The LinkStar\textsubscript{S2} and LinkWay\textsubscript{S2} systems bring you an unparalleled combination of satellite communications technology, advanced IP routing, quality of service, data acceleration, and compression in two complementary platforms. Your IP applications will seamlessly integrate via satellite through the use of industry standards such as DVB-S, DVB-S2, and DVB-RCS.

Enterprise applications benefit most from the hub-spoke (star) LinkStar\textsubscript{S2} system, while the LinkWay\textsubscript{S2} system is best for applications requiring single-hop, mesh connections directly between remote sites.
**LinkStar\textsubscript{S2} and LinkWay\textsubscript{S2} Terminals Operate in the Same Network**

Since both systems are based on the same TDMA core technology, you get interoperable networking for star, mesh, or hybrid topologies, providing you with flexibility for a multitude of enterprise applications in one integrated network.

*LinkStar\textsubscript{S2} and LinkWay\textsubscript{S2} VSATs build on the technology leadership and growing worldwide installed base of the LINKWAY and LinkStar products from ViaSat. Designed at the Comsat Laboratories division of ViaSat by some of the brightest minds in digital satellite communications, these new products represent eighth-generation TDMA technology.*

**DVB-S2 Efficiency Improves Operating Profits**

The DVB-S2 open standard delivers up to 30% more efficiency compared to the DVB-S standard, through advanced modulation and coding schemes. You benefit from higher data throughput and/or lower space segment costs.

*LinkStar\textsubscript{S2} and LinkWay\textsubscript{S2} terminals can interoperate in the same network. Hub-based and mesh terminals can receive the same DVB-S2 carrier, offering one of the most flexible, scalable, and efficient satellite networks available. Additional routing functions in the new LinkStar\textsubscript{S2} hub aggregate outbound and inbound traffic from both systems.*

Both *LinkStar\textsubscript{S2} and LinkWay\textsubscript{S2}* are operable in existing networks, enabling a simple and cost-effective migration path to DVB-S2 operation.
• Hub-spoke topology
• Multimedia broadband connections
• High-speed DVB-S2 TDM outlink
• High-speed TDMA returnlink up to 4.2 Mbps
• Multiple application optimized returnlink access schemes
• Automatic bandwidth allocation
• RIP, IGMP, UDP, TCP protocols
• Built-in TCP acceleration
• Multilevel IP QoS with VoIP prioritization
• Network-wide QoS
• User groups
• Web-based network management
• IPSec-transparent with control plane security
• IP header compression
• VLAN tagging
• DHCP relay
• Intelligent power conservation
• HTTP acceleration (optional)
• Downloadable interoperable DVB-RCS software (optional)
• Mesh connectivity (optional)
• Interoperability with LinkWay S2

• Peer-to-peer mesh topology
• Multimedia broadband connections
• High-speed DVB-S2 and DVB-S TDM receiver
• High-speed TDMA link up to 13 Mbps
• Automatic bandwidth allocation
• RIP, UDP, TCP protocols
• Frame Relay PVC and SVC protocols
• Built-in TCP acceleration
• Multilevel IP QoS with VoIP prioritization
• Network-wide QoS
• User groups
• Web-based network management
• IPSec-transparent
• IP header compression
• Interoperability with LinkStar S2

**LinkStar S2 and LinkWay S2**
Interoperability
SPECIFICATIONS

**LinkStarS2**

**RETURN/INBOUND CHANNEL (remote to hub)**
- **Format**: MF-TDMA
- **Carrier Sizes**: 156, 312, 625, 1250, 2500 Ksps
- **Modulation**: QPSK
- **Turbo Coding**: DV-RCS compliant
- **Transmit IF Frequency**: 950 to 1525 MHz

**OUTBOUND CHANNEL (hub to remote)**
- **Format**: DVB-S, DVB-S2, DVB-MPE for IP data
- **Carrier Sizes**
  - DVB-S: Up to 36 Msps
  - DVB-S2: Up to 30 Msps
- **Data Rates**
  - DVB-S: Up to 58 Msps
  - DVB-S2: Up to 70 Msps
- **FEC and Modulation**
  - DVB-S: R/S (204, 188) Convolutional
  - DVB-S2: LDPC Turbo Coding per EN 302 307
- **BER**
  - Quasi-error-free per DVB standards
- **Receive IF Frequency**: 950 to 1750 MHz

**PHYSICAL INTERFACES**
- **L-band Transmit and Receive Network**
  - (2) Type-F, 75 Ohm
  - (1) 10/100BT IEEE 802.2 Ethernet (RJ45)
- **Console Port**
  - RS-232 electrical, RJ-11 physical

**NETWORK MANAGEMENT AND CONTROL**
- **Network Management System (NMS)**
  - Java Web-based, standard PC
- **Network Control Center (NCC)**
  - SUN Solaris Workstation; SNMP agent

**PERFORMANCE**
- **TCP Acceleration**: 10 Mbps throughput to LAN
- **Scalability**
  - 500 nodes with C series Hub
  - 8,000 nodes with single Hub/NCC
  - 80,000 nodes with multiple Hubs/NCC
- **Protocols**: TCP/IP, UDP/IP, IGMP, RIP 1&2, IP QoS support

**LinkWayS2**

**MF-TDMA MODEM**
- **Modulation**: QPSK, 8PSK
- **Symbol Rates**: 156 Ksps to 5 Msps
- **Forward Error Correction**: Turbo Coding
- **FEC Rates**: 1/2, 2/3, 3/4, 7/8

**DVB-S2 RECEIVER**
- **Modulation**: QPSK, 8PSK
- **Symbol Rates**: 2.5 Msps to 30 Msps
- **Forward Error Correction**: LDPC Turbo Coding per EN 302 307
- **FEC Rates**
  - QPSK: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10
  - 8PSK: 3/5, 2/3, 3/4, 5/6, 8/9, 9/10

**L-BAND INTERFACE**
- **Tx**: F-type, 75 Ohm; 950-1750 MHz range
- **Rx**: F-type, 75 Ohm; 950-1750 MHz range

**PHYSICAL INTERFACES: IP and Frame Relay**
- **Expansion**: 2 PMC interface slots
- **Console Port**: RS-232 electrical, RJ-11 physical

**NETWORK INTERFACES**
- **IP**: 10/100BT IEEE 802.2 Ethernet (RJ45)
- **Frame Relay**: SCSI-26pin synchronous serial interface, with transition cables to RS-449, RS-530, and V.35

**ENVIRONMENTAL**
- **Temperature Range**: Operational: 0°C to +50°C; Storage: 0°C to +70°C
- **Relative Humidity**: Operational: 0 to 95%; Storage: 0 to 95% (non-condensing)

**MECHANICAL**
- **Dimensions**
  - (H x W x D): 1.75 x 17 x 15 in. (4.45 x 43.2 x 38.1 cm)
- **Weight**: ~6 lb (~2.8 kg)

**OUTDOOR UNITS**
- **Ku-Band Antennas**: 1.2, 1.8, or 2.4 meter
- **Ku-Band RFTs**: 2, 4, or 16 Watt
- **C-Band Antennas**: 1.8, 2.4, 3.8 meter
- **C-Band RFTs**: 5, 10, or 20 Watt
- **Interfacility Link**: L-band
- **Certification**: CE, FCC, R&TTE, ANATEL

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