

LR Display Receivers for Grading and Excavating



Laser Display System Benefits

- Allows operator to check grade from the cab; increases productivity and safety and reduces labor
- Reduces rework because material is moved only one time
- Increases overall operator and machine efficiency, saving fuel and time
- Can easily and quickly be moved from one machine to another
- Wireless remote capability
- Works with your existing rotating laser - no longer need a second person with a rod mounted laser receiver

Getting to Grade Faster Increases Operator and Machine Productivity

Spectra Precision® LR Display Systems let you spend less time walking the job site ... and more time in the cab being productive. The laser display receiver guides the operator to the desired elevation or depth without a grade checker. Your accuracy will improve and your profits will increase. The operator optimizes machine time, effectiveness, efficiency and increases safety.

You can use these rugged, highly flexible display systems on a wide range of machines. The receivers are self-contained, portable and easily moved from machine to machine for greater operator and machine efficiency.

A wireless remote display and quick mounting accessories add to the versatility of the receivers.

Used on

- Backhoes
- Excavators
- Skid Steer Attachments
- Box Blades
- Dozers
- Trenchers



Tough, Affordable Spectra Precision Laser Machine



LR20 for Grade and Depth Control

Ideal for use on mini-excavators and compact machines

- 8-inch, 360-degree laser reception provides large working area and range
- Built in plumb indicator for fast, accurate grade checking in mini-excavator applications
- Super bright grade display with green "on-grade" LEDs provides superior depth/elevation indication
- Push button setup for ease of use and application flexibility
- System package with mini magnetic mount fits in compact carrying case for easy storage and transport
- Center and offset on-grades are ideal for both grading and excavating applications



LR30 for General Grading

Used on dozers and leveling equipment

- Use on grading equipment including dozers, scrapers, skid steers and levelers
- Five channels of grade information plus directional and out-of-beam indicator
- Three selectable accuracies meet job tolerances from rough grading to final finishing
- Full 360-degree reception picks up the laser from all directions
- LR30W links wirelessly to the RD20 in-cab display



LR50 for Excavating and Grading

Features built-in blade tilt and excavator boom plumb indicator

- Built-in blade tilt indicator helps the operator keep the blade level for increased accuracy and productivity
- Center On-grade provides an equal amount of grade information above and below on-grade. Use on dozers, graders, scrapers and box blades
- Built-in plumb indicator for fast, accurate grade checking in excavation applications
- Offset on-grade gives you more range above grade using the entire receiver for more productive excavation
- LR50W links wirelessly to the RD20 in-cab display



Spectra Precision Machine Display Receiver Features and Benefits

Versatile, 360-Degree Reception

Works with all types of rotating lasers and on all types of machinery for fast, no-hassle setup.

Multiple Accuracy Choices

Offers maximum flexibility to meet jobsite requirements, from rough grading to final finishing.

Wireless Remote Capability

Provides in-cab display of elevation and audible signals

Adjustable, Ultra-bright LED with Green On-Grade Display

Provides user selectable, easy-to-see display to match ambient lighting conditions.

Out-of-Laser Beam Indication

Selectable on /off indicator directs which way to move and get back in the beam.

Two-Year Warranty

Reliability you can count on.

Power Options

Choose alkaline batteries, nickel metal hydride rechargeable batteries, or a power cord that connects directly to the machine power.

Rugged & Waterproof

Durable polycarbonate and aluminum die cast housings withstand all weather and construction site conditions. Internal isolating shock mounts protect the electronics.

Accessories

RD20 Wireless Remote Display

Wireless remote mounts in the cab and displays grade information to the operator. Helps keep focus on the work and not on the receiver for higher productivity. Works with LR30W, LR50W & LR60W.



Display Receivers



LR60 for High Speed Excavating

Features Angle Compensation for Excavating (ACE) for accurate elevation readings without being plumb

- Patented Angle Compensation for Excavators automatically calculates and corrects the grade display for the angle of the dipper arm
- Check grade with the dipper arm extended or retracted up to 30 degrees
- Built-in plumb indicator for fast, accurate grade checking
- Large vertical reception height for use with bigger excavators
- Center On-grade provides an equal amount of grade information above and below on-grade. Use on dozers, graders, scrapers and box blades
- LR60W links wirelessly to RD20 in-cab display



Specifications	LR20	LR30 / LR30W
Number of Display Channels	5-Channel Display	5-Channel Display
Accuracy: Center on grade mode (grading)	Fine: 5 mm (0.20 in) Standard: 10 mm (0.40 in) Wide: 20 mm (0.80 in)	Fine: 5 mm (0.20 in) Standard: 12 mm (0.45 in) Wide: 32 mm (1.25 in)
Accuracy: offset on grade mode (excavating)	Fine: 12 mm (0.50 in) Standard: 25 mm (1.0 in) Wide: 50 mm (2.0 in)	NA
ACE—Angle Compensation Mode	NA	NA
Blade-Tilt Accuracy	NA	NA
Plumb-Swing Accuracy	± 0.5°, ± 1.5°, ± 2.5°	NA
Vertical Reception	203 mm (8 in)	171 mm (6.75 in)
LED Battery Life		
Alkaline Bright/Dim		50 / 75 hrs
Wireless with remote on		30 / 40 hrs
Ni-MH Bright/Dim	35hrs	40 / 50 hrs
Wireless with remote on		20 / 30 hrs
Receiver Warranty	2 Years	2 Years

MM-1 Magnetic Mount

The MM-1 quickly attaches to the dipper arms of excavators or backhoes. Strong dual magnet packs will not slip on the machine and are adjustable for quick installation and set-up.



DM-20 Dozer Mast

The DM-20 is an easy-to-install rigid mast for grading machines. No welding is required and no drilling/tapping is required for Trimble Ready™ machines.

Specifications	LR50 / LR50W	LR60 / LR60W
Number of Display Channels	5-Channel Display 6-Channel Display in excavating mode	9-Channel Display
Accuracy: Center on grade mode (grading)	Fine: 5 mm (0.20 in) Standard: 10 mm (0.40 in) Wide: 20 mm (0.80 in)	Setup: 5 mm (0.20 in) Fine: 10 mm (0.40 in) Standard: 20 mm (0.80 in) Wide: 40 mm (1.6 in)
Accuracy: offset on grade mode (excavating)	Fine: 12 mm (0.50 in) Standard: 25 mm (1.0 in) Wide: 50 mm (2.0 in)	Setup: 6 mm (0.25 in) Fine: 12 mm (0.50 in) Standard: 25 mm (1.0 in) Wide: 50 mm (2.0 in)
ACE—Angle Compensation Mode	NA	Fine: 12 mm (0.50 in) Standard: 25 mm (1.0 in)
Blade-Tilt Accuracy	± 0.5°, ± 1.5°, ± 2.5°	N/A
Plumb-Swing Accuracy	± 0.5°, ± 1.5°, ± 2.5°	Standard: (12 mm 0.5 in) ACE Mode: 25 mm (1.0 in)
Vertical Reception	171 mm (6.75 in)	222 mm (8.75 in)
LED Battery Life		
Alkaline Bright/Dim	45 / 60 hrs	45 / 75 hrs
Wireless with remote on	20 / 30 hrs	35 / 25 hrs
Ni-MH Bright/Dim	30 / 45 hrs	40 / 50 hrs
Wireless with remote on	15 / 20 hrs	25 / 20 hrs
Receiver Warranty	2 Years	2 Years

Rugged Laser Transmitters Built for the Jobsite



LL500 Laser Level

Long range accuracy and field proven reliability
The workhorse of the industry for decades

Applications

- Level work
- General elevation control
- General construction
- Cut and fill



LL400 Laser Level

Fast setup, automatic electronic self leveling and long range
Rugged design - Warranted to withstand 1 m (3 ft) drop

Applications

- Level and manual slope work
- General elevation control
- General construction
- Cut and fill



GL412/GL422 Grade Lasers

Powerful, easy-to-use single or dual slope grade lasers with radio remote
Three lasers in one - Level, grade, and vertical alignment

Applications

- Level and automatic slope (grade) work
- Site preparation
- General construction



GL612/GL622 Grade Lasers

Accurate horizontal, vertical, single or dual slope grade lasers with radio remote
Automatic Grade Match and Planelok functions, for precision concrete laser screed applications

Applications

- Leveling concrete forms
- Grade/elevation control
- Remote elevation monitoring (HL750 receivers)



UL633 Universal Laser

Versatile grade laser with total control in X, Y and Z axes
Automatic Planelok functions for precision concrete laser screed applications

Applications

- Leveling concrete forms
- Grade/elevation control
- Machine control
- Pipe laying and layout

Specifications	LL500	LL400	GL412/GL422	GL612/GL622	UL633
Level Accuracy	1.5 mm @ 30 m (1/16" @ 100 ft) 10 arc seconds	1.5 mm @ 30 m (1/16" @ 100 ft) 10 arc seconds	1.5 mm @ 30 m (1/16" @ 100 ft) 10 arc seconds	1.5 mm @ 30 m (1/16" @ 100 ft) 10 arc seconds	1.5 mm @ 30 m (1/16" @ 100 ft) 10 arc seconds
Grade Range	N/A	N/A	-10 to +15% Dual Axis	-25 to +25% Dual Axes	-25 to +25% 3 Axes
Operating Diameter	500 m (1600 ft)	800 m (2600 ft)	600 m (2000 ft) (GL412) 800 m (2600 ft) (GL422)	800 m (2600 ft)	800 m (2600 ft)
Temperature Compensation	Yes	Yes	Yes	Yes	Yes
Laser Type / Classification	3 mW 670 nm, Class 2	3 mW 650 nm, Class 2	3 mW 650 nm, Class 2 (GL412) <5 mW 650 nm, Class 3A/3R (GL422)	3 mW 650 nm, Class 2	<5 mW 650 nm, Class 3A/3R
Rotation Speed	600 rpm	600 rpm	300, 600 rpm	300, 600 rpm	0 - 900 rpm
Battery Life	Alkaline - 170 hrs Ni-MH - 100 hrs (Optional)	Alkaline - 90 hrs Ni-MH - 55 hrs (Optional)	Alkaline - 90 hrs Ni-MH - 27 hrs (Standard)	Alkaline - 40 hrs Ni-MH - 35 hrs (Standard)	Alkaline - 40 hrs Ni-MH - 35 hrs (Standard)
Drop Height on Concrete	N/A	1 m (3 ft)	1 m (3 ft)	1 m (3 ft)	1 m (3 ft)
Laser Warranty	5 Years	5 Years	5 Years	5 Years	5 Years
Standard Receiver	Choice of HL700 Laserometer or CR600 receiver	Choice of HL700 Laserometer or CR600 receiver	Choice of HL700 Laserometer or CR600 receiver	Choice of HL750 Laserometer or CR600 receiver	HL750 Laserometer
Standard Receiver Warranty	3 Year "No Excuses"	3 Year "No Excuses"	3 Year "No Excuses"	3 Year "No Excuses"	3 Year "No Excuses"
Wireless Remote Receiver Elevation Monitoring (HL750 receiver)	N/A	N/A	N/A	Yes	Yes
Operating Temperature	-20° to +50°C (-4° to +122°F)	-20° to +50°C (-4° to +122°F)	-20° to +50°C (-4° to +122°F)	-20° to +50°C (-4° to +122°F)	-20° to +50°C (-4° to +122°F)
Remote Control	N/A	Optional RC601	RC402 Full 2-way communication	RC602 Full 2-way communication	RC603 Full 2-way communication
Remote Operating Range	N/A	200 m (650 ft) -X side; 50 m (160 ft) other sides	100 m (330 ft) radius	100 m (330 ft) radius	100 m (330 ft) radius

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