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
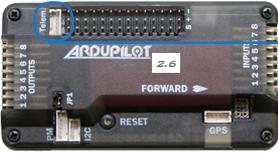
Connect to the APM 2.5 or 2.6 telemetry port using the 6-to-5-position cable.
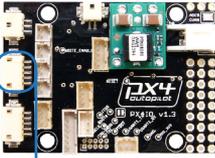
Connect to the PX4 I/O telemetry port using the 6-to-5-position cable.

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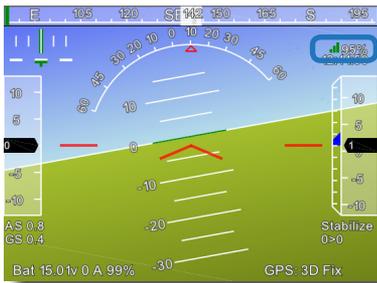
View the strength of the radio signal in the mission planner's flight data screen.

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.

CLEAR WPS | CONNECT
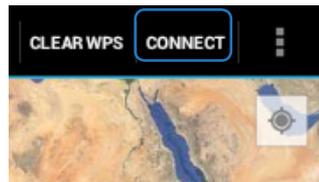
DroidPlanner Flight Data screen

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.

| Load Settings | Save Settings | Upload Firmware (Local) | Reset to Defaults | | | Status Leds |

Local

Version	SiK 1.6 on HM-TRP	FREQ_915		
RSSI	L/R RSSI: 173/182 L/R noise: 43/39 pkts: 1588 txe=0 rxe=0 stx=0 srx=0 ecc=0/0 temp=276 dco=0			
Format	25	Min Freq	915000	
Baud	57	Max Freq	928000	
Air Speed	64	# of Channels	50	
Net ID	155	Duty Cycle	100	
Tx Power	20	LBT Rssi	0	
ECC	☐	Node ID		
Mavlink	☑	Node Dest		
Op Resend	☑	Node Count		

Remote

Version	SiK 1.6 on HM-TRP			
Format	25	Min Freq	915000	
Baud	57	Max Freq	928000	
Air Speed	64	# of Channels	50	
Net ID	155	Duty Cycle	100	
Tx Power	20	LBT Rssi	0	
ECC	☐			
Mavlink	☑			
Op Resend	☑			

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

◑ Blinking red
Transmitting data

● Solid green
Link established with paired radio

● Solid red
Firmware update mode

RADIO DESCRIPTION

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

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.