SurfBeam® SMTS-1200

Satellite Modem Termination System

FEATURES

- Low-cost, high-density configuration
- Adaptive coding and modulation (ACM) on the forward link — high availability without throughput loss
- Rate adaptable, multi-carrier TDMA return link — increased dynamic range counters fade conditions
- Sophisticated routing
- IP Multicast support
- Built-in security against theft-of-service and theft-of-subscriber
- Flexible network interfaces
- 1:N redundancy/hot-swappable
- Up to 64,000 routing entries

DOCSIS™ 1.1 STANDARD BASED

- Open standard
- Carrier-class reliability
- Sophisticated quality-of-service (QoS) management

DVB-RCS EQUIVALENT FUNCTIONS

- Forward-link subsystem (FLSS)
- Reverse-link subsystem (RLSS)
- Air interface processing subsystem (AIPS)
- Partial support of terrestrial interface subsystem (TISS) — required for IP service

APPLICATIONS

- High-speed Internet access
- Software-as-a-Service (SaaS)
- Video and Voice-over-IP
- High bandwidth file transfer
- IP multicast

The SurfBeam® Satellite Modem Termination System (SMTS) brings you a new generation of affordable Ka-band/Ku-band wireless broadband services. Based on the open data-over-cable service interface specification (DOCSIS) standard, the SMTS resides at the satellite system gateway, as a direct analog to the cable modem industry's cable modem termination system (CMTS). The SMTS includes a bank of satellite modulators and demodulators for transmissions to and from remote subscriber terminals. Up to 12 modulator/demodulator blades fit in each chassis, with each blade containing one 72 Mbps forward channel and eight 2.5 Mbps TDMA return channels.

All real-time scheduling of over-the-satellite traffic is performed by the SMTS, which also provides air interface control for the network. In addition, the SMTS handles the physical LAN interfaces and IP routing protocol support for direct connection of the satellite system into a standard routed TCP/IP terrestrial network.

Specially designed for today's emerging Ka-band/Ku-band satellite systems, the SurfBeam SMTS provides fast, reliable, high-quality bandwidth-on-demand for a variety of digital communication services. As a component of the SurfBeam Broadband Satellite Access Network, which allows you to offer broadband Internet access to both current and new markets, the SMTS manages traffic between satellite network subscribers and the satellite gateway.

SPECIFICATIONS

FORWARD CHANNEL

Modulation/Coding	Rate 2/3, 3/4, 5/6, 8/9 Turbo (8PSK) Rate 1/2, 2/3, 3/4, 5/6 Turbo (QPSK) Reed-Solomon outer code Supports adaptive coding and modulation (ACM)
Modulation Types	8PSK and QPSK
Symbol Rate	5 – 30 Msps
Data Rates	5 – 72 Mbps

RETURN CHANNEL

Modulation/Coding	
	Rate 1/2 or Rate 3/4 Turbo code Reed-Solomon outer code (Optional)
Modulation Types	QPSK
Symbol Rate	160, 320, 640, 1280 or 2560 ksps
Data Rates	150 – 3500 kbps

SATELLITE INTERFACE

Transmit IF	70/140 MHz ; 950 – 1450 MHz
Receive IF	950 – 1450 MHz
Tx Output Level	-5 to -30 dBm
Rx Input Level	0 to -25 dBm total composite power
Channel Asymmetry	up to 88 return channels per forward channel

TERRESTRIAL INTERFACE NETWORKING

Intra/Inter Domain Routing/Switching Support

RIP v1, v2, OSPF v2, BGP4, MPLS

Multicast Routing Support

DVMRP, PIM, IGMP v2

INTERFACE MODULES

1-port Gigabit Ethernet
8-port 10/100 BaseT
2-port OC-3/OC-12
2-port Gigabit Ethernet, 8-port 10/100 BaseT*

* Indicates planned capability.

ENVIRONMENTAL

Temperature	0° to +40° C
Humidity	10 to 90% (non-condensing)
Altitude	10,000 feet

PHYSICAL (FULLY CONFIGURED)

Power Supply	120V AC or -48 VDC
Dimensions	
Height	29.75" (76.56 cm)
Width	19" (48.26 cm)
Depth	19.75" (50.17 cm)
Weight	140 lbs (63.5 kg)

CHASSIS CONFIGURATION

Module Quantity Redundancy
Routing modules up to 2 ea. 1:1
Terrestrial I/F modules up to 12 ea. 1:1
Satellite I/F modules up to 12 ea. 1:N
AC/DC power rectifiers up to 3 ea. 1:1 or 1:3

Specifications subject to change without notice.

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