

SIMREX Corporation

SP-900 Spread Spectrum Modem

UNLICENSED wireless DATA

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SIMREX..Global wireless solutions. Unlicensed Wireless Data

For almost 2 decades, SIMREX Corporation's wireless products have been providing wireless networking solutions with applications in SCADA, telemetry, telecommunications, mobile data and online transaction markets. SIMREX Corporation provides licensed and unlicensed solutions, installed worldwide.

Product Overview

The SP-900 is a valuable member of our 900MHz frequency-hopping family. The SP-900 is built around a superior radio core. The proprietary radio technology has evolved to meet the demands of the toughest RF and physical environments. With superior noise rejection, sensitivity, and extended temperature range, the SP-900 excels where many other transceivers fail. The feature-rich SP-900 allows easy interface to new and old field equipment.

A pair of SP-900s provides a practical and reliable alternative to using traditional analog phone-line modems or "null-modem" serial cable (RS-232) connections for data communications between serial communications equipment. Moreover, wireless data communications using the SP-900 means you will benefit from: greater flexibility and freedom to relocate serial communications equipment; reduced cabling hassles; eliminated requirement for access to wire-based transfer media such as telephone lines; no ongoing access fees; and, the ability to communicate through walls, floors and many other obstacles.

FEATURES

- Transmission within a public license-exempt band of the radio spectrum (this means that the SP-900 can be used without access fees such as those incurred by cellular airtime)
- DB9 RS-232 serial I/O data port with hardware flow control (allowing the SP-900 to interface with virtually any communications device with an asynchronous RS-232 port such as a computer)
- Supports point-to-point and point-to-multipoint, repeater operation with user-configurable addressing
- No limit on the number of repeaters you can cascade.
- User-configurable encryption key maximizes security and privacy of communications
- Twenty different user-selectable pseudo-random hopping patterns to offer the possibility of separately operating multiple networks while providing security, reliability and high tolerance to interference
- Built-in CRC-16 error detection and auto re-transmit to provide accurate and reliable data
User selectable FEC
- FCC (Federal Communications Commission) and IC (Industry Canada) approved

APPLICATIONS

- Gas / Oil production and distribution
- Industrial process control
- Many More
- Water, gas and electric utilities
- Railroad communication systems
- Lotteries
- Vehicle Data / Tracking
- Traffic control
- Display Signs

SP-900 Wireless Spread Spectrum Radio Specifications

Data Interface	Asynchronous RS-232, 9-pin female D-sub
Signals	Sig. Gnd, TX, RX, DCD, DSR, DTR, RTS, CTS
Data Format	8N1,8N2,8E1,8O1,7N1,7N2,7E1,7O1,9N1
User Interface	AT command line interface
Bandwidth/Data Rate	2400 - 115,200 bps, uncompressed half-duplex
Communications Range	22 miles line-of-sight or more
Memory	Non-volatile configuration memory
Operating Modes	Point-to-Point, Point-to-Multipoint, Repeater-Slave
Power Requirements	9-30 VDC, 1 Amp
Power Consumption	490 mA (Max) at 1W TX, 200 mA receive (12VDC input)
Frequency (North American Version)	902 - 928 MHz (other countries on request)
System Gain	137 dB
Sensitivity	-107 dBm @ 10 ⁻⁶
Minimum Signal for Synchronization	-110 dBm
Out of Band Rejection	>70dB
Inband Rejection	>60dB
Adjacent Channel Rejection	>50dB
Output Power	1mW, 10mW, 100mW, 1W (user-configurable)
Spreading Code	Frequency Hopping
Hopping Patterns	60 pseudo-random, user selectable
Error Detection	CRC-16 with auto-retransmit, FEC
Enclosure Material	Milled aluminum, black baked powder coat finish
Dimensions (WxDxH)	Encl: 3.72" x 4.25" x 1.72" (95 x 108 x 44mm)
Antenna Connector	Reverse gender TNC
Weight	Approx. 420 grams
Operating Environment Temperature:	-40 to +70°C; Humidity: 5 to 95% non-condensing
Approvals	FCC, IC

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