

PSM-4900



70 or 140 MHz Modem, 1.2kbps to 4.92 Mbps, BPSK & QPSK, Viterbi & Turbo FEC

The PSM-4900 is a new generation of satellite modem benefiting from the latest **advances in chip technology**. The new design incorporating a new chip set enables us to offer a modem with a **full range** of features at an affordable price.

The standard unit comes equipped with **Viterbi** FEC, **Doppler buffer**, front panel and **1:1 redundancy** circuitry.

Options include **Turbo** Code FEC, **Reed Solomon** Concatenated FEC, IBS overhead channel, automatic uplink power control (**AUPC**) and 140 MHz IF frequency.

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

Built in BER test set with a choice of patterns. The transmit and receive BERT are independent and store comprehensive **BER test** results including sync losses, errors, EFS(%) and errored seconds.

Programmable 16 bit D/A converter providing an **analogue output** which gives continuous indication of transmit carrier level, receive Eb/No and AGC.

STANDARD FEATURES

- Data Rates 1.2 kbps to 4.92 Mbps, step size 1bps.
- IF Frequency Range 50 to 90 MHz (140 MHz option) 1 Hz steps
- Modulation BPSK and QPSK, FEC 1/2, 3/4 or 7/8 rate Viterbi
- TURBO code option 1/2, 3/4 and 7/8 rate
- Intelsat compliant Reed Solomon option
- Overhead channel and automatic uplink power control (AUPC) option
- 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
- Analogue output for real time monitoring and alignment.

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
- 140 MHz IF Frequency

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PSM4900 SUMMARY SPECIFICATIONS

Parameter

Specification

IF Frequency Range / Frequency step size	50 to 90 MHz (optional 100 to 180 MHz) / 1 Hz steps
Transmit Output AGC Power Range:	+5 to -35 dBm, in 0.1 dB steps, 75 Ohms
50 or 75 Ohms (Programmable)	max. +3 dBm with 50 Ohms
Receive Carrier Power (50 or 75 Ohms):	-20 to -60 dBm at max rate, scales to -84dBm at lower rates
Maximum Composite Receive Input Power	+15 dBm or +40 dBc whichever is lower
Receive Acquisition Range:	Programmable from ± 100 Hz to ± 1.25 MHz
Frequency Reference:	Internal 2.0 ppm. External reference input on rear panel for 1, 5, 9, or 10 MHz.
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) 2.4 kbps to 2,460 kbps QPSK (in 1bps steps)
Data Rates Programmable at FEC rate 3/4 or 7/8	2.4 kbps to 2,460 kbps BPSK, (in 1bps steps) 4.8 kbps to 4,920 kbps QPSK (in 1bps steps)
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. (37 way to 25 way adaptor cable included)
BER Performance: with Viterbi FEC 1/2 rate:	10-5 at 4.8 dB Eb/No, 10-7 at 6.0 dB
Fast Acquisition Performance at 1/2 rate FEC with 6.0 dB Eb/No and +/-30kHz acquisition range:	Typically 70 ms at 64 kbps. QPSK
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. 30 Watts.
Temperature operating / storage	0 to 50°C / -25°C to 85°C
Humidity operation / storage	90% non condensing / 99% non condensing

OPTIONS

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 (n=126, k=112) 3/4 Rate Eb/No = 4.5 dB for BER of 10-7
Overhead channel and AUPC option	IESS-308, IESS-309 and custom mode (variable data rate). This channel provides a control channel in each direction to maintain a designated receive Eb/No.
IF Frequency	100 to 180 MHz instead of 50 to 90 MHz, step size 1Hz

BIPcorp reserves the right to change these specifications without notice