

## 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**

<b>Modulation/Coding</b>	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)
<b>Modulation Types</b>	8PSK and QPSK
<b>Symbol Rate</b>	5 – 30 Msps
<b>Data Rates</b>	5 – 72 Mbps

**RETURN CHANNEL**

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

**SATELLITE INTERFACE**

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

**TERRESTRIAL INTERFACE NETWORKING**

<b>Intra/Inter Domain Routing/Switching Support</b>	RIP v1, v2, OSPF v2, BGP4, MPLS
<b>Multicast Routing Support</b>	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**

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

**PHYSICAL (FULLY CONFIGURED)**

<b>Power Supply</b>	120V AC or -48 VDC
<b>Dimensions</b>	
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.

**ViaSat, Inc.**

**Tel:** +1.678.924.2880  
**Email:** vsatsales@viasat.com

**Fax:** +1.678.924.2480  
**www.viasat.com/vsat**



**Atlanta** 1725 Breckinridge Plaza, Duluth, GA 30096, Tel: +1.678.924.2400, Fax: +1.678.924.2480

**Beijing** Lucky Tower Block B, Suite 1112, No. 3 Dong San Huan Bei Lu, Beijing 100027, China, Tel: +86.10.6461.5761, Fax: +86.10.6461.5754

**New Delhi** 601 New Delhi 611-A, JMD Pacific Square, Sector 15, Part 2, NH #8 Gurgaon 122001 Haryana India Tel: +91.124.402.5200, Fax: +91.124.402.5252

**Rome** Piazza del Popolo 18, 00187 Rome, Italy, Tel: +39.0636712432, Fax: +39.0636712400

**San Diego** 6155 El Camino Real, Carlsbad, CA 92009, Tel: +1.760.476.2200, Fax: +1.760.929.3941

**Sydney** Unit 4/22 Narabang Way, Belrose, NSW 2085, Australia, Tel: +61.2.9986.3888, Fax: +61.2.9986.3899