

# MEMOREX TIMES

Worldwide Storage Equipment Marketing

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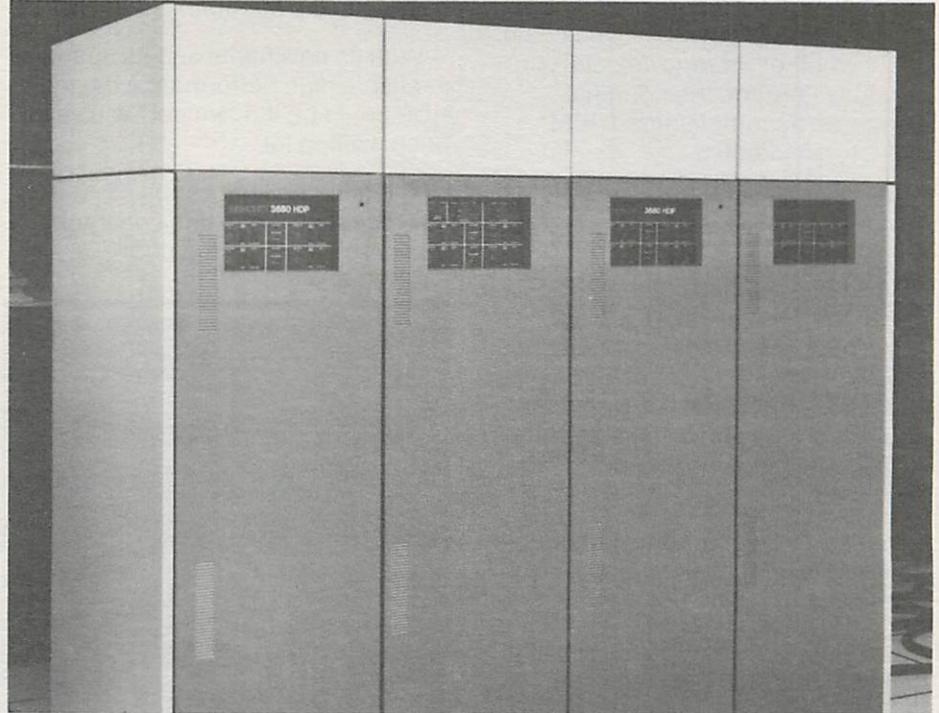
## High Hopes for HDP

by Gary Kolesiak

The light at the end of the tunnel should be blinding you! By year-end nearly 80 strings of HDP had been installed or shipped to our world-wide customers. . . 30 in the U.S. Because of these '85 accomplishments, our hopes are as high as the HDP for very good business in 1986.

As our competitors flood the marketplace with information about their double-capacity units, careful analysis of those products indicates that HDP is much more than just an alternative. . . it's a strong competitor.

Let's assimilate the above data into competitive selling information.



	MRX/HDP	IBM "E"	STORTEK "E"	AMDAHL "E"	NAS "E"
Spindles/20 GB	16	8	8	16	16
Actuators/HDA	2	2	2	1	1
Capacity/ Actuators	630 MB	1260 MB	1260 MB	1260 MB	1260 MB
Capacity/HDA	1260 MB	2520 MB	2520 MB	1260 MB	1260 MB
HDAs/Module	8	2	2	4	4
Addressable Units (UCB)/20 GB	32	16	16	16	16
Physical Field Upgradability From single capacity	Unspecified	No "A/O" Yes "D"	Specified; But possibly not	Unspecified possibly	Unspecified probably not

**Data Availability:** HDP offers the best data availability characteristics at the actuator and HDA levels. With only 630 MB of data per actuation,

HDP offers lower data contention and decreased impact of data availability concerns at an actuator, than any double-capacity device. At 1260 MB

of data per HDA, the Memorex HDP equals or betters all double-capacity devices.

**Performance:** Its lower contention for data at the actuator level makes only HDP perform to single-capacity throughput expectations. Except for the IBM "E" which offers improved data pathing via device level selection (DLS), all other double-capacity devices are devoid of new performance features. Memorex's own plans for double-capacity include significant performance enhancements.

While the preceding information if based on published data from the competitors, some very important information is unpublished. . . which products are or are not field-upgradable, remains unknown.

There are many good marketing reasons to claim that the A/O units

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# High Hopes for HDP

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are not upgradable. However, after seeing the difference between the "old" and "new" 3380s, maybe it is possible that the "old" units are not really upgradable to higher capacity. Regardless of the "D"s upgradability, the vast majority of installed single-capacity 3380s are A/O units and not upgradable.

Of the other double-capacity vendors, only Storage Tek announced upgradability of their "original" 8380 products. While rumors of early 8380 E Beta sites are prevalent, you could doubt whether Storage Tek can successfully upgrade their original device, an accomplishment IBM didn't (or couldn't) do.

Hitachi published that their double-capacity HDA has fewer surfaces (platters) than their single-capacity HDA. In one module of the 7380 E four of the smaller HDA's are not contained. Their single-capacity module contained two HDA's of larger size. Based on the significant difference in the physical size of the HDA, could field upgrade be possible?

Fujitsu's implementation of double-capacity is unpublished and unknown.

Even many users are recognizing that field upgrades are not what they're cracked up to be. Device field upgrades are of longer duration and cause greater service disruption than capacity upgrades via asset swapping. The demand for field upgradability is softer than originally anticipated. But the demand for contractual upgradability remains strong. Memorex and MFC are able to offer creative financing for HDP to meet this demand.

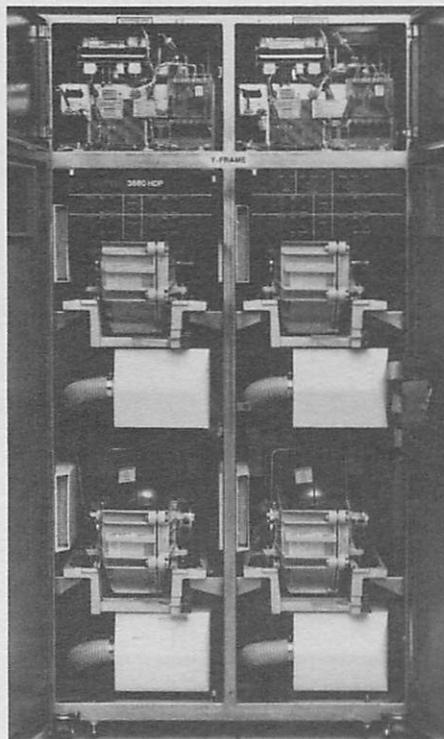
HDP is performing very reliably too! Installed for more than six months, one account—our oldest installed device—has not had any hard failure throughout its installed life.

November R+ results show HDP at 21 million seeks and zero hard failures. HDP's early performance is better than the early performance of 3380 D units. Not only is our actual reliability good, but HDP users have a good perception of our commitment to quality too.

Early in '86 HDP will be included in a campaign promoting Memorex's family of "High Performance" devices. At that time its name will change to the Memorex 6240 HDP.

With its new name and its image as a reliable high performance device, HDP could be the "winner" you've all been waiting for.

The blinding light keeps approaching. We're back on track again, so join us for the ride!



# 3480 Update

by Hank Czeranko

When the IBM 3480 was first introduced there were a large number of potential benefits this new product promised to provide. A few of them were:

- Higher performance due to 3mb/sec data transfer.
- Smaller footprint—up to 69% less than 3420.
- Lower power consumption—up to 50% less than 3420.
- The latest technology.
- High reliability of the system up to 1 terabyte of data transferred between hard failures.
- Lower maintenance costs.

However, as systems are being installed and more information is becoming available, there are many doubts concerning the real performance advantage of this new product.

Information week has reported one user found considerable performance degradation when more than five drives were attached to a controller. Another user with 1,800 tape mounts per day found that his old 3420 tape drives were out-performing equivalent 3480 configurations.

This information suggests that when the 3480 cannot be operated in a high-density work load—such as dedicated tape-to-disk backup—the system falls back into a start/stop mode and could potentially produce performance inferior to 3420's. The large buffer built into the 3480 controller is there to mask the slow start/stop action of the drives (up to 300 ms per occurrence) from the host. In order for the system to stay in the 3 mb/sec streaming mode, the buffer must be kept full of data to prevent the drive from stopping. DASD backup on a 1-to-1 ratio of disk to tape is an acceptable activity. Multiple volume backup to a single tape or batch processing can force the 3480 into start/stop action and severely impact performance.

IBM representatives, recognizing the potential performance weakness, are concentrating on reliability, cost of ownership, and floor space issues as reasons to market the system, rather than performance.

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# Large System User Survey: IBM vs. PCM

If reliability is the main reason to purchase 3480, let's take a look at the results. The 3480, when announced, was targeted to be capable of transferring 1,000 gigabytes of data per hard fail. The September Reliability Plus results show 149.2 GB per failure. This is the highest report so far, with July showing 127.56 B per failure. While on the surface this appears to be an impressive number, the 3480 is only operating at 15% of its target. Remember also that where the 3480 is installed, new hardware and new media both contribute to higher reliability numbers. How much better than average would a new Memorex tape system with 100% new media run than a 5-year-old installation?

IBM is using data transferred between hard fails rather than I/Os per hard fail to measure the 3480 for R+. While this new measurement makes the reliability seem outstanding, we must be able to compare it to the 3420. The 3480 is averaging 20 KB block sizes for the machines reporting in R+. To convert 3420 USE/HF into 3480 R+ terms, divide I/Os per hard fail by 50 to calculate data/hard fail. To compare 3480's to 3420's multiply the data/hard fail by 50 to calculate I/Os per hard fail. Take September R+ numbers as an example.

MRX 3228 6 mos. rolling average is 3.192 million I/O per hard fail.

$3192 \div 50 = 63.8$  GB per hard fail.

IBM 3480 6 mos. rolling average is 149.26 GB per hard fail.

$149.2 \times 50 = 7.460$  million I/O per hard fail.

The result is that the 3480 is only 2.34 times more reliable than the Memorex 3228.

You must ask your customers that if reliability is a major purchase criteria, is this small gain worth the Major Conversion Expense? Some customers may be persuaded to consider other alternatives such as the 3520 tape cache as a (bridge product) to Memorex 3480.

In the meantime, the 3480 does not appear to be delivering its promised performance or reliability. The product is not for all customers, and there is still opportunity to market current Memorex tape products.

The Gartner Group recently conducted their second annual large systems user survey. Roughly 70 respondents representing large organizations in the United States and Canada provided information on the directions of their corporations' large systems. Although the sample is small, it does serve as a barometer for trends among the leading-edge users.

The survey looks at how users decide whether to buy from IBM or plug-compatible manufacturers (PCM), and at the implications of such a decision. The responses provide valuable insight into this decision process since more than 65 percent of respondents have both IBM and PCM equipment (CPUs and/or disk drives) in their shops.

Table 1 presents the categorized responses from users who were asked to rank in importance on a scale of one to five (five being least important) the factors considered by their organizations in deciding whether to buy IBM or PCM. It is notable that all seven categories received an average score below three—indicating that all the criteria listed play important roles in acquisition decisions.

As indicated in the past, the survey confirms that the major concern among users is reliability. Users don't consider only the financial benefits of choosing a PCM product, they are concerned too about quality, the lack of which they apparently feel could jeopardize their relationship with users, and ultimately cost them more. Service—more accurately described as vendor support—is not only a high priority, but a key factor in maintaining a mixed-vendor environment.

Separating the responses from shops that had no PCM equipment installed, we saw reliability increasing slightly in importance and price decreasing. To market to such users, the PCMs must stress reliability and service. On the other hand, for users who had PCM gear, both price and availability were slightly more important.

Price was revealed as one of the two least important factors in deciding between IBM and the PCMs, which should be an eye-opener for vendors who believe they must discount substantially below IBM. Price does play a role but it is only a part of the decision-making process. Obviously, users are not going to do business with the PCMs just for the pleasure of their company—after all, dealing with more than one vendor adds complications.

Interestingly, technology is the other of the two least important factors. Users are more than satisfied if the PCM offers the same level of technology as IBM—provided the PCM can beat IBM in other important categories. Even if the PCM uses older technology, as the Japanese manufacturers do with their continued use of ferrite heads in disk drives, users will readily accept that product if it meets their reliability and performance needs.

In conclusion, this survey provides a confirmation of the results of last year's survey. Results were consistent from year to year, so the Chapter 121 filing by STC in the weeks preceding this survey created no artificial bias. We believe the PCMs should realize from this data that they must change from the traditional marketing tactics of price emphasis to a strategy that incorporates all their criteria better.

**TABLE 1**

**Gartner Group Survey of Factors Influencing Purchase (12/84)**

• Reliability	1.3
• Service	1.6
• Performance	1.8
• Availability	1.9
• Software Support	2.0
• Technology	2.3
• Price	2.3

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# Squeezing Out The Competition By Saving Space

Saving computer room floorspace can mean a lot to our customers. Therefore, we should be selling the maximum floorspace savings, provided by our printers. This will include floorspace requirements plus service clearances.

The following chart shows the floorspace requirements and corresponding Memorex savings over our major competitors. Use this as a quick reference to identify the total floorspace required for installation and to show the customer how much floorspace you provide.

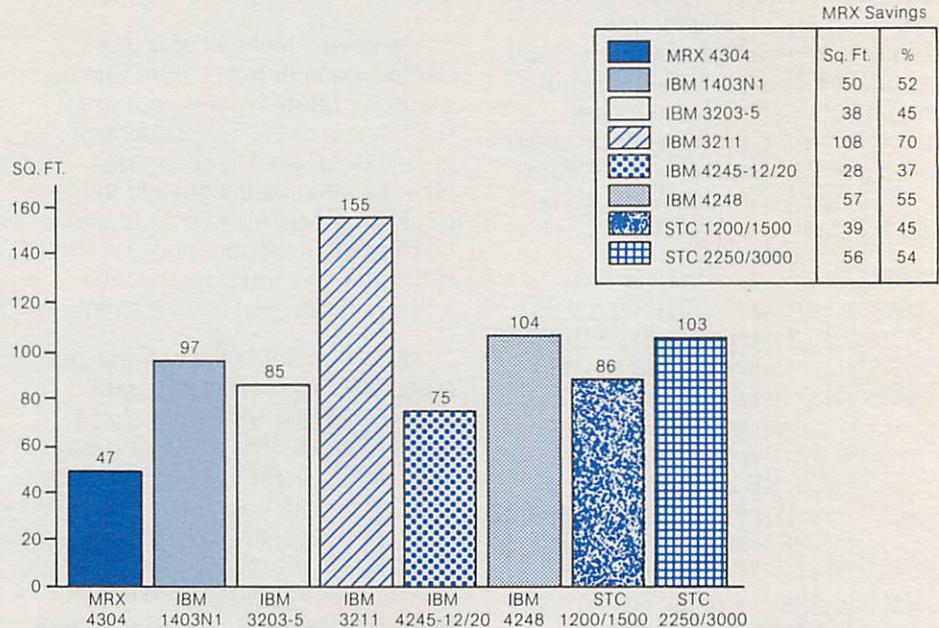
For customers with limited floorspace and additional printing requirements, use this chart to demonstrate additional printing capability. For example, since each Memorex printer requires 28 sq. ft. less than an IBM 4245-12/20, and since each 4304 requires only 47 sq. ft., in many situations you will be able to place three (3) Memorex printers in the same space as two from IBM. This means you can offer 3 x 1500

LPM or 4500 LPM in the same space as IBM offers 4000 LPM. You also improve the customer's back-up and allow him to print more jobs simultaneously. This additional capability will cost the customer

about \$10K more than the IBM VPA, when using the best Memorex price; not a bad price to pay for a long-term solution to a customer's printing requirements.

## 4304 Impact Printer Floorspace Comparisons

FLOOR SPACE INCLUDING SERVICE CLEARANCES



## Teamwork, Patience Crack \$1.5 Million State of Wisconsin Account

Being there first and working hardest paid big dividends for Madison, Wisconsin Sales Rep Dave Bruns. It took a full year of patience, persistence, and calling up every resource he had, but in the end, Bruns won the State of Wisconsin account. The initial sales was at least \$1.5 million; it could easily amount to as much as \$5 million over the next three years.

Bruns was able to swing the sale to Memorex by getting in early, making the right contacts, and working on them—as part of a team. The sales cycle began in June '84 with a full-scale product presentation to a group of representatives of the state government. Bruns, along with Product Driver Gary Kolesiak and Systems Engineer Teri Millen, talked about both storage and communications products in that first presentation; later, as they felt their way through the maze of state

bureaucracy, their emphasis shifted to communications products.

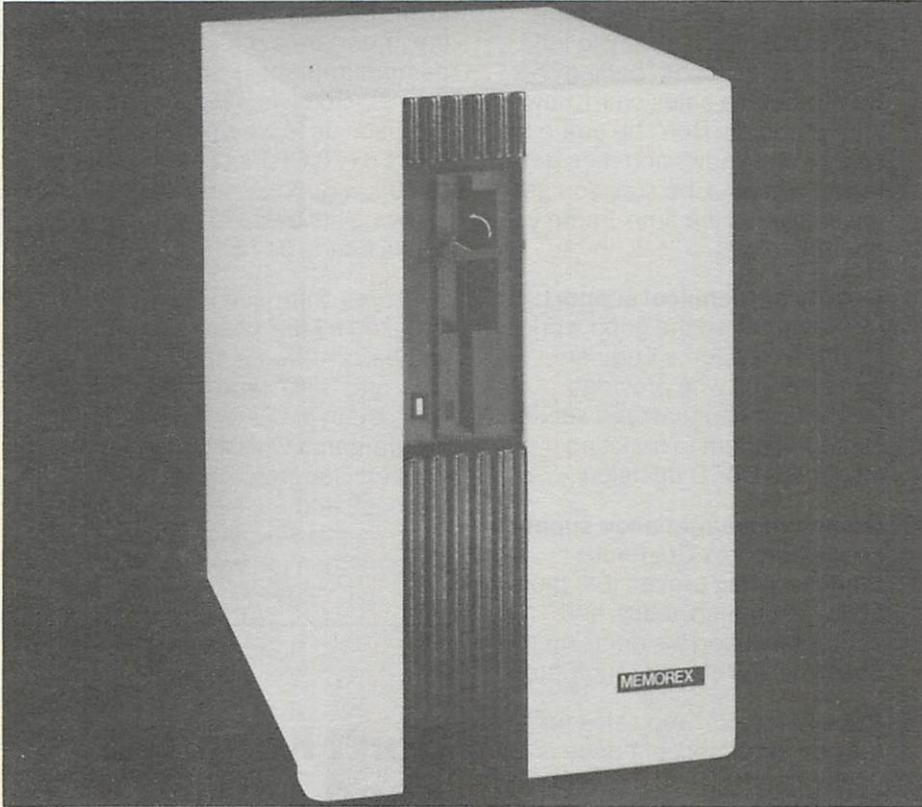
Over the next few months they toiled patiently, giving presentations and demos to departments from one end of the state government to the other: Transportation, Industry, Labor, Human Resources. As they made presentations, they also made contacts and friends. According to Bruns, these contacts are what really helped move the sales strategy along. What was the strategy? To jump in early and carefully build a high profile for Memorex that would automatically put us ahead of the competition.

It worked well. Finally, when the State put out its official bid, Bruns was ready. He called in all his resources for the last big push—the critical, time consuming process of putting together the winning bid response. Besides Kolesiak and

Millen, key team members included Jim Timmons, Jeff Shamus, John Danno, Dave Donaldson, and Frank Muniz. The watchword for the response team really was "response." They routinely got information, materials, and products out to Bruns on a moment's notice.

The competition for the Wisconsin award was particularly stiff: Harris, Courier, AT&T, Telex, and Big Blue itself. But when the State of Wisconsin published its award list, the persistence and teamwork and all those demos had paid off. Memorex was at the top. We had the sole award for 3180-type displays (the 2080) and seven-color graphics terminals (the 2079) and shared the award for compact terminals (the 2178) and screen printers (the 2173). A victory for Bruns, of course... but an even bigger victory for the entire Memorex team.

## Memorex Expands Its Remote Cluster Controller Line With Two New SNA/SDLC Products



**Santa Clara, CA—Sept. 24, 1985—** Memorex has broadened its line of communications controllers with two new IBM plug-compatible remote cluster controllers that operate within either the IBM BSC (Binary Synchronous) or SNA/SDLC (Systems Network Architecture/Synchronous Data Link Control) communications protocols.

The new controllers, first in the family of 2274 controllers, are the 2274-1C, available with 8 or 16 ports, and the 2274-2C, available with 16 or 32 ports. Memorex now offers one of the largest selections of IBM plug-compatible remote cluster controllers. In addition to these two new controllers, Memorex announced the 8-port SMA/SDLC 2174-8 in April and also offers the 2076, an 8-port BSC protocol controller.

"Memorex offers users a choice, so they can select the equipment that specifically meets their needs," said Jack Scott, vice president of Domestic Operations. "For companies that have small regional

offices 32-port controllers may be overkill and 8 ports just the ticket. Larger offices may need to hook up more terminals and printers, so a 32-port device is needed."

"The two new controllers allow the number of users on a system to grow without outgrowing the equipment," said Scott. "The ability to offer customers controllers they can convert from BSC to SNA/SDLC is especially important because, according to International Data Corporation, 48 percent of IBM mainframes now use SNA/SDLC as the primary communications protocol, and the number is growing at a rate of five percent each year. When it's time to switch to SNA/SDLC, our new 2274 controllers give BSC users an easy path for upgrading."

Both of the new models can be upgraded from BSC to SNA/SDLC at customer sites, the 2274-1C and 2274-2C communicate with IBM System 370, 303X, 308X, 43XX and compatible processors at speeds of up to 19,200 bits per second. The

controllers are plug-compatible with all Memorex and most IBM 3270-type Category A display stations and printers. Both controllers support 17 keyboard configurations in 15 different languages.

Using the unique Local Control Point (LCP) Software, a series of menus provide simplified configuration and performance monitoring. Any attached 3270-type display station can provide access to the LCP menus. Other standard features include support for an IBM 3299 Coax Multiplexer; graphics, APL/Text and seven-color display support; and extensive self-diagnostics at power-on.

The compact Memorex 2274-1C is 19.25 inches by 12.6 inches by 4.2 inches high and weighs 18 pounds. Single quantity, list price is \$8,500 for the 16-port version.

The Memorex 2274-2C is 9.75 inches by 16 inches by 15.25 inches tall, and weighs 35 pounds. Single quantity list price is \$13,000 for the 32-port version.

Quantity discounts up to 40 percent and maintenance terms are available. Shipments of the new SNA/SDLC and BSC controllers begin in October.

Memorex, a subsidiary of Burroughs Corporation, is an international company that offers a broad range of computer peripherals, from magnetic disk and tape subsystems to video display stations, for the IBM plug-compatible market, as well as storage devices for Burroughs.

**Editor's Note:** Controllers channel data from mainframe to peripheral devices such as display stations or printers.

# Why Memorex?: A User's Perspective

by Al Sontag

At a Memorex Galaxy Sales Rep training session in Lisle, Illinois, Mr. Art Kowitz, a director of Simpson Electric Company spoke to the class on why he buys Memorex peripherals and what he looks for in the selection of a vendor to meet his requirements.

Simpson Electric, a manufacturer of electrical meters and test equipment had been satisfying their needs for data processing by using an IBM 370/158 mainframe for a number of years. Due to rapid growth and an ever increasing applications work load, their internal user response times were suffering. To solve this problem and to allow for future growth, Simpson decided to upgrade to a 4381 CPU. This will serve the needs of not only the headquarters facility in northern Illinois, but also service the online users at their other manufacturing operation in northern Wisconsin. To match the performance of the PCU, it becomes necessary to upgrade not only their data communications network, but the DASD in the central facility as well.

In discussing what he looks for in a vendor, Mr Kowitz repeatedly stressed the word **quality**. In order of importance, following are the reasons why he selected Memorex:

1. **Quality of the company:** Memorex size, reputation in the industry, longevity in the business, financial stability, and completeness of product line were all important factors in Mr. Kowitz willingness to pursue further specific product discussions with the sales rep.
2. **Quality of the products:** Simpson Electric had been a Memorex 1270 TCU user for a number of years and was impressed with its performance. "I was also impressed with the Memorex product usefulness in how they tie in well with the other equipment in the computer room". He specifically cited the Memorex 2173 screen printer as an example.
3. **Quality of the sales rep:** Mr. Kowitz praised the persistent, straight-forward, and consistent effort of his Memorex sales rep, Bill Morrison. Mr. Kowitz advised the Memorex sales reps in the

audience by saying, "Your personal integrity is important and on the line. It's easy to tell when a sales rep is "bulling" his way through a sales call. Know your products. Don't be afraid to say "I don't know" and then get the answer. But, be sure you get the answer in the time-frame you commit to".

4. **Quality of technical support:** Mr. Kowitz cited the good work of Memorex Systems Engineer Larry Korbus who provided valuable consultant type services in helping them to make an intelligent DASD decision.
5. **Quality of maintenance support:** Local Memorex Customer Engineers had proven that their ability, responsiveness, and support justified his decision to order more Memorex equipment.
6. **Price:** Art said, "You sales reps may be surprised, but price is low on the priority list, but it does have to be justified."
7. **Delivery:** "Improving upon IBM's delivery period for products is always desirable, but meeting your stated commitment to deliver at a specific time is more important," stated Mr. Kowitz.
8. **"What education can you provide me and my people?"** In stating his need to be well-informed not only about Memorex products but about other vendor's products and services, Mr. Kowitz said, "When I pick a product, my name and reputation are also on that product and the decision." Enough said!
9. **Have references for your products:** Mr. Kowitz, as do many other Memorex users, rely on the "old boy" network as the best source of nonvendor-supplied information on equipment.
10. **Research and Development:** What resources a company invests toward development of follow-on products is also an important consideration in the selection process to Mr. Kowitz.

While Mr. Kowitz said it was a combination of all the items he listed

that caused him to select Memorex as his primary vendor, he stressed the importance of properly demonstrating our products. When the decision was being made at Simpson as to whether to buy 50 of IBM's 3178 CRT's or Memorex 2178's, a good demo of the 2178 and allowing his users to try it "blew the socks off the 3178."

Oh yes, Simpson Electric now has installed a Memorex 1270, 50 2178's, and has ordered a 4303 printer, 3695 disc, and 328T tape drives. Galaxy wins again and is a marketing program that works for the 4300 market! Congratulations to Bill Morrison and the entire Memorex team on the Simpson Electric account for a job well done!

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## Don't Keep The 6880 A Secret

by Chuck Standerfer

The 6880 and solid state disk in general is the best kept secret in the data processing industry.

Since IBM does not market an SSD, many customers are not aware that such a device exists, much less its benefits. Informal surveys indicate that as many as 50% of all medium to large scale installations fall into this category.

Don't exclude anyone as a prospect. Introduce the 6880 to all of your customers because everyone needs a 6880. The only question is "How Big and How Many?".

Remember, you only have competition when you're in the race. Good luck and good selling.

# Ignoring The Obvious Pays Off Big With Amdahl

Consider the situation. Three years ago a competitor beat us out of one of our major Communications accounts. The customer said we were using "yesterday's technology." And he was perfectly satisfied with his new vendor's price, performance, and service. What would you do?

If you were George Szymkiewicz, you would ignore the obvious, walk through the front door and take back the account . . . by selling the advantages we did have. That's exactly what Szymkiewicz, sales consultant for the Western Area, did when he won back Amdahl Corporation's business from Telex, which had taken it over in 1982.

Three years ago, Memorex, with 500 terminals, was Amdahl's major supplier of CRTs. Telex entered the picture with a contract for 1,300 CRTs, effectively knocking us out of the game. It looked hopeless for Memorex . . . Amdahl was satisfied with Telex's products, service, and pricing.

With the current Memorex product line, Szymkiewicz knew he couldn't convert a satisfied Telex customer. So he sold Amdahl on Memorex's advantages over the long run . . . our

history of bringing innovative features to the marketplace and our commitment to continually expanding and improving our product line.

The first step, he decided, was to create a positive impression for the current Memorex communications products. It wasn't easy, since Amdahl's technical staff perceived the 2078 as "yesterday's technology," and when Szymkiewicz started working the account, the 2080 wasn't yet announced. Memorex really didn't have a full communications product line yet . . . especially in the area of controllers.

Even so, Szymkiewicz scheduled a couple of guest relations visits and technical presentations that talked about our future as well as our present. One product demonstration in particular, by Jim Peck, Lee Gomez, Dan Bezzant, Jack Tucker, and Karyn Plank, impressed the technical staff and went a long way toward gaining Amdahl's confidence. Another big plus was the detailed support program Rick Melanese developed with the Amdahl Network Control staff.

With help from Dennis Flanagan and Jim Peck, Szymkiewicz put

together an attractive and competitive pricing package for 2078s and the now-ready 2080s, with high growth potential because of our expanding product line.

To complete the deal, he used the major accounts program to set up a contract maintenance agreement to be extended over three years. The maintenance agreement, along with the new technology of the 2080s, made it a deal Telex could not match. Even though both Telex and IBM had the current price/performance advantage, Szymkiewicz proved that the Memorex program would promote technological growth and cut costs in the long run.

The final agreement with Amdahl stipulates that Memorex is the exclusive display vendor at Amdahl in Sunnyvale for the next two years, with a minimum delivery of 400 terminals.

It all goes to show that with teamwork and persistence, anything is possible. And that our commitment to our customers and to expanding and improving our product line over the long run is just as important as the products we offer today.

# Bulldog Award Honors Top Sales Reps

## Doug Brigrance, San Francisco, California

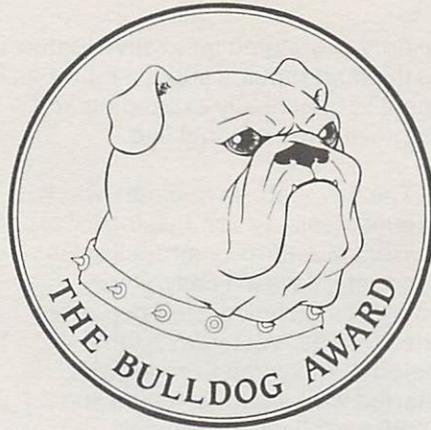
With sheer tenacity and perseverance, Doug Brigrance bulldogged a bullheaded customer and won a \$300,000 VPA from Carpenter's Trust.

Doug knew that Carpenter's Trust would save money and upgrade its performance level with Memorex. He painstakingly created a comprehensive proposal that outlined the benefits and savings.

The person who influenced the decision agreed that the benefits and cost savings were real. Yet he refused to recommend Memorex to his superiors. He also made it plain that any attempt to circumvent him would result in no business with Memorex—ever.

Doug puzzled over this illogical reaction, but continued to meet with the influencer and push for the close. Time and time again he asked for the order. Time and time again he was rebuffed.

To complicate matters even more, the prospect refused to reveal why he would not recommend Memorex. Still, Doug did not give up.



One particularly ugly episode capped this strange situation. After yet another frustrating luncheon meeting, the prospect jumped from branch manager Dave Mare's moving car, screamed scores of profanities at Doug and Dave, and swore that he would never do business with Memorex.

It would have been enough to make a weaker soul quit—but Doug has the spirit of a Bulldog. He decided to try going over the influencer's head to his boss. After all, what did he have to lose?

The strategy worked. The decision maker chose Memorex, and awarded Doug an order for more than 150 units, a full-product-line mix of displays, controllers, and printers.

The first units are now being installed, and Doug is back at the account courting an order for Storage Equipment products. Hats off to you, Doug, for a super selling effort!

Headquarters wanted to help, but had difficulties meeting the stringent delivery requirements. So Bill turned to other avenues. He found three 2068 printers at Federal's parts center. He dug up twelve displays that were earmarked for another customer. And he took a demonstration 2274 that was in the branch office.

He made the delivery himself, supervised the installation and even acquired software and made the 2274 operational. And this was all in the space of one week!

As a result of his speediness, tenacity, and willingness to help, Bill has become somewhat of a communications guru for D.O.T. This will very likely lead to an order from the U.S. Coast Guard (part of D.O.T.) for 70 terminals. In addition, he has an excellent reference account in a highly visible government agency.

Congratulations for such a quick reaction and a job well done!

## Bulldog Roll of Honor

Jim Barlow—Salt Lake City, Utah

Bill Morrison—Chicago, Illinois

Jim Neagle—Chicago, Illinois

## MEMOREX TIMES

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## Bill Duckett, Federal—McLean, Virginia

Bill Duckett is more than a Bulldog. He showed that he is part Greyhound too, by racing around finding units to meet a critical deadline at the U.S. Department of Transportation.

The government's fiscal year was approaching its end on September 30. The D.O.T. told Bill that they wanted to buy Memorex units, but only if we could make delivery in one week.

Impossible? Not for the fleet-footed Bill. He took the order for one 2274, twelve 2078's, nine 2173's, and three 2068's, and spirited off to round up the units.



# Memorex

A Burroughs Company