3 on page 3 to verify.
- Follow the steps in page 3 and 4 to un-pair DHUBX.

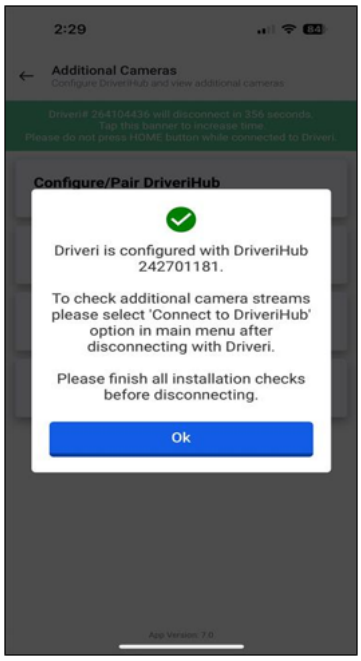
Verifying DHUBX is connected to Driver.i device



1. Connect to the Driver.i by using the Installer App.



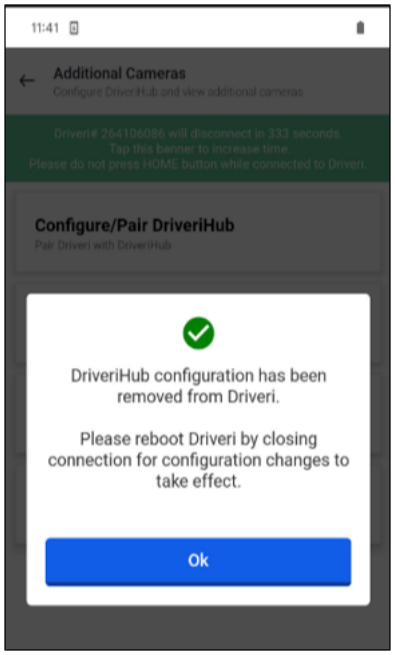
2. Tap on Additional Cameras.



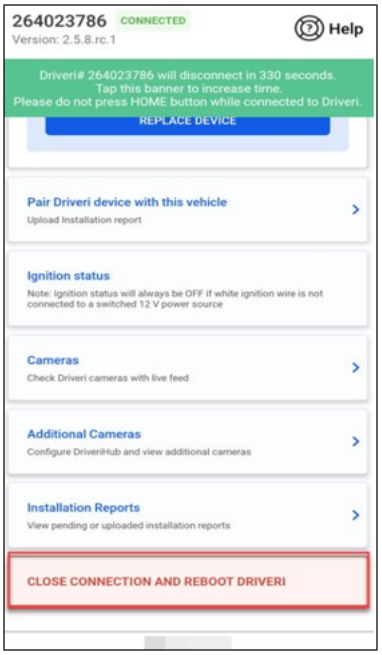
3. Check if a DHUBX is paired to Driver.i device tap OK.

Un-Pair DHUBX from Driver.i device

4. Tap on Un-pair DriveriHub.



5. Tap OK



6. Go back to the main screen of Driver.i and press “Close Connection and Reboot Driver.i”

NOTES

- The DBHUBX is now un-paired from the Driver.i device and ready to be paired with new Driver.i. DHUBX is in AP (Access Point) Mode allowing it to be re-installed and paired with new Driver.i device.
- The equipment is ready to be powered down, removed and ready for re-installation.

DHUB/DHUBX x.6.6 Camera Config Adjustments

Background

In a Driver.i system with a DHUB/DHUBX with software package x.6.6 the Driver.i becomes the AP(Access Point) and the DHUB/DHUBX becomes the client.

Note:

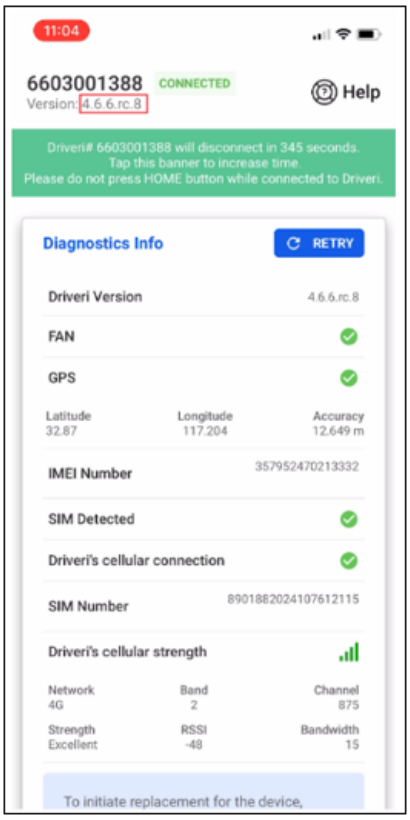
The purpose of this guide is to enable post install camera config adjustments to the DHUB/DHUBX on a system with x.6.6 software.

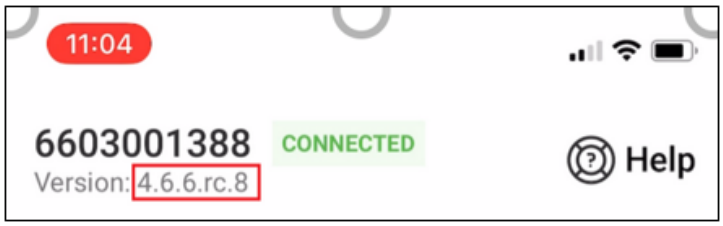
This procedure will change the DHUB/DHUBX from Client Mode to AP Mode, so that the Installer App can communicate directly to the DHUB/DHUBX and allow camera settings to be altered.

Ensure the DHUB/DHUBX is in client mode. If the LED labelled “ERR” is solid red, the DHUB/DHUBX is in client mode.

Device Software Verification

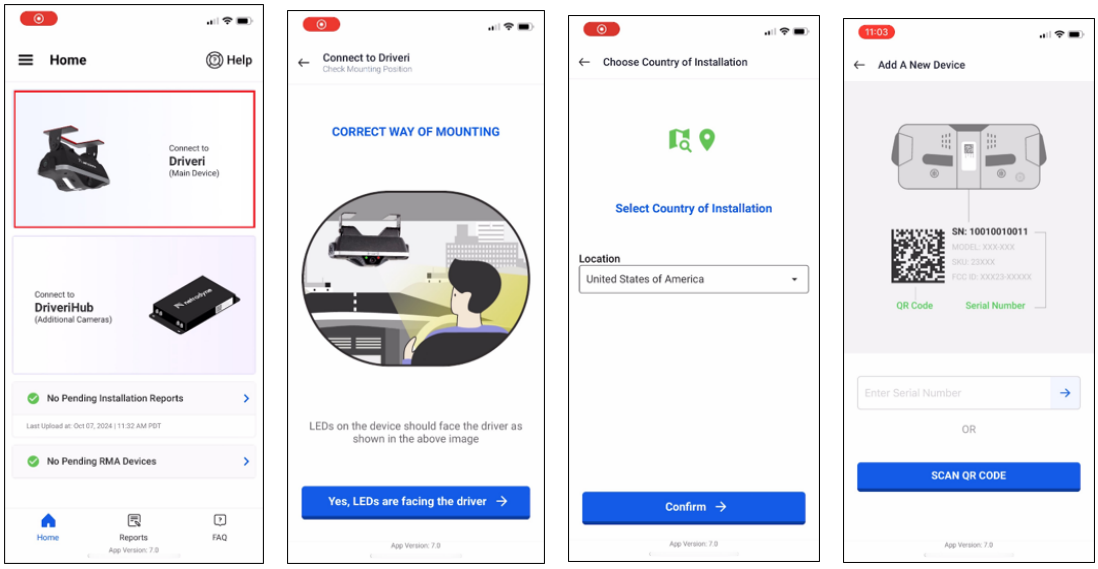
Verify the Driver.i device is on version **x.6.6** on the Installer App. This can be verified with the Installer App once you successfully login, see below.



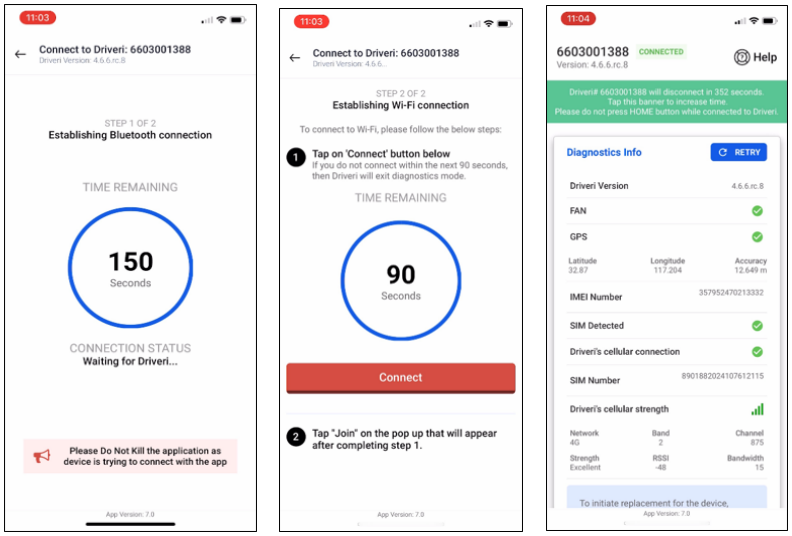


Procedure: Steps to go from Client Mode to AP

1. Connect Installer App to Driver.i (DHUB/DHUBX solid red LED) (**Client Mode)**



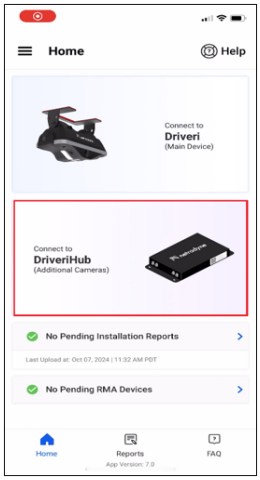
Continued Connecting Driver.i to Installer App.

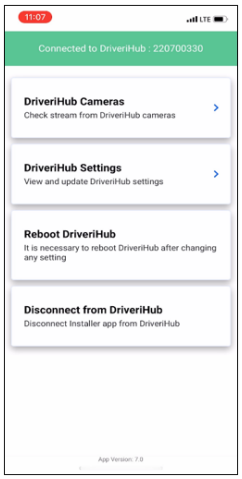


DHUB/DHUBX should reboot into AP Mode (blinking red LED) immediately after connecting. Disconnect the Installer App from the Driver.i

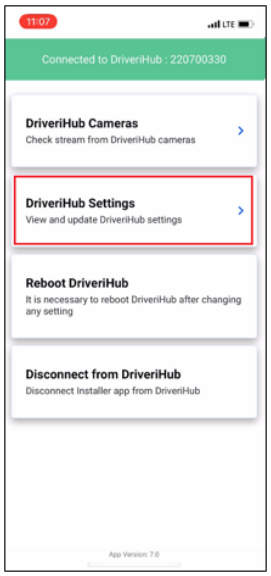
Procedure: Steps to change Camera Configurations

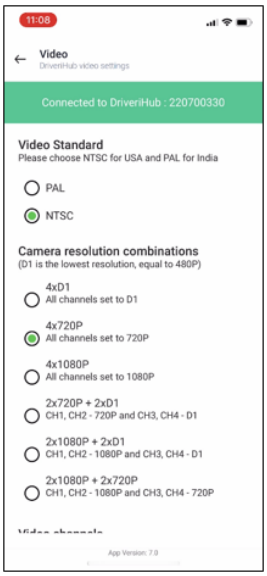
1. Connect to the DHUB/DHUBX. (DHUB/DHUBX blinking red LED) (**AP Mode**)

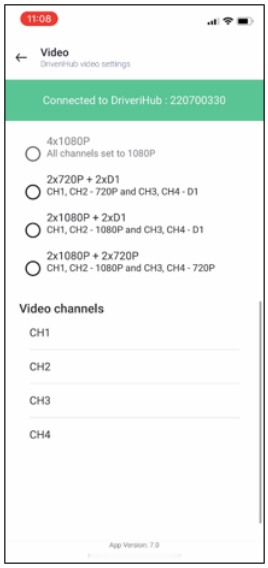


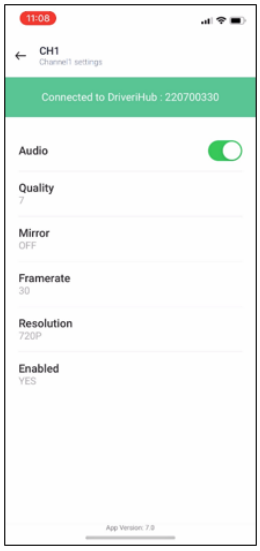


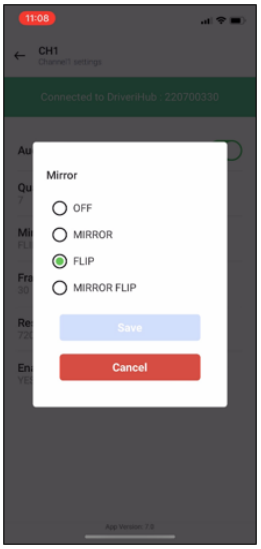
2. Adjust camera views, flip channels, etc. (DHUB/DHUBX blinking red LED) (**AP mode**)



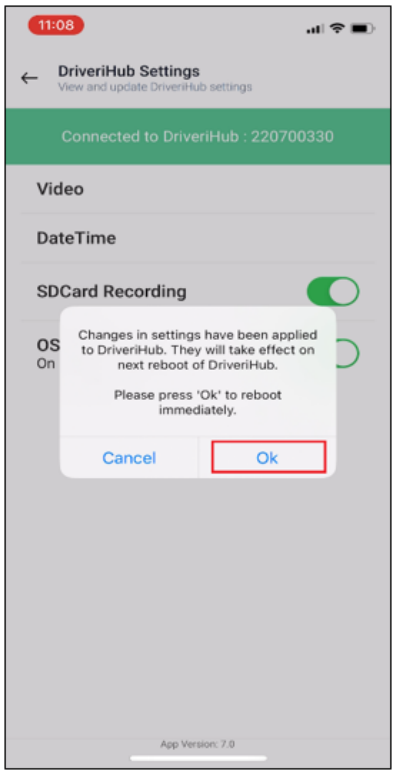






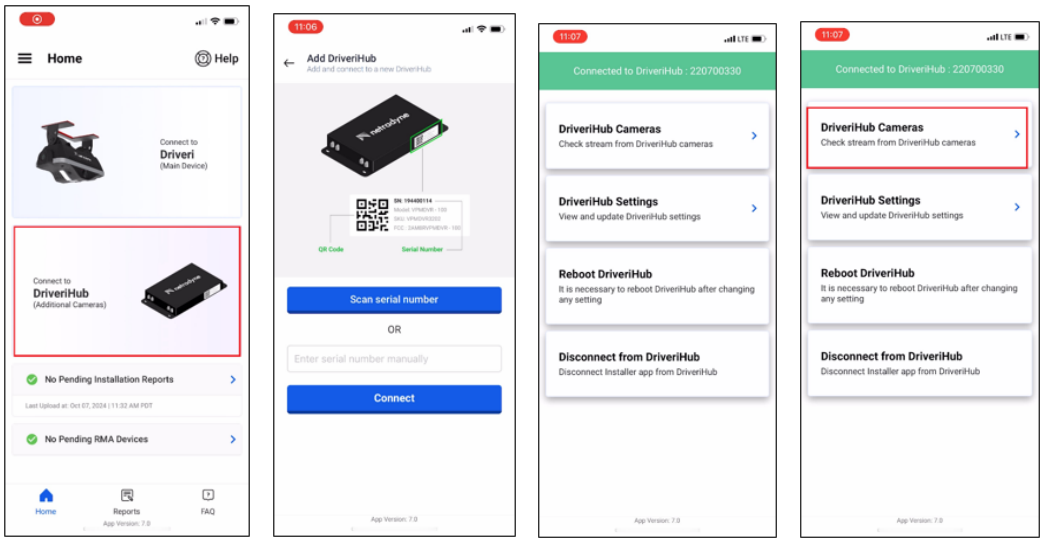


3. Reboot the DHUB/DHUBX for settings to take place (see popup below). The Installer App will disconnect from the DHUB/DHUBX automatically once this button is pushed. (DHUB/DHUBX blinking red LED) **(AP Mode)**



Procedure – Verifying Camera Configurations

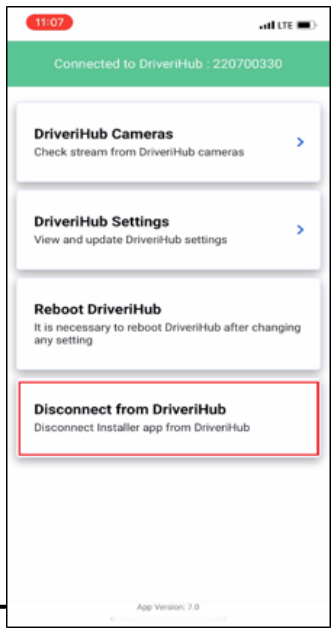
1. Connect back to the DHUB/DHUBX. Verify that all camera views are working as expected. (DHUB/DHUBX blinking red LED) (**AP mode**)



2. Disconnect from DHUB/DHUBX with Installer App. DHUB/DHUBX will automatically go back into client mode (DHUB/DHUBX Solid red LED) and reconnect to the Driver.i

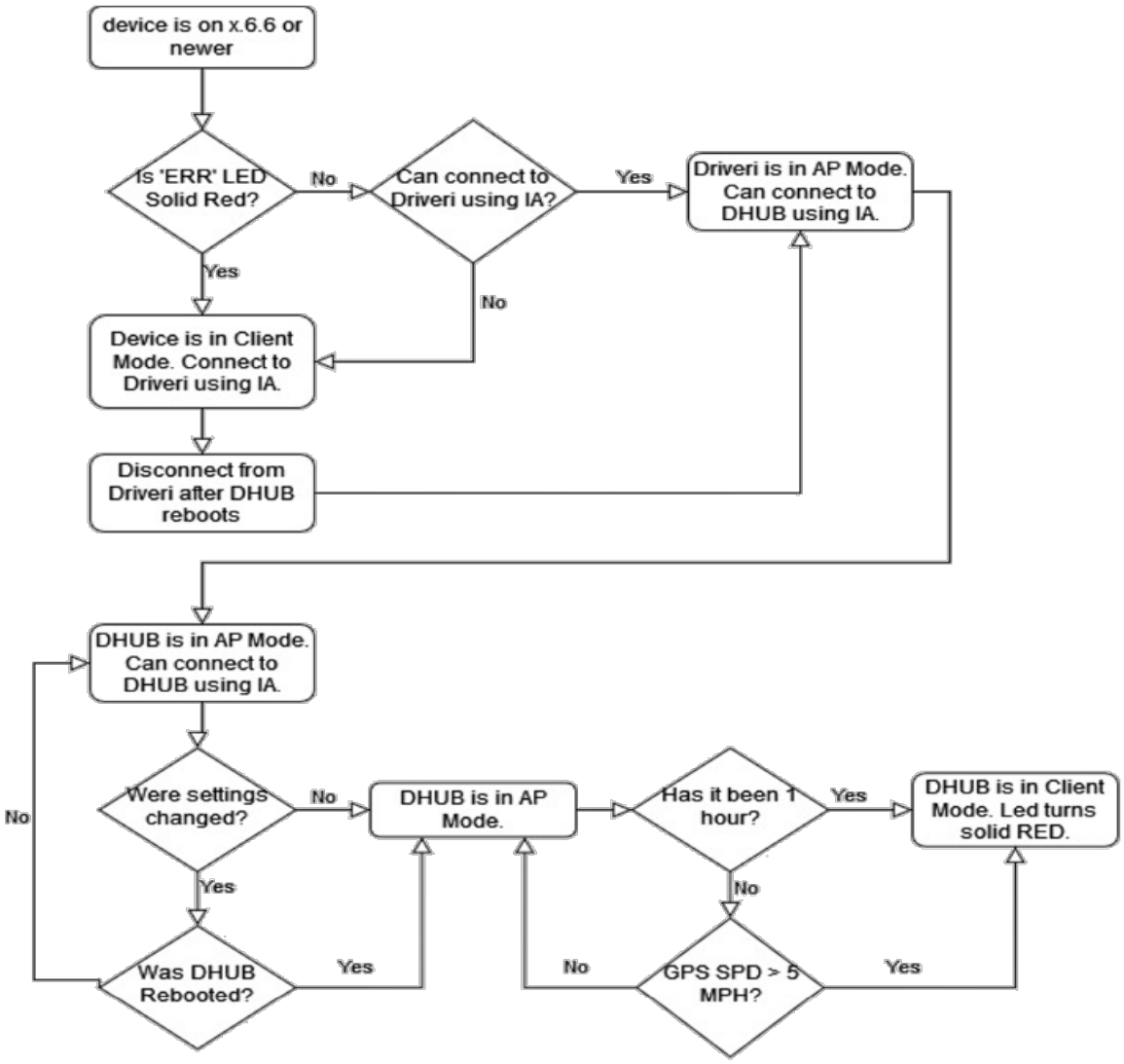
Under the following conditions:

a) Trigger after 1 hour with vehicle idle
b) after GPS speed > 5 mph (Client mode)



DHUB in Client Mode connected to Driver.i	Solid RED Light
DHUB in Client Mode not connected to Driver.i	Blinking RED Light
DHUB in AP Mode	Blinking RED Light

Workflow Chart



For questions or escalations, please visit Netradyne Support at www.netradyne.com/support

Email: support@netradyne.com Phone: (833) GRN-ZONE or 833-476-