

## SURFBEAM SUBSCRIBER TERMINAL AT-A-GLANCE

- Always-on high-speed connectivity
- Sophisticated quality of service (QoS)
- Built-in TCP and Web acceleration functions
- Built-in firewall and network address translation (NAT)<sup>1</sup>
- Built-in security against theft-of-service and theft-of-subscriber
- Wireless LAN<sup>1</sup> and 10/100 Mbps Ethernet interfaces
- Web GUI local management and SNMP-based remote management and control
- Adaptive coding and modulation (ACM) on forward link — high availability without throughput loss
- Rate adaptable return link — increased dynamic range counters fade conditions
- Standard Ku- and Ka-band ODU's available

## DOCSIS™ 1.1 STANDARDS BASED

- Integrated data-over-cable service interface specification (DOCSIS) provisioning and operations support systems (OSS)
- Scalable, proven network management system (NMS)
- Compatible with DOCSIS-integrated billing systems
- Plug-and-play installation of IDU

## APPLICATIONS

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



The SurfBeam® subscriber terminal is available with either a wireless LAN interface (left) or Ethernet interface (right).

Compact and easy to install, the SurfBeam® subscriber terminal for broadband services delivers fast two-way data by satellite. With its built-in wireless LAN<sup>1</sup> and Ethernet interfaces (10/100Mbps), this economical, high-performance terminal integrates seamlessly into a home-based network.

Consisting of an indoor unit (IDU) and a small, unobtrusive outdoor unit (ODU), the subscriber terminal transmits data at rates above 2 Mbps up to 3.5 and receives at rates up to 72 Mbps.

The SurfBeam subscriber terminal provides fast, secure and reliable bandwidth-on-demand for a variety of digital communication services. As part of ViaSat's SurfBeam Broadband Satellite Access Network, the terminal allows you to offer easy-to-use, low-cost broadband Internet access to both current and new markets.



## SPECIFICATIONS

**INDOOR UNIT (IDU)****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)  
 Concatenated Forward Error Correction (FEC) coding  
 Adaptive Coding & Modulation (ACM)

**Modulation Types:** 8PSK and QPSK

**Symbol Rate:** 5 – 30 Msps

**Data Rates:** 5 – 72 Mbps

**RETURN CHANNEL****Modulation/Coding**

Rate 1/2, 3/4 Turbo  
 Reed-Solomon outer code (Optional)

**Modulation Types:** QPSK

**Symbol Rate:** 160, 320, 640, 1280 or 2560 ksps

**Data Rates:** 150 – 3500 kbps

**PERFORMANCE**

**Forward Channel:** 6 Mbps

**Return Channel:** 1.5 Mbps

**MANAGEMENT**

Web GUI local diagnostics and SNMP-based remote management and control

**LAN INTERFACES**

Wireless LAN<sup>1</sup> and 10/100 Mbps Ethernet interfaces

**NETWORKING****IP Inter-networking**

Transparent TCP and HTTP acceleration  
 Network Address/Port Translation<sup>1</sup>

**Quality-of-Service**

Layer 2–4 packet classification and filtering  
 Per-flow queuing and policing

**Security**

Firewall with Stateful Packet Inspection (SPI)<sup>1</sup>  
 Content filtering

**POWER SUPPLY**

85 – 264 VAC; 47 – 63 Hz

**ENVIRONMENT**

**Operational:** 0° to +40° C

**Storage:** -30° to +65° C

**Humidity:** 0 to 95% (non-condensing)

**Altitude:** 10,000 feet

**REGULATORY**

**Safety:** UL 60950, CE, IEC 60950, EN 60950, CB Scheme

**EMC:** FCC B, CE, IEC 61000, EN 55022, EN 61000

**Compliant to RoHS Directive 2002/95/EC**

**PHYSICAL**

**Status Indicators:** Power, Satellite Acquisition, Activity and Fault

**Size:** 23 x 23 x 3.8 cm

**Weight:** 0.6 kg

**CPE INTERFACE**

**Wireless LAN<sup>1</sup>:** IEEE 802.11 a, b, g

**Ethernet:** IEEE 802.3, 10/100 BaseT

**OUTDOOR UNIT (ODU)****KA TRANSCEIVER**

**Input Frequency:** 19.7 – 20.2 GHz

**Output Frequency:** 29.5 – 30.0 GHz

**Nominal EIRP:** 48.3 – 58.5 dBW

**KU BUC**

**Output Frequency:** 14.0 – 14.5 GHz

**Nominal EIRP:** 42 – 46.1 dBW

**KU LNB**

**Input Frequency Range:** 10.95 – 11.7 GHz, 11.7 – 12.2 GHz,  
 or 12.25 – 12.75 GHz

**POLARIZATION**

Circular or linear orthogonal

**ENVIRONMENT**

**Ambient Temperature:** -40° to +55° C (up to +80° C survival)

**Humidity:** 0 to 100% (condensing)

**Rain:** 0.5"/hr. (up to 3"/hr. survival)

**Wind:** 45 mph

**Dust, Fungus, Sand and Salt Fog:** Withstands and operates without degradation in the presence of dust, fungal growth, sand and salt fog

**REGULATORY**

**Safety:** UL 1950, EN 60950

**EMC:** FCC CFR 47 Part 25.202, Part 15, Part 25.138, ETSI EN 301 459

**Compliant to RoHS Directive 2002/95/EC**

**POWER**

Supplied by IDU, 2A max. @ 30 VDC

**PHYSICAL****Size**

Transceiver: 11 x 15 x 5 cm

Antenna: 62 – 120 cm

**Weight**

Transceiver: 1.5 kg

Antenna: varies

**INTER-FACILITY LINK (IFL)****IF IN**

**Connector:** F (female)

**Impedance:** 75 Ohm

**Acquisition range:** +/- 7.5 MHz

**Frequency:** 950 – 1700 MHz

**RX level:** -25 to -60 dBm

**IF OUT**

**Connector:** F (female)

**Impedance:** 75 Ohm

**Frequency:** 1800 – 2300 MHz (Ka); 950 – 1450 MHz (Ku)

**TX level:** 0 to -33 dBm

**CABLE**

**Connector:** F (male)

**Type:** RG-6, 75 Ohm, solid copper center conductor

**Attenuation (max):**

6.2 dB/30 m @ 900 MHz; 8.1 dB/30 m @ 1450 MHz

**Length (max):** 60 m

<sup>1</sup>Available with SM3000 series satellite modem.

**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