

HIGH DENSITY 42 -TRACK MAGNETIC TAPE SYSTEM



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ABSTRACT

Design and development of a 42-track high density magnetic tape system for the NASA SEASAT program is described. Both record and playback at a nominal 120 megabits per second from a single data stream was achieved on a 1-inch mylar tape with bit error rate better than 1×10^{-6} without error correction. Solutions are presented to the requirements of data encoding, high bit rates, recovery from tape dropouts, and efficient use of tracks. This now operational system features a Channel Performance Status Panel, a Tape Bypass Mode, and a MUX/DEMUX unit capable of operating at 150 megabits per second.