



Bolt 4K LT

750/1500/MAX Zero Delay Wireless
Transmitter and Receiver

Quick Start Guide



PHYSICAL PROPERTIES

Bolt 4K LT (TX)



Bolt 4K LT (RX)



- A: RP-SMA connectors
- B: 6-28V DC power input
- C: HDMI input
- D: 3G-SDI output
- E: 3G-SDI input
- F: OLED display
- G: Menu joystick
- H: Power switch
- I: USB port (not shown)
- J: HDMI output

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4K ZERO-DELAY WIRELESS SYSTEM

Bolt 4K LT is the newest entry-level wireless video system to be introduced to the Bolt 4K family. Bolt 4K LT devices are fully compatible with all other Bolt 4K devices, are capable of transmitting 10-bit, 4:2:2 HDR video at a range of up to 750 feet, 1500 feet, or 5000 feet line-of-sight over the unlicensed 5GHz band, and can multicast to 6 receivers simultaneously. For HDR workflows, Bolt 4K LT supports the HDR-10, PQ, and HLG standards and can transport extended camera metadata, timecode, and record triggers over the wireless link.

WHAT'S INCLUDED

- 1x Bolt 4K LT Transmitter
- 1x Bolt 4K LT Receiver
- 1x Lightstand Adapter 1/4"-20
- 1x Hot Shoe Adapter
- 1x 2pin Connector to Power Tap - 18in Cable
- 1x Micro-USB (5pin) to USB Cable (Firmware)
- 2x Ultra Thin HDMI Male Type A (Full) - HDMI
- 2x 3G-SDI BNC to BNC Cable Length: 10in
- 1x 2pin Connector to 18W AC Adapter (Int) - 6ft
- 7x Antenna 2dBi WIFI 2.4/5.8GHz (Small Antenna)

POWER AND CONNECT

- 1 Connect the output from your video source to either the SDI or HDMI input (**C or E**) on the Bolt transmitter. Connect either the SDI or HDMI output (**D or L**) from the Bolt receiver to the video input on your monitor.

NOTE: If mounted upright on a stand above the monitor, use a right-angle SDI adapter to relieve any strain caused by the weight of the cable, and to avoid damaging the SDI output's internal connectors.

- 2 Attach four 2dBi antennas to the transmitter and five antennas to the receiver via the threaded RP-SMA connectors (**A**).

If using Horizontally Polarized "H" antennas: Attach one "H" antenna to the connector in front of the transmitter (closest to the front panel display), and one 2dBi antenna to the opposite connector. Attach the three 2dBi antennas to the receiver's center connectors and the two "H" antennas to the left and right connectors (see image).

- 3 Connect power to the transmitter and receiver using the included A/C adapter, or if both devices are equipped with battery plate accessories, attach a compatible battery (Gold or V mount).



If using an Array Antenna: Connect the receiver's three center connectors to the Array Antenna connections labeled "**V**," then connect the left and right connectors to the "**H**" connections using the RP-SMA connectors (**see image below**).



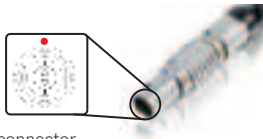
H-V configuration

- 4** Move the power switches on both the transmitter and receiver (**H**) to the ON position. Video appears within a few seconds.

POWER CONNECTOR/PIN-OUT

Bolt uses a 2-pin power connector

<u>Pin</u>	<u>Description</u>
1*	GND
2	+DC



* Pin 1 is closest to the red dot on the connector

CUSTOM/THIRD PARTY CABLES

- Test the power cable polarity with **ONLY** the power cable connected to Bolt. Do not connect video cables.
- Check the power cable for shorts and proper grounding.

CAUTION: Using a reverse polarity or improperly-constructed power cable can damage the product and is not covered under warranty.

MOUNTING

Bolt 4K LT devices have a 1/4"-20 threaded hole (additional 3/8"-16 threaded hole on the receiver) on the bottom for mounting the included light stand adapter or any other mounting accessory.

- Mount the Bolt transmitter vertically, keeping the antennas clear of any obstructions.
- Orient the transmitter and receiver antennas so they are parallel to each other.
- For best results, orient the transmitter antennas so each one has clear line-of-sight to the receiver.

Bolt 4K LT receivers can be mounted vertically on a light stand or monitor.

Bolt 4K LT transmitters mount vertically on a camera.

CAUTION: DO NOT OVERTIGHTEN SCREWS INSERTED INTO THE 1/4"-20 OR 3/8"-16 THREADED HOLES. Doing so can damage the transmitter's chassis and internal components, voiding the warranty.



MOUNTING ARRAY ANTENNA

The Array Antenna has three 3/8" threaded holes: one on the bottom for mounting the included light stand adapter or any 3/8" mounting accessory, and one on each side to mount to a yoke mount bracket assembly.

- Mount the Array Antenna vertically, keeping it clear of any obstructions.
- Orient the transmitter and receiver so they are parallel to each other.
- For best results, orient the Array Antenna so the front (with the Teradek logo) has a clear line-of-sight to the transmitter.

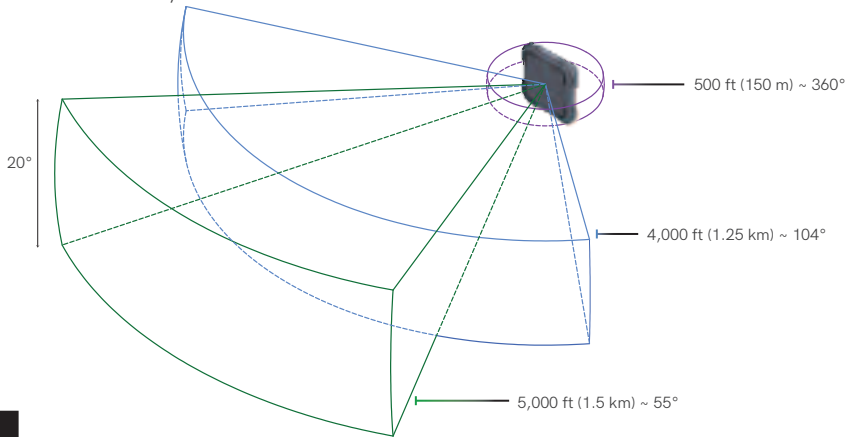
CAUTION: DO NOT OVERTIGHTEN
SCREWS INSERTED INTO
THE RECEIVER'S 3/8" THREADED HOLES.

Doing so can damage the receiver's chassis,
voiding the warranty.



ARRAY ANTENNA RECEIVE PATTERN

The Array Antenna has a built-in directional antenna with a receive pattern that varies based on its distance from the transmitter. The horizontal receive angle measures 55° at 5,000 ft (1.5 km), 104° at 4,000 ft (1.25 km), and is effectively omni directional at up to 500 ft (150 m). The vertical receive angle measures 20° at any distance.



RECEIVER MENU

Receiver Status Screens - Cycle through status screens or return from the menu by pressing the Menu joystick (**G**).

- **Main Status Screen** - This screen displays the status of the wireless receiver, along with the current video resolution, frequency, and link quality (if connected).
- **Time Code Screen** - Displays the current time code if received from the transmitter.
- **Info Screen** - Displays the current voltage and internal temperature of the unit.
- **TX Info** - Displays the name of the transmitter.

Menu Operation - Launch, then navigate through the menu with the Menu joystick (**G**), or from the Bolt App (pg. 10).

- **Switch TX** - Select a different transmitter (paired transmitters only).
- **Wireless Settings** - Configure the transmitter's wireless settings.
 - **Enable Fixed Frequency** - Fixed Frequency Mode allows your Bolt 4K LT to designate a specific non-DFS channel within the selected wireless region for use, providing a stronger connection in difficult environments.
 - **Bandwidth** - Choose between 20MHz and 40MHz bandwidth options
 - **Frequencies** - Select which frequency to use (determined by **Fixed Frequency Mode** selection).
- **Spectrum Analyzer** - Determine which frequencies are available to use.
- **Signal Quality Graph** - Determine the quality and reliability of the signal being received.
- **Pair** - Pair your transmitter with another receiver. Once Pairing is activated on the transmitter, activate Pairing on the receiver.
- **Unpair** - Unpair your transmitter and receiver.
- **HDMI Settings** - Select the HDMI color output.

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- **Test Pattern** - Select a video format to output a test pattern. Remove the test pattern by pressing left on the Menu joystick.
 - **Audio Settings** - Configure Bolt's Audio settings. If **Beep on REC** is activated, you will hear a short tone whenever the camera begins or stops recording. The Mute Settings allow you to select between completely muting the audio, not muting the audio, or muting the audio while recording.
 - **Bluetooth Settings** - Enable or disable Bluetooth communication.
 - **Video OSD Settings** - Choose when to display the OSD. By default, the OSD is displayed when no video is received. Selecting the **Never show** option disables the OSD. The **Show when operating** option hides the OSD until it is activated by the joystick. Selecting **Show when no video** will display the OSD when there is no video feed, and will hide OSD when video appears (default). If **Always show OSD** is selected, the OSD will always be displayed unless temporarily deactivated by the Menu joystick.
 - **Display Settings** - Use the Display Settings to control the OLED display operation. By default, the OLED display will invert every 10 minutes. You can set the display to invert every 30 minutes (lengthens the display life), or it can dim or turn off after 10 seconds or 10 minutes.
 - **Reset All Settings** - Reset all configurable options to their factory defaults.
 - **Device Info** - Displays the model and serial number.
 - **Firmware Versions** - Displays the model and serial number.

TRANSMITTER MENU

Transmitter Status Screens - Cycle through status screens or return from the menu by pressing the Menu joystick (**G**).

- **Main Status Screen** - This screen displays the status of the wireless receiver, along with the current video resolution, frequency, link quality (if connected).
- **Info Screen** - Displays the current voltage and internal temperature of the unit.
- **HDMI Status Screen** - Displays the status of your HDMI signal.

Menu Operation - Launch, then navigate through the menu with the Menu joystick (**G**), or from the Bolt App (pg. 10).

- **Wireless Settings** - Configure the transmitter's wireless settings.
 - o **Enable Broadcast Mode (MAX only)** - Broadcast Mode enables Bolt 4K LT to extend its range when used with the Array Antenna, and to transmit to an unlimited number of receivers (**non-DFS** channels only). **NOTE: TX and RX must be paired again after enabling Broadcast Mode.**
 - o **Enable Fixed Frequency** - Fixed Frequency Mode allows your Bolt 4K LT to designate a specific non-DFS channel within the selected wireless region for use, providing a stronger connection in difficult environments.
 - o **Bandwidth** - Choose between 20MHz and 40MHz bandwidth options
 - o **Frequencies** - Select which frequency to use (determined by **Fixed Frequency Mode** selection).
 - o **Video Quality** - Select a Video Quality setting to modify or balance the range and reliability of your signal. Select **Longer Distance** for situations where other sources of interference might be present, **Better Quality** for complex, high-contrast situations where artifacts need to be visible, or **Low Power** to reduce the amount of power your transmitter uses when your power source is low.

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- **Pair** - Pair your transmitter with another receiver. Once **Pairing** is activated on the transmitter, activate Pairing on the receiver.
 - **Unpair** - Unpair your transmitter and receiver.
 - **Bluetooth Settings**- Enable or disable Bluetooth communication.
 - **Display Settings** - Use the Display Settings to control the OLED display operation. By default, the OLED display will invert every 10 minutes. You can set the display to invert every 30 minutes (lengthens the display life), or it can dim or turn off after 10 seconds or 10 minutes.
 - **Reset All Settings** - Reset all configurable options to their factory defaults.
 - **Device Info** - Displays the model and serial number.
 - **Firmware Versions** - Displays the current firmware versions for all device components.

BOLT MANAGER

Bolt Manager allows you to configure, pair, and upgrade your Bolt device. Bolt Manager is available as software for Mac and Windows at www.teradek.com/pages/downloads, or for purchase as a standalone device. **NOTE: Available configuration settings will differ between Bolt models.**


BOLT APP

Use the Bolt App to remotely manage and monitor every parameter of the Bolt 4K including pairing, channel selection, and 3D LUTs.

CONNECT VIA BLUETOOTH


- 1 Download the Bolt App from the App Store.
- 2 Navigate to the Bluetooth menu on both the transmitter and receiver, then select Enable (see pages 6-8).
- 3 Open the Bolt App from your iOS device, then tap the **Bolt Devices** button.
- 4 Select the device you want to monitor.

TRANSMITTER STATUS DISPLAY

- **Settings** (Shortcut to menu items listed on pg. 8) - Tap the  button at the top of the display to customize the transmitter's various settings.
- **Status**- Displays the current input resolution, frequency, camera recording status, and temperature.



RECEIVER STATUS DISPLAY

- **Settings** (Shortcut to menu items listed on pg. 8) - Tap the  button at the top of the display to customize the receiver's various settings such as the output format, audio, display and OSD.
- **SNR** (Signal to Noise Ratio) - Compare the signal power level to the noise power level from the attached antennas.
- **Range** (Quality/Range Analyzer) - Displays the transmission distance between the transmitter and receiver.
- **Spectrum** (Spectrum Analyzer) - Detect congestion in the area and determine which frequencies are available to use.
- **Paired TX** - Displays the name, link status, and input resolution of the paired transmitter.
- **Status** - Displays the current output resolution, frequency, camera recording status, and temperature.







Teradek regularly releases new firmware versions to improve performance, add features, or fix vulnerabilities. [teradek.com/pages/downloads](https://www.teradek.com/pages/downloads) contains all the latest firmware and software updates. Visit [teradek.com/contact](https://www.teradek.com/contact) for tips, information, and to submit help requests to Teradek's support team.

