SkyBlaster™ 360E

For Corporate Networks, Broadband IP over DVB

The ability to deliver Broadband content to all your business locations with increasing speed, quality and reliability leads to increased operational efficiency and provides a competitive advantage.

The SkyBlaster 360E offers a two-way satellite based solution to enable interactive Broadband IP and multicasting applications. With DVB standards and extensive IP capabilities, the SkyBlaster 360E supports virtually any data and IP multicast application.

The high-speed IP platform is designed for companies that control their own dedicated hubs and for shared hub operators.

Architecture

A SkyBlaster 360E star network consists of a central hub, many VSAT terminals based in remote locations, and a satellite channel. The hub consists of base band equipment and a RF terminal (RFT). Each remote terminal is composed of a small outdoor antenna, an outdoor unit (ODU) and an indoor unit (IDU). The indoor unit is a stand-alone box that connects to the user's PC (or another IP device) via an Ethernet LAN.

At the hub, the base band equipment controls the satellite transmission and interfaces with the customer's data equipment. An advanced, user friendly Network Management System (NMS) provides centralized monitoring and control, using statistics, alarms, network configuration and report generation. Corporate content is sent from the company's headquarters to the hub where it is uplinked and distributed to remote locations via satellite. Information can be sent to a single location, a group of locations or all locations. Delivery confirmation and other data, including file uploads, are sent back to headquarters via the satellite return channel.
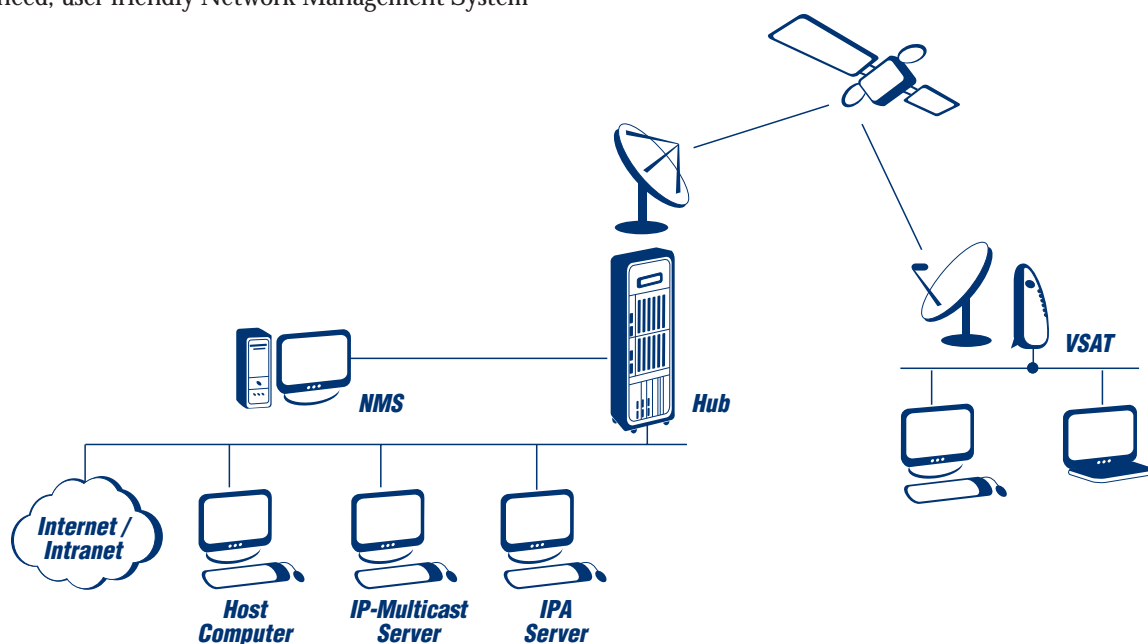
Key Features

- **Star Topology** - The SkyBlaster 360E is designed to support connectivity from a central hub to many remote locations.

- **DVB Outbound** - The SkyBlaster 360E outbound carrier complies with DVB standards.

- **Superior Inbound Coding** - Intelligent coding algorithms and modulation techniques enable efficient usage of satellite bandwidth.

- **Stand Alone Remote Unit** - Client software is already embedded in the box. There is no need for external software for terminal operation.

- **Extensive IP Capabilities** - The SkyBlaster 360E can function in a variety of IP environments and supports a wide range of IP protocols and applications.

- **Centralized Network Management** - Network management is carried out from the hub. Remote terminals can be monitored from a central location.

- **Rapid Deployment** - Terminals can be set up easily across multiple locations.

- **Proven Technology** - Gilat's interactive VSAT terminals have already been installed and are operating successfully in thousands of locations worldwide.

Applications

The SkyBlaster 360E provides a single platform for a variety of TCP/IP applications. Applications include corporate Intranet, Internet browsing, e-mail, corporate training, multicasting applications, video conferencing, B2B, e-commerce and other interactive IP applications.

Broadband Internet/Intranet Access

The SkyBlaster 360E provides an "always-on" connection for instant access to the Internet and corporate Intranet. With outbound bit rates of up to 52.5 Mbps and inbound bit rate of up to 307.2 kbps, users can enjoy high-speed connectivity. The product embedded TCP/IP implementation coupled with unique Internet browsing acceleration technologies provides high performance and an enhanced user experience.

IP Multicast

IP Multicasting, the delivery of data to a defined subscriber base, is useful for applications such as file distribution and software downloads. For Corporate Networks the data can be targeted at a specific group, whether they are employees or customers. Satellite multicast ensures that information is delivered on time and simultaneously, without sending multiple copies. Additionally, Reliable IP Multicast, guarantees the delivery of multicast information from the central location to the group's users.

Video Conferencing

The SkyBlaster 360E supports interactive video conferencing between a central location and the remote offices. In this way, internal corporate meetings can take place between headquarters and various branch offices. Participants can see and hear each other from TV screens or monitors and can benefit from realistic and interactive communication.

Corporate Training

With the SkyBlaster 360E, companies can provide interactive training to employees throughout their organization regardless of their location. Corporate training via satellite allows employees to be updated with the latest developments in the company, without incurring travel costs. With DVB transmission, the

SkyBlaster 360E enables employees to see and hear their instructor from their remote PC or TV. In addition, the two-way capabilities of the VSAT allow students to communicate with their instructor reliably and efficiently.

Voice over IP (VoIP)

VoIP can be easily integrated over the SkyBlaster 360E using external IP-telephone devices. With VoIP support, the SkyBlaster 360E can provide an integrated telephony and data solution over the same platform.

Integrated Solution with Gilat's StreamOn™ Multicast Services System

The SkyBlaser 360E can be easily integrated with Gilat's StreamOn™ system, to provide live audio and video streaming, audio and video store and forward, news casting, content subscription channels (push) and digital content distribution.

Satellite Access

The SkyBlaster 360E uses superior technologies to assign bandwidth for high user performance, increased efficiency and improved network throughput.

Inbound Access Scheme

The unique Frequency and Time Division Multiple Access (FTDMA) scheme is designed to maximize return path bandwidth efficiency. It automatically distributes traffic across the channel spectrum by allowing individual remote sites to transmit on any channel at any time. Consequently, the traffic load is balanced across the channels.

Dual Inbound Bit Rates

For speedy delivery of information to a central location, dual inbound bit rates enable a VSAT to double its inbound speed. This unique feature is designed especially for heavy traffic applications that require more bandwidth such as file uploads and video conferencing.

Performance Enhancements

The key to successful IP networking over the satellite link is effective management of the overhead traffic.

TCP Acceleration

The TCP acceleration technology serves to minimize the number of acknowledgements over the satellite link. Instead, they are handled locally by the TCP acceleration software at the hub and VSATs. Thus, mainly application data is transmitted over the satellite link.

This innovative technique provides full end-to-end data validity and results in high link efficiency and throughput, while maintaining consistent response times.

Internet Page Accelerator™ (IPA)

IPA provides the superior broadband communications experience that users expect when using a browser to access a corporate Intranet or the Internet.

Instead of depending on a browser to communicate directly to a specific URL in acknowledgement of object delivery, the IPA interface terminates the function at the hub. As a result, the user doesn't wait for each component object to be downloaded and displayed. Instead, the entire page requested from a specific URL is received by the user's browser.

The result is an enhanced user experience and improved space segment utilization.

Technical Specifications

Network		Architecture	Two-Way, star topology
		Protocols Supported	TCP/IP
		Frequency Bands	Ku, C or Extended C Band
		IP Protocols	TCP, UDP, RIP V1, RIP V2, IRDP, ARP, ICMP
		IP Addressing	Classes (A, B, C, D), Subnetting and classless addressing
		IP Multicast	UDP, IGMP
		Additional Features	IP Prioritization, DHCP
		Optional Features	QoS, StreamOn™, Reliable IP Multicast
Hub Station	*Outbound Carrier*	Standard	DVB
		Carrier Bit Rate	2.5 to 52.5 Mbps
		Modulation	QPSK
		Coding	Viterbi and Reed-Solomon
		FEC rate	1/2, 2/3, 3/4, 5/6, 7/8
	Inbound Carrier	Access Scheme	Proprietary FTDMA
		Bit Rate	38.4, 76.8, 153.6, 307.2 kbps
		Modulation	MSK
Remote		Coding	Viterbi and Reed-Solomon
Terminal	*Outdoor Unit*	Antenna Size (typical)	Ku-Band: 0.55 m to 1.2 m C-Band: 1.8 m
		Operating Temperature	-40° to +60°C
		Humidity	Up to 100%
		Transmitter ODU	0.5W or 1W Ku-band, 2W C or Ext C band
		LNB	Standard TVRO type
		UP - Converter	Proprietary SSPA
	Indoor-Unit	RF Input/Output	Two F connectors, 75Ω female
		Data Interface	10BaseT
		Size	213mm x 220mm x 88mm
		Weight	1.8 kg
		Operating Temperature	0° to +50°C
		Storage Temperature	-20° to +70°C
		Relative Humidity	10 to 90%