

The Future In Streamlined Seismic Surveys



Trimble SNS Systems

A Complete Solution

Trimble® SNS Vibe Array™ System



Trimble SNS Vibe Array System

The Trimble® SNS Vibe Array™ system is an advanced vehicle navigation solution intended to quickly and efficiently guide seismic vibe operators to source targets. Built to meet the needs of the seismic survey industry, this system improves productivity and safety with easy, efficient, task specific navigation.



Each system comes equipped with an advanced 220 channel GNSS receiver supporting multiple constellations and surveying modes, an extremely bright and rugged 12.1 inch touchscreen tablet, a high-speed (up to 2.6 Mbps throughput) radio datalink, an inertial measuring unit to compute precise heading, pitch and roll, two corrosion and shock resistant color cameras for live video and geotagged image capture, a UHF radio for RTK operations, along with cabling configurations for NMEA, PPS and trigger support. The system also supports Trimble RTX™ correction services; centimeter-level GNSS accuracy delivered via satellite nearly worldwide. Coupled with the powerful, yet easy to use, android tablet interface running Trimble SNS provides a complete solution for seismic navigation. Each system purchase includes a perpetual firmware license along with one year of software maintenance, technical support, and hardware warranty. Extended warranties to cover hardware and/or firmware for up to four additional years are available for purchase.

Designed for Operational Safety

The Trimble SNS software supports aerial imagery in a wide variety of formats, ESRI shape files, and digital elevation models to provide a clear picture of the driver's surroundings, thereby reducing liability and increasing employee safety. Any number and combination of area shape files can be configured for use as either exclusion or inclusion zones. Proximity and zone breach alarms are issued both visually and audibly. Using data from the inertial measuring unit, warnings can be set for vehicle pitch and roll allowances. Integrated windows displaying live feeds from dual video cameras provide the operator with clear images of vehicle blind spots.

Fully Connected

Utilizing the high-speed radio datalink, each vibe with Trimble SNS Vibe Array can monitor the position, elevation, speed, heading, exclusion zone and target status of all other vibes in the operation. This allows for real-time mapping

and center-of-gravity calculations in each vibe, and at the instrument truck along with any supervisor vehicles. Note that only the vibes need a full SNS system – other vehicles/ installations simply need our TMR1 IP radios and a Windows laptop running our server software.

This software, included with each SNS Vibe Array purchase, provides real-time mapping of the vibes, logging all vibe position records to a local SQLite database, file transfer to and from any vibe, and transmission of target data to override the vibe's local targets when needed. Where multiple autonomous vibes are being used, all source points logged by each vibe are automatically marked as recorded in all others.

Seamless Integration

Trimble SNS directly integrates with the industry leading GPSeismic® office software, including the import of GPSeismic project databases and queries, CSV files, and point SHP files for use as target points.



Trimble SNS Vibe System

The Trimble SNS Vibe™ system mirrors Trimble SNS Vibe Array, with the exception of the integrated high-speed radio datalink. Trimble SNS Vibe is ideal for autonomous vibe and drill navigation where vehicle to vehicle and vehicle to instrument truck datalinks are not required. The Trimble SNS Vibe system can be easily upgraded to a Vibe Array solution through the purchase of our Trimble SNS Vibe Array upgrade kit; which costs no more than purchasing Trimble SNS Vibe Array from the start.



This support extends to the use of template files for vehicle offsets, grid definition files for reference azimuth and bin calculations, and crooked line files for 2-D work. Trimble SNS and GPSeismic share the same geodetic library and GGF geoid model support enabling a consistent coordinate framework from office to field and the ability to compute final coordinates in the vehicle.

Comprehensive Logging

All Trimble SNS products provide for comprehensive logging of the vehicles position, time, speed, heading, GNSS quality, exclusion/inclusion zone status, along with many other items to a SQLite database. Logging is automatic and cannot be controlled by the operator. Log events are triggered by time, distance, zone status, and point recordings and allow for full reconstruction and accountability of the vehicle's path.

Expedite Project Times With Stakeless surveys

Eliminating the need to pre-survey sources, Trimble SNS Vibe Array can significantly decrease project times and costs, all while increasing employee safety and minimizing environmental damage. Developed by Trimble's Land Seismic division, the same engineers who brought you GPSeismic and Trimble Access Land Seismic, Trimble SNS offers a complete surveying workflow for your stakeless operations.

Trimble SNS Line Clear System

The Trimble SNS Line Clear™ system is a cost effective, advanced navigation solution to streamline the operation of line clearing equipment. Like Trimble SNS Vibe Array, Trimble SNS Line Clear consists of the same advanced 220 channel GNSS receiver, extremely bright and rugged touchscreen tablet and low profile GNSS antenna to minimize drag in low canopy environments. The system can also accommodate one corrosion and shock resistant color camera for live video and geotagged image capture enhancing visibility and documentation.



Streamline Operations with Ease

Clearing the ground in preparation for receiver instrumentation or creating trails for energy source vehicles requires costly line clearing equipment, particularly where access is needed in areas with heavy brush and trees. Like Trimble SNS Vibe Array, the Line Clear software supports aerial imagery in a wide variety of formats along with any number and combination of ESRI shape files for exclusion and/or inclusion zone warnings, providing a clear picture of the operator's surroundings. With an intuitive crossline light bar which provides visual and audible alarms when operators breach user defined distances from a line, operators will minimize clearing unnecessary land, saving time and money. Trimble SNS Line Clear also ensures you avoid exclusion zones to reduce liability risk and eliminate potential fines for encroachment. System output provides real-time and historic reporting for GNSS position and quality, status of clearance zones, auditable logs of vehicle navigation, and exclusion zone violations.



For more information contact:

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Trimble SNS System SPECIFICATIONS

TRIMBLE SNS SYSTEM

Trimble SNS Line Clear

- TMX-2050 display with Trimble SNS Line Clear software application
- TM-200 module
- LV-59 antenna

Trimble SNS Vibe

- TMX-2050 display with Trimble SNS Vibe software application
- TM-200 module
- LV-59 antenna
- AG-815 UHF radio
- IMD-600 inertial measuring unit
- External cameras

Trimble SNS Vibe Array

- TMX-2050 display with Trimble SNS Vibe Array software application
- TM-200 module
- LV-59 antenna
- AG-815 UHF radio
- IMD-600 inertial measuring unit
- External cameras
- TMR1 IP radio

TRIMBLE TMX-2050 DISPLAY

Technical Overview

- Large 30.8 cm high-definition color touch-screen display
- Rugged construction for everyday field use, meeting demands in harsh environments
- Easy transferability between vehicles

Technical Specifications

Processor 1 GHz quad core
Storage Primary embedded memory 32 GB Flash

Mechanical

Dimensions 31.2 cm x 21.4 cm x 4.5 cm
Weight 2.5 kg

Housing

Material Magnesium
Environmental rating IP55

Temperature

Operating temperature 0 °C to +65 °C
Storage temperature -40 °C to +85 °C

LCD Display

Size 30.8 cm
Touchscreen Protective capacitive touch
Resolution 1280 x 800
Brightness 1000 nits

Connections

USB 2.0 1 side facing, 1 rear facing, both with hub support
Ethernet via TM-200 RJ45 Connector

TM-200 MODULE

Technical Specifications

Power 9–16 volts, 30 watts
Storage 64 MB (Flash)

Mechanical

Dimensions 20.9 cm x 18.4 cm x 5.7 cm, including connectors
Weight 2.54 kg

Housing

Material Aluminum
Environmental rating IP55

Temperature

Operating temperature -40 °C to +65 °C
Storage temperature -40 °C to +85 °C

GNSS

- 220 channel GNSS receiver, L1/L2/GLONASS capable
- Advanced Trimble Maxwell 6 Custom Survey GNSS chips
- Positioning rate: 5hz
- Satellite signals tracked simultaneously
 - GPS: L1 C/A, L2C, L2E
 - GLONASS: L1 C/A, L2 C/A, L2P
 - SBAS: L1 C/A

Positioning Performance

- SBAS (WAAS, EGNOS, MSAS)
 - Horizontal 50 cm
 - Vertical 85 cm
- OmniSTAR®
 - G2 8-10 cm Horizontal
 - XP 8-10 cm Horizontal
 - HP 5-10 cm Horizontal
- Trimble RTX
 - RangePoint® RTX 50 cm Horizontal
 - CenterPoint® RTX 4 cm Horizontal, 9 cm Vertical
- RTK
 - Horizontal accuracy 1 cm + 1 ppm RMS
 - Vertical accuracy 2 cm + 1 ppm RMS

TRIMBLE LV59 GNSS ANTENNA

Performance

- Broad GNSS frequency tracking band including:
 - GPS: L1, L2, L5
 - GLONASS: L1, L2, L3
 - BeiDou: B1, B2
 - Galileo: E1, E2, E5
 - SBAS: WAAS, EGNOS, QZSS, Gagan, MSAS
 - MSS: Trimble RTX, OmniSTAR

Hardware

Dimensions 14.62 cm diameter x 3.89 cm height
Weight 0.48 kg
Operating temperature -40 °C to +85 °C
Finish UV resistant white radome with aluminum base
Compliance ROHS

AG-815 UHF RADIO MODULE (SECURED TO TM-200)

Dimensions 7.62 cm x 13.97 cm x 5.71 cm
Frequency range 403-473 MHz

IMD-600 INERTIAL MEASURING UNIT

True heading (RMS) 0.3 degrees
Roll & Pitch (RMS) 0.1 degrees
Dimensions 11.4 cm x 7.1 cm x 8.9 cm
Operating temperature -40 °C to +85 °C
Storage temperature -40 °C to +85 °C
Environmental rating IP69

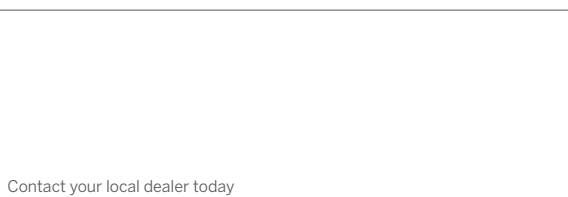
EXTERNAL CAMERA

Dimensions (body) 5.3 cm x 5.8 cm
Operating temperature -42 °C to +66 °C
Environmental rating IP69
Viewing angle 92° (3.6 mm lens focal length)
Auto shading lens
Auto infrared night vision

TRIMBLE TMR1 IP RADIO

Frequency 865-928MHz
Output Power 1 - 1000mW
Range (Line of Sight) 70+miles (112+km)
Environmental Rating IP67
Operating Temperature -50 to +65°C
Connectivity Ethernet & Serial w/ error detection & security
Web Based Configuration
License Free Worldwide

Specifications subject to change without notice.



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