HN7740S Broadband Satellite Router with Integrated VoIP

HUGHES®

Scalable, high-performance broadband satellite router with integrated VoIP for enterprises

The HN7740S, part of Hughes' HN7000S family, is a high-performance broadband satellite router with Voice over IP (VoIP) designed to provide both integrated VoIP capabilities, as well as high-speed access for the large enterprise, government, and small/medium enterprise (SME) markets. Recognizing the worldwide demand by enterprises for ever-increasing amounts of bandwidth and the need for high-quality VoIP connectivity, the HN7740S has been designed to provide unsurpassed performance for even the most bandwidth-intensive applications. With support for two simultaneous LAN subnets as well as two simultaneous two-wire FXS analog voice ports, the HN7740S has the flexibility to handle a wide range of enterprise IP networking requirements.

The HN7740S enables applications such as:

- Telephony connectivity for remote branch offices VoIP services for SME and SOHO
- Combined payphone and Internet connectivity for public calling offices
- High-speed Internet/intranet access
- Video services including remote site security monitoring
- Diverse satellite backup of primary broadband access
- Polling, enterprise CRM and ERP
- Interactive distance education with two-way VoIP connectivity
- Real-time multimedia streaming and large file content distribution

The HN7740S operates with all HN systems and uses the industry standards DVB-S and DVB-S2. As a result, the HN7740S can be configured easily to support a wide range of downstream data rates by selecting different modulation, symbol, and FEC coding rates. The downstream is scalable up to 121 Mbps and the upstream return channel is scalable up to 1.6 Mbps. The HN7740S provides an integrated broadband LAN solution to Windows®, UNIX®, Apple® Macintosh®, and other platforms running IP over Ethernet. The power of the HN7740S allows the same platform to scale as the need for higher speed business applications grows, protecting the customer's investment well into the future. The HN7740S also coexists with prior Hughes DW terminals, ensuring existing customers' investments are protected.

Implementing either the G.729AB 8 kbps or G.723.1 5.3/6.3 kbps voice codec with echo cancellation, voice activity

DVB-S2 with ACM

Supporting Adaptive Coding and Modulation (ACM) on the outbound channel means that operators can gain significant bandwidth efficiencies and provide high-availability services as well.

detection, and comfort noise generation, the HN7740S offers superior quality telephony integrated with broadband IP support. VoIP support has been optimized for use with the HN system as the HN7740S will automatically reserve bandwidth on a call-by-call basis, thereby providing high-quality voice without dropped packets. The HN system also facilitates short call set-up times—typically less than four seconds—and low end-to-end delay inside the HN system. Transmission efficiency is further improved by compressing the voice packets. The Hughes HN Network Operations Center (NOC) routes voice calls to the PSTN via an H.323 voice gateway. The voice gateway performs the conversion from the H.323 protocol and the PSTN signaling. A gatekeeper provides the address resolution between the HN7740S and multiple voice gateways.

For IP data packets, the HN7740S satellite router passes packets to and from any IP device on the LAN and has much of the functionality of an IP router. The HN7740S incorporates Hughes' advanced Performance Enhancing Proxy (PEP) feature, which increases throughput performance and maximizes the user's experience and satisfaction. The HN7740S also supports Hughes' TurboPage® feature, providing HTTP acceleration for lightning-fast browser performance and advanced Quality of Service (QoS) features to ensure that applications get the priority and bandwidth they require.

Features

- Supports unicast and multicast IP traffic
- Software and configuration updates via download from the NOC
- Implements dynamic, self-tuning Performance Enhancement Proxy (PEP) software to accelerate the throughput performance by optimizing the TCP transmission over the satellite, delivering superior user experience and link efficiency
- Implements TurboPage software to accelerate HTTP traffic for fast browser access
- Quality of Service features include: IQoS (Inbound Quality of Service), bidirectional DSCP, and outbound bandwidth management
- Supports Hughes VPN Accelerator
- Bidirectional data compression
- Configuration, status monitoring, and commissioning via the NOC
- Embedded Web interface for local status and troubleshooting
- Acts as a local router providing:
  - Static and dynamic addressing
  - DHCP server or relay
  - DNS caching
  - Full RIPV2 routing support
  - Multicasts to the LAN by using IGMP
  - NAT/PAT
  - VLAN tagging
  - Firewall support through integrated access control lists
- Voice/Fax features:
  - Toll quality 8 kbps G.729AB or 5.3/6.3 kbps G.723
  - G.165/G.168 echo cancellation
  - Group 3 fax up to 9.6 kbps
  - DTMF signaling
  - Voice activity detection
  - Comfort noise generation
  - Pay telephone support via loop reversal
  - H.323 call setup integrated with DW Constant Bit Rate bandwidth allocation
- Throughput:
  - At least 45 Mbps of multicast/streaming traffic, or
  - At least 4 Mbps of FTP traffic, or
  - At least 2 Mbps of HTTP accelerated traffic, or
  - At least 10 Mbps of UDP traffic, or
  - Any combination of the above with proportional performance
- Remote terminal management via the Hughes Unified Element Manager and SNMP agent
- Universal power supply supports international voltage ranges and frequencies and has a detachable power cord
- User-friendly LED display indicating terminal operational status

Technical Specifications

Physical Interfaces

Two 10/100BaseT Ethernet LAN RJ45 ports

Two FXS 2-wire RJ-11 telephone ports

Satellite & Antenna Specifications

Outbound transmission format:	DVB-S, DVB-S2
Information Rate: (Receive or Outbound Channel)	Up to 121 Mbps (DVB-S2)
Information Rate: (Transmit or Inbound Channel)	Up to 1.6 Mbps
Symbol Rate (Receive):	1 to 45 Msps (in 1 Msps steps)
Symbol Rate (Transmit):	128, 256, 512, 1024 ksps
Encoding (Receive):	DVB-S Convolutional with concatenated Reed Solomon, DVB-S2 LDPC + BCH
Encoding (Transmit):	TurboCode FEC 1/2, 2/3, and 4/5
Frequency Range:	C-, Ku-, and Ka-band
Modulation (Receive):	QPSK, 8PSK, 16APSK (DVB-S2)
Modulation (Transmit):	OQPSK
Bit Error Rate (Receive):	10^{-10} or better
Bit Error Rate (Transmit):	10^{-7} or better

Mechanical & Environmental

Weight:	4.8 lbs (2.18 kg)
Dimensions:	11.5" W x 1.8" H x 11" D (29.21 cm W x 4.7 cm H x 27.94 cm D)
Operating Temperature:	0° C to 40° C
Input Power:	90 to 264 VAC; 50 to 60 Hz
DC Power Supply (Optional):	12 to 24 VDC

For additional information, please contact us at globalsales@hughes.com.

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