2.4G Bluetooth Datalink & iPAD Ground Station User Guide V1.02

Thank you for purchasing DJI products. Please strictly follow this user guide to mount and connect the 2.4G Bluetooth Datalink, install the Assistant Software on your computer, as well as the App on your mobile device.

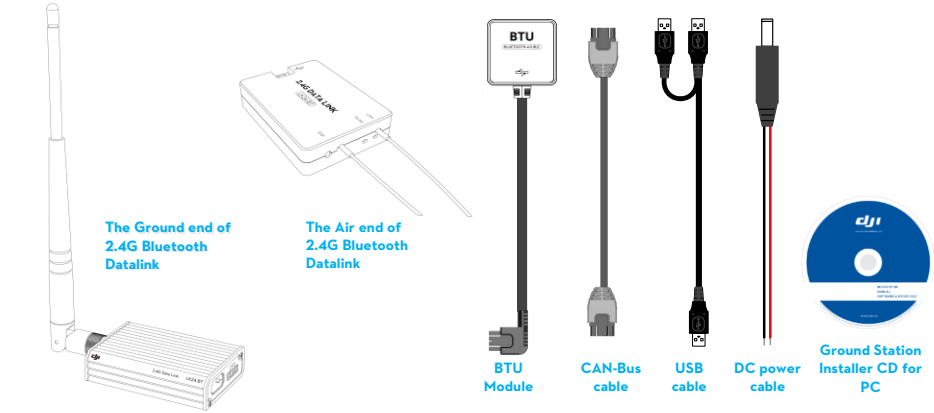
Note：The map of Mainland China download from Mainland China IP addresses has differences with the actual geographic environments. If users download the map of Mainland China from foreign IP addresses, which will be more accurate.

2.4G Bluetooth Datalink

The 2.4G Bluetooth Datalink consists of the Air end and the Ground end, which provides reliable and stable remote wireless transmissions for Ground Station based applications. The signal flow is as shown below.

Flight control systems that support the 2.4G Bluetooth Datalink
ACE ONE (Firmware V4.02 or above) , WKM (Firmware V5.24 or above) ,
NAZA-M, NAZA-M V2 (Firmware V4.00 or above , coming soon)

1.1 In the box



Important：the firmware of BTU should be upgraded to version 1.0.1.2 or above to use with the 2.4G Bluetooth Datalink.

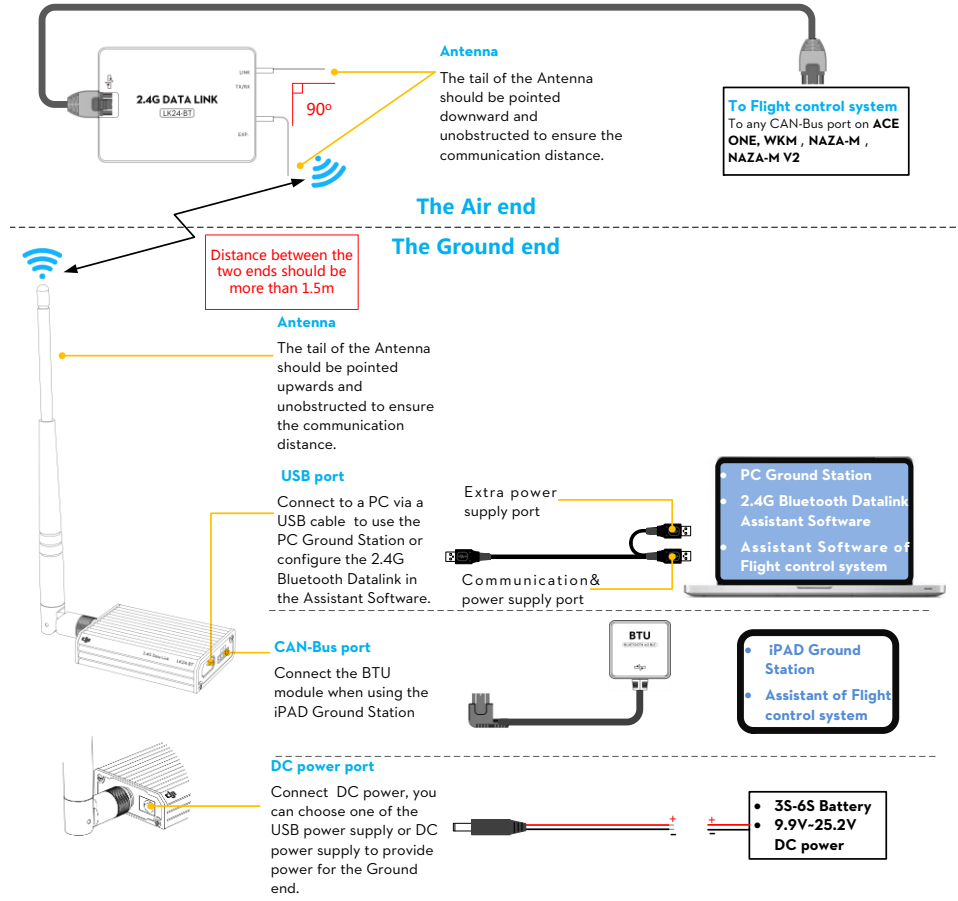
1.2 User supplied

To use the 2.4G Bluetooth Datalink and Ground Station, please prepare the Flight control system, the aircraft, batteries, PC or iPAD etc.

1.3 Connections and use

(1) Please assemble the antenna of the Ground end first.

(2) For connections and use please refer to the diagram below.



Notes：

(1) You can configure the Flight control system using the Assistant software on a PC or iOS mobile Device wirelessly over the link of the 2.4G Bluetooth Datalink, however you cannot upgrade the firmware of the Flight control system using this communication route.

(2) When connecting a BTU module or a LED Bluetooth unit to the Flight control system to configure in the Assistant on mobile devices, as well as connecting a BTU module to the Ground end to use the iPAD Ground station, the two Bluetooth communication links will not interfere with each other.

(3) If the Air end is changed to connect to a new Main controller, you should power cycle the Ground end.

(4) Make sure the LED indicator of BTU module is green after power on, for specific usage details please refer to the BTU Manual.

(5) For usage of the PC Ground Station please refer to the latest Ground Station User Manual.

Important：

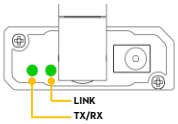
(1) If there are obstacles between the ground and air ends then the radio signal of the 2.4G Bluetooth Datalink will be weak; please make sure the antennas are always visibly unobstructed during the flight. Human body, trees, buildings or hills will disconnect the link between the Air end and the Ground end.

(2) Make sure the antenna of the Air end is pointing down, and the antenna of the Ground end is pointing upwards; it´s better to put the Ground end at a high place to get further transmission distance.

(3) When using the ACE ONE Flight control system with the 2.4G Bluetooth Datalink, the Ground Station will connect to the Main controller 15s after power on.

1.4 LED Indicator descriptions

The LED Indicators of the 2.4G Bluetooth Datalink will work after power on, the descriptions are shown below.

	LED	TX/RX		LINK	
The Air end		Green blinks	Sending	Solid Green	The Air end links with the Ground end successfully
		Red blinks	Receiving	Solid Red	The Air end delinks with the Ground end
		Yellow blinks	Searching the Main controller		
The Ground end		Green blinks	Sending	Solid Green	The Air end links with the Ground end successfully
		Red blinks	Receiving	Solid Red	The Air end delinks with the Ground end
		Yellow blinks	Power voltage of the Ground end is less than 9.9V		

Notes :

(1) LED Indicators on both ends will blink when powering on, then the TX/RX indicator of the Air end will blink when searching the Main controller.

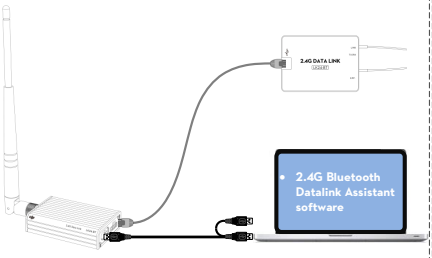
(2) The LED Indicators of LINK on both ends should be solid green to indicate that the two ends have linked successfully.

(3) It's recommended to check the power voltage of the Ground end regularly when using batteries for power supply, in order to avoid over-discharging.

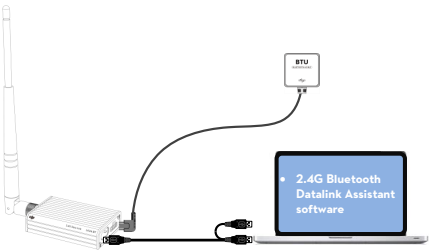
1.5 Upgrade

Use the 2.4G Bluetooth Datalink Assistant software to upgrade the 2.4G Bluetooth Datalink and BTU module. Please refer to the diagram below to connect when upgrading.

To upgrade the Air end and the Ground end



To upgrade the Ground end and BTU module



Important : POWER CYCLE the Flight control system and 2.4G Bluetooth Datalink after upgrade.

iPAD Ground Station App

The iPAD Ground Station is designed for remote flight control in applications of surveillance, aerial photography, etc., it should be used with the 2.4G Bluetooth Datalink to achieve auto flight after the setting of the routes. The application with easy usable design offers great portability and simple operation, which will provide users with an extraordinary flight experiences.

Flight control systems that support the iPAD Ground Station
WKM (Firmware V5.24 or above) , NAZA-M, NAZA-M V2 (Firmware V4.00 or above , coming soon)

iOS Devices that support the iPAD Ground Station
iPAD3 , iPAD4 , iPAD mini (iOS 6.0.1 or above)

Functions		
Map information display	Joystick mode	One key Take off/ Go Home
Flight display in real time	Single waypoint	Auto Landing
Flight simulator	Waypoints	4 kinds of Route Template
Voice guidance function	Low voltage alert	

First time use	**Tips and Notes**
1. Open your iPAD and search "DJI" in the App Store to download and install the Ground Station(GS) App.	
2. Open the Bluetooth function of your iPAD.	There will have popups if you forget to enable the Bluetooth
3. Connect the 2.4G Bluetooth Datalink and BTU module to the Flight control system, power on.	Please refer to the Datalink part to connect
4. Run the GS App, create an account through the Internet and login.	PC account is available to login.
5. The GS will search your Main controller and named with "NEW" , you will be asked to set a new name and a password for the Main controller.	LED in GS indicates after the GS is connected with the Main controller
6. Please read the tips text carefully after login. Open the FisrtUse function to make use of the help text.	FisrtUse function can be opened and closed in "More " → "Settings "
7. Enable the Flight Simulator and try out the follow functions:	(1) Flight Simulator can be opened and closed in "More " → "Settings " (2) When using the GS the Flight control system will enter into GPS control mode and the aquired satellites shoule be more than 6. (3) In GPS control mode the GS control priorto the Transmitter, Users can toggle the control mode switch to other mode and back to the GPS mode quickly to get the control by Transmitter.
Joystick — Use the sticks on the screen to control the aircraft	
Single waypoint — Edit a single waypoint and go	
Waypoints — Use the templates to set routes, batch the waypoints and upload the routes, then confirm and go	
Location — Use to locate the aircraft or the iPAD	
Auto Landing — The aircraft will land slowly	
One key Go Home — Default Home point is the one recorded by the aircraft automatically after recording conditions are satisfied	
8. Disable the Flight Simulator and power cycle the Flight control system to start real flights. Click on Joystick and you can use One key Take off to take off your aircraft	(1) Please view the map of fight fields via Internet in the GS before outdoors flights, then the maps can be used off-line. (2) Please use the GS for real flights after you are familiar with its use and functions, Refer to all help text in the App.

Appendix

3.1 2.4G Bluetooth specifications(Deliveries passed FCC)

Performance		
RF Data Rate	1536kbps	
Indoor/Urban Range	≤350m	
Outdoor/RF Line-of-Sight Range	≤2km	
Transmit Power	≤125mW	
Receiver Sensitivity (1%PER)	-94dBm	
Power Consumption	The Ground end: ≤2.3W	The Air end: ≤1.8W
Features		
Frequency Band	2.4G(2400MHz ~2483MHz)	
Serial Data Rate	115200 bps	
Antenna Options	SMA	
Operating Temperature	-10°C ~+60°C	
Size (No Antenna)	The Ground end: 73mmx47.8mmx17.1mm The Air end: 49.8mmx36.4mmx11.4mm	
Weight (with Antenna)	The Ground end: 93g	The Air end: 32g
Power supply		
Supply Voltage	The Ground end: 9.9V-25.2V	The Air end: 6V
Current (Transmitting signal)	0.18A@12.5V	
Current (Receiving signal)	0.30A@6V	
Regulatory Approvals		
FCC (USA)	Yes	

3.2 2.4G Bluetooth specifications(Deliveries passed CE)

Performance		
RF Data Rate	1536kbps	
Indoor/Urban Range	≤200m	
Outdoor/RF Line-of-Sight Range	≤1.1km	
Transmit Power	≤65mW	
Receiver Sensitivity (1%PER)	-94dBm	
Power Consumption	The Ground end: ≤1.3W	The Air end: ≤0.9W
Features		
Frequency Band	2.4G(2400MHz ~2483MHz)	
Serial Data Rate	115200 bps	
Antenna Options	SMA	

Operating Temperature	-10°C ~+60°C
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Power supply	
Supply Voltage	The Ground end: 9.9V-25.2V The Air end: 6V
Current (Transmitting signal)	0.10A@12.5V
Current (Receiving signal)	0.15A@6V
Regulatory Approvals	
CE (European)	Yes

3.3 FAQ

2.4G Bluetooth Datalink Failure

The Ground Station fails to connect with the Main controller, please check the following items

- The distance between the two ends of the 2.4G Bluetooth Datalink should be more than 1.5m.
- Make sure the Ground end is connected correctly and the LED indicator of BTU is green.

If above are ok please power cycle, while this problem continues after powering cycle, there may be hardware problems such as the Antenna is broken, please contact your authorized dealer.