

# MDS Transit® NM-200

On-Line Transaction Processing  
Network Master Station



## Transactional Data Applications

- Lottery Networks
- Automated Teller Machines (ATM)
- Branch Banking
- Water Management
- Back-up Systems
- Gas and Oil SCADA
- Points of Sale (POS)
- Electric Distribution Automation

## System Overview

A GE MDS Transit system offers intelligent wireless networking products and network management software to support real time applications such as lottery terminals, ATM machines, POS terminals, water, gas and oil SCADA, etc. The Transit On-Line Transaction Processing (OLTP) system is a highly efficient wireless implementation that employs intelligent radios at each end of the wireless network. A Transit point-to-multipoint system is organized in cells. Each cell consists of one NM-200 master station and multiple NR-100 remote radios managed by Transit NMS (Network Management System) software. Multiple master stations are typically connected through a WAN to one or multiple processing centers.

Transit integrates into existing customer networks allowing the wireless network to seamlessly coexist with a wired network infrastructure. It provides intelligent network support for real time applications with a data transfer rate of up to 19.2 Kbps.

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

For more than 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.

## Product Overview

The MDS Transit® NM-200 network master station utilizes DSP technology to offer a highly efficient network capability to support bursty data applications.

MDS Transit NM-200 supports multiple applications and network protocols. When the need for multiple applications arises, the NM-200 has five ports in support of five different network protocols. Each NM-200 can manage up to 64 Transit NR-100 remote radios. We designed the NM-200 to accept a full range of frequencies to complement Transit NR-100's capabilities, licensed radios (200 MHz to 960 MHz) and unlicensed spread spectrum radios (900 MHz). The Transit NM-200 supports point-to-multipoint configurations and, when required, coverage can be extended with repeaters.

The MDS Transit NM-200 is a wireless master station that supports standard network protocols. It integrates into customer specific networks, allowing wireless data to seamlessly exist within the network infrastructure. When a transaction is received by the data port of the NR-100 remote transceiver, it is converted to an efficient radio protocol and only the data portion is transported over the wireless segment and into the master station.

The MDS Transit NM-200 master station delivers the transaction to the local data center host computer or alternately, sends the transaction across a wide area network (WAN) into a NM-200H host interface unit. The NM-200H converts the data back into the appropriate protocol and delivers it to the host computer.

The Transit NM-200 series can be configured with its 5 data ports in support of multiple concurrent industry standard protocols (X.25, IP). It is a seamless solution that allows direct connectivity to a telco switch or cloud without the need for third party equipment. The Transit NM-200 series improves access time by incorporating spoofing functionality to conserve bandwidth in polled systems and only using the channel when there is data to send.

## Why Consider an MDS Transit® Solution?

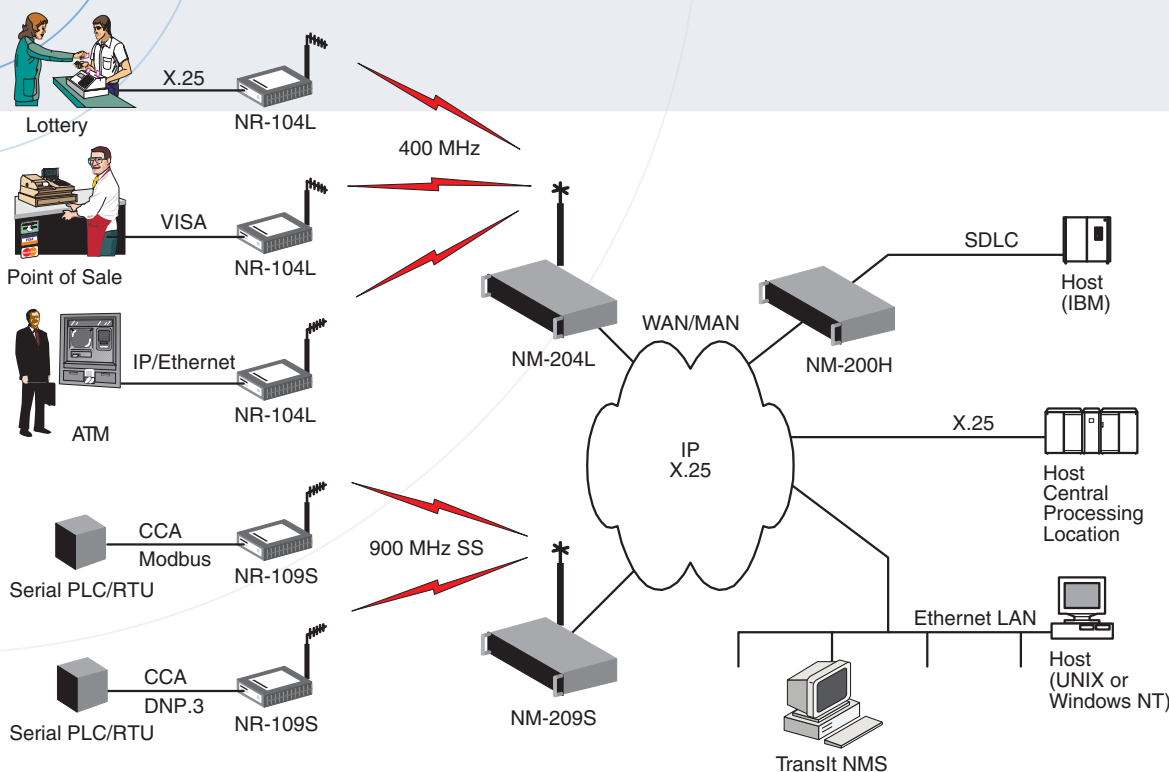
- Carrier-rated reliability that supports mission critical revenue producing applications. GE MDS is an ISO 9001 certified manufacturer of radio equipment
- MDS Transit NM-200's architecture offers a redundancy option at the master station for increased availability
- MDS Transit NMS monitors every point on the network. With a Windows-based GUI it offers complete control and updated information to manage the network: alarms, statistics, diagnostic tools and remote control functionality
- Ease of integration – Transit is compatible with standard WAN transport protocols. Its multiprotocol capability encompasses the most comprehensive suite of protocols
- Efficiency – Transit operates on a single radio frequency allowing you to double the number of networks running on existing frequency pairs or to cut in half the expense to acquire new frequency pairs. Its multiprotocol capability reduces the need to support parallel networks for different services
- Rapid deployment – reduces time to revenue
- Flexibility to incorporate both licensed and license-free (spread spectrum) radios in the same system



GE MDS

# MDS TransIt® NM-200 Remote Radio Specifications

## TransIt Wireless On-Line Transaction Processing (OLTP) Solution



## TransIt...Intelligent Wireless Data Network Solution

### Physical Interface

- Serial Ports: 4 serial ports:
  - DB-25F (RS-232/V.24) or RJ-11 (RS-485)
  - Software configurable as DCE/DTE (RS-232) or RS-485 2w HD (RJ-11)
  - 1,200-38,400 bps
  - RS-422/V.35 option (64 kbps-2 Mbps)
- Ethernet Port: 1 Ethernet port:
  - RJ-45F (10BaseT DTE)
- Local management: 1 serial port:
  - DB-9M (RS-232 DCE)
- Protocols: IP/Ethernet (TCP, UDP, ICMP, ARP, RIP), X.25, X.28 Async PAD, HDLC, SDLC, BSC, Poll Select, Modbus, DNP.3, CCA (Clear Channel Async), other protocols available on request

### Transceiver Options

Option	Transceiver	Frequency Range	Operation
NM-202L	MDS 2710	220-240 MHz	licensed
NM-204L	MDS 4710	330-512 MHz	licensed
NM-209L	MDS 9710	800-960 MHz	licensed
NM-209S	MDS 9810	902-928 MHz	unlicensed FHSS

(Consult transceiver specifications for details)

### Front Panel

- 4 X 20 char LCD display
- 12 LED indicators for: Power, Fault, Radio Network, LAN, Redundancy, Test, 4 serial ports, 2 virtual ports

### Mechanical

- Case: Steel chassis
- Dimensions: 9 H (2U) x 48 W x 34 D cm. (3.5 H x 19 W x 13.5 D in.)
- Weight: 6.8 kg (14.5 lbs)
- Weight w/optional battery: 8.2 kg. (18.1 lbs.)

### Environmental

- Temperature Range: -30°C to +60°C (-22°F to +140°F)
- Front Panel LCD: 0°C to + 50°C (32°F to +122°F)
- Humidity: 95% non-condensing

### Power

- Primary Power: 110/220 VAC 50/60 Hz, ±24 VDC, ±48 VDC
- Consumption: 20 Watts nominal
- Optional Battery (AC only): 2 Hour operation

### Network Management

- Windows 95, 98 or Windows NT™ compatible system provides configuration, fault and performance management over a TCP/IP or X.25 connection to master stations, and over the air access to the remote stations.

### Agency Approvals

- FCC part 101 (licensed)
- FCC part 15 (spread spectrum)
- CE Mark
- MPT 1411 (MDS 4710M @ 4.8 Kbps)
- ETSI (MDS 4710E @ 4.8 Kbps)



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