

# Specifications

# Trimble SPS555H Heading Add-on Receiver



**Receiver Name** SPS555H Heading Add-on receiver

## Configuration Option

Type	Modular
Base and rover interchangeability	No
Base operation	No
Rover operation	No
Heading and Moving Base operation	Heading only
Rover position update rate	1 Hz, 2 Hz, 5 Hz, 10 Hz, 20 Hz
Rover maximum range from base	2400m from Moving Base receiver
Rover operation within a VRS™ network	No
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, QZSS, Glonass, Galileo, BDS, 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 Refer to Antenna specification

## Temperature

Operating	-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
Shock – Non-operating	To 75 g, 6 ms
Shock – Operating	To 40 g, 10 ms, saw-tooth
Vibration	Tested to Trimble ATV profile (4.5 g RMS): 10 Hz to 300 Hz: 0.04 g/Hz <sup>2</sup> 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, L2P Full Cycle Carrier

Upgradeable to Galileo: L1 CBOC, E5A, E5B & E5AltBOC<sup>8</sup>

Upgradeable to BeiDou: B1, B2

4-channel SBAS L1 C/A, L5 (WAAS/EGNOS/MSAS)

QZSS: L1 C/A, L1C, L1 SAIF, L2C, L5

## SBAS (WAAS/EGNOS/MSAS) Positioning<sup>3</sup>

Horizontal accuracy N/A

Vertical accuracy

## Code Differential GPS Positioning<sup>2</sup>

Correction type N/A

Correction source

Horizontal accuracy N/A

Vertical accuracy

## OmniSTAR Positioning

VBS service accuracy N/A

XP service accuracy N/A

HP service accuracy N/A

## Location RTK Positioning<sup>2</sup>

Horizontal accuracy N/A

Vertical accuracy

## Precise Heading<sup>2</sup>

Heading accuracy When combined with SPS855<sup>7</sup>

2 m antenna separation 0.09° RMS

10 m antenna separation 0.05° RMS

## Power

Internal

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

Internal battery operates as a UPS during an ext power source failure

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

Integrated charging circuitry

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

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## Operation Time on Internal Battery

Rover	13 hours; varies with temperature
Base station	N/A
450 MHz systems	
900 MHz system	

## 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
Bluetooth wireless technology	Fully-integrated, fully-sealed 2.4 GHz Bluetooth module <sup>6</sup>
Integrated radios (optional)	N/A
Channel spacing (450 MHz)	
Sensitivity (450 MHz)	
450 MHz output power	
900 MHz output power	
Frequency approvals (900 MHz)	

External GSM/GPRS, cell phone support N/A

Internal MSK Beacon receiver N/A

Supported data formats  
Correction Inputs Moving Base CMR™  
Correction Outputs

Data Outputs NMEA, GSOE, 1PPS Time Tags (Marine version)

## Receiver Upgrades

Tracking L5, GLONASS, GALILEO, BeiDou GNSS<sup>9</sup>

## Notes

1 Receiver will operate normally to those temperature limits. Internal batteries will operate from  $-20^{\circ}\text{C}$  to  $+48^{\circ}\text{C}$

2 Accuracy and reliability may be subject to anomalies such as multipath, obstructions, satellite geometry, interference 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 SPS855 or other suitable SPS receivers.

8 Galileo Commercial Authorization. Developed under a Licence of the European Union and the European Space Agency.

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

Specifications subject to change without notice.

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