

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 and a small, non-obtrusive outdoor antenna. The 2-watt or 4-watt power amplifier (SSPA) and Low Noise Block (LNB) transmits data at rates above 1 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 ODU's 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:

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

Modulation Types: 8PSK and QPSK

Downlink Symbol Rate: 5 to 30 Msps

Nominal Data Rates: 5 to 72 Mbps

Return Channel Modulation Coding:

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

Modulation Types: QPSK

Uplink Symbol Rate: 160, 320, 640, 1280 or 2560* kbps

Nominal 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 -30 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 to 46.1 dBW (Ku)

Typical G/T: 15.4 dBi/ °K

Noise Temperature: 70°K, typical

Uplink Frequency Range:

(13.75*) 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)

NETWORKING

IP Inter-networking:

Transparent TCP and HTTP acceleration

Quality-of-Service:

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

ENVIRONMENTAL

Indoor Unit

Temperature: 0° C to +40° C

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

Altitude: 10,000 feet

Outdoor Unit

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

* Italics indicate planned capability
Specifications subject to change without notice



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