NETWORK INNOVATIONS
Communicate. Anywhere.

MDM2510 IP Satellite Modem

The Newtec MDM2510 IP Satellite Modem is a two-way, high throughput satellite modem that supports a wide range of services including Internet/Intranet access, Voice-over-IP (VoIP), backhauling, contribution and multicasting.

It is perfectly suited to service Small Office and Home Office (SOHO) customers and Small and Medium Enterprises (SMEs), as well as supporting applications such as telemetry networks, Point of Sale (POS) and banking. Featuring Newtec's patented Mx-DMA® return link, it is also a perfect fit for the mobility and cellular backhauling markets.

Main Advantages

- Wideband 500 Mbaud S2X forward
- Support for MF-TDMA and Newtec's patented Mx-DMA return link technologies
- High efficiency by utilizing wideband carriers and high statistical multiplexing gain
- Easy-to-use multilanguage web Graphical User Interface (GUI) for installation, diagnostics and troubleshooting
- Adaptive Return Link based on different 4CPM modulations and coding and multiple channel bandwidths
- High service satisfaction is ensured through a true broadband experience
- Optimal availability and efficiency of DVB-S2X transmission thanks to Newtec's FlexACM® and Thin Margin Manager (ThiMM) technologies

Cost-Effective Service Offerings

With a symbol rate of up to 500 Mbaud and coding from QPSK up to 64APSK in the forward channel, the MDM2510 enables network operators to optimize space segment use while providing high quality services.

In the return channel, the MDM2510 supports two return technologies. The **MF-TDMA** return link targets applications with extremely overbooked traffic services, such as Internet access for SMEs, Businessto-Business (B2B) and Supervisory Control and Data Acquisition (SCADA) users.

On the other hand, Newtec's patented **Mx-DMA** (Cross-Dimensional Multiple Access) return link technology combines MF-TDMA-like ondemand variable bandwidth allocation with SCPC-like efficiencies. It is suitable for numerous applications with low-to-medium overbooked services and throughput rates of up to more than 60 Mbit/s, depending on the modem type. The return link suits applications such as enterprise and corporate networks, government and NGO networks, as well as cellular backhauling, broadcast contribution and mobility networks.

The IP Satellite Modem is available with unique Point&Play® easy-installation technology, supporting the installation of the complete terminal without specific qualifications or expensive tools. Point&Play **provides correct satellite identification and facilitates pointing through visual and audio feedback.** After mounting and positioning of the antenna, the integrated certification ensures accurate installation by providing instant link quality approval. It guarantees that each terminal works at maximum efficiency without any interference risk.

True Broadband Experience

For a true broadband experience at minimal bandwidth consumption, the Newtec MDM2510 modem incorporates IP traffic enhancement software for Transmission Control Protocol (TCP) acceleration, compression and encryption. Traffic can be classified in seven Quality of Service (QoS) classes based on IP traffic characteristics (protocol types, source or destination address and more). This allows the network operator to provide a flexible hierarchical QoS model depending on any application's Service Level Agreement (SLA).

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Key Features

- Compact size
- 500Mbaud DVB-S2X ACM Forward
- 4CPM MF-TDMA Adaptive Return Link
- The most optimal modulation and bandwidth allocation while guaranteeing the highest efficiency and availability with Mx-DMA return link technology
- Embedded TCP acceleration and encryption
- Multilevel QoS
- Low jitter for real-time applications
- DNS Cache/Relay
- Support of IPv4 and IPv6
- Multiple virtual networks supporting the modem
- Over-the-air software upgradeability
- Over-the-air monitoring and diagnostics tools

Markets

- Enterprise/SME
- Government
- Cellular Backhauling
- Mobility

Applications

- Internet/Intranet access
- Streaming video and audio with TV quality
- VoIP telephony (SIP, H.323, G.729, etc.)
- Content distribution and management
- Telemetry (SCADA)
- Point of Sale terminals
- Banking
- FNG/SNG live and file contribution

Satellite Link Interface

FORWARD CARRIER (RX)

- Standard: DVB-S2X
  - Profile: Interactive
  - Modulation: QPSK, 8PSK, 16APSK, 32APSK, 64APSK
  - Coding: According to DVB-S2X MODCOD definition
  - Roll-off: 5, 10, 15, 20, 25, 35%
  - Symbol rate: 256 kbaud up to 500 Mbaud (MODCOD limitations apply)
- Standard: DVB-S2
  - Profile: Interactive
  - Modulation: QPSK, 8PSK, 16APSK, 32APSK
  - Coding: According to DVB-S2 MODCOD definition
  - Roll-off: 5, 10, 15, 20, 25, 35%
  - Symbol rate: 256 kbaud up to 64 Mbaud (MODCOD limitations apply)

RETURN CARRIER (TX) :

- Access scheme Multi Frequency TDMA (Time Division Multiple Access)
  - Modulation: 4CPM (Quaternary Continuous Phase Modulation)
  - Channel bandwidth: 128, 192, 256, 384, 512, 788, 1024, 1536, 2048, 2560, 3072, 3584, 4096kHz
  - MODCOD: 0, 1, 2, 3, 4, 5
- Access scheme Cross-Dimensional Multiple Access (Mx-DMA):
  - Modulation: QPSK up to 32APSK with 40 MODCODs
  - Roll-off: 5%
  - Symbol rate: 32 kbaud – 20 Mbaud
  - VL-SNR spreading: 2-12 on 10 MODCODs

Performance

- Max RX rate TCP: 120 Mbit/s
- Max RX rate UDP: 120 Mbit/s
- Max TX rate TCP: 20 Mbit/s
- Max TX rate UDP: 20 Mbit/s

Modem Interfaces

RF INPUT/OUTPUT

- Connector: F-connector 75 Ohm
- RX frequency range: 950 - 2150 MHz
- RX level: -65 to -25 dBm
- TX frequency range L-band: 950 - 2400 MHz
- TX level L-band: -35 dBm to 3 dBm
- TX frequency range S-band: 2750 - 3000 MHz
- TX level S-band: 0 dBm

LOCAL AREA CONNECTION (LAN) 4X 802.3ab 1000T Ethernet

Mechanical & Environment

- Housing: approx. 210 x 35 x 180 mm
- Weight: approx. 900g
- Operating temperature: 0 to 50°C
- Humidity: 5% - 95% non-condensing
- Storage: -10 to 60°C

Power Supply

- DC voltage: 24 V (external mains adapter)
- Mains adaptor input: Mains AC, 50 Hz\210-260 V and 60 Hz \100-130 V
- Power consumption: <20W

IP Features

- Protocols: UDP, IPv4&IPv6, ICMP, TCP, IGMPv1, IGMPv2, ARP, DHCP, DNS, NTP, Diffserv Marking
- Networking: Static routes, Terminal VLAN VRF

Management Interfaces

- Multilingual web GUI
- Over-the-air software and configuration updates
- Over-the-air monitoring, self-testing and diagnostics
- SNMP v2c

Software Release

- Specifications valid for Newtec Dialog® R2.1.2

Standards

- EN302307: DVB-S2
- EN302307-2: DVB-S2X
- IEEE 802.3ab: 1000T Ethernet

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