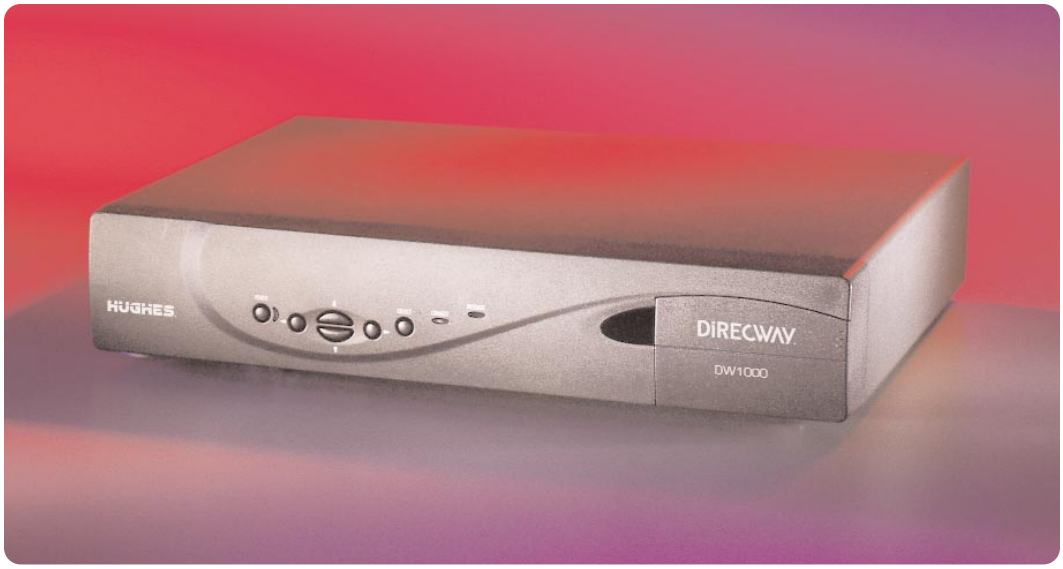
DW1000 Series Systems

Delivering accelerated IP content to the enterprise

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 consumers and enterprises alike. DIRECWAY satisfies the increasing demand by enterprises for greater bandwidth enabling a variety of high-speed multimedia applications.



The DW1000 System provides high-performance delivery of accelerated IP content to the enterprise market. This platform enables the corporate user at the central headquarters' site to deliver media-rich broadcast video and audio communications to thousands of remote sites simultaneously while enabling high-speed access to intranet and Internet data. The DW1000 is a one-way system and can be overlaid onto either an existing very small aperture terminal (VSAT) network such as the award winning HUGHES PES™ or a terrestrial communications link such as frame relay for communication back to headquarters. Regardless of the type of return channel used, the DW1000 minimizes the amount of return channel traffic through measures such as TCP spoofing at remote and hub ends, intelligent caching, TCP acknowledgement reduction, and data compression features.

Broadband applications supported include:

- High-speed Internet access
- Broadband intranet
- Corporate training and e-learning
- Real-time multimedia streaming (news, stock ticker, business TV)
- Micro advertising/point of sale (POS) TV
- Audio broadcasting and in-store music
- Multimedia content distribution/file broadcast
- Corporate-wide enterprise resource planning
- Traditional enterprise uses such as file transfers, software upgrades, email and client/server applications
- IP multicast, unicast and broadcast

Additionally, the DW1000 supports an optional hard drive with built-in intelligent caching software that can store any HTTP content (e.g. web pages, emails, data files, audio or video clips) locally, moving content to the edge of the network – closest to the user. Intelligent caching brings technology that has been used extensively by ISPs to enterprise networks and integrates multicasting capabilities into the caching architecture so that all users in the network benefit from the browsing habits of every user. The intelligent caching system also uses an advanced algorithm to overcome inherent Internet protocol limitations and "burst" entire web pages to the end-user when not stored in the cache.

The DW1000 provides PC users transparent high-speed multimedia access to information servers within a corporate environment and the Web. Additionally, powerful security measures, based on robust encryption algorithms, are embedded within the system to eliminate the interception of data by unauthorized intruders. The highly scalable transport channel from the servers to the remotes can deliver speeds up to 45 Mbps via the satellite using HNS' Broadband or industry standard DVB modulation. The DW1000 supports all traditional TCP/IP-based applications such as Web browsing, file transfer, and electronic mail. Multi-megabit throughputs of 2.0 Mbps or more over the satellite can be realized per TCP connection. Moreover, by compressing user data and reducing the number of TCP handshakes, the DW1000 minimizes the latencies over the satellite link.

Technical Specifications

Remote Equipment
L-band (950-1450 MHz) input into unit from external LNB source (frequency independent). Ku and C-band frequencies are supported.

Dual Processor Architecture
INTEL Pentium 166 MHz
HNS ASIC MIPS 3904 Core 54 MHz

Main memory:	32 Mbytes RAM
Flash memory:	8 Mbytes

Outdoor Unit
LNB supports both Low and High stability designs

IP Protocols Supported:
TCP/IP, UDP/IP, IP multicast

Video Support
MPEG 2 and MPEG 1 video decoding

Optional Hard Drive Size
40 Gbytes (minimum)

Reception Specifications

Data Rates:	1.11 Mbps to 45 Mbps; scalable in discrete steps
Modulation: HNS Broadband	BPSK or QPSK
Outroute Encoding:	Concatenated Reed-Solomon and Viterbi FEC at rates 6/7, 2/3, 1/2
DVB Outroute Encoding:	FEC at rates 7/8, 5/6, 3/4, 2/3, 1/2, 188/204 byte Reed-Solomon block format for DVB

Physical Interfaces
Two Ethernet LAN RJ45 ports (One at 10BaseT, one at 10/100BaseT)
S-video output for NTSC video
2 Sets Audio/Video jacks to support:
- Composite video and audio (left & right) support NTSC and PAL formats
- Auxiliary audio services (available on specific models)
- F connector for RF modulated output: (supports NTSC and PAL-B, D, G, M)
- SCART connector for PAL output (available on specific models)

USB Host Port (future services)
Serial Port (future services)

Power Supply

Universal power supply:	90-240 VAC; 47-63 Hz

Operating Temperatures

Outdoor Equipment:	-30ºC to +55ºC
Indoor Equipment:	+5ºC to +40ºC

SNMP Network Manageable using the new DIRECWAY Vision Platform

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11717 Exploration Lane Germantown, MD 20876 USA www.hns.com