

MLT1000

Military Satellite Modem

C4I Satellite Communications

Gilat's MLT-1000 is a fast-to-deploy, easy-to-operate military modem that meets the most rugged specifications. Setting a new standard for mission flexibility, MLT-1000 delivers high-speed satellite communications for on-the-move, stationary, point-to-point (SCPC), and point-to-multipoint (managed MCPC) operations.

Battle Proven Connectivity

MLT-1000 provides secure, highly-reliable broadband C4I satellite communications that ensure battlefield information superiority for warfighters. MLT-1000's advanced VSAT technologies maximize link availability, optimize bandwidth usage, and enable high throughput in the most challenging field and weather conditions. With embedded QoS and transparent acceleration technologies, MLT-1000 provides a single integrated platform for data, voice, and video applications over multiple network topologies.

The Tactical Warfighter's Modem

MLT-1000 enables military personnel to run the full range of mission-critical applications, protocols and tasks simultaneously on the same modem. Built to the toughest military specifications, MLT-1000 delivers effortless operation anytime, anywhere. In addition, MLT-1000 requires minimal setup by non-technical personnel for fast satellite communications warfighters can count on.

For cost efficient, secure, seamless connectivity across land, sea, and air on C, X, Ku, and Ka bands, MLT-1000 always accomplishes the mission.

Benefits

- High sensitivity enables use of small antennas and BUCs, higher MODCODs and reduce space segment
- Adaptive Spreading, Coding and Modulation (ASCM) improves availability – essential factor for SOTM
- Integrated Transmission Security (optional)
- Simple deployment shortens time-to-operation
- Variety of applications, protocols, tasks and expansion slot creates a compact 'system in a box'
- Military specifications for tough conditions
- Multiple topologies support: point-to-point, mesh, star, hybrid



MLT1000

Technical Specifications

Adaptive Spreading, Code, and Modulation - ASCM

(Patent pending)

Data rates:

32 Kb/s – 80 Mb/s

Baud rates:

128 Ks/s – 30 Ms/s, step=1Ks/s

Modulations:

BPSK, QPSK, 8PSK, 16QAM

(optional)

Spectral shaping:

SRRC, roll-off=0.2

Spread Spectrum:

spreading factor 1-8

SNR support:

-13 to +13 dB

Coding:

27 LDPC codes

Supported rates:

1/4, 1/3, 2/5, 1/2, 2/3, 3/4, 5/6, 8/9

Block length:

4032, 6048, 8064, 12096 bits

BER Performance

Typical Eb/N0 for BER =10⁻⁸:

0.8dB

(BPSK 1/3 LDPC 12K block length)

Data Communications

Dynamic routing mode or bridge mode

TCP acceleration

VLAN support

QoS

Encryption - AES 256 (optional)

Transmit port

Frequency range:

950 – 2300 MHz

Tuning step:

1kHz

Impedance:

50 W

Connector type:

N-Type

Return loss:

better than -10 dB

Tx power:

0 to -30 dBm, 0.1 dB resolution

Automatic uplink power control

Reference:

10 MHz, switchable

Communication:

FSK

BUC Power:

24VDC, 70W, switchable (optional)

Receive Port

Frequency range:

950 – 2150 MHz

Tuning step:

1 kHz

Impedance:

50 W

Connector type:

N-Type

Return loss:

better than -10 dB

Max input level:

-10 dBm

Input noise level:

-145 dBm\Hz to -105 dBm\Hz

Noise figure (at maximal gain):

8 dB

Reference:

10MHz, switchable

Communication:

FSK

LNB Power:

13/14, 18/19, 24VDC, switchable

10 MHz Reference

Internal reference:

OCXO

Frequency accuracy:

up to 2 PPM (1 PPM optional),

including accuracy, temperature

and 10 years aging

Warm up time:

up to 60 seconds

Phase noise:

- 10 Hz: -100 dBc/Hz

- 100 Hz: -130 dBc/Hz

- 1K Hz: -140 dBc/Hz

- 10K Hz: -145 dBc/Hz

Monitor and Control

Built-in web management

Remote or local software

upgrade

SNMP-based management

Interfaces

Ethernet 10/100/1000 Base-T

Dual RS232 serial interface

auxiliary port x2

USB 2.0 Host

Power

Operating voltage:

10 to 32VDC

Power:

25W

Environmental and Standards

Operating temperature:

-40 °C to + 60 °C

Vehicle mounted or rack

mounted enclosure

MIL-STD-810G:

environmental requirements

MIL-STD-461F:

electromagnetic requirements

MIL-STD-1275:

DC characteristics

Mechanical

Dimensions:

1.17H x 13.4W x 11.6D

(4.36 x 34 x 29.6 cm),

1 rack unit

Weight:

5.6 kg (12.3 lbs)