HUGHES India

DATASHEET

Outdoor Satellite Router – IPV6/ IPV4 Ready

High-throughput, high-efficiency, future-proof and fully compliant with the industry-leading IPoS standard, the HT2300, HT2500, and HX modems are powerful satellite routers featuring high performance on both the DVB-S2/ACM forward channel, as well as the adaptive LDPC coding return channel. The adaptive coding on the return channel enables the unit to dynamically change FEC rates, burst-to-burst, based on link conditions, to achieve the highest throughput while maintaining high link availability. Through the combination of adaptive LDPC coding and a powerful processor, the HT2300, HT2500, and HX modems support upstream burst rates of 3.6 Mbps, making them an ideal platform for next-generation, high throughput satellite systems.

To enable superior end-user performance, the HT2300, HT2500, and HX modems include a full set of integrated Wide Area Network (WAN) optimization features. Accelerated TCP and HTTP performance features, including HTTP pre-fetch (objects are locally cached) along with DNS caching, enable fast Web browsing. Integrated header and packet payload compression both conserves bandwidth and contributes to high performance.

A full-featured IP router, the HT2300, HT2500, and HX modems support a switching capacity up to 5,000 packets per second eliminating need for an external router. IP routing and addressing features implemented in the same include the RIPV2 and BGP routing protocols, virtual router redundancy protocol (VRRP) with policy, DHCP server or relay, as well as network address translation (NAT) and port address translation (PAT).

The HT2300, HT2500, and HX modems also handle end-to-end VLAN tags complying with the 802.1P and Q standards and each VLAN may be configured with its own quality of service (QOS). Government and enterprise users can be confident of the security of information running over the HT2300, HT2500, and HX modems, as it uses a hardware-based conditional access system and optionally AES 256 encryption for user traffic.

Network operations are easy to perform as the HT2300, HT2500, and HX modems features an integrated Web server supporting a Web browser for commissioning and troubleshooting. Full-featured, built-in diagnostics provide historical information about network performance or error conditions. An integrated LAN sniffer eliminates the need for onsite presence during troubleshooting. The HT2300, HT2500, and HX modems are centrally managed for software configurations and downloads.

Adaptive LDPC Coding

The HT2300, HT2500, and HX modems incorporate an innovative adaptive LDPC coding scheme on the return channel, developed by Hughes, enabling superior Modems performance. The adaptive LDPC's ability to run with minimal link margin results in maximum bandwidth efficiency. Additionally, the HT2300, HT2500, and HX modems use of variable burst LDPC code block lengths sized to the amount of IP data to be transmitted further increases the return channel efficiency. Overall, the adaptive LDPC coding on the return channel yields more than 20 percent bandwidth efficiency improvement over competing systems.

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Features

- Outdoor Router Mounted on Antenna
- IP67-compliant design
- Adaptive LDPC coding on return channel
- MF/TDMA return channel with Aloha diversity
- DVB-S2 with Adaptive Coding and Modulation (ACM) on forward channel
- High-throughput satellite router
- IPv6/IPv4 ready (able to download IPV6 software when available at a later date)
- Software and configuration updates via download from the NOC
- Implements Performance Enhancement Proxy (PEP) software to accelerate throughput performance by optimizing the TCP transmission over the satellite, delivering superior user experience and link efficiency
- Implements Hughes TurboPage® software to accelerate HTTP traffic for fast browser access
- Quality of Service (QoS) features include: Inbound Quality of Service (IQoS), bi-directional DSCP, and outbound bandwidth management.
- Secure Network Transmission with bi-directional IPSEC and AES-256 encryption (optional)
- Configuration, status monitoring, and commissioning via the Network Operations Center (NOC)
- Firewall support through integrated access control lists
- Remote terminal management via the Hughes Vision®. Network Management System or Unified Element Manager and SNMP monitoring
- Universal power supply supports international voltage ranges and frequencies and has a detachable power cord

Technical Specifications

Physical Interfaces

Physical Interfaces: Two 10/100BaseT Ethernet LAN RJ45 ports

Satellite & Antenna Specifications

Outbound transmission format: DVB-S2

Information Rate: Up to 121 Mbps (Receive or Outbound Channel)

Information Rate: Up to 3.6 Mbps (Transmit or Inbound Channel)

Symbol Rate (Receive): 1 to 45 Msps (in 1 Msps steps)

Symbol Rate (Transmit): 256, 512, 1024, 2048 ksps

Encoding (Receive): DVB-S2 LDPC/BCH

Encoding (Transmit): LDPC FEC 1/2, 2/3, 4/5 and 9/10, Turbocode FEC 1/2, 2/3, and 4/5

Frequency Range: Ka-/Ku-band

Modulation (Receive): QPSK, 8PSK, 16APSK

Modulation (Transmit): OQPSK

Bit Error Rate (Receive): 10^{-10} or better

Bit Error Rate (Transmit): 10^{-7} or better

Antenna: 74 cm, 89 cm, 98 cm, 120 cm, 180 cm

Radio: 1 and 2 watt Ka- or Ku-band

Mechanical & Environmental

Weight: 4.3Kg

Dimensions: H x 11.4cm W x 33cm L x 30.5cm

Operating Temperature: -50° C to 55° C

Input Power: 90 to 264 VAC; 50 to 60 Hz

Power Supply (Optional): 24 VDC DC

Ingress Rating: IP67

Mounting: Antenna/Wall

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