

SIMREX Corporation

DataMover™ SS Spread Spectrum

902-928 MHz
Frequency Hopping
Spread Spectrum
Transceiver

UNLICENSED wireless DATA



FEATURES

- High Speed. Throughput to 115.2 Kbps
- Unparalleled Robustness
 - Forward error correction
 - CRC/ARQ, multiple re-sends
- Industrial Grade - Extended -40 to +70 degrees C temperature range for trouble free operation in extreme environments
- Sleep mode - ~ 7mA, ideal for solar power applications
- Store and forward - with self healing networks
- Network wide diagnostics - Central network control without the need to visit sites

Applications

- SCADA
- Tested and approved to work with Schweitzer Engineering Laboratories [SEL] Mirrored Bits™
- Industrial Automation
- Process Control
- Gas and Oil Exploration, Production and Transportation
- Electric, Water and Gas Utilities

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

Today's SCADA/Telemetry systems require the transport of large amounts of data at ever-increasing speeds. Additionally, the need for greater packaging flexibility has redefined the "ideal" wireless platform in many applications. SIMREX is pleased to introduce DataMover SS, a flexible, high speed, compact licensed-free wireless solution.

Product Overview

The SIMREX Corporation DataMover SS utilizes FHSS (Frequency Hopping Spread Spectrum) in the ISM Band of 902-928 MHz to provide reliable long range data transportation at up to 115.2 Kbps. The DataMover SS provides transparent data communications for nearly all SCADA/ Telemetry and EFM protocols including MODBUS.

Any DataMover SS can be configured as a repeater extension. This allows store and forward data operation to extend the operation range of the network. Multiple repeaters can exist at any level of the network preventing a single radio failure from disabling the entire network. There is no limit to the number of repeaters that can be used. This product is available for use in Class1, Division 2, Groups A, B, C & D hazardous locations. *

Why Consider a DataMover SS Solution?

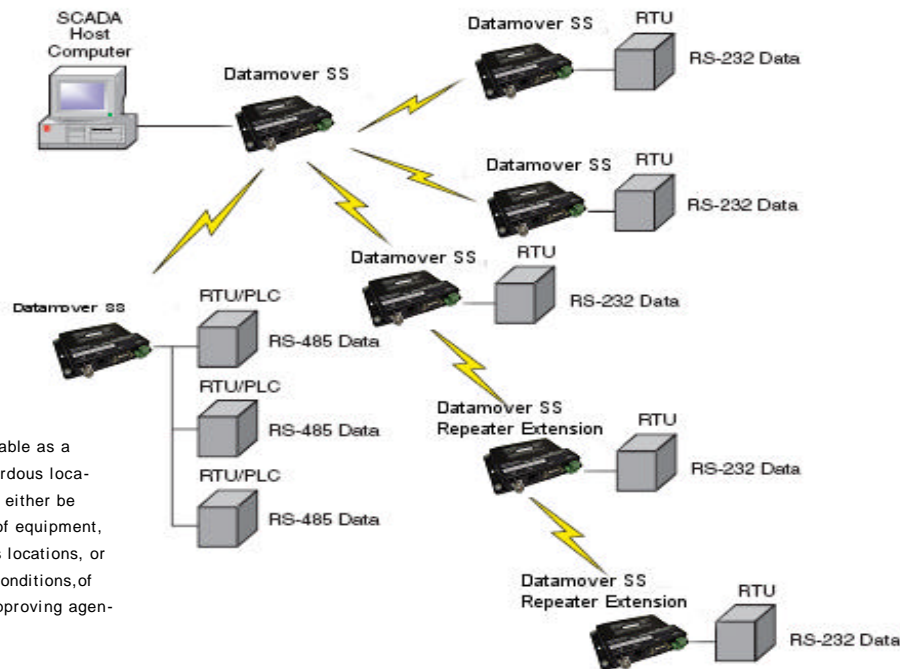
- **High system performance and data integrity.** Robust construction, digital signal processing [DSP] technology with self-equalization, automatic CRC/ARQ and powerful forward error correction.
- **Flexibility and rapid installation.** Quick return on investment due to plug-and-play installation. License-free radio design with the ability to communicate with any asynchronous protocol without extra software or additional programming.
- **Performance under the most adverse conditions.** Robust design provides excellent performance in the face of interference or difficult signal paths.
- **Small Footprint.** Exceptionally small design allows installation inside RTU or PLC housing.
- **SIMREX network-wide diagnostics software** simplifies tasks and reduces the cost of managing the network infrastructure by eliminating trips to the field. Provides a non-intrusive means of maintaining link and radio network performance.
- **Flexible interfaces.** All DataMover SS come equipped with RS-232 for direct connection to most RTU/PLC's and RS-485 for multidrop environments.
- **Low Power consumption.** Sleep mode for extremely low power consumption requirements - typically draws 7mA - yet still recovers quickly for fast access to your critical data.
- **SIMREX DataMover SS is a price/performance leader** offering flexibility and reliability for both point-to-point and point-to-multipoint requirements.

DataMover™ SS Spread Spectrum Radio Specifications

Frequency Band	902-928 MHz ISM band		
Physical and Environmental			
Dimensions	(Approx. 3.6 D x 5.1 W x 1.0 H inches) (Approx. 9.1 D x 12.9 W x 2.5 H cm)		
Input Power	6 to 30 Vdc		
Current Drain	<u>Mode</u>	<u>30Vdc</u>	<u>13.8Vdc</u> <u>6Vdc</u>
	Transmit	236 mA	510mA 1.18A
	Receive	51 mA	100mA 155mA
Sleep Mode	7mA typical		
Temperature Range	-40 to +70 degrees C		
Humidity	< 95% RH (Non-condensing)		
Transmitter			
Power Output	1 Watt (30dBm) at 6Vdc to 30Vdc, user selectable down to 100mW (+20dBm)		
Modulation	CPFSK		
Receiver			
Sensitivity	-108 dBm (1 x 10 ⁻⁶ BER) typical		
Error Detection	CRC16; Resend on Error		
Interference Avoidance	64,000 hop patterns selected automatically via network address		
	FEC, CRC/ARQ and/or Multiple Packet Transmits		
	Excellent Strong Signal (interference) Characteristics		
	Band Segmentation for Friendly Coexistence with Other Services such as LMS		

Data	
Interface	RS-232/RS-485 (User Selectable)
Usable Throughput	115.2 kbps
Port Speeds	1.2 to 115.2 kbps
Connectors	
Power, User, NMS	2 Pin Phoenix, DB-9, RJ11
RF	TNC
Operating Modes	
Point-to-Multipoint	Master
	Remote
	Repeater Extension (Store and Forward)
	- Unlimited repeaters
	- self healing networks
Network Management	
	Diagnostics
	Centralized network control eliminates site visits
	Create store-and-forward configurations
	Compatible with other Simrex products
Agency Approvals	
FCC	Part 15 Approved
UL/CSA	Class 1, Div. 2 approved* (UL 508, UL 1604)
IC	Approved

DataMover™ SS Spread Spectrum
High Speed Flexible Transparent - Communications



* The transceiver is not acceptable as a standalone unit for use in hazardous locations described above. It must either be mounted within another piece of equipment, which is certified for hazardous locations, or installed within guidelines, or conditions, of approval, as set forth by the approving agencies.

SIMREX CORPORATION

SALES & ENGINEERING
2120 E. NANTUCKETT DRIVE
GILBERT, ARIZONA 85234 USA
PHONE (480) 926-6069
FAX (305) 675-7794

MANUFACTURING & SERVICE
5490 BROADWAY ST.
LANCASTER, NEW YORK 14086 USA
PHONE (716) 206-0174
FAX (716) 204-0476

SIMREX DataMover products are manufactured under a quality system certified to ISO 9001. SIMREX reserves the right to make changes to specifications of products described in this data sheet at any time without notice and without obligation to notify any person of such changes.
© 2004 SIMREX Corporation