

# Control Data Blinks and Spins Into Big League of Computers

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In a second-floor room of the onetime printing plant at 501 Park Av. rows of tiny lights blinked from a desk-top control panel.

Across the room, reels of magnetic tapes capable of recording millions of bits of information spun round in four glass-enclosed cases.

**THE BLINKING** lights and spinning tapes were part of No. 30—the 30th million-dollar electronic computer made in Minneapolis in the last two years by Control Data Corp.

The large computer, known as the model 1604, has carried the youthful Minneapolis company into the first division of the Big League of Computers.

A few blocks away, in the former Strutwear building, a special Control Data team of engineers is at work designing what could become the biggest computer ever made anywhere.

For fast-moving, 4-year-old Control Data, the giant device, designated the model 6600, represents its hardest swing.

**THE COMPANY** is prepared to put several million dollars, if necessary, and what it feels is some of the best brainpower in the computer industry, into its swing.

Taking on big projects has become almost routine for Control Data.

Almost from the month the company was organized in mid-1957, it has moved aggressively about in a world inhabited by such giants as International Business Machines Corp. (IBM), Sperry Rand, General Electric and Radio Corporation of America (RCA).

In the business of making transistorized computers (the type that replaced the early vacuum tube computer), Control Data figures it's in fifth place.

**FIRST**, with more than 80 per cent of the business is IBM. Second is Remington Rand Univac division of Sperry Rand. (Univac operations in the Twin Cities, as described in a story on this page a week ago, are the biggest in the Univac division.) Third and fourth, respectively, are RCA and National Cash Register, according to one ranking.

"We've conceded first place," says William C. Norris, Control Data's president, "and we might not make second."

"Third I wouldn't rule out, but we've got some climbing to do," Norris continued.

Climbing is what Control Data has been doing for four years. Note these items:

**Starting with little** more than a handful of talented engineers, scientists and pro-



MINNEAPOLIS TRIBUNE PHOTO BY DONALD BLACK

**WILLIAM C. NORRIS, PRESIDENT OF CONTROL DATA CORP.**

*Shown is a portion of million dollar 1604 computer system*

moters in 1957, Control Data presently is producing electronic devices at a rate of more than 40 million dollars a year. Actual sales may be under that total because some big computers are leased rather than sold.

**Starting with only 300** shareholders who put up \$600,000 at \$1 a share to get things going, the company has seen its shares rise more than 120 times in market price, the total value of all shares, at least on paper, to over 150 million dollars, and the number of stockholders to over 10,000.

**Starting in October 1957**, when it had only about a dozen employees, to make the big 1604 computer, Control Data has seen its employment in Minneapolis rise to more than 1,500 persons, including 665 professional employees.

Norris, 30, a slight man of about 150 pounds and a half inch under 6 feet, resembles

**Control Data**  
Continued on Page Six

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# CONTROL DATA: 'I Suppose We'll Be Big Someday'

Continued from Page One

Norris has warned Control's stockholders that the 6600 machine will be "a tough job." He explained he felt "morally obligated" to make such a machine so that if any stockholders "got cold feet, they'd have a chance to get out."

**MACHINE**, which would sell for eight million dollars, will have a capability and capacity many times that of the 1604 sells for an \$1,250,000.

The 6600 will be even bigger than IBM's present "stretch" computer, the best ever built.

"We are aiming considerably above the IBM Stretch machine capacity," Norris said. "We know of no manufacturers designing a machine in this class except Control Data."

Failure could have an adverse effect on Control Data's profits, but wouldn't sink the firm, Norris said.

"On the other hand, we wouldn't have to make very many to make money," he added.

**THE FUNCTION** of the mammoth machine would be to assault on engineering and scientific problems too complex for today's biggest computers, Norris indicated.

Control Data last week also moved in a different direction—small machines made for use with computers.

It established a separate peripheral equipment division and announced development of what it called its first piece of major peripheral equipment—a magnetic tape device that will sell in the \$40,000 range.

Control Data's principal remains its big 1604, which is now being turned out at the rate of two a month on a production line. The 1604 is used primarily for scientific and engineering computation.

**THE COMPANY** also makes a pair of small desk-size computers, the 160 and 160A, which sell from \$75,000 to \$150,000 and which are being produced at a rate of 10 a month.

The computer firm also has made a medium-size device, the model 924, but never announced it.

Control Data's decision not to get very hard into the market for medium machines is a technique that has

been successful. Control Data is said to be the "only" computer maker other than IBM to be operating profitably in the computer field.

The technique, Norris said, is "relatively simple—pick a piece of the market and then do as good or better a job than anyone else."

**INITIALLY**, Control Data limited itself to the scientific-engineering section of the computer field (as opposed to making computers for general business use such as accounting), and, within that section, to large computers. Next came the small 160 model.

The medium-size computer field is the one that's most competitive and the one where Control Data is least active.

To the markets it chooses to operate in, Control Data applies what it believes is superior engineering ability as well as the agility that comes with being small.

**CONTROL DATA**, for example, claims it operates with lower overhead than some of its bigger competitors, uses fewer components in its circuitry and didn't have to face the problem of making its principal product compatible with previous products.

"We had no past," says Norris.

But although Control Data was organized in 1957, its roots do actually extend back much further—right to the early days of electronic computers.

Take Norris, for example. He grew up on a Nebraska farm, graduated from college in depression-year 1932, but found his engineering degree could get him only a salesman's job.

**AFTER SIX** or seven years of selling, however, Norris was willing to take an income cut to \$3,200 from \$4,000 to get into engineering. He took a government engineering job.

During the war, Norris served in the navy, where he worked on a classified project involving a crude type of computer.

In 1946 Norris and a group of navy associates founded Engineering Research Associates (ERA). A St. Paul manufacturer of gliders put up his plant facilities and money, and the Norris group put up the brain power.

ERA became a leader in the computer field.

In 1952 the St. Paul businessman, who held controlling interest, decided to sell out to Remington Rand. Norris says he and his associates were against the deal,

but did not oppose it formally. ERA then had about 800 employees and sales of about eight million dollars a year.

**THE DEAL**, Norris says, turned out to be "a tremendous mis-match," and ERA became caught up in a number of problems found in a large corporation that, at that time, was unable to digest its rapid expansion in the computer field and establish a decisive program for the future.

These problems reached a peak about five years ago when IBM shot past Remington Rand (which had merged with Sperry Corp. in 1955) to nail down first place in the computer industry.

In 1956 and 1957, Norris, who for a time had been chief of all Univac operations, grew increasingly dissatisfied with developments.

"They started breaking up the Univac division part by part, limb by limb," recalls Norris. "Then I left."

**A NUMBER** of other key officials left Univac to follow Norris into Control Data, which Norris helped organize. (Another organizer was Arnold Ryden, who later split with Norris and went off to form the Midwest Tech complex.)

Today, Norris and Control Data's four vice presidents are all Univac graduates and the top five officials (one overlaps) of the computer division once were with Univac.

Initially, Control Data had no plans to make large computers. However, within a couple of months its engineers had come up with a "building block" concept for building computers and a decision was made by the infant firm to enter the field of million-dollar computers.

**IN DECEMBER 1957**, Control Data purchased Cedar Engineering Co., St. Louis,

in order to obtain some manufacturing business.

The Cedar deal at first was not as good as Control Data hoped, Norris said.

"Cedar nearly busted us," says Norris. "It took about \$500,000 in cash to turn it around."

"We cut everybody's salary in half to conserve cash," Norris said. "Options kept our staff going, at least spiritually."

In June 1958 the first 1604 order was obtained and in September, All-State Insurance provided \$350,000 in financing.

**"WE WERE** rolling again on a full stomach," said Norris.

After the first 1604 was delivered a year and a half later, new customers began falling into line. In a second acquisition, Control Data acquired Control Corp., Minneapolis.

The company and its divisions and subsidiaries have plants in Minneapolis, St. Louis Park and Bloomington. The newest plant was opened in Bloomington in September, and a \$1,800,000 headquarters and engineering building also is under construction in the same suburb.

In the 12 months ended Sept. 30, the company had sales of \$23,667,904 and net income applicable to common stock of \$858,836. Per share earnings, including 300,000 shares issued only in September, were 23 cents.

**BY ANY USUAL** standards, Control Data's stock is selling at an exceedingly high price-to-earnings ratio. It is presently far above 100 to 1, compared with an average of a little over 20 to 1 for stocks used in the Dow-Jones industrial average.

However, purchasers of Control Data's stock are

speculating on the firm's ability to continue to grow and on the fact that heavy depreciation charges have the effect of deferring to a future date what might otherwise be considered profits now.

The increase in value from the original price of \$1 to last week's equivalent of \$126 (the stock was split three for one in September, so the actual price last week was \$42), has often been cited as a major factor in the boom in local securities that developed in the past three years.

Norris himself, has seen

his original \$75,000 investment in 75,000 shares plus an additional purchase of 150,000 shares grow to a present market value, at least on paper, of about 11 million dollars.

Growth is already beginning to give Control Data some of the problems of a big company.

"Sometimes, I think I'd like us to stay small," Norris says in a reflective mood. "But one can't always have his own way."

"There are certain advantages to size," he goes on. "I suppose we're going to be a big company some day."