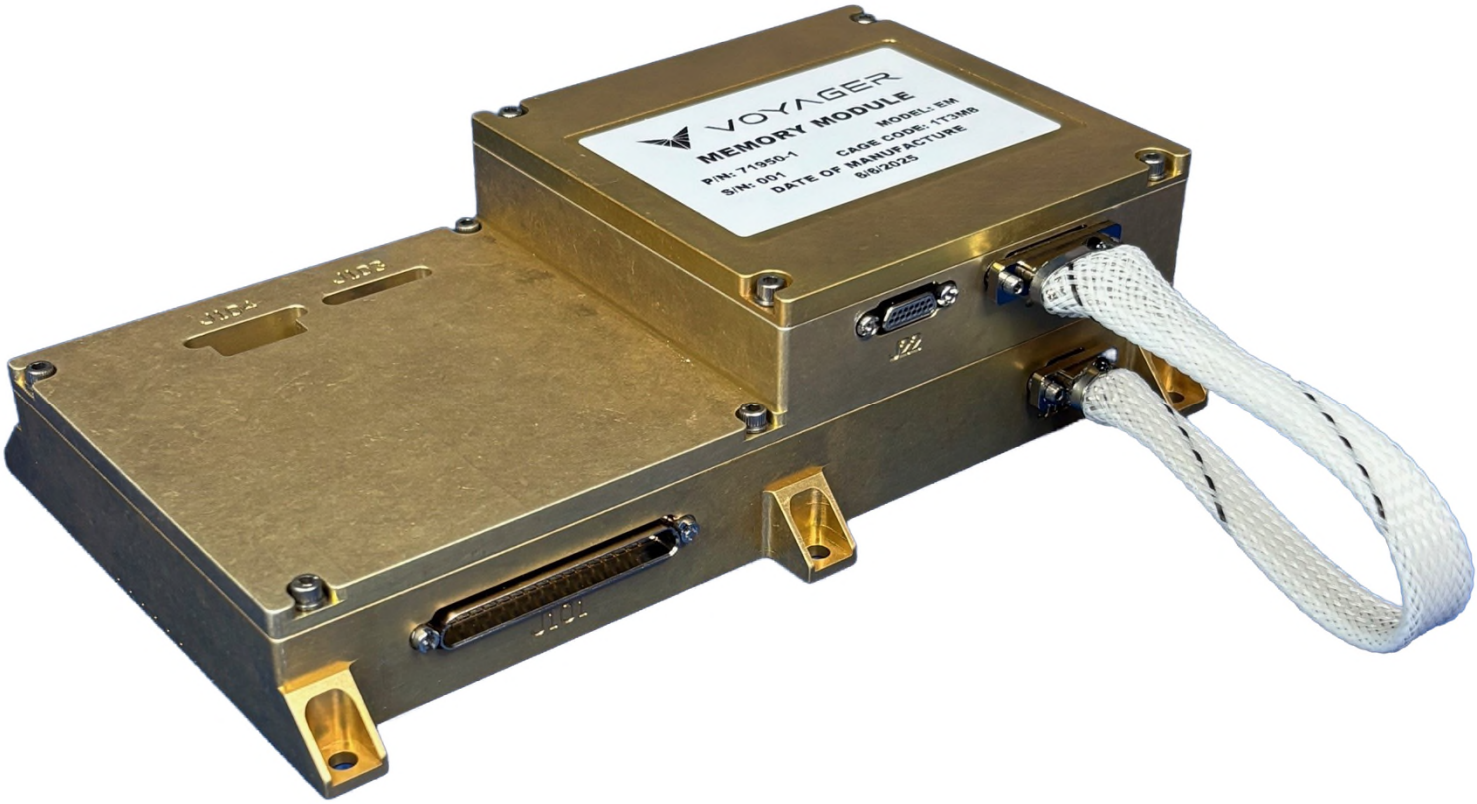
Memory Module



OVERVIEW

The Memory Module is a high-speed, high-capacity 1.5 Terabyte onboard storage unit for next-generation science and defense payloads. The module utilizes a robust onboard system SoC (ARM A9 and FPGA fabric) with dedicated local resources for advanced operations. It's NAND flash operates in SLC-mode and a radiation tolerant FPGA monitors the system.

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KEY FEATURES

- Zynq-7045 SoC; Dual-Core ARM Cortex-A9
- Programmable Logic (PL): 350K Logic Cells
- Low SWaP
- On-orbit reprogrammable
- Suitable for constellations
- ECC: BCH 512 bytes/16-bit correction

APPLICATIONS

- Mass Data Storage
- Satellite Orbits: LEO, MEO, GEO, Cislunar

Memory Module

PRODUCT SPECIFICATIONS

Memory Module	
Memory Storage	1.5 TB Flash NAND
RAM	1 GB DDR3
Boot Memory	1 GB NAND
Aurora operating rate	2 Gbps/lane, 8 lanes
Outline Dimensions	19.25 cm x 10.1 cm x 4.9 cm
Mass	1.1 kg
Mission Life	Up to 7 years
Radiation	20 krads, LET > 43 MeV parts level
Input Voltage	18 – 40 VDC isolated
Power Consumption	7 W Standby, 19 W Maintenance, 24 W Operating
EMI/EMC	MIL-STD-461
Data/Ctrl Interfaces	8x Aurora, 2x CAN, 1x RS-422, JTAG and 2x Ethernets
Temperature Range	-30°C to +60°C (operating); -40°C to +85°C (unpowered)
Vibration	GSFC-STD-7000 (NASA GEVS) Qual Levels

*Subject to change without notice