



HR550 Receiver

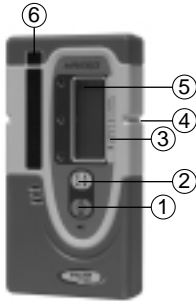
User Guide

HR550 Receiver

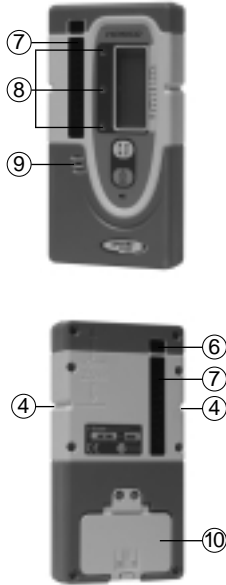
The HR550 is a battery-operated, hand-held, laser receiver that detects a rotating laser beam.

Features and Functions

1. **Power/Audio Button**—is a multi-functional button that turns the receiver on/off and allows you to adjust the audio volume.
2. **Grade-Sensitivity Button**—allows you to cycle through receiver's on-grade sensitivities, which include fine: 1.5 mm ($\frac{1}{16}$ in.); medium: 3 mm ($\frac{1}{8}$ in.); and coarse: 6 mm ($\frac{1}{4}$ in.). This button also allows you to select ultra-fine: 0.10 mm (0.004 in.) and super-fine: 1.00 mm ($\frac{1}{32}$ in.) grade sensitivity when used with the power/audio button.
3. **Offset Distance Scale**—coincides with the LCD bar display and is used to work at an offset distance from on-grade. Three offset scales, which include metric, hundredths of a foot, and inches, are available. Simply place the decal appropriate for your needs on the right side of the LCD.
4. **Marking Notches**—align with the on-grade portion of the photocells and are used to mark elevation readings. The marking notches are on both sides of the receiver and are 50 mm (2 inches) from the top of the receiver.
5. **Liquid Crystal Display (LCD)**—shows the elevation, grade sensitivity, audio, out-of-level, and battery status.
6. **Anti-Strobe Sensor**—detects the presence of strobe or any other flashing lights and eliminates any receiver response to them.



7. **Front and Back Photocells**—detect the laser beam when it strikes the receiver. The dual photocells allow you to face the LCD and LEDs and have access to the control buttons, regardless of your position relative to the laser beam. If the receiver does not detect the laser beam for 30 minutes, the receiver shuts off automatically.
8. **LEDs**—show the position of the receiver relative to the laser beam (above grade, on grade, or below grade).
9. **Audio Port**—is the opening the sound comes out of.
10. **Battery Housing**—holds two AA alkaline or NiMH batteries.



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How to Use the Receiver

Installing the Batteries

1. Open the batteries door using a coin or your thumbnail.
2. Insert the batteries as shown noting the plus (+) and minus (–) diagrams inside the housing.
3. Push the battery door down until it “clicks” into position.



Learning the Receiver Functions Standard

Turning On/Off the Receiver

1. Press the power/audio button to turn on the receiver.
Note: When the receiver is initially turned on, all LCD symbols and LEDs are turned on for 1 second (diagnostic mode). After the diagnostic mode is complete, all the symbols of the last selected modes appear.
2. Press and hold the power/audio button for 2 seconds to turn off the receiver.



Selecting the Audio Function

The receiver always starts up with the last selected audio level (the factory default setting is soft).

1. Press the power/audio button repeatedly to cycle through the audio levels, which include off, soft, and loud.

Note: The receiver beeps quickly when the receiver is above the laser beam, slowly when below it, and continuously when centered in the laser beam or on grade.



Selecting the Grade Sensitivity

The receiver always starts up in the last selected on-grade sensitivity (the factory default setting is fine).

1. Press the grade-sensitivity button repeatedly to cycle through the fine, medium, and coarse on-grade sensitivities.
2. To select ultra-fine on-grade sensitivity, press and hold the grade-sensitivity and power/audio buttons for from 2 to 5 seconds.

Note: As you hold the buttons, the fine symbol flashes to indicate that the ultra-fine on-grade sensitivity is selected.

3. To change from the ultra-fine to the super-fine on-grade sensitivity, press and hold the grade sensitivity and power/audio buttons from 5 to 10 seconds.



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Note: The fine and medium symbols flash to indicate that super-fine on-grade sensitivity is selected.

4. Release both buttons when the sensitivity that is appropriate for your application needs appears in the LCD.

Note: To power up the receiver in the ultra-fine or super-fine on-grade sensitivity, press both buttons simultaneously from 10 to 15 seconds. To confirm, that the selected on-grade sensitivity has been stored, all LCD symbols and LEDs flash.

Turning On/Off the LEDs

The LEDs show the position of the receiver relative to the laser beam. The red LED flashes when the receiver is within 13 mm ($\frac{1}{2}$ in.) of being on grade and lights continuously when the receiver is between 13 and 25 mm ($\frac{1}{2}$ in. and 1 in.) of being above or below the laser beam. The green LED flashes when the receiver is on grade.

The LEDs can also be used for lost beam indication. If the LEDs are turned on, the high or low red LED flashes for 20 seconds to show the direction to move the receiver to reacquire the beam. For additional lost beam indication, a bank of up or down arrows in the LCD flash for 20 seconds to show the direction to move the receiver to reacquire the beam.

Turning off the LEDs extends battery life.

The factory defaults setting for the LEDs is on.

1. Press the grade-sensitivity and power/audio buttons repeatedly to turn the LEDs on or off.

Note: To store the selected setting, press both buttons simultaneously from 10 to 15 seconds. To confirm that the selected setting has been stored, all LCD symbols and LEDs flash.



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LCD/LED/Audio Information

LCD Readout	Function	Audio Output	LED Indication
4 to 7 down arrows ▼	High	Fast beeping tone	Top LEDs: solid red
2 to 3 down arrows ▼	Medium-high	Fast beeping tone	Top LEDs: flashing red
Center bar & 1 down arrow ▬	Fine-high	Fast beeping tone	Top LEDs: flashing red
Center bar ▬	On-grade	Continuous tone	Flashing green
Center bar & 1 up arrow ▬	Fine-low	Slow beeping tone	Bottom LEDs: flashing red
2 to 3 up arrows ▲	Medium-low	Slow beeping tone	Bottom LEDs: flashing red
4 to 7 up arrows ▲	Low	Slow beeping tone	Bottom LEDs: solid red
Level vial- with out-of-level bubble	Laser out-of-level alert	High/low beeping tone (audio must be on)	-----
Battery	Low battery	N/A	N/A
Horn	Audio on soft/loud	Single beep	-----
Flashing horn	Audio off at on-grade	-----	-----
Flashing arrow ▼/▲	Lost beam indication	N/A	Flashing red
-----	Line alert on	Beep on 1-Hz rate	All LEDs flash for 3 seconds
-----	Line alert off	N/A	Both red LEDs flash
All icons on the LCD appear for 1 second	Power on	Single beep	All LEDs flash for 1 second
Flashing fine	Ultra-fine grade sensitivity	N/A	N/A
Flashing fine and medium	Super-fine grade sensitivity	N/A	N/A
Fine	Fine grade sensitivity	N/A	N/A
Medium	Medium grade sensitivity	N/A	N/A
Coarse	Coarse grade sensitivity	N/A	N/A

Advanced

Turning On/Off Line Alert

Line alert is used primarily when the laser is in vertical mode to control the “on-grade” alignment of the laser beam.

Note: To power up the receiver with line alert mode on, the function must be stored by pressing and holding the grade-sensitivity and power/audio buttons from 10 to 15 seconds. To confirm that the selected alert has been stored, all LCD symbols and LEDs flash.

The receiver always starts up in the last stored line alert mode. If the receiver starts up with the line alert on, all LEDs flash simultaneously and the receiver beeps for 3 seconds.

1. Press and hold the grade-sensitivity button for 5 seconds to enter the line-alert mode.
Note: The receiver cycles through the line alert settings, which include on and off, every 3 seconds.

Note: When line alert is on, all LEDs flash simultaneously and the receiver beeps for 3 seconds. When line alert is off, both red LEDs flash for 3 seconds.

Note: On-grade monitoring starts after 5 seconds of a continuous on-grade condition. To confirm that the laser beam is still aligned to on-grade, all LEDs flash once per second every 10 seconds. If the laser beam is disturbed or moved from on-grade, after 5 seconds the LEDs start flashing. After 45 seconds of the beam being disturbed continuously, the receiver starts beeping once per second, regardless of the audio setting.



Turning On/Off the “Audio On-Grade” Monitoring Mode

The audio on-grade monitoring mode allows you to use the audio function to monitor whether or not the receiver is on grade. When the monitoring mode is off, the receiver beeps when the receiver is on grade. When the monitoring mode is on, the receiver is silent when the receiver is on grade.

Note: To power up the receiver with the “Audio On-Grade” mode on, the function must be stored by pressing and holding the grade-sensitivity and power/audio buttons from 10 to 15 seconds. To confirm, that the selected monitoring mode has been stored, all LCD symbols and LEDs flash.

The receiver always starts up in last stored monitoring mode.

1. When turning on the receiver, continue to press and hold the power/audio button for 5 seconds to enter the audio on-grade monitoring mode.

Note: When the monitoring mode is on, the horn symbol in the LCD flashes. When the monitoring mode is off, the horn symbol in the LCD is on continuously.



Resetting the Factory Default Settings

When using this function, you can reset the receiver to its factory default settings, which include: LEDs-on, grade sensitivity–fine, and audio–soft.

1. When turning on the receiver, press and hold the power/audio and grade sensitivity buttons simultaneously for 5 seconds.

Note: All LCD symbols and LEDs flash once to confirm that the factory default settings have been reset.



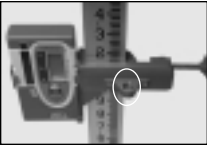
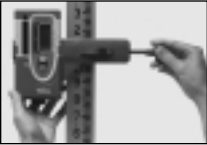
Attaching the Receiver to the...

General-Purpose Clamp

The general-purpose clamp attaches to the receiver so the receiver can be used with a grade rod or wooden pole.

1. Slide the receiver into the general-purpose clamp until it “clicks” into position.
2. Turn the jaws screw counterclockwise to open the clamp’s jaws.
3. Slide the grade rod or wooden pole between the clamp’s jaws.
4. Turn the jaws screw clockwise to hold the general-purpose clamp securely in place.

Note: The level vial on the clamp can be viewed from above or below to verify that the rod is plumb.



Specifications

Housing	Rubber protected, capable of a 3 m (10 ft) drop on concrete
LCD Channels	15 linear display segments
Offset decals	English 0.01 ft. increments, English inch increments, metric increments
Capture Height	50 mm (2 in.)
Acceptance Angle	170°, 2 sides
LCD Readout	Front, regardless of the receiver’s orientation to the laser beam
On-Grade Sensitivity	Ultra-fine: 0.10 mm (0.004 in.) Super-fine: 1.00 mm (1/32 in.) Fine: 1.50 mm (1/16 in.) Medium: 3.00 mm (1/8 in.) Coarse: 6.00 mm (1/4 in.)
Power Source	Two 1.5-V batteries (type LR6/AA)
Battery Life	Alkaline: 100 hours
Battery Indicator	LCD battery symbol
Automatic Shutoff	30 minutes after last laser detection or push button actuation
Spectral Sensitivity	Operates with red visible and infrared lasers with wavelength between 610 and 900 nm
Marking Notch	50 mm (2 in.) below top of receiver, on both sides to eliminate any offset errors
Audio Function	Soft/loud/off
Operating Temperature	–20° to +50° C (–4° to +122° F)
Storage Temperature	–40° to +70° C (–40° to +158° F)
Weight	.27 kg (9½ oz)
Dimensions (T x W x L)	3.0 x 8.0 x 16 cm (1.2 x 3.2 x 6.2 in.)

Warranty

Trimble warrants the HR550 to be free of defects in material and workmanship for a period of two years.

Trimble or its authorized service center will repair or replace, at its option, any defective part for which notice has been given during the warranty period. If required, travel and per diem expenses to and from the place where repairs are made will be charged to the customer at the prevailing rates.

Customers should send the product to Trimble Navigation Ltd. or the nearest authorized service center for warranty repairs, freight prepaid. In countries with Trimble subsidiary service centers, the repaired product will be returned to the customer, freight prepaid.

Any evidence of negligent, abnormal use, accident, or any attempt to repair the product by other than factory-authorized personnel using Trimble certified or recommended parts, automatically voids the warranty.

The foregoing states the entire liability of Trimble regarding the purchase and use of its equipment. Trimble will not be held responsible for any consequential loss or damage of any kind.

This warranty is in lieu of all other warranties, except as set forth above, including any implied warranty merchantability of fitness for a particular purpose, are hereby disclaimed. This warranty is in lieu of all other warranties, expressed or implied.

EMC Declaration of Conformity

This receiver has been tested and found to comply with the limits for a Class B digital device for radio noise for digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communication, and is pursuant to part 15 of the Federal Communication Commission (FCC) rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This receiver generates radio frequency. If it’s not used in accordance with the instructions, it may cause harmful interference to radio or television reception. Such interference can be determined by turning the receiver off and on. You are encouraged to try eliminating the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
 - Increase the separation between the laser and the receiver.
- For more information, consult your dealer or an experience radio/television technician.

CAUTION: Changes or modifications to the receiver that are not expressly approved by Trimble could void authority to use the equipment.

Declaration of Conformity

Application of Council Directive(s): 89/336/EEC
Manufacturer’s Name: Trimble Navigation Ltd.
Manufacturer’s Address: 5475 Kellenburger Road
Dayton, Ohio 45424-1099 U.S.A.

European Representative Address: Trimble GmbH
Am Prime Parc 11
65479 Raunheim, Germany
HR550

Model Number: EC Directive 89/336/EEC using
Conformance to Directive(s): EN55022 and EN50082-1
Equipment Type/Environment: ITE/residential, commercial
& light industrial

Product Standards: Product meets the limit B and methods of EN55022
Product meets the levels and methods of IEC 801-2, 8 kV air, 4 kV contact IEC 801-3, 3 V/m 26 to 1000 MHz 80%, @ 1 kHz

Notice to Our European Union Customers

For product recycling instructions and more information, please go to: www.trimble.com/environment/summary.html

Recycling in Europe

To recycle Trimble WEEE, call: +31 497 53 2430, and ask for the “WEEE associate,” or

mail a request for recycling instructions to:
Trimble Europe BV
c/o Menlo Worldwide Logistics
Meerheide 45
5521 DZ Eersel, NL



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