



On the manufacturing floor, printers are assembled wire by wire, and piece by piece . . .



. . . and later, quality analysis personnel put the finished products through rigorous testing for efficiency and speed.

Where printer products command spotlight

Story: KATHY PARKER
Photos: DOUG BAUMAN

High-speed printing, tiny communication circuits and futuristic designs, replete with multicolored blanking lights, are images conjured up by most people when computers and their peripheral devices are discussed.

For more than 700 employees of Computer Peripherals, Inc. (CPI), much of the mystery of computers and printers dissolves with knowledge of how the machines work. But the fascination remains and increases with technological advances that feed to them by—what else?—computers.

HEADQUARTERED IN Avon Township, CPI is originally the Holley Carburetor Co. which it was acquired by Control Data in 1964. As a total manufacturing operation, it is able to attract engineering and research specialists from all across the country who want to be part of a team that offers such a broad scope of operations.

But the heart of the company, said personnel manager Dick Gaskins, is the manufacturing and warehouse personnel, the 600 persons who put the machinery together and see it safely to its destination.

On-the-job training is offered on the manufacturing floor, where the final printers are put together, wire by wire, piece by piece. As sections are completed, they are moved to another area where employees test them for speed, accuracy and efficiency. If there's a flaw, it's repaired and retested before being placed in a printer.

What makes the operation run so smoothly is the pleasant, airy working climate for all employees, and the philosophical concerns of Ron

Each tiny circuit board is sent to a separate department upon completion, where every wire and part is tested, repaired if flawed and retested before becoming an integral part of a printer.

Two major cards are issued by banks: Visa (BankAmericard) and Master Charge. Although the businessman has to pay a fee to the bank from which he gets his credit card services, in the long run, he generally makes up for the charge with increased sales for his merchandise or services, the spokesman said.

"AS LONG AS customers are charging items in a store, they'll tend to charge other things they may not have bought with a cash sale," said Jerry Mancour, president of the Heart of Rochester Merchants' Association. Over at Rochester Hardware and Walnut Lake Hardware in West Bloomfield, he said consumers will buy more as long as they aren't paying out of their pockets (with cash).

The credit card procedure is simple. After a businessman signs up with a bank, he can offer credit card sales; he regularly sends copies of consumers' charge slips to the bank. The bank pays him for his sales, but it often deducts the amount of the sales slips into the businessman's bank account.

The businessman's bank collects the money it paid to the businessman from the consumers' banks, which in turn collect from the consumer with monthly credit card billings.

"HOW A businessman pays for this service varies with his bank," said the NBB spokesman.

"Banks charge a percentage fee to the businessman for getting the credit card service from them. Banks can't collaborate on the rates. They have to be competitive. The banks usually figure the rate from the cost of processing the charges and then add on a profit margin. Credit cards are

ors, designers, developers and manufacturers work together as a full manufacturing operation. Ideas are tested, designed and assembled under one roof.

CPI, a joint venture of NCR Corp., Control Data Corp. and International Computers Ltd., deals in "common" peripheral equipment that can be used by its owners. Its specialty is printer products, those typewriter-like machines that spew out millions of words, characters and information fed to them by—what else?—computers.

Communication CPI's business is good to CPI. Schmidt began the two-way communications program with monthly plant meetings and expanded that in January to "Pulse Talks" that you must do a job, do it right, or don't do it.

THE PRODUCT must represent each employee's best effort, Schmidt says, and all printers meet not only the customer's specifications, but the even stiffer standards set down by CPI management. In the two years Schmidt has been in charge, the company has broken all its former records for production and output.

Another of Schmidt's concerns is the safety of the employees. He arranged for a special safety committee to be organized and receive training at Oakland University. The group remained, able to recognize and avoid safety hazards.

Job design—fitting the right person to the right job and helping him or her develop his job skills—is another of Schmidt's innovations, and is unusual in the world of industry. He implemented a "costly but important" career program, which lets employees

determine where they want to go, and where they can be in five or 10 years. Because of this innovation, CPI's employee turnover rate is lower than average, Gaskins says.

Communication CPI's business is good to CPI. Schmidt began the two-way communications program with monthly plant meetings and expanded that in January to "Pulse Talks" that you must do a job, do it right, or don't do it.

PULSE TALKS are get-togethers with Schmidt, Gaskins and 15 employees exchanging ideas on how to make CPI a pleasant and more productive environment. Each group of employees is different, and Gaskins tries to provide prompt feedback on their concerns.

Schmidt's philosophy is that problems can be overcome in the heat of handling problems and that frequent personal communication with his employees can resolve many problems that can't always be noticed. During the Pulse Talks, he also solicits input from the employees on the working conditions and discusses the business.

The employees believe in the objectives of the company, and Schmidt believes in the ability of his employees, Gaskins says. When the monthly performance ratings are completed, every employee who exceeded his job requirements receives a personal con-

gratulatory letter from Schmidt.

Although much of CPI's equipment is sold to its owners, who then use it with their own fullscale computing systems, the company has a large portion of the original equipment manufacturer's market. OEM is basically good for other large computer companies who buy CPI equipment and resell it as their own.

With such a broad scope of operations nested under one roof, CPI has organized a neatly packaged system of cross-communications among its nine operations.

MANUFACTURING the finished product is first on the scale, since all assembly, packaging and warehousing is done there. Developmental engineering determines how the product will be designed, and whether it can be done in manufacturing.

A manager of materials oversees the parts bought for each printer. Since one machine may have 6,000 parts, storing and keeping those parts on hand is expensive. Materials sees to it that just enough parts are scheduled to arrive when needed.

Quality assurance has perhaps the noisiest job in the plant, working with the finished product to check for flaws or inaccuracies. If one character is not reading properly, the entire machine must be inspected until the flaw is corrected.

Product management deals with the marketing people and uses information from design and manufacturing to determine whether the firm can build the type of printer requested by a customer.

"Plant Two," on Woodward, is composed of 50 employees who watch

more than \$1 million in inventory. The plant is used for storage, as well as a final spot to check the equipment before it's shipped.

Plant Two personnel have been together for a long time, Gaskins says and have an spirit not often found.

"We're into an evolutionary change," Gaskins says, pointing to the rise of non-impact printers (which do not use a letter striking a ribbon). The non-impact printers will be sweeping the computer world soon. To keep up and ahead of the trend, CPI is looking for 15 mechanical, electrical and scientific engineers to work on impact and non-impact printing.



Behind the entire CPI operation is Ron Schmidt, general manager and vice-president. Under Schmidt's tenure, new lines of employee-management communications have opened, increasing productivity and output.

Credit cards:

By SUSAN TAUBER KLEIN

Walk along any street or in any shopping mall anywhere in the country and chances are you will spot credit card emblems on the doors of most businesses.

These emblems signify more than just the fact that the businesses accept credit cards as payment for merchandise or services. They also represent generally higher sales volume than cash sales would generate, easier bookkeeping and guaranteed payments from the credit card companies.

Businesses accepting credit cards can cater to a market that includes retirees who don't wish to carry cash, middle-income consumers who use

credit cards daily and young persons, says a spokesman from the National Bank of Detroit's main office in Detroit.

Two major cards are issued by banks: Visa (BankAmericard) and Master Charge. Although the businessman has to pay a fee to the bank from which he gets his credit card services, in the long run, he generally makes up for the charge with increased sales for his merchandise or services, the spokesman said.

"AS LONG AS customers are charging items in a store, they'll tend to charge other things they may not have bought with a cash sale," said Jerry Mancour, president of the Heart of Rochester Merchants' Association. Over at Rochester Hardware and Walnut Lake Hardware in West Bloomfield, he said consumers will buy more as long as they aren't paying out of their pockets (with cash).

The credit card procedure is simple. After a businessman signs up with a bank, he can offer credit card sales; he regularly sends copies of consumers' charge slips to the bank. The bank pays him for his sales, but it often deducts the amount of the sales slips into the businessman's bank account.

The businessman's bank collects the money it paid to the businessman from the consumers' banks, which in turn collect from the consumer with monthly credit card billings.

"HOW A businessman pays for this service varies with his bank," said the NBB spokesman.

"Banks charge a percentage fee to the businessman for getting the credit card service from them. Banks can't collaborate on the rates. They have to be competitive. The banks usually figure the rate from the cost of processing the charges and then add on a profit margin. Credit cards are

expensive to buy," he said.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"THIS IS A highly variable factor with individual banks," the spokesman said. "It's a sensitive question. Businesses differ in the way they figure rates. Some will read this and say, 'My bank charges 10 percent on that way,' the spokesman stressed.

Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two ways, according to the NBB representative. Some banks will deduct money owed to the businesses from a credit card purchased into a bank account.

"Businessmen pay the banks in two