

MEMOREX

**677 OEM
Disc Storage Drive**



In this business, you consider specs first. Then you consider what's behind them. Because you are looking for more than just a good product.

You are looking for a good product for you.

As a professional, you look first to the features that the product inherently provides. The quality of the technology. The hardware. The manufacturing capability and control. But then, you must look at the environment in which that product will be sold and serviced—at the other products, systems, people with which it will interact.

That is the way you can be sure to get the product the way you want and need it. A complete product for you. And that is exactly the way we ask you to take an even closer look at the Memorex 677.

Customer interfacing. More flexibility in making our 677 your 677.

Three generations of disc drive experience have yielded Memorex a very substantial base of technology from which to work. A better base of technology. That same experience has also allowed us the design flexibility required to meet not only conventional OEM needs, but unconventional ones as well. A broad range of interface features, from a minimum set to a complex combination that would accommodate attachment to many systems, offers the kind of attitude and versatility many OEM users require. These features include:

- Multiplex or star configuration options.
- Dual ports for communication with two controllers at the same time—featuring dynamic switching.

- Removable, logical address plugs.
- Console indicators in a number of configurations, from the minimum required set through customized diagnostic and status feature controls.
- Dynamic braking that stops pack rotation in just 20 seconds.
- 50 Hz power supply at standard voltages.
- Programmable sectoring from 1 to 128 per track.
- Rotational position sensing.
- Address mark capability for variable length record formats.
- Pad record operation that automatically fills the end of a record with zeros, freeing the controller for other operations.
- Monitoring of registers.
- Diagnostic monitoring.
- Data separation within the drive.
- NRZ to MFM encoding and precompensation.



Customer support is being there. With better service. Better documentation. Better training. Better everything.

Memorex makes available a full complement of supportive materials and services that include:

A worldwide service organization.

Memorex field service is a sophisticated interweave of skilled people, strong technical support and a logistics network that ties over 100 offices and close to 1,000 people together for a single purpose: *immediate response to customer needs.* Memorex customers can take advantage of this organization in a variety of ways, from spare parts supply and inventory control to full third party maintenance programs.



Complete training facilities.

Memorex 677 OEM customers can enroll their personnel in training programs at any of three facilities around the world. These training centers, in Santa Clara, California, Liege, Belgium, and Tokyo, Japan, are staffed with trained personnel who

Full-function, off-line testing.

Functional testing of a particular 677, on or off-line, is now a suitcase-simple operation. Portably packaged to go anywhere, Memorex's full-function off-line tester, using a standard set of hardware (customized for any interface), performs micro-diagnostics on seven key functional areas within



the drive. Use of this easy-to-operate, off-line tester can greatly reduce costly downtime and system degradation.

Of course, many of these resources are optional. We realize that, for certain customers, they may be totally unnecessary. But their availability says several important things about Memorex. One, we design our products—and always have—

educate hundreds of people every year on the support of Memorex computer peripheral products.

for maximum rather than minimum usage. And two, this kind of design philosophy, having successfully propelled Memorex into a wide variety of products, has naturally generated the sophisticated supporting resources we have been talking about—resources that are not only superior, but more reasonably priced than are likely to be found anywhere else.

Memorex disc packs.

Memorex Mark X and Mark XI Disc Packs, companion products with the 677, are unmatched in performance because of superior quality. They have achieved exceptionally high operational reliability in thousands of installations world-wide.

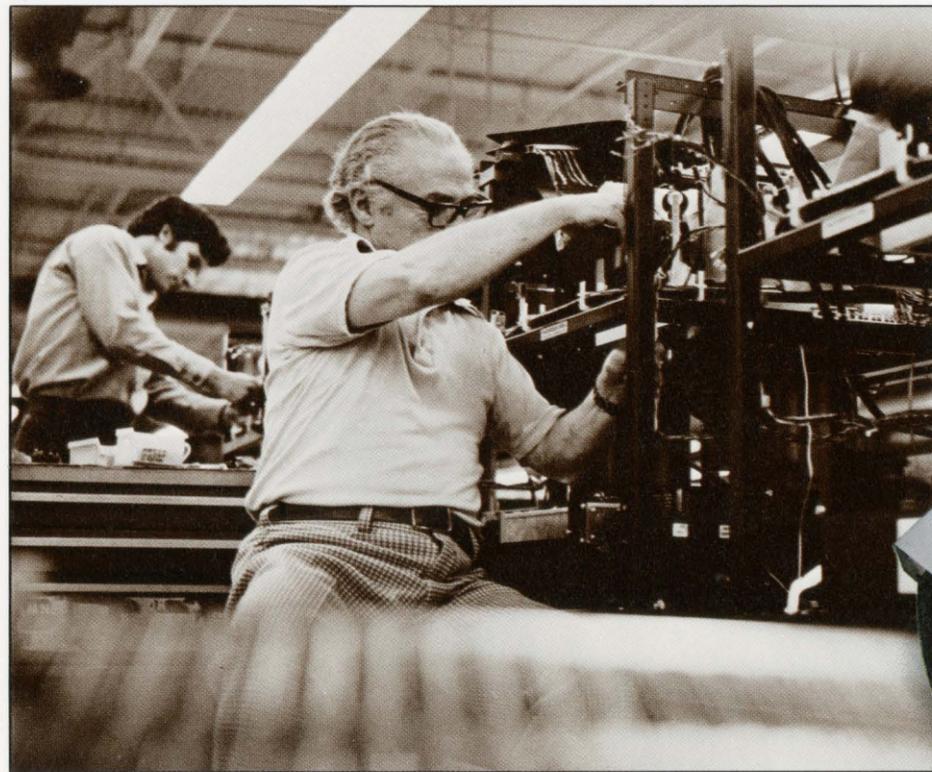
There is a healthy sense of reality in this business. It comes from knowing that the competition makes a very good product. And that ours had better be better.

The 677 is better.

The Memorex 677 is a 100/200 megabyte, single spindle, direct access, disc storage drive—a compact, stand-alone unit that is, in essence, an advanced version of Memorex's highly successful 3670 and 3675 dual spindle drives. Specifically, the drive rotates a disc pack at 3600 RPM, selects one of 19 read/write heads for an operation, positions the selected head to one of 815 tracks on the disc surface, and enables the system to synchronize the data transfer. The mechanical and electrical characteristics of the 677 can be tailored to match almost any control unit/drive interface specifications a customer might wish.

Thinking a better product. Then building it better.

Our credentials are on the line every day. And on everything that comes off that line. The 677 is a



product of Memorex's total manufacturing capability and complete, meticulous control of all critical components—read/write heads, spindles, disc packs, read/write and servo circuitry, power supplies, voice coil actuators and cables.

The thinking behind the 677—the technological log of experience we bring to every one we manufacture—is superior, in any number of ways to that of the competition.

Better circuit design. The highest quality, state-of-the-art circuitry is employed exclusively. For instance, only ceramic ICs are used. This integrated circuit packaging means improved reliability, lower initial failure rate, and fewer "no trouble found" calls.

Better package design, inside and out. The 677 is designed for reliability, maintainability and ease of operation. First, all areas of the drive are accessible. The printed circuit boards are located above the shroud area, allowing easy accessibility. Next, components are modularly packaged to simplify their removal and re-installation. They are also functionally packaged to minimize the number requiring replacement.

Better air-circulation system.

The Memorex-patented Air Flow System reduces the number of parts required in the drive by eliminating the need for a large pack system blower. Utilizing the revolving disc pack as an air pump, the system draws air through special baffles that distribute the air. This design enables the 677 to become temperature-stabilized rapidly, greatly reducing idle time.



Better power system.

This system has been designed for increased reliability in two significant areas. First, all control electronics are isolated from the electrically noisy power supply area. Second, special monitoring circuits detect losses of power and automatically retract the heads from the pack at a controlled velocity to insure sensitive calibrations and alignments.

Faster access time. The Memorex-pioneered, linear motor used in the 677 provides an average head positioning time of 28.5 milliseconds—the average rotational latency to a data record is 8.33 milliseconds.

More data capacity. The data capacity of the 677 is 208,118,400 bytes—one of the largest for a removable pack disc drive. Multiple drives may be integrated into a single system configuration, depending on system limitations.

Better read/write heads.

Over half a million Memorex designed and built read/write heads are currently in use in disc storage drives throughout the world. As part of the effort to make a better product, the 677 heads were designed to fly up to 50% higher than competitive heads and provide superior recording performance. This significantly reduces the possibility of HDI's (head-to-disc interference).

More than mere words, some impressive numbers to back them up.

Certainly, we think that the 677 is a better product. And even though we say so every chance we get, the numbers really speak for themselves. Take 18,000, for instance. That is the number of disc drive units manufactured by Memorex in the last seven years. Or 15,000, which is the current count on flexible disc drives we've built. As for drive operating experience, that now totals well over 90,000,000 hours.

The field numbers are just as impressive. 1973 and 1975 DataPro studies surveyed several hundred users of ten large capacity disc drive models, including Memorex's 677-similar 3670. The results? In rating for overall performance and hardware reliability, Memorex came up the winner.

Yes, there is strength in numbers. And persuasive arguments as well. A solid reputation and strong user acceptance is usually reflected in how big you get. So, considering that, consider this, one last number. The number One. Memorex is particularly proud to advertise the fact that we are the Number One independent supplier of disc drives in the world.





The Memorex 677.

A summary statement of where we've been, certainly. But just as important, an opening remark about where we are going.

Company histories and philosophies (pasts and futures, if you will) tend to reflect in one another—and, in the best of circumstances, they enhance one another. But under any circumstances, unless they work to insure the integrity of and the commitment to an *always better and always improving product*, histories and philosophies don't carry much weight at Memorex.

At Memorex, they *do* work to insure *exactly* that. Which is why "where we've been and where we're going" are the 677 Disc Storage Drive's best selling features.

In 1961, two words became one word. And a company called Memorex was born.

One word was "memory;" the other, "excellence." And initially, the company formed by the contraction of those two words produced only quality magnetic tape for computer applications. Soon, however, the young company was developing a whole range of products, all related to information storage and retrieval.

The year 1968 saw develop at Memorex a pattern for technological growth that would become a Memorex standard. It marked the introduction of our first generation disc storage drives, the 620/630 series. Several models were designed to match interface requirements of Original Equipment Manufacturers, and volume deliveries continued through 1970.

The information storage capacity of those drives—approximately 7 million bytes—was quadrupled in the second generation 660 series, introduced in 1969. By 1971 over 10,000 first and second generation drives had been delivered, setting an industry standard for leadership that Memorex carried into the development and marketing (in 1973) of the 651 flexible disc drive and the 3670 disc storage system. To date, over 12,000 651 spindles have been shipped to OEM customers, while the success of the 3670 and, subsequently, the 3675 dual spindle drives secured Memorex's position as the largest independent supplier of disc drives in the world.

A solid future based on rock-solid resources. And a firm commitment to the OEM marketplace.

Memorex is a large, strong company—a company that today more than ever, commands the resources to make and keep substantial commitments to its future.

One of the most substantial of these, backed by the full weight of those resources, has been to meeting the needs of the Original Equipment Manufacturer. At our home facilities with engineering, manufacturing, marketing, administration, technical support and parts logistics. And in the field, where our regional offices supply customers with product information and technical support.

An aggressive new management team is seeing to it that these resources are being utilized to maximum effect. Recently, record production levels have been achieved. A vigorous

program of cost reduction and improved profitability has been implemented—and no compromise whatsoever has been made to the primary "Memory/Excellence" commitment.

Steadily increasing revenues, a carefully programmed outlay for the development of new products and a positive growth attitude have resulted in a solid, worldwide position for Memorex Corporation.

The commitment to the OEM user is a positive extension of this new management attitude. We see the disc storage market growing significantly in the coming years. Our objective? To work hard at maintaining our preference position in that market. Certainly, products like the 677 make that objective a whole lot more tangible.



The job of this brochure is to sell you on a new product. The Memorex 677. To do that job right, we should address the product from three perspectives that, together, constitute what the 677 is all about.

One, the product that is the hardware. A 100/200 megabyte, single spindle disc storage drive measuring 47 inches high by 22 inches wide by 32 inches deep. A product of superior technology and manufacturing resources, it enjoys a heritage of customer preference in all performance categories.

Two, the product behind the specifications. The full range of materials and services to assure customer satisfaction—the security of having the hardware backed-up with engineering support, maintenance services, technical training, full documentation and long term spares availability.

Three, the product in total context. The products beyond the present. The company's commitment to the industry and to the marketplace and, of course, its ability to keep that commitment.

Ultimately, our customers' confidence is based on our own. Past records on previous products have shown that confidence, on all sides, to have been well placed. Given this product, the 677, and its pedigree, we are confident we can demonstrate conclusively *its* superiority, by any of the product definitions we have outlined above.



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