XHUD1000

OWNER'S MANUAL

Head Up Display (HUD)

XHUD1000 IS NOT TO BE USED AS A PRIMARY FLIGHT INSTRUMENT

Introduction

The Dual XHUD1000 is a high performance Head Up Display for General Aviation and Light Sport Aircraft. The device allows pilots to continuously monitor critical flight data while keeping their head up and eyes forward. Dual developed the XHUD1000 in collaboration with pilots to ensure it provides the right mix of features for enhanced situational awareness. With the XHUD1000, GA pilots can now benefit from modern features previously only available in large advanced aircraft.

Set up and installation of the XHUD1000 is simple. After making the wireless connections using Dual's free ADS-B Status Tool app, the app runs in the background and the mobile device is available for running other apps. The XHUD1000 includes accessories for easy installation on most aircraft. The unit is lightweight and ultra-compact, and has a folding screen with adjustable viewing distance & angle.

The Dual XHUD1000 gives pilots the option to display data from portable ADS-B receivers using the XHUD1000's built-in graphics, or to display external graphics from tablets and smartphones running 3rd party EFB apps.

The XHUD1000's built-in graphics include AHRS and Traffic modes. AHRS mode displays altitude, ground speed, attitude, bank angle, and compass heading in a classic HUD AHRS graphic for convenient monitoring of flights. Traffic mode displays ADS-B traffic on a radar style graphic using standard TCAS symbology, and has a selectable coverage range. For both of these modes, the information displayed is based on data from portable ADS-B GPS receivers.

As an alternative, pilots can operate the XHUD1000 in Mirroring mode to display external graphics from their tablet or smartphone running EFB apps. This allows the XHUD1000 to display AHRS, synthetic vision, or

moving maps for navigation, which are features available on most EFB apps. In this mode, several brands of portable GPS receivers can be used to provide source data for EFB apps.

For best HUD performance, it is recommended to operate the XHUD1000 using its built-in graphics (AHRS and Traffic modes).
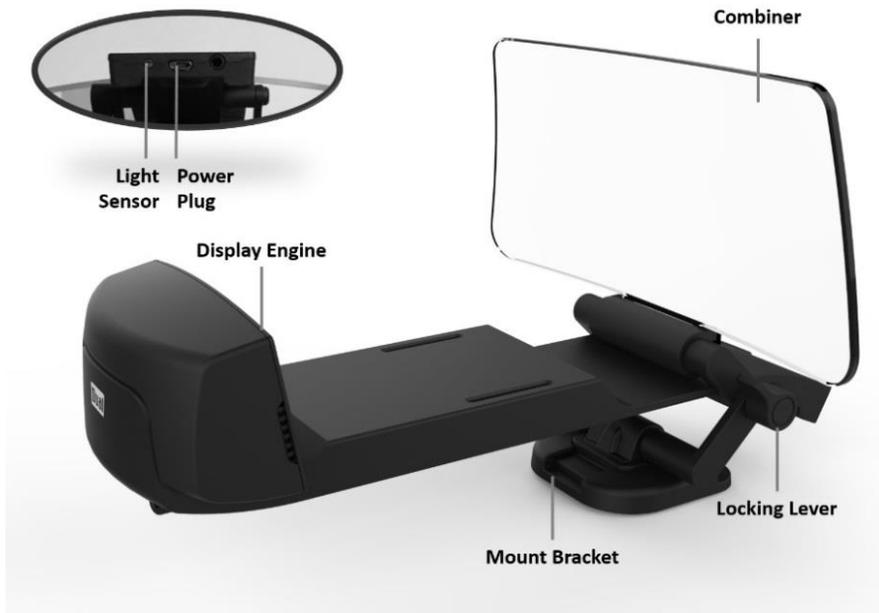
To achieve largest size image on HUD, the distance from Combiner to Display Engine should be set to the maximum distance by adjusting the locking lever. Since cockpit configurations and dimensions can vary considerably among different airplane types, pilots should use their best judgement on how to mount the XHUD1000 in their airplane. The included mounting accessories can be used as needed.

USAGE EXAMPLE

Installation

The XHUD1000 has flexible mounting options to accommodate installation in most small aircraft.

MOUNT OPTION # 1

MOUNT OPTION # 2

Setup

All XHUD1000 / mobile device settings should be made while the aircraft is on the ground, and should be left unchanged during flight.

Setup with Dual ADS-B Receivers & Apple Device

1) ADS-B Status Tool App for HUD Control

- Download the ADS-B Status Tool app from App Store. The HUD Control tab from the ADS-B Status Tool app enables multiple features that control the XHUD1000.
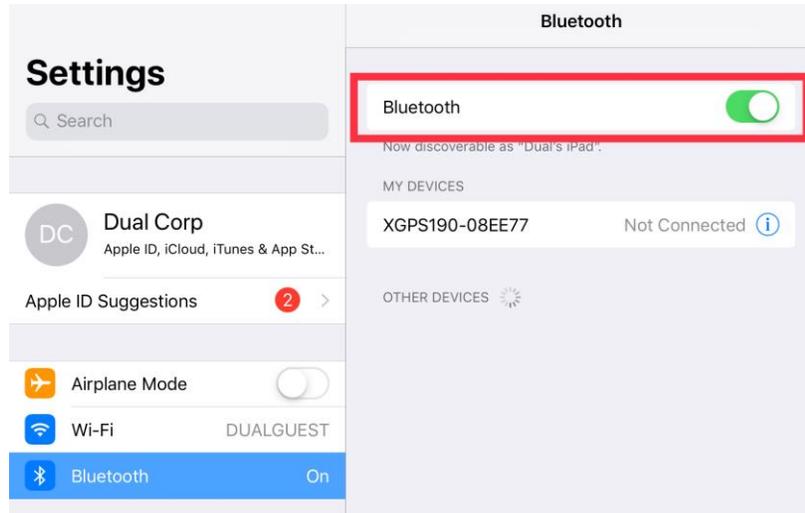
2) Bluetooth Connection for AHRS & Traffic modes

- Prior to this step, it's important to make sure the XGPS190 (or one of the other Dual ADS-B receivers) and your Apple device are powered on, and the XHUD1000 is still left powered off.

- Turn on Bluetooth under Settings from your Apple device.

- Choose the XGPS190 under the Bluetooth device list to connect to your Apple device.

- Once the XGPS190 and your Apple device are connected, power on the XHUD1000 by plugging in the supplied USB cable.

- Open the ADS-B Status Tool app, and then go to the HUDControl tab.

Device Status

Connecting Device	**XGPS190-08EE77** •
GPS Battery	**40%**
Firmware Version	**2.6.0**

Position Information
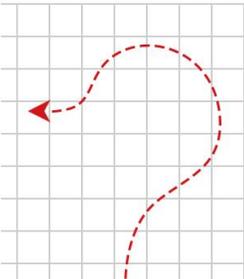
Latitude	28° 46' 44.714" N
Longitude	81° 22' 59.952" W
Altitude	120.0 ft
UTC	19:42:37
Heading	--
Speed	0.0 knots

Position Confidence
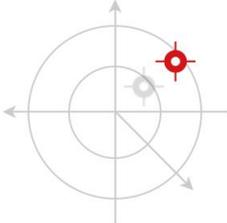
Horizontal	**Good**
Vertical	**Good**
3D	**Good**

Status   Satellites   ADS-B & AHRS   Traffic   HUDControl

- Tap the XHUD, and choose the XHUD(****) to connect HUD to your Apple device.
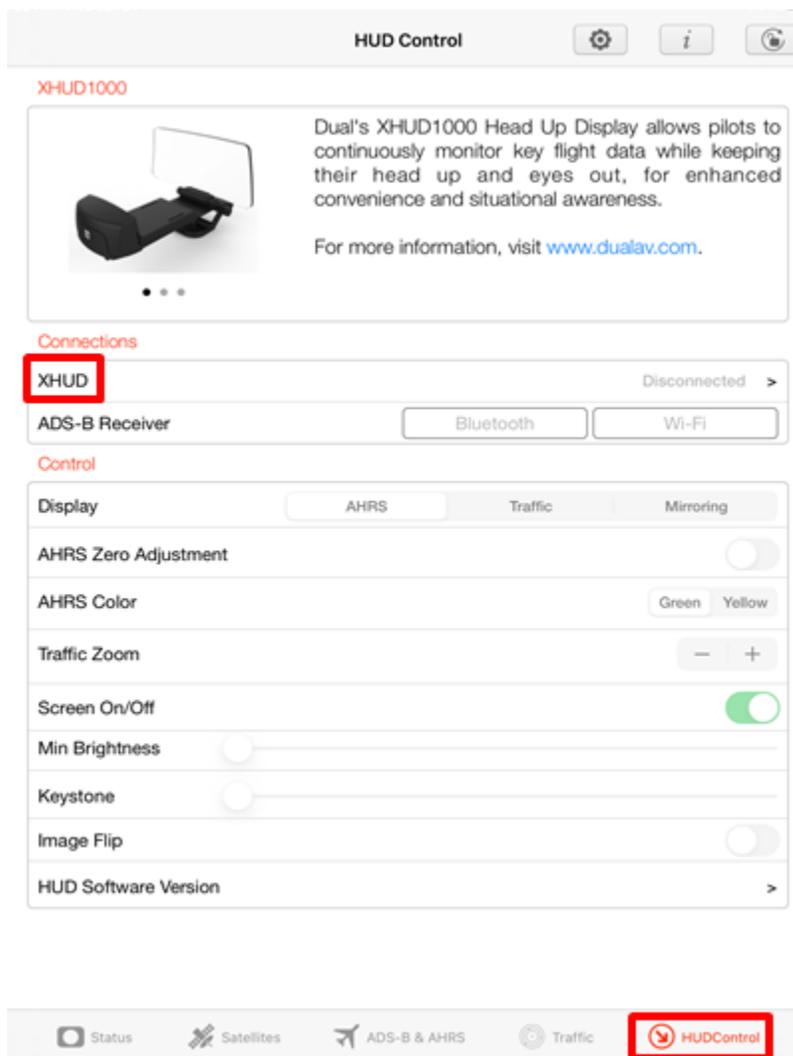
XHUD1000 (   )

- Tap the Bluetooth box and choose the XGPS190. Once connection is successfully made, Bluetooth logo on the left side corner of the XHUD1000 screen will stop blinking.

- To confirm connection between the XHUD1000 and the XGPS190, try switching between AHRS and Traffic modes, or try different controls from the HUDControl tab. The XHUD1000 display should respond to the controls of your choice accordingly.

- You have now successfully made Bluetooth connection between the XHUD1000, the XGPS190, and your Apple device.

Note: Once connection is made between XHUD1000, XGPS190, and Apple device, there are several choices of EFB apps that can run on your Apple device, including Foreflight. See Dual's web site for a complete list of apps compatible with XGPS190.

Setup with Stratus 3 & Apple Device

1) Connect Stratus 3 to mobile device per Stratus 3 instruction manual, and download the Stratus Horizon Pro app from App Store.

2) In the Stratus Horizon Pro app, go to Stratus Setting, and enable 'Open ADS-B Mode'
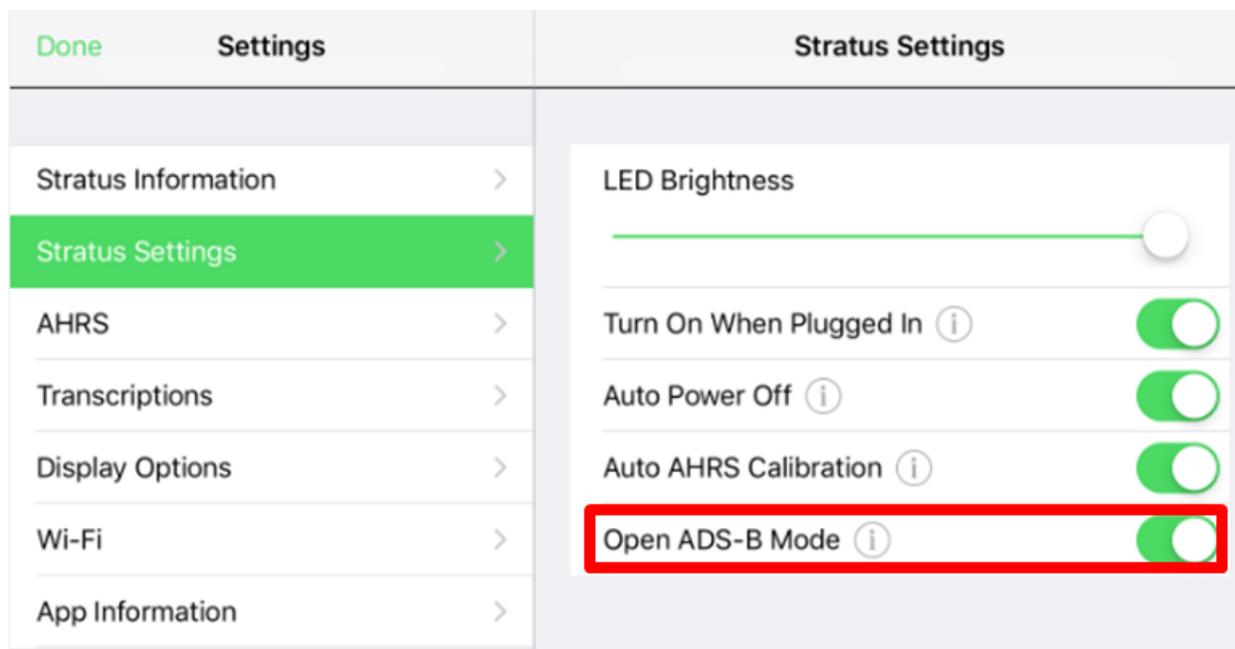
- In the Dual ADS-B Status Tool App, HUD Control Tab, Tap on' XHUD', and choose the XHUD(****) to connect HUD to your Apple device.
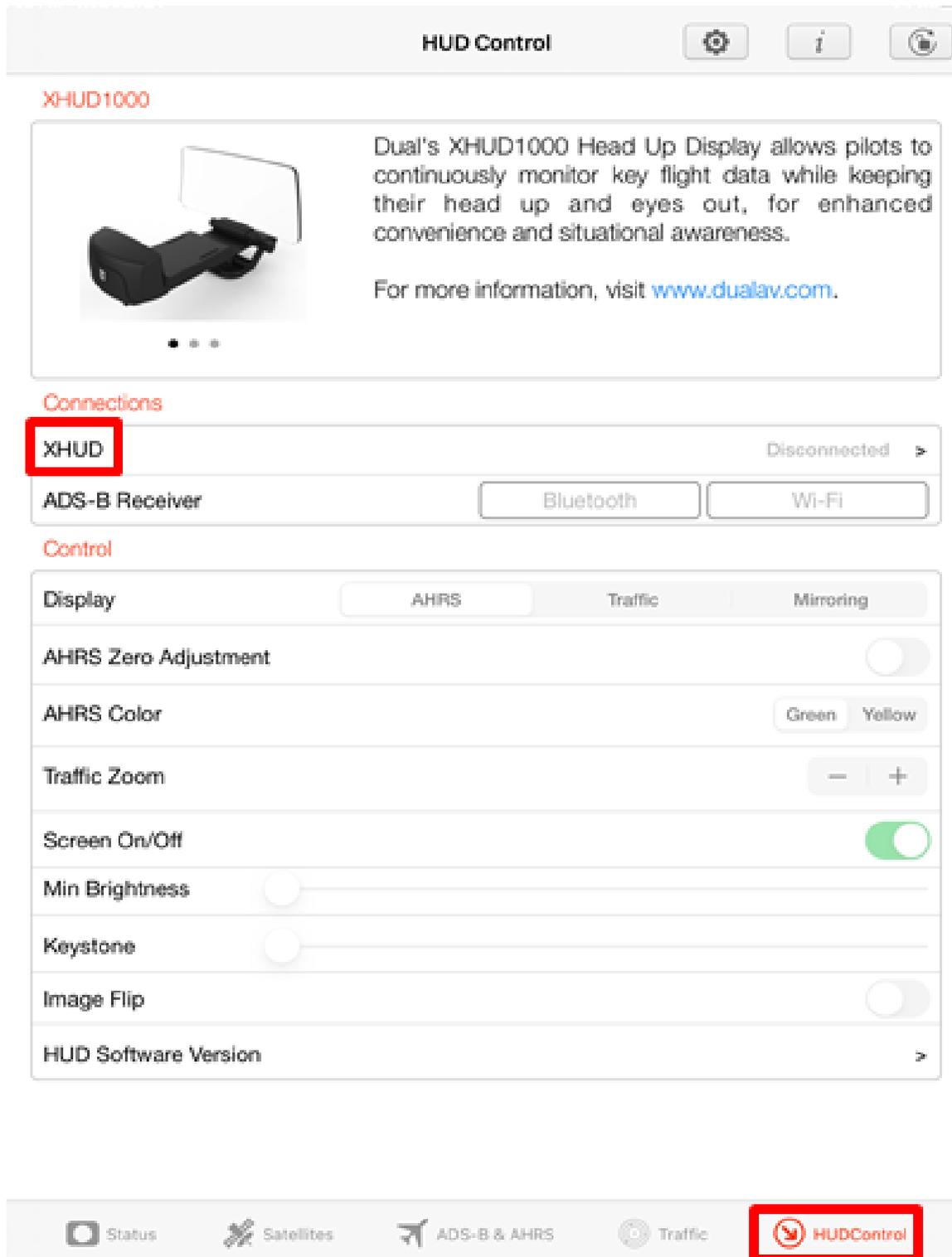
< HUD Control

XHUD1000 (   )

- Tap the Wi-Fi box and choose the Stratus. Once connection is successfully made, Wi-Fi logo on the left side corner of the XHUD1000 screen will stop blinking.

HUD Control

XHUD1000

Dual's XHUD1000 Head Up Display allows pilots to continuously monitor key flight data while keeping their head up and eyes out, for enhanced convenience and situational awareness.

For more information, visit www.dualav.com.

Connections

| XHUD | Connected > |
| ADS-B Receiver | Stratus3008129 > |

Control

| Display | AHRS | Traffic | Mirroring |

AHRS Zero Adjustment	🟢
AHRS Color	Green Yellow
Traffic Zoom	— +
Screen On/Off	🟢
Min Brightness	
Keystone	
Image Flip	⚪
HUD Software Version	>

Status   Satellites   ADS-B & AHRS   Traffic   HUDControl
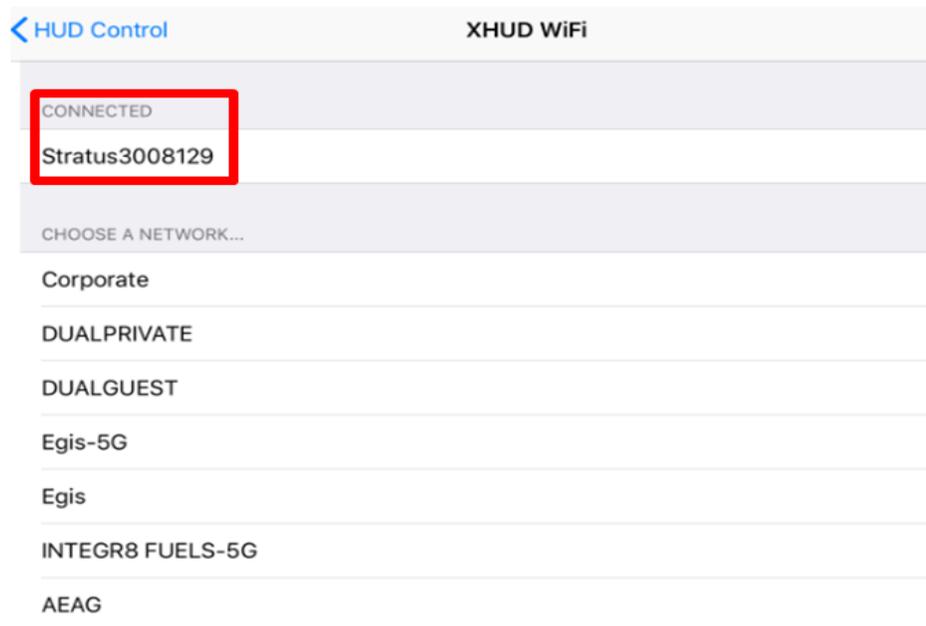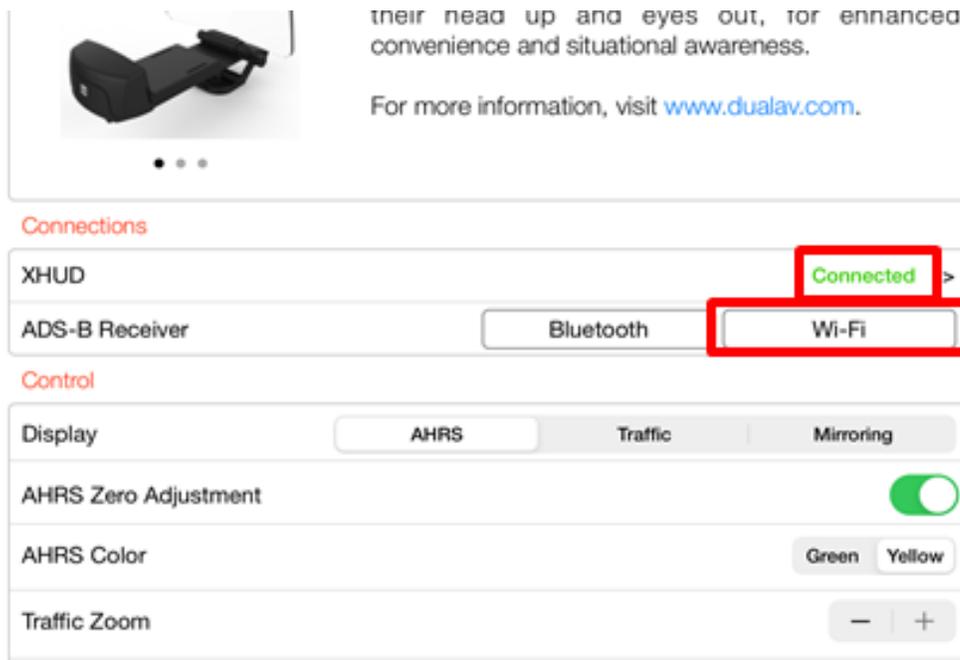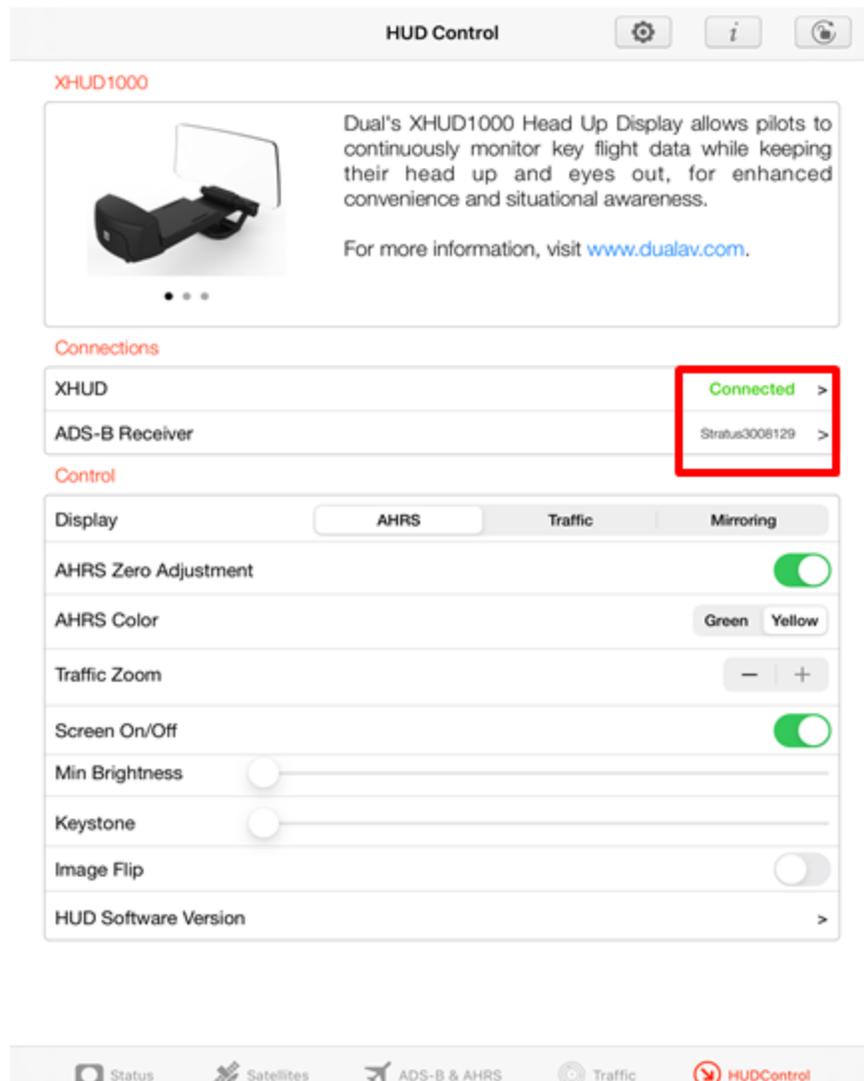
- To confirm connection between the XHUD1000 and Stratus 3, try switching between AHRS and Traffic modes, or try different controls from the HUD Control tab. The XHUD1000 display should respond to the controls of your choice accordingly.

- You have now successfully made connection between the XHUD1000, the Stratus 3, and your Apple device.

Note: Once connection is made between XHUD1000, Stratus 3, and Apple device, there are several choices of EFB apps that can run on your Apple device. However Foreflight cannot be used unless XHUD1000 is in Tablet Graphics mode.

Setup with Stratux & Apple Device

1) Connect Stratux to mobile device per Stratux instruction manual.

 In the Dual ADS-B Status Tool App, HUD Control Tab, tap XHUD, and choose the XHUD(****) to connect HUD to your Apple device.

XHUD1000 (   )

- Tap the Wi-Fi box and choose the Stratux. Once connection is successfully made, Wi-Fi logo on the left side corner of the XHUD1000 screen will stop blinking.

XHUD1000

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Connections

| XHUD | Connected > |
| ADS-B Receiver | stratux > |

Control

| Display | AHRS | Traffic | Mirroring |
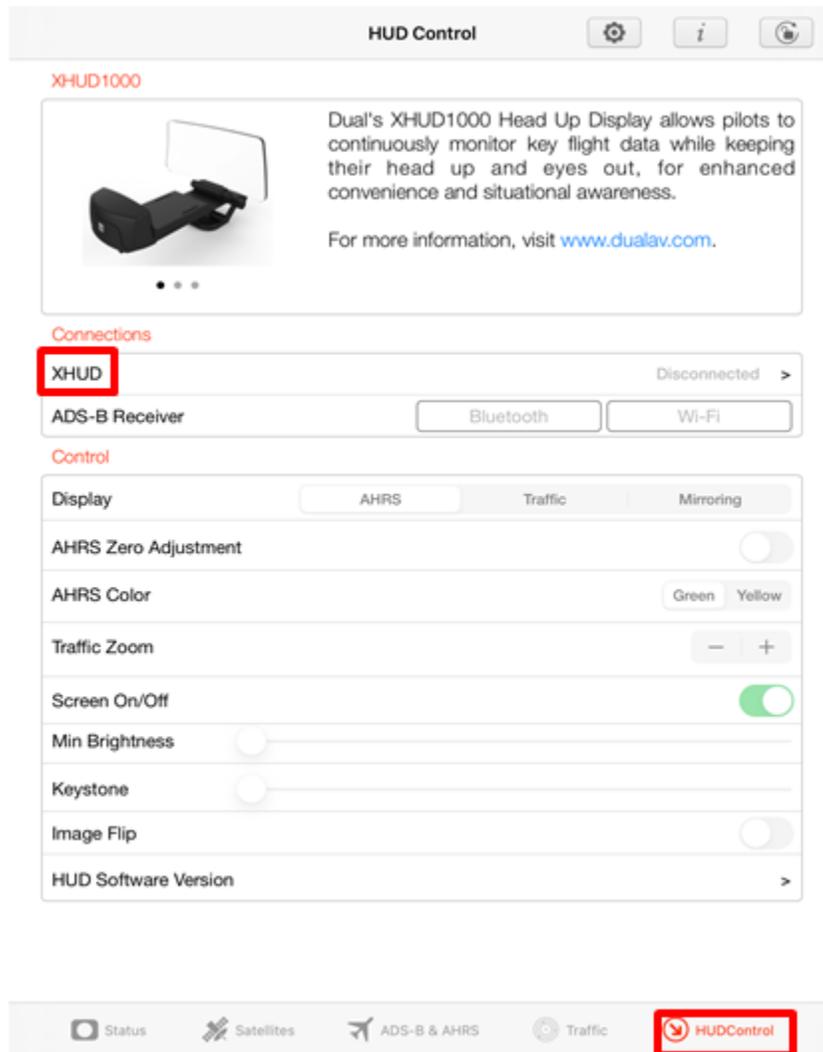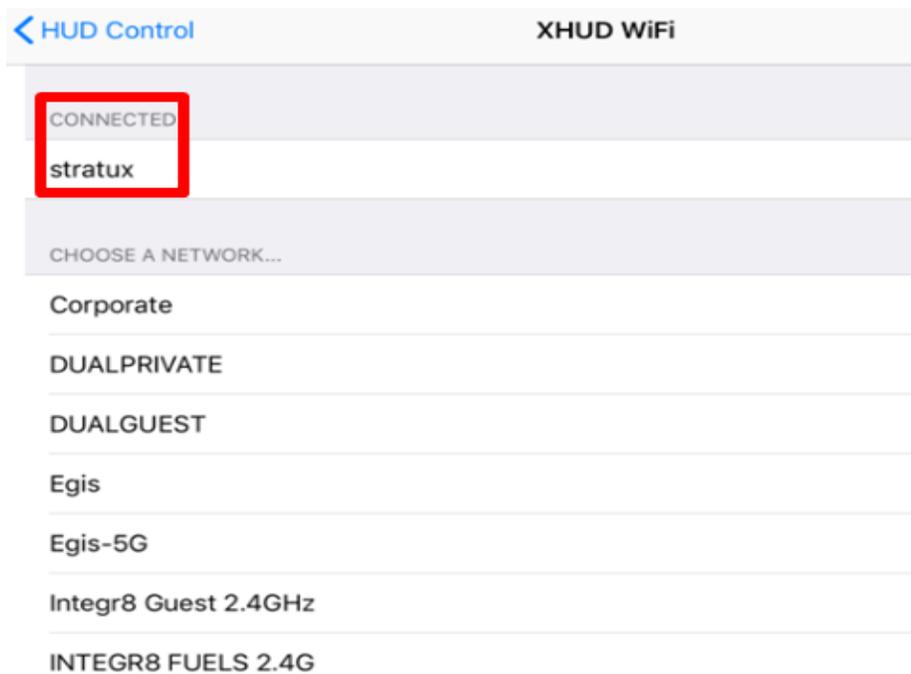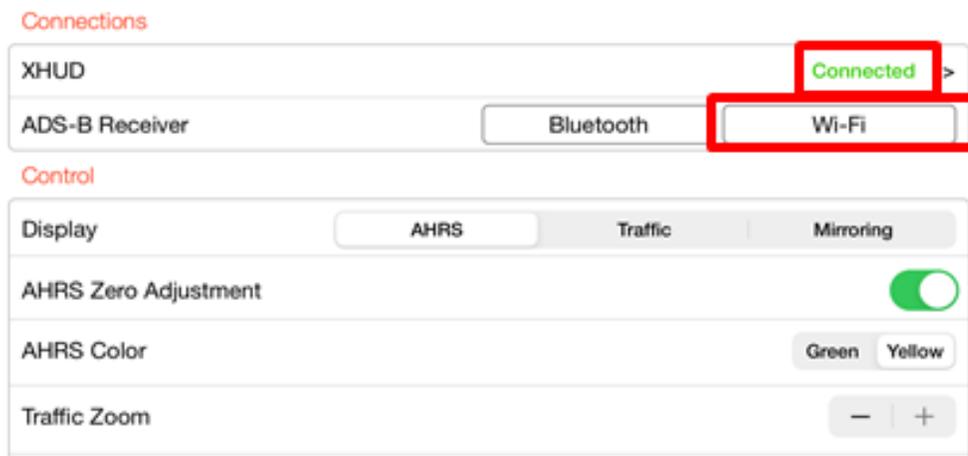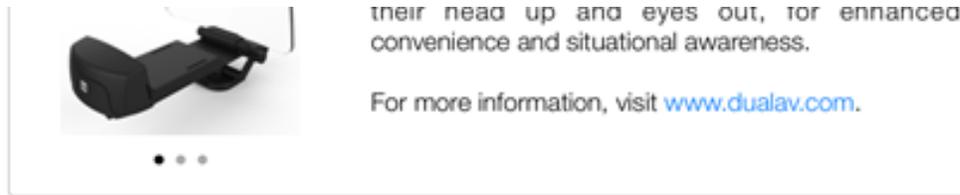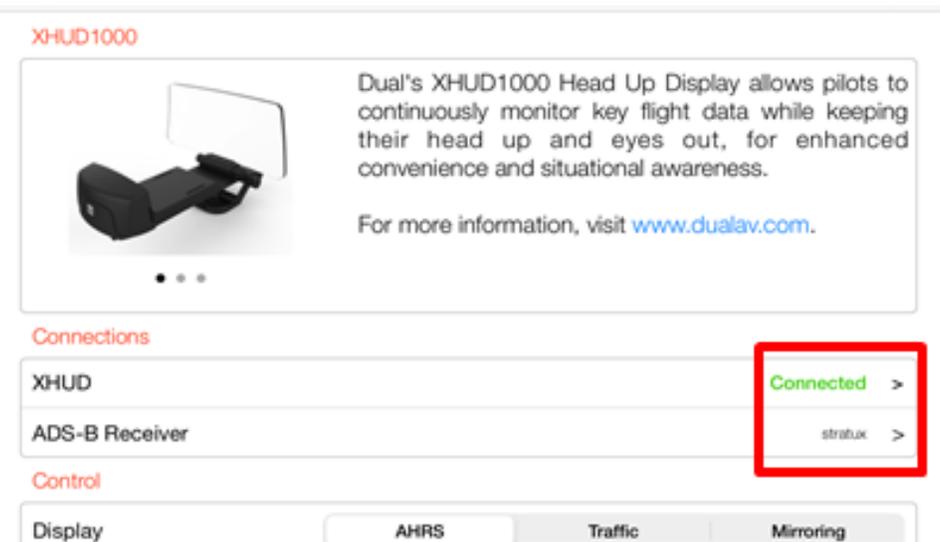
- To confirm connection between the XHUD1000 and Stratux, try switching between AHRS and Traffic modes, or try different controls from the HUD Control tab. The XHUD1000 display should respond to the controls of your choice accordingly.

- You have now successfully made connection between the XHUD1000, the Stratux, and your Apple device.

Note: Once connection is made between XHUD1000, Stratux, and Apple device, there are several choices of EFB apps that can run on your Apple device. However Foreflight cannot be used unless XHUD1000 is in Tablet Graphics mode.

Mirroring with Apple devices

Mirroring of EFB app image from your Apple device to your HUD requires both a Bluetooth and a WiFi connection. There are 2 options for WiFi connection, depending on your particular set up.

OPTION A) Mirroring with XHUD1000 as Wi-Fi Hotspot

- Mirroring with this option can be enabled if your Apple device's WiFi is unused. XGPS190 is not required for mirroring.

- Tap XHUD, and choose the XHUD(****) to connect HUD to your Apple device via Bluetooth.

HUD Control

XHUD1000

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Connections

| XHUD | Connected > |
| ADS-B Receiver | XGPS190-45A48C > |

Control

Display	AHRS	Traffic	**Mirroring**
AHRS Zero Adjustment			
AHRS Color			Green Yellow
Traffic Zoom			— +
Screen On/Off			
Min Brightness			
Keystone			
Image Flip			
HUD Software Version			>

Status   Satellites   ADS-B & AHRS   Traffic   HUDControl

- Once the XHUD1000 is connected to your Apple device, tap Mirroring, and follow steps in pop up screen.

XHUD1000 as Wi-Fi Hotspot

The Wi-Fi Hotspot mode allows XHUD1000 to become the Wi-Fi source.

Follow the steps below to enable the Wi-Fi Hotspot mode.
1) Go to Settings of your Apple device
2) Connect to XHUD1000 under WiFi
3) Use the password below to connect
Password: 87654321
4) Go to Control Center under Settings
5) Press Customize Controls
6) Press Screen Recording to add this feature to your Control Center
7) Press home button to exit
8) Swipe up/down and find the Screen Recording button from your Control Center
9) Hold for 2 seconds and choose Tablet Graphics
10) Press Start Broadcast

OK

† XHUD1000 as Wi-Fi Hotspot

① Go to Settings of your Apple device.
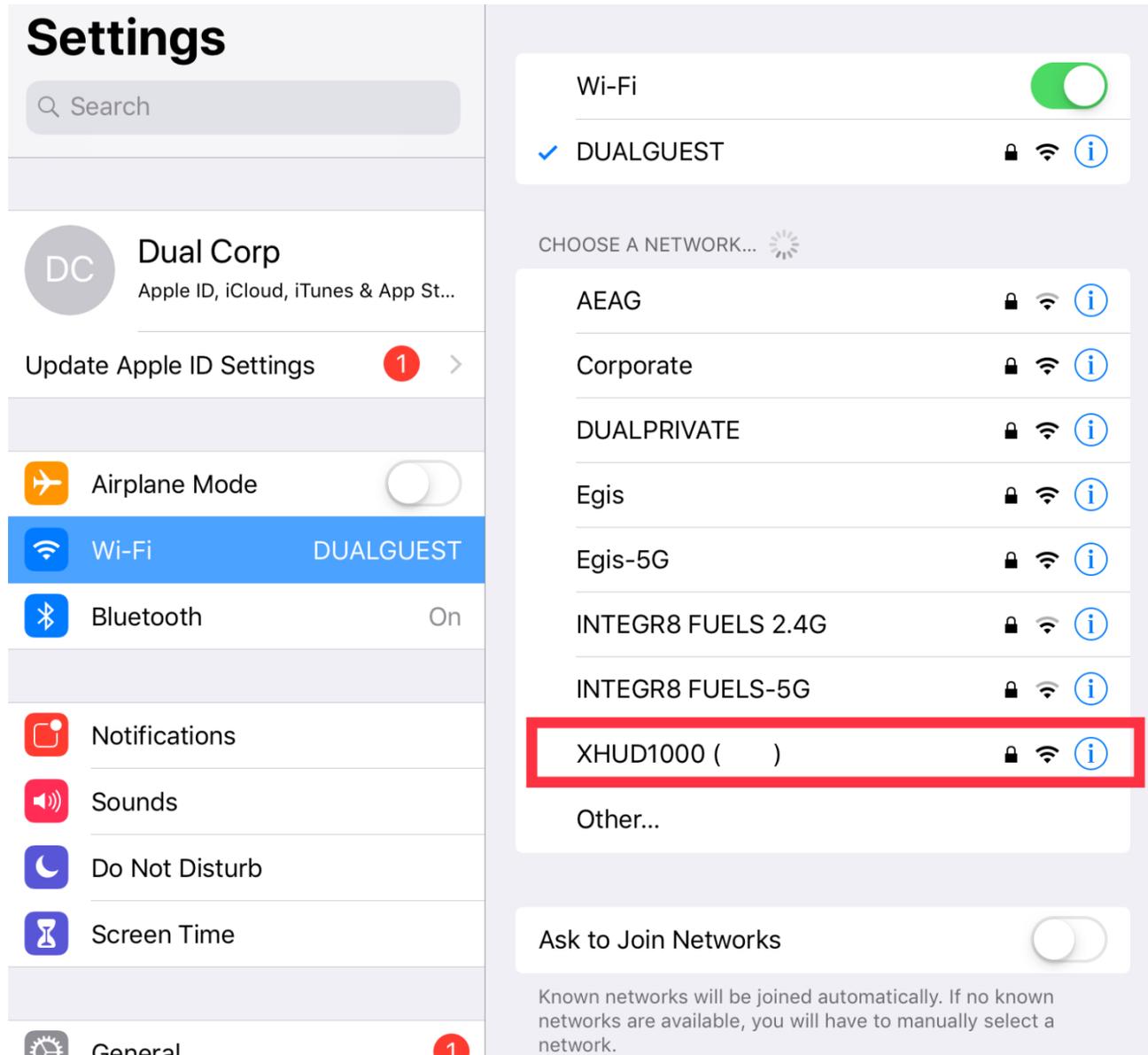
② Connect to XHUD1000 under Wi-Fi.

③ Use the password below to connect.

Password: 87654321
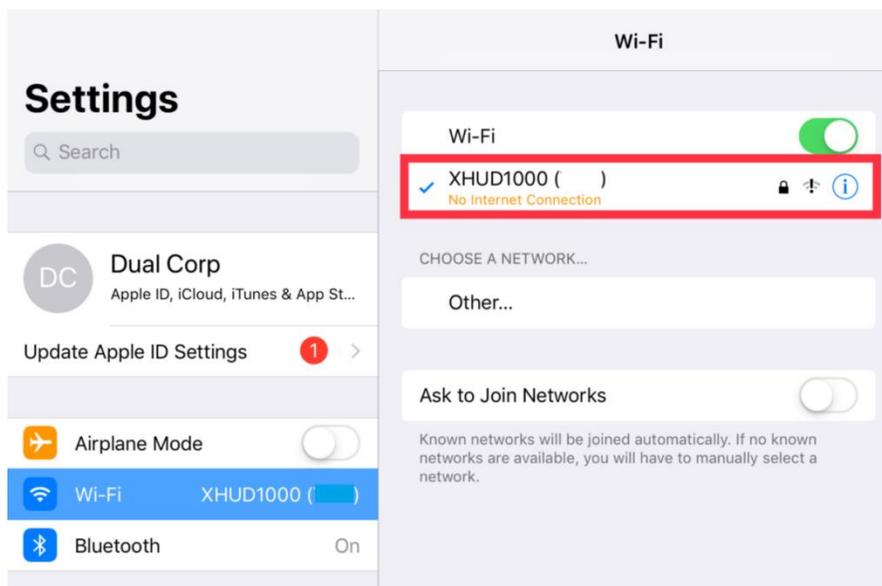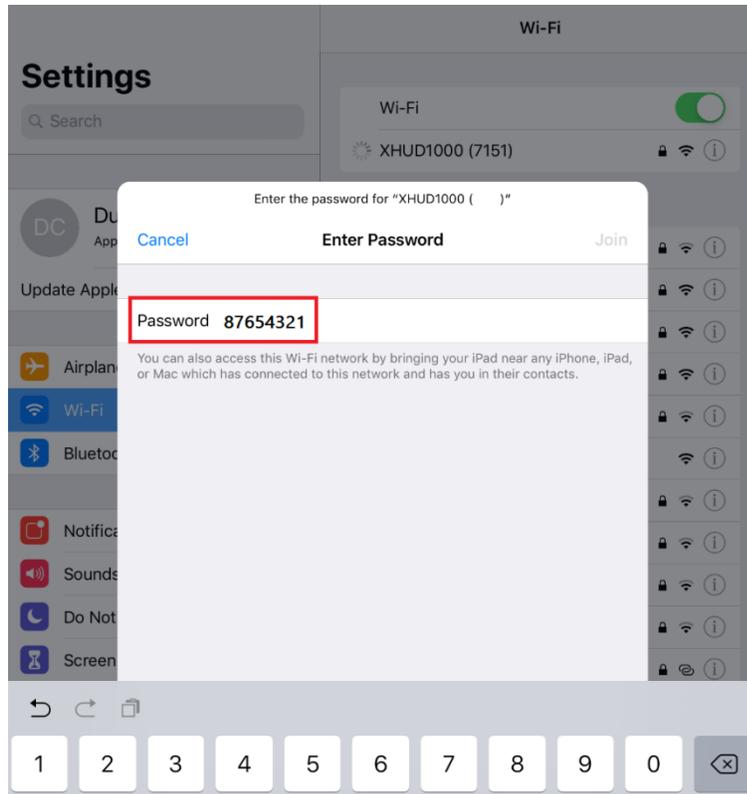
④ Go to Control Center under Settings.
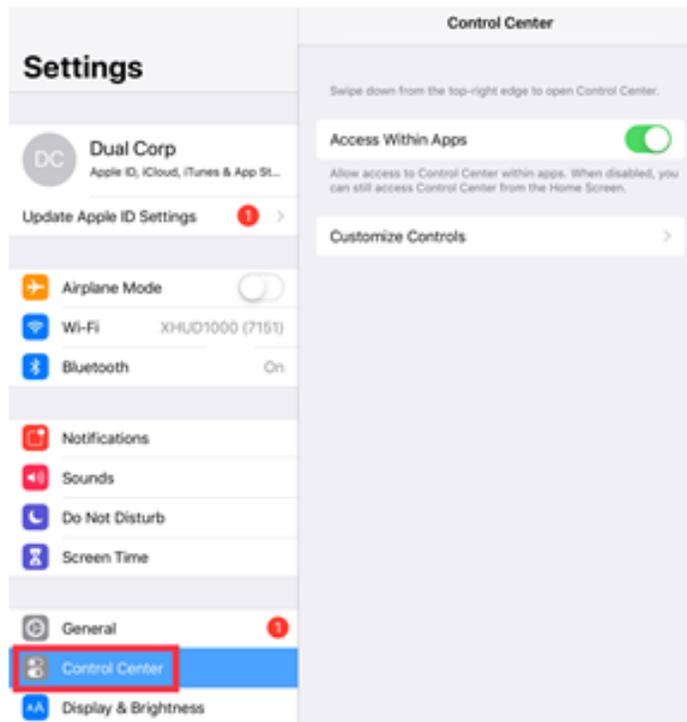
⑤ Press Customize Controls.
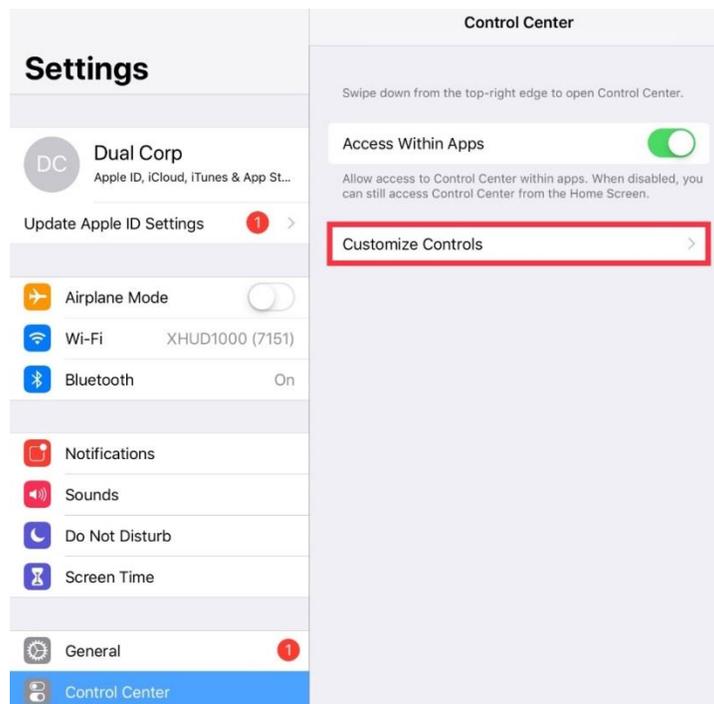
⑥ Press Screen Recording to add this feature to your Control Center.
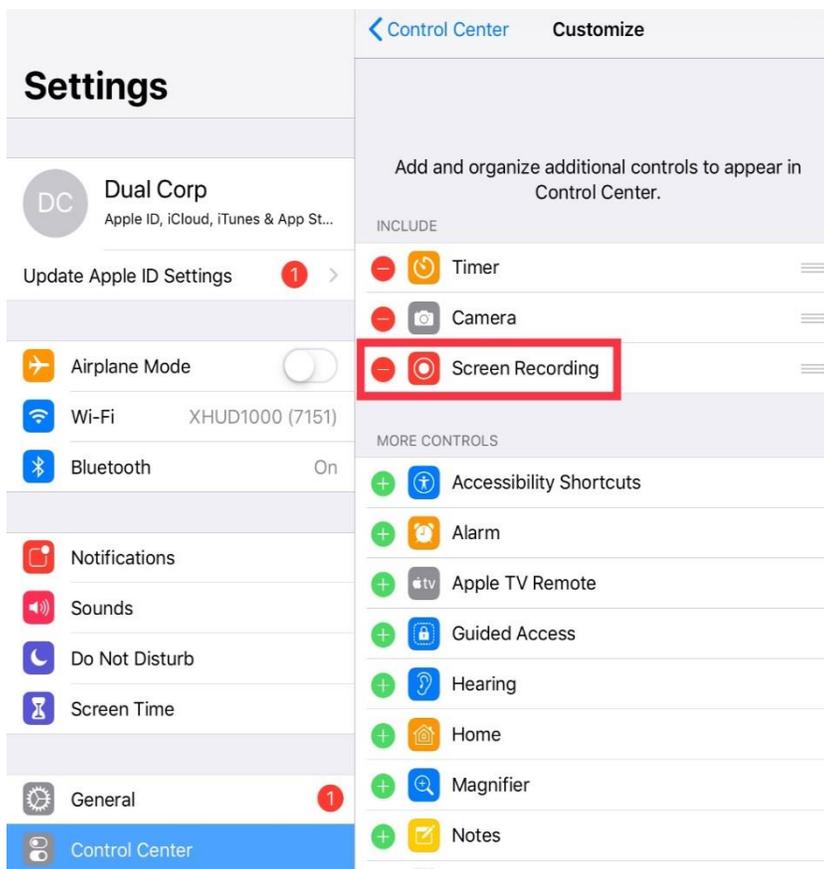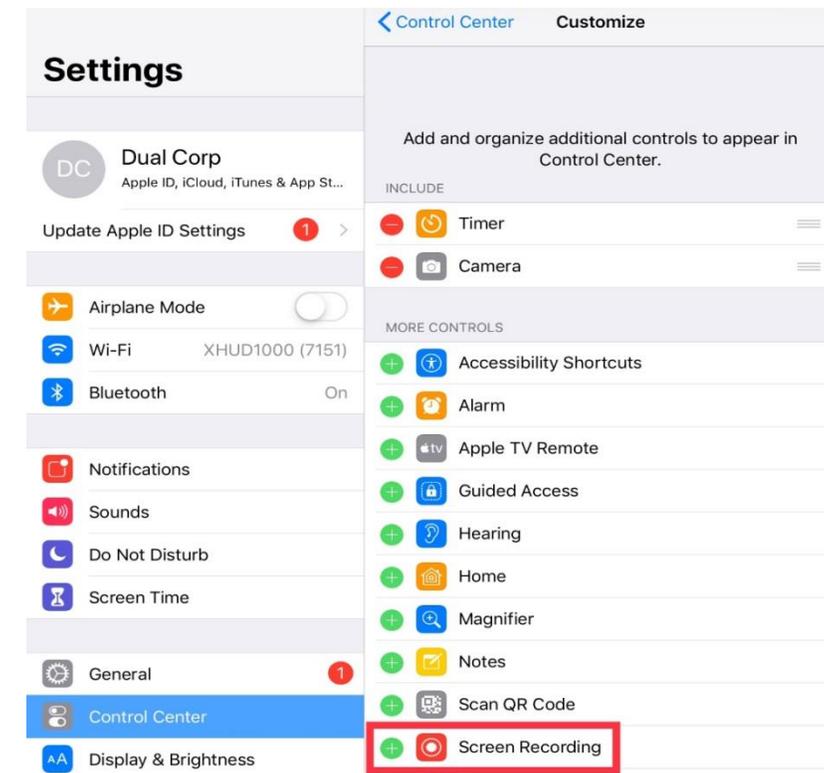
⑦ Press the home button to exit.

⑧ On iPad, swipe from upper right corner to lower left corner of screen, and find the Screen Recording button from your Control Center. If using iPhone, swipe from bottom to top of screen to do the same.
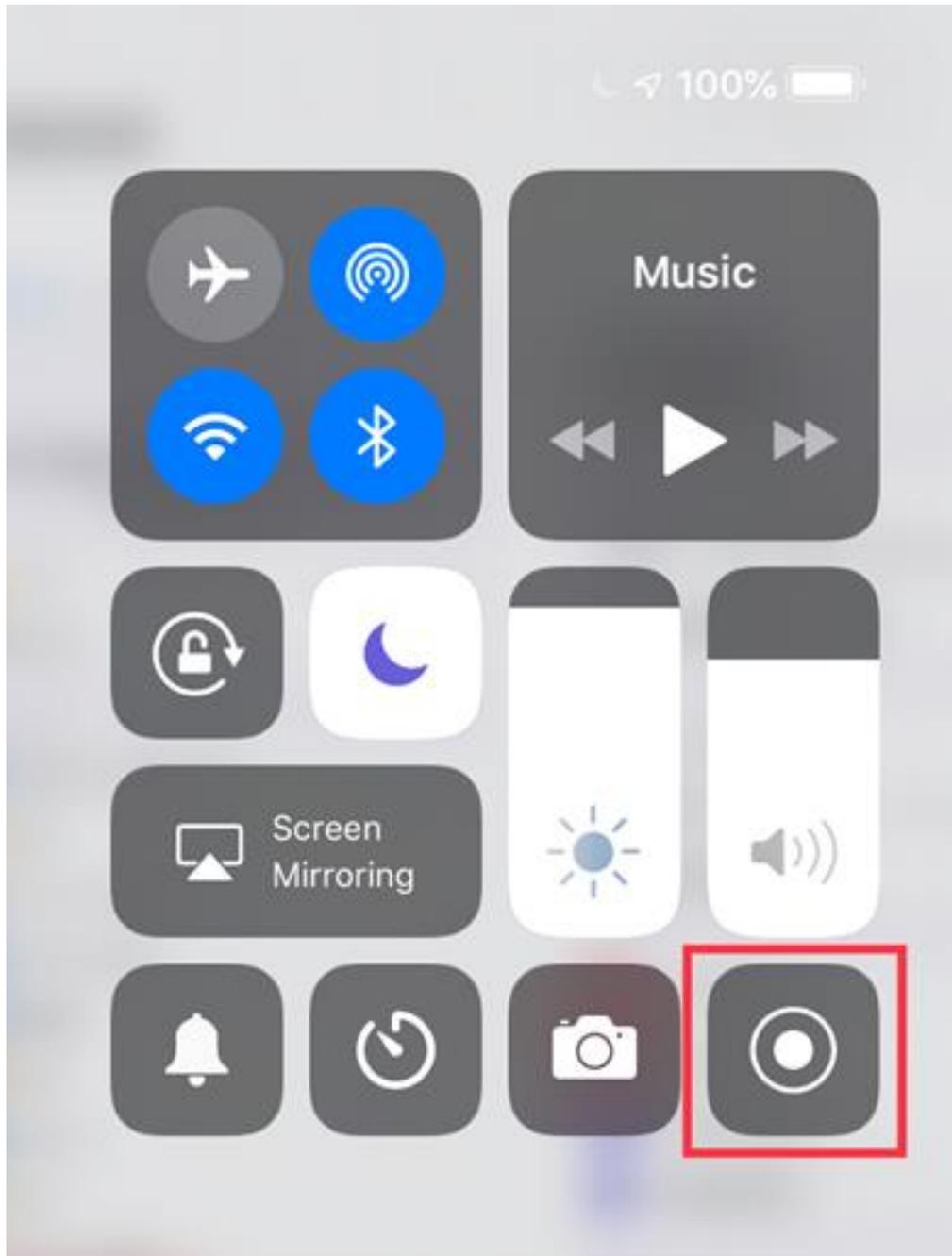
⑨ <u>Firmly</u> press and hold the screen recording button for 2 seconds and choose Tablet Graphics.
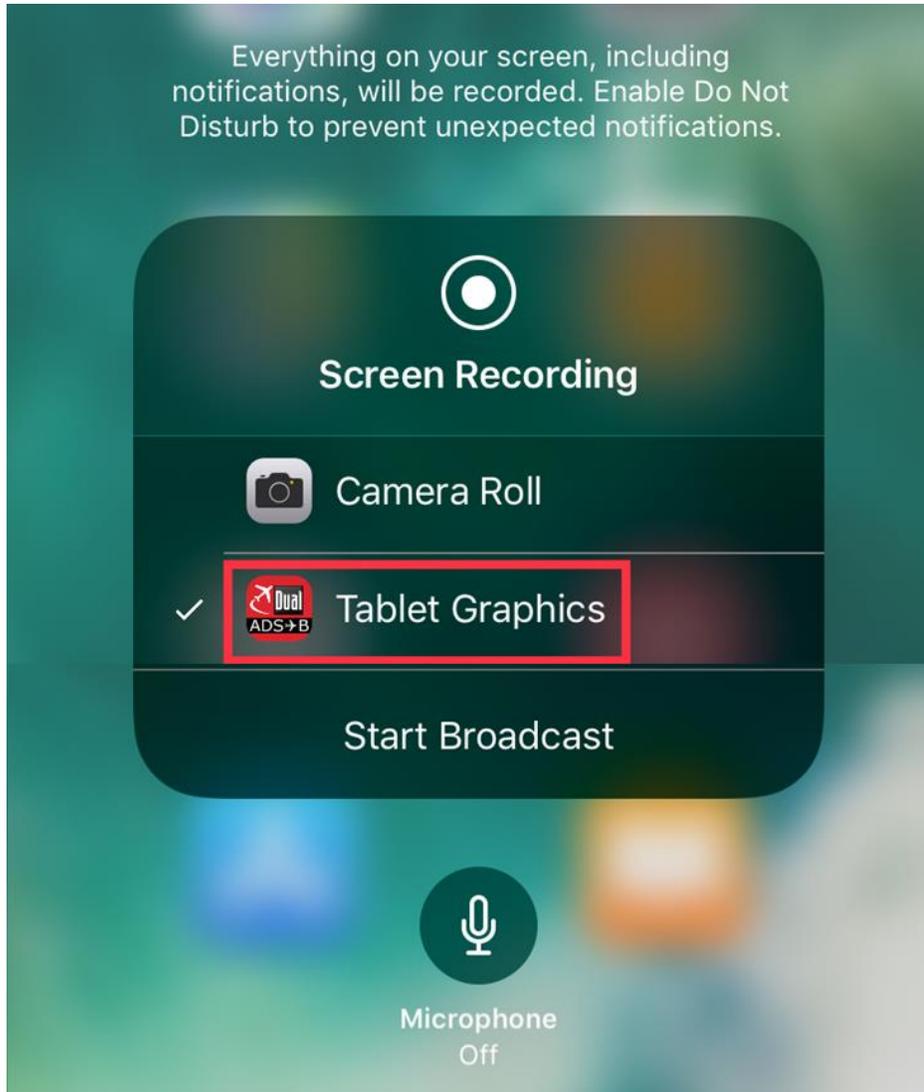
⑩ Select Tablet Graphics and Press Start Broadcast.

- Once you have completed these steps, you should be able to confirm that the screen from your Apple device is being mirrored to the XHUD1000.

OPTION B) Mirroring with XHUD1000 as Wi-Fi Client

- Allows the XHUD1000 to connect to the Wi-Fi hotspot of your device (e.g. WiFi portable receivers such as Stratus, or panel avionics that transmits its data on Wi-Fi).

- Make sure your Apple device is already connected to the Wi-Fi hotspot of your device before you move onto the next steps.

- Tap XHUD, and choose the XHUD(****) to connect HUD to your Apple device via Bluetooth.
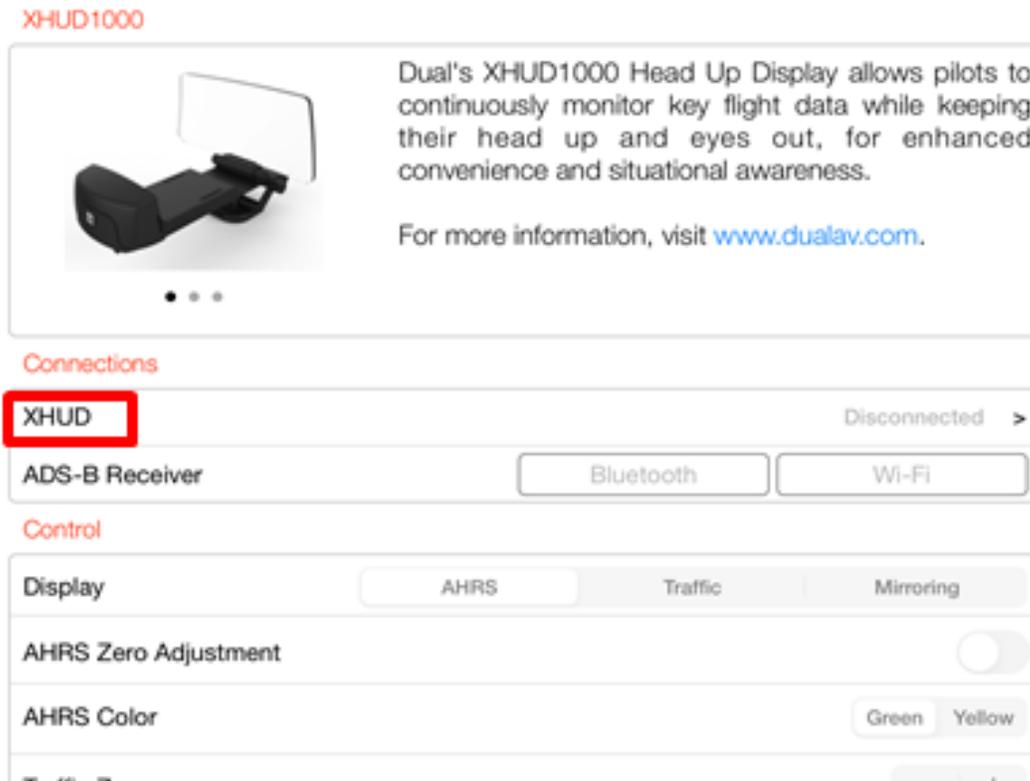
XHUD1000 (   )

- Once the XHUD1000 is connected to your Apple device, tap Mirroring, and follow steps in pop up screen.

For more information, visit www.dualav.c

XHUD1000 as Wi-Fi Client

The Wi-Fi Client mode allows XHUD1000 to connect the Wi-Fi network hosted by your device (e.g. portable GPS receivers, panel avionics, etc.)

Follow the steps below to enable the Wi-Fi Client mode.
1) Read through the below steps first, then press OK to type in the password provided by your device. This will allow XHUD1000 to join the Wi-Fi network.
2) After connecting to the Wi-Fi network, go to Control Center under Settings
3) Press Customize Controls
4) Press Screen Recording to add this feature to your Control Center
5) Press the home button to exit
6) Swipe up/down and find the Screen Recording button from your Control Center
7) Hold for 2 seconds and choose Tablet Graphics
8) Press Start Broadcast

OK

① If your device requires a password, enter it, then press Join to allow XHUD1000 to join the Wi-Fi network. If your device is a Stratus 3 or Stratux, no password is required, and you can simply press Join.

② After connecting to the Wi-Fi network, go to Control Center under Settings.
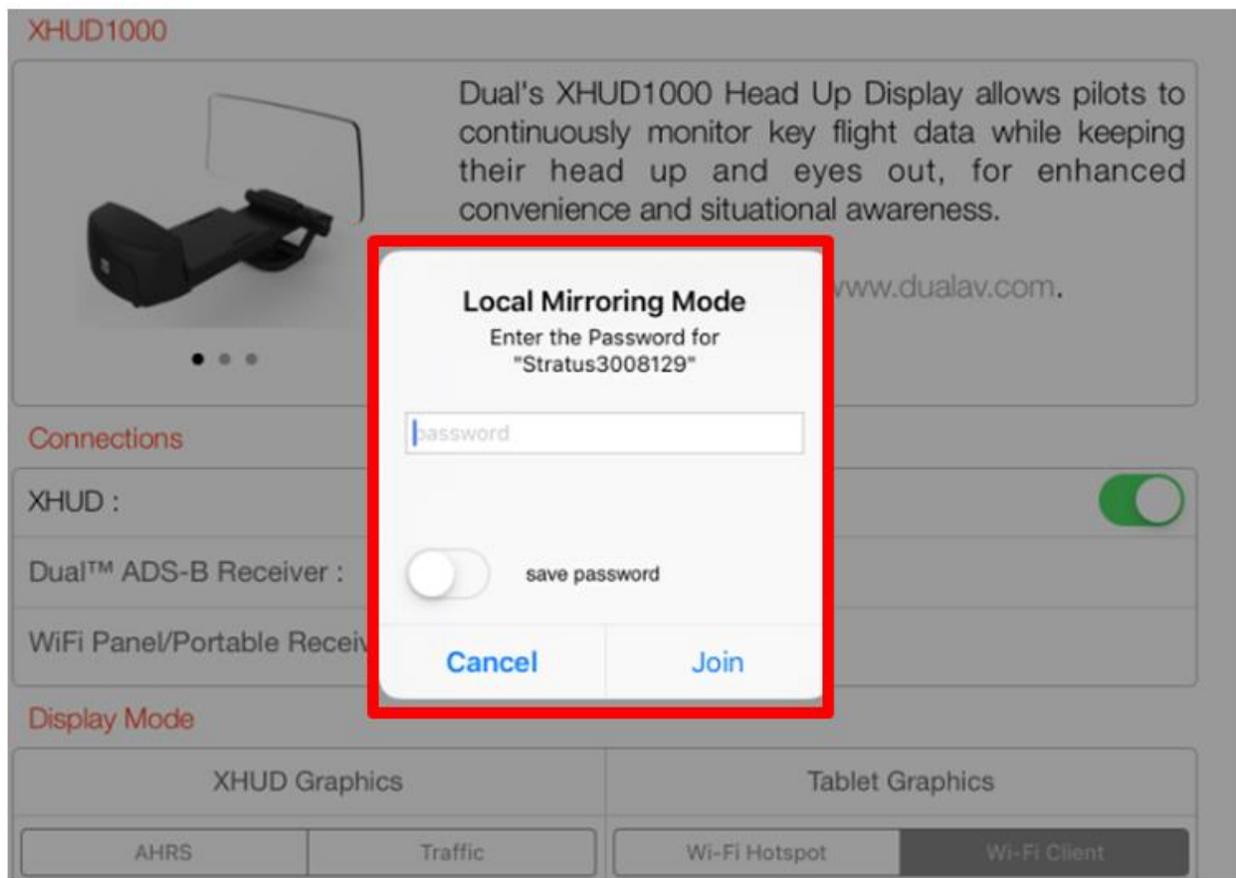
Settings

Dual Corp
Apple ID, iCloud, iTunes & App St...

Update Apple ID Settings   **1**   >

✈️ Airplane Mode

📶 Wi-Fi

🅱️ Bluetooth   On

🔴 Notifications

🔊 Sounds

🌙 Do Not Disturb

⏳ Screen Time

⚙️ General   **1**

🎛️ **Control Center**

🔤 Display & Brightness

Control Center

Swipe down from the top-right edge to open Control Center.

Access Within Apps   ⬤

Allow access to Control Center within apps. When disabled, you can still access Control Center from the Home Screen.

Customize Controls   >

③ Press Customize Controls.
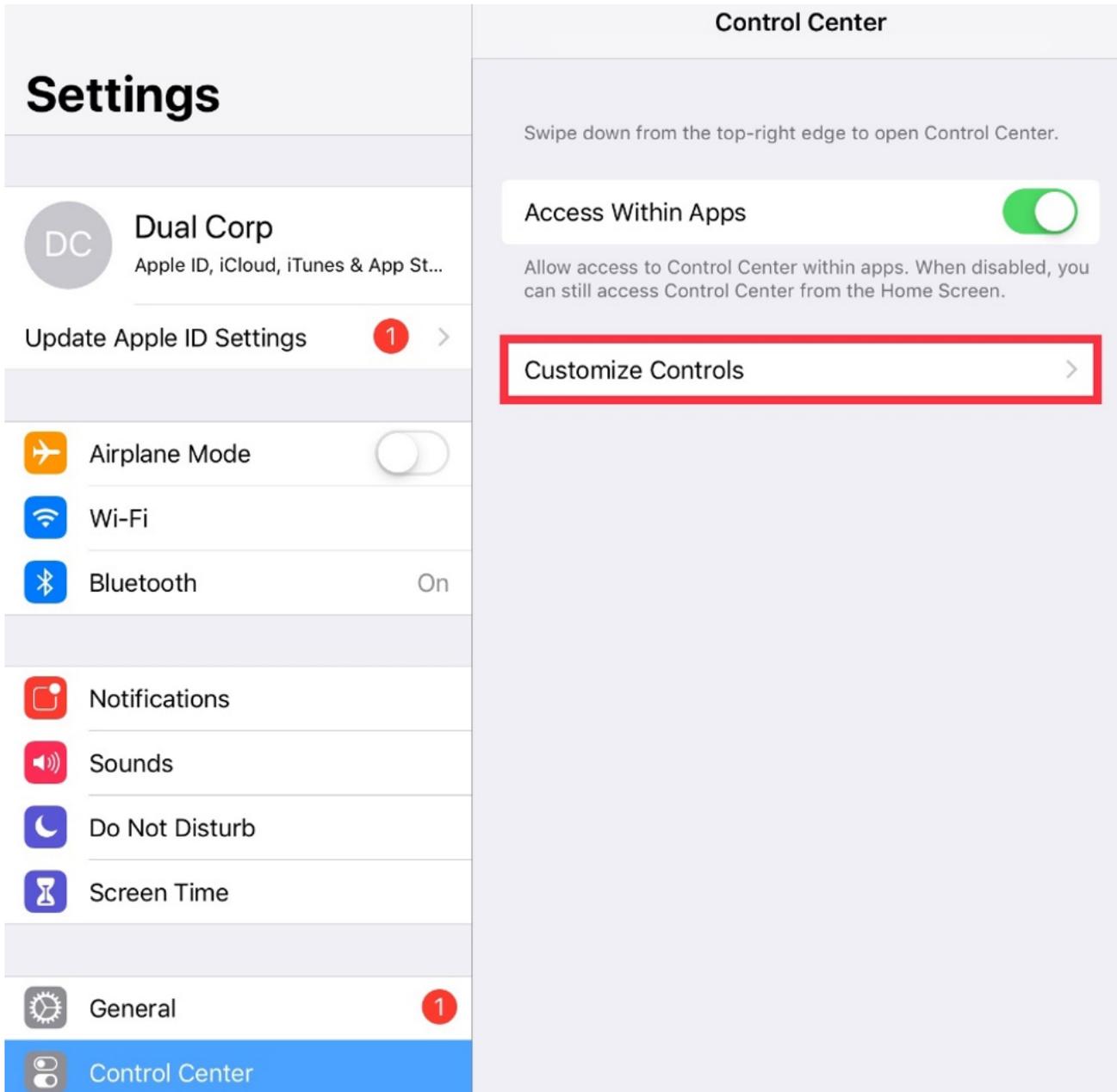
④ Press Screen Recording to add this feature to your Control Center.
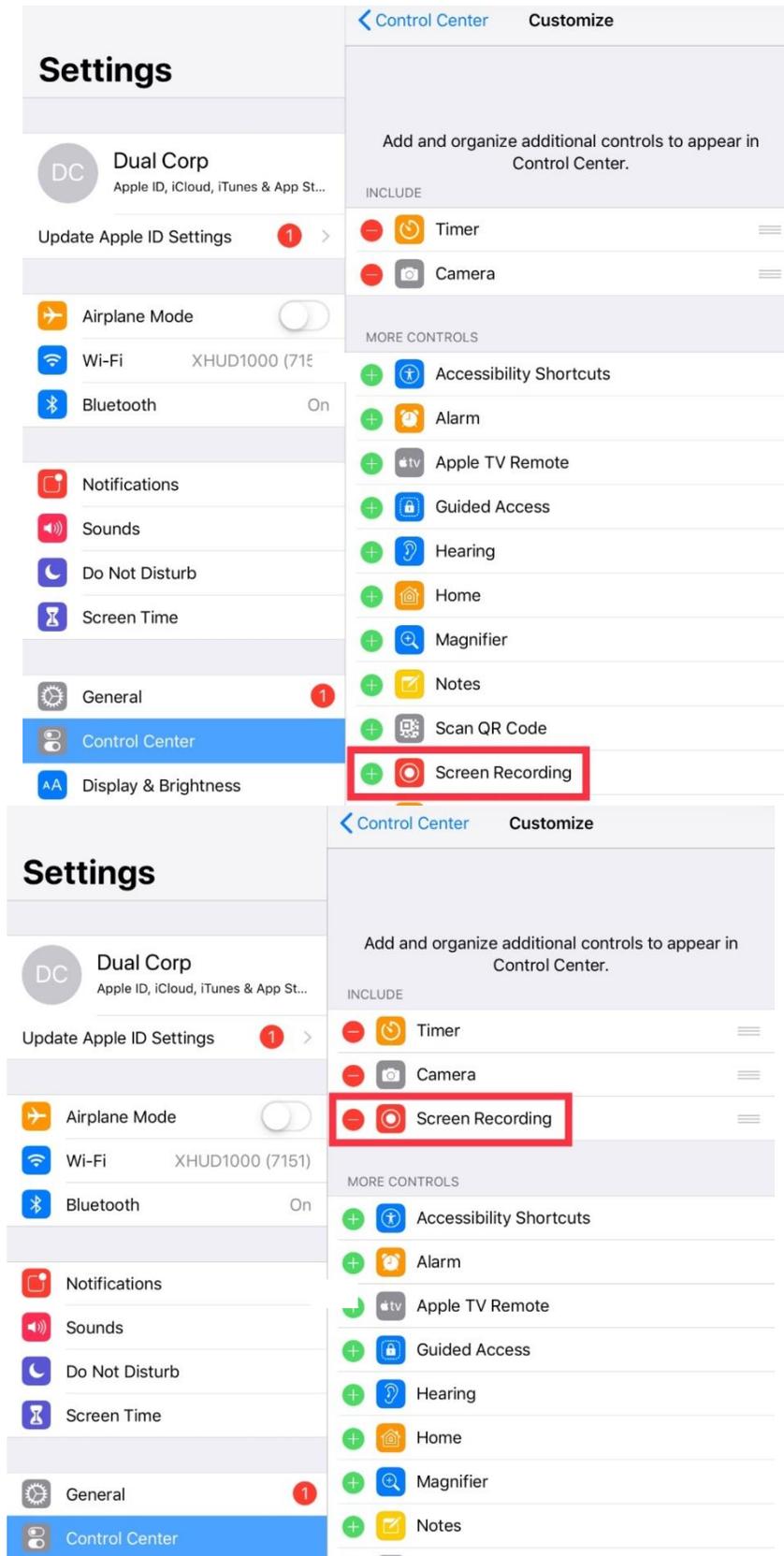
⑤ Press the home button to exit.

⑥ On iPad, swipe from upper right corner to lower left corner of screen, and find the Screen Recording button from your Control Center. If using iPhone, swipe from bottom to top of screen to do the same.
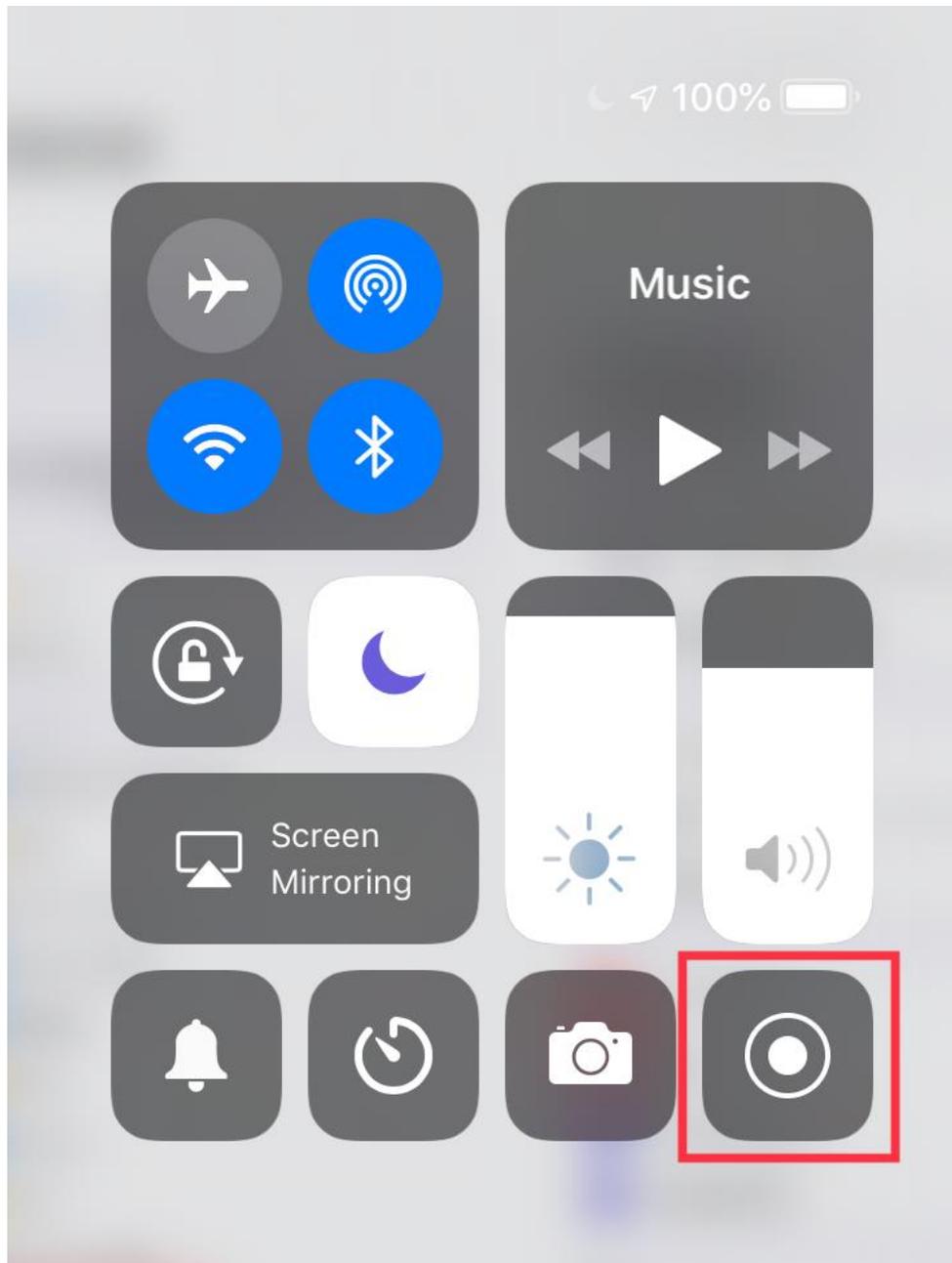
⑦ <u>Firmly</u> press and hold the screen recording button for 2 seconds and choose Tablet Graphics.
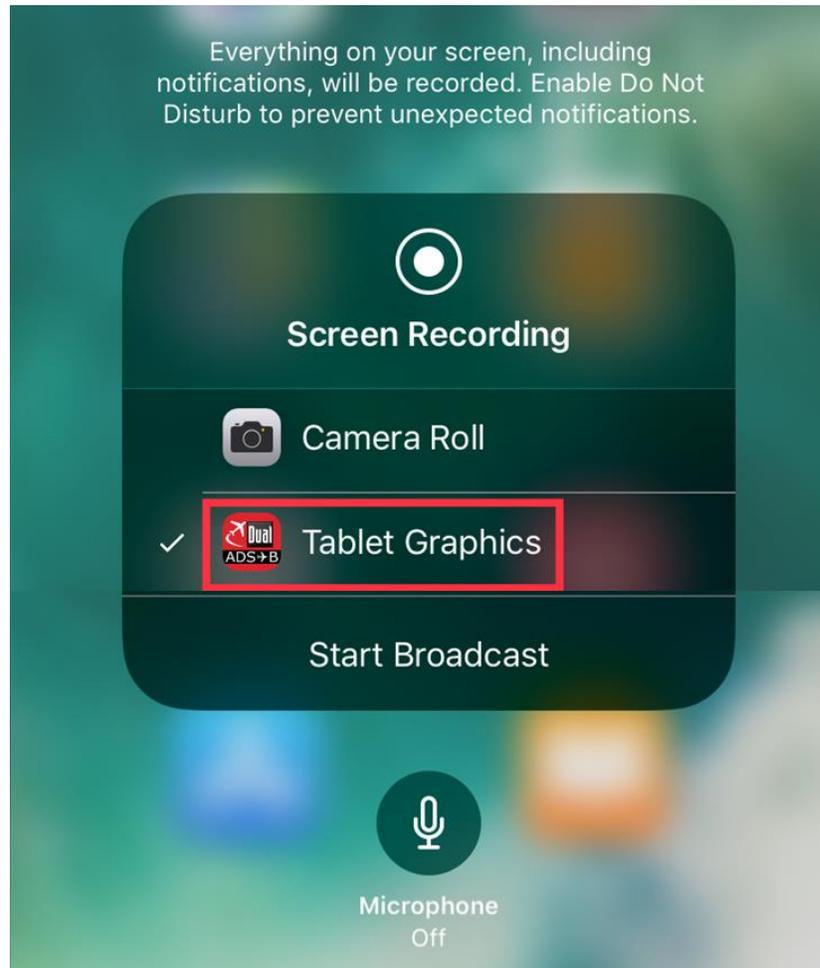
⑧ Select Tablet Graphics and Press Start Broadcast.

- Once you have completed these steps, you should be able to confirm that the screen from your Apple device is being mirrored to the XHUD1000.

Firmware Update with Apple Devices

- Connect the HUD with Apple device running ADS-B Status Tool.
- **DO NOT connect portable GPS receiver when updating HUD firmware.**
- **DO NOT unplug HUD during firmware update process.**
- On ADS-B Status tool, press 'HUD Control' tab in lower right.
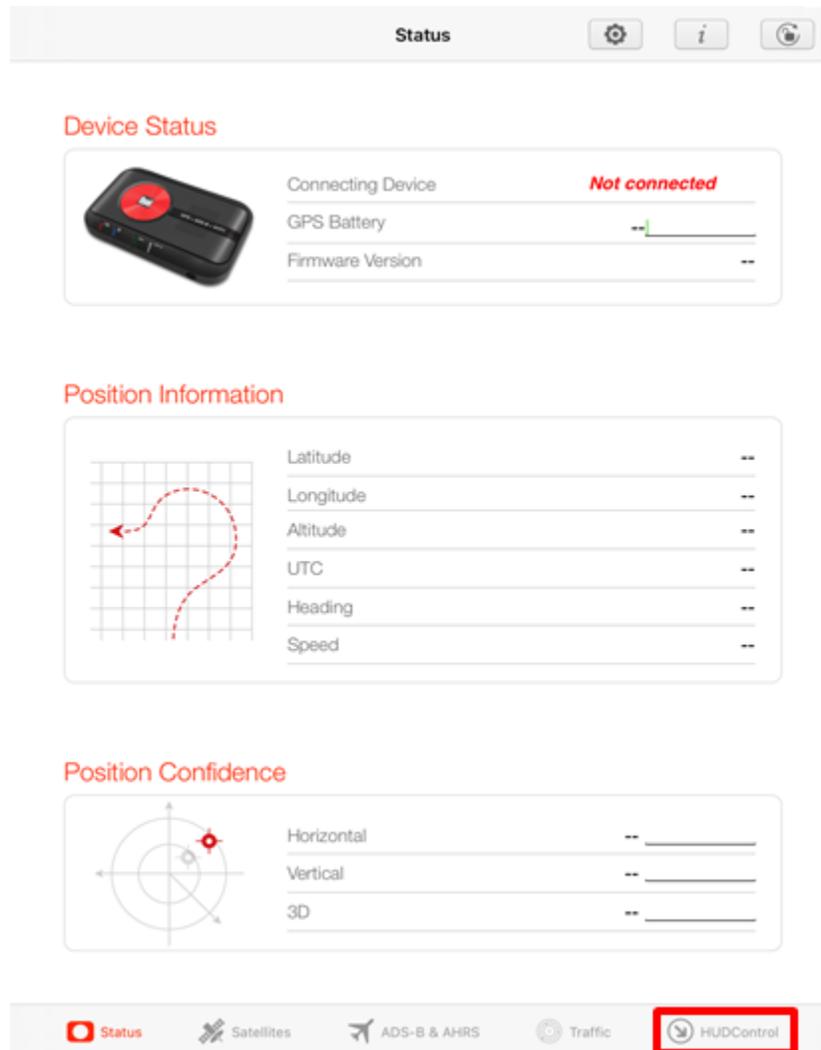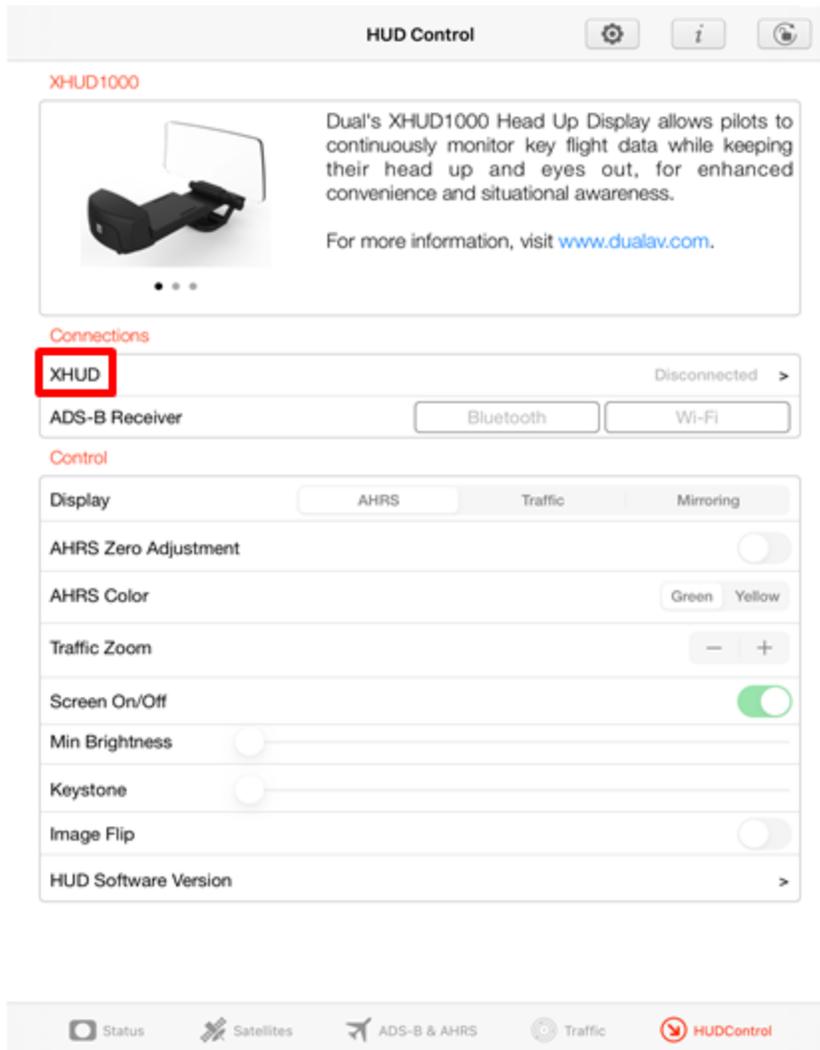
Tap XHUD, and choose the XHUD(****) to connect HUD to your Apple device.

Check the current version by pressing **'HUD Software Version'**

Tap 'Download and Install', if there is a new version available. Follow the instructions on your mobile device. Process may take several minutes.
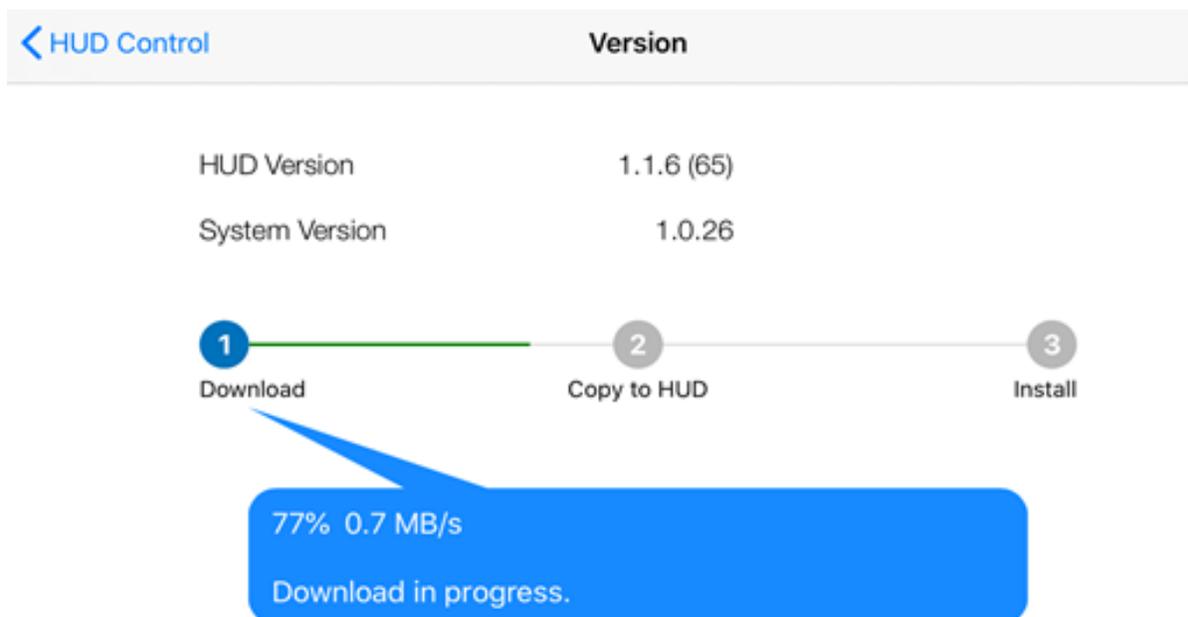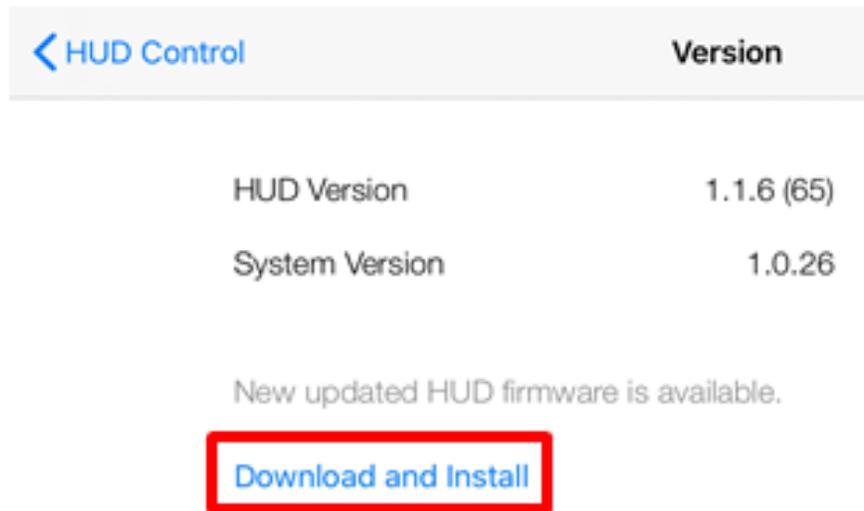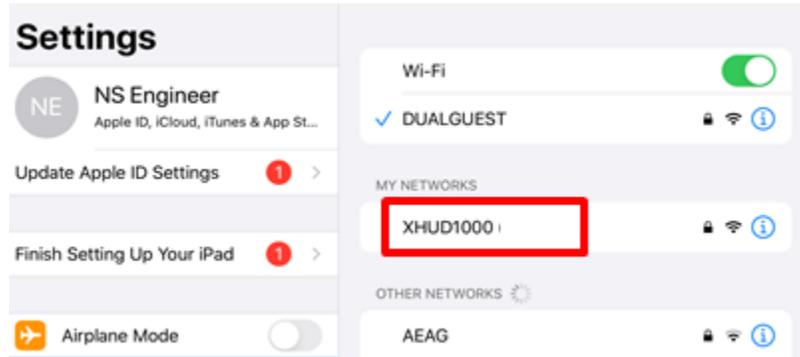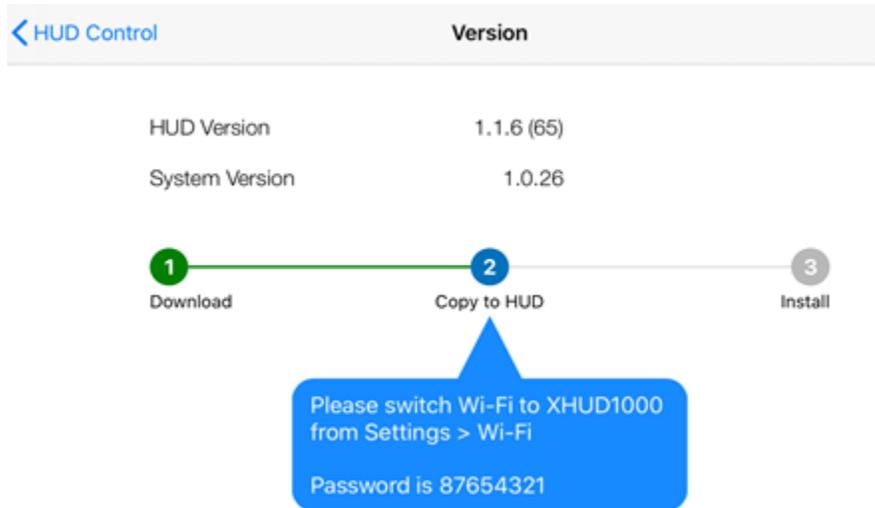
HUD screen changes to Mirroring status.

HUD Control   Version

HUD Version   1.1.6 (65)

System Version   1.0.26

① Download   ② Copy to HUD   ③ Install

16%

Transferring updates to HUD.

HUD Control   Version

HUD Version   1.1.4 (53)

System Version   1.0.26

① Download   ② Copy to HUD   ③ Install

One more quick update to go.

Please switch Wi-Fi again to XHUD1000
from Settings > Wi-Fi

HUD Version   1.1.6 (65)

System Version   1.0.26

① Download   **②** Copy to HUD   **③** Install

Please standby while HUD restarts with new updates.

HUD Version   3.0.1 (85)

System Version   1.1.0

HUD is running up to date firmware.

Setup with Dual ADS-B Receivers & Android Device

1) XGPS ADS-B Status Tool App for HUD Control

- Download the XGPS ADS-B Status Tool app from Google Play Store.
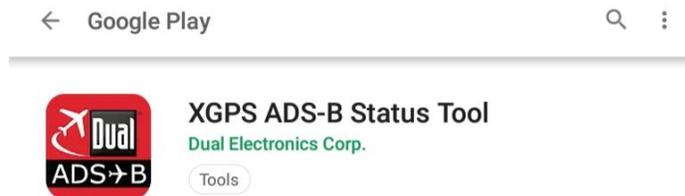
- The HUD Control tab from the XGPS ADS-B Status Tool app enables multiple features that control the XHUD1000.
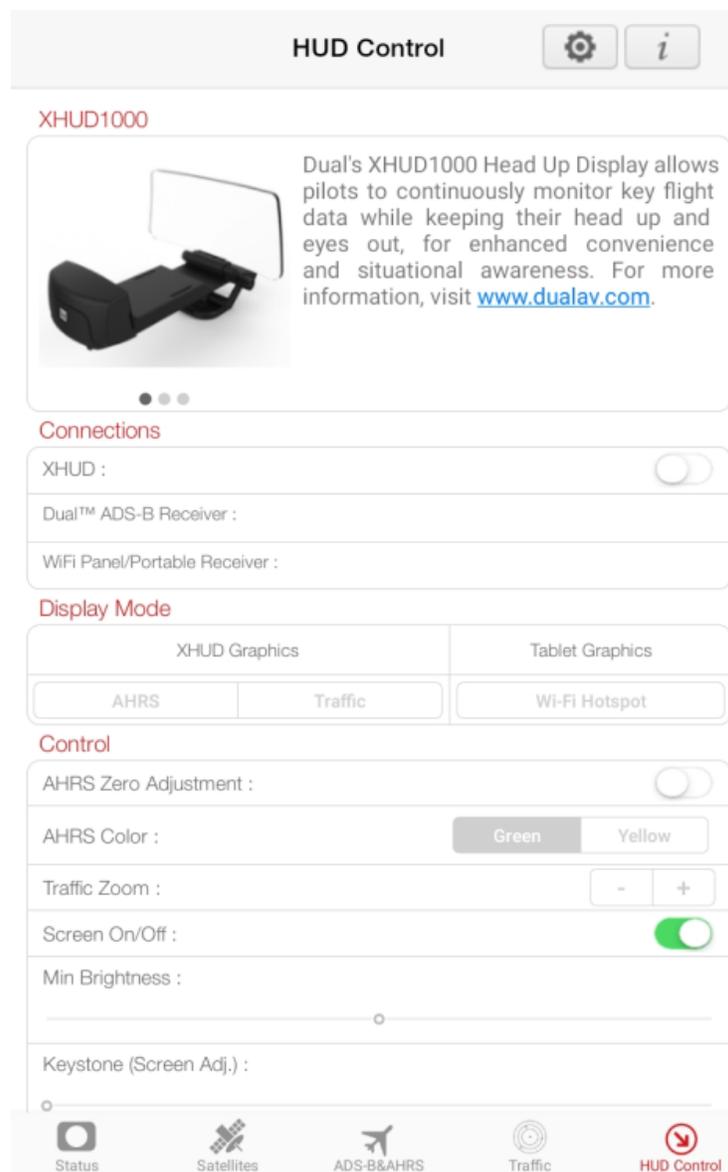
2) Bluetooth Connection for XHUD Graphics Modes (AHRS & Traffic)

- Prior to this step, it's important to make sure the XGPS190 (or one of the other Dual ADS-B receivers) and your Android device are powered on, and the XHUD1000 is still left powered off.

- Go to Settings → Connections from your Android device, and turn on Bluetooth.
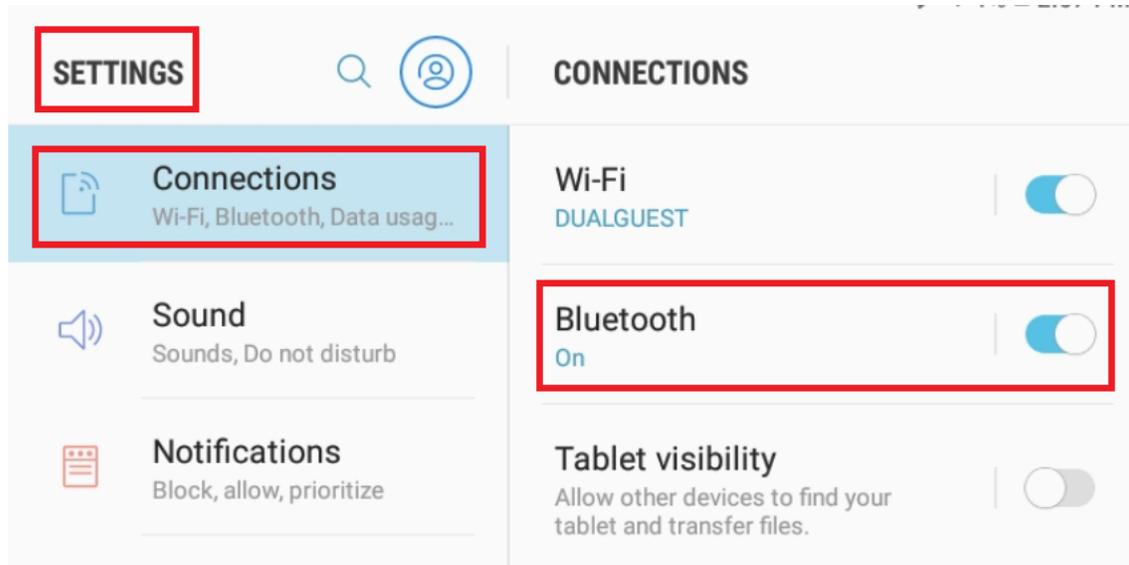
- Choose the XGPS190 under the Bluetooth available devices list to pair the XGPS190 with your Android device.
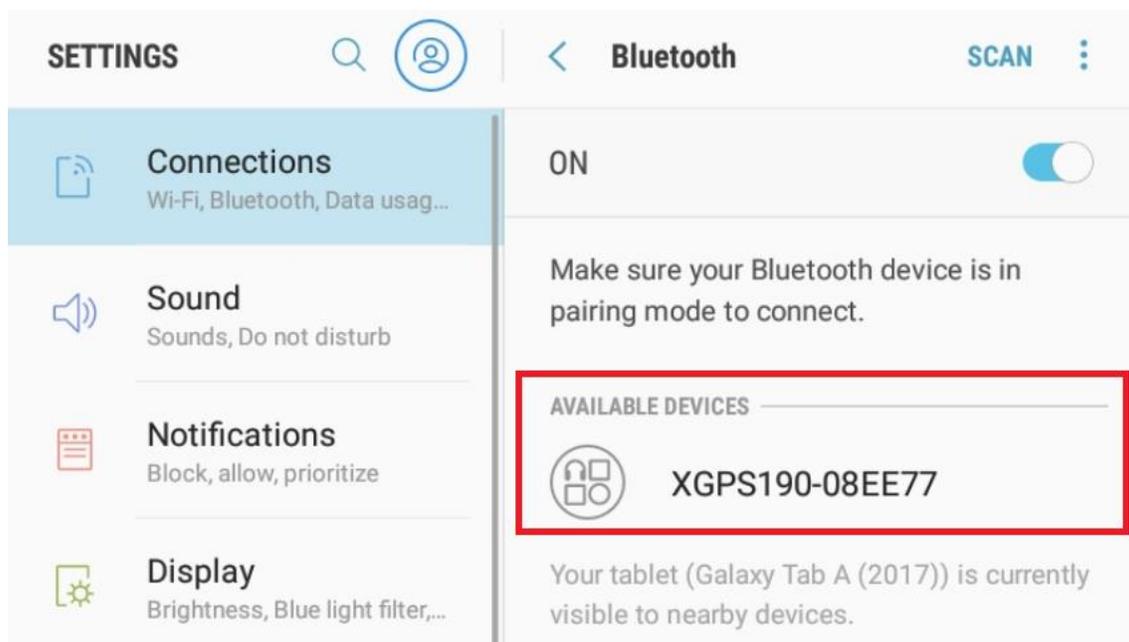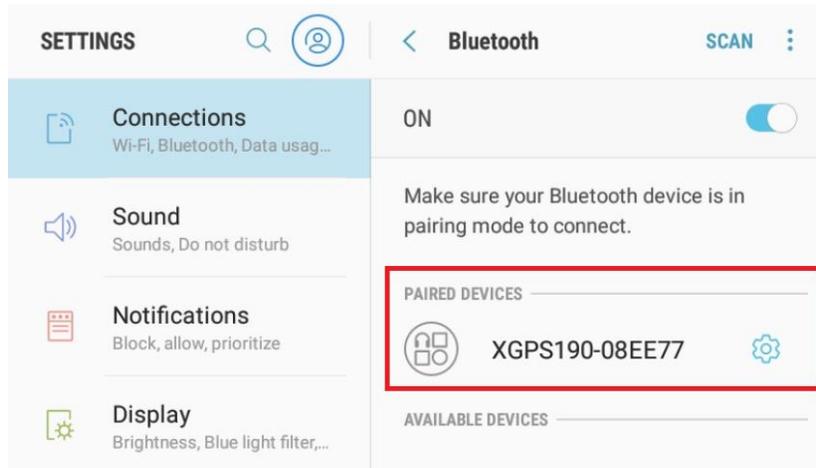
- Once the XGPS190 and your Android device are paired, power on the XHUD1000 by plugging in the supplied USB cable.

- Open the XGPS ADS-B Status Tool app, and go to the HUD Control tab.
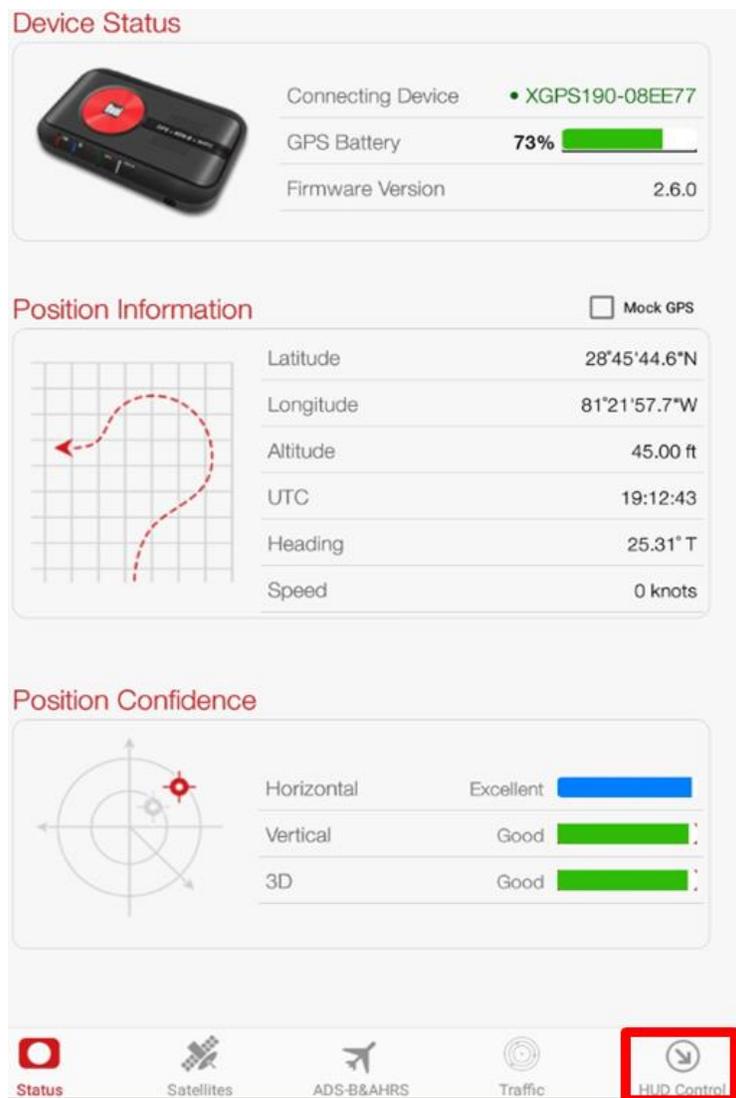
- Tap XHUD and choose the XHUD(****) to pair the XHUD1000 with your Android device.

HUD Control

[⚙] [i]

XHUD1000

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● ○ ○

Connections

XHUD :

Status Tool

Select a device   (i)

XHUD1000   Rssi = -45
D3:98:82:3A:64:CA

Cancel

AHRS Zero Adjustment :

Traffic Zoom :   -   +

Screen On/Off :

Min Brightness :

Keystone (Screen Adj.) :

Screen Invert :

Software Update   Check update

[ ] Status   [ ] Satellites   [✈] ADS-B&AHRS   [◎] Traffic   [↘] HUD Control

- Tap the Dual ADS-B Receiver box and choose the XGPS190. Once connection is successfully made, Bluetooth logo on the left side corner of the XHUD1000 screen will stop blinking.

- To confirm connection between the XHUD1000 and the XGPS190, try switching between AHRS and Traffic modes, or try different controls from the HUD Control tab. The XHUD1000 display should respond to the controls of your choice accordingly.

- You have now successfully made Bluetooth connection between the XHUD1000, the XGPS190, and your Android device.

Note: Once connection is made between XHUD1000, XGPS190, and Android device, there are several choices of EFB apps that can run on your Android device. See Dual's web site for a complete list of apps compatible with XGPS190.

Setup with Stratus 3 & Android Device

1) **Connect Stratus 3 to mobile device per Stratus 3 instruction manual.**

2) **ADS-B Status Tool App for HUD Control**

- Download the XGPS ADS-B Status Tool app from Google Play Store.

- Open the XGPS ADS-B Status Tool app, and go to the HUD Control tab.

- Tap the XHUD toggle button and choose the XHUD1000(****) to pair the XHUD1000 with your Android device.

HUD Control

⚙   i

XHUD1000

Dual's XHUD1000 Head Up Display allows pilots to continuously monitor key flight data while keeping their head up and eyes out, for enhanced convenience and situational awareness. For more information, visit www.dualav.com.

● ○ ○

Connections

XHUD :

Status Tool
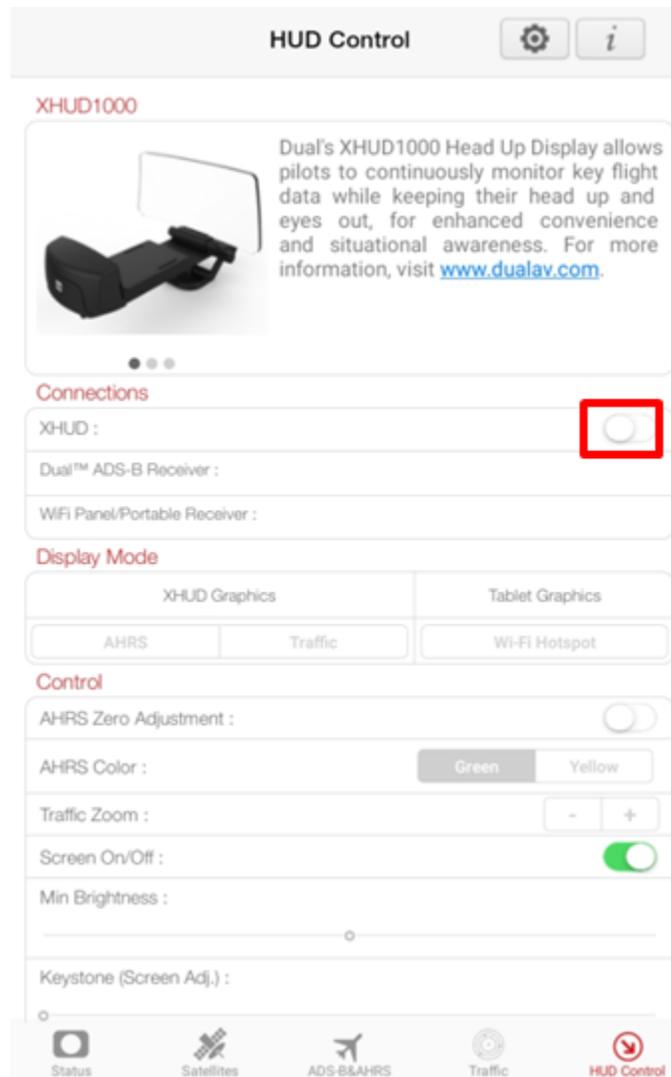
Select a device   ⓘ

XHUD1000
D3:98:82:3A:64:CA   Rssi = -45

Cancel

AHRS Zero Adjustment :

Traffic Zoom :   −   +

Screen On/Off :

Min Brightness :

Keystone (Screen Adj.) :

Screen Invert :

Software Update   Check update

Status   Satellites   ADS-B&AHRS   Traffic   HUD Control

- Tap the WiFi Panel/Portable Device box and choose the Stratus. Once connection is successfully made, WiFi logo on the left side corner of the XHUD1000 screen will appear.
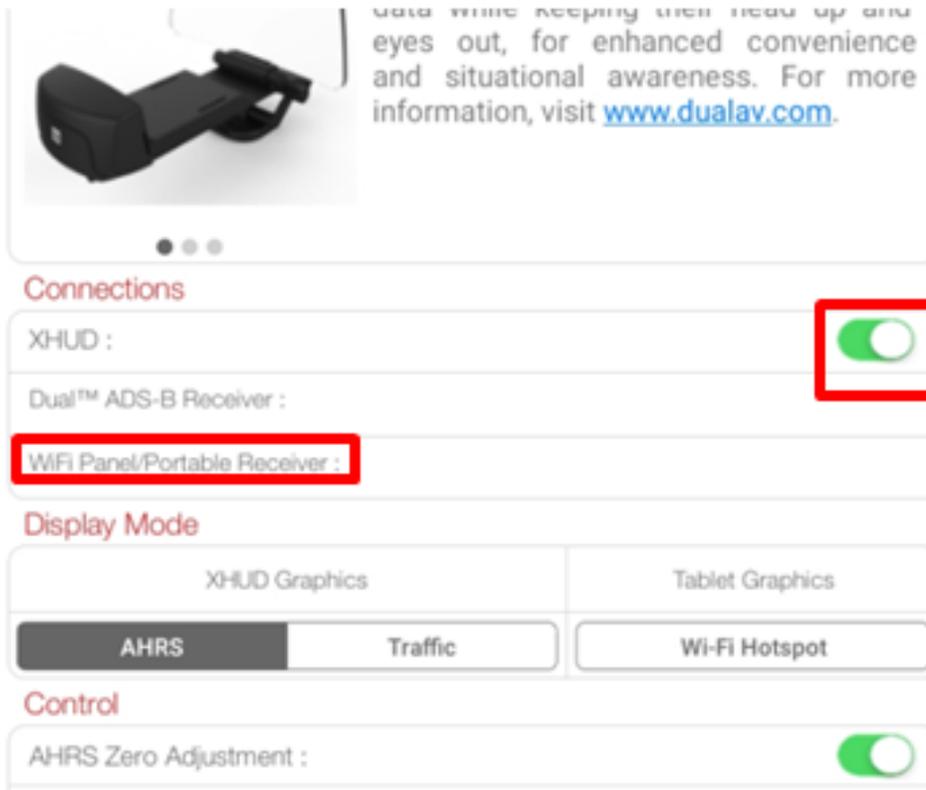
XHUD1000

Dual's XHUD1000 Head Up Display allows pilots to continuously monitor key flight data while keeping their head up and eyes out, for enhanced convenience and situational awareness. For more information, visit www.dualav.com.

Connections

XHUD :	🟢
Dual™ ADS-B Receiver :	
WiFi Panel/Portable Receiver :	Stratus3008129

Display Mode

XHUD Graphics		Tablet Graphics
AHRS	Traffic	Wi-Fi Hotspot

Control

AHRS Zero Adjustment :	🟢
Traffic Zoom :	− +

- To confirm connection between the XHUD1000 and the Stratus, try switching between AHRS and Traffic modes, or try different controls from the HUD Control tab. The XHUD1000 display should respond to the controls of your choice accordingly.

- You have now successfully made connection between the XHUD1000, the Stratus, and your Android device.

Note: Once connection is made between XHUD1000, Stratus 3, and Android device, there are several choices of EFB apps that can run on your Android device.

Setup with Stratux & Android Device

1) **Connect Stratux to mobile device per Stratux instruction manual.**

2) **ADS-B Status Tool App for HUD Control**

- Download the XGPS ADS-B Status Tool app from Google Play Store.

- Open the XGPS ADS-B Status Tool app, and go to the HUD Control tab.

- Tap the XHUD toggle button and choose the XHUD1000(****) to pair the XHUD1000 with your Android device.

HUD Control

⚙️ ℹ️

XHUD1000

Dual's XHUD1000 Head Up Display allows pilots to continuously monitor key flight data while keeping their head up and eyes out, for enhanced convenience and situational awareness. For more information, visit www.dualav.com.

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Connections

XHUD :

Status Tool

Select a device   ℹ️

XHUD1000   Rssi = -45
D3:98:82:3A:64:CA

Cancel

AHRS Zero Adjustment :

Traffic Zoom :   − | +

Screen On/Off :

Min Brightness :

Keystone (Screen Adj.) :

Screen Invert :

Software Update   Check update

Status   Satellites   ADS-B&AHRS   Traffic   HUD Control

- Tap the WiFi Panel/Portable Device box and choose the Stratux. Once connection is successfully made, WiFi logo on the left side corner of the XHUD1000 screen will appear.

XHUD1000

Dual's XHUD1000 Head Up Display allows pilots to continuously monitor key flight data while keeping their head up and eyes out, for enhanced convenience and situational awareness. For more information, visit www.dualav.com.

Connections

XHUD :

Dual™ ADS-B Receiver :

WiFi Panel/Portable Receiver :   stratux

Display Mode

XHUD Graphics		Tablet Graphics
AHRS	Traffic	Wi-Fi Hotspot

- To confirm connection between the XHUD1000 and the Stratux, try switching between AHRS and Traffic modes, or try different controls from the HUD Control tab. The XHUD1000 display should respond to the controls of your choice accordingly.

- You have now successfully made connection between the XHUD1000, the Stratux, and your Android device.

Note: Once connection is made between XHUD1000, Stratux, and Android device, there are several choices of EFB apps that can run on your Android device.

Mirroring with Android Device

- To enable image mirroring of EFB apps from Android device to the XHUD1000 screen, HUD must be setup as a WiFi Hotspot.

- The XGPS190 is not required for mirroring. Your Android device must have its WiFi available to connect to XHUD1000 Hotspot.

- Tap the XHUD toggle button and choose the XHUD1000 to pair the XHUD1000 with your Android device.

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XHUD1000

Dual's XHUD1000 Head Up Display allows pilots to continuously monitor key flight data while keeping their head up and eyes out, for enhanced convenience and situational awareness. For more information, visit www.dualav.com.

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Connections

XHUD :

Status Tool

Select a device   ⓘ

XHUD1000   Rssi = -45
D3:98:82:3A:64:CA

Cancel

AHRS Zero Adjustment :

Traffic Zoom :   − | +

Screen On/Off :

Min Brightness :

Keystone (Screen Adj.) :

Screen Invert :

Software Update   Check update

Status   Satellites   ADS-B & AHRS   Traffic   HUD Control

- Once the XHUD1000 is paired with your Android device, press Wi-Fi Hotspot from the HUD Control tab.
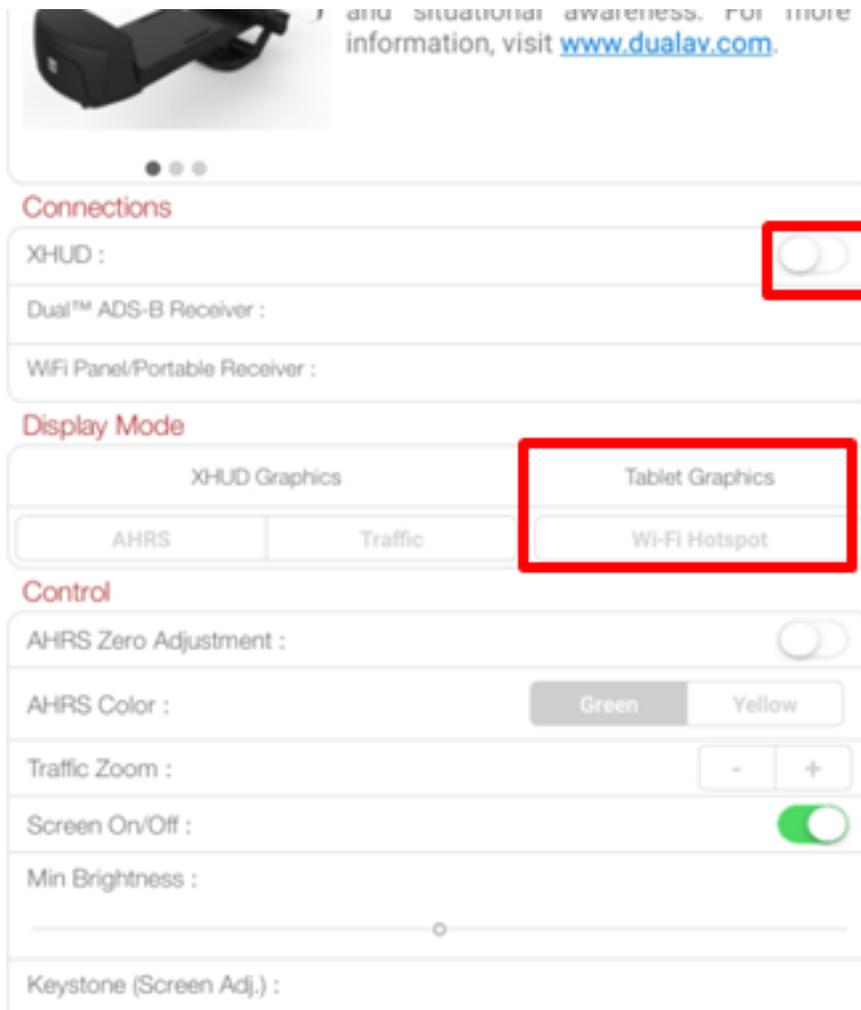
- When you press the Wi-Fi Hotspot button, the pop-up screen will appear. Press the OK button to automatically enable Wi-Fi Hotspot mode. If Wi-Fi Hotspot mode is not enabled even after pressing the OK button, follow the steps from the pop-up screen to manually enable Wi-Fi Hotspot mode.
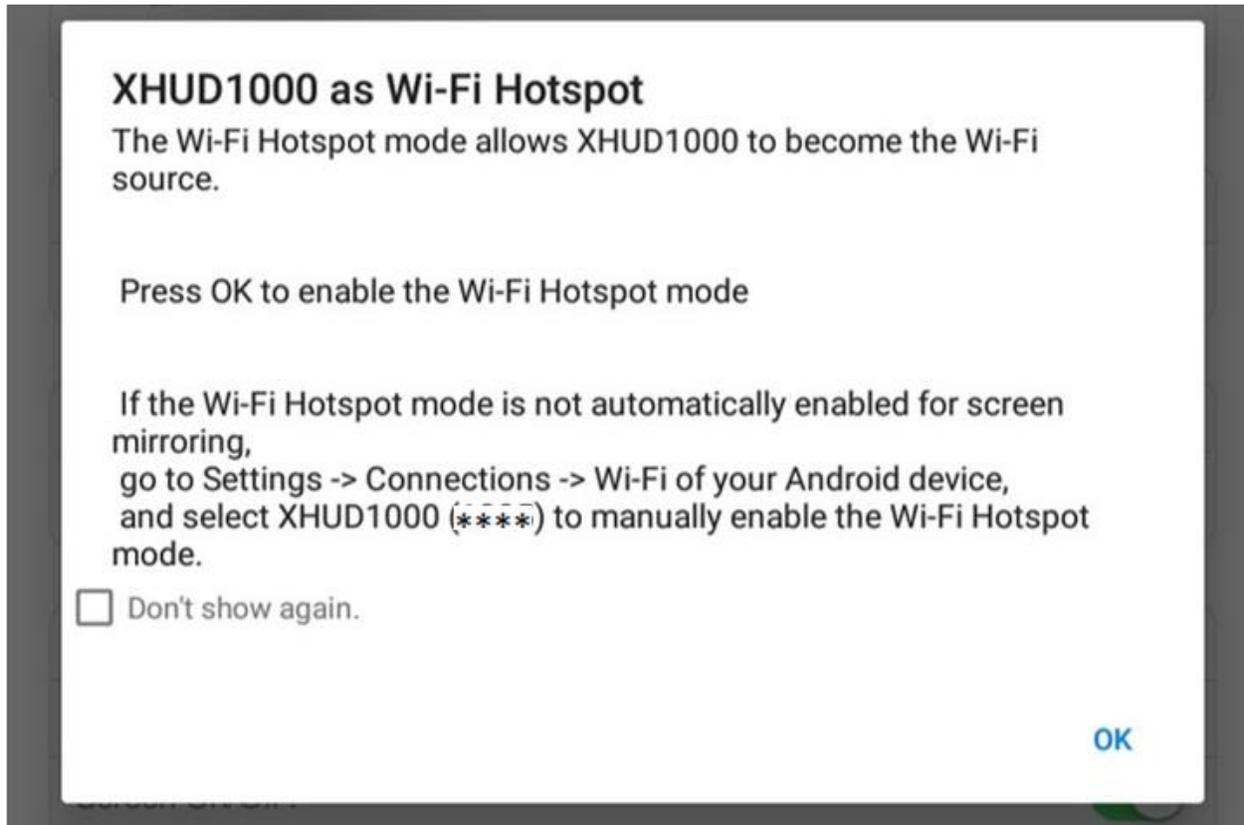
XHUD1000 as Wi-Fi Hotspot

The Wi-Fi Hotspot mode allows XHUD1000 to become the Wi-Fi source.

Press OK to enable the Wi-Fi Hotspot mode

If the Wi-Fi Hotspot mode is not automatically enabled for screen mirroring,
go to Settings -> Connections -> Wi-Fi of your Android device,
and select XHUD1000 (****) to manually enable the Wi-Fi Hotspot mode.

☐ Don't show again.

OK

- Once you have completed these steps, you should be able to confirm that the screen from your Android device is being mirrored to the XHUD1000.

Firmware Update with Android Device

- Connect the HUD with Android device running ADS-B Status Tool.
- DO NOT connect portable GPS receiver when updating HUD firmware.
- DO NOT unplug HUD during firmware update process.
- On ADS-B Status tool, press 'HUD Control' tab in lower right.
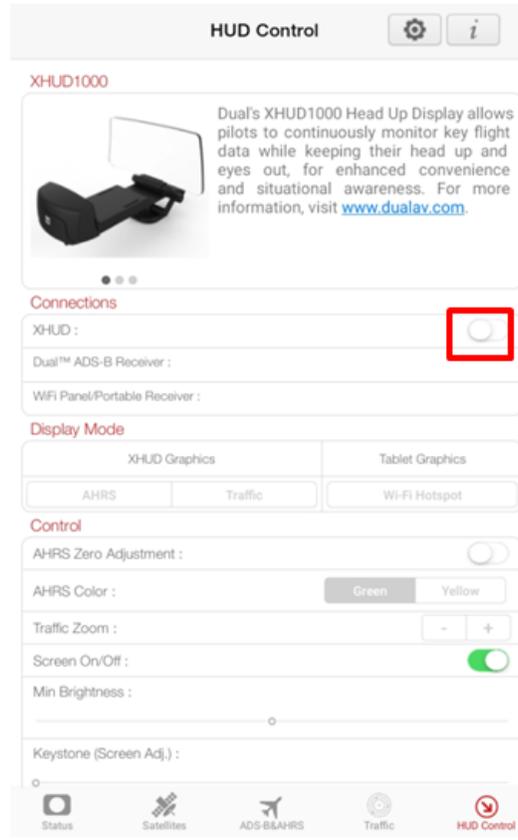
Tap the XHUD toggle, and choose the XHUD(****) to connect the XHUD to your Android device.
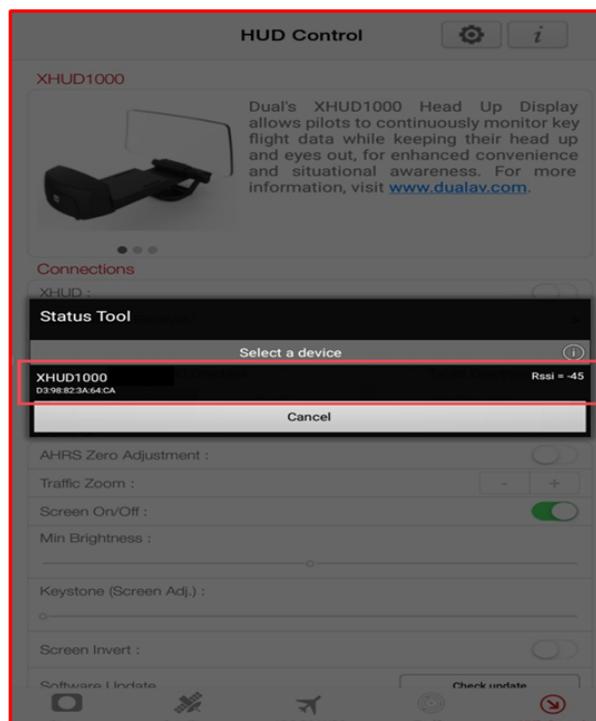
Check the current version by pressing **'Check Update'**

HUD Control

eyes out, for enhanced convenience and situational awareness. For more information, visit www.dualav.com.

Connections

XHUD :

Dual™ ADS-B Receiver :

WiFi Panel/Portable Receiver :

Display Mode

XHUD Graphics	Tablet Graphics
AHRS	Traffic	Wi-Fi Hotspot

Control

AHRS Zero Adjustment :

AHRS Color : Green Yellow

Traffic Zoom : - +

Screen On/Off :

Min Brightness :

Keystone (Screen Adj.) :

Screen Invert :

Software Update Check update

Status Satellites ADS-B&AHRS Traffic HUD Control

Tap 'Download', if there is new version available. Follow the instructions on your mobile device. Process may take several minutes.

XHUD Information

System Version

Current Version	1.0.18
New Version	1.1.0

App for HUD Version   1.0.7 (30)

DOWNLOAD

System Version

Current Version	1.0.18
New Version	1.1.0

App for HUD Version   1.0.7 (30)

13%

DOWNLOAD

XHUD Information

System Version

Current Version	1.0.18
New Version	1.1.0

App for HUD Version 1.0.7 (30)

18%

UPDATE

Do not close the app or disconnect the power cable
while updating the firmware!
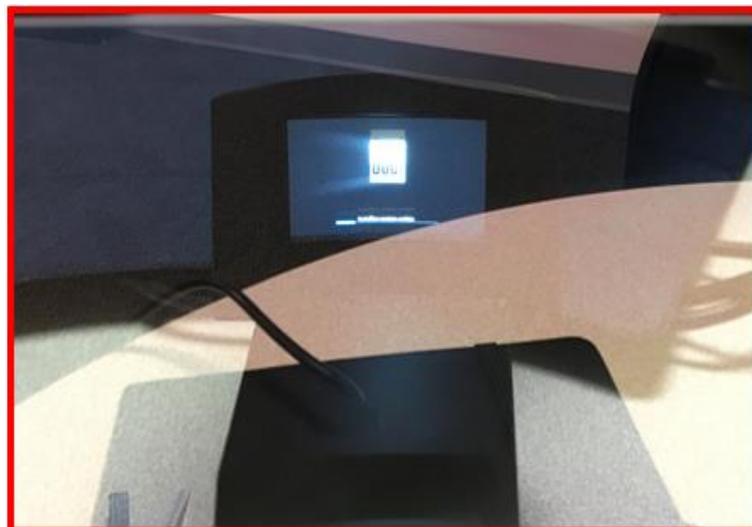
HUD screen shows the installation being done.

XHUD Information

System Version

Current Version   1.1.0

New Version   1.1.0

App for HUD Version   1.1.5 (59)

up to date

HUD Control Settings

- **AHRS Zero Adjustment:** calibrates the AHRS horizon on a level, flat surface.

- **AHRS Color:** allows choice of either green or yellow AHRS image. Green is more suitable for dim / dark conditions, while yellow is more suitable for bright / daylight.

- **Traffic Zoom:** adjusts range of the radar-style traffic display from the XHUD1000.

- **Screen On/Off:** turns on and off the XHUD1000 screen, respectively.

- **Min Brightness:** sets the minimum brightness level of the XHUD1000 screen. The light sensor on the XHUD1000 automatically adjusts the overall brightness level of the XHUD1000 screen.

- **Keystone (Screen Adj.):** allows the display engine to skew the image if necessary to make it more rectangular.

- **Image Flip:** projects image upside down to allow use of XHUD1000 in ceiling mount position.

Tips for Best Performance

- The XHUD1000 and its system perform at their best when there are no other Wi-Fi or Bluetooth devices nearby. If you attempt to use the XHUD1000 where there could be signal interference (e.g. house, office, etc.), you may experience connection delay or latency.
- To clean the combiner, it is recommended to use a non-abrasive micro fiber cloth. Please refrain yourself from rinsing the combiner with water since liquid and moisture can cause serious damage to the device.
- You can renew the stickiness on the bottom of the non-slip pad by washing the pad with warm water and mild soap. Let the pad air dry or dry it with a lint-free cloth.
- For best HUD performance, it is recommended to operate the XHUD1000 in either AHRS mode or Traffic mode. These modes utilize Dual's built-in HUD graphics. Operating the XHUD1000 in Tablet Graphics mode may result lower image quality due to the graphics coming from external apps that were designed for tablets & smartphones.

Troubleshooting

- Activating Airplane Mode on your mobile device will automatically turn Bluetooth off. If you are using Airplane Mode, you will need to manually turn Bluetooth on form your mobile device in order to use the XHUD1000.

- The XHUD1000 will automatically connect to any mobile devices that have previously been connected. Therefore, it is important to perform "Forget This Device" for Apple or "Unpair" for Android from any devices that have been used before in order to make connection with a new mobile device.

- Not correctly following the setup steps may cause issues when making wireless connections to use the XHUD1000. It is important to follow the steps provided in this owner's manual.

- For other questions or additional help, contact Customer Support via email at xhud1000@dualav.com or call 855-936-0129.

Specifications

- **Connectivity**

  o Wi-Fi for Tablet Graphics mode (Wi-Fi Hotspot & Wi-Fi Client)

  o BT Classic for data receiving from Dual's ADS-B receivers

  o BLE for HUD Control

- **Software Requirements**

  o Android

  OS: Above Android 5.0
  Wi-Fi: Supports 2.4 GHz 5GHz Dual Band

  o iOS
  OS: Above iOS 11
  Wi-Fi: Supports Dual Band

- **Device**

  o iPhone 5 & Up
  o iPad 5th Generation & Up
  o iPad Mini 2 & Up

- **Input Power**

  o Input: DC 5V (1.5A)

- **Operating Temperature**

  o 20 ~ 60 °C

Compliance

This product is CE marked according to the provision of the R&TTE Directive (99/5/EC). We declare that this product is in compliance with the essential requirements and other relevant provision of Directive 1999/5/EC. For further information, please refer to website.

FCC / Industry Canada Notice:

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

(1)   This device may not cause harmful interference.

(2)   This device must accept any interference received, including interference that may cause undesired operation.

In compliance with Industry Canada regulations, technical specifications have been provided in a declaration of conformity. This does not imply that Industry Canada approved the equipment. This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

(1)   This device may not cause interference.

(2)   This device must accept any interference, including interference that may cause undesired operation of the device.

Warranty

This warranty gives you specific legal rights. You may also have other rights, which vary from state to state. Dual Electronics Corp. warrants this product to the original purchaser to be free from defects in material and workmanship for a period of one year from the date of the original purchase.

Dual Electronics Corp. agrees, at our option, during the warranty period, to repair any defect in material or workmanship or to furnish an equal new, renewed or comparable product (whichever is deemed necessary) in exchange without charges, subject to verification of the defect or malfunction and proof of the date of purchase. Subsequent replacement products are warranted for the balance of the original warranty period.

- Who is covered?

This warranty is extended to the original retail purchaser for products purchased from an authorized dealer of Dual Electronics Corp. and used in the U.S.A.

- What is covered?

This warranty covers all defects in material and workmanship in this product. The followings are not covered: software, installation/removal costs, damage resulting from accident, misuse, abuse, neglect, product modification, improper installation, incorrect line voltage, unauthorized repair or failure to follow instructions supplied with the product, or damage occurring during return shipment of the product. Specific license conditions and copyright notices for the software can be found via http://www.dualav.com.

- What to do?

1. Before you call for service, check the appropriate section in this manual. A simple adjustment may save you a service call.

2. If you require service during the warranty period, you must carefully pack the product (preferably in the original package) and ship it by prepaid transportation with a copy of the original receipt from the retailer to an authorized service center.

3. Please describe your problem in writing and include your name, a return shipping address, and a daytime phone number with your shipment.

4. For more information and for the location of the nearest authorized service center, please contact us by one of the following methods:

- Call us toll-free at 1-855-936-0129

- E-mail us at xhud1000@dualav.com

Exclusion of Certain Damages: This warranty is exclusive and in lieu of any and all other warranties, expressed or implied, including without limitation the implied warranties of merchantability and fitness for a particular purpose and any obligation, liability, right, claim, or remedy in contract or tort, whether or not arising from the company's negligence, actual or imputed. No person or representative is authorized to assume for the company any other liability in connection with the sale of this product. In no event shall the company be liable for indirect, incidental or consequential damages.

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Dual Electronics Corp.

Toll Free: 1-855-936-0129