

3DR RADIO V2

QUICK START GUIDE



GETTING STARTED

3DR Radios provide an air-to-ground data link between the autopilot and your ground station laptop or tablet. Follow this guide to install the radios on your plane, copter, or rover. 3DR Radios arrive ready to use. Just mount and connect to view real-time data from your drone.

PARTS



Two 3DR Radios in 915 or 433 mHz

Attach the antennas, and use either radio as an air or ground module.



Android adapter cable



Micro-USB cable

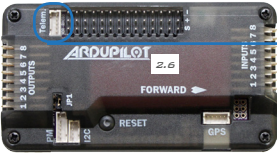


6-wire Pixhawk connector cable

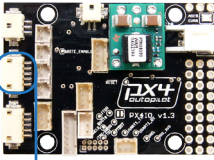


6-to-5-position APM and PX4 connector cable

CONNECT TO AUTOPILOT



Connect to the APM 2.5 or 2.6 telemetry port using the 6-to-5-position cable.



Connect to the PX4 I/O telemetry port using the 6-to-5-position cable.

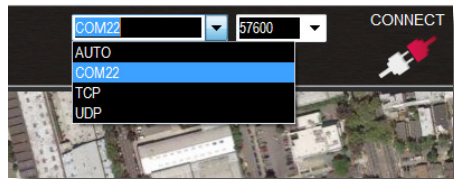


Connect to the Pixhawk telemetry port using the 6-wire cable.

MOUNT

Mount the air module securely to your vehicle keeping the antenna clear of any propellers or moving components. Ensure that the antenna is oriented vertically for maximum range.

CONNECT TO MISSION PLANNER

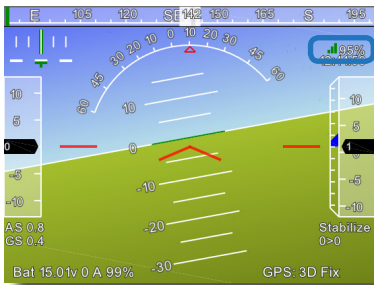


Mission Planner

Use the micro-USB cable to connect the ground module to your laptop. In Mission Planner and APM Planner ground station applications, select the communication option that shows **COM**, set the rate to **57600**, and select **Connect**. The radio will not connect unless the vehicle is powered. Use the **Flight Data** screen to view your vehicle's status and control missions in flight.

LEARN MORE

about installing a mission planner application for your laptop or tablet and interacting with the autopilot using 3DR Radios (including retrieving flight data logs) at planner.ardupilot.com.



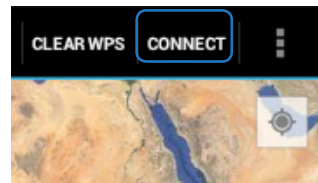
View the strength of the radio signal in the mission planner's flight data screen.

TIPS

Orient the ground radio antenna vertically for maximum range.

CONNECT TO TABLET

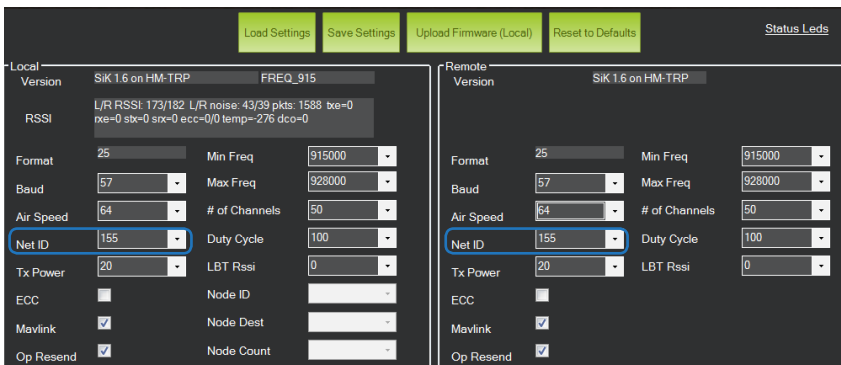
Connect the ground module to your tablet using the Android adapter cable. Connect the colored end to the tablet and the black end to the radio. In [DroidPlanner](#) or [Andropilot](#), select [Connect](#).



DroidPlanner Flight Data screen

SETTINGS



To change the radio settings in the mission planner, connect the radio to your computer, but do not select Connect. Radios can only be configured while unconnected to MAVLink. Select [Initial Setup](#), [3DR Radio](#), and [Load Settings](#) to configure the radios.



All settings should be the same for both modules. Ensure that the [Net ID](#) setting is identical on each radio to enable pairing. Select [Save Settings](#) to apply settings. For flying with friends, make sure your Net IDs do not conflict.

Use the configuration options on this screen to apply the correct airspace regulation requirements for your area. You are responsible for complying with all airspace regulations in your area, including frequency restrictions, power levels, and licenses. For more information on configuring 3DR Radios to comply with local regulations, visit the online documentation at goo.gl/Tsrksf.

LED MEANINGS

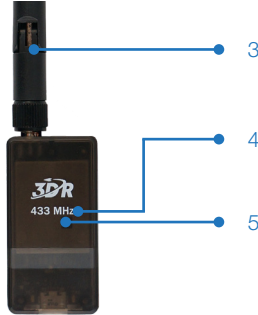
-  Blinking green
Searching for paired radio
-  Solid green
Link established with paired radio

-  Blinking red
Transmitting data
-  Solid red
Firmware update mode

RADIO DESCRIPTION



- 1 Micro-USB port
- 2 6-wire cable connector
- 3 Antenna
- 4 Frequency
- 5 LED indicator



SPECIFICATIONS

Processing

- 100 mW maximum output power (adjustable)
- 117 dBm receive sensitivity
- Based on HopeRF's HM-TRP module
- RP-SMA connector
- 2-way full-duplex communication through adaptive TDM
- UART interface
- Transparent serial link
- MAVLink protocol framing
- Frequency Hopping Spread Spectrum (FHSS)
- Configurable duty cycle
- Error correction corrects up to 25% of bit errors
- Open-source SIK firmware
- Configurable through Mission Planner & APM Planner

Features

- Interchangeable air and ground modules
- 915 or 433 mHz
- Micro-USB port
- 6-position DF13 connector

Dimensions

- 26.7 cm x 55.5 cm x 13.3 cm
(without antenna)

Power

- Supply voltage: 3.7-6 VDC (from USB or DF13)
- Transmit current: 100 mA at 30 dBm
- Receive current: 25 mA
- Serial interface: 3.3 V UART

SUPPORT

For more information about mission planner applications and APM firmware, visit ardupilot.com. For online documentation of 3DR Radios, visit goo.gl/Tsrksf.

For customer support, contact us at help@3drobotics.com or call our support line at +1 (858) 225-1414.