

PSM-4900L



L Band Satellite Modem, 1.2kbps to 4.92 Mbps, BPSK & QPSK, Viterbi & Turbo FEC

STANDARD FEATURES

The PSM-4900L is the newest member of our modem family. Like its predecessors, it uses the latest advances in chip technology, allowing us to offer a true L band modem with **direct modulation** and a full range of features at an **affordable price**. The standard 1U rack mount unit comes equipped with:

- Viterbi FEC**
- OCXO reference**
- BUC power supply**
- LNB 13/18 Vdc psu**
- Doppler buffer**
- Active front panel**
- 1:1 redundancy**

Options include **Turbo Code FEC**, **Reed Solomon Concatenated FEC**, **IBS overhead channel**, remote modem control and automatic **uplink power control (AUPC)**.

With the **IBS framer** and R-S concatenated FEC installed the modem will operate with other modems working in the Open Network IBS mode.

Other features available in the standard unit include the ability to automatically revert to any one of **eight stored configurations** in the event of a loss of receive carrier for a specified period of time. This is very useful for remote terminal recovery in large managed networks and **built in BER test facility**.

The unit also features a programmable 16 bit D/A converter providing an analogue output which gives continuous indication of transmit carrier level, receive Eb/No and AGC.

- Data Rates 1.2 kbps to 4.92 Mbps, step size 1bps.
- IF Frequency Range 950 to 1750 MHz, step size 1 Hz.
- Modulation BPSK and QPSK, FEC 1/2, 3/4 or 7/8 rate Viterbi
- DC power for BUC and LNB supplied via coax cable.
- Built in 10 MHz OCXO reference for BUC and or LNB.
- Doppler Buffer 130kb.
- Built in 1:1 redundancy circuitry.
- Auto ranging power supply, 110 / 230V AC, 50 to 60 Hz.
- Full remote monitor and control, store and recall 8 user set ups.
- Fast acquisition mode - approximately 70 msec at 64kbps.
- Universal Serial Data Interface: RS422/ 232/ V35.
- Serial M&C Interface: RS232/ 485 with terminal and packet protocol modes.

OPTIONS

- TURBO code option 1/2, 3/4 and 7/8 rate with short codes to minimise delay at lower data rates for enhanced performance
- Intelsat Reed Solomon Concatenated FEC for enhanced performance
- IBS compliant framer with proprietary automatic uplink power control (AUPC) and remote end monitor and control modes

PSM-4900L

PSM4900 L SUMMARY SPECIFICATIONS

Parameter

Specification

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|--|---|
| IF Frequency Range / Frequency step size | 950 to 1750 MHz / 1 Hz steps |
| Tx output AGC Power Range: | +5 to -35 dBm, in 0.1 dB steps. |
| Tx output connector / Return Loss / Impedance | Type N (f) / 10 dB min, (14 dB typ) / Reference impedance 50 Ohms |
| Tx output power accuracy / stability | +/- 0.5 dB over IF freq. range / +/- 0.5 dB over operating temp. range |
| Tx output Phase Noise | 4 dB better than IESS 308 / 309 |
| Tx output Spurious / Harmonics | -50 dBc max / -50 dBc max to -10dBm, -40 dBc max at +5 dBm |
| BUC power supply: | Either 24V 4A or 48V 2A dc must specify with order, multiplexed on Tx coax cable. |
| Rx max composite input power | -5 dBm or +40 dBc whichever is lower |
| Rx input power range | -70 to -20 dBm at max rate, scales to -100 dBm at lowest data rate |
| Rx input connector / Return loss / Impedance | Type F (f) / 10 dB min / Reference impedance 75 Ohms |
| Rx acquisition Range: | Programmable from ± 100 Hz to ± 1.25 MHz |
| LNB power supply | Programmable 0, 13 or 18 VDC @ 500mA max, multiplexed on Rx coax cable. |
| Frequency Reference: | Internal 10 MHz OCXO, 1×10^{-7} short term stability, 2×10^{-7} per year aging External reference input on rear panel for 1, 5, 9, or 10 MHz, internal OCXO locks to external input. Reference is multiplexed on Tx coax cable. |
| Modulation: | BPSK, QPSK |
| Forward Error Correction: | Viterbi. K=7, Rates 1/2, 3/4 or 7/8 |
| Data Rates Programmable at FEC rate 1/2: | 1.2 kbps to 1,230 kbps BPSK, (in 1bps steps) without IBS mux or R-S option 2.4 kbps to 2,460 kbps QPSK (in 1bps steps) without IBS mux or R-S option |
| Data Rates Programmable at FEC rate 3/4 or 7/8 | 2.4 kbps to 2,460 kbps BPSK, (in 1bps steps) without IBS mux or R-S option 4.8 kbps to 4,920 kbps QPSK (in 1bps steps) without IBS mux or R-S option |
| Receive Doppler Buffer: | 131kb, programmable in 1 bit increments, or in delay time. |
| Data Interface (All synchronous) | RS-449/422, V.35, EIA-530 or RS-232 electronically selectable at DB-37 connector. DB25 and V.35 (M34) adaptors available. |
| BER Performance: with Viterbi FEC 1/2 rate: | 10^{-5} at 4.8 dB Eb/No 10^{-7} at 6.0 dB Eb/No |
| Fast Acquisition Performance: | 70 ms at 64 kbps, QPSK, 1/2 rate with 6.0 dB Eb/No and +/-30kHz acquisition range |
| Front Panel Control: | LCD display and keypad, full access to control and status. |
| Remote Control | Full remote access to control and status RS232 / RS485 |
| Case Dimensions: | 1U 19 inch rack 48 x 30 x 4 cm (19"W X 12"D X 1.75"H.) |
| Input Power Requirements: | 110 / 230 VAC (auto select), 50/60 HZ, Approx. 40 Watts without BUC or LNB, 160 Watts max including BUC & LNB. |
| Temperature operating / storage | 0 to 50°C / -25°C to 85°C |
| Humidity operation / storage | 95% non condensing / 99% non condensing |

OPTIONS

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| Turbo (Product) Code FEC performance | 1/2 Rate Eb/No = 2.8 dB for BER of 10^{-7} 3/4 Rate Eb/No = 3.5 dB for BER of 10^{-7} 7/8 Rate Eb/No = 5.5 dB for BER of 10^{-7} |
| Intelsat Reed Solomon Concatenated FEC performance | 1/2 Rate Eb/No = 3.4 dB for BER of 10^{-7} 3/4 Rate Eb/No = 4.5 dB for BER of 10^{-7} (n=126, k=112, t= 7 or n=219, k=201, t=9 or programmable with depth of 4 or 8) |
| Overhead channel and AUPC option | IBS framing with buffered RS232 / 485 overhead. The OH channel can be set to provide control of a remote modem or to maintain a designated receive Eb/No. |

BIPcorp reserves the right to change these specifications without notice