MDS Transceiver Series

Fixed Frequency Licensed Solutions

Features

- High Performance – Digital Signal Processing (DSP) Engine
- Flexibility – Single Unit Configurable as Master or Remote Radio
- Compatibility – Inter-Operable "B" Versions Available for Use with Existing MDS 2000, MDS 4000 Series Radios

Applications

- Gas/oil production and distribution
- Water, gas and electric utilities
- Lotteries
- Traffic control
- Industrial process control
- Railroad communication systems

GE MDS...Global wireless solutions. Industrial Wireless Performance.

For nearly two decades, GE MDS has been providing highly secure, industrial strength mission critical wireless communications solutions for a broad spectrum of public and private sector clients worldwide. With an installed base approaching 1,000,000 radios in 110 countries, GE MDS offers both licensed and license-free solutions with applications in SCADA, telemetry, public safety, telecommunications, and online transaction markets.

MDS Transceiver Series Overview

The MDS Transceiver Series is a price/performance leader in licensed microwave 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 MDS Transceiver 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 MDS Transceiver Series 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! InSite 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.

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MDS Transceiver Series Specifications

General	MDS 2710A	MDS 2710N**	MDS 2710C	MDS 2710D	MDS 4710	MDS 9710
Frequency Bands	220 to 240 MHz	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 uses 3 5 KHz channels	12.5 kHz increments to any MAS channel pair	2.5 kHz same	6.25 kHz increments same	6.25 kHz increments same

Model	Agency Approval	4 Wire Analog	Data Rate	Port Speed	Bit Error Rate	Diagnostics
2710A		Yes	9600 bps (rf)	300 bps-38.4 kbps (data) @ 12.5 kHz Channel Spacing	BER $1x10^{-6}$ @ -110 dBm typical	Network Wide Diagnostic Option
2710N** *Exclusively available from NRTC for US Electric Co-ops*	FCC Part 90	Yes	9600 bps (rf)	300 bps-38.4 kbps (data) @ 12.5 kHz Channel Spacing	BER $1x10^{-6}$ @ -110 dBm typical	Network Wide Diagnostic Option
2710C	China	Yes	19,200 bps (rf)	110 bps-38.4 kbps (data) @ 25 kHz Channel Spacing	BER $1x10^{-6}$ @ -105 dBm typical	Network Wide Diagnostic Option
2710D	FCC Part 90	Yes	3200 bps (rf)	300 bps-38.4 kbps (data) @ 5 kHz Channel Spacing	BER $1x10^{-6}$ @ -108 dBm typical	Network Wide Diagnostic Option
4710A	FCC Part 90 Industry Canada & ENTELA	Yes	9600 bps (rf)	110 bps-38.4 kbps (data) @ 12.5 kHz Channel Spacing	BER $1x10^{-6}$ @ -110 dBm typical	Network Wide Diagnostic Option
4710B	FCC	Yes	9600 bps (rf)	300-9600 bps (rf and data) @ 12.5 kHz Channel Spacing	4800 bps: BER $1x10^{-6}$ @ -110 dBm typical 9600 bps: BER $1x10^{-6}$ @ -108 dBm typical	DTMF Diagnostic Option
4710C		Yes	19,200 bps (rf)	110 bps-38.4 kbps (data) @ 25 kHz Channel Spacing	BER $1x10^{-6}$ @ -105 dBm typical	Network Wide Diagnostic Option
4710E	ETSI, EMC, CE Mark (ETSI: ETS 300 113, EMC: EN 300 279)	N/A	4800 bps (rf)	110 bps-38.4 kbps (data) @ 12.5 kHz Channel Spacing	BER $1x10^{-6}$ @ -113 dBm typical	Network Wide Diagnostic Option
4710S	ETSI, EMC, CE Mark (ETSI: ETS 300 113, EMC: EN 300 279)	N/A	9600 bps (rf)	110 bps-38.4 kbps (data) @ 12.5 kHz Channel Spacing	BER $1x10^{-6}$ @ -102 dBm typical	Network Wide Diagnostic Option
4710	UK MPT1411 (analog)	Yes	analog	N/A	N/A	N/A
4710M	MPT1411 (digital)	Yes	9600 bps (rf)	110 bps-38.4 kbps (data)	BER $1x10^{-6}$ @ -106 dBm typical	Network Wide Diagnostic Option
9710A	FCC E5MDS9710-1 Industry Canada & ENTELA	Yes	9600 bps (rf)	110 bps-38.4 kbps (data) @ 12.5 kHz Channel Spacing	BER $1x10^{-6}$ @ -110 dBm typical	Network Wide Diagnostic Option
9710B	FCC E5MDS9710	Yes	9600 bps (rf)	300-9600 bps (rf and data) @ 12.5 kHz Channel Spacing	4800 bps: BER $1x10^{-6}$ @ -110 dBm typical 9600 bps: BER $1x10^{-6}$ @ -108 dBm typical	DTMF Diagnostic Option
9710C		Yes	19,200 bps (rf)	110 bps-38.4 kbps (data) @ 25 kHz Channel Spacing	BER $1x10^{-6}$ @ -105 dBm typical	Network Wide Diagnostic Option

For additional agency approval info visit www.microwavedata.com

All Models

- Operational Modes: Async. - Simplex, half-duplex, (synchronous available (9600 bps only) in MDS 4710B, and MDS 9710B)
- 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 H x 14.29 W x 18.4 D cm. (2.0 H x 5.625 W x 7.25 D in.)
- 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.*

** *MDS 2710N for US Electric Co-ops is eclusively available from NRTC, contact NRTC's Utility Solutions @ 866-672-6782*

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