

# DW4020 Terminal

Low-cost, self-hosted, two-way satellite terminal

**HUGHES**  
NETWORK SYSTEMS

**DIRECWAY**

DIRECWAY® is a family of high-speed broadband solutions via satellite brought to you by Hughes Network Systems (HNS), the market leader in providing satellite products and services to enterprises and consumers alike. DIRECWAY satisfies the increasing demand by customers for greater bandwidth to enable a variety of high-speed multimedia applications.

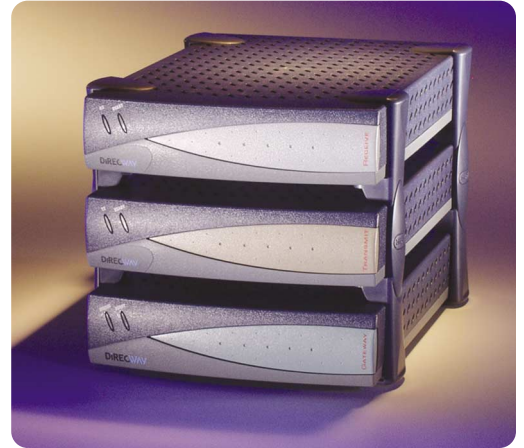
The HNS DW4020 terminal provides high-performance delivery of accelerated IP traffic to large corporations, small/medium enterprises (SMEs) and small offices/home offices (SOHOs) alike. Recognizing the market need for simultaneous support for Internet and other IP-based applications, HNS designed the DW4020 to provide DIRECWAY users with an easy, secure networking solution to connect multiple computers to broadband access via satellite.

Current DIRECWAY customers using the DW4000 two-way broadband terminal can quickly and easily upgrade to the DW4020 to increase their networking capability. The DW4020 terminal provides immediate access to broadband applications such as streaming video, distance learning/training, Internet and intranet/extranet access.

#### Broadband applications supported include:

- High-speed Internet access
- Broadband intranet/extranet access
- Corporate training and eLearning
- Real-time multimedia streaming to the desktop
- Content distribution
- Corporate-wide enterprise resource planning
- Traditional enterprise uses such as software upgrades, email and client/server applications
- IP multicast, unicast and broadcast applications

The DW4020 terminal is a self-hosted, stand-alone unit that provides an integrated broadband LAN solution to Windows, UNIX, Linux, MAC, and other platforms running IP over Ethernet. The DW4020 is completely self-contained, requiring no external PC to host any functions. It performs many of the



functions of a typical IP router, thereby eliminating the need for a separate external router. Router functions performed by the unit include IP routing using RIPv1, RIPv2 or static IP addresses, DHCP Server (assignment of IP addresses on the local LAN), Network Address Translation (NAT) and Firewall using filters.

#### Key features include:

- Four autosensing switched Ethernet ports
- Operating System (OS) independent
- Scalable
- Self-hosted
- Stand-alone terminal

The DW4020 terminal can receive a throughput of 2.0 Mbps or more over the satellite per TCP session with an aggregate throughput of greater than 6.0 Mbps. In addition, by implementing the Hughes Performance Enhancement Proxy (PEP) feature, the number of TCP handshakes is reduced and the user data is compressed. This feature minimizes latency over the space link and accelerates performance so that data can be delivered quickly to the user.

The DW4020 terminal provides broadband access to multiple users connected to the same satellite terminal and supports two-way connectivity between the remote units and the World Wide Web. Adding new remote units is a simple task with this scalable solution. As a business grows, terminals can be quickly installed at new locations.

With DIRECWAY, corporate intranets can be extended to remote locations without raising concerns about security. The DIRECWAY network incorporates multiple security mechanisms, conditional access and encryption to ensure the privacy of all your information.

### Technical Specifications

#### Remote Equipment

- Supported Frequencies: Ku-band (14.0 – 14.5 GHz uplink, 10.95 – 12.75 GHz downlink)

#### Outdoor Unit

- Ku-band: 0.5 or 1.0 watt

#### Data Protocol Support

- TCP/IP, UDP/IP, IP multicast

#### Satellite Specifications:

##### Outbound Carrier Specifications

- Data Rates: 4.6 Mbps to 48 Mbps
- Modulation: QPSK
- Encoding: Concatenated Reed-Solomon and Viterbi FEC
- Code Rates: Reed-Solomon: 188/204  
Viterbi: 7/8, 5/6, 3/4, 2/3 or 1/2
- Bit Error Rate:  $10^{-10}$  or better

##### Inbound Carrier Specifications

- Data Rates: 64, 128 or 256 Kbps
- Modulation: OQpsk
- Encoding: Viterbi Rate 1/2
- Bit Error Rate:  $10^{-7}$  or better

#### Compatibility

- Operating System: Any OS which supports IP over Ethernet
- Browsers: Internet Explorer 4.0 or higher  
Netscape Navigator 4.0 or higher
- Internet Applications: All common TCP/IP applications, UDP or RTP traffic

#### Physical Interfaces

- Four switched Ethernet LAN RJ45 ports (10BaseT/100BaseT)
- One asynchronous port (RS-232) for installation, commissioning and VADB

#### Power Supply

- Universal Power Supply: 90 – 264 VAC; 47 – 63 Hz

#### Operating Temperatures

- Indoor equipment: +5°C - +40°C
- Outdoor equipment: -30°C - +55°C

#### Mechanical & Environmental

- Weight: 1.8Kg (4.0 lbs)
- Dimension (IDU): 16.5cm W x 14.6cm H x 22.3cm D (6.5"W x 5.75"H x 8.8"D)

SNMP Network Manageable using the DIRECWAY vision NMS.

