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› Spectra Precision HL760 Laser Level Receiver User Manual

Spectra Precision HL760

Spectra Precision HL760 Laser Level Receiver User Manual

Digital Readout Laser Receiver for Construction and Surveying

1. INTRODUCTION

The Spectra Precision HL760 is an advanced digital readout laser receiver designed to provide precise elevation measurements for various construction and surveying applications. It features large front and rear LCD displays for clear visibility, digital readouts for exact cut/fill information, and selectable units of measure. Built for durability, the HL760 is waterproof and resistant to harsh job site conditions.

This manual provides essential information for the proper setup, operation, maintenance, and troubleshooting of your HL760 Laser Level Receiver.

2. SAFETY INFORMATION

- Always operate the device in accordance with the instructions provided in this manual.
- Do not attempt to disassemble or modify the receiver. This may void the warranty and cause damage.
- Ensure batteries are inserted correctly to prevent damage to the device.
- Keep the receiver clean and free from debris to ensure optimal performance.
- Avoid direct exposure to extreme temperatures or prolonged sunlight when not in use.

3. PRODUCT OVERVIEW

The HL760 Laser Level Receiver is equipped with features designed for efficiency and accuracy.





HL760



Figure 3.1: Front view of the Spectra Precision HL760 Laser Level Receiver, showing the LCD display and control buttons.

HL760 Digital Readout Laser Receiver

PERFORMANCE

Digital readout of elevation means you do not even need to get the receiver to the on-grade position because it displays how far from on-grade you are - allowing you to work faster and more accurately.

ADVANCED TECHNOLOGY

Reception performance not affected by the beam diameter. Consistent accuracy over the whole operating range.

ANTI-STROBE SENSOR

Anti-strobe sensor prevents false readings from jobsite safety lights.

RADIO COMMUNICATION

Receiver talks to Spectra Precision grade lasers to enable advanced features such as GradeMatch, Axis Alignment, PlaneLok and Automatic Vertical Alignment.

DURABLE DESIGN

IP67 rating is dust and waterproof. Designed to withstand a 10 ft (3 m) drop.

SPECIFICATIONS

5 inch (12.7 cm) reception height
6 accuracy setting to meet all jobsite requirements.



Figure 3.2: HL760 Digital Readout Laser Receiver highlighting key features such as performance, radio communication, advanced technology, durable design, anti-strobe sensor, and specifications.

Key Components:

- **LCD Displays:** Large front and rear displays for digital readout and status indicators.
- **Laser Detection Window:** 12.7 cm (5 inch) reception height for quick beam acquisition.
- **Control Buttons:** For power, unit selection, audio, and capture functions.
- **Battery Compartment:** Located at the rear for 2 AA batteries.
- **Rod Clamp Mount:** For attaching the receiver to a grade rod.

4. SETUP

4.1 Battery Installation

1. Locate the battery compartment cover on the rear of the HL760.

2. Open the cover by sliding or unlatching it.
3. Insert two (2) AA alkaline batteries, ensuring correct polarity (+/-) as indicated inside the compartment.
4. Close the battery compartment cover securely.

4.2 Mounting the Receiver

The HL760 can be mounted onto a grade rod using the provided rod clamp.

1. Attach the rod clamp securely to your grade rod at the desired height.
2. Slide the HL760 receiver into the clamp, ensuring it is firmly seated and oriented correctly for laser detection.
3. Tighten the clamp screw to prevent movement during operation.



Figure 4.1: The HL760 receiver attached to a grade rod, ready for elevation measurement.

5. OPERATING INSTRUCTIONS

5.1 Power On/Off

- To power on the HL760, press the **Power** button (often labeled with a lightning bolt or power symbol).
- To power off, press and hold the **Power** button for approximately 3 seconds.

5.2 Digital Readout Interpretation

The HL760 features large LCDs that display the exact distance from the laser beam's on-grade position. This allows for fast and easy cut/fill readings without needing to move the rod clamp to achieve an on-grade indication.

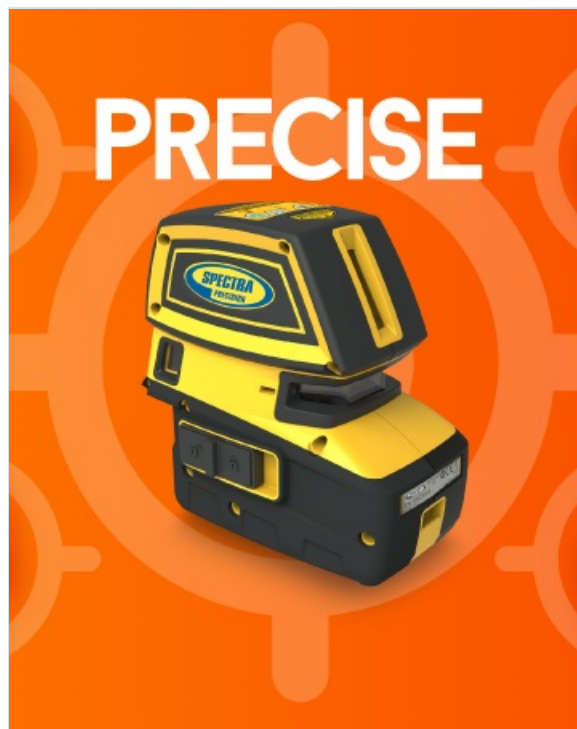


Figure 5.1: Close-up of the HL760's digital readout displaying a measurement in fractional inches, indicating the deviation from the laser plane.

- A positive value indicates the receiver is above grade (fill).

- A negative value indicates the receiver is below grade (cut).
- A zero value indicates the receiver is precisely on-grade.

5.3 Unit Selection

The HL760 allows you to select your preferred unit of measure.

- Press the **mm/in** button to cycle through available units: millimeters (mm), centimeters (cm), feet (ft), inches (in), or fractional inches.
- The selected unit will be displayed on the LCD.

5.4 "Fingerprinting" Technology

The unique "Fingerprinting" feature allows the HL760 to be paired with a specific Spectra Precision laser transmitter. Once paired, the receiver will only detect the laser beam from its assigned transmitter, effectively filtering out interference from other lasers on the job site.

- Refer to your laser transmitter's manual for specific pairing instructions.
- Typically, pairing involves a sequence of button presses on both the transmitter and receiver.

5.5 Radio Communication

The HL760 features two-way radio communication, enabling advanced functions:

- **Remote Display and Monitoring:** Allows another HL760 or HL760U receiver to act as a remote display.
- **GradeMatch and PlaneLok:** When used with Spectra 400 Series lasers, the HL760 can facilitate GradeMatch (matching the slope of an existing surface) and PlaneLok (locking the laser plane to a specific elevation).

5.6 Anti-Strobe Sensor

The integrated anti-strobe sensor prevents false readings that can occur due to flashing lights or strobe lights commonly found on construction sites, ensuring reliable and accurate measurements.

5.7 Audio Indicator

The HL760 provides an audible tone to indicate the position of the laser beam relative to on-grade. This is useful in situations where the display is not easily visible.

- Press the **Audio** button (often labeled with a speaker icon) to toggle the audio on or off.
- Different tones indicate above grade, below grade, or on-grade.

6. MAINTENANCE

6.1 Cleaning

The HL760 is designed to be waterproof (IP67 rated) and can withstand harsh conditions. To clean the receiver:

- Wipe the exterior with a damp cloth.
- For heavy dirt or mud, the unit can be rinsed under running water. Ensure the battery compartment is securely closed before rinsing.
- Do not use abrasive cleaners or solvents, as these may damage the housing or display.



Figure 6.1: The HL760 receiver being rinsed, demonstrating its waterproof design.

6.2 Battery Replacement

When the battery indicator on the LCD shows low power, replace the batteries promptly to ensure continuous operation. Follow the battery installation steps in Section 4.1.

6.3 Storage

When not in use for extended periods, remove the batteries to prevent leakage and store the HL760 in a dry, temperate environment.

7. TROUBLESHOOTING

If you encounter issues with your HL760, refer to the following table for common problems and solutions.

Problem	Possible Cause	Solution
Receiver does not power on.	Dead or incorrectly installed batteries.	Replace batteries with new AA alkaline batteries, ensuring correct polarity.
No laser detection.	Laser transmitter is off, out of range, or receiver is not aligned.	Ensure laser is on and operating. Check range. Re-align receiver to the laser plane.
Inaccurate or inconsistent readings.	Interference from other lasers, dirty detection window, or incorrect accuracy setting.	Use "Fingerprinting" feature to pair with specific laser. Clean detection window. Check accuracy setting.
Display is dim or flickering.	Low battery power.	Replace batteries.
Audio alert not working.	Audio is turned off.	Press the Audio button to toggle it on.

If the problem persists after attempting these solutions, contact Spectra Precision customer support.

8. SPECIFICATIONS

Feature	Specification
Working Radius	1 m - 460 m (3 ft - 1500 ft) (Laser dependent)
Laser Detection Height	127.0 mm (5 inches)
Numeric Readout Height	102.0 mm (4 inches)
Internal Radio Communication	Full 2-way communication, operation and security lock with paired device
Radio Working Radius	Up to 220 m (720 ft), depending on orientation, conditions, and paired device
Accuracy (Dead band)	Ultra Fine: 0.5 mm (0.02 in, 1/32 in) Super Fine: 1.0 mm (0.05 in, 1/16 in) Fine: 2.0 mm (0.10 in, 1/8 in) Medium: 5.0 mm (0.20 in, 1/4 in) Coarse: 10.0 mm (0.50 in, 1/2 in)
Reception Angle	45 degree minimum
Detectable Spectrum	610 nm – 780 nm (HL760)
Durability	Waterproof (IP67), withstands 3-meter (10 ft) drop onto concrete
Power Source	2 AA alkaline batteries
Dimensions (L x W x H)	7.87 x 3.15 x 4.33 inches (200 x 80 x 110 mm)
Weight	1.57 pounds (0.71 kg)

9. WARRANTY

The Spectra Precision HL760 Laser Level Receiver comes with a **3-year limited warranty**. This warranty covers defects in materials and workmanship under normal use. For full details regarding warranty terms, conditions, and claim procedures, please refer to the official Spectra Precision warranty documentation or contact customer support.

10. SUPPORT

For additional assistance, technical support, or service inquiries, please visit the official Spectra Precision website or contact their customer service department. Contact information can typically be found on the product packaging or the manufacturer's website.

Spectra Precision Website: www.spectraprecision.com

