

PAIPER

BROADBAND 2WAY VSAT SYSTEM



A COMPLETE SATELLITE SOLUTION FOR BUSINESS NETWORKS

LANDSTAR, 120cm RX/TX ANTENNA AND KA-BAND COST-EFFECTIVE BUNDLING OFFERS

LandSTAR from MediaNET is the world's first multimedia service to feature on-board satellite multiplexing of video, audio and data. LandSTAR avoids long backhauls to a central location and enables easy satellite contributions. The system collects uplink signals from many different geographic locations, packages them on-board the satellite and delivers them to your targeted audience.

Available on 4 Ka-band HOT BIRD™ 6 transponders (and soon on the Ka- and Ku-band W3A satellite), LandSTAR uses 1.2 meters transmitting antennas, substantially reducing companies uplinking investment. By directly linking to the satellite, investment in set-up time, terrestrial feeder links and centralised uplink stations also drops significantly.

TECHNICAL DESCRIPTION

The LandSTAR Ka-band terminal is a compact unit 13-inches/31-centimeters wide and 1 rack-unit high and can receive a downlink stream of up to 38 Mbps.

This stream is assembled by the HOTBIRD™ 6 satellite from as many as six uplink carriers, each with a net bit rate of approximately 6 Mbps, or 18 uplink carriers each with a net bit rate of approx 2 Mbps.

LandSTAR can be operated in either continuous (SCPC) or burst (TDMA) mode, depending on your traffic pattern.

BROADBAND SERVICES

MESH OR HYBRID NETWORK

LAN AND WAN

VIDEOCONFERENCING

VOICE OVER IP

DISASTER RECOVERY

AND MUCH MORE

APPLICATIONS

- // Mesh or hybrid network topologies
- // Local and wide area networks
- // Business TV
- // Videoconferencing, Telemedicine and e-Learning
- // Voice over IP and telephony
- // Corporate intranets and virtual private networks
- // Telecommunications infrastructure
- // Disaster recovery

KEY TECHNICAL FACTS

- // Hubless broadband networks
- // Independent uplink from small transmit stations
- // Turbo Coded uplink streams
- // Reed Solomon downlink stream and Viterbi coded
- // Bi-directional communications in meshed configuration
- // Handles as many as six uplink carriers
- // High Availability and reliability
- // Operates in either continuous (SCPC) or burst (TDMA) mode depending on traffic pattern





TECHNICAL SPECIFICATIONS

UPLINK

Modulation: QPSK
 Transmit IF Frequency Range: 1800-2300 MHz
 Hopping bandwidth: 500 MHz
 Transmit frequency resolution: <10 Hz
 Transmit frequency accuracy:
 Tracked by system via electronic frequency control on master oscillator
 Nominal Transmit IF signal level: -5 to -25 dBm
 Transmit IF connector (on box): Type-F,Female
 Transmit IF impedance: 75 ohm
 Transmit return loss: >11 dB
 Carrier on/off isolation (unmodulated carrier measured in 4 kHz band):
 60dB minimum (applies when terminal is programmed to be disabled)
 Modulator spectrum output: Raised-Cosine with 35%roll-off
 Tx IFL 10MHz: 0 <P <5 dBm
 Tx IFL DC voltage: +32 VDC @1.5A
 ODU M&C channel: None

DOWNLINK

Modulation Type,spectral shaping,descrambling and FEC decoding:
 ETSI EN 300 421 compliant with inner convolutional code rates only 1/2, 2/3 or 3/4
 Receive Symbol Rate: 27.5 Mbaud
 RF Input Frequency Range: 1000-1500 MHz
 Input Power:Desired Carrier: -60 to -30 dBm
 Aggregate Power: <-5 dBm
 Input Impedance: 75 ohms
 Input return loss: -10 dB min
 Carrier Acquisition Range: Initial \pm 5 MHz,carrier change \pm 200 kHz

IFL CABLES

IFL type:Dual cable,one transmit,one receive
 Connectors:Type-F male on cable ends
 IFL length and cable type: 10 to 50 meters using RG-6/U cable
 50 to 100 meters using RG-11/U cable
 Transmit IFL signals: Transceiver power;10 MHz reference;Transmit IF
 Transmit IF: 1800 -2300 MHz
 IDU and transceiver port impedance: 75 ohm
 10 MHz reference level: 0 to 5 dBm at IDU output
 Transceiver voltage: 24-36 Vdc;Shield grounded;Center conductor positive
 Transceiver power consumption: Less than 50 Watts
 Receive IFL signals: Receive IF
 Receive IF frequency: 1000-1500 MHz

OUTDOOR UNIT

Ka-band Transmit
 Transmit frequency band: 29.5 to 30.0 GHz
 Antenna diameter: <1 meter
 Antenna side lobe gain: Less than 29 -25 log (0)dB_i for 2<0<7 degrees
 Transmit polarization: Horizontal (Pol.X)or Vertical (Pol.Y),manually selectable
 Polarization isolation: Greater than 25 dB
 EIRP at 1 dB gain compression: Greater than 50 dBW
 BUC power at 1 dB compression: Greater than 33 dBW
 Block upconverter gain: Greater than 48 dB
 On-axis spurious radiation
 Carrier on: Less than -4 dBW EIRP in any 100 kHz band outside nominated bandwidth
 Carrier off: Less than -21 dBW in any 100 kHz band outside nominated bandwidth

KA-BAND RECEIVE

Receive frequency band: 19.700 to 20.200 GHz
 LNB Noise Figure: <2 dB
 LNB Gain: Greater than 45 dB
 Antenna diameter: <1 meter
 Antenna side lobe gain: Less than 29 -25 log (theta)dB_i
 Receive polarization: Horizontal (Pol.X)or Vertical (Pol.Y)
 Polarization Isolation: Greater than 25 dB

MECHANICAL

Weight (BUC &LNB combined): <7 lbs.
 Antenna Mount: Kingpost Ground Mount or Non-Penetrating Roof Mount
 Antenna Adjust Range
 Elevation: 10-90 degrees continuous
 Azimuth: 360 degrees continuous
 Wind Loading: 50 mph (operational)100 mph (survivable)
 Operating Temperature: -40 ° to ++55 ° C
 Storage Temperature: -55 ° to ++85 ° C

Humidity: 0-100%,Condensing

Altitude: Up to 15,000 feet

MTBF

Calculated: >90,000

Demonstrated: >200,000

R&TTE Directive 1999/5/EC (CE) (comprised of the following three components):

Europe -Radio Equipment and Telecommunications Terminal Equipment and the Mutual Recognition of their Conformity

EN 60950 (R&TTE article 3.1a): Europe (CE)-Safety of Information Technology Equipment

EN 301 489-12 (R&TTE article 3.1b): Europe (CE)-EMC,VSAT,satellite earth stations operating between the 4 GHz and 30 GHz frequency range

EN 301 459 (R&TTE article 3.2): Europe (CE)-Spectrum,VSAT,satellite earth stations transmitting in the 29.5 to 30 GHz frequency range

INDOOR UNIT

Mechanical Mechanical Dimensions: 4.5 cm high (1U),<31 cm wide,<25 cm Deep

Ethernet Interface: 10BaseT (RJ-45),IEEE 802.3

Power: 100 to 240 VAC auto-sensing,auto-ranging

Operating Temperature: 0 ° C to 40 ° C

Storage Temperature (non-operating): -20 ° C to 70 ° C

Humidity: 95%Relative Humidity (non-condensing)@0 ° C to 40 ° C

Vibration: Random Vibration 5-100 Hz,10 minutes per axis,0.5 grms

MTBF

Natural Convection Cooling (no internal fan): >100,000 hours

Forced Air Convection (with internal fan): >40,000 hours

FCC Part 15 Class B: United States – Federal Communications Commission (Radio Frequency Devices)

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ANTENNA 120 DUAL FEED

Height : 127 cm • Width : 123 cm

Mount: Az / El + Polarization

Azimuth range : 0-360° with +/- 5° fine tune

Elevation range : 23° to 90° continuous fine tune

Mounting on tube:76 mm

Frequency band: KA Band

Hi gain dual feed reflector



ANTENNA 120 OFFSET

Height : 127 cm • Width : 123 cm

Mount: Az / El + Polarization

Azimuth range : 0-360° with +/- 5° fine tune

Elevation range : 23° to 90° continuous fine tune

Mounting on tube:76 mm

Frequency band: KA Band

Standard offset reflector

