SIMREX Corporation
DataMover™ Transparent TR Series

TRANSPARENT
wireless
DATA

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FEATURES

• High Performance – Digital Signal Processing (DSP) Engine

• Flexibility – Single Unit Configurable as Master or Remote Radio

APPLICATIONS

• Gas / Oil production and distribution

• Water, gas and electric utilities

• Lotteries

• Traffic control

• Industrial process control

• Railroad communication systems

SIMREX..Global wireless solutions. Transparent 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 SIMREX DataMover Transparent TR Series is a price/performance leader in licensed radios in the 220-222 MHz, 220-240 MHz, 330-512 MHz, and 800-960 MHz frequency ranges. They provide increased throughput, and longer-range for multiple address systems. Transparent and direct asynchronous communication offers real-time communication. No extra software or programming is needed to implement communications using standard asynchronous protocols. A general purpose (unconditioned) digital output is available.

The SIMREX DataMover Transparent TR Series is field configurable as a master station or remote radio. They can operate as a half-duplex or simplex radio. They support all splits in duplex frequencies. When operating as a master station, full network diagnostics are available. Simplex mode permits peer-to-peer radio communications. This product is available for use in Class I, Division 2, Groups A, B, C & D hazardous locations.*

Why Consider a Datamover Transparent Solution?

High system performance and data integrity. Through robust construction, digital signal processing technology (DSP) and we offer up to 19.2 kbps data throughput.

Rapid Installation. Quick return on investment due to ease of wireless installation. This licensed radio offers the ability to communicate with any asynchronous protocol without extra software or extra programming.

Performance under the most adverse conditions. Exceptional design provides excellent performance in the face of interference or difficult signal paths.

Network Wide Diagnostics. Datamover Network Management software simplifies maintenance tasks and reduces the cost of managing the network infrastructure. Provides a non-intrusive means of maintenance and link monitoring.

Transparent / Wireless / Data

DataMover™ Transparent TR Radio Specifications

General	DataMover TR-2A	DataMover TR-2C	DataMover TR-2D	DataMover TR-4	DataMover TR-9
Frequency Bands:	220 to 240 MHz	220 to 240 MHz	220 to 222 MHz	330 to 512 MHz	800 to 960 MHz
Freq. Programmability:	6.25 kHz increments to any MAS channel pair	12.5 kHz increments to any MAS channel pair	2.5 kHz	6.25 kHz increments to any MAS channel pair	6.25 kHz increments to any MAS channel pair

Model: Agency Approval:	4 Wire Analog	Data Rate:	Port Speed:	Bit Error Rate:	Diagnostics
TR-2A	Yes	9600 bps (rf)	300 bps-38.4 kbps (data) @ 12.5 kHz Channel Spacing	BER 1×10^{-6} @ -110 dBm typical	Network Wide Diagnostic Option
TR-2C (China)	Yes	19,200 bps (rf)	110 bps-38.4 kbps (data) @ 25 kHz Channel Spacing	BER 1×10^{-6} @ -105 dBm typical	Network Wide Diagnostic Option
TR-2D (FCC Part 90)	Yes	3200 bps (rf)	300 bps-38.4 kbps (data) @ 5 kHz Channel Spacing	BER 1×10^{-6} @ -108 dBm typical	Network Wide Diagnostic Option
TR-4C	Yes	19,200 bps (rf)	110 bps-38.4 kbps (data) @ 25 kHz Channel Spacing	BER 1×10^{-6} @ -105 dBm typical	Network Wide Diagnostic Option
TR-4A (FCC Part 90) Industry Canada & ENTELA	Yes	9600 bps (rf)	110 bps-38.4 kbps (data) @ 12.5 kHz Channel Spacing	BER 1×10^{-6} @ -110 dBm typical	Network Wide Diagnostic Option
TR-4B (FCC)	Yes	9600 bps (rf)	300-9600 bps (rf and data) @ 12.5 kHz Channel Spacing	4800 bps: BER 1×10^{-6} @ -110 dBm typical 9600 bps: BER 1×10^{-6} @ -108 dBm typical	DTMF Diagnostic Option
TR-4E (ETSI: ETS 300 113 EMC: EN 300 279 CE Mark)	N/A	4800 bps (rf)	110 bps-38.4 kbps (data) @ 12.5 kHz Channel Spacing	BER 1×10^{-6} @ -113 dBm typical	Network Wide Diagnostic Option
TR-4 UK MPT1411 (analog)	Yes	analog	N/A	N/A	N/A
TR-4M (MPT1411 (digital))	Yes	9600 bps (rf)	110 bps-38.4 kbps (data)	BER 1×10^{-6} @ -106 dBm typical	Network Wide Diagnostic Option
TR-9A (FCC E5MDS9710-1) Industry Canada & ENTELA	Yes	9600 bps (rf)	110 bps-38.4 kbps (data) @ 12.5 kHz Channel Spacing	BER 1×10^{-6} @ -110 dBm typical	Network Wide Diagnostic Option
TR-9B (FCC E5MDS9710)	Yes	9600 bps (rf)	300-9600 bps (rf and data) @ 12.5 kHz Channel Spacing	4800 bps: BER 1×10^{-6} @ -110 dBm typical 9600 bps: BER 1×10^{-6} @ -108 dBm typical	DTMF Diagnostic Option

ALL MODELS

Operational Modes: Async. - Simplex, half-duplex, (synchronous available (9600 bps only) in TR-4B, and TR-9B)

Data Interface: RS-232, DB-25 Female Connector Supports: TXD, RXD, RTS, CTS, DCD, RUS, AUX POWER, DSR, and GND

Transmitter

Frequency Stability:	+/- 0.00015% 1.5 ppm
Carrier Power:	0.1 to 5 Watts Programmable
Carrier Power Accuracy:	Normal +/- 1.5 dB
Duty Cycle:	Continuous
Output Impedance:	50 Ohms

Receiver

Type:	Double Conversion Superheterodyne
Frequency Stability:	+/- 0.00015% (1.5 ppm)
Adjacent Channel (EIA):	60 dB nominal

Power Supplies

Primary Power:	Voltage 13.8 Vdc nominal (10.5 to 16 Vdc operating range)
Tx Current:	2A Typical at 5 Watts
Rx Current:	<125 mA
Sleep Mode:	15 mA nominal

Modem / Diagnostics

Modulation:	Digital / CPFSK
CTS Delay:	0-255 msec programmable in 1 msec increments
PTT Delay:	0-255 msec programmable in 1 msec increments

Physical

Case:	Rugged Die Cast Aluminum
Dimensions:	5.08 x 14.29 x 18.4 cm (2.0 x 5.625 x 7.25 inches)
Weight:	1 kg (2.2 lbs)

Environmental

Temperature Range:	-30°C to +60°C (-22°F to +140°F)
Humidity:	95% at 40C (104°F) non-condensing

Additional Agency Approval

FM/UL/CSA:	Approved* (consult factory for country specific approvals)

* The transceiver is not acceptable as a stand-alone unit for use in the 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.

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