Datum System's PSM-500LT L-Band Satellite Terminal combines the performance and reliability of our M500 Series modems with an integrated BUC Power Supply and High Stability 10 MHz reference. The PSM-500LT is the industry's most versatile, reliable and efficient remote satellite modem. It is unmatched by any other modem for its BER performance, fast acquisition, low latency and total power/bandwidth optimization.

**Advanced FlexLDPC** – With unparalleled configuration flexibility and superior coding gain, FlexLDPC takes FEC technology innovation to the next level, bringing strong economic advantages to satellite service providers and their customers. Granular code rates and block sizes get you the most out of your available satellite bandwidth and spectral power, while keeping processing latency at the desired level.

**Internal BUC/LNB Power & Reference** – The PSM-500LT provides BUC and LNB power from an integrated power supply. A High Stability 10 MHz reference is also provided through the modem Transmit (N-Type) and Receive (F-Type) connections at the rear. Reference, BUC and LNB power may be disabled via the front panel. Front panel voltage and current measurements are available for BUC and LNB monitoring.

**SCPS - TCP/IP Acceleration** – Datum Systems provides an embedded protocol acceleration option based on the Space Communication Transport Specification (SCPS-TP). Our integrated optimization software provides increases in IP packet throughput over TCP/IP links via our Ethernet IP interface option.

**Feature Unlocks** – The PSM-500LT can be easily upgraded via front panel key codes. Upgrades are simple to implement and are available in preconfigured software versions, offering a variety of options for modulation, FEC and data rates up to 29.5 Mbps.

**Redundancy** – Built-in 1:1 redundancy comes standard on the PSM-500LT and supports BUC/LNB power and reference switching. It can be enabled through the front panel and requires only a few external cables and power splitters.
System Specifications:

**Operating Modes:** Rx and Tx Continuous (SCPC), Optional Tx Burst

**Tx Tuning Range:** 950 to 1750 MHz, in 1 Hz Steps

**Rx Tuning Range:** 950 to 1900 MHz, in 1 Hz Steps

**Data Rate Selection:** 1 bps increments

**Data Rate Minimum:** 1.2 kbps rate 1/2 BPSK

**Data Rate Maximum:** 25.52 Mbps rate 3/4 BPSK

**Data Rate Accuracy:** Accurate to ± 2 x 10^-12 of relative clock reference

**Symbol Rate Range:** 2.4 kbps to 14.76 MHz in 1 Hz step sizes

**Available Modulation:** BPSK, QPSK, OQPSK, 8PSK, 16QAM, 64QAM

**Available TPC Modes:** MS Full, Short & Legacy, Comtech and Advanced

**Concatenated RS:** Selectable N & K, IESS 308/309/310 and CT Comp

**Reed Solomon Depth:** 4, 8 or 16

**FEC Options:**
- Viterbi: 1/2, 3/4, 5/6, 7/8 (k = 7)
- Trellis: 2/3

**FEC Options:**
- Reed Solomon Depth: 4, 8 or 16
- Concatenated RS: Selectable N & K, IESS 308/309/310 and CT Comp

**Available Modulation:** BPSK, QPSK, OQPSK, 8PSK, 16QAM, 64QAM

**Rx Carrier Input Range:** Programmable from ± 100 Hz to ± 1.25 MHz

**Input Phase Noise:** Better than Intelsat by 6 dB typical, 4 dB min

**Rx Acquisition Range:** Programmable from ± 100 Hz to ± 1.25 MHz

**Rx Sensitivity:** Programmable from ± 100 Hz to ± 1.25 MHz

**Rx Error Rate:** Programmable from ± 100 Hz to ± 1.25 MHz

**Rx Phase Noise:** Better than IESS-308/309 by 6 dB typical, 4 dB min

**Return Loss:** 14 dB typical, 10 dB minimum

**IF Tx Impedance:** 50/Ω (Type N)

**Receive Clock Options:** Internal, External, Mod Clock, Receive Clock

**Terrestrial Interfaces:**
- Standard Synchronous: Serial RS232, RS422, V.35, V.36, EIA-530(A)
- Optional: HSSI
- Ethernet IP 10/100 Base-T (Bridge & Router, OoS)
- TCP/IP Acceleration (Software Only)
- -Supports Up to 5 Mbps Aggregate throughput and 200 Continuous Sessions
- Advanced Ethernet IP, GigE, High PPS Throughput, Vyatta Bridge/Router
- Dual G.703/E1 (E1), Dual Bal Inputs (RS-422, Unbal (BNC) Opt
- Full E1, PCM-30 (CAS), PCM-31 (CCS), X.25, N = 1 to 31 Time Slots

**Multiplexer and Overhead Features:**
- IBS Multiplexer: Built-in IBS Overhead Channel with standard and enhanced variable rate RS232 and RS485
- Supports Automatic Uplink Power Control (AUPC), Remote Modem Control Interface and 2 Form-C Backward Alarms

**Monitor and Control:**
- Front Panel: LCD and Keyboard for easy control and status
- Terminal Mode: Full screen interactive display of all parameters
- Remote Packet Mode: Packet driven RS232/RS485 control and status
- Optional Web Browser: Available through the Ethernet Interface SnIP
- SNMP: Available through the Ethernet Interface SnIP

**Diagnostics:**
- Loopback Modes: IF, bi-directional xarr and sat data loopbacks
- BER Test Patterns: 2047 or 2 23-1
- BERT: Built-in bi-directional bit error rate test set
- Carrier: Pure carrier and sidetone
- Form C Relays: Assignable faults to Form C rear alarm connector

**Environmental and Physical:**
- Prime Power Input: 90 to 264 VAC, 50/60 Hz, -48 VDC (HW Option), < 20 watts
- BUC Power Options: 24 VDC @ 60 Watts, 5A max w/PFC
- 48 VDC @ 60 Watts, 3.2A max w/PFC
- LNB Output Power: Selectable: Off, 13 or 18 VDC
- Power Factor Correction: Optional at all power levels

**Certifications and Compliance:**
- CE Certified for:
  - ENS5022 Class B (Emissions)
  - ENS50082-1 Part 1 (Immunity)
  - Can/CSA C222 No. 950-95 (Safety)
  - UL-1950 (Safety)
- RoHS Compliant: Meets RoHS lead-free standards