

herelink

User Manual

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Hardware Parameter	
2). Technical Specifications	
Air Unit and Controller Hardware Information:	
Processor: SoC – Pinecone S1	
AP: 4 x large core, Cortex A53, 2.2GHz	
4 x small core, Cortex A53, 1.4GHz	
GPU: 4 core, Mali-T860	
DDR: 7 x DSP	
Storage: Air Unit LPDDR3 1GB, Controller LPDDR3 2GB	
Air Unit/Controller: EMMC 4GB	
Transmission Range: FCC20km, CE/SRCC 12km	
Latency: Min 110ms	
Resolution: 720p@30fps, 1080p@30/60fps	
Frequency Band: 2.4GHz ISM	
Receive sensitivity: -99dBm@20MHz BW	
Interference recovery: > 1s	
HERELINK Air Unit	
Model: HX4-00210	
Brand: HERELINK	
Frequency: SRD for 10MHz: 2409MHz - 2459MHz	
SRD for 20MHz: 2412MHz - 2462MHz	
Interfaces:	
① HDMI 2: Micro HDMI, for video input	
② HDMI 1: Micro HDMI, for video input (preferred)	
③ Power: 7V-12V max (3s Lipo supported) power input	
④ Micro USB: For debug or upgrade, support OTG	
⑤ Pair/Reset: For pairing and reset	
⑥ LED 1, 2: To indicate pairing status and transmission status	
⑦ UART: 3.3V / 5V UART	
1. Air Unit Status Indication and Buttons	
LED 1 (left)	
Steady Green Light: Receiving HDMI1 signal	
Steady Red Light: Receiving HDMI2 signal	
Steady Yellow Light: Receiving flight control data signal	
Changing Green/Red Light: Receiving two video signals	
Changing Green/Yellow-Red Light:	
Receiving two video signals and flight controller signal	
No Light: Receiving no valid video signal or flight controller signal	
LED 2 (right)	
Flashing Green Light: Pairing	
Steady Green Light: Receiving flight controller signal, and power is normal	
Steady Yellow Light: Unpaired/no valid signal received	
Flashing Red Light: Unstable power	
No Light: Air unit is not powered	

2. HERELINK Air Unit Set V1.1 Interfaces Definition																
Power	<table border="1"><tr><td>Pin #</td><td>Name</td><td>Description</td></tr><tr><td>1</td><td>Power</td><td>Power IN 7V-12V max (3s Lipo supported)</td></tr><tr><td>2</td><td>GND</td><td>Ground pin</td></tr></table>	Pin #	Name	Description	1	Power	Power IN 7V-12V max (3s Lipo supported)	2	GND	Ground pin						
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1	Power	Power IN 7V-12V max (3s Lipo supported)														
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UART	<table border="1"><tr><td>Pin #</td><td>Name</td><td>Description</td></tr><tr><td>1</td><td>RXD</td><td>RX of air module 3.3V / 5V TTL</td></tr><tr><td>2</td><td>TXD</td><td>TX of air module 3.3V / 5V TTL</td></tr><tr><td>3</td><td>GND</td><td>Ground pin</td></tr></table>	Pin #	Name	Description	1	RXD	RX of air module 3.3V / 5V TTL	2	TXD	TX of air module 3.3V / 5V TTL	3	GND	Ground pin			
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S.bus	<table border="1"><tr><td>Pin #</td><td>Name</td><td>Description</td></tr><tr><td>1</td><td>S bus out 1</td><td>RC output</td></tr><tr><td>2</td><td>GND</td><td>Ground pin</td></tr><tr><td>3</td><td>RSVD</td><td>For future use</td></tr><tr><td>4</td><td>GND</td><td>Ground pin</td></tr></table>	Pin #	Name	Description	1	S bus out 1	RC output	2	GND	Ground pin	3	RSVD	For future use	4	GND	Ground pin
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1	S bus out 1	RC output														
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3. Air Unit Connections																
- Mount the air unit securely to the drone.																
- Choose the best position to attach the air unit antennas. Connect the antennas to ⑨ ANT 1, ANT 2 (MMCX) on the air unit. (There shall be no metal parts or any connector attached to the antenna, Antenna shall be as far as possible. Diversity can be improved by placing antennas at ~15 degree angle as picture on P9). Please note that carbon fiber is conductive.																
- Connect ⑧ S.bus on the air unit to RCIN on flight controller.																
4. Controller and Air Unit Pairing Instruction																
Initial Pairing:																
1. Power on and unlock the controller. A warning will be shown as below:																
2. At the same time within 30s, long press the [Pair/Reset] button for 3s on the air unit to make the air unit enter pairing mode (air unit/Pair/Reset is as shown below):																
3. Wait and observe QGC on the controller side. If pairing is successful, it will pop up 'calibrate success'. Click [OK] to complete the code matching process. If calibrate failed pops up, please restart the process.																
5. Controller Antenna Assembly and Disassembly																
- To assemble the antenna, plug the omni-directional antenna into the top left hole of the controller and rotate to align. Then press and rotate clockwise lock.																
- Plug the directional antenna into the top right hole of the controller and rotate to align. Then press and rotate clockwise to lock.																
- Disassemble antennas by pressing and rotating counter-clockwise. Then they can be pulled out. (Left is for omni-directional antenna; right is for directional antenna)																
6. Pairing Air Unit and Controller																
1). Controller and Air Unit Pairing Instruction																
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7. Getting Video Stream to Work																
1. After pairing is completed, the air unit and the controller are connected successfully. Connect the air unit HDMI, turn on 1080P video input source in "Video Stream Settings" (refers to P12). The video will be displayed at the lower left corner of QGC. Click the video frame to display in full screen.																
2. Problems that may arise during transmission																
8. Auto Mode (Frequency Hopping Mode):																
It is recommended to work in this mode to automatically select the best working frequency.																
Important Notes																
1. If you connected a GoPro 6 Black and disconnect it before video is connected to the air unit, the hot swap may result in no video output from GoPro. It is suggested to restart your GoPro or place the GoPro upside down to have the image back.																
2. Air unit power input: 5V - 12.6V max (3s Lipo supported). Air unit power above that will burn the device.																
3. The temperature will rise when the air unit is connected with the controller. Temperature of the air unit can be checked on the controller side, and should be lower than 70 degrees. (If temperature rose over 70 degrees, installing a fan should be considered)																
FAQs																
1. Can language on the controller be switched?																
The system language can be switched in slide down menu, but QGC is default as English and cannot be switched.																
2. Why aren't the LEDs lit, even though the air unit are properly correctly connected?																
Check the power input. It should be 5V - 12.6V max (3s Lipo supported) and battery should have been charged.																
3. Why can't connect to 2.4GHz WiFi?																
Currently, Herelink only enables 5.8GHz WiFi for internet connection. Therefore, to load maps, you will need to connect to a 5.8GHz WiFi network.																

Warning	
Caution: The user is cautioned that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.	
This device complies with Part 15 of the FCC Rules and Industry Canada licence-exempt RSS standards. Operation is subject to the following two conditions:	
(1) the device may not cause harmful interference;	
(2) this device must accept any interference received, including interference that may cause undesired operation.	
Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:	
(1) l'appareil ne doit pas produire de brouillage, et	
(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.	
NOTE : This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.	
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