

SkySpan® SAMA Receiver Hub



A SkyDSL Network offers the most cost-effective, high-speed, shared-bandwidth IP network solution on the market. Teleport equipment typically includes a **SkySpan® SAMA Receiver Hub**, **SkyTCP™ Server Software**, **SkyNMS™ Software**, and an industry-standard MPEG IP encapsulator and DVB modulator.

Spread Aloha Multiple Access Hub

The Advantages of the SkySpan Network:

- Implements a full IP network over satellite with the lowest capital costs
- Operates on C-band or Ku-band
- Supports multiple networks and service levels using a single SAMA Receiver
- Scaled from tens of sites and users to thousands using the same hardware
- Compatible with industry-standard DVB protocol
- Supports VoIP, VPN, FTP, encryption, unicast, and multicast

SkySpan SAMA Receiver Hub

The SkySpan SAMA Receiver Hub provides fast and secure communication with minimal latency, providing full access to the return channel for all subscribers. Without requiring additional hardware, it easily scales to support thousands of subscribers. The SAMA Receiver Hub options are:

- **Speed:** Available in either a 129 kbps or 256 kbps configuration
- **SAMA:** Adds bandwidth-on-demand capability to the random-access SAMA channel
- **Redundancy:** Ensures maximum uptime with internal switchover capability

SkyTCP Acceleration Server Software

SkyTCP software is a fully transparent solution that increases throughput of TCP traffic over a geostationary satellite channel. Based on a set of open standards, SkyTCP software monitors the characteristics of IP traffic over satellite and refines the behavior of the TCP protocol. A SkyTCP software enabled network ensures maximum efficiency and reliability for IP traffic over satellite.

SkyNMS Network Monitoring Software

SkyNMS software, Cerona's proprietary solution, uses a graphic interface to provide visibility to the SkySpan SAMA Receiver Hub and to every SkySpan Router deployed. The SkyNMS module tracks system performance, traffic characteristics, and power levels. In addition, SkyNMS software uses SNMP to allow Teleport administrators to remotely configure SkySpan Routers, multicast software updates, and manage network abuse such as file sharing and virus attacks.

SkySpan Teleport Equipment Specifications

SkySpan Network Teleport

Network Type

Data Transport Protocols

Monitor and Control Protocol

RF Frequency Bands

IP Application Support

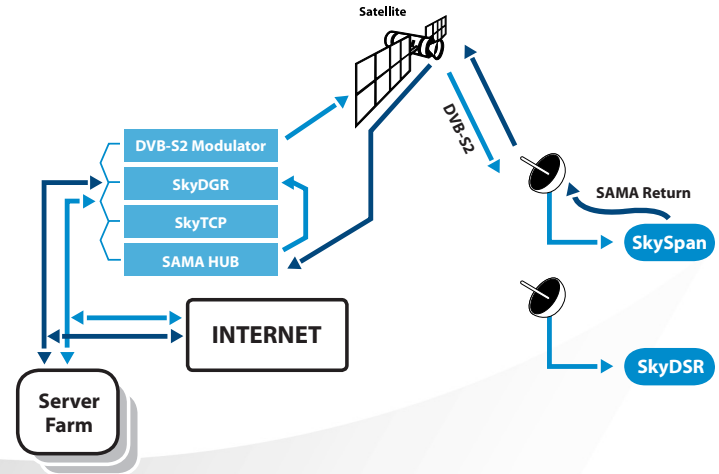
Star topology

TCP, UDP, ICMP, IGMP,
RIP version 2, static routes,
NAT, DHCP, DNS

CLI via SSH, SNMP

C-band, Ku-band

All IP-based applications



Teleport Equipment

Transmitted Signal

Modulation

Forward Error Correction

IF Interface

Channel Throughput

User Burst Data Rates

Average Round-Trip Latency

Bandwidth Usage

Users Supported

Return Link (Inbound)

SkySpan SAMA Receiver

SAMA® protocol/bandwidth on demand

QPSK

Block code rate (0.95)

70 MHz

330 kbps–2.5 Mbps

129 kbps or 267 kbps

750 milliseconds

2.7 MHz

Active Users: 10X Oversubscription:

700 7000

Forward Link (Outbound)

DVB modulator, IP encapsulator

Standard DVB-S/MPEG-2

QPSK

Reed Solomon, convolutional (1/2–7/8)

70/140 MHz

512 kbps–72 Mbps

512 kbps–20 Mbps

750 milliseconds

1.35 MHz to 36 MHz

Dependent upon forward channel
bandwidth and applications deployed.

SAMA Receiver Parameters

Demodulation Cell Error

Rate Performance

Minimum Eb/No: 8 dB (for 2% cell error rate)

Operating Eb/No: 9 dB (10⁻⁵ cell error rate)

Symbol Rate 64.5/133.3 kpsps

Spreading 31/15 chips per bit

Standards Compliance

FCC part 15—Class A

SkySpan SAMA Receiver Mechanical and Environmental Parameters

4U Rack-Mounted Chassis

7" H x 17.x5"W x 19.5" D
(17.75cm x 44cm x 50cm)

Weight

34 lbs. (15.42 kg)

Power Consumption

50–125 watts

Operating Voltage

115/230 VAC, 50–60 Hz

Operating Temperature 0° to 45° C (32° to 113° F)

Operating Humidity 5–90% (noncondensing)

Connectors

50 ΩBNC(10 MHz Ref In/Out; 70 MHz IF

LAN

Two 10/100 BaseT Ethernet RJ45

Other

RS232, mouse, keyboard, and VGA

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