

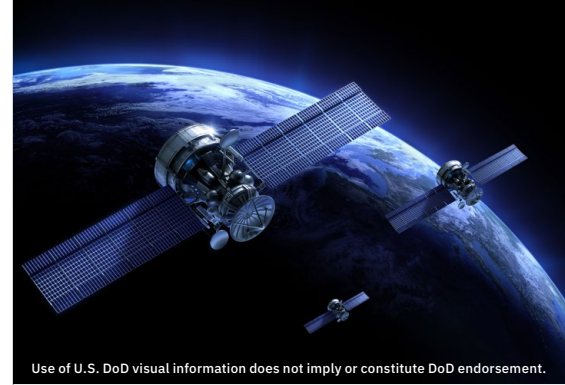
MULTI-CONSTELLATION MODEM (MCM-500)

Ruggedized, Ground Mobile SATCOM modem capable of high data rates for simultaneous connection to Low Earth Orbit (LEO), Medium Earth Orbit (MEO) and Geostationary Earth Orbit (GEO) Constellations.

The MCM-500 provides connectivity to emerging Commercial Space Internet Satellite Constellations and current Wideband Global SATCOM systems by using multiple MODEMS in a single chassis achieving connectivity to two constellations simultaneously. The MCM provides Comms On-the-Move (OTM) as well as Comms At-the-Halt and is ruggedized for applications in nearly any environment.

PRODUCT DESCRIPTION

The MCM-500 is designed for comms-on-the-move applications and incorporates multiple MODEMS and associated radio frequency (RF) circuits to support LEO/MEO/ GEO connectivity. Implemented as a modular design, the MCM-500 includes both Field Programmable Gate Array based and General Purpose Processor based software defined MODEM hardware resources as well as proprietary MODEM hardware with flexibility to connect to past, present, and future partner constellations. Standard L-Band and Ethernet interfaces, including Open Antenna to Modem Interface Protocol (OpenAMIP) antenna control protocol, simplifies the deployment of the MCM-500 to create application specific terminal architectures. The MCM-500 is MIL-STD-188-165 compliant and ARSTRAT certified.



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Commercial Space
Internet SATCOM
Communications

KEY FEATURES

Multi-Constellation

- > Supports two simultaneous links via two L-band IF interfaces to enable Ku & Ka RF to LEO, MEO, and GEO applications
- > Employs up to three MODEMS in one chassis including both proprietary hardware and software defined designs.

Antenna Agnostic

- > Supports Open AMIP antenna control protocol to enable systems designs employing latest technology.
- > Supports the extensions to Open AMIP, specifically the Ku/Ka Antenna Modem Protocol (KAMP) standard

COTM, Ground Mobile Ready

- > MIL-STD-188-165
- > OM-89 (ARSTRAT) Certified
- > Enhanced OTM capability enabled by the Antenna Beam Control System
- > Ruggedized to MIL-STD-810

SPECIFICATIONS

WAVEFORMS

- > LEO/MEO/GEO supported
- > Commercial Space Internet
- > DVB-S2X
- > STANAG 4486

EXTERNAL INTERFACES

- > Two gigabit Ethernet ports
- > Ethernet antenna control with optional RS-422 and discretes

ENCRYPTION

- > AES Encryption

MODEM SWAP

- > Size: 13" (L) x 9.9" (W) x 2.8" (H)
- > Weight: 13 lbs
- > Power: 90 W max (120 W with optional fans), 12 to 36 VDC

CONTROL INTERFACES

- > SNMP v3
- > Web-based GUI

ENVIRONMENTAL

- > Operational altitude: -100 to 10,000 ft
- > Shock/Vibration: per MIL-STD-810
- > Temperature: -38 to 49 °C, operating (up to 60 °C with fans)
- > EMI: per MIL-STD-461



INTERFACE

J1

- > 28VDC Power
- > Power En/Dis

J2

- > USB (future)

J3

- > Ethernet user data, 10/100/100
- > Ethernet management, 10/100/1000
- > Serial, RS-422, NMEA input
- > Restore factory default

J4

- > Ethernet, antenna, 10/100/1000
- > Tx blanking, RS-485/422
- > Tx mute, discrete
- > GPIO x2 (future)
- > RS-485, 422 x2 endpoints (future)

J5

- > Rx, L-Band IF, 10 MHz Commercial Space Internet

J6

- > Tx, L-Band IF, 10 MHz Commercial Space Internet

J7

- > GPS input Commercial Space Internet

J8

- > 10 MHz Ref IN

J9

- > 10 MHz Ref OUT

J10

- > Tx, L-Band IF, 10 MHz DVB-S2X, other, MBB

J11

- > Rx, L-Band IF, 10 MHz DVB-S2X, other, MBB

J12

- > Tx, L-Band IF, 10 MHz DVB-S2X, other

J13

- > Rx, L-Band IF, 10 MHz DVB-S2X, other

Multi-Constellation Modem (MCM-500)

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