September 2005

Trimble SNR900 Rugged Machine Radio

License-Free*, High-Speed Data Link for On-Machine Applications

General Description

The Trimble® SNR900 machine radio modem enables you to establish a robust, wireless data broadcast network for real-time, high-precision earth moving applications in the construction industry.

The 900MHz frequency offers many advantages for the construction site:

- Virtually immune to inference
- No licensing is required
- Low-latency, high-speed link allows two-way data between office and site machines
- Ideal operating range for construction sites
- Single Radio for ATS or GPS and Two Way IP Data

Designed for Machine Operation

The Trimble SNR900 radio has improved power conditioning over the Trimble SiteNet 900 radio, allowing operation on 12V or 24V machines using direct machine harness power with no intermediate conditioning. The integral antenna, status LEDs and rugged 8-pin connector are durable and waterproof to ensure longevity even under the harshest conditions.

Utilizing 900 MHz spread-spectrum technology, the Trimble SNR900 radio enables seamless network connectivity from office to field. With more memory, more processing power, and 128 kbps over-the-air data rate, the SNR900 is truly the smart choice for your critical wireless networking needs.

License-Free

The Trimble SNR900 radio is certified for license-free operation in the U.S.A., Canada, Australia and New Zealand. This makes the SNR900 radio extremely portable, you can move it from project to project with licensing hassles and restrictions.

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900MHz for productivity

Frequency hopping technology and 40 user-selectable networks equate to a reliable network in virtually any radio environment. The Trimble SNR900 radio is a plug in replacement for the SiteNet 900 radio and is fully compatible with existing Trimble 900MHz networks.

This versatile radio operates in the frequency range of 902–928 MHz, receiving real-time GPS corrections and providing two-way data on a single radio. The Trimble SNR900 radio can also communicate with an SNB900 base radio connected to a Trimble ATS Construction Total Station.

The Trimble SNR900 radio is especially suited for use with sensor independent grade control systems, where the multi-functional radio reduces the number of components and reduces complexity. It is ideal for all machine applications where reliability is important. Fully sealed against dust, rain, splash, and spray, the Trimble SNR900 radio remains reliable even in harsh conditions. The radio's ruggedness and reliability minimizes downtime, lowering ownership costs.

Standard Features

- License-free in the U.S., Canada, Australia and New Zealand*
- Direct operation on 12 or 24 volt machine power
- Low-profile integral 0 dBi antenna (no need for antenna cables)
- CAN interface
- LED status indicators
- Heavy duty 8-pin Bendix connector
- Power and data via a single cable
- Designed for machine mounting
- Rugged and waterproof (fully sealed)
- Frequency-hopping, spread-spectrum technology
- Compatible with Trimble SiteNet 900 radio networks
- Compatible with Trimble TRIMCOMM™ radio networks
- Compatible with Trimble MS and SPS780 and SPS770 Series GPS receivers
- Compatible with the Trimble ATS Construction Total Station
- High data rate
- Low power consumption
- Typical 3–5 km line-of-sight range (up to 10 km under optimal conditions)
- 40 user selectable networks

**The SiteNet 900 radio-modem is certified for license-free operation in the United States under Part 15 of the FCC Rules, and in Canada under RSS-210 of Industries Canada. For more information about use in other countries please contact Trimble*

Feature levels

The Trimble SNR900 radio is available in configured in a single feature level. The Radio supports GPS, GPS + 2 Way IP Data or ATS operation.

Ordering information

The Trimble SNR900 radio is available in a single feature level that supports the Trimble ATS Construction Total Station operation.

Part Numbers	Description
52386-XX	Radio - Machine, SNR900 Kit, 900MHz, (RX/TX)
55013-XX	Radio - Field Replacement, SNR900, 900MHz

Part number suffix matrix:

Country	Standard
US/Canada	-10
New Zealand**	-20
Australia	-30

*** This configuration can also be used in Australia. This configuration does not support Trimble ATS Construction Total Station operation on a site with a 900MHz GPS network.*

Specifications

Physical Characteristics	
Size	250 mm (height) x 85 mm (width) (10" x 3.4")
Weight	0.9 kg (2.0lb)

Environmental Characteristics	
Operating temperature	–40 °C to +70 °C (–40 °F to +158 °F)
Storage temperature	–40 °C to +85 °C (–40 °F to +185 °F)
Humidity:	Exceeds MIL-STD-810E (aggravated cyclic humidity),
Sealing:	Environmentally sealed to ±34.5 kPa (±5 psi), immersible to 1m
Vibration:	6 gRMS, 20–2000 Hz random vibration
Shock:	
Operational:	±40 g 10 msec
Survival:	±75 g 6 msec

Electrical Specifications	
Input voltage range:	10.5 VDC to 32 VDC,
Power consumption	
Nominal:	250 mA (3 W)
Transmit:	1250 mA (15 W)
Connector:	8 Pin Bendix

Electrical Specifications	
Ports:	2x RS232, 1x CAN
Input protection:	Reverse voltage protection, up to 36 VDC Load dump protected, compliant to ISO 7637 specifications Short circuit protected

Radio-Modem Performance	
Modes:	Rover
Range:	
Optimal:	10 km (6 miles), line-of-sight
Typical:	3–5 km (2–3 miles) Varies with terrain and operating conditions.
Frequency range:	
US/Canada	902–928 MHz
Australia	917-928 MHz
New Zealand	921-928 MHz
Networks:	40 user selectable networks
Transmit power:	Meets FCC requirements of 30dBm maximum power output.
Wireless data rate	128 Kbps

8 Pin Bendix - Mil-spec high cycle count connector:

Pin	Signal	Description
A	PWR+	Power
B	PWR-	Power ground & RS-232 ground
C	RS-232 2 TXD	Two-way data
D	RS-232 2 RXD	Two-way data
E	CAN0 Hi	System bus
F	RS-232 3 TXD	GPS Corrections
G	RS-232 3 TXD	GPS Corrections
H	CAN0 Lo	System bus

Specifications and description are subject to change without notice