

SR21 Linear Survey Laser Receiver

Laser receiver for agriculture grade control

The Trimble® SR21 linear survey laser receiver is the latest component in the GCS21 Grade Control System—the “plug and play” system for today’s agriculture environment.

Flexible options

The SR21 laser receiver is designed for use with a wide range of agricultural and construction machines for land leveling, drainage, water management, and earthmoving applications. The innovative laser receiver mounts to the blade to provide grade-control and topographic elevation information to the operator.

The receiver is easy to set up on the machine, and is fully compatible with the GCS21 system version 5.0 or higher. The SR21 laser receiver can also be used with a range of Spectra Precision® laser transmitters. And, if you have an existing Analog system or PA laser grade control system it’s easy to upgrade to the SR21 laser receiver for greater accuracy, with the SRA21 survey receiver adaptor.

Advanced technology for more efficient operation

With a number of advanced patented features, the SR21 laser receiver allows operators to improve their efficiency, enabling faster and smoother grading. Proportional grade control calculates the distance required to get ongrade. By using the laser receiver’s measurements to change the cutting edge to the exact distance required, accuracy is improved and time is saved. AutoBench—a proprietary Trimble feature—automatically sets the ongrade position to anywhere on the length of the one- or two-meter receiver with the simple press of a button, eliminating the need to set the ongrade position manually.



The receiver uses equally spaced, internally shock-mounted photo diodes, which extend the full length of the receiver, to provide linear output to the control circuitry.

The SR21 receiver’s extended length allows operators to work more jobs with fewer setups than conventional laser receivers. The SR21 receiver can be used to survey over elevation changes at a rate of 43 cm/s (17 in/s). Additionally, the elimination of moving parts and solid state construction means less time spent on maintenance due to wear and tear.

Reliable laser tracking

To ensure productivity and accuracy in the field, the SR21 receiver provides 360-degree tracking of the control laser beam and intelligent rejection of invalid beams. Using multistrike laser rejection technology, the SR21 receiver automatically rejects other laser beams present on the job site that are beyond ± 13 cm (± 5 in) of your control laser’s elevation. If the receiver intercepts another laser, the operator can select the correct laser and ignore the invalid laser beam, allowing multiple machines using laser systems to operate in the same field.



Key Features

- Millimeter precision and accuracy
- Compatible with GCS21 system and range of laser transmitters
- Extended receiver range up to two meters
- Solid construction and no moving parts, for less maintenance
- Multistrike laser rejection capability

The advanced features of the SR21 laser receiver enables machine operators to improve efficiency, accuracy, and productivity so they get to grade faster and more smoothly in the field.

Trimble Agriculture. The line everyone follows.



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Standard features

3 modes of operation

Survey

Ideal for collecting information on your field or jobsite, elevation data can be easily downloaded to a laptop or hand-held computer allowing you to calculate more precisely the amount of material to be moved. In Survey mode, the SR21 tracks and records the elevation of the laser beam as the machine travels over the field.

Indicate

Increase productivity with or without using full automatics. Indicate mode shows the blade position relative to the design elevation, providing the operator with the exact amount of cut or fill needed to get to the design elevation.

Control

Automatic control allows you to get to grade faster with fewer passes, increasing production, productivity and profits. In Control mode, the operator selects the position of a laser to automatically control a machine blade to grade through its hydraulic system

Available accessories

Part number

Description

PN 0385-2250	Cloth bag, 1 meter, SR21, protects your SR21 when not in use. Black, water resistant canvas bags are equipped with shoulder straps, hand totes and the Trimble logo.
PN 0385-2260	Cloth bag, 2 meter, SR21, protects your SR21 when not in use. Black, water resistant canvas bags are equipped with shoulder straps, hand totes and the Trimble logo.
PN 0790-4241	Mast riser may be required to ensure the mast is plumb and has clearance above the machine cab.
AG SRA21	The SRA21 adaptor is designed to connect the SR21 laser receiver to an Analog system, the PA laser grade control system, the BladePro [®] machine control system, the ScreedPro [®] paving system, the BucketPro [®] excavating system, and the GeoStar [®] survey control system. The SRA21 installs between the SR21 and the control box enabling these systems to upgrade to the SR21 laser receiver.

Technical specifications

Deadband	System programmable to within ± 9 mm to ± 1 mm (± 0.03 to ± 0.01 ft)
Detection range	Up to 500 m (1500 ft) with selected Spectra lasers
Survey tracking speed	0.432 m/s (1.42 ft/s)
Resolution	± 0.1 mm (± 0.004 inch)
Acceptance angle	$\pm 360^\circ$
Input voltage	10–30 V DC external machine voltage
Current draw	< 2 A @ 12 V DC
Reverse voltage protection	Yes
Power surge protection	Yes
Mechanical interface	$\frac{3}{4}$ inch–10 bolt
Operating temperature	-29°C to 60°C (-20°F to 140°F)
Storage temperature	-40°C to 80°C (-40°F to 176°F)
Water resistant	Yes
Shock durability	50 g
Regulatory requirements	.CE and C-tick
EMI/RFI/RADAR NEXRAD immunity	Yes

Physical specifications

	SR21-1	SR21-2
Mast receiving height	1.0 m (39.34 in)	2.0 m (78.69 in)
Mast length	1.283 m (50.5 in)	2.273 m (89.5 in)
Mast weight	18.6 kg (41 lb)	24.5 kg (54 lb)

Ordering information

Part number	Description
AG SR21-1	SR21-1: 1 meter length
AG SR21-2	SR21-2: 2 meter length



Specifications subject to change without notice.

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