

# SURFBEAM®

LOW COST SUBSCRIBER TERMINAL

The SurfBeam® subscriber terminal for wireless broadband services is a compact, easy-to-install terminal that delivers fast two-way data by satellite. The terminal will seamlessly integrate into a home-based network with its built-in Ethernet interface (10/100 Mbps).

The complete terminal includes the indoor unit (IDU) and a small, non-obtrusive outdoor unit (ODU). The 2-watt power amplifier (SSPA) and Low Noise Block (LNB) transmits data at rates above 2 Mbps and receives at rates up to 72 Mbps. ViaSat's SurfBeam subscriber terminal provides fast, reliable, high-quality bandwidth-on-demand for a variety of digital communication services.



## Features

- Low cost broadband satellite modem
  - Always on high-speed connections
  - No PC software required
  - Built-in security against theft-of-service and theft-of-subscriber
  - Built-in TCP and Web acceleration functions
  - Sophisticated QoS
  - 10/100 Mbps Ethernet interface
  - Remote management and control
  - Dynamic multi-rate forward link provides high availability without throughput loss
  - Rate adaptable MF-TDMA return link for increased dynamic range to counter fade conditions
  - Standard Ku- and Ka-band ODUs available
- DOCSIS 1.1 Standard Based**
- Subscriber terminals based on high volume cable modem chipset standard
  - Mature infrastructure products available
  - Low-cost scalable hub equipment
  - Off-the-shelf BSS and OSS equipment

## Applications

- Internet access
- Voice-over-IP
- MPEG video over IP
- High bandwidth FTP
- IP Multicast



## SPECIFICATIONS

### IDU

#### FORWARD CHANNEL:

##### Modulation/Coding:

2/3, 3/4, 5/6, 8/9 Turbo (8PSK)

1/2, 2/3, 3/4, 5/6 Turbo (QPSK)

Reed-Solomon outer code

Adaptive Coding & Modulation (ACM)

**Modulation Types:** 8PSK and QPSK

**Symbol Rates:** 5 to 30 Msps

**Data Rates:** 5 to 72 Mbps

#### RETURN CHANNEL

##### Modulation/Coding:

Rate 1/2 Turbo (3/4\*)

Reed-Solomon outer code (Optional)

**Modulation Types:** QPSK

**Symbol Rate:** 160, 320, 640, 1280 to 2560 kbps

**Data Rates:** 150 – 2400 kbps

### IDU AND IFL INTERFACE

#### Transmit IF:

1800 – 2300 MHz (Ka-band ODU)

950 – 1450 MHz (Ku-band ODU)

#### Receive IF:

950 – 1700 MHz

**I/O Impedance:** 75 Ohms, nominal

**Tx Output Level:** 0 to -33 dBm

**Rx Input Level:** -30 to -60 dBm

**SSPA Power:** Supplied by IDU

### ODU AND ANTENNA INTERFACE

#### Typical EIRP:

48.3 to 58.5 dBW (Ka); 42 a 46.1 dBW (Ku)

**Typical G/T:** 15.4 dBi/ °K

**Noise Temperature:** 70°K, typical

#### Uplink Frequency Range:

14.0 – 14.5 GHz (Ku); 29.5 – 30.0 GHz (Ka)

#### Downlink Frequency Range:

10.7 to 12.75 GHz (Ku); 19.7 – 20.2 GHz (Ka)

\* Italics indicate planned capability

Specifications subject to change without notice

### NETWORKING

#### IP Inter-networking:

Aceleración TCP y HTTP transparente

#### Quality-of-Service:

Layer 2–4 packet classification and filtering

Per-flow queuing and policing

### ENVIRONMENTAL

#### IDU

**Temperature:** 0° C to +40° C

**Humidity:** 10% to 95% (non-condensing)

**Altitude:** 10,000 feet

#### ODU

**Temperature:** -40° C to +55° C

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

#### Dust, Sand and Fungus:

Withstand and operate without degradation in the presence of dust, sand, and fungus growth

### PHYSICAL

#### CPE Interface:

Ethernet: IEEE 802.3, 10/100 BaseT (single RJ-45 connector)

**IDU / ODU Interface:** RG-6 (<30m) cable, F-type connector

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

**Power Supply:** 85 to 264 VAC; 47 to 63 Hz

#### Size:

Indoor unit: 23 x 23 x 3.8 cm (9 x 9 x 1.5 inches)

Outdoor unit: Transceiver: 11 x 15 x 5 cm

Outdoor unit: Antenna: 62 to 120 cm

#### Weight:

Indoor unit: 0.6 kg

Outdoor unit: Transceiver – 1.5 kg

Outdoor unit: Antenna – varies



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