



# SkyLane™ SL 2048

## Satellite Modem

### FEATURES:

- ◆ SkyLane™ Turbo Option
- ◆ 9.6 kbps to 3850 kbps in 1 bps Steps
- ◆ BPSK and QPSK Operation
- ◆ Optional Dual Demodulator
- ◆ Optional Ethernet 10BaseT Interface
- ◆ RX/ IF Frequency 950 to 2150 MHz or Optional 70 MHz  $\pm$ 18 MHz
- ◆ TX/ IF Frequency 950 to 1525 MHz or Optional 1750 MHz
- ◆ Viterbi Error Correction, Concatenated Reed Solomon Option
- ◆ Universal Input Power Supply, DC Power Option
- ◆ Integral Power Supplies and Reference for BUC and LNB
- ◆ Remote Monitoring and Control via RS 232 /485 Port
- ◆ Optional Front LCD Display and Keypad (shown)

The SL2048 modem includes a BPSK/QPSK modulator and demodulator. It includes the DC power and 10 MHz reference for powering and synchronizing a Block up Converter (BUC) and Block down Converter (BDC) or Low Noise Block Amplifier (LNB). The SL2048 also features a 70 MHz version that can be used in existing 70 MHz systems.

The TX signal of the SL2048 is directly modulated at L-Band, resulting in an efficient uplink system with an extremely pure output spectrum.

The modem operates with BUCs that offer the Power Track option. The BUC includes a power detector on the output, and the modem monitors that and adjusts the TX output level to maintain a constant output power from the BUC. This closed loop power control maintains the output power from the BUC stable within  $\pm$  1 dB under all conditions.

The SL2048 offers data rates from 9.6 kbps to 3850 kbps and is equipped with Viterbi error correction. An Intelsat compliant Reed Solomon outer Codec is available as an option. Or it can be ordered with each dual demodulator via a BNC connector.

SkyLane™ Turbo option that greatly improves BER performance and reduced data latency. The modulator and demodulator are independently programmable, with 1 bit per second data rate resolution and 100 Hz L -Band and IF frequency resolution.

The SL2048 can be ordered with a dual demodulator, which can be used in hub applications for star configured FDMA and frame relay networks.

A front panel jack is provided for terminal access to all the functions, alarms and status messages of the modem. All other connections are located on the rear panel of the unit.

The modem includes a standard RS530 interface using the RS422 format. Optionally, it can be equipped with an Ethernet 10Base T interface (mini bridge).

A complete VSAT solution can be purchased from SPL-ACT wireless as the ST2048. This package includes the modem, BUC and LNB.

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**MODULATOR SPECIFICATIONS:**

L-Band/70 MHz IF Output (70 MHz Version Optional)

Frequency Range and Step Size

Output Impedance/Return Loss

Output Connector

Output Level

Spectral Shape

Output Spurious/Harmonics

Integrated Phase Noise

**DEMODULATOR SPECIFICATIONS**

L Band/70 MHz Input (70 MHz version, optional)

Frequency Range

Input Impedance/Return Loss

IF Connector

L-Band Input Level

70 MHz IF Input level

Eb/No Performance @ 10<sup>-7</sup> BER, Viterbi

Viterbi with Reed Solomon Option

SkyLane™ Turbo Option

**MODEM SPECIFICATIONS**

FEC Encoding/Decoding

Data Rates

 $\frac{1}{2}$  Rates $\frac{3}{4}$  Rates $\frac{7}{8}$  Rates

Step Size

Scrambling/Descrambling

**GENERAL SPECIFICATIONS**

Remote Monitor and Control

Data Ports

Power Supply Input

DC Input (Option)

ODU Supply Output (via IFL)

Dimensions/Weight

**ENVIRONMENTAL SPECIFICATIONS**

Temperature Range Operating/Storage

European standards

USA

**OPTIONS**

SkyLane™ Turbo FEC

Intelsat concatenated FEC

Dual Demodulators

Ethernet 10BaseT

Front Panel Display

Active Front Panel

Hand Held Terminal

TX Only/RX Only

Doppler Buffer Option

70 MHz TX Output

Short chassis

950MHz to 1525MHz in 100Hz steps (70MHz version: 52-88 MHz in 100Hz steps)

50  $\Omega$ /15 dB minimum

Type N, female/BNC, female

-5 to -20 dBm in 0.1 dB steps/0-25 dBm in 0.1 dB steps

IESS 308/ 309 compliant

-55 dBc DC to 2500 MHz / -50 dBc; 1900 MHz to 2500 MHz

IESS308/ 309 compliant

950MHz to 2150MHz in 100Hz steps (70MHz version: 52-88 MHz in 100Hz steps)

75  $\Omega$ /15 dB minimum at L band; 50  $\Omega$ /15 dB minimum at 70 MHz

Type F, female at L band; Type BNC at 70 MHz

-70 dBm to -40 dBm, with Automatic Gain Control (AGC)

-55 to -35 dBm, -5 dBm maximum composite

$\frac{1}{2}$ Rate	$\frac{3}{4}$ Rate	$\frac{7}{8}$ Rate
6.7 dB	8.3 dB	9.4 dB
4.2 dB	5.9 dB	
	4.0 dB	

Selectable,  $\frac{1}{2}$ ,  $\frac{3}{4}$  or  $\frac{7}{8}$  rate, Viterbi k=7

Optional Reed Solomon Outer Codec (for use with Viterbi Inner Codec)

Optional SkyLane™ Turbo

QPSK 19.2 to 2200 kbps, BPSK 9.6 kbps to 1100 kbps

QPSK 25.6 to 3300 kbps

QPSK 33.6 to 3850 kbps

Selectable in 1 bps steps

V.35, IESS 308, 309, CCITT

RS 485 at rear panel, RS232 at front panel (hand held terminal port)

EIA530 Interface, RS422 (25 pin)

Universal Input 115-230 VAC, 50/ 60 Hz, Approved to EN60950

48 VDC

24 VDC, 3.5 Amperes max. (BUC), 20V, 0.5A max. (LNB)

48 VDC, 2.0 Amperes max. (BUC) (option)

1U, 19 inch rack mount, 18 inches deep/11 lb. (5 kg) maximum

0 to 40°C/-25°C to 85°C

EN55022 Class B and EN50082-1

FCC Part 15, Subpart B Class A

Add SkyLane™ Turbo Codec for 1x10<sup>-7</sup> BER at 4 dB Eb/No

Add Intelsat Reed Solomon Codec for concatenated Viterbi/RS error correction.

Add a second demodulator with EIA530 Interface, tuned within 5 MHz of the first demodulator

Substitute EIA530 (RS530 with RS422 levels) for Ethernet 10BaseT option

Provides display and keypad on front panel for access to all functions, alarms and status messages

Allows text-based access to all functions, alarms and status messages

Remove either demodulator or modulator for transmit- or receive-only operation

Programmable 0 to 16 kbits, or upgrade to 0 to 256 kbits

70 MHz,  $\pm$ 18 MHz/100 Hz steps. Removes L-Band output.

16 inches deep instead of the standard 18 inches

