

## Memorex Corporation

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### Memorex Corporation

Memorex, founded in 1961, is an international company which manufactures and markets information storage equipment, magnetic recording media, and data communications equipment for the IBM-plug-compatible, OEM and Burroughs markets. Memorex operates 18 engineering and manufacturing facilities in the United States, Canada, Mexico, Ireland, Belgium and Japan. The company's major engineering and development facilities are located in Santa Clara, California. Memorex markets its products, and services its customers, through nearly 70 sales and service offices in the United States and an additional 60 locations in 19 other countries. Distributors market Memorex products in 60 additional countries. A subsidiary of the Burroughs Corporation, Memorex employs 12,000 persons worldwide.

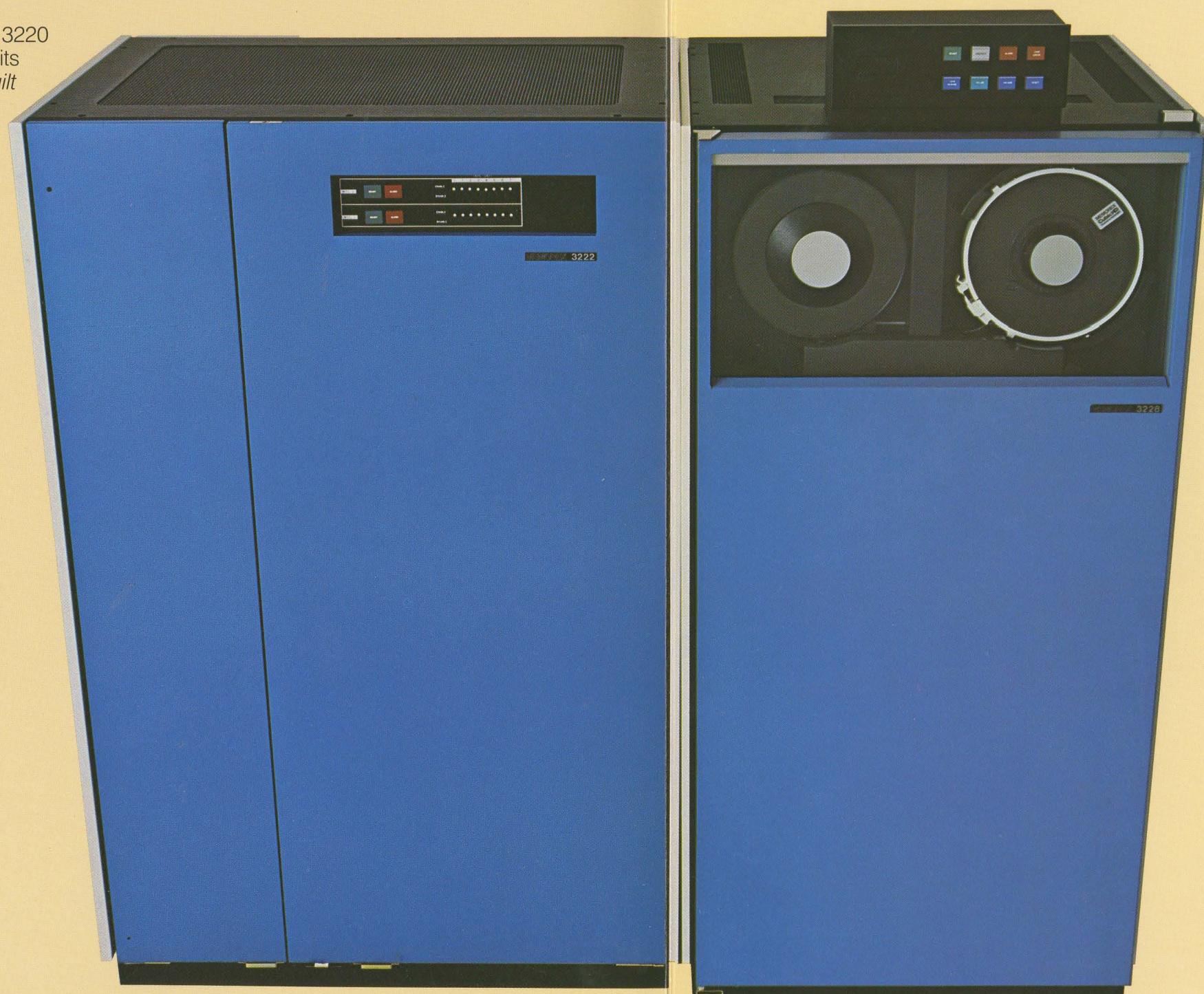


**MEMOREX**  
**3220 Magnetic**  
**Tape Subsystem**

# Memorex 3220 Tape Subsystem... A Standard of Quality.

The Memorex® 3220 Magnetic Tape Subsystem is one of the most advanced and reliable tape subsystems available. It is fully compatible with the IBM 3803 Model 2 Magnetic Tape Controller and 3420 Models 6 and 8 Magnetic Tape Units. To users of System/370 Models 135 and up, Series 3000, and other compatible computers, the Memorex 3220 offers increased reliability, performance, and operational enhancements.

**Reliability.** The outstanding feature of the 3220 is the reliability resulting from the quality of its engineering and construction. Quality is *built into* the 3220. From reduced electronics through microprocessor control, to the solid, precise alignment of the tape transport mechanism in a heavy aluminum casting, the 3220 is the most reliability-oriented tape subsystem ever offered.



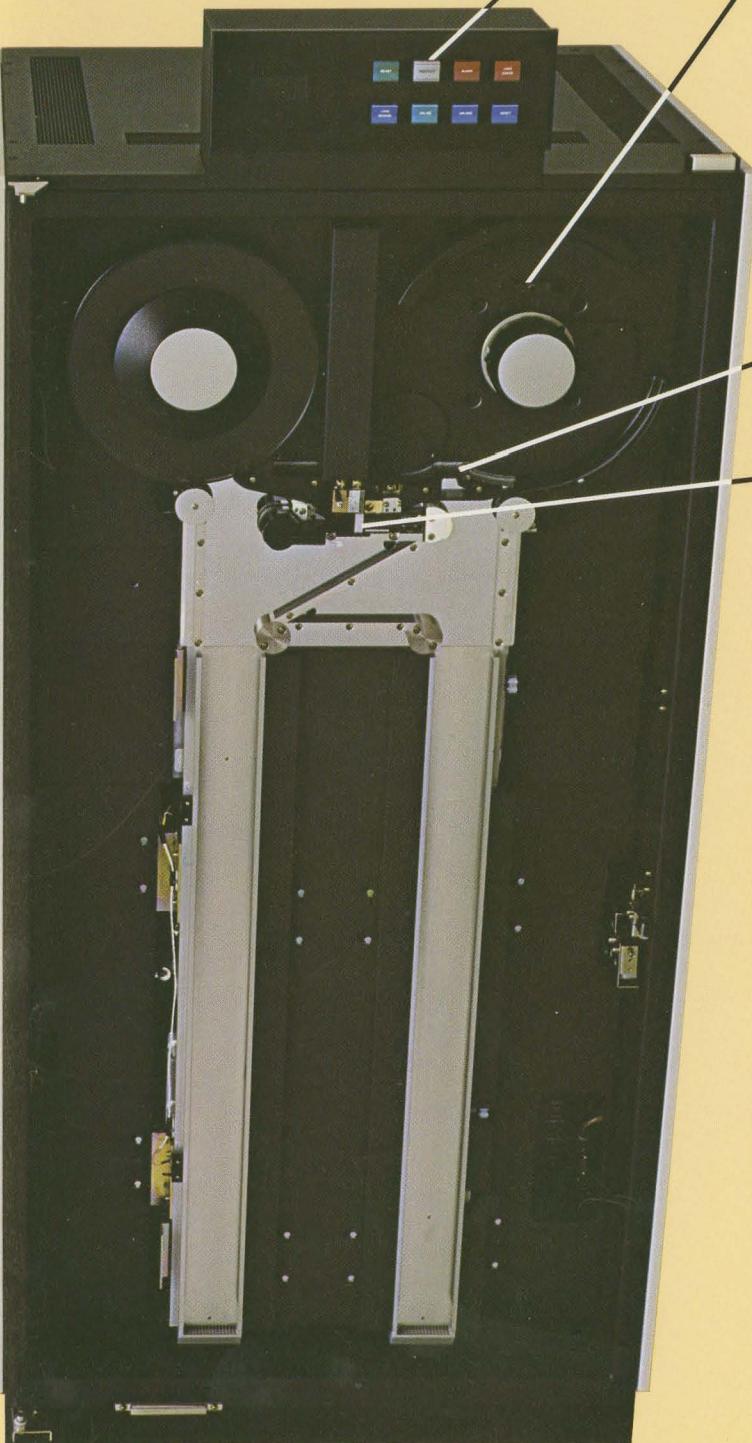
**Performance.** The Memorex 3220 Subsystem offers tape speeds of 125 IPS (Memorex 3226 tape drive) or 200 IPS (Memorex 3228 tape drive) with standard feature densities of 1600 BPI and 6250 BPI. Data rates from 200KB to 1,250KB per second can be achieved. This improved performance can lead to substantial increases in throughput—particularly to users of high-performance disc equipment.

**Operator Convenience.** The 3220 offers an unparalleled array of operator convenience features. Its door contains a power-operated, down-moving window which ensures adequate clearance for tape loading. Tapes can be mounted quickly and surely on vacuum actuated hubs. Its microprocessor control provides the most sophisticated auto-load sequence available. And its tape search is limited to 20 meters, thus eliminating runaway on unlabelled or uninitialized tapes. Most important, the subsystem works surely, quickly and every time. In production environments, there is nothing that can touch the 3220.

**Dynamic Switching and 16-Drive Expansion.** Dynamic switching allows a 3221 Controller to be attached to two channels on the same or different CPUs and a 3222 to be attached to four channels on the same or different CPUs. Sixteen-drive expansion permits the two controllers housed in the 3222 to access any of 16 drives. With both dynamic switching and 16-drive expansion the 3222 can permit four redundant channel paths to 16 drives.

**Maintainability.** Special attention has been directed to insure that the 3220 remains at optimum performance. A hierarchical series of diagnostics, from the microprocessors' continuing diagnostics up through a series of comprehensive stand-alone and on-line diagnostics, flag most potential failures prior to their causing service interruptions.

# Reliability, Performance and Operational Enhancements.



**Easy-Protect.** This feature provides significant job-to-job transition enhancement. Depressing the PROTECT key on the 3226/3228 operator panel disengages the write-enable function while the ring is still in the file reel.

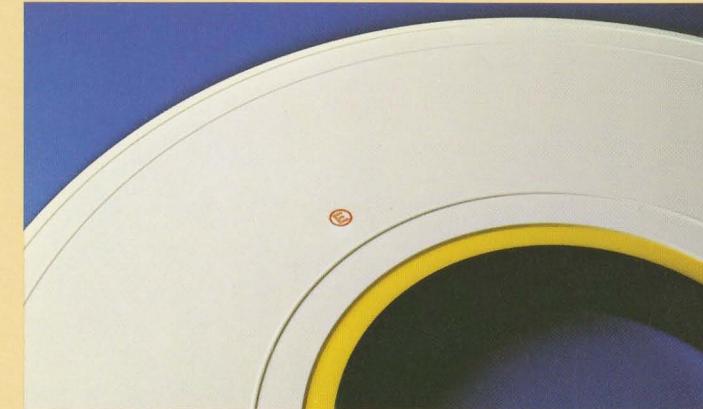
**Tape Maintenance Monitor.** Going beyond error detection and standard notification to the CPU software, the 3220 independently counts tape errors per reel. When this error count reaches or exceeds 96 in GCR mode (Group Coded Recording) or 32 in PE mode (Phase Encoded), the 3220 will automatically stamp the back of the reel with a red  $\ominus$ . Deteriorating tapes are thus identified before they become unreadable. The 3220's Tape Maintenance Monitor offers particular benefits to the larger library user—a user who otherwise allocates considerable time and money to perform this important task.

**Auto Load.** Accommodating standard open reel or easy-load cartridges, the 3220 automatically loads and threads tapes under microprocessor control.

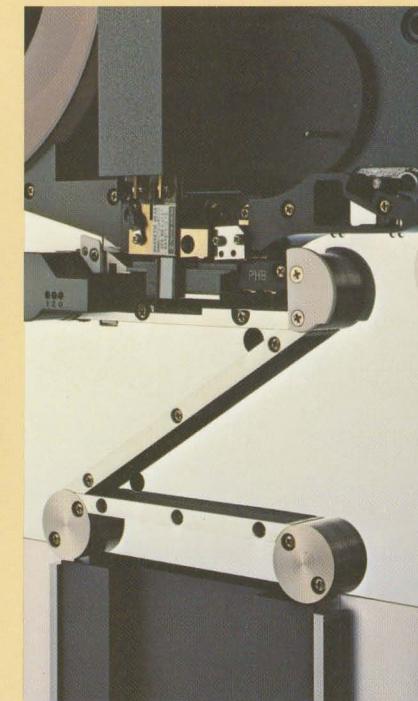
**Tape and Head Cleaners.** Both the 3226 and 3228 tape drives provide two tape cleaners. The front-side/back-side cleaner uses a white nylon ribbon that not only cleans the tape, but also cleans the read/write heads.

**Microprocessor Control.** Each unit of the Memorex 3220 Subsystem contains its own microprocessor. This reduces electronic parts count, allows more sophisticated operations to be conducted, and permits a continuous series of self-diagnostics. For example, in the 3226/3228 a 2K, 20-bit word, 400-nanosecond microprocessor controls auto-load/unload sequencing; capstan servo; control interfacing; error recovery; and the series of self-diagnostics.

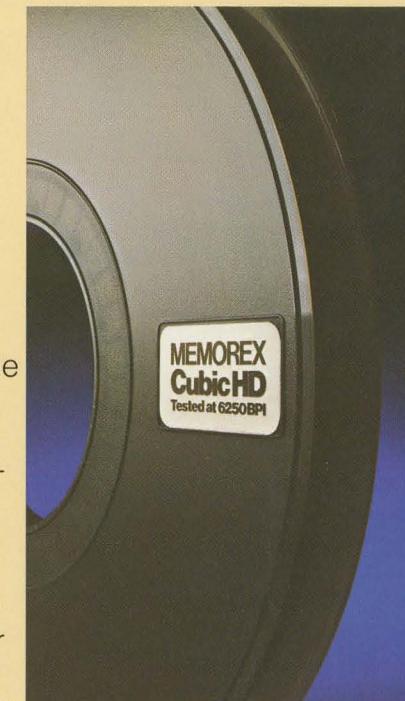
**Data Integrity.** The 3220 corrects on the fly. It corrects single-track errors recorded in PE mode and both single-track and combination two-track simultaneous errors recorded in GCR mode. Automatic Gain Control enables the read amplification circuitry to be set at an optimum level for reading data recorded in GCR mode.



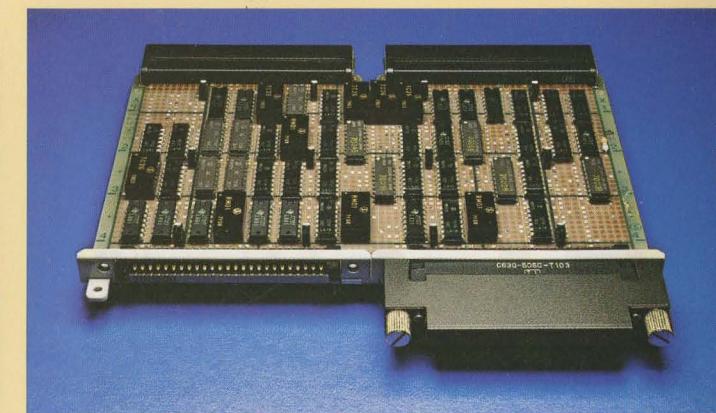
A signal to replace the reel. The 3226/3228 has stamped a red  $\ominus$  on the back of the reel to identify that the tape has at least 96 errors in GCR mode or 32 errors in PE mode.



Quality shows in this view of these critical mechanisms of the 3220. The read/write head cleaner is an example of Memorex's commitment to data integrity.



Introducing Memorex Cubic™ HD Computer Tape. The high-density computer tape specifically formulated to deliver all the performance your high-density drives are meant to give. Cubic HD has a thicker base to reduce edge damage and withstand high drive tension. A new magnetic media formulation and process for higher output and optimum signal recovery. The result—a tape that will deliver superior results. Less time lost in seek and re-seek time. More data availability—faster.



A microprocessor in both the drive and controller dramatically reduces the parts count. As a result, the drive electronics contains only five printed circuit cards, thus ensuring greater reliability.