



MPM-1000 IP Modem

Provides WIN-T and other Users the Specialized IP SATCOM to Keep Highly Mobile, Dispersed and Remote Users Connected

Linkabit's MPM-1000 modem with its Network Centric Waveform (NCW) reduces operational cost and supports the maximum number of IP users by providing extremely efficient use of satellite bandwidth over any Military or Commercial transponded satellite.

The NCW is the Army's Open Standard (Non-Proprietary) Waveform that provides optimal network performance in any SATCOM architecture with any size terminals. It provides a fully certified secure network that is self forming and healing which makes it very easy to use and maintain. Satellite resources can be managed on the battlefield or from any 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. It supports Full Mesh (Peer-to-Peer), Hub-Spoke and Hybrid Networks. It provides Hub Assist for increased throughput of severely disadvantaged terminals.

The MPM-1000 provides for real time, secure services such as full duplex VoIP, video and/or data transfers. It also provides outstanding Communications On-the-Move (COTM) support.



FEATURES:

- **EXTREMELY EFFICIENT USE OF SATELLITE RESOURCES**
 - ADVANCED MF-TDMA WITH A BANDWIDTH-ON-DEMAND DAMA SCHEDULER
 - POWER EFFICIENT TURBO CODEC ON ALL LINKS WITH INTERLEAVER BLOCK LENGTHS TO ACCOMMODATE IP ENCAPSULATION
 - BUILT-IN DIFFSERV-BASED QUALITY OF SERVICE (QOS)
- **OPTIMAL PERFORMANCE IN ANY SATCOM ARCHITECTURE**
 - BROAD RANGE OF OPERATING PARAMETERS WITH FINE CONTROL RESOLUTION FOR EIRP, DATA RATES, MODULATION, CODING AND DIRECT SEQUENCE SPREADING ON A BURST-BY-BURST BASIS
 - SIMULTANEOUS SUPPORT FOR SPREAD AND NON SPREAD USERS
- **PROVIDES REAL TIME, SECURE SERVICES**
 - LOW JITTER
 - MAC LAYER ARQ FOR ASSURED DELIVERY
 - EMBEDDED SECURITY (AES-256 CBC MODE) FIPS 140-2
- **OUTSTANDING COTM SUPPORT**
 - RAPID ACQUISITION AND REACQUISITION
 - DOPPLER COMPENSATION
 - DIRECT SEQUENCE SPREADING



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MPM-1000 IP Modem Technical Specifications

Mechanical/Electrical

Size:	1U 19" Rack Mountable Chassis 19" Wide x 1.75" High x 18.5" Deep
Weight:	<20 lbs (excluding mounting slides)
Input Power:	90 VAC to 264 VAC, 47-63 Hz or +24 VDC Vehicle Power (optional)
Power Consumption:	<150 Watts
Mounting Provisions:	Designed for installation of locking slides All I/O connectors on rear panel
Frequency Reference:	Internal or External (5 or 10 MHz) 10 MHz Reference Output for External Devices

Baseband Interfaces

Monitor/Control:	10/100 Base-T and RS-485
Burst Data Port:	100/1000 Base-T
SCPC Data Port:	MIL-STD-188-114/RS-422/RS-423
Intermediate Frequency:	70 MHz (52 to 88 MHz) L-Band (*Optional) (Rx: 950-2150 MHz; Tx: 950-1750 MHz)

Network Centric Operating Modes

Network Controller, Network Member

Network Capabilities

Full Mesh, Star, and Hybrid Topologies; Burst-to-Burst
Dynamic Control of Power and Spread Factor, Data Rate,
Channel Rate, Modulation and Code Rate

MF-TDMA Network Centric Waveform

Data Rate:	32 kbps – 3.072 Mbps (Per Carrier) with Turbo Code 32 kbps – 6.144 Mbps (Per Carrier) with LDPC Option**
Turbo Coding:	SCCC – Rates 1/2 and 3/4 (Rate 2/3 – Future Upgrade) Low Density Parity Code (LDPC) Option** Rate 1/2**

Interleaver Block Length:

1280, (640, 2560, and 5120 –
Future Upgrade) 2560 with the
LDPC Option**

Modulation Formats:

BPSK (Rate 1/2 Coding)
OQPSK (Rate 1/2 and 3/4 Coding)
BPSK and OQPSK (Rate 1/2 and
3/4 with the LDPC Option**)

Direct Sequence Spreading Gain:

0 to 12 dB (Spread factors 1, 2, 4,
6, 8, 12 and 16); up to 8.192 Mcps

Number of Carriers (MF-TDMA Only Operation):

2 Tx MF-TDMA
4 Rx MF-TDMA

Number of Carriers (MF-TDMA with SVOW):

1 Tx MF-TDMA
4 Rx MF-TDMA
1 Tx/Rx SVOW

Encryption:

AES - 256 CBC TRANSEC
FIPS 140-2 Certification for
TRANSEC

Control:

SNMP/L-3 Linkabit CMA/HCI

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)

Environmental

Non-Operating Temp:

-40°C to +71°C

Operating Temp:

0°C to +50°C

Vibration/Shock:

Designed for vehicular transport

*L-Band option includes 10 MHz reference signal on Tx and Rx IF as well as +12 VDC on Rx IF

**Modems with LDPC Coding option are not compatible with modems using Turbo Code

Note: All specifications subject to change without notice.

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Linkabit

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