Storage Tech Makes Its Way On The Road To Recovery

*Each bridge the company crosses becomes another milestone*

A lot of people think the only interesting question left to ask about Storage Technology Corp. is whether its demise was suicide or murder. The postmortems started a year and a half ago, just after Storage Tech filed for protection from its creditors under Chapter 11 of the federal bankruptcy code. They have been going on ever since, undeterred by the protests of STC's present managers, who keep pointing out that reports of their company's death have been slightly exaggerated. In fact,

say Storage Tech officials, the company will emerge from Chapter 11 protection fairly soon—smaller, perhaps sadder, certainly wiser, but nonetheless alive and kicking.

The company did undergo major surgery: Storage Tech's chairman and co-founder, Jesse Aweida, and its president, Jesse's brother Naim, were removed. Thousands of employees were laid off. Three large-scale development projects, all losing money, were cut out. Now the vital signs are encouraging: Late last

year, Storage Tech made a profit—for the first time in two years. It has accumulated cash—almost $200 million, as of early this month. New products have been introduced; more are under development. Most important, the company has come up with a reorganization plan, one that repays creditors 100% of the money owed them.

The postmortem syndrome, however, is still difficult to shake—largely because of the magnitude of the Storage Tech case. Founded in 1969 in Louisville, Colo., as an upstart manu-
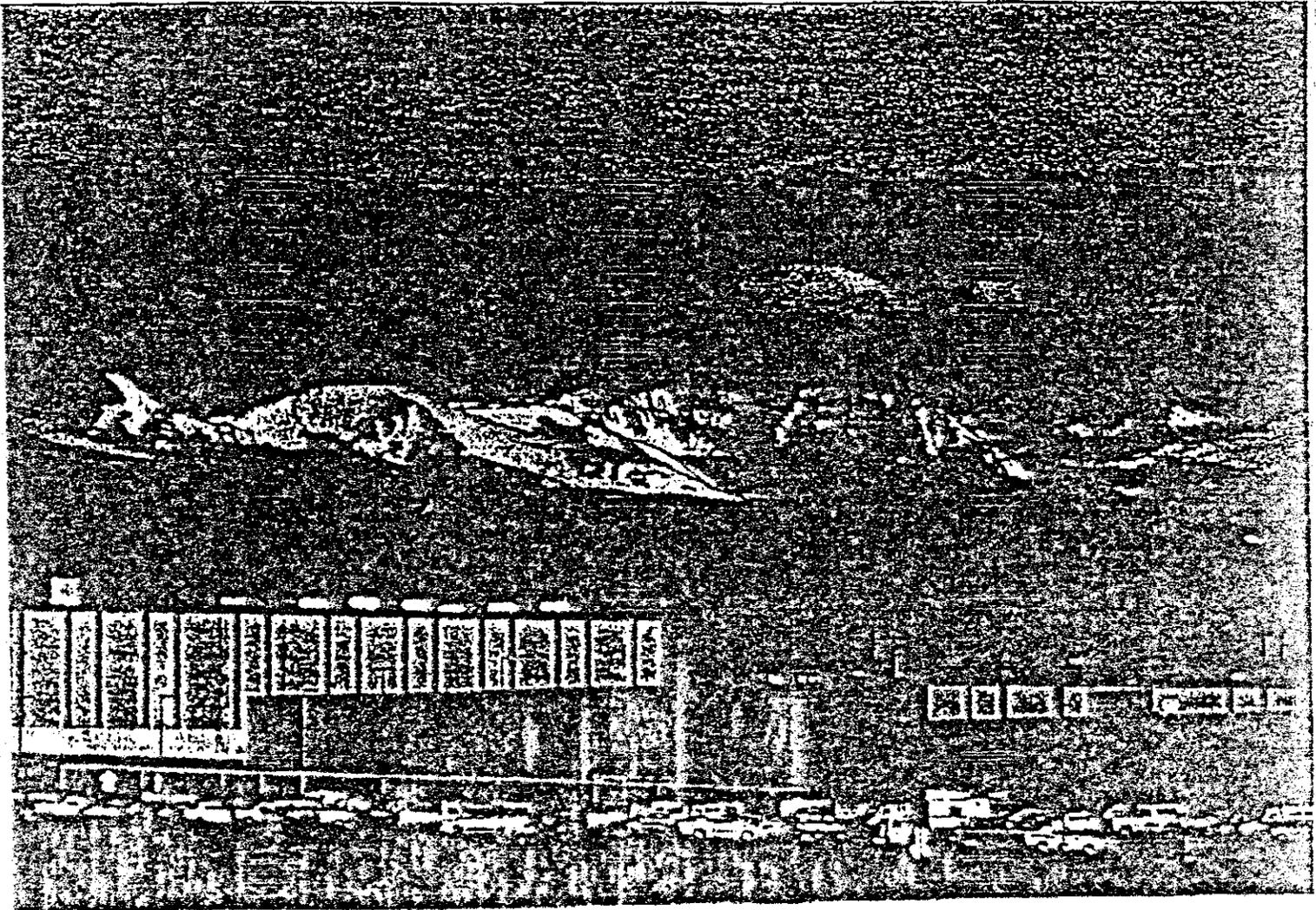
Storage Technology Corp.'s headquarters in Louisville, Colorado

facturer of IBM plug-compatible storage devices, the company grew to become the world's 19th largest computer-equipment firm and, in 1982, the first plug-compatible manufacturer to take in revenue of more than $1 billion. Then STC plunged, within two years, into Chapter 11 proceedings. When it filed for protection, the company owed almost a billion dollars. So it stands to reason that people want to know what happened.

Those who think Storage Tech was done in also tend to suspect that the doer was IBM, which is alleged to have attacked Storage Tech with relentless product introductions and drastic price cuts. IBM had a motive—to eliminate a pesky competitor—but it also seems to have an alibi. It did nothing different in 1983 or 1984 that made it a stronger competitor to Storage Tech than it had always been. New IBM products and price cuts for old products are facts of life for any plug-compatible manufacturer. Storage Tech would not have survived for so many years, much less prospered, if it hadn't already learned how to cope with them.

The only offense IBM might be guilty of is inadvertently giving Storage Tech enough rope to hang itself. In 1980, IBM announced a new disk drive, the 3380, to succeed its 3350, but it delayed actually shipping the new drives for well over a year. As that delay stretched out, IBM's cus-

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tomers, hungry for storage capacity, started looking for an alternative. Storage Tech was soon selling as many of its 8650 drives as it could make. The unexpected burst of sales did a great deal to push Storage Tech's revenue to their eventual record, in 1982, of $1.07 billion. At the same time, it prepared the way for the plunge in 1984

The plunge occurred, however, because of Storage Tech's own reaction to its good fortune. It was hastened by

STC's Ryal Poppa is confident the firm can emerge from Chapter 11 by year-end

a series of misfortunes that occurred from roughly 1981 to 1984. Not all of them were obvious at the time, and not all of them could have been prevented. But all of them did result directly from steps taken by Storage Tech, not from anything any other firm did. If there is one thing that both former and current company officials agree on—and they agree on very little—it is that Storage Tech's wounds were self-inflicted.

The first misstep was trying too hard to take advantage of the delays with the IBM 3380. Storage Tech not only sold every 8650 drive it could make; it sold a lot of drives it should not have made. Daily production went from 25 drives to 125. Every square inch of space in the company was turned into a jury-rigged factory floor, to the extent that the corporate staff had to move its work to trailers in the parking lot. Quality control slipped. Engineers were pulled off new-product development to try to fix defective 8650 drives.

"What made us unmade us," concedes a former official. The engineers who tried to repair the 8650 drives weren't available to work on new products and weren't able to catch all the problems with the 8650s. By the end of 1983, Storage Tech had all the work it could handle just keeping up with its day-to-day operations.

At the same time, the company was betting its future on three ambitious projects: an IBM-compatible computer based on CMOS semicon-

ductor technology; the 8380 disk drive, a drive compatible with the high-end IBM 3380 drive; and the 7600, an optical-disk storage subsystem. "If we'd hit on all three, we'd have been rolling in clover," claims a former executive. "If we'd hit on one, we'd have been okay. No one ever thought to ask what would happen if all three had trouble." All three did have trouble, serious trouble. The CMOS computer program was eventualy killed, in January of 1984. The 8380 sold moderately well, but not well enough to overshadow the 8650's problems. The optical disk program was junked last Christmas, before any of the systems were shipped.

The 1984 10-K form that Storage Tech filed with the Securities and Exchange Commission gave this explanation of what drove the company to seek Chapter 11 protection: "Delays in shipments of new products, reliability problems with the 8650 disk drive, heavy investment in research and development, and increased price and performance competition were the principal reasons." A former official puts it more simply: "We got too big too fast." Says another: "Growth was a management problem that was not handled well." A current manager looks back: "They were spread too thin."

Both former and current officials make the point, however, that no one person bears the blame for what happened. To be more specific, they refuse to make Jesse Aweida the scapegoat. Some of those who worked with him do fault Aweida's decision to make his brother Naim president, characterizing Naim as a weak manager. (The Aweidas themselves don't want to talk about what happened.)

In general, though, Jesse Aweida is criticized only in the most general terms: for establishing at Storage Tech a tendency to take on audaciously ambitious projects, and at the same time exhibiting an attitude of supreme optimism bordering on arrogance. And nobody asked what would happen if everything went wrong at once. Eventually, in the early 1980s, everything did.

IBM started delivering the 3380 in volume, cutting off the sales of the Storage Tech 8650. Storage Tech began to slow down, as its version of the 3380, the 8380, was delayed. The plug-compatible computer and optical-disk programs bled money. But

as late as the fall of 1984, the optimism persisted—after a year of losing money, Storage Tech's senior management still expected to muddle through.

On Oct. 5, 1984, those expectations vanished. On that day, management realized that the company had probably shipped enough products to break even in the third quarter, which had ended Sept. 28, but it could not do the internal paperwork to book that business. STC did not

On Oct. 31, Storage Tech's board of directors voted to seek Chapter 11 protection.

know where its money was. Management calculated the losses for the quarter and announced on Oct. 8 that Storage Tech would lose at least $20 million (the final figure was $64 million).

Even then, no one except the financial officers seriously planned to file under Chapter 11. Management assumed the consortium of banks that had been lending the company money would continue to support it. Then two small European banks called in their loans, rattling the rest of the consortium. Short-term credit lines were frozen. Still, Aweida and his top officials believed they would survive, but they had not reckoned on the Internal Revenue Service.

For months, the IRS had been auditing STC's returns from 1978 and 1979, disputing the transfer pricing between the firm's Puerto Rican subsidiary and corporate headquarters in the United States. "We thought we were near settlement," recalls a former official. "We had tax credits coming out of our ears, because of all the losses. The IRS didn't want to hear it."

What the IRS did want to hear was that Storage Tech would, on Oct. 30, come up with $23 million in cash. If it didn't, the next day the IRS would slap liens on its buildings. The company didn't have the cash. (The IRS dispute continues, held in abeyance by Chapter 11 protection. IRS claims

STC president Stephen Jerritts: 'We've got to focus on quality to survive'

are paid before all other claims when a company emerges from Chapter 11. Storage Tech continues to negotiate on the amount it owes, starting with the $23 million and including further tax disputes after 1979).

At 4 a.m. on Oct. 31, after an all-night meeting, Storage Tech's board of directors voted to seek Chapter 11 protection. The directors planned to file at 7:30 a.m., before the courts opened formally at 8 a.m., so it could slip into Chapter 11 before the IRS filed for its liens. The decision was so sudden that nobody at the meeting had enough cash to pay the filing fee. The fee was $200 for each corporate entity; since Storage Tech intended to file for the parent and three subsidiaries, the board needed $800.

The directors sent a delegation of company lawyers down to an automatic-teller machine next to the Storage Tech cafeteria. But there was one final hurdle: The maximum withdrawal allowed by the machine was $400. The chief legal counsel and another attorney each got his card out and withdrew the maximum and headed for the courthouse. Their $800 saved Storage Tech from forced liquidation.

All that the money really bought Storage Tech, though, was time. The early-morning filing caught the company's creditors off-guard, and by the time hearings began in federal

bankruptcy court in Denver, STC had a plan to offer them. The plan was simple: The investment banking firm of Goldman, Sachs and Co. was hired and given eight weeks to sell the company to any willing buyer. Storage Tech would be liquidated, but on its own terms, or at least on the best terms the market could provide.

The still-disorganized creditors accepted the plan, but they were inclined to think that if nobody made an offer in those eight weeks they should force Storage Tech into liquidation before its rapid deterioration destroyed what little value it had left. In fact, nobody made a satisfactory offer, but when the eight weeks were up, Storage Tech placated the creditors with the resignation of Naim Aweida. Three weeks later, Jesse Aweida resigned.

By then, it seemed clear to the creditors that they had a better chance of getting their money back if Storage Tech continued to operate. Liquidation would be a fire sale, giving them a few cents on each dollar owed them. They settled down to work with the new management of the company, which was led by Ryal Poppa, the man the board had hired to replace Jesse Aweida as chairman.

Some 15 months later, on March 3, 1986, Poppa walked into a crowded ballroom at Los Angeles' Century Plaza Hotel to present to the creditors a plan for reorganizing Storage Tech.

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The 19 members of the creditors' committee, plus their dozens of lawyers and advisors, listened patiently for three hours as Poppa explained how his plan would repay the creditors 100% on the dollar. Admittedly, only some of the payments would be in cash—Poppa won't say what percentage—but the deal is still considerably better than the 20 cents on the dollar liquidation creditors considered likely a few weeks after Poppa took over on Jan. 21, 1985. Assuming the creditors

vote to accept the plan, which is by no means certain, Poppa is confident Storage Tech can emerge from Chapter 11 at the end of the year.

The creditors have already agreed to one important provision of Storage Tech's plans, although not to the reorganization plan itself. They have accepted Oct. 12, 1985, as a "bar date." No claims filed after that date against Storage Tech for debts incurred before the Chapter 11 filing will be accepted. The agreement means, in effect, that the creditors, the bankruptcy court, the Storage Tech board, and the com-

pany's management all think that Storage Tech has a future as a going concern. The bar date is a milestone in Storage Tech's road to recovery.

It's a recovery that hasn't come easy—nor has it come cheap. The Chapter 11 process keeps 110 full-time employees busy. Working out the plan for emerging from Chapter 11 will cost more than $30 million by the time it's finished. The bookkeeping for it all occupies 5 gigabytes of storage attached to two Amdahl 5860 mainframes.

The effort began with a board meet-

ing the day Poppa arrived. He set three goals: get control of cash; stop the attrition of employees, who were leaving in droves; and restore customer confidence.

Storage Tech had not had a cash-control system for two years when Poppa arrived. It now has a cash forecasting and tracking system that, combined with Chapter 11 protection, has raised its cash reserves from zero in January 1985 to $185 million early this month.

In the two months before Poppa took over, resignations had reached an annual rate of 57%. Poppa began meeting headquarters employees 400 at a time. He sent a tape of his appearances to Storage Tech offices around the world. In the last quarter of 1985, the attrition rate was down to 12%.

Finally, there were the customers. On Oct. 31, 1984, STC had equipment installed in 6,200 sites. That figure dropped to 5,100 sites by mid-1985, a decline of 17%. It has now stabilized, after Poppa called on 287 customers last year.

Stephen Jerritts, a former head of Honeywell Information Systems who became president of Storage Tech in February of 1985, called on another 100. Those 300-odd customers form the bulk of Storage Tech's sites. They are also large, well-established users. Among them are 48 of the 50 largest users of data processing gear and 89 of the 100 largest as listed in the *Informa-*

Chronology of Storage Technology

August 1969: Founded by Jesse Aweida and three other former IBM staff members who were disappointed at what they perceived as IBM underfunding of tape drive development and unhappy over the company's plans to move that development from Boulder, Colo., to Tucson, Ariz.

September 1970: First Storage Tech tape installed.

June 1971: First Storage Tech public stock offering.

December 1972: Storage Tech becomes profitable.

October 1973: Storage Tech enters disk-drive market with 8000 series.

September 1978: Storage Tech enters solid-state disk market with 4305.

May 1980: Storage Tech and Amdahl Corp. agree to merge into new company, United Data Corp., in a deal worth $700 million.

July 1980: Amdahl merger called off, reportedly at insistence of Fujitsu Ltd., Amdahl's largest shareholder.

January 1981: Storage Tech announces plans to develop IBM-compatible computer using CMOS semiconductor technology.

June 1981: Storage Tech expands its optical disk development project by buying out Exxon Enterprises Star Systems Division.

December 1981: Storage Tech offers to buy Magnuson Computer Systems Inc., a manufacturer of IBM-compatible computers, for $73 million.

January 1982: Storage Tech kills Magnuson deal one week before Magnuson announces $10 million loss.

March 1982: Jesse Aweida's brother Naim named president.

February 1983: Storage Tech announces it cost $17 million to replace 8650 disk-drive head-disk assemblies in the field

April 1983: Storage Tech ships its first 8380 disk drives.

September 1983: Storage Tech becomes unprofitable. Also announces 7500 optical disk storage subsystem.

January 1984: Storage Tech kills IBM-compatible computer project.

October 1984: Storage Tech files for protection from creditors under Chapter 11 of federal bankruptcy laws.

April 1985: Under new management, Storage Tech announces 8380E double capacity disk drive

December 1985: STC becomes profitable again. Kills 7600 optical disk project.

Poppa set three goals: get control of cash, stop employee attrition, and restore customer confidence.

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tionWEEK 100. The response of AT&T was typical: It dropped Storage Tech at two sites, but still uses its equipment at 16 others. "Eighty percent of our customers stayed with us. God bless those customers," Poppa says.

Poppa's three-pronged approach stabilized the company. It gave management a base to work from, allowing Poppa to devise the reorganization plan to pay back creditors. It also is the basis for the company's current five-year operating plan which

shows that Storage Tech can generate cash to pay old debts. The most tangible sign that the approach is working came in December of 1985, when Storage Tech reported a $2 million profit for the fourth quarter of the fiscal year. That was the first profit the company had made in two years; in the fourth quarter of 1984, it had lost $419 million.

Poppa still has a lot of work to do. Storage Tech is making some money, but it's not taking in as much as it

Storage Tech has plans for new products to reverse the decline in its market segments.

used to: Revenue has dropped from $803 million in 1984 to $673 million in 1985. By its own accounting, the company lost share in every market it competes in. In terms of the number of bytes of disk drive storage shipped, it slipped from 8% to 4% between 1984 and 1985. Its share of the IBM 3420-type tape drive market dropped from 71% to 63%. Its share of the IBM 3480-type market is still zero, 15 months after IBM began shipping its newest drive, so its share of the total tape market is down to 20%. Printer market share dropped from 15% to 7% in the impact printer market. Only in the nonimpact printer market, in which Storage Tech resells a laser printer from Siemens A.G., of West Germany, did the company gain market share, rising from 5% in 1984 (its first year in the market) to 8% last year. Its share of the solid-state disk market remains constant at about 90%, according to estimates by outsiders.

Storage Tech has plans for new products to reverse the decline in each market segment. The company has always had plans, of course, many of them grandiose, but the difference now is that those plans are realistically stated and conservatively drawn. Jerritts promises: "We will not announce products until they are real. We will not ship products until they are reliable. We will not fix products at customer sites." He adds, "We've got to focus on quality to survive."

The plans begin with the smallest segment of the market, ultrahigh performance storage, for which Storage Tech offers the 4305E solid-state disk and in which it meets the weakest competition. IBM has no comparable offering. Intel Corp. and Memorex Corp. do, but together they control only 10% of the market. Since its introduction in 1978, the disk's users have viewed it mostly as a solid-state paging drum, according to Fred Moore, a director of worldwide marketing. Storage Tech now plans to reposition the product: "It's really a solid-state disk. It looks like a 3380 disk to the software. Nothing moves. The operating system thinks it's a disk. The application software thinks it's a disk. Only the customers don't see it that way." He hopes to change their minds.

Next comes the high-performance market, in which Storage Tech offers the 8890 Sybercache product. Joe Beal, another worldwide marketing director, says IBM's introduction of cache in its controllers is hastening acceptance of this heretofore slow-moving product. Storage Tech thinks it has an advantage with its early lead in cache design and cache software.

In the high-capacity disk-drive market, Storage Tech sells the 8380 disk drive and plans to sell an 8380E dual-capacity drive. Poppa says development efforts are underway for a quadruple-capacity machine.

In the tape market, Storage Tech sells the 4670 tape drive. It is also continuing a project begun under its former management, one of the few such projects to survive Chapter 11. Storage Tech had concluded that it could not compete effectively against the IBM 3480 tape-cartridge system unless it offered a substantially different product. That product, code-named Cimmaron, is a machine that automatically selects and mounts tapes—similar to a tape-drive "jukebox" that IBM worked on, then abandoned. Ron Korngiebel, the manager of tape product marketing at Storage Tech, reports that a working prototype is under development, but declines to discuss when Cimmaron will come out and what it will cost.

Finally, Storage Tech sells the nonimpact 6100 laser printer from Siemens Ltd., along with its home-grown, recently introduced 5000 series of impact printers. STC's printer line looks, at first glance, like
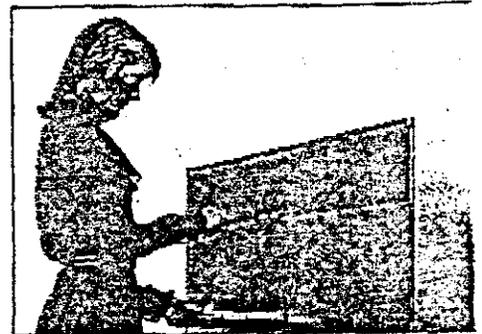
STC sells the 8380 disk drive (above) and plans to sell an 8380E dual-capacity drive

a glaring misfit with its other businesses, but the company argues that paper is just another storage medium. (IBM thinks of it that way; it describes printers generically as a form of "shelf storage.") Further plans call for faster, more reliable printers.

To an extent, though, Storage Tech's product plans aren't that important. No one argues that the company can't build plug-compatible storage devices. Defects in its 8650 and then its 8380 disk drives contributed to its decline, but ultimately what caused the decline was bad management. For Storage Tech to rebuild, it must be well managed.

All of the development programs have been approved by the creditors and the court. They are locked in, and their funding is agreed upon. One result is that the product-development approach has changed, Beal says. "There are no big risks here. We are not scheduling invention. There is no magic."

Overall, the bulk of the evidence indicates that Storage Tech's management is better than it was pre-Chapter 11. Carl Vertuca Jr., the company's treasurer (whose four-year tenure began under Aweida), notes that Storage Tech has gone back to basics and cleaned up its balance sheet. The average age of accounts receivable is down from four months to two months. Finished-goods inventory has dropped from $100 million at the time of filing to under $15 million. Because of just-in-time inventory practices, inventory now turns over five times a year, meaning that products go out the door and money comes in at a regular clip; before Chapter 11, inventory turned over once a year.

Not everyone, however, is satisfied. In some cases, the dissatisfaction stems from the actions of the past manage-

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ment, but the current management will have to cope with it or suffer the consequences. There are 15 lawsuits pending that accuse Storage Tech of misleading stockholders. Investors in limited research and development partnerships that funded the defunct mainframe and optical disk programs are also suing. The Securities and Exchange Commission is investigating to determine if Storage Tech committed fraud in conjunction with stock offerings or financial statements.

The lawsuits could seriously damage the company's recovery if substantial judgments are awarded. Storage Tech is reasonably optimistic that it can settle the suits; it is generally not easy (although nowhere near impossible) for investors to prove they were defrauded. The SEC investigation probably is a less serious threat. A former official dismisses the investigation as *pro forma*, adding, "They won't find anything. We didn't cook the books."

However, a certain amount of dissatisfaction is directed at the present management, too. Some of it comes from creditors; some from investment analysts and financiers; some from the former management. Poppa and his team have been accused of decimating the customer base; of tolerating a run-down service operation; of robbing the future by cutting back on research; of planning to liquidate the company; and of shrinking the company below critical mass in terms of size and product line, thereby ensuring its collapse.

Poppa and Jerritts try to refute these accusations. They report that the company has retained some 80% of its customer sites. According to Jerritts, service suffered less than other divisions of the company: While the total number of employees dropped from 12,900 to 8,700, service workers dropped from only 2,600 to 2,385. The average length of service of those remaining is seven years. Only in Detroit, where General Motors and Electronic Data Systems raided the staff, and in the New York City area, where turnover is endemic, is a Storage Tech customer more likely to see a new face than a familiar one, Jerritts says.

As for funding research, the question of how much is enough bedeviled Aweida long before Chapter 11. Nearly every time he appeared before investment analysts, they asked him pointed questions about research, citing that any expenditure of less than 10% of revenue amounted to

looting the future. By that rule of thumb, Jerritts is doing all right. He spent $65 million, or 10% of revenue, on research last year, and this year plans to spend more in dollars, but less in percentage terms: $67 million out of revenue estimated to be about $750 million, or about 9%. He notes that the money is spread out among short-term and long-term products. About one-third of the money is going into tape drives that will ship in 1987. About half will go into disk drives shipping in 1988 and beyond. The rest goes into miscellaneous projects.

The rumors of impending liquidation are harder to refute. Several former Storage Tech officials—admittedly not the most objective observers—claim that Poppa and Jerritts are simply cleaning house before they sell out and pull the rip cords on their golden parachutes ($900,000 for Poppa, $480,000 for Jerritts). Poppa acknowledges that Storage Tech is still a client of Goldman, Sachs, which continues
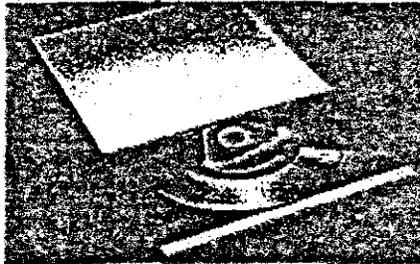
The head-disk assembly of the 8380, STC's high-end drive

to look for a buyer, but he says the company would be in legal trouble if it stopped looking. Storage Tech must do whatever will provide the maximum return for its creditors; if that means selling the company, the company must be sold. Poppa, in any event, intends to "stay and run Storage Tech."

The final question—that of breadth and critical mass—is almost impossible to answer. Years ago, a major study of the IBM plug-compatible market concluded that it was essential for a plug-compatible manufacturer to offer a broad product line, on the one hand, and reach a "critical mass" of revenue, perhaps in the billion-dollar range, on the other. Companies with narrow product offerings or less revenue could not stand up to IBM. Those conclusions have since hardened into conventional wisdom. Both of the major plug-compatible mainframe vendors, National Advanced Systems and Amdahl Corp., have act-

ed accordingly, diversifying their product lines to include not only computers but a variety of peripherals and communications gear. Amdahl is nearing the billion-dollar revenue mark, and NAS is part of the multibillion-dollar National Semiconductor Corp.

Poppa disputes the conventional wisdom. He points out that Storage Tech, under Aweida, tried to mount a mirror-image expansion to that undertaken by Amdahl and NAS, growing from peripherals into computers (in fact, Storage Tech and Amdahl planned at one point in 1980 to merge; the deal fell apart). But Poppa's question is why diversify. Why not concentrate on four areas with good profit margins and solid growth potential: tape, disk, solid-state disk, and printers. His five-year plan calls for a recovery based on existing product lines and foreseeable improvements in those lines. With the reduced costs of a smaller company, Poppa figures, "there are good profit margins in all our product lines. We can be a major competitive force. We can be number two to IBM again in disk."

Questions of critical mass and diversified product lines are, at this point, premature. Storage Tech is still under Chapter 11 protection. To emerge, its creditors must accept its reorganization plans. To survive, it must settle the lawsuits against it and negotiate a settlement with the Internal Revenue Service. Only then can the company begin to think about again playing a prominent role in the industry.

STC has a good chance. It dominated the tape market for a decade, beating IBM in head-to-head competition. It was once a major disk-drive player and still has satisfied customers in that market. In addition, it still dominates the market for solid-state disks. And it is giving IBM a run for its money in the impact printer market, where IBM has had its problems.

Within those areas, Storage Tech can be reasonably optimistic, and it does not intend to stray beyond those limits. When the company's reach exceeded its grasp, those grand ambitions made it the largest bankruptcy case in the history of the computer industry. Today Storage Tech is run by more cautious managers, who will be content to make it the largest company ever to emerge from bankruptcy. —*Paul E. Schindler Jr.*