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Voice is faster than hand, says Tandem

Computer
Weekly
2/23/84
p7

by Claire Gooding

NONSTOP manufacturer Tandem believes voice is better than hand for data entry. It is claiming a 40% improvement in speed and accuracy over manual methods with its newly released Voice Input Option.

Tandem joins such manufacturers as Texas Instruments, Marconi and Logica in trying to prise open the speech recognition market, but Tandem's UK sales director Allen Brain is putting the emphasis on the much wider field of "information transfer".

"There's a movement away from traditional means of data entry, and retrieval," says Brain. "We're strongly committed to developing an information transfer mechanism which can cope with all forms of input, including voice, facsimile, videotex, and image processing. This is just one small part of a grand strategy."

The Voice Input Option uses a microphone fitted to the terminal. This allows operators who need to use their hands for sorting or inspection to enter their transactions without interrupting manual tasks. The advantages, according to Tandem, are increased speed and accuracy.

Tandem has been using the system in its own quality control processing. When printed boards pass through their final inspection, quality control staff speak the co-ordinates for any faults that they spot into the microphone, saving a great deal of time on keying the data in through the keyboard.

The voice input system has to be "trained" to the voice and voca-



BRAIN... "Grand strategy."

bulary of a particular individual. The size of the vocabulary is only limited by the disc storage available, and can be in any language. At present, the Voice Option is available only for Tandem's 6530 terminals.

Brain sees finance and banking as front-runners in the applications which could use voice input most effectively. Online transaction processing, goods inspection, medical and travel applications are also on Tandem's hit-list.

The company is on the verge of announcing a major OEM deal for the system with a leading CAD/CAM developer.

The basic price for the voice input option is £1,440; a significant part of Tandem's "grand strategy", since one of the problems of voice input is making the technique affordable.

Tandem sees the conversion of speech into keyboard input as a major market because the price of hardware drops within reach of small-business users.

Information Processing

diversification attempts to flop. After 10 years of trying, and failing, to produce profitable live entertainment with Ringling Bros. Barnum & Bailey Circus, the company sold that operation in 1982. Its Western Publishing Co. division lost \$2.4 million in 1983 and is expected to be only marginally profitable this fiscal year. Mattel also tried, and failed, to enter the market for home security products.

Home computers and video games proved to be Mattel's undoing, however, primarily because of the enormous size of those markets. Alumni of Mattel Electronics say that corporate management was ill-trained to make the quick decisions required in these businesses. "The company really doesn't have the wherewithal and knowhow to compete in electronics," says Stav E. Promdromou, Mattel Electronics' former vice-president for operations. Mattel management would not talk to BUSINESS WEEK for this story.

Mattel has made major mistakes in product strategy, according to former managers. Intellivision, which had a re-

tail price of \$300, initially won the No. 2 slot in the video game market, behind Atari Inc., because it played more sophisticated games than Atari's original Model 2600. But then Mattel failed to consolidate its position by upgrading its product.

'STEAMROLLED.' So in late 1982, when Coleco Industries Inc. introduced its more sophisticated ColecoVision game player, Mattel's sales started slowing. "Coleco steamrolled Mattel," declares Clive G. Smith, a market analyst at Yankee Group in Boston. Smith calculates that U.S. shipments of Intellivision dwindled from 1.1 million units in 1982 to 350,000 last year. By comparison, ColecoVision sales soared from 550,000 in 1982 to 1.2 million in 1983, he estimates.

Mattel was also beaten out in the lucrative market for video game cartridges. Cartridges can produce much larger revenues than players over the long run, but a host of independent software houses, including Activision, Imagic, and Parker Bros., loaded retail shelves with a large number of games that were more popular than Mattel's

offerings. Mattel was known for its action sports games, but it missed the big video arcade hits because the company failed to lock up licenses to produce these games for the home market. "Mattel ignored the Pac-Mans and the Froggers of the world," declares Richard E. Stearns, executive vice-president of Parker Bros. Consumer Electronics.

Without either a strong player or video game position, Mattel ended up as a victim of industry price wars. Intellivision currently sells in some stores for \$50, compared with \$300 just two years ago. Even at that rock-bottom price, distributors report little interest among many retailers in stocking the product and its software cartridges.

While Mattel has extricated itself from such problems, it still has to find the money to pay the bills it ran up in its foray into electronics. And that means going back to basics in its traditional toy businesses. "The toy division is what started this company," says Kully of William Blair. "But it's going to take some superb performance for the next several years to get out of this mess."

BRIEFS

COMPAQ COMPUTER OUTRUNS SALES FORECASTS

Compaq Computer Corp. has accomplished what no other U.S. manufacturer has been able to do in its first year of production: It racked up sales of more than \$100 million. The Texas maker of personal computers sold \$111.2 million worth in 1983 and turned a net profit of \$5.3 million. The results surpassed industry watchers' most optimistic predictions (BW—Aug. 15). Compaq, which started offering its shares to the public in December, was one of the first companies to develop a computer that can use the same software as International Business Machines Corp.'s best-selling Personal Computer.

TANDEM COMBATS IBM BY ADDING OFFICE CHORES

To make its computers more competitive, Tandem Computers Inc. is adding office applications to its terminal products. The Cupertino (Calif.) company, which sells its highly reliable Non-Stop line of machines to businesses such as banks and stock traders that must process large numbers of transactions simultaneously, is facing increased competition from International Business Machines Corp. Tandem is counterattacking by providing software, priced at \$500, that allows its

terminals to emulate IBM's best-selling terminal, the Model 3270. Tandem is also offering an \$1,800 option that will allow an operator to give speech commands instead of using the keyboard to type them in.

THE 9-TO-5 SET MAKES PEACE WITH MACHINES

When office automation was introduced in the early 1970s, those most opposed to it were secretaries and typists, who felt they would be put out of a job by word processing systems. Now that these systems are in wide use, however, office workers seem to be taking a strong liking to them. Indeed, 83% of more than 500 corporate secretaries responding to a recent survey reported that they "loved" the word processors, according to Kelly Services Inc., a temporary-clerical-personnel agency. Some 87% of the secretaries expected word processing to help them advance their careers. So far, however, only 30% had received pay increases because of their new skills.

HEWLETT-PACKARD AND VITALINK TEAM UP

Sending data via satellite has traditionally required dealing with two or three vendors: a computer maker, a satellite communications company, and an earth station supplier. Now, Hew-

lett-Packard Co. and Vitalink Communications Corp. are teaming up to provide one-stop shopping. Under a joint marketing agreement, users of the HP 3000 minicomputer will be offered Vitalink earth stations for installation on their premises. The stations allow users to send data via Vitalink's two satellite transmitter-receivers. This is Vitalink's second such deal with a computer maker. In 1982 the California company teamed up with Tandem Computers Inc. to offer a similar service (BW—May 24, 1982).

ALTERNATING DATA AND VOICE IN A SINGLE HOOKUP

When owners of personal computers send or receive data over a telephone line, they cannot use it for normal conversations. Now, Prentice Corp., a Sunnyvale (Calif.) maker of communications products for computers, has developed a device called Popcom that allows users to talk and send data at the same time. Users can switch between sending data and voice without disrupting the connection as long as both ends of the hookup are equipped with Popcom. The new product, which works with most personal computers, will be available in March for \$475. Competitive communications devices without Popcom's voice and data capabilities can sell for as much as \$700.

C T

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S

Tandem is ready this year

Company is groomed
for the big leagues

By Sally O'Neil
Times Tribune staff

After a slow and disappointing 1983, Tandem Computers Inc. has emerged ready for battle in the computer big leagues.

Analysts say the Cupertino-based computer company has marshalled the resources, management and credibility to compete successfully in certain markets with such entrenched giants as International Business Machines Corp.

Tandem's products — fault-tolerant computer systems — are praised by customers and analysts alike.

The company was a pioneer in the field of "fail-safe" computers, which operate with two or more processors. When one computer unit goes down, a "tandem" processor steps in to keep the job going, so that users are unaware of any problems.

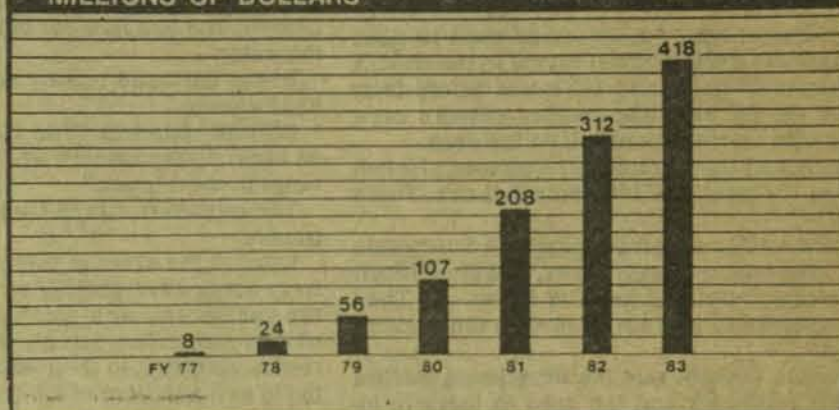
In the seven years since its first system shipment, Tandem's sales have reached \$418 million.

But fast growth can bring problems. Tandem's problems included gaps in management and resource planning, said President James Treybig at the company's annual meeting last week.

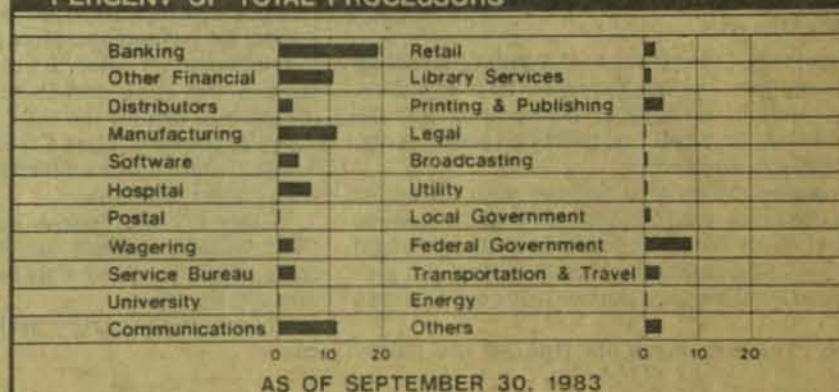
"We used 1983 to rest and fix

Please see TANDEM, B-7

TANDEM
ANNUAL REVENUES
MILLIONS OF DOLLARS



TANDEM
USE BY INDUSTRY
PERCENT OF TOTAL PROCESSORS



AS OF SEPTEMBER 30, 1983

Graphs courtesy of Tandem Computers Inc.

Analysts expect Tandem Computers Inc.'s sales to grow to \$600 million in the current fiscal year, up from \$418 in the 12 months ended September 1983. Some of Tandem's biggest customers are in the fast-growing and competitive banking and communications industries, both of which are becoming increasingly dependent on computers.

TANDEM

Continued from B-4

things," he said.

Tandem executives worked on financial controls, cash balances, field-service operations and management-information systems.

"Tandem is much more mature this year than a year ago," Treybig said.

Some analysts put it more bluntly.

"They have moved from a graduate-school mentality to a world-class competitor," said analyst David Wu at Montgomery Securities in San Francisco.

"A lot of the (company's) negatives have really gone away," he said.

Tandem's growth last year wouldn't have disappointed most companies. Its sales rose 34 percent in the year ended in September 1983, despite recession in many parts of the world where it sells.

But in earlier years, sales often shot up 60 percent or more. And profit in 1983 was essentially flat at \$30.8 million, compared with \$29.9 million a year earlier.

Problems in internal controls became apparent when Tandem misstated profit and sales for fiscal 1982 and had to lower both figures in December 1983. Although Tandem had made the sales, some of them actually fell into the next quarter, according to the company's accountants.

To avoid such embarrassments in the future and tighten financial controls overall, Tandem recruited David Rynne, a vice president and divisional chief financial officer at Burroughs Corp., as chief financial officer. During the year, Rynne instituted internal

audit controls, reduced inventories and shortened the lag time between shipment and payment.

The company's cash balance rose from \$24.8 million in September 1982 to \$93.5 million a year later, he said.

But even while it was focusing on internal problems, Tandem kept churning out new products. No longer just a supplier of computers, it now offers a range of products and services to support them.

Last fall, Tandem introduced its TXP computer, which the company says is two to three times faster than earlier systems. Tandem also offers an array of computer networks and software products that enable its computers to communicate among themselves and IBM machines.

Tandem's non-stop processing power has become increasingly important in competitive and fast-evolving industries such as banking, communications, retail and transportation.

Wells Fargo Bank, for example, uses Tandem computers to run its 24-hour automated teller system.

Mobil Oil Co. has contracted to use Tandem systems for gas stations where gasoline is sold by credit or bank debit cards, without attendants.

The demand for non-stop computers like Tandem's is expected to grow at 34 percent for the next few years — about double the rate of the data-processing market as a whole, according to researcher InfoCorp in San Jose.

Other analysts predict the market will grow from about \$400 million in 1983 to \$1.3 billion by 1986.

To protect itself from vulnerability during general economic downturns, as well as

through downturns in any one industry, Tandem has broadened its customer base to about 25 industries. By last September, the company had delivered 5,800 processors to 725 customers worldwide.

"We need broad coverage to be less vulnerable," Barry Ariko, director of product marketing, said.

Despite competition from several younger companies manufacturing fault-tolerant computers, Tandem is expected to maintain its industry leadership.

But to get the big corporate accounts, which means winning some away from IBM, Tandem needs to become better-known.

"We lost deals in large companies where top management never heard of Tandem. They don't want to run critical applications on an unknown computer," Ariko said.

Neither IBM nor number-two computer maker, Digital Equipment Corp., yet offer machines with features similar to Tandem's. But the two computer giants nonetheless compete in several markets with the Cupertino-based company.

Analysts said the Tandem name is gaining wider acceptance.

"They've made a major breakthrough in credibility in the market," said Ted Costello, a vice president at Dean Witter Reynolds Inc.'s Palo Alto office.

Tandem's bottom line is already improving. Its first-quarter profit increased 41 percent to \$10 million in the period ended Dec. 31, 1983, on sales that rose 34 percent.

Wu at Montgomery Securities and other analysts expect Tandem's sales to rise almost 45 percent, to \$600 million, in the current fiscal year ending in September.

Tandem 653X line gets 3270 emulation, voice recognition

By Jeffry Boeler
CW West Coast Bureau

CUPERTINO, Calif. — Tandem Computers, Inc. has enhanced its 653X terminal line with IBM 3270 emulation capability, two additional terminal models and a voice-recognition feature that reportedly provides an alternative means for entering data into Tandem processors.

Tandem also introduced a 55 char./sec. letter-quality printer for the 653X series and trimmed the price of its Model 6530 terminal by \$275, a reduction of approximately 11%.

The 653X family had been slated to receive yet another product improvement — word processing capability — but the proposed upgrade reportedly suffers from serious shortcomings and is being withheld from the marketplace indefinitely, according to a Tandem spokesman.

Announcements of the latest enhancements to the 653X terminal line came on Feb. 10 during an annual shareholders' meeting at Tandem's world headquarters here. With the release of Tandem's EM3270 communications access method, all three members of the 653X series, including the two newcomers, can now interact selectively over bisynchronous lines with either IBM or Tandem host mainframes. Users can switch between IBM and Tandem processors by touching just one keyboard button, the spokesman said.

Implemented mainly in software, EM3270 enables the 653X terminals to emulate a wide assortment of 3270 series devices, including:

- The 3277 Model 2.
- 3278 Models 2, 3, 4 and 5.
- 3279 Models 2 and 3.
- Models 3284, 3286, 3287, 3288

and 3289 printers.

Because the 3270's emulation software resides in Tandem's Non-stop and TXP mainframes, none of the firm's terminals can communicate directly with IBM processors. Instead, the display units gain indirect access to IBM applications through Tandem's CPUs, the spokesman said.

EM3270 complements its developer's two existing access methods — TR3271, which allows 3270 series peripherals to treat Tandem hosts as 3271-type cluster controllers, and AM3270, which permits IBM-built 3270s to communicate bisynchronously with Tandem systems.

New terminals

In addition to operating with the existing 6530, the 3270 emulation capability is available with the 6531 and 6532, the two latest extensions

to Tandem's terminal family. Unlike its older sister system, with its 15-in. monitor, the 6531 has a 12-in. display screen and is suited primarily for decision-making applications and "what-if" queries, the Tandem spokesman said.

The 6532, by contrast, comes with a 9-in. display and is aimed mainly at jobs in which desk space is at a premium.

Both 653X series additions are packaged with their electronics and monitors in separate boxes, which can be moved up to 6 ft apart from each other, the spokesman noted.

Like the existing 6530, the 6531 and 6532 support Tandem's just-announced Voice Input Option, which uses a microphone and headset to allow users to enter data simply by talking rather than by keying. Intended mainly for production-floor

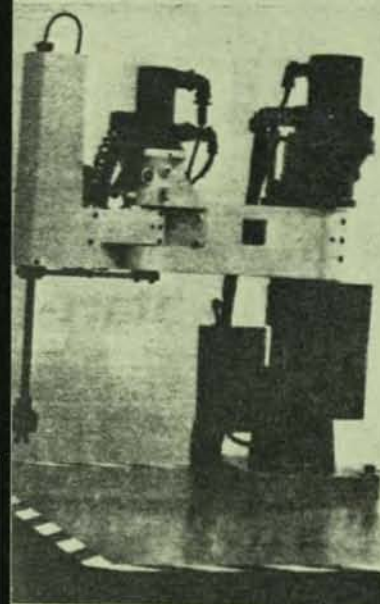
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and similar applications in which constant manual activity hinders conventional data entry, the voice-recognition feature is implemented on a circuit board that contains enough memory to hold a vocabulary of 200 words.

Scheduled for first-customer shipment in April, the voice-recognition feature costs \$1,800. The 6531 is priced at \$2,100, the 6532 at \$1,950 and Tandem's letter-quality printer costs \$2,995. Both additions to the 653X terminal family will be available for delivery this month.

EM3270 can be obtained for a one-time, per-processor license fee of \$500, plus a \$20/mo maintenance charge per system. The capability is available from Tandem at 19333rd Valco Pkwy., Cupertino, Calif. 95014.



Radio Shack Cuts Desk-Top Prices

FORT WORTH, Tex. — Radio Shack has slashed the price of both its Models 12 and 16B desk-top computers, trimming \$1,000 off the 16B and \$400 off the smaller Model 12.

The price moves follow the company's December introduction of the Tandy TRS-80 Model 2000, an 80186-based machine said to be partially IBM-compatible. At the time, Radio Shack officials had conceded sales of the new machine would cut into its Model 12 market and that 16B sales had not been as high as expected (EN, Dec. 5).

The 16B was cut from \$4,999 to \$3,999, for a single-disk model, while a dual-disk version went from \$5,798 to \$4,699, and a 128K memory upgrade dropped from \$599 to \$399. The Model 12 was cut from \$3,199 to \$2,799 for a single-disk model, while a dual-disk version dropped from \$3,999 to \$3,499.

Both computers, however, still remain priced higher than the new Model 2000, which carries a \$2,750 tag for a dual-disk model with 128K bytes of RAM and \$4,250 for a 10M-byte hard disk version. Both of the older models, however, retain software-compatibility with earlier Radio Shack offerings, a feature missing from the Model 2000.

Gould Relocating Florida Production

FORT LAUDERDALE, Fla. — Gould Computer Systems division, formerly SEL, is moving its remaining, limited production from here to Melbourne, Fla., over the next 2 months, eliminating some 75 to 80 jobs.

Fort Lauderdale, which is the division's headquarters, has been declining steadily as a manufacturing site while production has been beefed up in Melbourne and at offshore plants in Puerto Rico and Ireland.

The company said that about 25 workers were laid off in recent weeks, and another 27 have been given notice of their termination over the next 2 months. Of this 75 to 80 workers, "some are being transferred, some let go, and some are in limbo and will be phased out in the next few months," a company spokesman said.

He said the division's main manufacturing plant in Fort Lauderdale, a 100,000-square-foot leased facility called Plant No. 2, was closed last September and the building was razed by the owners. Sources said the plant, in a deteriorating part of town, was in shambles and the object of frequent vandalism. The site was turned into a car-rental lot.

The only other manufacturing sites Gould maintained in Fort Lauderdale

Tolerant Unveils MPU-Based System

SAN JOSE, Calif. — Tolerant Systems, Inc., last week unveiled the initial version of its first product, a multiple microprocessor-based system built around the National Semiconductor 16032 MPU and aimed at the on-line transaction processing market.

Tolerant said initial versions of its Eternity series using the 16032 microprocessor will be available to customers in April. The company added it will upgrade the system in the second quarter to accommodate the 32-bit 32032 microprocessor.

The system's basic CPU includes two microprocessors, one dedicated to system tasks and one to user applications. A system can consist of from one to 15 CPUs. Tolerant estimated the power of an entry level system as equivalent to that of a VAX 11/780 system.

A minimum configuration of the system, including two 16032 MPUs, an 84M-byte Fujitsu 8-inch disk drive, tape drive, printer and 1M-byte of memory will list for about \$75,000 in small OEM quantities. A larger, more typical version, with four CPUs, 1 gigabyte of disk storage, 36 communications lines, a printer, two tape drives, and 4M-bytes of memory per CPU would list for about \$400,000 in small OEM quantities.

The Eternity series uses a version of the Unix operating system which is compatible with the Western Electric System V and with the Berkeley 4.1 and 4.2 versions of Unix. The company said applications will not have to be rewritten when the switch is made to

the 32032 or when fully fault-tolerant software is made available by Tolerant.

Full fault-tolerant capability will not be available initially. Tolerant said software permitting up to 15 CPUs to be tied together on an Ethernet bus and performing in a fault-tolerant fashion will be available in the first quarter of 1985. In addition, Tolerant said data protection features will be added to the system's software in 6 months.

The Eternity series is expected to compete with Tandem and other makers of fault-tolerant systems sold into the on-line transaction processing market. The system will be sold through value-added resellers.

Grid Cuts Price On Portable CPU

MOUNTAIN VIEW, Calif. — Grid Systems Corp. has cut the price of its Compass portable computer by 17 per cent and added portable systems at both the entry level and high-end of its product line.

Grid also has renamed its product line, beginning with the new entry-level Model 1100 which includes 256K bytes of RAM, 384K bytes of bubble memory, a flat panel screen display and lists for \$5,995.

Grid's former Compass model, with the same memory configuration as the 1100 but which includes a modem, has been renamed the 1101 and now lists for \$6,795, down from the previous price of \$8,150.

Grid also added two new high-end models, the 1109 with 512K bytes of RAM and listing for \$7,995, and the 1107 which is identical to the 1109 but is equipped with metal shielding to block emission of radio signals. The emission blocking feature is intended to make the 1107 eligible for security-sensitive military contracts. The 1107 has not yet been certified by the military's Tempest program, however.

The 1107 lists for \$12,495. The metal shielding feature adds 3.5 pounds to the system, making it 13.5 pounds, the firm said.

with a Model 7545 programmable at the low end of its line, made by s. Specifically, it complements the ble vertical axis, a longer vertical or, according to the firm. It is priced s, with quantity discounts available, rring Systems, Boca Raton, Fla. The iter for development of application nning language AML/Entry Version 545 with a separate price of \$3,000. ce, and would have to be ordered ized dealers.

Research Mgmt.

relinquishes responsibility for the two research groups, Honeywell said.

The Corporate Technology Center's two chief operating units, the Corporate Computer Sciences Center and the Corporate Physical Sciences Center, were upgraded to autonomous centers reporting directly to Mr. Dinneen, the firm said. Previously they reported to Mr. Sackett, who in turn reported to Mr. Dinneen.

The computer center will continue to be headed by Donald Boyd as director, and conduct research in software engineering, distributed database management systems and computer-aided VLSI design, the firm said.

The physical center will continue to be headed by Enrique Bernal G. as director, and conduct research in solid-state electronics; electro-optics; semiconductor materials and processes; and control systems, the firm said.

The firm said it made the change because of the center's growth and a steady increase in the number of projects it is researching.

Mr. Sackett was named the center's director of research in 1966, director of the center in 1977, and vice-president in 1980.

Apollo Appoints V-Ps, 'Fellows'

CHELMSFORD, Mass. — Apollo Computers, Inc., has appointed two

Be sure to
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