NETWORK INNOVATIONS
Communicate. Anywhere.

MDM3300 SATELLITE MODEM

The MDM3300 offers cost-effective satellite connectivity for a wide variety of professional applications on the Newtec Dialog platform.

Main Advantages

- High throughput upstream and downstream capabilities
- MF-TDMA, SCPC and Newtec patented Mx-DMA capabilities
- The most optimal modulation and bandwidth allocation while guaranteeing the highest efficiency and availability
- Bolstered with Newtec's technologies FlexACM®, ThiMM, Point&Play®, HRC
- Easy to use multilingual web GUI for installation, diagnostics and troubleshooting
- Forward efficiency improvement of 10 to 15% with Newtec's Clean Channel Technology®

Terminal Configurations

The modem is offered seperately or in combination with the Newtec ODU Portfolio, a set of different antenna sizes and BUC combinations.

	Ku		Ka		C	
	1m	1.2m	1m	1.2m	1m	1.2m
2W BUC					X	
3W BUC	X		X			
4W BUC	X					
5W BUC					X	

MDM3300 on the Newtec Dialog® Platform

The Newtec MDM3300 Satellite Modem is a two-way, high throughput modem supporting a wide range of IP Services, including internet/intranet access, VoIP, enterprise connectivity, backbones for backhauling, contribution and multicasting services. Its ease of installation and high performance modulation techniques enable network operators to offer various bandwidth intensive services in a cost effective way.

Return Link Technology Flexibility for Tailored Services

The modem supports three return access technologies with the Newtec Dialog platform: MF-TDMA, SCPC and the new patented Mx-DMA™ (Cross-Dimensional Multiple Access). Mx-DMA incorporates MF-TDMA flexibility and on-demand variable bandwidth allocation at SCPC efficiency.

MF-TDMA satellite return technologies are typically targeting applications with highly overbooked and bursty traffic services, such as Internet access for consumers, SME, B2B and SCADA. SCPC on the other hand has more applicability in high data and video rate return links. In between there is a large amount of applications with low to medium overbooked services and important throughput rates up to 21 Mbps where Mx-DMA comes into the game.

The modem combines different access technologies with different coding and modulation to match different application requirements. The 4CPM (Quaternary Continuous Phase Modulation) is ideal for low rate bursty traffic and HighResCoding (HRC™) will optimize low to medium rate traffic.

The high granularity of MODCOD choices in HRC provides the best modulation and coding for each link condition while the use of short block codes minimizes latency over satellite. For the high rate traffic, the modem supports S2 return technologies in SCPC.

High Service Satisfaction

For a true broadband experience at minimal bandwidth consumption, the modem incorporates IP traffic enhancement software for TCP acceleration, pre-fetching and compression. Traffic can be classified in seven different Quality of Service classes based on IP traffic characteristics (protocol types, source/destination address and more). Traffic in a specific class is given priority to match the Service Level Agreements.

MDM3300 SATELLITE MODEM

Newtec

Key Features

- High performance unicast service rates up to 45/20 Mbps
- Transmit multicast up to 21 Mbps
- Receive multicast support (IGMPv2 / static configuration) up to 80Mbps
- Robust design with 19" rack mount kit option
- Embedded TCP acceleration
- Multi-level Quality of Service with seven Quality of Service Classes
- Low jitter for real time applications
- DNS Cache/Relay and HTTP pre-fetching
- Layer 2 and Layer 3 support with versatile IP routing and addressing
- Support of IPv4 and IPv6
- Multiple virtual networks behind the modem
- 4CPM/MF-TDMA with Adaptive Return Link
- HRC with Automatic Uplink Power Control and ACM
- HRC/Mx-DMA and HRC/SCPC
- SCPC / S2 with Adaptive Coding Modulation

Markets

- Enterprise / SME
- Trunking
- Cellular Backhaul
- Government and Defense
- Broadcast
- Offshore and Maritime

Applications

- Internet / Intranet access
- FNG/SNG live and file contribution
- Backbone Connections, Fiber Restoration
- VoIP telephony (SIP, H.323, ...)
- 2G/3G/Rural Cellular Backhauling
- Fixed Government and NGO Networks

Satellite Link Interface

FORWARD CARRIER (RX)

- Standard: DVB-S2 ACM
  - Modulation: QPSK, 8PSK, 16APSK, 32APSK
  - Roll-off: 5, 10, 15, 20, 25 and 35%
  - Symbol rate: 1 - 63 Mbaud (upto 47 Mbaud for 16APSK, up to 38 Mbaud for 32APSK)

RETURN CARRIER (TX) :

- 4CPM / MF-TDMA
  - Modulation: 4CPM with 6 MODCODs
  - Channel bandwidth: 128 kHz to 4 MHz
- HRC / Mx-DMA or SCPC
  - Modulation: QPSK up-to 32APSK with 40 MODCODs
  - Roll-off: 5%
  - Symbol rate: 30 kBaud - 20 Mbaud
- S2 / SCPC
  - Standard: DVB-S2 ACM (short/normal frames) S2 Extensions (normal frames)
  - Modulation: QPSK, 8PSK, 16APSK, 32APSK
  - Roll-off: 5, 10, 15, 20, 25 and 35 %
  - Symbol rate: 1-20 Mbaud

Performance

- Max RX Rate TCP: up to 45 Mbps
- Max RX Rate UDP: up to 45 Mbps (unicast) / 80 Mbps (multicast)
- Max TX Rate TCP: up to 20 Mbps
- Max TX Rate UDP: up to 20 Mbps (unicast) / 21 Mbps (multicast)

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, 3.5 A
- 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: 13/18VDC, 500 mA

LOCAL AREA CONNECTION 4 x GbE (RJ-45)

USB USB 2.0 (future use)

Mechanical & Environment

- Housing: (W x H x D) 220 x 40 x 220 mm
- Weight: 1.7 kg
- Operating Temperature: 0 to 50°C
- Humidity: 5% - 95% non-condensing
- Storage Temperature: -30 to 60°C

Power Supply

- DC Power Supply: 24 V
- Mains Adaptor Input: mains AC, 50 Hz \ 210-260 V and 60 Hz \ 100-130 V
- Mains Power Consumption: <120 Watt (depends on BUC type)
- Modem Power Consumption: <20 Watt

IP Features

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

Management Interfaces

- Multilingual web GUI
- SNMP v2c
- Over-the-air software & configuration updates
- Over-the-air monitoring, self-test and diagnostics
- Industry standard Antenna Control Unit management interface

Software Release

- Specifications valid for Release 3.2 compatible with Newtec Dialog 1.3

Standards

- EN 302307: DVB-S2
- EN 301428: Ku VSAT spectrum usage
- EN 301443: C VSAT spectrum usage
- EN 301459: Ka VSAT spectrum usage
- IEEE 802.3: 10T Ethernet
- IEEE 802.3u: 100TX Ethernet
- IEEE 802.3ab: 1000TX Ethernet
- IEEE 802.1Q: VLANs

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