

MEMMOREX

601 OEM  
Disc Storage Drive



THE COMPUTER HISTORY MUSEUM



1 027 4491 1



## Perfect Data Storage for an Imperfect World

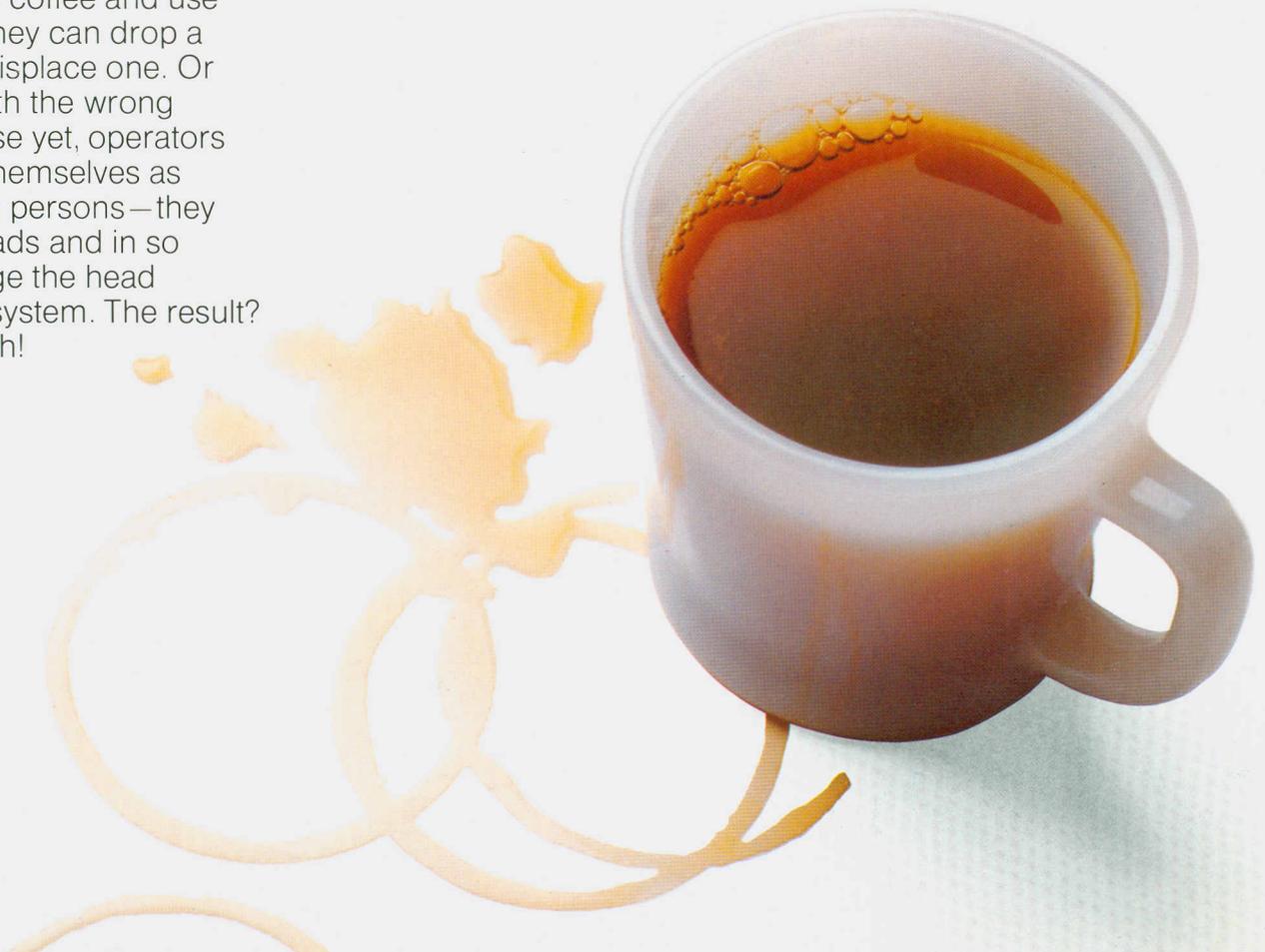
Your system is going out to an imperfect world. Chances are it won't be operating in the sterile confines of a computer room. Instead, it'll be in an open office. Out at a small company, a branch, a warehouse, perhaps a factory. It'll be performing jobs that involve extensive input/output functions. Sorting and accessing of large data files. That means a lot of interaction between people and machine.

And the more operators must interact with rotating memories, the higher the probability of head-disc failures. Because operators are the single biggest cause of these problems. They smoke, drink coffee and use hair spray. They can drop a disc pack. Misplace one. Or clean one with the wrong solvent. Worse yet, operators often fancy themselves as maintenance persons—they clean the heads and in so doing damage the head suspension system. The result? ... head crash!

Meanwhile, these users want more for less. More capacity at less cost per megabyte. More bits per inch with faster access time. And more reliability with a lot less maintenance.

That's what the Memorex 601 delivers—more capacity, faster access, greater reliability—at less cost, with less maintenance.

That's why OEM and systems houses are specifying the Memorex 601. It's the perfect data storage for an imperfect world.



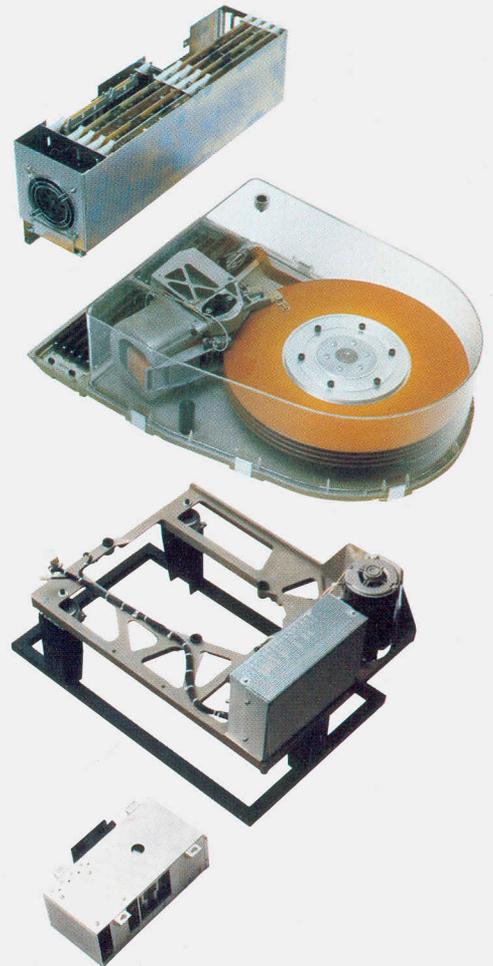
## Data Storage You Can Forget

How do we build reliability into your system's disc storage? We begin by protecting the head and media in a sealed environment. Sealed away from operators, from dust and contamination. A closed loop recirculating air filtration system and positive internal pressure maintain a clean room environment for head and media.

Memorex implementation of proximity recording technology provides an uncomplicated disc storage mechanism. The resident disc offers greater reliability than removable discs. Since the same head that wrote the information also reads the information, there are no interchangeability or misalignment problems to cause mistracking and data checks.

The rotary actuator simply pivots to position. It uses 40% less power and generates 40% less heat than a linear actuator. Fewer mechanical parts and less heat lengthen machine life.

The 601 uses low load/low mass proximity recording heads. Lower mass, lower load technology is far less sensitive to shock, vibration and orientation than earlier removable disc techniques. Heads, like those used in the 2314 and 3330, apply 35 times the load force of 601 heads. Their suspended mass (3.25–5.0 grams) is more than 13 times that of 601 heads (0.25 grams).



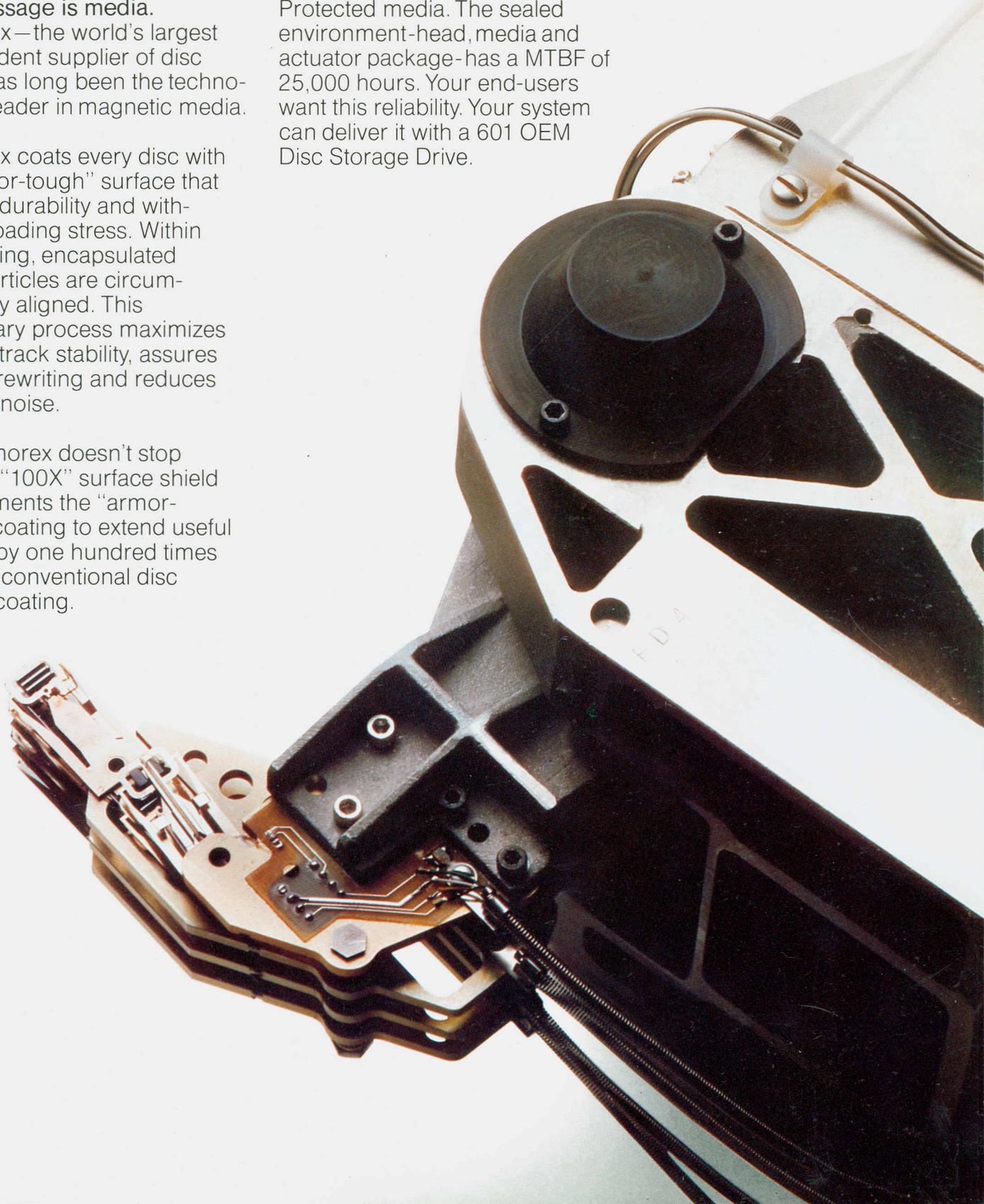
**The message is media.**

Memorex—the world's largest independent supplier of disc drives has long been the technological leader in magnetic media.

Memorex coats every disc with an "armor-tough" surface that extends durability and withstands loading stress. Within this coating, encapsulated oxide particles are circumferentially aligned. This proprietary process maximizes head-to-track stability, assures cleaner rewriting and reduces residual noise.

But Memorex doesn't stop there. A "100X" surface shield complements the "armor-tough" coating to extend useful disc life by one hundred times that of a conventional disc without coating.

Protected media. The sealed environment-head, media and actuator package-has a MTBF of 25,000 hours. Your end-users want this reliability. Your system can deliver it with a 601 OEM Disc Storage Drive.



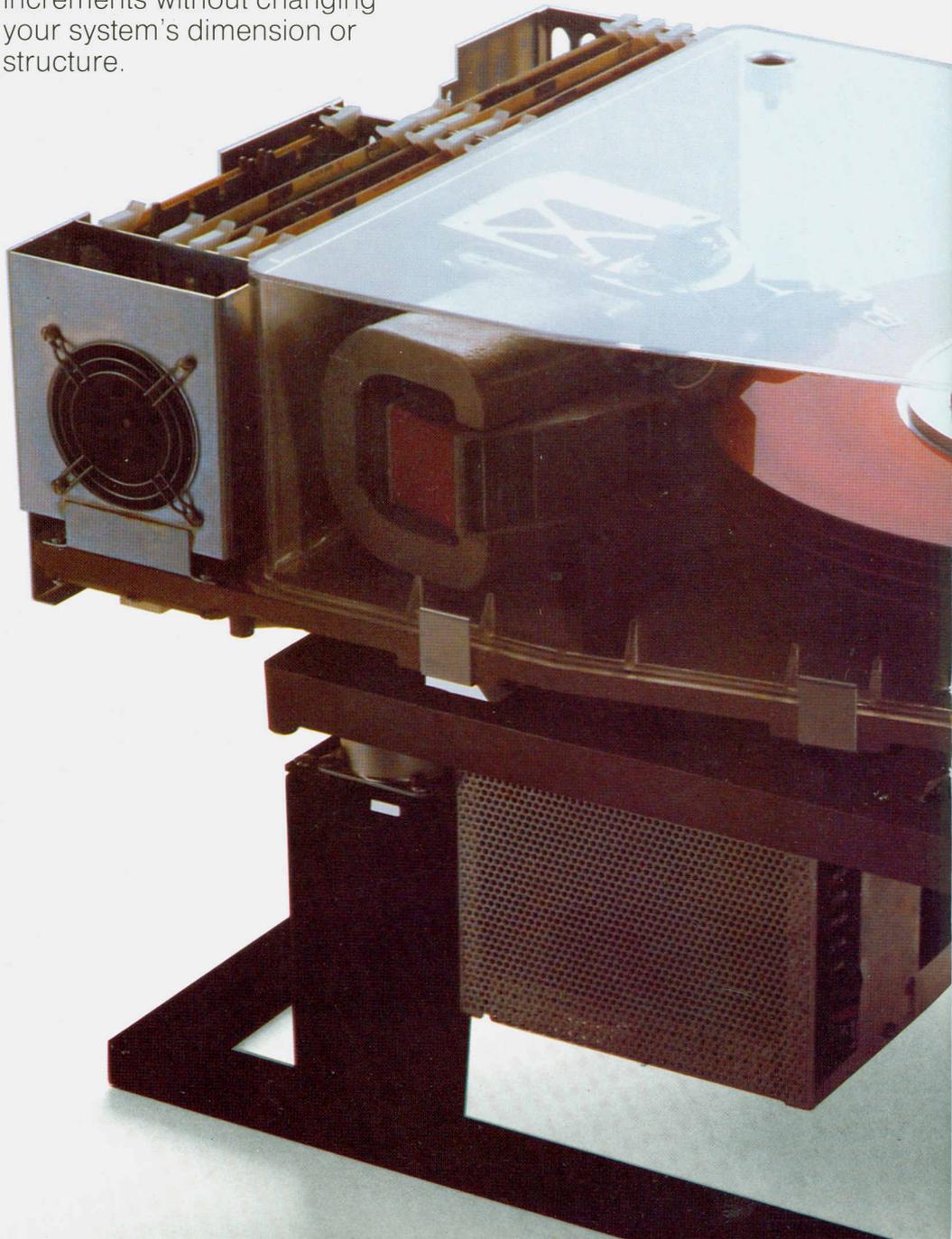
## Memorable Performance

With a single 601, you can match a wide range of system requirements and customer applications. Two disc surfaces offer 25 megabyte capacity. Use two more surfaces and double data capacity. Or use all four discs for six data surfaces and full 75 megabyte capacity.

Need more? Two units can be mounted in a single lo-boy style cabinet. One hundred and fifty megabytes of storage in two units offers excellent cost-effectiveness using overlap seek and partitioned data. An additional increase in performance can be achieved using up to two megabytes of fixed head storage and a dual-port interface for parallel data access.

Reduce your customer's entry cost with two-disc (25 MB) storage. Protect his investment as you trade him up to three (50 MB) or four (75 MB) discs. Offer larger capacities as options now, or add them later as system enhancements. And build these larger storage increments without changing your system's dimension or structure.

**Data density.** Each 601 read/write head has access to 350 tracks. Proximity recording technology allows packing each inch with 300 tracks. And each track carries 17,920 bytes. Data transfer rate is 885K bytes per second.



**Access speed.** Twin heads for each data surface provide the same fast access throughout the capacity range. Access time is as short as 7 ms, averages 32ms, and is never longer than 75ms. Average access for a typical removable disc is 53ms; a flexible disc requires 300ms or more.

**Faster?** A fixed head option allows use of the disc for 500,000 or 1,000,000 bytes of quick memory. Up to sixty heads offer immediate track access. Rotational delay and data access averages only 10.1ms. Use this quick memory to replace or extend core memory, store programs, or as a convenient scratch pad.

Other options include VFO data separation, D.C. power supply, diagnostic tester and customized interface.



## Easier to Sell, Easier to Service

## Adaptable Configuration

Reliable disc storage makes *your* life easier, too. The 601 requires **NO SCHEDULED MAINTENANCE**—*no* head alignments, *no* position transducer alignment, and *no* filter service.

If repair is ever necessary, MTTR is less than one hour. Head and disc can be removed as one assembly. Plug-in PCB's are readily accessible.

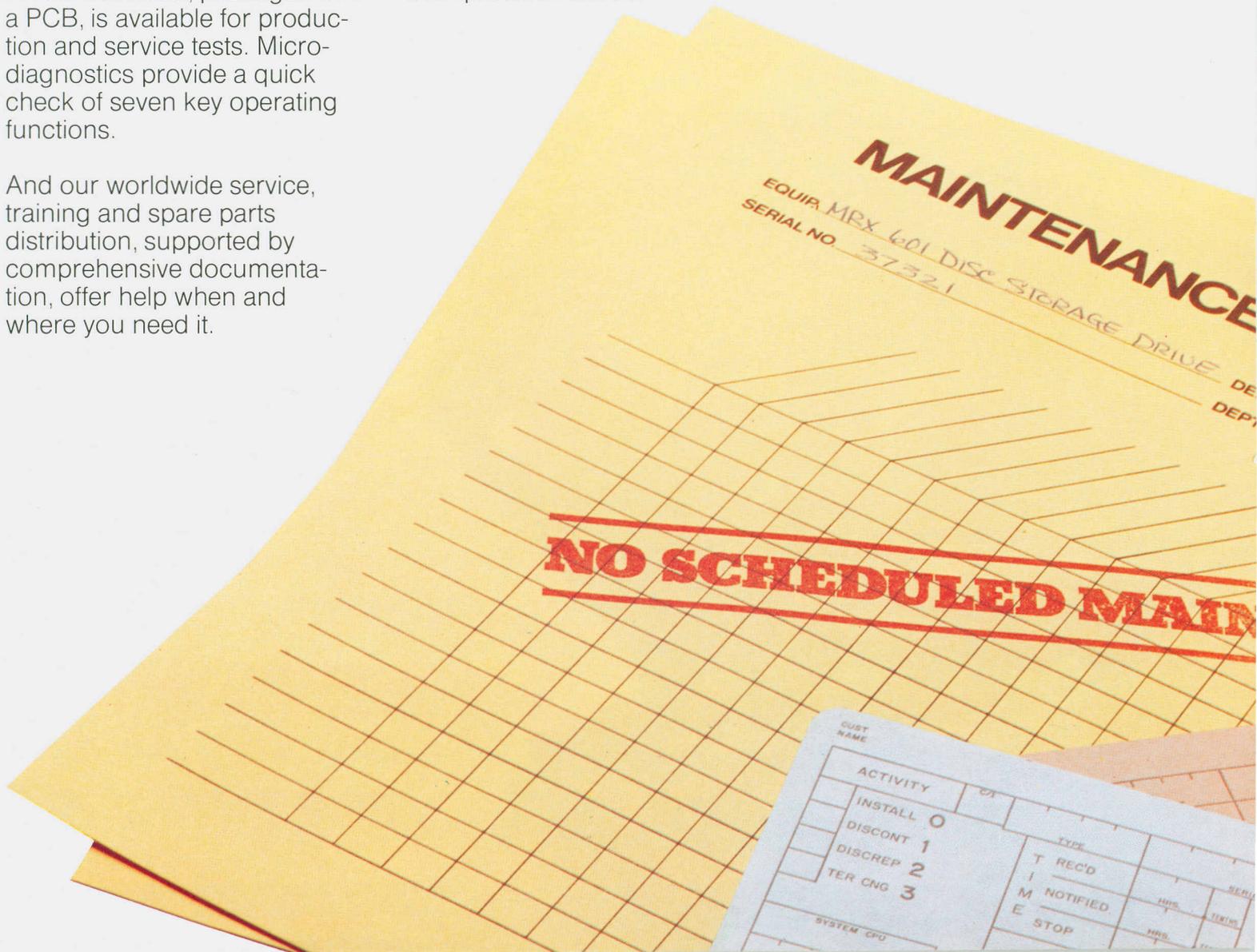
An off-line tester, packaged on a PCB, is available for production and service tests. Micro-diagnostics provide a quick check of seven key operating functions.

And our worldwide service, training and spare parts distribution, supported by comprehensive documentation, offer help when and where you need it.

The 601 is a system designer's dream. Mount vertically or horizontally. Mount in a standard EIA rack. Its small size and light weight can be accommodated by a light weight enclosure without special framing.

The 601 is a space saver. With 75 megabyte storage, it packs over 15,000 bytes per cubic inch. Volumetric storage efficiency is significantly better than previous drives.

Interface with any computer. We supply local electronics with an industry standard interface. And the 601 offers economical "up-gradability"—start with 25 megabytes of high performance storage and expand to 50 or 75 megabytes as the need develops. It takes less than one hour to make the change.



## Secure Back-up

Your end-user may ask about back-up storage. While they can use other media for back-up (diskette, tape, etc.), the extreme reliability of the resident media offers three in-system alternatives. To protect key data, your customer can transfer to dedicated tracks on any one disc, a second disc, or an additional drive.

## Unforgettable Cost-effectiveness

How do your customers measure cost? If they look at initial investment, the small 601-25 is unbeatable. If their evaluation is based on cost per byte, compare the entire 601 product line with removable discs.

With many cartridges and discs, cost performance doesn't improve with increased capacity. In contrast, the 601 series offers a radical decrease in cost per byte as capacity increases.

Are your customers concerned about operating cost? With 601, your system uses less power. Also, the user has no removable packs to replace.

Maintenance cost is far lower than with any disc pack drive. In fact, scheduled service is eliminated. High MTBF protects investment in equipment and data base.

## Technology to Grow on

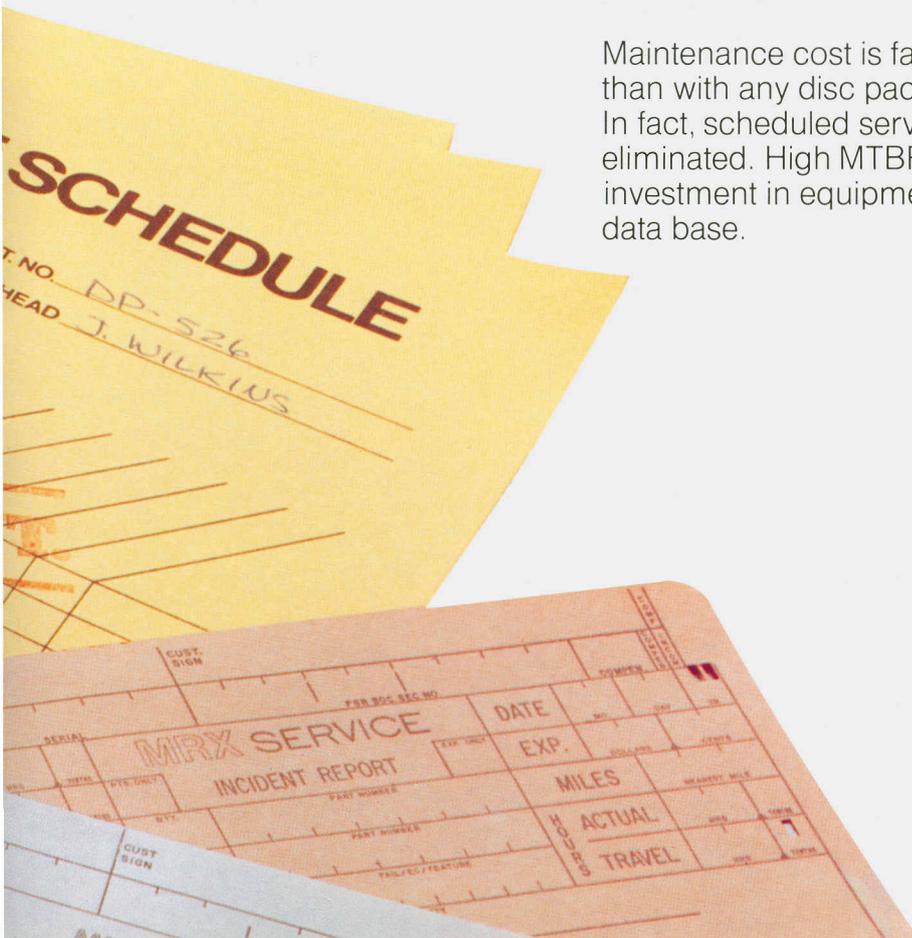
Your future systems will have bigger capability per dollar. So must your data storage. You'll be looking for more capacity, tighter packing densities, and lower cost per megabyte.

You won't get these advantages from removable discs. They are at the limit of their technology. Tomorrow belongs to newer proximity recording technology and a sealed storage environment.

What capacity improvements can you anticipate? A capacity, based on doubling track density, is well within the state-of-the-art. This reduces cost per byte to a level far below any current product offering.

Memorex is committed to this technology and Memorex will bring this technology to the OEM. Our exclusive expertise in all phases of data storage—drives, heads, and media—will bring you the best storage now, and tomorrow.

Call us for a demonstration.



# Specifications

## 601 OEM Disc Storage Drive

### Capacity (unformatted)

Track Capacity	17,920 Bytes
Cylinder Capacity	72K/143K/215K Bytes
Drive Capacity	25/50/75 Megabytes

### Data Retrieval Times

Average Latency	10.12 msec.	
Mounting	Horizontal	Vertical
Minimum Access Time	7 msec.	7 msec.
Average Access Time	32 msec.	35 msec.
Maximum Access Time	65 msec.	75 msec.
Data Transfer Rate	885,000 Bytes/sec.	

### Recording Characteristics

	Model 601-25	Model 601-50	Model 601-75
Data Surfaces	2	4	6
Data Heads	4	8	12
Heads per Surface	2	2	2
Tracks per Cylinder	4	8	12
	All Models		
Data Tracks per Head	350		
Tracks per Inch	300		
Bits per Inch	5636		
Head Load (grams)	10		
Head Mass (grams)	0.25		
Head Flying Height (microinches max.)	25		
Fixed Head Option (kilobytes)	500/1000		
Servo Surfaces	1		

### Dimensions

Width	17.5 in. (44.45 cm)
Height	10.0 in. (25.40 cm)*
Depth	28.5 in. (72.39 cm)
Weight	89.0 lbs. (40.36 kg)*

### Environmental Conditions

Operational Temperature	Non-Operational
+50°/+110° F. (+10°/+43° C.)	-40°/+140° F. (-40°/+60° C.)
Relative Humidity	
10%/90%	10%/90%

### Power Requirements

117/208/230 VAC ±10%,	60 Hz
100/110/125/200/220/ 230/240 VAC ±10%,	50 Hz

\*W/O Power Supply

## **Memorex Corporation**

OEM Division World Headquarters  
San Tomas at Central Expressway  
Santa Clara, CA 95052  
(408) 987-1000

### **Regional Offices**

Boston  
470 Totten Pond Road  
Waltham, Massachusetts 02154  
(617) 890-0700

Dallas  
4301 Alpha Road  
Dallas, Texas 75240  
(214) 233-1031

Los Angeles  
1353 Reynolds Avenue  
Irvine, California 92714  
(714) 557-4330

San Francisco  
San Tomas at Central Expressway  
Santa Clara, California 95052  
(408) 987-1373

### **Canada**

Headquarters  
Memorex Canada Ltd.  
230 Lesmill Road  
Don Mills, Ontario M3B 2T5  
(416) 449-9940

### **Japan**

Headquarters  
Memorex Japan Ltd.  
Yaesugushi Kaikan, Third Floor  
1-7-20 Yaesu, Chuo-ku  
Tokyo  
(03) 273-8901 through 7

### **Australia**

Headquarters  
Memorex PTY, Ltd.  
61 Barry Street  
Neutral Bay  
NSW 2089  
908-2211

### **Europe**

Headquarters  
Memorex S.A.  
Parc Industriel Des Hauts Sarts  
4400 Herstal-Liege  
Belgium  
(041) 64.45.40

United Kingdom  
Memorex U.K. Ltd.  
50 Salisbury Road  
Hounslow West  
Middlesex  
(01) 570-7716

France  
Memorex S.A.  
11, rue Paul-Bert  
92-Malakoff  
655.66.55

Germany  
Memorex GmbH  
Leonrodstrasse 56  
8000 Muchen 15  
(089) 189071

Italy  
Memorex S.p.A.-Italia  
Via Ciro Menotti, 11  
20129 Milan  
7383693  
7383980

Scandinavia  
Memorex AB  
Enighetsvagen 7  
Stockholm/Bromma  
980 980

Switzerland/Austria  
Memorex A.G.  
Sternenstrasse 12  
8002 Zurich  
(01) 36 16 65