[LOGO]

[BRAND]



TECHNICAL DOSSIER & USER GUIDE

[BRAND] AeroLink GT8 HD digital video system

Installation, configuration and full technical data for the AeroLink GT8 Kit, AeroLink GT8 VTX, NightEye S2 camera and OmniWave 5.8 LHCP antennas.

22 MS LATENCY | 1080P RECORDING | STARVIS 2 SENSOR | CANVAS OSD

[Company name] · [Phone] · [Email] · [Web]

CONTENTS

Technical dossier & user guide

This guide covers installation, configuration, operation and the full technical data of the **[BRAND] AeroLink GT8** HD digital video system and its components.

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PRODUCTS COVERED

- **[BRAND] AeroLink GT8 Kit** — complete system (ref. AL-GT8K)
- **[BRAND] AeroLink GT8 VTX** — transmitter, standalone (ref. AL-GT8T)
- **[BRAND] NightEye S2** — low-light HD camera (ref. NE-S2)
- **[BRAND] OmniWave 5.8 LHCP** — antenna pair (ref. OW-58)

Please read this guide completely before installing or powering the system, and keep it for future reference. Images and drawings are illustrative.

01 · SYSTEM OVERVIEW

One link. Crystal-clear HD video.

The AeroLink GT8 is a digital FPV video system that sends live high-definition video from the drone to a compatible ground unit or goggles, with an average latency of just 22 ms. The airborne side combines three elements:

AeroLink GT8 VTX
Actively cooled 5.8 GHz transmitter with onboard 1080p/720p recording to micro SD (up to 256 GB).

NightEye S2 camera
Sony STARVIS 2 1/1.8" sensor, 160° FOV, down to 0.0001 lux.

OmniWave 5.8 LHCP
Two circularly polarized antennas, 1.9 dBi, IPEX-1.



22 ms average latency · 8 channels · Canvas OSD

Illustrative image

22 ms	8	1080p	11.1–25.2 V
AVERAGE LATENCY	CHANNELS	ONBOARD RECORDING	POWER INPUT

The transmitter connects to the flight controller over UART, so flight data from Betaflight, INAV, FETtec, KISS or ArduPilot can be displayed on the pilot's screen through the Canvas-mode OSD. The camera is compatible with Gyroflow-based stabilization of the recorded footage.

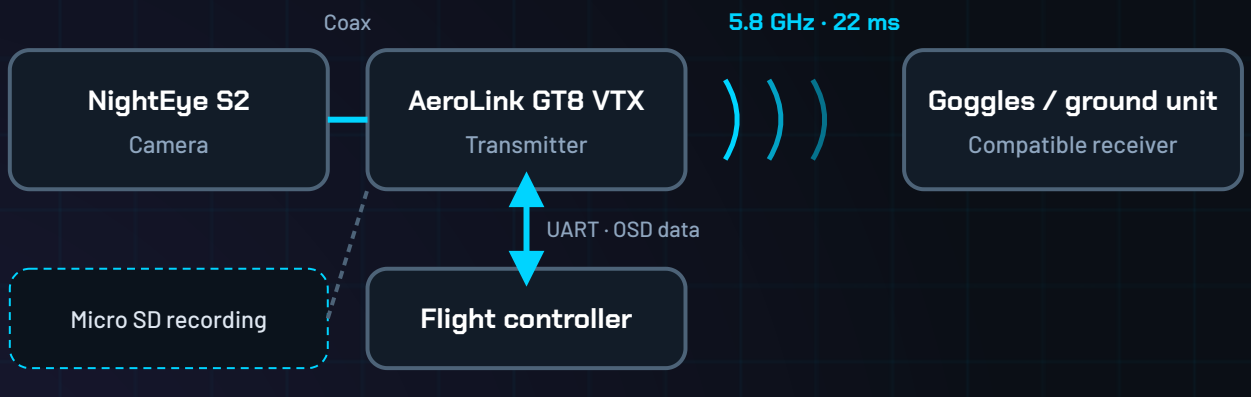
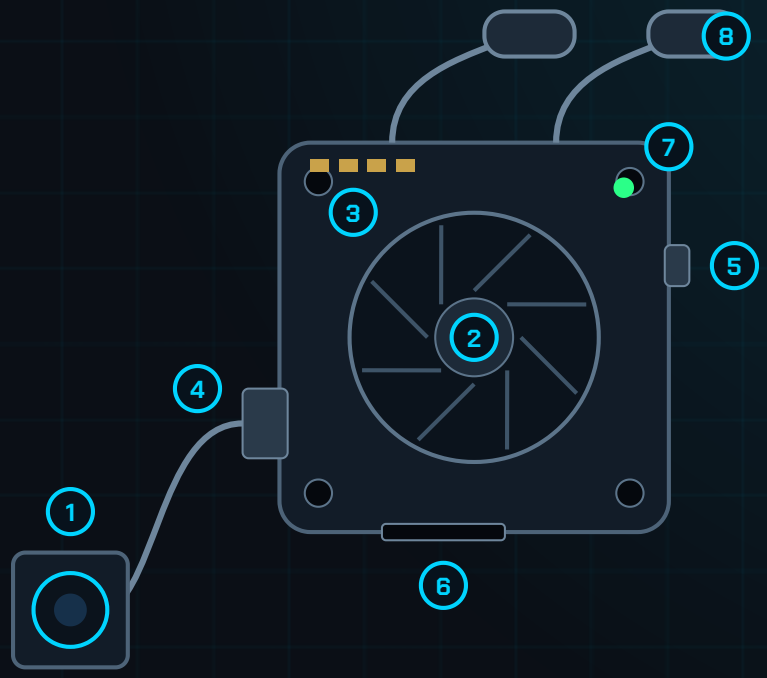


FIG. 0 — System signal chain

02 · COMPONENTS & PACKAGE CONTENTS

Get to know your system



1. Camera
2. Cooling fan
3. Serial port pads
4. Power / data port
5. Link button
6. Micro SD card slot
7. Status LED
8. Antennas (×2)

FIG. 1 — AeroLink GT8 Kit: component identification (schematic, not to scale)

AEROLINK GT8 KIT — IN THE BOX

- AeroLink GT8 VTX transmitter with built-in cooling fan
- NightEye S2 camera with 140 mm coaxial cable
- 2 × OmniWave 5.8 LHCP antennas (IPEX-1)
- 4-pin power / data cable

SOLD SEPARATELY

- **AeroLink GT8 VTX**: transmitter + 4-pin cable (camera and antennas not included)
- **NightEye S2**: camera + 140 mm coaxial cable
- **OmniWave 5.8 LHCP**: pair of antennas
- Compatible goggles / ground unit: contact [BRAND]

Micro SD card: the card slot has no spring-eject mechanism. Attach a small PVC pull-tab sticker to the card before inserting it so it can be removed easily.

03 · INSTALLATION & WIRING

Installation & wiring

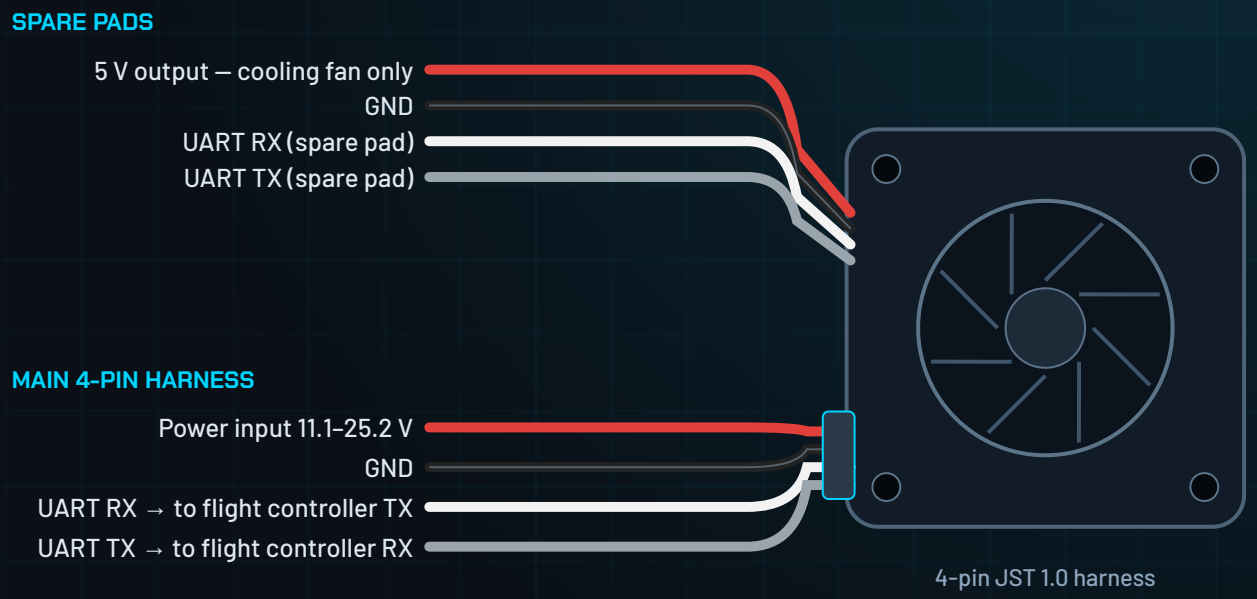


FIG. 2 — Wiring of the AeroLink GT8 VTX. The white and grey wires of the 4-pin harness carry UART data to the flight controller.

INSTALLATION STEPS

1. Mount the transmitter on the frame using the 25.5 × 25.5 mm or 20 × 20 mm mounting pattern, in a position with good airflow.
2. Fit the camera at the front of the drone and route the coaxial cable to the transmitter without sharp bends.
3. **Connect both antennas** to the IPEX connectors before applying power.
4. Solder the white (UART RX) and grey (UART TX) wires of the 4-pin harness to a free UART on the flight controller: VTX RX to FC TX, VTX TX to FC RX.
5. Connect the red (11.1–25.2 V) and black (GND) wires to the power supply.

⚠ **Power:** reference consumption is 12 V @ 1.5 A. Make sure your power source can supply this current.

⚠ **Heat:** the transmitter generates significant heat while operating. Always ensure adequate airflow for cooling.

⚠ The **5 V output** on the spare pads is intended **only** for the cooling fan. Do not power other devices from it.

ⓘ The spare UART pads (RX/TX) give you an additional serial connection option if needed.

04 · BINDING & STATUS INDICATORS

Binding the transmitter to the ground unit

BINDING PROCEDURE

1. Power on both the transmitter and the goggles / ground unit.
2. Briefly press the link button on the transmitter and the link button on the goggles. The transmitter enters pairing mode: its LED lights **red** and the goggles beep repeatedly (beep... beep... beep...).
3. When binding is complete, the transmitter LED turns **solid green**, the goggles stop beeping and the live image appears on screen.

> Binding normally only needs to be done once. Repeat it if you pair the transmitter with different goggles.

GOGGLES BUZZER

Binding in progress	Beep... beep... beep...
Firmware updating	Long-spaced beeps, then a long tone
Firmware update failed	Short beeps: beep. beep. beep.

TRANSMITTER LED

Binding in progress	Solid red
Firmware updating	Fast-flashing red
Wireless link OK, image OK	Solid green
No wireless link	Fast-flashing green
Wireless link OK, image fault	Slow-flashing green



Illustrative image

05 · FLIGHT CONTROLLER & OSD SETUP

Displaying flight data on screen

The UART connection lets the transmitter read data from the flight controller and show it in the OSD. The example below uses Betaflight Configurator; first wire the white and grey harness wires to the flight controller as shown in section 03.

BETAFLIGHT BELOW 4.4

1. Connect the flight controller to Betaflight Configurator and open the **Ports** tab. On the UART you wired (UART1 in this example) enable **Configuration / MSP** and click **Save**.
2. Open the **CLI** tab and enter the following commands:

Identifier	Configuration / MSP	Serial RX	Telemetry output
USB VCP	115200		Disabled · AUTO
UART1	115200		Disabled · AUTO
UART2	115200		Disabled · AUTO

```
set osd_displayport_device = MSP
set displayport_msp_serial = Y
save
```

Y is the UART number minus one: Y = 0 for UART1, Y = 2 for UART3, and so on.

BETAFLIGHT 4.4 AND LATER

1. In the **Ports** tab, enable **Configuration / MSP** on the wired UART, set **Peripherals** to **VTX (MSP + DisplayPort)** and click **Save**.
2. Open the **CLI** tab and enter:

Identifier	Configuration / MSP	Serial RX	Peripherals
USB VCP	115200		Disabled
UART1	115200		VTX (MSP + DisplayPort)
UART2	115200		Disabled

```
set osd_displayport_device = MSP
set vcd_video_system = HD
save
```

Other supported flight-control firmware: INAV, FETtec, KISS and ArduPilot. Refer to the documentation of your firmware for the equivalent MSP DisplayPort settings.

06 · FIRMWARE UPDATE

Keeping your transmitter up to date

Firmware updates are installed from the micro SD card. Request the latest transmitter firmware file (**.img**) from [BRAND] support.

⚠ **Do not rename the firmware file.** The transmitter only recognises the file under its original name.

UPDATE PROCEDURE

1. Copy the firmware file to the **root directory** of the transmitter's micro SD card (delete any older firmware files first). Insert the card, connect power and wait for the transmitter to start up.
2. Press and hold the transmitter's link button for **8 seconds** and release it once the LED goes out. The transmitter restarts automatically and enters update mode: the LED changes from flashing red to solid red, then switches off.
3. The update takes about **20 seconds**. **Do not disconnect power** during this time.
4. When the update has finished successfully, the transmitter LED flashes green.

⚠ If the LED stays lit and the update does not start, the firmware file was not detected or is incorrect. Check the file and its name, then try again.

ⓘ **Micro SD tip:** the slot has no spring-eject. Attach a PVC pull-tab sticker to the card before inserting it.



Copy to the micro SD root folder

FIG. 3 — Firmware file location

07 · TECHNICAL SPECIFICATIONS

Technical specifications

AEROLINK GT8 VTX

Frequency band	5.725 – 5.850 GHz
Transmit power (EIRP)	Max. 33 dBm · FCC <30 dBm · CE <14 dBm · SRRC <20 dBm · MIC <25 dBm
Latency	22 ms average
Channels	8
Onboard recording	1080p / 720p
Storage	Micro SD slot, up to 256 GB
Power input	11.1 – 25.2 V (reference consumption 12 V @ 1.5 A)
Connections	4-pin JST 1.0 (power + UART) · 2 × IPEX antenna connectors
OSD	Canvas mode (MSP DisplayPort)
Supported flight controllers	Betaflight · INAV · FETtec · KISS · ArduPilot
Mounting holes	25.5 × 25.5 mm and 20 × 20 mm
Dimensions	33.8 × 33.8 × 23.4 mm
Weight	29.7 g
Operating temperature	–10 °C to 40 °C

NIGHTEYE S2 CAMERA

Image sensor	Sony STARVIS 2, 1/1.8"
Video modes	1080p @ 100 fps · 1080p @ 60 fps · 720p @ 100 fps · 720p @ 60 fps
Aspect ratio	4:3 and 16:9
Lens	8 MP lens
Field of view	160°
Aperture	F1.6
Shutter	Rolling shutter
Minimum illumination	0.0001 lux
Coaxial cable	140 mm
Dimensions	19 × 19 × 24 mm
Weight	9.5 g

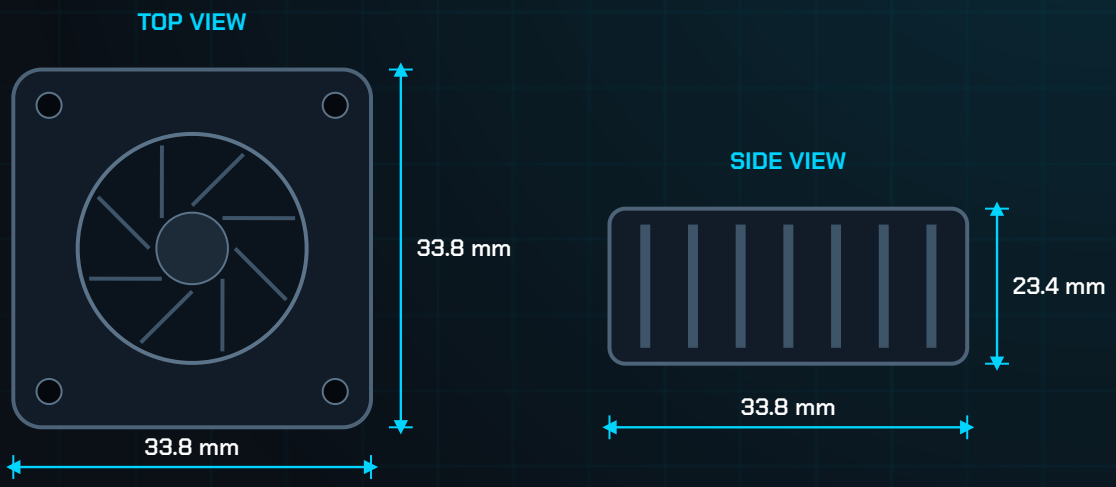
OMNIWAVE 5.8 LHCP ANTENNAS

Polarization	Left-hand circular (LHCP)
Frequency range	5600 – 6000 MHz
Average gain	1.9 dBi
Impedance	50 Ω
VSWR	≤ 1.5
Connector	IPEX-1
Dimensions	Ø 15 × 45 mm (excl. cable)
Weight	2 g per unit

ⓘ All figures are the manufacturer's published values and may change without notice.

08 · DIMENSIONS

Dimensions



Mounting holes: 25.5 × 25.5 mm and 20 × 20 mm

FIG. 4 — AeroLink GT8 VTX dimensions (schematic, not to scale)



Depth: 24 mm · Weight: 9.5 g

FIG. 5 — NightEye S2 camera and OmniWave 5.8 LHCP antenna dimensions (schematic, not to scale)

ⓘ Leave space around the transmitter for airflow and make sure the fan intake is not blocked when planning the installation.

09 · SAFETY & REGULATORY NOTES

Safety & regulatory notes

BEFORE EVERY FLIGHT

1. **Install all antennas before powering on.** Operating without antennas can damage the electronics.
2. When **standby mode** is enabled, output power is limited to 10 mW. Before take-off, arm (unlock) the flight controller or disable standby mode.
3. If other 5.8 GHz equipment is operating nearby, select a different channel to avoid interference.
4. When using Gyroflow stabilization, mount the camera on a vibration-damped platform; otherwise stabilization may not work correctly.
5. Ensure adequate airflow around the transmitter at all times; it becomes hot during operation.

⚠ Check that your power source can deliver the reference consumption of 12 V @ 1.5 A, and use the 5 V spare-pad output for the cooling fan only.

⚠ Never disconnect power while a firmware update is in progress (approx. 20 seconds).

ⓘ Keep the drone, transmitter and antennas away from children. Do not modify the electronics.

RADIO REGULATIONS

⚠ **European Union:** the maximum permitted transmit power for this equipment is **CE <14 dBm EIRP**. Configure the system to comply before use. Higher power levels (FCC <30 dBm, max. 33 dBm) are intended only for regions where they are legally allowed.

CE (EU)	<14 dBm
SRRC	<20 dBm
MIC	<25 dBm
FCC	<30 dBm
Maximum	33 dBm

ⓘ The user is responsible for operating the equipment in accordance with local radio and drone regulations, including any licence or registration requirements.

Declaration of conformity: [Insert CE declaration / certification details of [BRAND]]

10 · TROUBLESHOOTING, WARRANTY & SUPPORT

Troubleshooting

SYMPTOM	WHAT TO CHECK
No image; transmitter LED fast-flashing green	No wireless link. Check antennas, make sure goggles are on, and repeat the binding procedure (section 04).
Link OK but no/incorrect image (LED slow-flashing green)	Check the camera coaxial cable and its connection to the transmitter.
Weak signal or short range at take-off	Standby mode limits power to 10 mW. Arm the flight controller or disable standby mode.
Interference / noisy image	Other 5.8 GHz devices nearby: select a different channel.
No OSD data on screen	Check UART wiring (VTX RX → FC TX, VTX TX → FC RX), MSP enabled on the correct UART and the CLI settings (section 05).
Firmware update does not start (LED stays lit)	Firmware file missing, renamed or incorrect. Place the original file in the micro SD root and retry.
Goggles: short beeps after update	Update failed. Repeat the update procedure without interrupting power.
Transmitter very hot	Check that the fan is connected and running and that the unit has airflow.
Recorded footage shaky with Gyroflow	Mount the camera on a vibration-damped platform.

Warranty

[Warranty period and conditions of [BRAND] — e.g. duration, coverage, exclusions, how to make a claim]

TECHNICAL SUPPORT

Company	[Company name]
Phone	[Phone]
Email	[Email]
Web	[Web]

Specifications according to manufacturer data, subject to change without notice. Images and drawings are for illustration purposes only.



SUPPORT

We are here to help

Technical support, firmware files, spare parts and volume pricing for drone integrators and manufacturers.

SALES & TECHNICAL CONTACT

Company	[Company name]
Phone	[Phone]
Email	[Email]
Web	[Web]

[LOGO]