

# SKYX<sup>®</sup> GATEWAY

Performance-Enhancing Gateway for Satellite Networks

**XR10  
XH45**

The SkyX Gateway enhances the performance and efficiency of Internet and private network access over satellites. Through the use of a unique, connection-splitting and protocol-translation system, the SkyX Gateway overcomes the deficiencies of TCP/IP in satellite-based networks, while remaining entirely transparent to end users. The SkyX Gateway is ideal for use with any satellite-based IP network.

## OVERVIEW

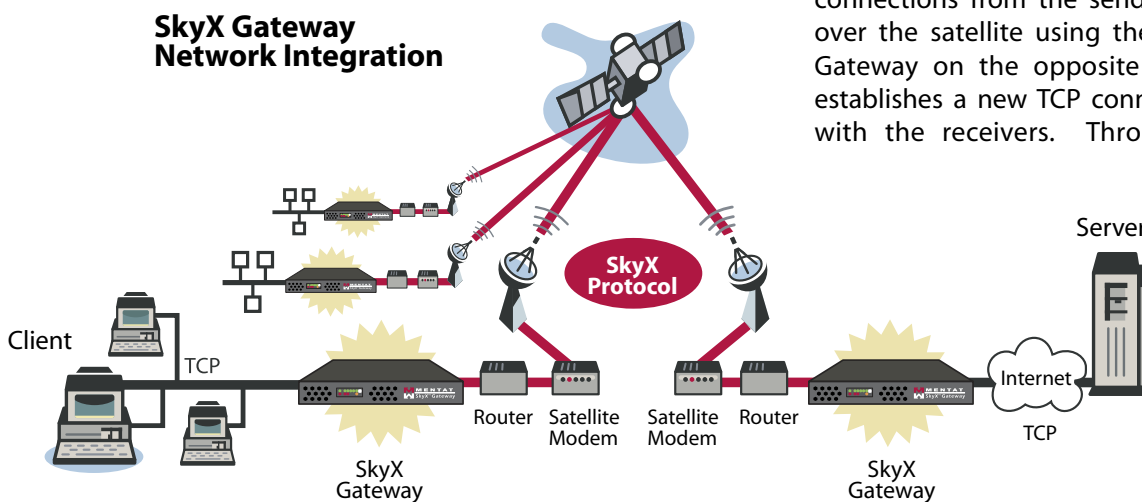
**SkyX Gateway  
XH45**



**SkyX Gateway  
XR10**

## OPERATION

The SkyX Gateway increases the throughput and efficiency of network access over satellites by transparently replacing TCP with the SkyX Protocol for the satellite segment of the connection. Especially optimized for satellite usage, the SkyX Protocol provides maximum performance under the long latency, high loss, asymmetric bandwidth conditions typical of satellite communications.



The SkyX Gateway transparently intercepts TCP connections from the sender and transmits the data over the satellite using the SkyX Protocol. The SkyX Gateway on the opposite side of the satellite link establishes a new TCP connection for communication with the receivers. Through this unique, patent-pending architecture, the SkyX Gateway enhances all TCP traffic, without requiring any proxy settings, TCP tuning, or any other changes to the end nodes.

The SkyX Gateway is available in two models: the **XR10** and **XH45**. The XR10 is designed for satellite links of up to 10 Mbps or for use as a remote node in combination with the XH45 for hub-spoke networks. The XH45 is designed for links of up to 45 Mbps or for use as a hub with multiple XR10 units.



## ADVANTAGES

### Increase Performance

The addition of the SkyX Gateway to a satellite network allows users to take full advantage of the available bandwidth. For typical satellite conditions, the SkyX Gateway increases Web performance by 3 times or more and file transfer speeds up to 10 to 100 times. Integrated data compression functionality can further enhance throughput.

### Improve Link Efficiency

The SkyX Gateway provides significant cost savings to link operators by efficiently utilizing expensive satellite bandwidth.

- Compression functionality expands the amount of data carried over the link.
- An efficient acknowledgement algorithm reduces reverse channel bandwidth utilization by 75% for Web traffic and up to 99% for file transfers.
- The connection-splitting system eliminates wasting satellite bandwidth retransmitting packets lost on the terrestrial network.
- Efficient error recovery mechanisms reduce the level of FEC required, thereby gaining additional useable bandwidth.

## SPECIFICATIONS

Capacity	<b>XR10</b>	Point-to-point links up to 10 Mbps Remote node of shared links up to 45 Mbps
	<b>XH45</b>	Point-to-point or hub of shared links up to 45 Mbps
Warranty		1 year

### Mechanical Interfaces

Network Interface	2 x 10/100BaseT Ethernet
Terminal Interface	RS-232 serial interface

### Environmental and Physical Specifications

AC Input Voltage	Auto ranging 90 V to 264 V RMS
AC Input Frequency	47 to 63 Hz (50 to 60 Hz nominal)
AC Input Current (Max)	3A RMS (115 VAC), 1.5A RMS (230 VAC)
Typical Power Draw	<b>XR10</b> 87 W (110 VAC), 102 W (240 VAC) <b>XH45</b> 105 W (110 VAC), 111 W (240 VAC)
Dimensions	16.7" W x 17.25" D x 1.75" H (1 RU) (42.5 cm x 43.8 cm x 4.5 cm)
Weight	16 lbs (7.3 kg)
Operating Temperature	41° to 122° F (5° to 50° C)
Storage Temperature	-40° to 149° F (-40° to 65° C)
Operating Humidity	8% to 95% non-condensing
Storage Humidity	8% to 95% non-condensing
Certifications	FCC Class A, UL Listed, CE Mark

## ABOUT MENTAT

### The Leader in Performance Networking

The SkyX Gateway is the leading solution for overcoming the limitations of TCP/IP over satellite. ISPs, corporations, governments, and military organizations around the world all rely on the SkyX Gateway to enhance the performance of their satellite networks. As the supplier to Apple, Compaq, Hewlett-Packard, IBM, Lucent, Novell, and Sun for TCP/IP and other high-performance networking software, Mentat has earned its reputation as the leader in performance networking since 1987.

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# XR10 XH45

## Important Features

### Enhances All TCP Applications

The SkyX Gateway enhances the performance of all TCP-based applications including Web access, FTP file transfers, e-mail, Windows networking, database connectivity, remote access, groupware, ERP, CRM, and proprietary client-server applications.

### Transparent Operation

The SkyX Gateway is entirely transparent to end users. No changes, modifications, proxies, or settings to the clients or servers are required.

### Easy Installation

The SkyX Gateway installs transparently between the router and LAN via dual Ethernet ports. The compact 1 RU size makes the SkyX Gateway convenient to mount into any standard rack.

### Link Independent

The SkyX Gateway enhances the performance of Internet, private network, or any other IP-based satellite link. The SkyX Gateway is designed for all types of satellite networks and provides the same performance enhancement for point-to-point, point-to-multipoint, and full mesh links.

### SkyX Multicast Fan-Out

The unique SkyX Multicast Fan-Out functionality can transparently convert a TCP unicast connection into a reliable multicast transfer. Using standard file transfer applications such as FTP, the SkyX Gateway can deliver a copy of a file to every remote site with only a single transfer.

### FastStart Web Acceleration

FastStart further accelerates Web downloads by reducing the time required to establish each new HTTP connection.

### Data Compression

On-the-fly data compression functionality offers compression ratios of up to 5:1, extending the value of your satellite bandwidth.

### Redundancy

A single back-up unit can monitor the status of any number of primary units and automatically replace any failed unit, making the SkyX Gateway ideal for ISPs and mission-critical links.

### SNMP Management

The SkyX Gateway can be configured and monitored through standard SNMP management tools, making the SkyX Gateway easy to install and operate in large-scale, carrier-class networks.

