HEIGHT Pro Multi-band
User Manual

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1. Package Contents

Air unit & Ground Unit
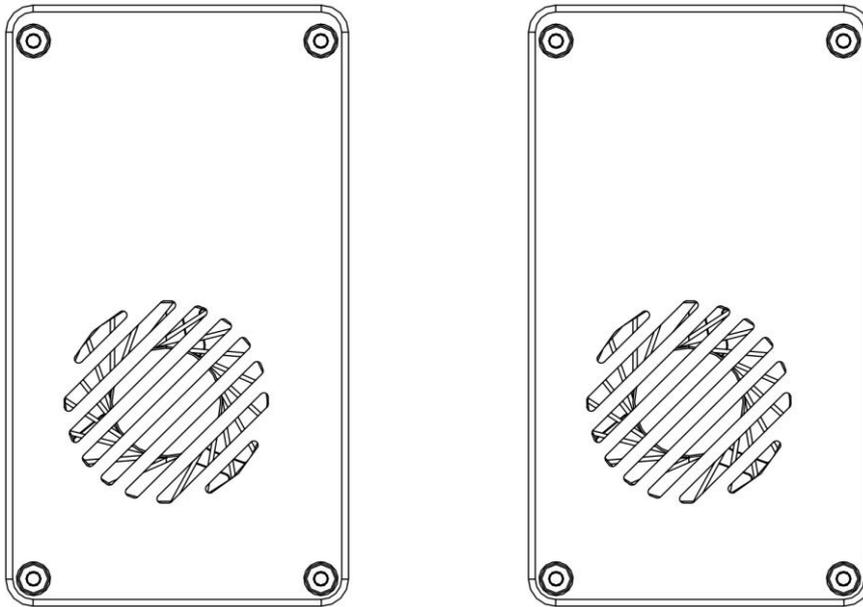
Accessories

|	
Air antenna x 2	
Feed cable x 2	
Ground antenna x 2	
Feed cable x 2	
Power cable x2	
Serial cable(Air Unit) x 2	
Serial cable(Ground Unit) x 2	
RC cable(Air Unit) x 2	
RC cable(Ground Unit) x 2	
RJ45 cable x 2	
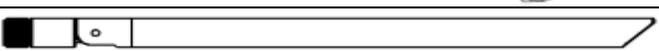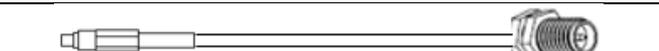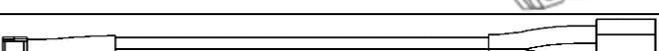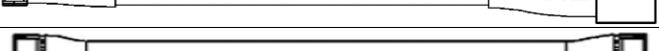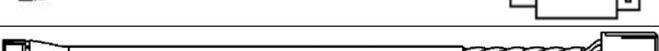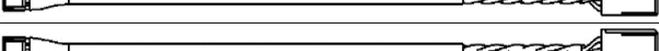
2. Introduction

2.1. Air Unit Ports
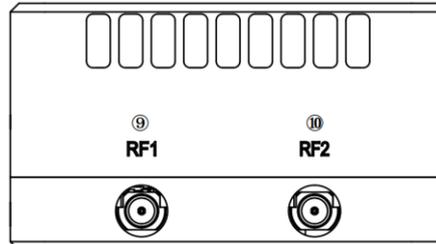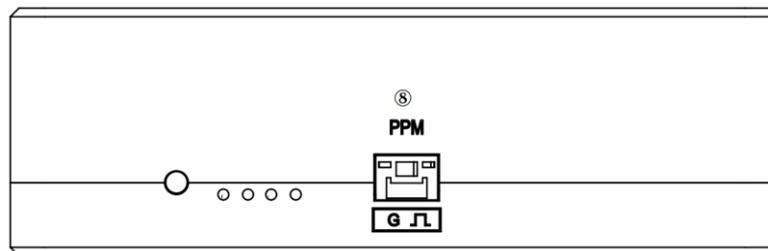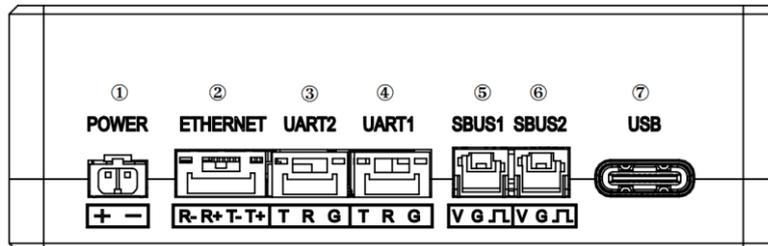
①   Power input (DC12V, 3S battery).

②   Ethernet video input from a camera, and web-page management interface.

③   Serial(TTL) port for telemetry.

④   Serial(TTL) port for telemetry.

⑤   S.Bus port connected to a flight controller.

⑥   S.Bus port connected to a flight controller.

⑦   Type-C USB port reserved.

⑧   PPM port connected to a flight controller.

⑨   MMCX connector for antenna/feed cable.

⑩   MMCX connector for antenna/feed cable.

2.2. Air Unit LEDs & Button
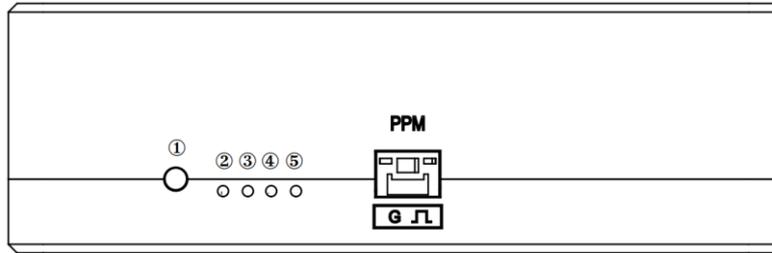
① Bind button: press-and-hold till LED1&LED2 are flashing, it's bound already before factory delivery.

② It's off when radio link established.

③ It's off when radio link established.

④ Solid on in orange: 100Mbps Ethernet physical link connected.

⑤ Flickering in green: when there's data transmission.

2.3. Ground Unit Ports
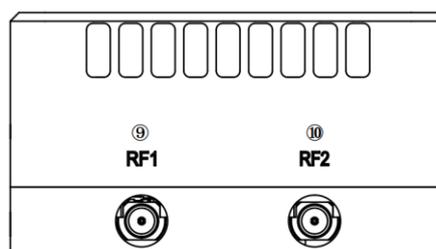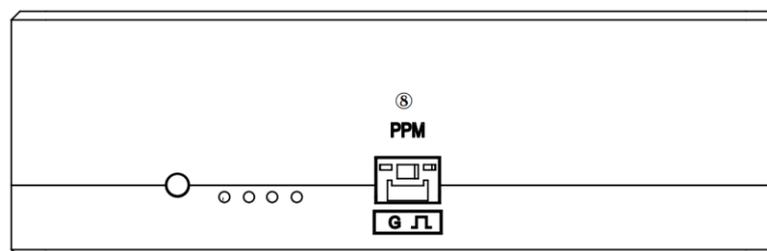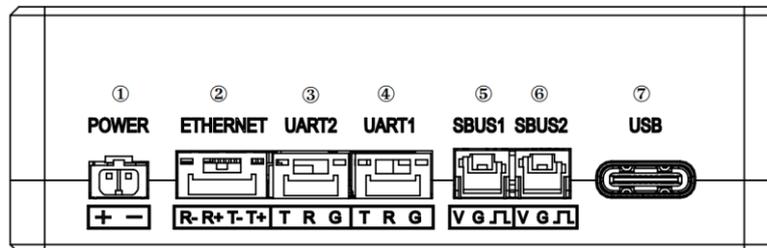
① Power input (DC12V, 3S battery).

② Ethernet video output to a laptop/PC, and web-page management interface.

③ Serial(TTL) port for telemetry.

④ Serial(TTL) port for telemetry.

⑤ S.Bus port connected to a S.Bus receiver.

⑥ S.Bus port connected to a S.Bus receiver.

⑦ Type-C USB port reserved.

⑧ PPM port connected to a flight controller.

⑨ MMCX connector for antenna/feed cable.

⑩ MMCX connector for antenna/feed cable.

2.4. Ground Unit LEDs & Button
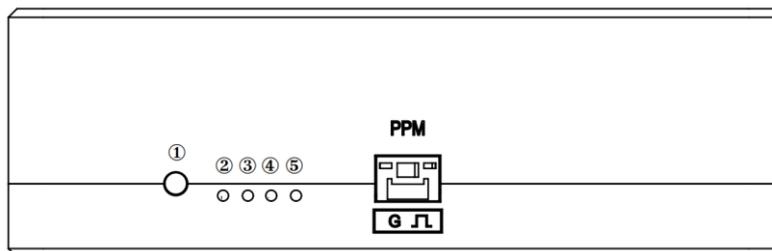
① Bind button: press-and-hold till LED1&LED2 are flashing, it's bound already before factory delivery.

② It's solid on in orange when radio link established.

③ It's solid on in green when radio link established.

④ Solid on in orange: 100Mbps Ethernet physical link connected.

⑤ Flickering in green: when there's data transmission.

2.5. Setting up Air Unit
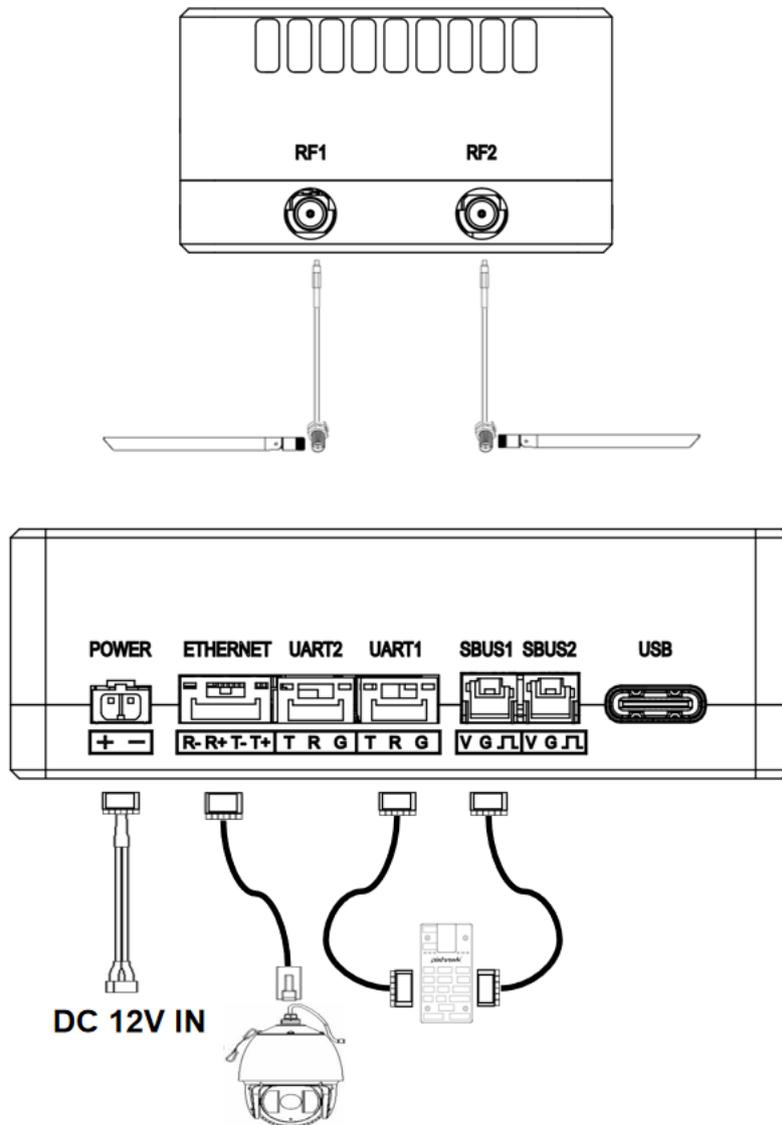
1. Connect antennas to RF ports of the air unit.
2. Connect camera to Ethernet port of the air unit.
3. Connect the PPM/S.bus port of the flight controller to the RC port of the air unit.
4. Connect the flight controller telemetry port to the serial port of the air unit.
5. Connect a 12V DC power to the power port of the air unit and turn on the power.

2.6. Setting up Ground Unit
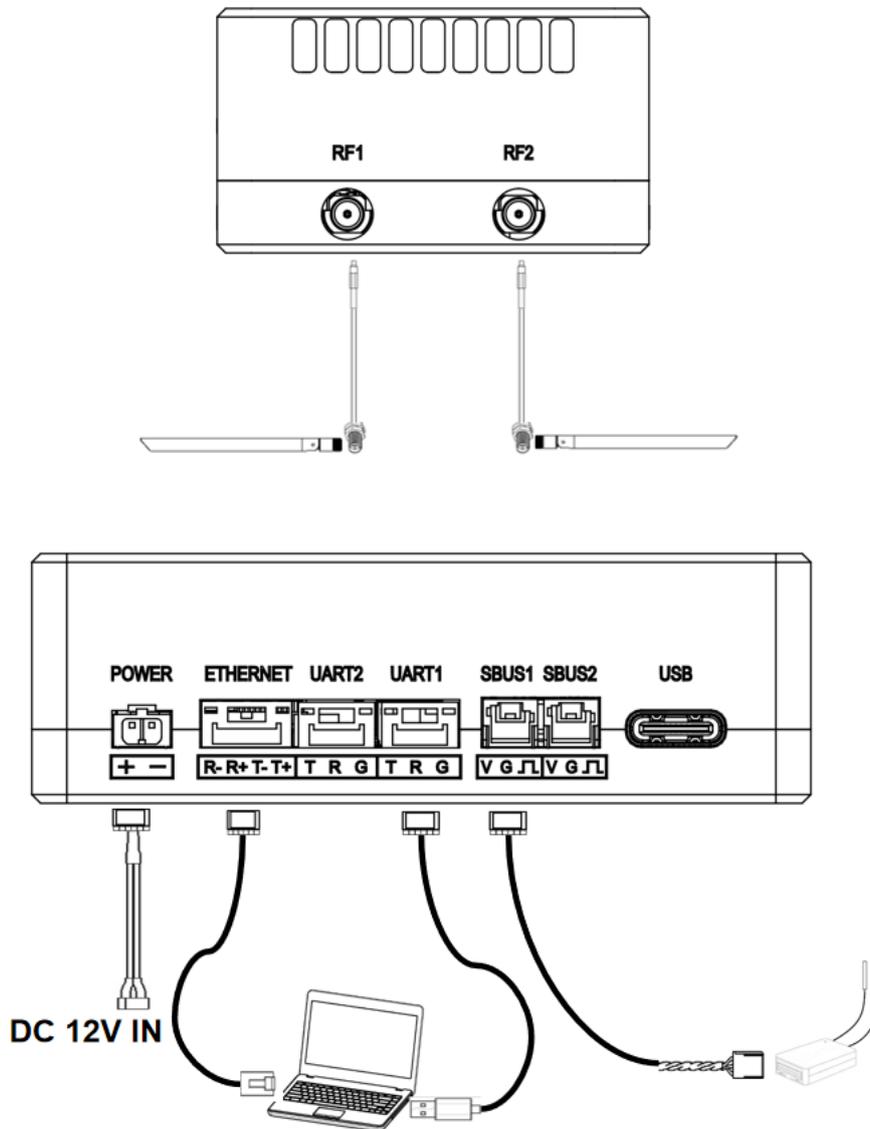
1. Connect antennas to RF ports of the ground unit.
2. Connect the remote controller's PPM/S.bus output to the RC port of the ground unit.
3. Connect the USB port of GCS/PC to the serial port of the ground unit with Serial-USB cable.
4. Connect Ethernet output port of ground unit to the GCS/PC.
5. Connect a 12V DC power to the power port of the ground unit.

3. Web-page Management

HEIGHTPro Multi-band has web-page management interface. Directly connect PC to air unit/ground unit by Ethernet cable, set PC IP address as 192.168.199.33/24, and visit 192.168.199.18 (air unit)/192.168.199.16 (ground unit) through web-page.

3.1. Manage Air Unit

Status→Baseband status, there's detailed real-time information like RSSI, SNR, TxPower, LDPC stats, telemetry stats, etc.

Status→Device information, there's information of SN, firmware version, bandwidth, and max range etc.

192.168.199.18

Product Model: Wireless		Software Version: 1.1

Wireless

Status	Config	Upload

BaseBand Status
Device Information

Device Information	
SN	
version	8C20221010-2200341
firmwareVersion	3.4.1.0_20221031
basebandVersion	20221010
antennaMode	DUAL_ANT_1T2R
radio	MultiFreq 2000MHz-2400MHz
maxRange	15KM
band	10M-10M

Config→Net settings, this is IP address of unit itself, it can be changed as per user's request.

192.168.199.18/config.html

Product Model: Wireless		Software Version: 1.1

Wireless

Status	Config	Upload

Net Settings
Radio Settings
Bind Settings
System Settings

Net Settings	
IP Address	192.168.199.18
Subnet Mask	255.255.255.0

set

Config→Radio settings, There are options of auto/antenna1/antenna2 for air antenna select, this will decide the RF power transmitting port/antenna. There are options of Band1/Band1-a/Band1-b/Band2/Band2-a/Band2-b/Band3/Band4 for band select, band select must keep the same as that of ground unit.

192.168.199.18/config.html

Config→Bind setting, bind process can be triggered by clicking bind instead of physical bind button.

192.168.199.18/config.html

Config→System settings, Restore unit to factory settings by "enable".

192.168.199.18/config.html
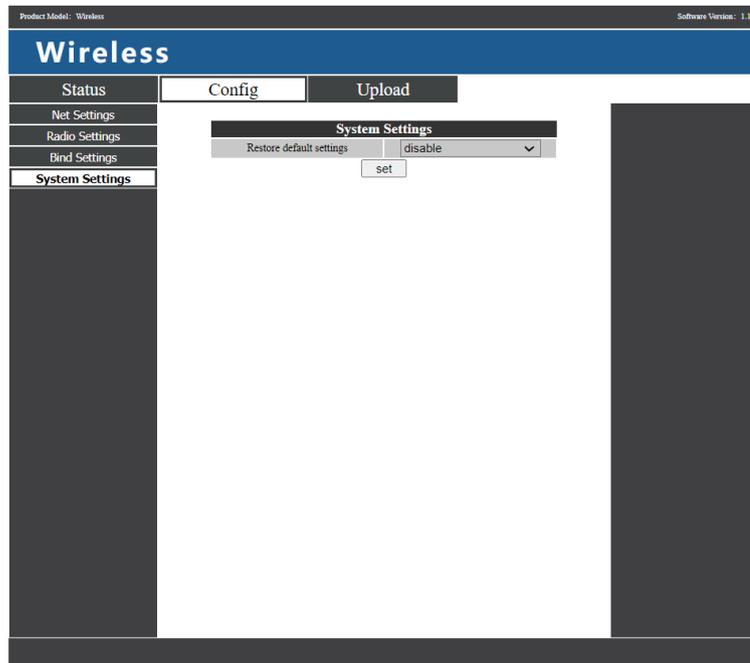
Upload→Upload, browser and select file to be upgraded first, then click "send" to trigger the process.

3.2. Manage Ground Unit

Status→Baseband status, there's detailed real-time information like RSSI, SNR, TxPower, LDPC stats, telemetry stats, etc.

Status→Device information, there's information of SN, firmware version, bandwidth and max range etc.

192.168.199.16

Product Model: Wireless		Software Version: 1.1

Wireless

Status	Config	Upload

BaseBand Status
Device Information

Device Information	
SN	
version	C20221010-2201341
firmwareVersion	3.4.1.0_20221031
basebandVersion	20221010
antennaMode	DUAL_ANT_1T2R
radio	MultiFreq 2000MHz-2400MHz
maxRange	15KM
band	10M-10M

Config→Net settings, there are IP address of unit itself, telemetry destination IP address and UDP ports, all of these parameters can be changed as per user request.

192.168.199.16/config.html

Product Model: Wireless		Software Version: 1.1

Wireless

Status	Config	Upload

Net Settings
Radio Settings
Bind Settings
System Settings

Net Settings	
IP Address	192.168.199.16
Subnet Mask	255.255.255.0
Mavlink Host IP	192.168.199.33
Mavlink UDP Port	15000
Mavlink UDP Port Ext	15001

set

Config→Radio settings, there are hop, frequency, antenna selection, and band selection can be set. When hop is auto, user do not need to/cannot set frequency, system dynamically selects the best frequency to use by itself, in other words, when hop is manual, user can set frequency manually. There are options of auto/antenna1/antenna2 for air/ground antenna select, this will decide the RF power transmitting port/antenna. There are options of Band1/Band1-a/Band1-b/Band2/Band2-a/Band2-b/Band3/Band4 for band select, band select must keep the same as that of air unit. Hop/Frequency/Work region/Air antenna select only can be changed when radio link between air unit and ground unit is securely established.

Config→Bind setting, bind process can be triggered by clicking bind instead of physical bind button.

192.168.199.16/config.html

Product Model: Wireless		Software Version: 1.1

Wireless

Status	Config	Upload

Net Settings
Radio Settings
Bind Settings
System Settings

Bind Settings

Bind settings		bind

Config→System settings, baud rate of U1/U2 two serial ports can be set independently. QAM mode can be set as fixed options or adaptive. When it is set as adaptive, unit will dynamically change modulation scheme based on real-time signal quality. Baud rate and QAM mode can be set only when radio link established between air unit and ground unit.

192.168.199.16/config.html

Product Model: Wireless		Software Version: 1.1

Wireless

Status	Config	Upload

Net Settings
Radio Settings
Bind Settings
System Settings

System Settings

Com Baudrate	115200 ∨
Com Baudrate Ext	115200 ∨
Qam Mode	Adaptive ∨
Restore default settings	disable ∨

set

Upload→Upload, browser and select file to be upgraded first, then click "send" to trigger the process.