Newtec

MDM2200
IP SATELLITE MODEM
& SATELLITE TERMINALS

Newtec

Dialog®

The Newtec MDM2200 IP Satellite Modem is a two-way, high throughput modem. It is combined with a range of different antenna sizes and interactive LNB's forming a **cost-effective satellite terminal** on the Dialog platform.

Newtec MDM2200 IP Satellite Modem

The modem supports various IP services like internet/intranet access, VoIP and multicasting. Its ease of installation and high performance modulation techniques enable network operators to offer IP broadband services in a cost effective way over Ku- and Ka-band networks. 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

Thanks to a **unique design of both the compact modem and the interactive LNB** (iLNB), the cost of the terminal is kept minimal.

The IP Satellite Modem is available with unique Point&Play® easy-installation technology, supporting installation of the complete terminal without any specific qualification or expensive tooling. Point&Play provides **correct satellite identification and facilitates pointing with an 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 IP Satellite Modem incorporates the most efficient technologies available, such as DVB-S2 Adaptive Coding Modulation (ACM) in the forward link, an adaptive return link with advanced 4CPM modulation and IP traffic enhancement software for TCP acceleration, pre-fetching, compression and encryption.

Main Advantages of the MDM2200

- Low initial investment per user, thanks to a very low terminal cost and unique Point&Play easy-installation capability

- Easy to use 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 between 10 to 15% with Newtec's Clean Channel Technology ®

Satellite Terminals

The Newtec MDM2200 IP Satellite Modem is packaged with an easy to install and high performance Outdoor Unit (ODU). This terminal package is **highly optimized for cost, efficiency and ease of use.** The ODU consists of a high quality, easy to install antenna, an integrated transmitter and low noise block down converter (iLNB).

Straightforward Logistics

The MDM2200 terminal can be delivered fully packaged, country and distribution customized. The 75 cm antenna is offered in a single box including modem, full ODU and additional options: RF cable, Ethernet cable, documentation and Point&Play device. All antennas can also be shipped in bulk for e.g. cost optimized sea freight. With this offer, local logistics become straightforward by removing the need for local packaging.

Power Efficiency

The MDM2200 return technology is compatible with fully saturated transmitters. On top of the power efficient technology, the saturated output power gives even **higher power efficiency.**

Ease of Installation

The antenna mast-head for 75 cm and 1 m antennas is completely pre-mounted, and does not require additional assembly work. The complete ODU Portfolio is compatible with Point&Play easy-installation technology, supporting the installation of the complete terminal without any specific qualification or expensive tooling needed.

Wide Coverage and Flexibility

The antenna portfolio covers both Ku- and Ka-band for different sizes. For 75 cm and 1 m the antennas can be used both in Ku- and Ka-band. Therefore a network in Ku-band can be set up and then, at the appropriate time, transferred to Ka-band with limited extra investment needed.

	Ku			Ka	
	75 cm	1 m	1.2 m	75 cm	1 m
0.5 W	✔	✔			
0.8 W	✔	✔	✔		
2.0 W	✔	✔	✔	✔	✔
2.0 W quad	✔	✔			

Key Features

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

Markets

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

Applications

- Internet / intranet access
- Streaming video and audio with TV quality
- VoIP telephony (SIP, H.323, G.729, …)
- Content Distribution and management
- Telemetry (SCADA)
- Point of Sale terminals
- Banking

Satellite Link Interface

FORWARD CARRIER (RX)
- Standard: DVB-S2 ACM
- Modulation: QPSK, 8PSK, 16APSK, 32APSK
- Coding: 1/4, 1/3, 2/5, 1/2,3/5, 2/3,3/4,4/5, 5/6, 8/9, 9/10
- Roll-off: 5, 10, 15, 20, 25 and 35%
- Symbol rate: 3.6 - 63 MBaud (up to 47 MBaud for 16APSK, up to 38 MBaud for 32APSK with 5/6)

RETURN CARRIER (TX)
- Modulation: 4CPM (Quaternary Continuous Phase Modulation) with 6 different modcods, with Adaptive Return Link
- Access Scheme: Multi Frequency TDMA (Timed Division Multiple Access)
- Channel bandwidth: 128 kHz to 4 MHz

Performance

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

Modem Interfaces

RF INPUT/OUTPUT
- Connector: Two F
- Impedance: 75 Ohm
- RF in Frequency: 950 – 2100 MHz (L-band)
- RX Level: -65 to -25 dBm
- RF out Frequency: 2750 – 3000 MHz
- TX Level: 0 dBm

LOCAL AREA CONNECTION   1 x 10/100 TX (RJ-45)
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: 18 V or 24 V (depending on iLNB)
- Mains adaptor input: mains AC, 50 Hz\210-260 V and 60 Hz\100-130 V
- Power consumption: <30 Watt (0.8 W Ku iLNB), <60 Watt (2 W iLNB)

IP Features

- Protocols: UDP, IPv4 & IPv6, ICMP, IGMPv2, TCP, ARP, DHCP, DNS, NTP, DiffServ Marking
- 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
- SNMP v2c

Software Release

- Specifications valid for Newtec Dialog R1.3

Standards

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

POINT&PLAY Antenna Pointing

POINT&PLAY
POINTING BECOMES CHILDPLAY

- The Point&Play tool provides pointing assistance during antenna installation. The small device uses audio feedback to indicate correct satellite identification and to signal accurate pointing.
- With Point&Play a terminal is easy to install, while the integrated terminal certification assures correct installation.

Key Features

- High integration level
- Independent TX & RX frequencies over full band
- Low Noise Temperature LNB
- Very low power consumption
- Suitable for all weather situations
- Multi-feed clamp option or Quad iLNB for additional DTH reception

Performance

Band	Ku-band								Ka-band	
Antenna	75 cm			1 m			1,2 m		75 cm	1 m
iLNB	500 mW	800 mW	2 W	500 mW	800 mW	2 W	800 mW	2 W	2 W	2 W
Tx										
EIRP	36 dBW	38 dBW	42 dBW	38 dBW	40 dBW	45 dBW	42 dBW	46 dBW	48 dBW	50 dBW
Cross Poll (-1 dB Contour)	> 23 dB			> 23 dB			> 25 dB		> 23 dB	> 23 dB
Rx										
G/T clear weather	16 dB/K			18 dB/K			20 dB/K		18.7 dB/K	21.5 dB/K
iLNB Gain	57 to 70 dB								57 to 70 dB	

Coverage

- Ku-band
  - TX Frequency: 13.75 to 14.5 GHz
  - RX Frequency: 10.7 to 12.75 GHz
- Ka-band
  - TX Frequency: 29.4 to 30 GHz
  - RX Frequency: 19.56 to 20.2 GHz

iLNB Interface

- 2 F-connectors (75 Ohm)

Quad iLNB

- 5 F-connectors (75 Ohm)

Mechanical & Environment

- Operating temperature: -30°C to 60°C
- Humidity: 0% - 100%
- Solar Radiation: 1120 W/m² maximum
- Rain: Up to 40 mm/h
- Wind: Up to 180 km/h

Standards

- RoHS compliance
- CE compliance
- WEEE

SGS

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SHAPING THE FUTURE OF SATELLITE COMMUNICATIONS

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