The Newtec MDM2500 IP Satellite Modem is a two-way, high throughput modem supporting a wide range of IP services like internet/intranet access, VoIP and multicasting services. Its ease of installation and high performance modulation techniques enable network operators to offer IP broadband services in a cost effective way.

It is perfectly suited for service home users, Small Office and Home Office (SOHO), Small and Medium Enterprises (SME) as well as supporting applications like telemetry networks, Point of Sale (POS) or banking.

Cost Effective Service Offerings

The MDM2500 incorporates the most efficient modulation technologies available, such as DVB-S2 Adaptive Coding Modulation (ACM) in the forward link and Adaptive Return Link with 4CPM modulation.

Thanks to the modem’s unique compact design, the cost is kept minimal. The modem is available with unique Point&Play® easy-installation technology, supporting the installation of the complete terminal without any specific qualification or expensive tooling. Point&Play provides correct satellite identification and facilitates pointing with audio feedback.

After mounting and positioning, the integrated certification assures correct installation by giving 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, the Newtec MDM2500 IP Satellite Modem incorporates IP traffic enhancement software for TCP acceleration, pre-fetching, compression and encryption.

Main advantages of the MDM2500

- Full flexibility in the use of different antenna sizes and types, frequency bands and output power
- Low initial investment per service point, thanks to a very low modem cost and unique Point&Play easy-installation capability
- Easy to use the multilingual web GUI for installation, diagnostics and troubleshooting
- Adaptive return link based on different 4CPM modulations/coding and multiple channel bandwidths
- High service satisfaction ensured through true broadband experience
- Optimal availability and efficiency of DVB-S2 transmission thanks to Newtec’s technologies FlexACM® and ThiMM
- Efficiency improvement of 10 to 15% with Newtec’s Clean Channel Technology®

The MDM2500 offers cost-effective broadband connectivity on the Newtec Dialog® platform.
**Key Features**

- Small size, table top or wall mounted
- DVB-S2 ACM Outbound
- 4CPM MF-TDMA Adaptive Return Link
- Embedded TCP acceleration and encryption
- Multi-level Quality of Service with seven classes
- Layer 2 and Layer 3 support with versatile IP routing and addressing
- Low jitter for real time applications
- Multiple virtual networks behind the modem
- DNS Cache/Relay and HTTP pre-fetching
- Support of IPv4 and IPv6
- MicroSD card and USB interface (future use)
- Over-the-air software upgradeability
- Over-the-air monitoring and diagnostics tools

**Markets**

- Consumer
- SOHO
- SME
- Government
- Education
- Enterprise

**Applications**

- Internet / intranet access
- Streaming video and audio with TV quality
- VoIP telephony (SIP, H.323, …)
- Streaming video and audio with TV quality
- Internet / intranet access
- Government
- SME
- SOHO
- EDU
- Enterprise

**Satellite Link Interface**

<table>
<thead>
<tr>
<th>FORWARD CARRIER (RX)</th>
<th>RETURN CARRIER (TX)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standard:</strong> DVB-S2 ACM</td>
<td><strong>Modulation:</strong> 4CPM (Quaternary Continuous Phase Modulation) with 6 different modcodes with Adaptive Return Link</td>
</tr>
<tr>
<td><strong>Modification:</strong> QPSK, 8PSK, 16APSK, 32APSK</td>
<td><strong>Access Scheme:</strong> Multi Frequency TDMA (Timed Division Multiple Access)</td>
</tr>
<tr>
<td><strong>Coding:</strong> 1/4, 1/3, 2/5, 1/2, 3/4, 4/5, 5/6, 6/7, 7/8, 8/9, 9/10</td>
<td><strong>Channel bandwidth:</strong> 128 kHz to 4 MHz</td>
</tr>
<tr>
<td><strong>Roll-off:</strong> 5, 10, 15, 20, 25 and 35%</td>
<td><strong>Symbol rate:</strong> 1 – 63 Mbaud (up to 47 Mbaud for 16APSK, up to 38 Mbaud for 32APSK)</td>
</tr>
<tr>
<td><strong>Frequency:</strong> 950 – 2150 MHz</td>
<td><strong>Connectors:</strong> 1 x 10/100 TX (RJ-45), 24V DC, 2.5A</td>
</tr>
<tr>
<td><strong>Impedance:</strong> 75 Ohm</td>
<td><strong>TX Level:</strong> -55 to -5 dBm</td>
</tr>
<tr>
<td><strong>SNR:</strong> 10 MHz</td>
<td><strong>RX Level:</strong> -65 to -25 dBm</td>
</tr>
<tr>
<td><strong>DC Power supply:</strong> 13/18 VDC, 500 mA</td>
<td><strong>LNB power supply:</strong> 13/18 VDC, 500 mA</td>
</tr>
</tbody>
</table>

**Performance**

- Max RX rate TCP: up to 22 Mbps
- Max RX rate UDP: up to 20 Mbps / 80 Mbps (unicast / multicast)
- Max TX rate TCP: up to 5 Mbps
- Max TX rate UDP: up to 5 Mbps

**Modem Interfaces**

**RF OUTPUT (BUC INTERFACE)**

- **Connector:** F
- **Impedance:** 75 Ohm
- **Frequency:** 950 – 1850 MHz
- **TX Level:** -55 to +5 dBm
- **BUC Power Supply:** 24 VDC, 2.5A
- **Ref signal:** 10 MHz

**RF INPUT (LNB INTERFACE)**

- **Connector:** F
- **Impedance:** 75 Ohm
- **Frequency:** 950 – 2150 MHz
- **RX Level:** -65 to -25 dBm
- **LNB power supply:** 13/18 VDC, 500 mA

**LOCAL AREA CONNECTION (LAN)**

- **USB:** USB 2.0 (future use)
- **MASS STORAGE:** MicroSD card (future use)

**Mechanical & Environment**

- **Housing:** 170x150x32 mm
- **Weight:** 450 g
- **Operating temperature:** 0 to 40°C
- **Humidity:** 5% - 95% non-condensing

**Power Supply**

- **DC Power supply:** 24V
- **Mains adaptor input:** mains AC, 50 Hz/210-260 V and 60 Hz/100-130 V
- **Mains Power consumption:** <70 Watt (depends on BUC type)
- **Modern Power Consumption:** <10 Watt

**IP Features**

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

**Management Interfaces**

- Multilingual web GUI
- Over-the-air software & configuration updates
- Over-the-air monitoring, self-test and diagnostics
- Dual satellite configuration settings
- SNMP v2c

**Software Release**

- Spec definitions valid for Newtec Dialog release 1.3

**Standards**

- **EN 302307:** DVB-S2
- **EN 301428:** Ku VSAT spectrum usage
- **EN 301459:** Ka VSAT spectrum usage
- **EN 301443:** C VSAT spectrum usage
- **IEEE 802.3:** 10T Ethernet
- **IEEE 802.3u:** 100TX Ethernet
- **IEEE 802.1Q:** VLANs

This brochure is provided for information purposes only. The details contained in this document, including product and feature specifications, are subject to change without notice and shall not bind Newtec in any way.

**Newtec**

**SHAPING THE FUTURE OF SATELLITE COMMUNICATIONS**