Viasat’s MEOLink IP trunking terminal enables emerging market telcos and ISPs to offer fiber-like performance for high-speed internet services over O3b’s medium earth orbit (MEO) satellite constellation. In combination, the O3b satellites and the MEOLink terminal extend high-speed internet access to rural markets over a cost effective satellite connection, making the internet a truly global and universal experience.

Viasat’s MEOLink terminal includes precision tracking antennas, the high-speed DVB-S2 MEOLink modem, and an advanced uplink power control system. The system operations are coordinated with the fully automated MEOLink monitor and control system.

**MODEM DESIGNED FOR SPEED AND EFFICIENCY**

Viasat’s MEOLink modem is designed for high data rates extending the reach of internet services to rural and underserved communities supported by the O3b constellation. Based on the efficiency of the DVB-S2 waveform, the modem automatically provides the greatest data rates based on the signal strength. Integrated Adaptive Coding and Modulation (ACM), with modulations up to 32APSK, enables Ethernet data rates up to 810 Mbps in each direction. To optimize forward channel efficiency based on the application, the modem can be used in point-to-point and point-to-multipoint networks.

**FLEXIBLE ARCHITECTURE**

The modem acts as a specialized Layer 2 VLAN bridge with selectable QoS and flow control features allowing it to be combined with industry standard networking equipment to support IP network designs. It has wide range L-band intermediate frequency (IF) interfaces to allow maximum flexibility in RF equipment selection. These interfaces support internal and external referenced RF block converters as well as providing power to RF block downconverters.

Dual receivers have been incorporated to seamlessly manage the make-before-break connections during satellite transfers without loss or repetition of data.

**MEOLINK MODEM AT-A-GLANCE**

- Data rates of up to 810 Mbps in each direction
- Bandwidth efficient DVB-S2 waveform with modulations up to 32-APSK
- Adaptive coding and modulation
- Point-to-multipoint and Point-to-point connectivity
- Layer 2 Ethernet connectivity with VLAN
- Ethernet header compression
- Dual receivers for seamless connections during satellite transfers
MEOLink High-Speed Modem

SPECIFICATIONS

**TRANSMIT IF INTERFACE**
- **Frequency:** 950 to 2450 MHz
- **Frequency Step Size:** 100 Hz
- **Reference:** Internal or external 10 MHz
- **Transmit Power Level:** -5 to 25 dBm
- **IF Monitor Power:** -25 dBc typical
- **Output Impedance:** 50 ohm
- **Output Connector:** SMA (f)
- **IF Monitor Connector:** SMA (f)
- **BUC Reference Frequency:** 10 MHz
- **BUC Reference Level:** -1 to +5 dBm

**RECEIVE IF INTERFACE**
- **Frequency:** 950 to 2450 MHz
- **Signal Input Level:** -75 dBm + 10 log (SR) (symbol rate in units of MHz)
- **AGC Range:** Up to 40 dB above minimum, maximum -25 dBm
- **Local IF Loopback:** Present
- **Input Impedance:** 50 Ohms
- **Input Connector:** SMA (f)
- **LNB Power:** 350 mA at 18 VDC (to each LNB)
- **LNB Reference:** 10 MHz, -1 to +5 dBm on RX port

**MODULATION & CODING**
- **Modulation and Coding:** QPSK, 8PSK, 16APSK, & 32APSK per ETSI EN 302307 DVB-S2
- **Baseband Roll-Off:** 0.20, 0.25, 0.35
- **Connectivity:** Point-to-point and point-to-multipoint
- **Adaptive Coding & Modulation:** Included
- **Symbol Rates:** 10 to 180 Msym/s
- **Data Rate:** As waveform allows (4.9 to 810 Mbps)

**BASEBAND**
- **Traffic Physical Interface:** Dual RJ45 Gigabit Ethernet interfaces with additional redundant pair for back up router
- **Bridging:** 802.1Q VLAN
- **Ethernet Frame Size:** Normal and jumbo (9 KB)
- **QoS:** Layer 2 prioritization for marked packets including 802.1p with 8 priority queues
- **Flow Control:** 802.3x, Ethernet flow control
- **Logical Interface:** Configurable VLAN range per interface
- **Ethernet Header Compression:** 25% compression (small packets)
- **Loopbacks:** Terrestrial and IF loopbacks diagnostics

**MONITOR AND CONTROL**
- **Remote Web GUI:** Included
- **Physical Interface:**
  - RJ45 Ethernet interface
  - Primary and backup connection
- **Remote SNMPv2c:** Included

**ENVIRONMENTAL & PHYSICAL CHARACTERISTICS**
- **Input Power:** 100 to 240 VAC, 47 to 63 Hz
- **Power Consumption:** 150 W typical with both LNB power sources enabled (each LNB is allocated 7.5 W)
- **Temperature:**
  - **Operating:** 15° to 40° C
  - **Storage:** -20° to +70° C
- **Humidity:**
  - **Operating:** 20% to 90% relative humidity, non-condensing
  - **Storage:** Up to 95% non-condensing
- **Size:** EIA standard rack-mount 2 RU high
- **Mounting:** Minimum rack depth 74 cm with vertical rail spacing between 74 to 79 cm
- **MTBF:** 80,000 hr
- **Cooling:** Hot-swappable blower modules with 3-for-2 redundancy