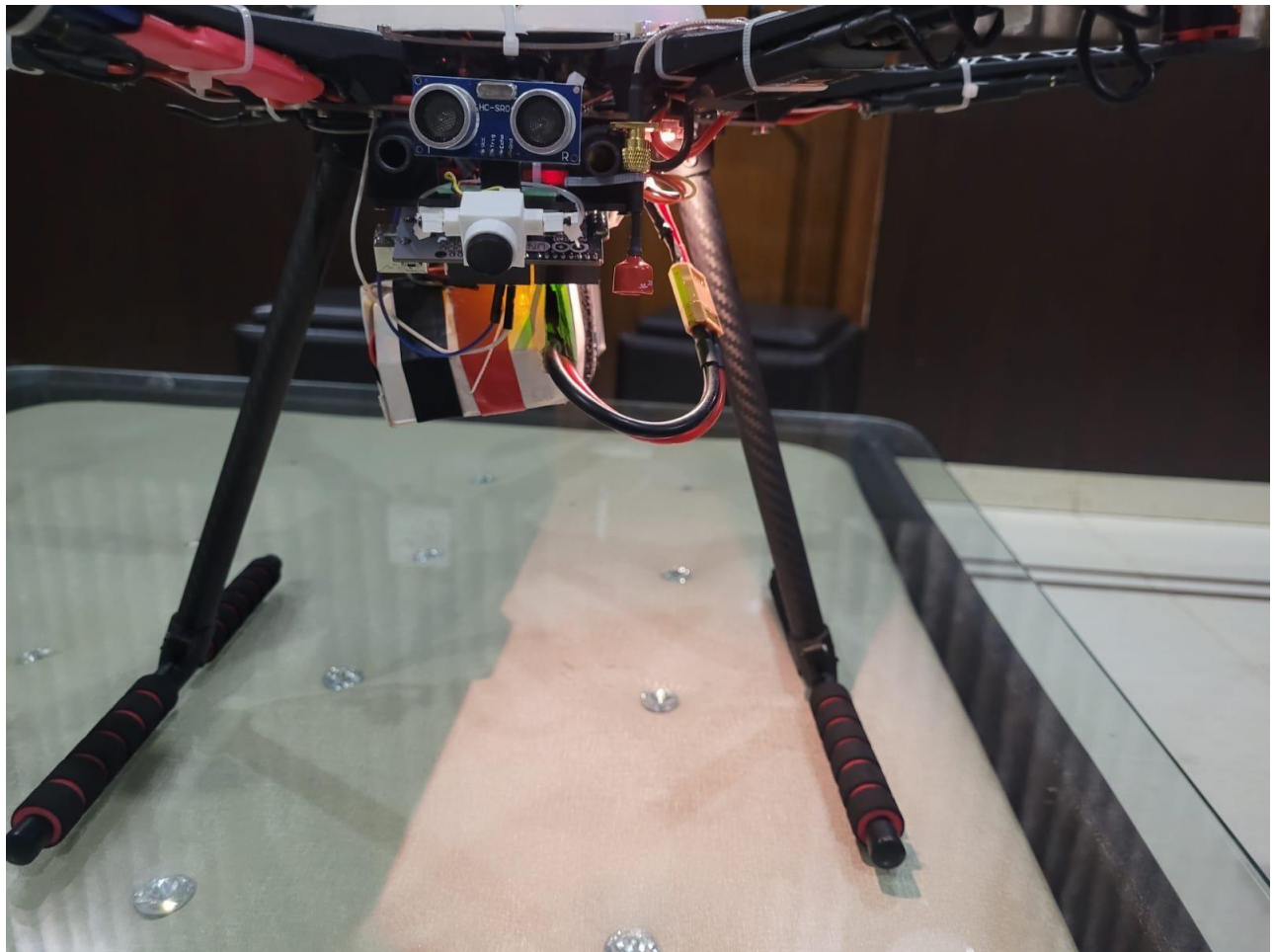


# USER MANUAL

The following are step-by-step instructions for using our prototype:

**Step 1:** Connect the battery to the drone's power module and mount it on the drone as shown in the figure below.



# USER MANUAL

**Step 2:** Place the drone on a level surface ready for take-off.



# USER MANUAL

**Step 3:** Establish a wireless connection between the laptop or ground station and the drone via the Wi-Fi network named Ardupilot.





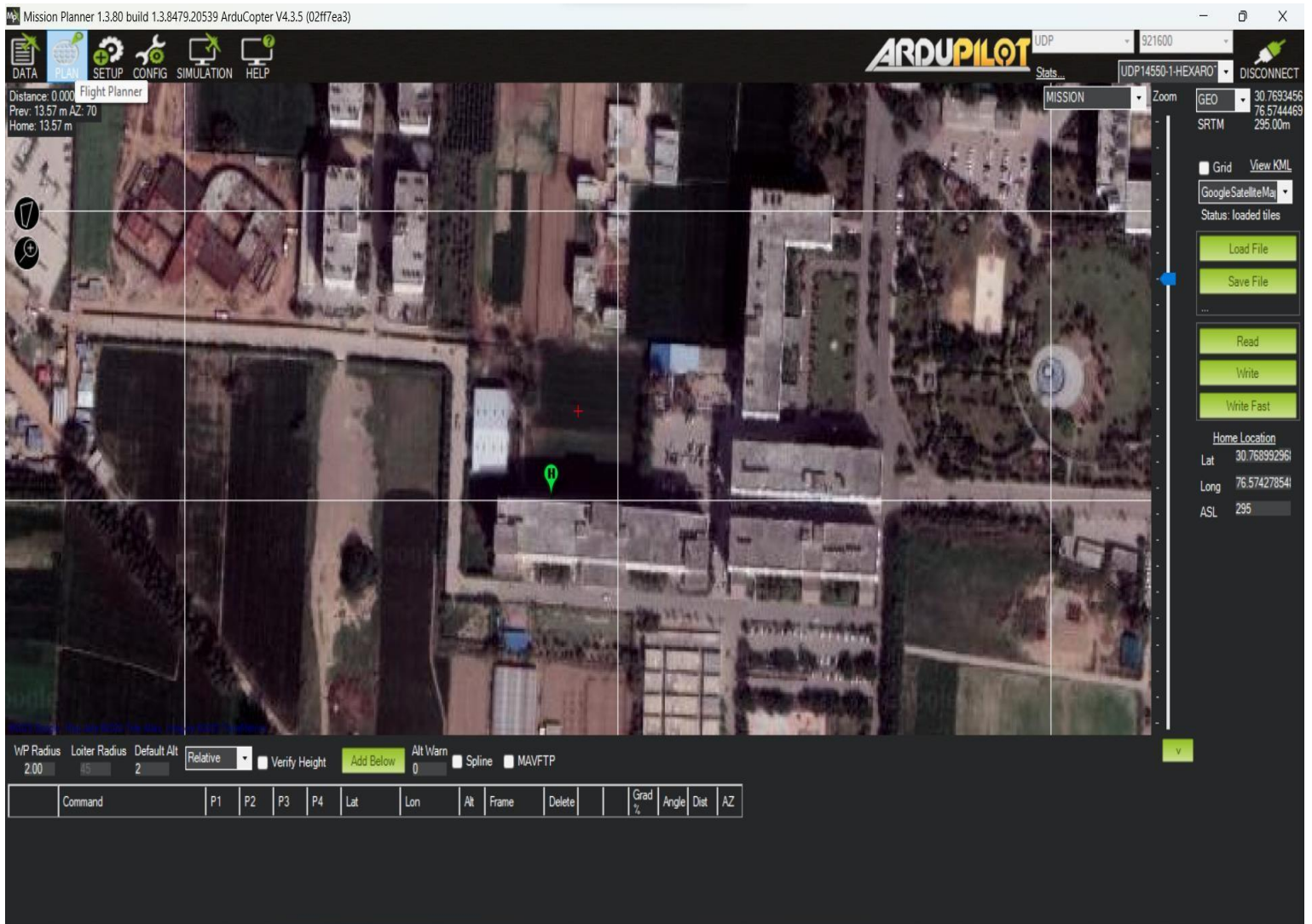
# USER MANUAL

**Step 4:** Once connection is established, open the mission planner on your laptop and click the connect button located in the upper right corner of the mission planner screen.



# USER MANUAL

**Step 5:** To access the mission planner tab, click the Plan button.





# USER MANUAL

**Step 6:** Begin by assigning the takeoff instruction to the drone in the mission planner tab. Then, enter the desired waypoint for the drone to reach its destination. After completing the mission, use the RTL (Return to Launch) command to return the drone to its original takeoff point.

Mission Planner 1.3.80 build 1.3.8479.20539 ArduCopter V4.3.5 (02ff7ea3)

DATA PLAN SETUP CONFIG SIMULATION HELP

Distance: 0.1891 km  
Prev: 67.68 m AZ: 163  
Home: 74.73 m

ARDUPILOT UDP 921600

Stats... UDP14550-1-HEXAR0 DISCONNECT

MISSION Zoom GEO 30.7686519  
SRM 76.5738273  
295.00m

Grid View KML  
GoogleSatelliteMa  
Status: loaded tiles

Load File  
Save File  
Read  
Write  
Write Fast

Home Location  
Lat 30.768992961  
Long 76.574278541  
ASL 295

WP Radius: 2.00 Loiter Radius: 45 Default Alt: 5 Relative Verify Height Add Below Alt Warn: 0 Spline MAVFTP

	Command								Frame	Delete		Grad %	Angle	Dist	AZ
1	TAKEOFF	0	0	0	0	0	0	5	Relative	X		0	0	0	0
2	WAYPOINT	0	0	0	0	30.7695276	76.5742403	5	Relative	X		8.4	4.8	59.8	356
3	WAYPOINT	0	0	0	0	30.7695369	76.5746963	5	Relative	X		0.0	0.0	43.6	89
4	WAYPOINT	0	0	0	0	30.7692442	76.5747499	5	Relative	X		0.0	0.0	32.9	171

# USER MANUAL

**Step 7:** After setting the waypoints, click the write button to send the data to the drone.

Mission Planner 1.3.80 build 1.3.8479.20539 ArduCopter V4.3.5 (02ff7ea3)

Distance: 0.1891 km  
Prev: 67.68 m AZ: 163  
Home: 74.73 m

ARDUPILOT

UDP: 921600  
Stats: UDP14550-1-HEXAPO  
MISSION: Zoom: GEO: 30.7690229  
SRTM: 76.5761608  
298.00m

Grid View KML  
Google Satellite Map  
Status: loaded tiles  
Load File  
Save File  
Read  
Write  
Write Fast  
Home Location  
Lat: 30.76899296  
Long: 76.57427854  
ASL: 295

Sending WP's  
Uploading WP 5  
Cancel

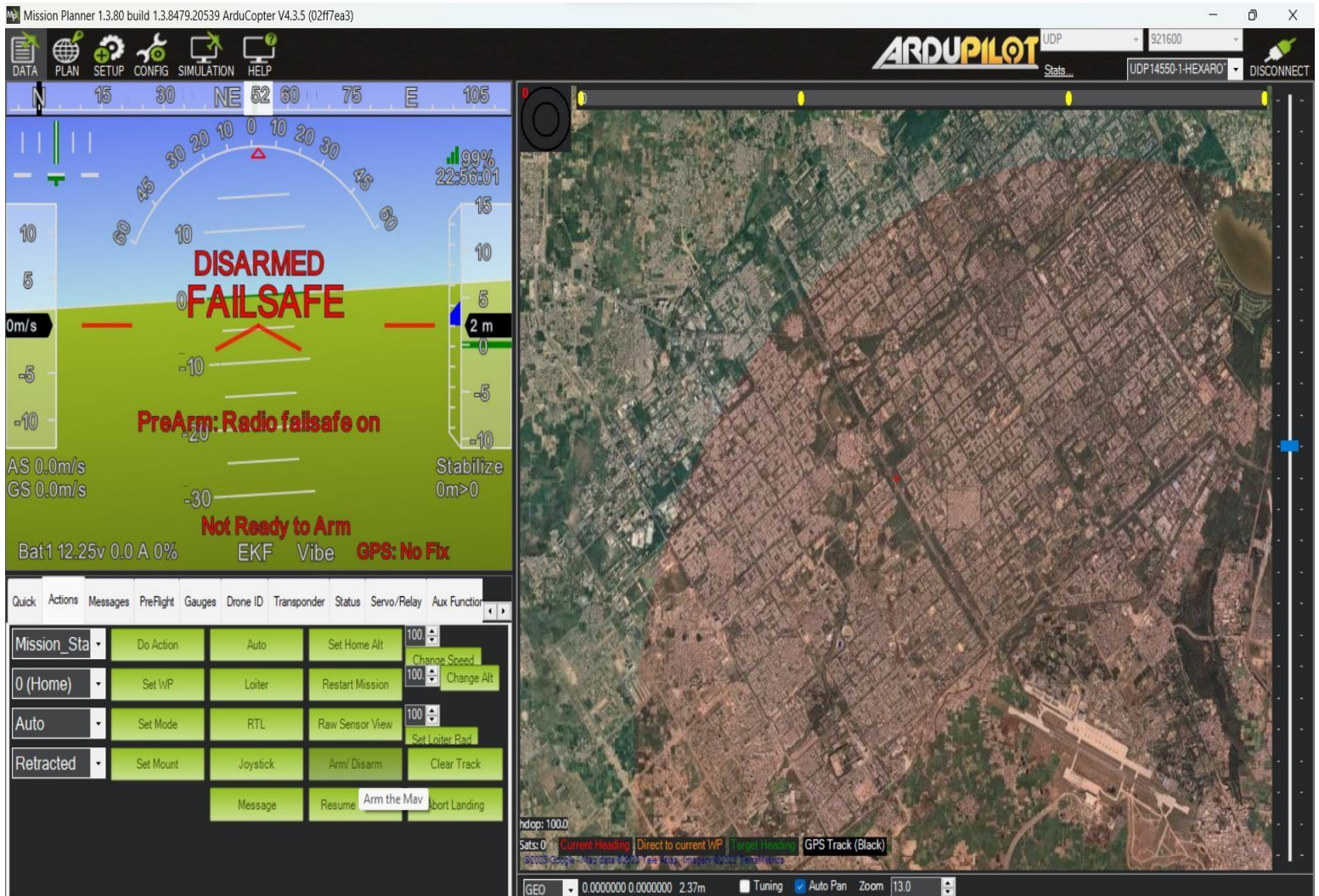
WP Radius: 2.00 Loiter Radius: 5 Default Alt: 5 Relative Verify Height Add Below Alt Warn: 0 Spline MAVFTP

	Command								Frame	Delete		Grad %	Angle	Dist	AZ
1	TAKEOFF	0	0	0	0	0	0	5	Relative	X		0	0	0	0
2	WAYPOINT	0	0	0	0	30.7695276	76.5742403	5	Relative	X		8.4	4.8	59.8	356
3	WAYPOINT	0	0	0	0	30.7695369	76.5746963	5	Relative	X		0.0	0.0	43.6	89
4	WAYPOINT	0	0	0	0	30.7692442	76.5747499	5	Relative	X		0.0	0.0	32.9	171



# USER MANUAL

**Step 8:** Once the task has been assigned to the drone, go to the mission planner's data tab and click the Arm/Disarm button to give the drone permission to take off.





# USER MANUAL

**Step 9:** After the drone is Armed, click on the Do Action button to prompt the drone to execute the task assigned by the user.



**Step 10:** Once the task is complete, disarm the drone and repeat steps 1-8 whenever you want to assign another mission to it.