

# High Performance Optical Disc for Future Telemetry Applications

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## ABSTRACT

Ge Aerospace is developing three classes of optical disk devices for future telemetry applications.

SpaceSTORE is a 10 GByte, dual port, rewritable magneto-optic disk drive. Each port supports continuous write or read at 150 Mbits per second, with an aggregate data rate of 300 Mb/s per drive. One drive and two controllers will be packaged in a total volume of one cubic foot. Drive and controller modules are configurable in groups which are slaved by Group Controllers to provide single port data rates up to 1800 Mbits per second and capacities up to  $10^{12}$  bits. Typical applications are Space Station, Polar Orbiting Platforms, Mars Rover, and ground support operations.

DuraSTORE is a 5 GByte, rewritable magneto-optic disk drive. It is a single port device and supports continuous write or read at 25 Mbits per second and burst I/O at 50 Mb/s. The drive and SCSI controller will be packaged in a MIL-E-5400 5.6 cubic foot rack mount enclosure. The rewritable double sided (10 GByte total) disks are in cartridges, and are removable. A companion 10 disk mini-jukebox provides 100 GBytes capacity and 10 second access. Typical applications are real time signal capture in RC-135 aircraft and C<sup>3</sup> and image mass storage data bases in van and shelter mobile computer systems.

UltraSTORE is a 2.5 terabyte archival disk jukebox. It utilizes double sides disks with 20-25 GByte capacity each. I can be configured with 1-3 drives, each operating at data rates (options) from 25 Mbits per second to 1 Gbits/second. Typical applications are ground telemetry data bases, mass storage libraries, and file servers.