

Specifications

Trimble SPS555H Heading Add-on Receiver



Receiver Name

SPS555H Heading Add-on receiver

Configuration Option

Base and Rover interchangeability	N/A
Rover position update rate	1 Hz, 2 Hz, 5 Hz, 10 Hz, 20 Hz
Rover maximum range from base radio	2400m
Rover operation within a VRS™ network	N/A
Heading and Moving Base operation	Heading only
Factory options	See Receiver Upgrades below

General

Keyboard and display	Vacuum Fluorescent display 16 characters by 2 rows. Invertable On/Off key for one-button startup Escape and Enter keys for menu navigation 4 arrow keys (up, down, left, right) for option scrolls and data entry
Dimensions (L x W x D)	24 cm x 12 cm x 5 cm (9.4 in x 4.7 in x 1.9 in) including connectors
Weight	N/A 1.55 kg (3.42 lb) receiver with internal battery and no radio

Antenna Options

GA510	Not included in a kit
GA530	Not included in a kit
GA810	GPS, Glonass, Galileo, Compass, SBAS. Included in standard kit
L1/Beacon, DSM 232	Not Supported
Zephyr™ Model 2	L1/L2/L2C/L5 GPS, Glonass, Galileo, Compass, OmniSTAR, SBAS
Zephyr Geodetic™ Model 2	GPS, Glonass, Galileo, Compass, SBAS. Included in Precise kit
Zephyr Model 2 Rugged	GPS, Glonass, Galileo, Compass, SBAS. Included in Rugged kit
Zephyr, Zephyr Geodetic, Z-Plus, Micro-Centered™	Refer to Antenna specification

Temperature

Operating ¹	-40 °C to +65 °C (-40 °F to +149 °F)
Storage	-40 °C to +80 °C (-40 °F to +176 °F)
Humidity	MIL-STD 810F, Method 507.4
Waterproof	IP67 for submersion to depth of 1 m (3.3 ft), dustproof

Shock and Vibration

Pole drop	Designed to survive a 1 m (3.3 ft) pole drop onto a hard surface To 75 g, 6 ms
Shock – Non-operating	To 40 g, 10 ms, saw-tooth
Shock – Operating	
Vibration	Tested to Trimble ATV profile (4.5 g RMS): 10 Hz to 300 Hz: 0.04 g/Hz ² 300 Hz to 1,000 Hz; –6 dB/octave

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Measurements

Advanced Trimble Maxwell™ 6 Custom GPS Chips
High-precision multiple correlator for GNSS pseudorange measurements
Unfiltered, unsmoothed pseudo-range measurements data for low noise, low multipath error, low-time domain correlation, and high-dynamic response
Very low noise carrier phase measurements with <1 mm precision in a 1 Hz bandwidth
Trimble EVEREST™ multipath signal rejection

GPS L1 C/A, L2C, L2E (Trimble method for tracking unencrypted L2P) upgradable to L5. 440 channels
Upgradeable to GLONASS L1/L2C/A, L1/L2P Full Cycle Carrier
Upgradeable to Galileo: L1 CBOC, E5A, E5B & E5AltBOC⁹
Upgradeable to Compass: B1, B2, B3
4-channel SBAS L1 C/A, L5 (WAAS/EGNOS/MSAS)
QZSS: L1 C/A, L1C, L1 SAIF, L2C, L5

SBAS (WAAS/EGNOS/MSAS) Positioning³

Accuracy N/A

Code Differential GPS Positioning²

Horizontal accuracy N/A

Vertical accuracy

OmniSTAR Positioning

VBS service accuracy N/A

XP service accuracy

HP service accuracy

Location RTK Positioning

Horizontal accuracy N/A

Vertical accuracy

Real-Time Kinematic (RTK up to 30 km)

Positioning²

Horizontal accuracy N/A

Vertical accuracy

Trimble VRS⁹

Horizontal accuracy N/A

Vertical accuracy

Precise Heading

Heading accuracy When combined with SPS855H⁷

2 m antenna separation 0.09° RMS

10 m antenna separation 0.05° RMS

Initialization Time

Regular RTK operation with base station N/A

Initialization reliability⁴

Power

Internal Integrated internal battery 7.2 V, 7800 mA-hr, Lithium-ion

Internal battery operates as a UPS in the event of external power source failure

Internal battery will charge from external power source as long as source can support the power drain

Integrated charging circuitry

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Power

External	Power input on 7-pin 0-shell Lemo connector is optimized for lead acid batteries with a cut-off threshold of 11.5 V
	Power input on the 26-pin D-sub connector is optimized for Trimble lithium-ion battery input with a cut-off threshold of 10.5 V
	Power source supply (Internal/External) is hot-swap capable in the event of power source removal or cut off
	DC external power input with over-voltage protection
	Receiver automatically turns on when connected to external power
Power over Ethernet (PoE)	N/A
Power consumption	6.0 W in rover mode

Operation Time on Internal Battery

Rover	13 hours; varies with temperature
Base station	
450 MHz systems	
900 MHz systems	

Regulatory Approvals

FCC: Part 15 Subpart B (Class B Device) and Subpart C, Part 90
Canadian ICES-003. Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.
Canadian RSS-310, RSS-210, and RSS-119.
Cet appareil est conforme à la norme CNR-310, CNR-210, et CNR-119 du Canada.

R&TTE Directive: EN 301 489-1/-5/-17, EN 300 440, EN 300 328, EN 300 113, EN 60950, EN 50371
ACMA: AS/NZS 4295 approval
CE mark compliance
C-tick mark compliance
UN ST/SG/AC.10.11/Rev. 3, Amend. 1 (Lithium-ion Battery)
UN ST/SG/AC. 10/27/Add. 2 (Lithium-ion Battery)
RoHS compliant
WEEE compliant

Communications

Lemo (Serial)	7-pin 0S Lemo, Serial 1, 3-wire RS-232
Modem 1 (Serial)	26-pin D-sub, Serial 2, Full 9-wire RS232, using adaptor cable
Modem 2 (Serial)	26-pin D-sub, Serial 3, 3 wire RS-232, using adaptor cable
1PPS (1 Pulse-per-second)	Yes
Ethernet	Through a multi-port adaptor
WiFi	N/A
Bluetooth wireless technology	Fully-integrated, fully-sealed 2.4 GHz Bluetooth module ⁶
Integrated radios (optional)	N/A
Channel spacing (450 MHz)	
Sensitivity (450 MHz)	
450 MHz output power	
900 MHz output power	
Frequency approvals (902-928 MHz)	

External GSM/GPRS, cell phone support	N/A
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Internal MSK Beacon receiver

N/A

Receiver position update rate

1 Hz, 2 Hz, 5 Hz, 10 Hz, and 20 Hz positioning

Correction data input

Moving Base CMR™

Correction data output

Data outputs

NMEA, GSOFF, 1PPS Time Tags (Marine version)

Receiver Upgrades

L5, GLONASS, GALILEO, COMPASS ¹⁰

Notes

1 Receiver will operate normally to those temperature limits. Internal batteries will operate from -20 °C to +48 °C

2 Accuracy and reliability may be subject to anomalies such as multipath, obstructions, satellite geometry, and atmospheric conditions. Always follow recommended survey practices.

4 May be affected by atmospheric conditions, signal multipath, and satellite geometry. Initialization reliability is continuously monitored to ensure highest quality.

6 Bluetooth type approvals are country specific. For more information, contact your local Trimble office or representative.

7 When receiver is combined with an SPS855H or other suitable SPS receivers.

8 Galileo Commercial Authorization

Developed under a Licence of the European Union and the European Space Agency.

10 This Trimble SPS Receiver is capable of supporting existing and planned GNSS satellite signals, including GPS, GLONASS, GALILEO, Compass and QZZ, and existing and planned augmentations to these GNSS systems.

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Specifications subject to change without notice.

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