

Trimble R8s GNSS Receiver Configuration

This configuration sheet lists all options available and explains the configuration logic and possible upgrade paths for the Trimble® R8s GNSS receiver. The receiver ships as a Standard Firmware Configuration (Step 1). Configuration Levels (Step 2), Extended Hardware Warranty and Firmware Maintenance (Step 3), and Individual Options (Step 4) are delivered electronically and are not allocated to a specific receiver at the time of purchase.

All Trimble R8s GNSS receiver hardware, configurations and options need to be ordered via the Trimble Store. The Trimble Virtual Warehouse is used to allocate configurations and options to specific serial numbers, and to configure radio settings at the time of sale to end users. Trimble Installation Manager provisions licensing information and radio settings to the receiver and updates to the latest firmware.



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PHYSICAL DELIVERY

STEP 1: Choose Hardware Variants

1.1 Choose Receiver with Communication Option

- Trimble R8s, no internal radio
- Trimble R8s, internal wide-band UHF radio
- Trimble R8s, internal 3G cellular modem

1.2 Choose Standard Receiver Accessories

Choice of single or double receiver transport case that includes 2 batteries, dual battery charger (power supply and power cord for dual battery charger sold separately), data cable, radio antenna (for receivers with UHF radio or cellular modem only)

Standard Firmware Configuration

- Single Frequency GPS, 440 Channels
- Bluetooth, Binary Outputs, 10Hz max.
- Data Logging, WebUI with Login
- No RTK, no VRS
- No SBAS, no NMEA
- Precision level 30cm horizontal / 30cm vertical

ELECTRONIC DELIVERY

see process illustration

STEP 2: Choose Configuration Level

	Postprocessing (Single Frequency)	Base (Dual Frequency)	Rover/Network Rover (Dual Frequency)	Base and Rover (Triple Frequency)
➤ Postprocessing (Single Frequency) <i>Includes: Precision level max/max, Trimble data collector support, GPS</i>	<i>Included</i>	\$	\$	\$
➤ Base (Dual Frequency) <i>Includes: Postprocessing features, plus GLONASS, QZSS, SBAS, Outputs, UHF Tx, Dual Frequency</i>	<i>Included</i>	<i>Included</i>	<i>N/A</i>	\$
➤ Rover/Network Rover (Dual Frequency) <i>Includes: Postprocessing features, plus GLONASS, QZSS, SBAS, Inputs, UHF Rx, VRS, Dual Frequency</i>	<i>Included</i>	<i>N/A</i>	<i>Included</i>	\$
➤ Base and Rover (Triple Frequency) <i>Includes: Base and Rover/Network Rover features, plus BeiDou, Galileo, 20Hz, Triple Frequency</i>	<i>Included</i>	<i>Included</i>	<i>Included</i>	<i>Included</i>

STEP 3: Add Extended Hardware Warranty and Firmware Maintenance (Protection Plans)

- Extended Trimble R8s Receiver Hardware Warranty
- Extended Trimble R8s Firmware Maintenance

STEP 4: Choose Individual Options

	Postprocessing (Single Frequency)	Base (Dual Frequency)	Rover/Network Rover (Dual Frequency)	Base and Rover (Triple Frequency)
➤ Dual Frequency Tracking	\$	<i>Included</i>	<i>Included</i>	<i>Included</i>
➤ Triple Frequency Tracking (requires purchase of Dual Frequency Tracking)	\$	\$	\$	<i>Included</i>
➤ SBAS	\$	<i>Included</i>	<i>Included</i>	<i>Included</i>
➤ QZSS	\$	<i>Included</i>	<i>Included</i>	<i>Included</i>
➤ GLONASS	\$	<i>Included</i>	<i>Included</i>	<i>Included</i>
➤ BeiDou	\$	\$	\$	<i>Included</i>
➤ Galileo	\$	\$	\$	<i>Included</i>
➤ Base (Outputs, UHF Tx)	<i>N/A</i>	<i>Included</i>	\$	<i>Included</i>
➤ Rover / Network Rover (Inputs, UHF Rx, VRS)	<i>N/A</i>	\$	<i>Included</i>	<i>Included</i>
➤ 20Hz	\$	\$	\$	<i>Included</i>
➤ NMEA	\$	\$	\$	\$

Ordering: Trimble Store (<http://partnerstore.trimble.com/>)

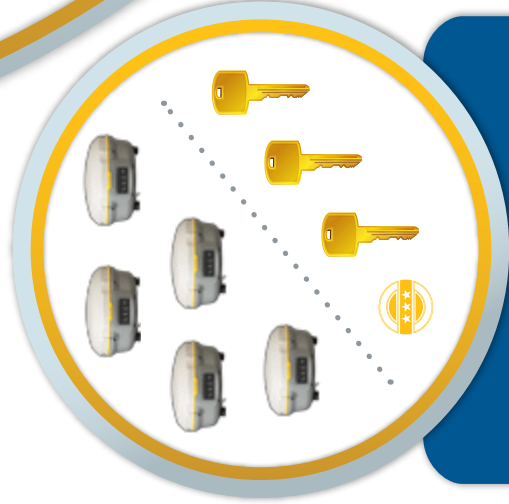
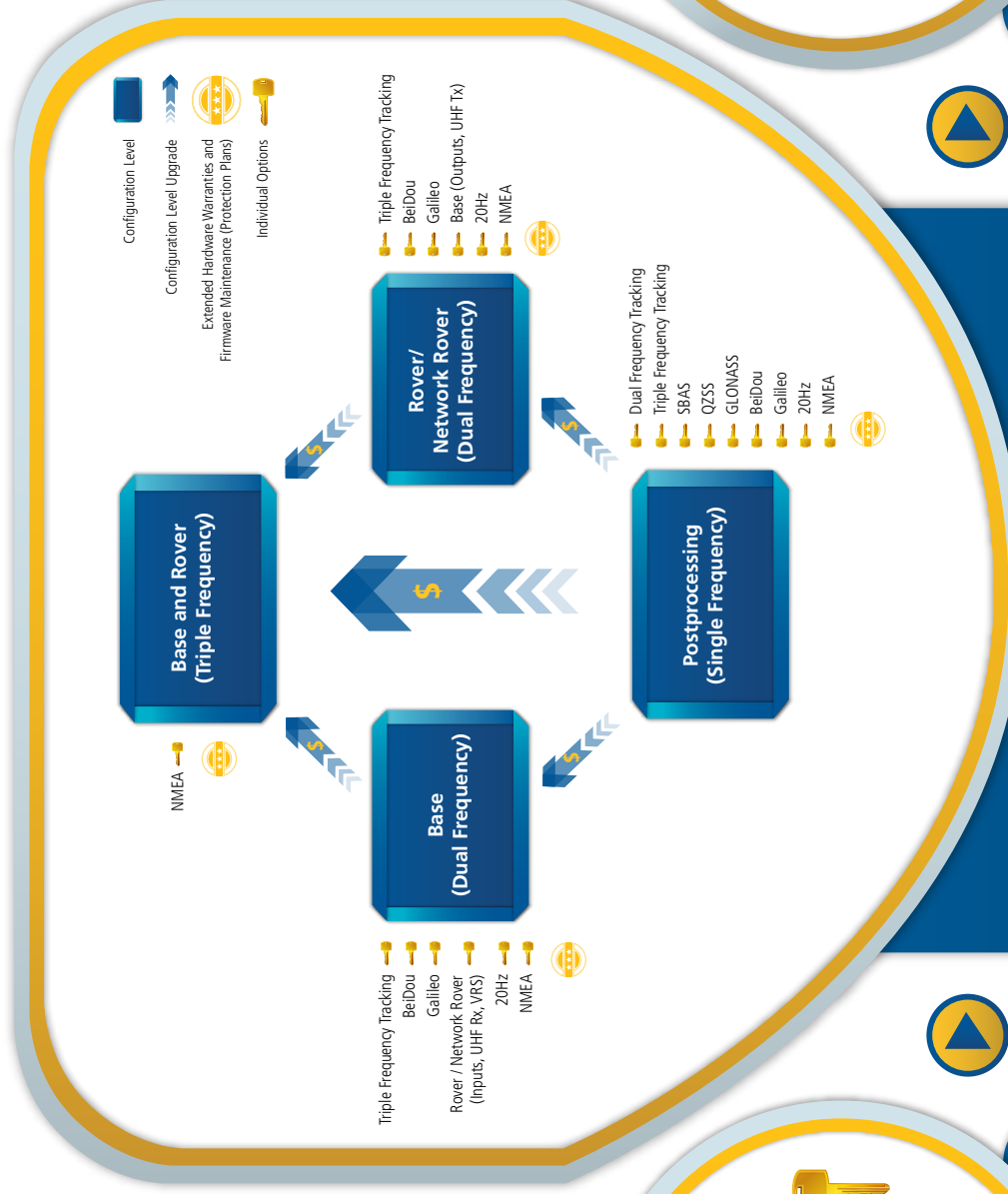
License Allocation and Configuration: Trimble Virtual Warehouse (<http://partnerstore.trimble.com/>)

License and Configuration Provisioning: Trimble Installation Manager (<http://www.trimble.com/installationmanager>)

Trimble License Viewer (<http://licenseviewer.trimblegeospatial.com>, <https://play.google.com/store/apps/details?id=com.trimble.licenseviewer>)



Trimble R8s GNSS Receiver Configuration Process Illustration



Trimble R8s GNSS Receiver Configuration (A-La-Carte)



Configuration Level "A-La-Carte" is intended to be used in situations, such as tenders, where a specific receiver configuration is needed that deviates from the four standard configuration levels "Postprocessing only", "Base only", "Rover/Network Rover only", "Base and Rover". Ordering Configuration Level "A-La-Carte" requires Trimble Sales Manager approval.

This configuration sheet list all Individual Options available for Configuration Level "A-La-Carte".

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PHYSICAL DELIVERY

STEP 1: Choose Hardware Variants

1.1 Choose Receiver with Communication Option

- Trimble R8s, no internal radio
- Trimble R8s, internal wide-band UHF radio
- Trimble R8s, internal 3G cellular modem

1.2 Choose Standard Receiver Accessories

Choice of single or double receiver transport case that includes 2 batteries, dual battery charger (power supply and power cord for dual battery charger sold separately), data cable, radio antenna (for receivers with UHF radio or cellular modem only)

Standard Firmware Configuration

- Single Frequency GPS, 440 Channels
- Bluetooth, Binary Outputs, 10Hz max.
- Data Logging, WebUI with Login
- No RTK, no VRS
- No SBAS, no NMEA
- Precision level 30cm horizontal / 30cm vertical

ELECTRONIC DELIVERY

STEP 2: Choose Configuration Level

- A-La-Carte
Includes:
Single Frequency GPS

A-La-Carte

Included

STEP 3: Add Extended Hardware Warranty and Firmware Maintenance (Protection Plans)

- Extended Trimble R8s Receiver Hardware Warranty
- Extended Trimble R8s Firmware Maintenance

STEP 4: Choose Individual Options

	A-La-Carte
➤ Dual Frequency Tracking	\$
➤ Triple Frequency Tracking (requires purchase of Dual Frequency Tracking)	\$
➤ SBAS	\$
➤ QZSS	\$
➤ GLONASS	\$
➤ BeiDou	\$
➤ Galileo	\$
➤ Precision level 10cm/10cm	\$
➤ Precision level max/max (requires purchase of Precision level 10cm/10cm)	\$
➤ Trimble Data Collector support	\$
➤ Base (Outputs, UHF Tx)	\$
➤ Rover / Network Rover (Inputs, UHF Rx, VRS)	\$
➤ 20Hz	\$
➤ NMEA	\$

Ordering: Trimble Store (<http://partnerstore.trimble.com/>)

License Allocation and Configuration: Trimble Virtual Warehouse (<http://partnerstore.trimble.com/>)

License and Configuration Provisioning: Trimble Installation Manager (<http://www.trimble.com/installationmanager>)

Trimble License Viewer (<http://licenseviewer.trimblegeospatial.com>, <https://play.google.com/store/apps/details?id=com.trimble.licenseviewer>)



Trimble R8s GNSS Receiver Configuration



FEATURE DESCRIPTIONS

Configuration Level	Configuration Levels are pre-defined receiver option bundles with a particular end-user functionality in mind. One configuration level has to be applied to a Trimble R8s GNSS receiver.
Postprocessing mode	The configuration level Postprocessing provides very basic GNSS functionality for Postprocessing only workflows. The receiver can log single frequency GPS raw data to the internal receiver memory, controlled by the free-of-charge Trimble DL Android app or the built-in receiver WebUI. Postprocessing workflows are used to measure highly accurate control points and control networks while the data processing and network adjustment happens in Trimble Business Center office software. A Trimble data collector can be connected to the receiver. However, Trimble Access™ field software requires at least dual frequency GPS to be activated in order to allow for Postprocessing only workflows.
Base mode	The configuration level Base is tailored towards users that want to operate a dedicated base receiver. In addition to the Postprocessing functionality described above, the Base mode includes all data outputs (CMR/RTCM), UHF transmit (Tx), dual frequency, GLONASS, QZSS and SBAS.
Rover / Network Rover mode	The configuration level Rover / Network Rover is tailored towards users that either have a dedicated base receiver they can connect to or they have a VRS network infrastructure available to dial-in to. In addition to the Postprocessing functionality described above, the Rover / Network Rover mode includes all data inputs (CMR/RTCM), UHF receive (Rx), VRS support, dual frequency, GLONASS, QZSS and SBAS.
Base and Rover mode	The configuration level Base and Rover provides the highest flexibility and productivity by combining both Base mode and Rover / Network Rover mode and adding full GNSS constellation support (adding BeiDou and Galileo), triple frequency, and 20 Hz measurement rate.
A-La-Carte	The configuration level A-La-Carte is intended to be used in situations, such as tenders, where a specific receiver configuration is needed that deviates from the four standard Configuration Levels listed above. Trimble Sales Manager approval is needed to order Configuration Level A-La-Carte.
Configuration Level Upgrades	Configuration level upgrades are available between configuration levels to increase the level of functionality.
Receiver Mode PP to Base	This configuration level upgrade is used to add dual frequency Base functionality to the Postprocessing mode.
Receiver Mode PP to Rover / Network Rover	This configuration level upgrade is used to add dual frequency Rover / Network Rover functionality to the Postprocessing mode.
Receiver Mode PP to Base and Rover	This configuration level upgrade is used to add triple frequency Base and Rover functionality to the Postprocessing mode.
Receiver Mode Base to Base and Rover	This configuration level upgrade is used to add triple frequency Base and Rover functionality to the dual frequency Base mode.
Receiver Mode Rover / Network Rover to Base and Rover	This Configuration Level Upgrade is used to add triple frequency Base and Rover functionality to the dual frequency Rover / Network Rover mode.
Extended Hardware Warranty and Firmware Maintenance (Protection Plans)	Extended hardware warranty and firmware maintenance (Protection Plans) protect the investment beyond the 12 months standard / factory hardware warranty and firmware maintenance .
Warranty – Trimble R8s Receiver Hardware 12 Months (Stocking) Warranty – Trimble R8s Receiver Hardware 1 Month (Stocking)	A maximum of four years of Extended Hardware Warranty can be applied to a new receiver that is still under Standard / Factory Hardware Warranty. This will protect the investment for a total of five years, and will cover for warranty repairs during that time frame. In case receivers have been purchased at different dates, which will result in different warranty end dates, one-month extended warranty increments are available as well to set a fleet of receivers to a desired warranty end date.
Warranty – Trimble R8s Receiver Hardware 12 Months, Re-Instatement (Stocking)	In case of a lapse in Hardware Warranty, the receiver needs to be inspected by a Trimble Service Provider before Extended Hardware Warranty can be re-instated. A dedicated Hardware Warranty Re-Instatement part number is available for purchase.
Firmware Maintenance – Trimble R8s Firmware Maintenance 12 Months (Stocking) Firmware Maintenance – Trimble R8s Firmware Maintenance 1 Month (Stocking)	Extended Firmware Maintenance will provide access to the latest GNSS firmware versions and can always be added to a receiver. There is no Extended Firmware Maintenance re-instatement option available for the Trimble R8s. Extended Firmware Maintenance is always added to the previous expiration date. Installing the latest GNSS receiver firmware is always recommended as it represents the state-of-the-art in GNSS firmware development and performance to maximize productivity.

FEATURE DESCRIPTIONS

Individual Options	In addition to the configuration levels described above there are several individual options available for purchase to increase flexibility and to tailor the Trimble R8s functionality to meet the end-users needs. Individual options can be added once a configuration level is applied to a receiver.
Dual Frequency Tracking	The Dual Frequency Tracking option adds the second frequency to all GNSS satellite constellations activated on the single frequency receiver. Dual Frequency signal tracking for postprocessing allows for shorter occupation times in the field and longer distances (baselines) between occupation points. Dual Frequency is required for any RTK surveying capabilities. Dual Frequency is also required for postprocessing workflows in Trimble Access.
Triple Frequency Tracking (requires purchase of Dual Frequency Tracking)	The Triple Frequency Tracking option adds the third frequency to GNSS satellite constellations activated on the dual frequency receiver. With all three frequencies available, the capabilities of RTK systems will be significantly boosted and will thus provide more robust positioning in extreme environments. In addition, the third frequency provides a higher output power level than the other carriers. As a result, acquiring and tracking signals will be easier. As more and more GNSS satellites will become available broadcasting the third frequency, adding the Triple Frequency Tracking option contributes towards future proofing your investment.
SBAS	The SBAS (Satellite-Based Augmentation System) option enables tracking of SBAS signals to provide real-time, differentially corrected positions without the need for a radio link. SBAS can be used in real-time surveys when the ground-based radio link is down. Positioning accuracy is typically around 1m horizontal and 1.5m vertical, depending on location and the SBAS in use. The availability of SBAS signals depends on the location (WAAS in the Americas, EGNOS in Europe, MSAS in Japan, GAGAN in India).
QZSS	The QZSS (Quasi-Zenith Satellite System) option adds satellite tracking of the Japanese QZSS system, which is a complementary GNSS that increases the satellite availability in Japan's numerous urban canyons, where only satellites at very high elevation can be seen. QZSS is also a satellite-based augmentation system (SBAS).
GLONASS	The GLONASS option adds GLONASS satellite signal tracking for additional signal processing in RTK, and post-processed applications, reducing initialization and occupation times. The addition of GLONASS tracking improves the availability of satellite signals in harsh environments. Single Frequency tracking includes the L1-C/A signal. With the Dual Frequency tracking option, GLONASS signals include L2-C/A and L2-P. Triple Frequency tracking adds the L3 signal.
BeiDou	The BeiDou option adds BeiDou satellite signal tracking for additional signal processing in RTK, and post-processed applications, reducing initialization and occupation times. The addition of BeiDou tracking improves the availability of satellite signals in harsh environments. Single Frequency tracking includes the B1 signal. With the Dual Frequency tracking option, BeiDou signals include B2. The third BeiDou frequency B3 is not publicly available at this point.
Galileo	The Galileo option will add Galileo satellite signal tracking for additional signal processing in RTK, and post-processed applications, reducing initialization and occupation times. The addition of Galileo tracking improves the availability of satellite signals in harsh environments. Single Frequency tracking includes the L1 signal. With the Dual Frequency tracking option, Galileo signals include E5-A, E5-B and E5-AltB. The third Galileo frequency E6 is not publicly available at this point.
Precision level 10cm/10cm *	Trimble R8s GNSS receivers are configured to provide 30cm horizontal and 30cm vertical positioning precision levels. The Precision level 10cm/10cm option increases the pre-configured precision level to 10cm horizontal and 10cm vertical for applications where the maximum cm level positioning is not required (e.g. high precision GIS applications). This adds to the scalability aspect of the Trimble R8s GNSS receiver system.
Precision level max/max * (requires purchase of Precision level 10cm/10cm)	The Precision level max/max option upgrades a receiver with Precision level 10cm/10cm to the maximum precision level needed for high precision, Survey grade, applications.
Trimble Data Collector support *	The Trimble Data Collector support option allows the use of any Trimble data collector and Trimble Access field software. The data collectors include the Trimble Tablet, Trimble TSC3 and Trimble Slate. Adding the Trimble Data Collector option gives you access to the extensive functionality of Trimble Access.
Base	The Base only option adds base correction output (CMR/RTCM) and UHF transmit (Tx) functionality to the dual frequency GPS/GLONASS/QZSS Rover / Network Rover only receiver. This allows for dual frequency Base and Rover functionality without upgrading to triple frequency tracking and full GNSS constellation support.
Rover / Network Rover	The Rover/Network Rover only option adds rover correction input (CMR/RTCM) and VRS functionality to the dual frequency GPS/GLONASS/QZSS Base only receiver. This allows for dual frequency Base and Rover functionality without upgrading to triple frequency tracking and full GNSS constellation support.
20 Hz	The 20 Hz measurement rate option is useful for those applications that require a very high rate of data collection and/or positioning. Data logging can be configured to collect raw data at 20 Hz. The receiver can be configured to output precise RTK positions at 20 times per second.
NMEA outputs	The NMEA option provides 23 NMEA-0183 v2.30 standard messages for use with third party positioning applications. The receiver allows configuration of multiple NMEA messages from one port, along with output of the messages at varying update rates.
Remove Geo-Fence	Trimble R8s GNSS receivers sold into specific regions (e.g. China, Latin America) can't perform Postprocessing or RTK surveys outside the defined geo-fenced area. The Remove Geo-Fence option removes those restrictions to allow Postprocessing or RTK surveys world-wide without regional restrictions.

* Only applicable in combination with Configuration Level A-La-Carte.