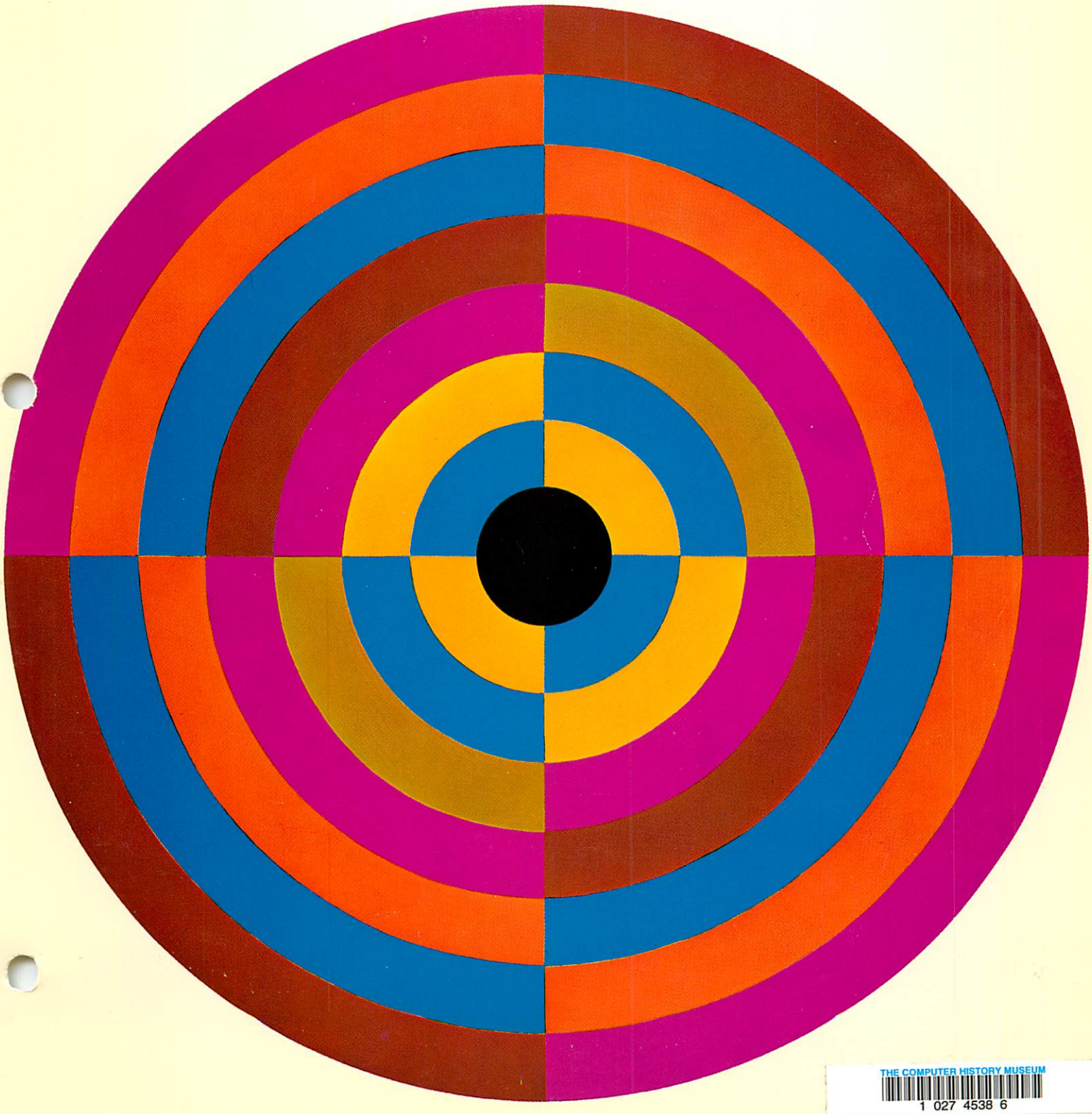
MEMOREX

MRX-III: A NEW GENERATION OF PRECISION TAPE FOR THE NEW GENERATION OF HIGH-SPEED COMPUTERS



Extensive testing in lab and field shows MRX-III at least three times more durable (with one-third the dropout activity) than the leading competitor's premium tape

The high-speed computers of the new generation are extraordinary. No ordinary computer tape can possibly satisfy their demands for an ultra-reliable, dropout-free tape.

That's why Memorex developed MRX-III —a tape as extraordinary as the company it keeps.

MRX-III: END PRODUCT OF 93 DEVELOPMENT STEPS

To develop MRX-III, our people first set up some pretty stiff parameters. For example: a more than 100% increase in durability. Then we went to work on a new backing, a new binder, a new formulation.

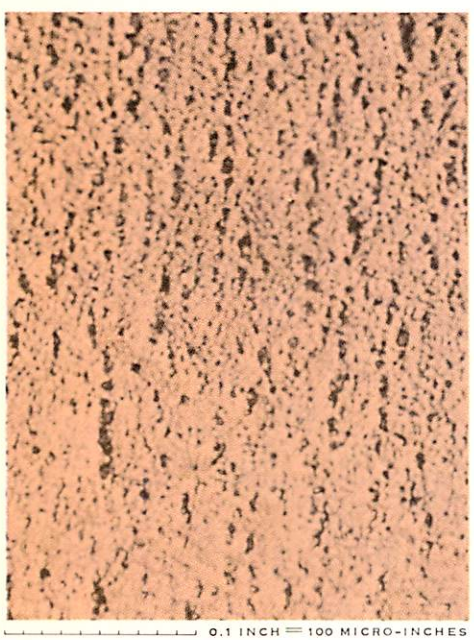
We formulated a series of 93 different products over a 26-month period. Each was tested exhaustively and evaluated for its best characteristics, which were then designed into the succeeding formulation. Every step of evaluation and development brought us closer to our objective. The ultimate result: the high-speed, high-reliability product, MRX-III.

TENSAFLEX: BREAKTHROUGH IN BACKING TECHNOLOGY

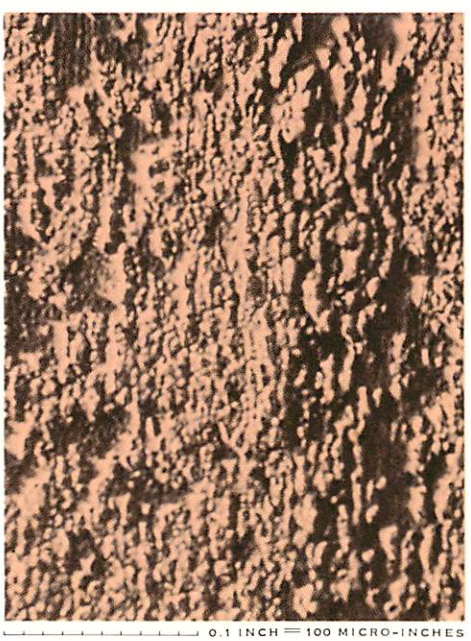
A high-speed tape begins with high quality backing material. For MRX-III, we searched for, and found, a polyester film with exceptional properties.

Enhanced by Memorex's proprietary film preparation process, the new backing material has a smoother profile for the finished coating, and possesses unusual flexibility and tensile strength, ability to bind the oxide coating indefinitely, and resistance to the backing debris phenomenon.

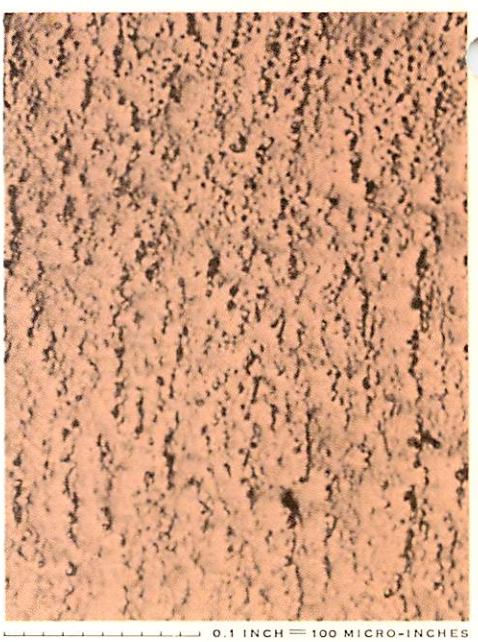
These qualities are, in fact, so distinctive that we have given the MRX-III backing material its own, distinctive



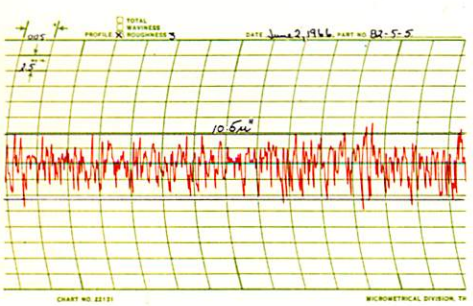
Photomicrograph (1045x) and Profilometer reading of MRX-III before shuttle test.

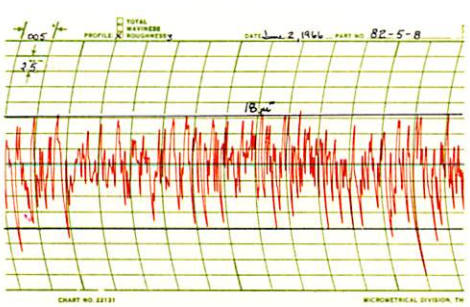


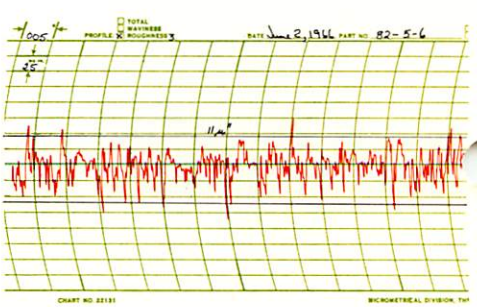
Photomicrograph (1045x) and Profilometer reading of leading competitor's premium tape before shuttle test.



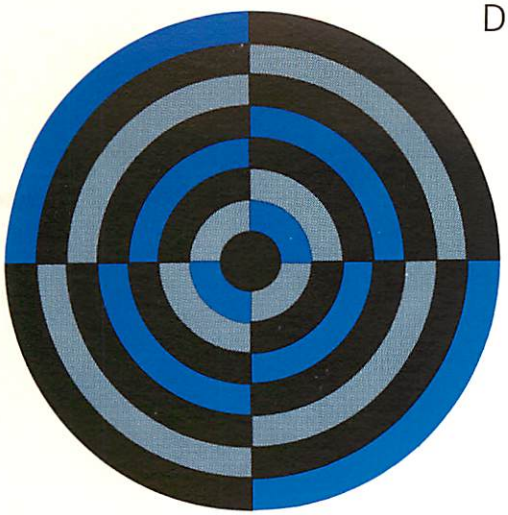
Photomicrograph (1045x) and Profilometer reading of MRX-III after 718,000 shuttles.

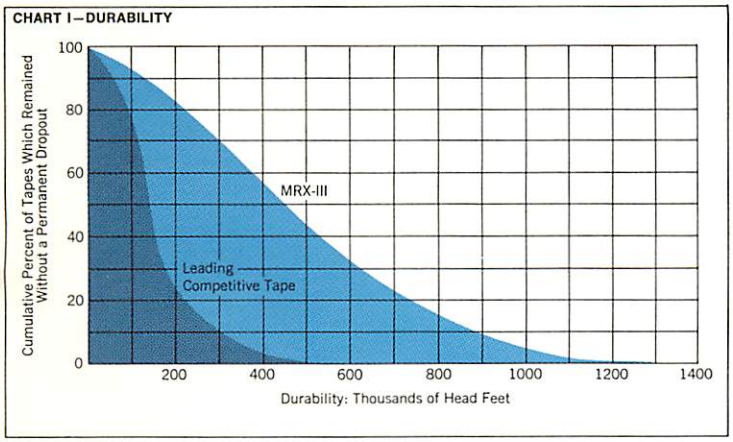




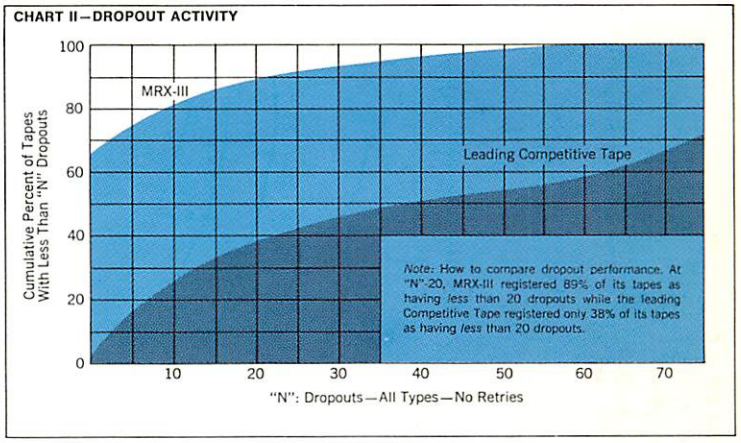


D/DA (Durability/Dropout Activity)





Durability comparison between MRX-III and leading competitive premium product. Mean ratio gives MRX-III a 1:3.8 edge.



Dropout activity at 50,000 head feet using a 300 foot shuttle shows Memorex superiority.

NOW, MEMOREX OFFERS THE FIRST SENSIBLE MEASUREMENT OF TOTAL TAPE PERFORMANCE

EDP has come out of its infancy at such a phenomenal pace that no one has taken the time to establish a truly definitive way to measure tape performance. We believe we now have such a standard. We call it D/DA, which stands for Durability/Dropout Activity.

We are convinced that D/DA makes sense, because it can be applied to all tape products of all manufacturers, and measures them with equal impartiality.

D/DA CONSIDERS THE TWO MOST IMPORTANT PARAMETERS

What do *you* look for in a tape? Long life? Most certainly. Reliability? Of course.

These are the two standards expressed by D/DA:

Durability—elapsed "mileage" to first permanent dropout, and

Dropout Activity—errors developed (temporary and permanent dropouts, alike, are considered errors) due to prolonged usage.

MRX-III: AT LEAST THREE TIMES MORE DURABLE

Chart I measures durability to first permanent dropout. It's based on 112 trials—a six-inch shuttle test, comparing MRX-III with the leading competitor's premium tape.

Mean values give MRX-III 464,000 head feet to first permanent failure but only 121,000 head feet to the leading competitive product. *A ratio of 3.8:1.*

Incredible? Make your own tests. You'll find MRX-III to be at least three times more durable.

MRX-III ONLY ONE-THIRD THE DROPOUT ACTIVITY OF THE LEADING COMPETITOR

Chart II records cumulative dropout activity for MRX-III and the leading competitor's premium tape, based on 71 tests. This was a 300-foot shuttle test, counting both temporary and permanent dropouts; no retries.

The chart clearly demonstrates the superiority of MRX-III. For example, at 50,000 head feet, 89% of MRX-III had less than 20 dropouts, compared to 38% for the nearest competitive product—a clear advantage in dropout activity. (By removing the cleaners from the tape transports, we were able to accelerate transient errors—thereby simulating dropout activity over normal tape life. No one should expect to find *so many dropouts* at 50,000 head feet on any precision tape. The *ratio of dropout activity*—between MRX-III and the competitive product—will remain absolute, however.)

Make your own tests. We're certain you'll find MRX-III to have only one-third the dropout activity of the leading competitor's premium tape—probably even less than that.

DIMENSIONS

Coating thickness	400 μin.
Average total thickness	1.85 mils
Width	498 ±2 mils
"E" value	⅛ in. min.

MAGNETIC PROPERTIES

Coercive force	265 oersteds
Residual flux	1.3 maxwell/½ inch

PERFORMANCE

Average pulse output	
at 800 bpi	±10%
at 1600 bpi/3200 fci	±10%
Dynamic skew at 800 bpi	less than 2 μsec
Errors per roll—	
Type 25 D,	
100% tested for 800 bpi	0
Type 25 F,	
100% total-surface tested for 800 bpi	0
Type 25 E,	
100% total-surface tested for 1600 bpi/3200 fci	0

PHYSICAL PROPERTIES

Coating surface roughness, centerline average	5 μin.
Durability and dropout activity	See explanation of Charts I and II on reverse side
Layer-to-layer adhesion	none
Curvature	⅛ in. max./36 in.
Cupping	0.01 in. max./0.25 in.
Yield force	7 lbs. min.
Creepocity	0.5% max.
Compatibility	Not an inhibitor

RECOMMENDED ENVIRONMENT

Operating range	60°F to 90°F 20% RH to 80% RH (Maximum wet bulb of 78°F)
Storage range	40°F to 90°F 20% RH to 80% RH (Maximum wet bulb of 80°F)
	Unrecorded tapes may be stored at 120°F (Maximum wet bulb of 80°F)

TEST CONDITIONS

MAGNETIC PROPERTIES

All intrinsic values are measured using a cyclic magnetizing force having an amplitude of 1000 oersteds.

Performance of Type 25 D is measured by recording on 32 mil tracks spaced 70 mils apart. Type 25 E and F performance is measured by recording across the full width of the tape.

Average pulse output is given relative to that of Reference Tapes conforming with accepted industry standards. An error is defined as a reduction in output to less than 50 percent of average for 800 bpi (35 percent for 1600 bpi/3200 fci) or a noise pulse (dc saturation condition) greater than 10 percent of average pulse output.

Dynamic skew, defined as the variation in time existing between two outside-track read signals during the writing process, is measured on an IBM 729 Model VI tape transport.

PHYSICAL PROPERTIES

Coating surface roughness is measured using a profilometer with a 0.1 mil diameter stylus loaded with 0.1 gram, and the centerline average calculated in accordance with ASA B 46.1-1962.

Other physical properties are measured in accordance with IBM specifications.

New case for MRX-III is thinner than any previously available—yet, considerably stronger.

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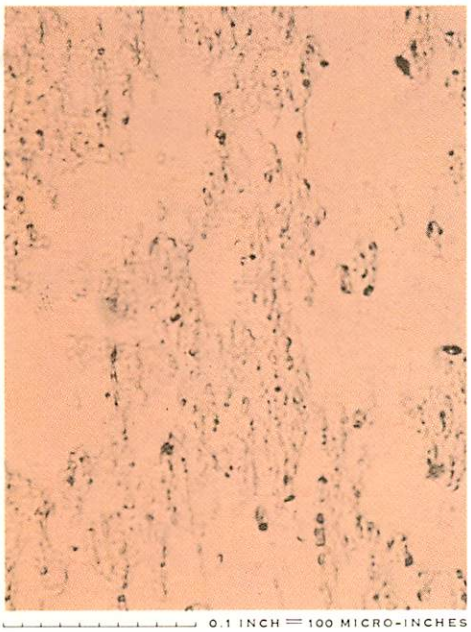
name. We call it Tensaflex.®

Tensaflex is just one reason why MRX-III has set a new standard for the industry. No other product has it.

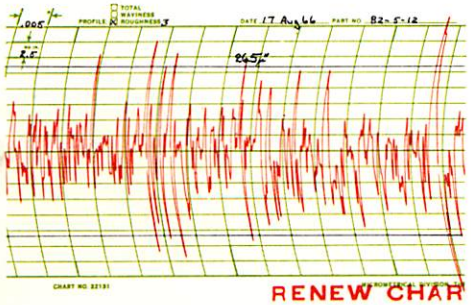
THE SMOOTHER THE TAPE, THE BETTER ITS PERFORMANCE

No matter how advanced an oxide's chemical and physical properties may be, a formulation can only be as good as its ability to make positive head contact. In other words, smooth tape works best.

MRX-III has the smoothest surface in the industry. Because that's the way we engineered it. The photomicrographs and profilometer readings show the relative smoothness and uniformity of the MRX-III formulation—compared with the leading competitor's premium tape.



Photomicrograph (1045x) and Profilometer reading of leading competitor's premium tape after only 213,000 shuttles.



USER-TESTED IN THE FIELD

Naturally, we tested MRX-III extensively in the lab. We gave it all the usual physical, electrical, magnetic, and dynamic tests—and some, like the Deffeyes Environmental Debris Generating Test, that are not so usual.

But the final proof of MRX-III operating characteristics came from the field. We asked 50 users—representing the entire spectrum of computer-tape applications—to find possible shortcomings in MRX-III. They employed virtually every kind of computer. These included IBM, CDC, Burroughs, GE, Honeywell, RCA, SDS, and Univac.

Users' results: zero defects. Reports from all fifty ranged from a conservative "no evidence of failure" to a less restrained "fantastic performance."

The consensus is clear: in MRX-III, Memorex has achieved a product with a level of quality not previously available from any premium-tape manufacturer.

COLOR CODING: FAST AND FLEXIBLE

MRX-III reels are of one basic design, with a unique ability to color-identify any application, any security classification, any file status.

Memorex supplies you with Color Rings—in nine distinctive colors, adhesive-backed to let you change identifications quickly. Free.

NEW REEL, NEW CASE

MRX-III comes on a new solid-flange, clear-front reel—with just enough stippling to give you an ideal surface for easy ink-pencil writing. Incidentally, it's scratch-resistant.

Because of its structurally advanced ribs, the protective strength of the new case is increased. Yet, it is actually thinner than any previously available plastic case.

You also benefit from MRX-III's specially designed case, which may be stacked interchangeably with your present library.

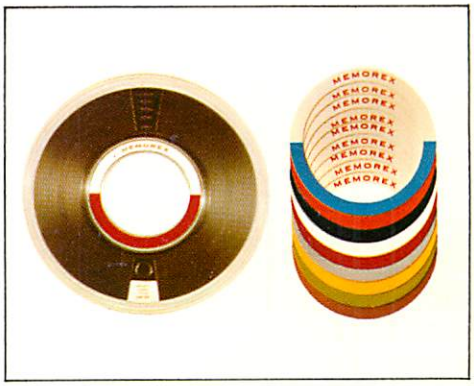
PRICE/PERFORMANCE RATIO OF MRX-III IS THE BEST NEWS OF ALL

MRX-III has higher durability and lower dropout activity than any other premium computer tape.

It is certified to be 100% error-free and is tested to exceed all characteristics for performance, magnetic and mechanical properties, stability, and strength. MRX-III has compatibility with all major computers and tape handlers.

With its unique advantages, premium-priced MRX-III offers the demanding user the best price/performance ratio of any computer tape.

Your computer was designed for total tape performance. Now, match its capability with MRX-III.



MRX-III comes on a new, classic reel. Adhesive-backed rings make coding simple—come in nine easily identifiable colors.

MEMOREX

Memorex Corporation • Santa Clara, California 95050

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