

High-performance, scalable broadband satellite router

SPACEWAY®

SPACEWAY® 3 is the world's first commercial satellite system to employ on-board traffic switching and routing.

Developed, owned and operated by Hughes, SPACEWAY 3 operates in the Ka-band and encompasses numerous satellite technology advances, such as on-board fast packet switching, a phased array antenna and dynamic beam forming.

With a gross traffic capacity of 10 Gbps, unprecedented in the industry, and incorporating bandwidth-on-demand functionality, SPACEWAY 3 is enabling an ever-expanding range of HughesNet® broadband services over North America to enterprises, consumers/small businesses, and government agencies. These include high-speed Internet access of up to 5 Mbps per site, single-hop, mesh IP networking between sites, and high-availability and QoS solutions among many sites, all utilizing compact and cost-efficient broadband routers and terminals manufactured by Hughes.

The HN9500 is Hughes' high-performance broadband router designed to deliver a wide range of HughesNet services for large enterprises, small-to-medium businesses, and government agencies in North America utilizing the unique high-capacity SPACEWAY 3 satellite system. The HN9500 has selectable data rates to satisfy the most demanding bandwidth requirements—up to 2 Mbps on the uplink and up to 5 Mbps on the downlink. It supports four Classes of Service (CoS) which are available on the SPACEWAY 3 system, including real-time Quality of Service (QoS) features to ensure that applications get the priority and bandwidth they require.

The HN9500 enables an extensive and growing range of broadband applications including:

- High-speed Internet/intranet and VPN access
- Bandwidth-on-demand video and multimedia services, such as videoconferencing and remote site security monitoring
- VoIP voice services
- High-performance access continuity
- ePayments such as POS/credit and loyalty
- Polling, enterprise CRM, and ERP
- Corporate training and eLearning

Operating as an IP router on an enterprise LAN, the HN9500 incorporates several advanced features that increase throughput performance and maximize the user's experience and satisfaction. The Performance Enhancing Proxy (PEP) mitigates delay and increases overall throughput over satellite channels, while the unique Hughes TurboPage® feature provides HTTP acceleration for lightning-fast browser performance.

Recognizing the need for nonstop networking, the HN9500 supports a range of high availability configurations. A redundant mode employing a secondary satellite or terrestrial broadband backup is available, as is dial backup functionality utilizing an integrated V.90 modem for virtually 100% uptime.



Features

- Supports unicast and multicast IP traffic
- Enables full-mesh connectivity
- 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
- Delivers high-performance Web access via TurboPage technology
- Supports multiple Classes of Service (CoS) using Diffserv Code Point (DSCP) for applications such as:
 - Videoconferencing
 - VoIP voice
 - Live video streaming
- Bidirectional data compression
- Link level encryption for secure connectivity
- Configuration, status monitoring, and commissioning
- User-friendly LED display indicating terminal operational status
- Operates as a local router on a corporate LAN providing:
 - Static and dynamic addressing
 - DHCP server or relay
 - DNS caching
 - Full RIPV2 routing support
 - Multicasts to the LAN by using IGMP
 - NAT/PAT
- Serial protocols supported (with external Hughes HN1040 Serial Appliance):
 - SDLC
 - X.25
 - XPAD
 - Verifone 3200/3300 (Visa)

Technical Specifications

Physical Interfaces

2-10/100BaseT Ethernet LAN RJ-45 ports
V.90 modem with RJ-11 interface for integrated dial-backup

Mechanical and Environmental Specifications

Weight (IDU): 2.5 lbs (1.13 kg)
Dimensions (IDU): 10.25" H x 1.65" W x 9.75" D
(26 cm H x 4.2 cm W x 24.8 cm D)

Operating temperature:

IDU: +5° C to +40° C
ODU: -30° C to +55° C

Input Power: 48V; 13.5V (external AC/DC supply required)

Satellite and Antenna Specifications

Information Rate (Downlink): 440 Mbps
Information Rate (Uplink): 128, 512, 2048 kbps
Frequency Range: Ka-band
Modulation (Downlink): QPSK
Modulation (Uplink): CE-OQPSK
Antenna: 74 cm, 98 cm, 120 cm, 180 cm
Radio: 1, 2, 4, and 10 watt

Electromagnetic Interference (EMI) Certifications

FCC Part 15 for the United States
ICES-003 for Canada

Safety Standard Certifications

UL60950-1 for the United States
CAN/CSA-C22.2 No. 60950-1 for Canada

For additional information, please visit www.hughes.com.



Hughes Network Systems, LLC (HUGHES) is the global leader in providing broadband satellite networks and services for large enterprises, governments, small businesses, and consumers. HughesNet encompasses all broadband solutions and managed services from Hughes, bridging the best of satellite and terrestrial technologies.

Hughes broadband satellite products are based on global standards approved by TIA, ETSI, and ITU, including the IPoS/DVB-S2, RSM-A, and GMR-1. To date, Hughes has shipped more than 1.9 million terminals to customers in over 100 countries.

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