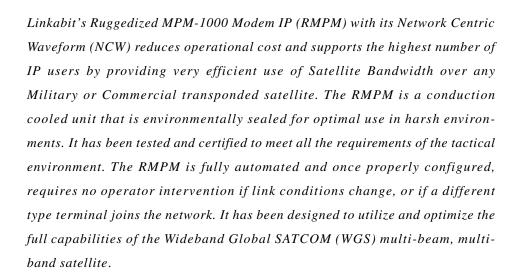


Ruggedized MPM-1000 IP Modem

Provides Military and Commercial Customers with the Specialized IP SATCOM Necessary to Keep Highly Mobile, Dispersed and Remote Users Connected



The NCW is the U.S. Army's Open Standard (Non-Proprietary) Waveform that provides optimal performance in any SATCOM architecture with any size aperture terminal. It provides a fully certified secure network that is self forming and self healing making it very easy to use and maintain. Satellite resources can be managed on the battlefield or remote area with no special hub hardware required. Any large aperture terminal can operate as the Network Controller and there are allowances for automatic or planned Network Control handover.

With its rapid acquisition/reacquisition, hub assist functions and Doppler compensation, it provides outstanding support for COTM communications.





• EFFICIENT USE OF SATELLITE RESOURCES

- ADVANCED MF-TDMA, DAMA
 SCHEDULER
- ADAPTIVE CODING AND MODULATION
- DIRECT SEQUENCE SPREADING ON A BURST-BY-BURST BASIS
- SUPPORTS MESH, HUB-SPOKE AND HYBRID NETWORKS
- SUPPORTS NON-CONTIGUOUS
 BANDWIDTHS IN MULTIPLE
 TRANSPONDERS

• MEETS TACTICAL ENVIRONMENT

 DESIGNED TO MEET MIL-STD-810F AND MIL-STD-461

MAXIMUM THROUGHPUT WITH ANY SIZE TERMINAL IN A SINGLE NETWORK

- RESPONSIVE LINK POWER AND DATA RATE CONTROL
- WIDE RANGE OF DATA RATES, MODULATIONS AND FEC CODE RATES
- SIMULTANEOUS SUPPORT FOR SPREAD AND NON-SPREAD USERS

• OPTIMIZED FOR USE WITH THE WGS SATELLITE

- TUNEABLE OVER 1.2 GHZ
- 500 MHz Instantaneous Bandwidth
- MULTI-BAND/MULTI-BEAM OPERATION
- MULTI-BEAM FAN IN/FAN OUT CAPABILITIES
- GAIN STATES FOR OPTIMAL
 ASSIGNMENT OF DISADVANTAGED
 TERMINALS



Ruggedized MPM-1000 IP Modem

Network Capabilities

- Full Mesh, Hub-Spoke, and Hybrid Topologies Supported
- Burst-to-Burst Dynamic Control of Power, Spread Factors, Data Rates, Channel Rates, Modulation and Code Rates

Excellent Support for On The Move (OTM)

- Dynamic Spreading on a Burst-by-Burst Basis to Control Power Spectral Density
- Rapid Acquisition/Reacquisition
- Support of Doppler, Doppler-Rate, and Doppler Acceleration Requirements
- Link-Layer Assured Delivery (ARQ)

Optimized for Use with the WGS Satellite

- Multi-Band/Multi-Beam Operation Allows for Ka-Band and X-Band Terminals in Different Satellite Footprints to Operate in the Same Network
- WGS Gain States Allows for Optimal Assignment of Disadvantaged Terminals to Highest Gain State Segments
- Multi-Beam Fan-In and Fan-Out Channelization Allowing Control of a Network from a Single NC Along with Efficient Dissemination of Multi-Cast and Broadcast Traffic
- Full WGS RF Coverage, 1.2 GHz IF with an Instantaneous 500 MHz Bandwidth
- Non-Contiguous Bandwidth Segments can be Assigned Within One Transponder or Across Multiple Transponders

Ruggedized MPM-1000 IP Modem Technical Specifications

MF-TDMA Network Centric Waveform

Data Rate: 32 kbps – 4.096 Mbps (Per Carrier)

Turbo Coding: SCCC – Rates 1/2, 2/3 and 3/4

Interleaver Block Length: 640, 1280, 2560, and 5120

Modulation Formats: BPSK (Rate1/2 Coding)

OQPSK (Rate1/2, 2/3 and 3/4 Coding) 8 PSK (Rate 2/3

Coding)

Direct Sequence Spreading Gain:

0 to 12 dB (Spread Factor 1, 2, 4, 6,

8,12,16; up to 8.192 Mcps)

Number of Carriers (MF-TDMA Operation):

2Tx 4Rx

Encryption: AES-256 CBC TRANSEC

FIPS 140-2 Level 2 Certified

Control: SNMP V3/L-3 Linkabit HCI

Environmental

Conduction Cooled and Environmentally Sealed

Non-Operating Temp: -40°C to +71°C
Operating Temp: 0°C to +50°C
Vibration/Shock: MIL-STD-810F
EMI: MIL-STD-461

Mechanical/Electrical

Size: 1U 19" Rack Mountable Chassis

19 Wide x 1.75 High x 18.5 Deep

Weight: 19 lbs (excluding mounting slides)
Input Power: 90 VAC to 264 VAC, 47-63 Hz or

+24 VDC Vehicle Power (Optional)

Power Consumption: < 170 Watts

Frequency Reference: Internal or External (5 or 10 MHz)
Intermediate Frequency: Tx L-Band (950-2150 MHz) w/10 MHz

Reference and Externally Supplied

+18 to +48 VDC @ 3.0 Amps

Rx L-Band (950-2150 MHz) w/10 MHz Reference and +18 VDC @ 450 mA

Baseband Interfaces

Monitor/Control: 10/100/1000 Base-T

(NCW and FDMA Control) RS-485 (FDMA Control)

NCW Data Port: 10/100/1000 Base-T

FDMA Data Port: MIL-STD-188-114/RS-422/RS-423

MIL-STD-188-165A (FDMA) Compliant

Type I: BPSK - 64 kbps to 6000 kbps

QPSK/OQPSK - 64 kbps to 8472 kbps Convolutional Coding, RS Coding and Data Scrambling (IAW IESS-

308, 309, 310 and OM-73)

Note: All specifications subject to change without notice

Cleared by DoD/OSR for public release under OSR Case Number 11-S-0678 on January 4, 2011.



LINKABIT DIVISION
3033 SCIENCE PARK ROAD, SAN DIEGO, CA 92121
(858) 552-9555 FAX (858) 552-9668 www.L-3Com.com
Product Service Help Desk: 1-800-331-9401
e-mail: LinkabitProducts@L-3com.com