

News in Brief

Medical Plan Change Reported

Beginning this month, the hospital daily room and board rate paid by the Company's medical plan is increasing from \$50 per day to \$70 per day (for up to 120 days). The change comes as a result of the Company's desire to keep our medical benefits in line with increasing hospital costs.

Since the effective date of the daily room and board rate increase is July 1, the new rate will apply to all hospital bills incurred from that day on.

MAG Elects New Officers

Hal Neuenswander was elected president of MAG at the activity group's July board of directors meeting. Joining Hal as MAG officers for the next six months are Ron Tredway, vice president; Bill Anderson, treasurer; and Sylvia Adams, secretary.

Other directors on the board are Gerry Anderson, Frank Benavidez, Clarice Love, Verlene Stasiak, Jorge Briones, Michael Moore, Ed Sutter, Bob Pedro and Steve Rego.

Vasey's 10 Year Anniversary

Dick Vasey, a Memorex employee since July 1, 1961, received his ten year service award from Company President Laurence Spitters.

Dick is plant manager for our manufacturing facilities in Liege, Belgium. The presentation of an engraved clock was made late in May, while Dick was in Santa Clara on a



Ron Schreck

business trip. He was also honored this month by employees at the Liege plant.

Dick was instrumental in the design and start-up of the first Santa Clara tape production lines, and was serving as tape plant production manager before being transferred to Belgium.

DPMA Honors IMG Manager

Tom Kirkpatrick, manager of systems programming and data processing in IMG, has received a Certificate in Data Processing awarded by the Certification Council of the Data Processing Management Association.

Tom was one of 868 successful applicants of 2,726 who passed a special exam given in test centers at colleges and universities across the U.S. and Canada.

Engineer Drafted, Calls Mr. Nixon

Ron Schreck, a 22-year-old engineer in the MEG product test lab, received a letter that began, "Greetings from the President." That's not so unusual these days, when so many young men are receiving similar draft notices. The unique part of this story is that Ron got a chance to discuss his letter with the President.

In Ron's words, "When I got my notice for induction on June 22, I didn't know what to do. I'd been planning since January to get married on June 26. I'm also waiting to hear from the Coast Guard about acceptance to Officer Candidate School.

"My uncle, a retired rear admiral, finally put me in touch with a friend who's a high ranking officer at Alameda Naval Air Station, and the friend helped me reach President Nixon's office at the White House.

"For about 20 minutes I explained my situation to the President's staff secretary. Then Mr. Nixon came on the line. He said, 'This is President Nixon.' And I said, 'This is Ron Schreck in California.' I was nervous—this isn't the kind of thing that happens every week—but I told him about being drafted just before our wedding day, that I was waiting to hear from the Coast Guard, and that I would like to delay the induction.

"We spoke for about 10 minutes and he said he'd send a memo to Selective Service and see what he could do. This was on Thursday the 10th of June. On Saturday, the 12th, a letter came saying my induction was delayed until the July draft call."

"The thing that impressed me the most," says Ron, "is that some important people took time to listen and help. My fiancee, Marcia, persuaded me to call. I didn't expect to reach the President. I'm going to have one heck of a phone bill, but it's worth it."

Intercom

A monthly publication for employees of Memorex Corporation, Santa Clara, California 95050
Editor: Gary Williams
Photography: Sam Geraci

ABOUT THE COVER:

Here's a question to try on your neighbors that is guaranteed to stump even the most learned: "What's a modem?" So you'll be ready when they ask for your definition, look at the one pictured on the cover and read the story on page 6.



Tymshare to Sell and Lease Memorex Terminals

Memorex and Tymshare, Inc. have signed an agreement whereby Tymshare's national sales organization will sell and lease Memorex terminals. The agreement was announced by James B. Owens, manager of equipment systems marketing for Tymshare, and Dave Sant, communications product sales manager, Memorex Equipment Group.

Under the agreement, Tymshare will sell and lease our terminals to users of Tymshare's time sharing service. "Tymshare's market efforts should allow our product to further penetrate an exciting sector of the computer user market," said Sant.

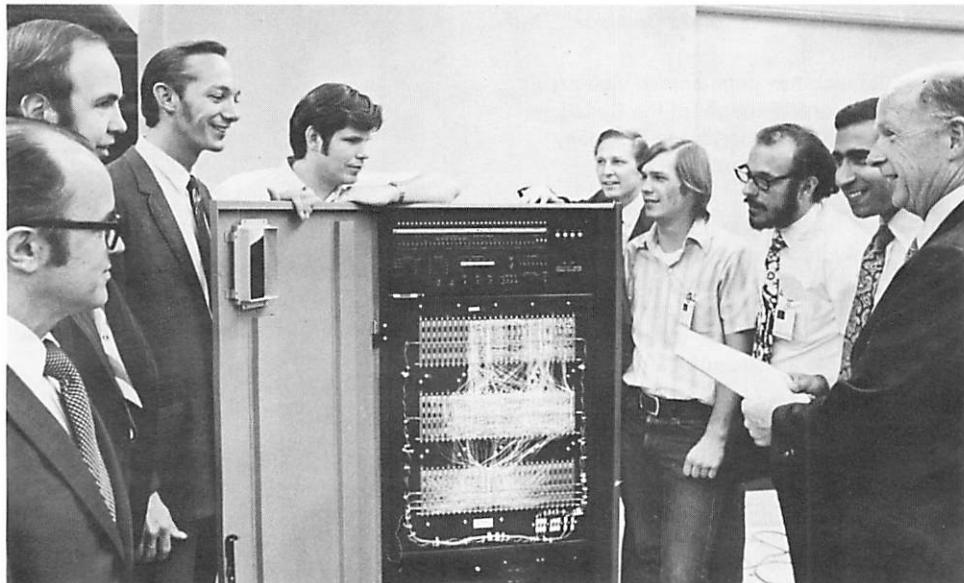
"The Memorex terminal is a new generation

device," said Owens. "Reliability was one of our major reasons for adding it to Tymshare's product line. In addition, servicing of the terminals via Memorex's unique national Remote Analysis Center should be excellent. Although Tymshare will initially offer speeds of 30 characters per second, the capabilities of the terminal allow for future upgrading to higher speeds."

Tymshare, Inc., is one of the world's oldest and largest independent time sharing companies. Our terminals will allow Tymshare users to access the company's computers via Tymnet, Tymshare's international telecommunications network. Tymshare has sales offices in major cities across the United States, and offers time sharing service in Europe through CEGOS-Tymshare. The company has its corporate offices in Palo Alto.

The 1270 Terminal Control shown below was the first unit to leave the San Tomas facilities. Shown with the machine before it was shipped last month are representatives from many of the departments which de-

veloped, manufactured and tested the 1270. They are (from left) Floyd Tingley, Lyle Hamilton, Duke Blakely, John Weisenberger, Ken Lowe, Robert Bertram, Stuart Haigh, Farrokh Mottahedin, and Stewart Rawson.



Why are we using the "shattering glass" advertisements? Does Memorex advertise to radio stations and other professionals?

Memorex Consumer Products advertising is appearing in audio-Hi-Fi magazines which have broad circulation among radio stations and other professional recording locations. Advertising for our cassette and open reel products has been directed to readers of HI FIDELITY, STEREO REVIEW and COAST FM AND FINE ARTS in this area over the past few months and will continue.

Trade and consumer recognition of the "shattering glass" message we deliver in our Consumer Products advertising has been extremely encouraging. Rather than merely promising performance to our customers, the Memorex advertising relates an actual incident which talks directly to the quality of reproduction and fidelity the consumer can receive when using Memorex Consumer Products. Sound is the reason for any tape's being. However, rather than entering a "numbers race" with regard to tape performance (an approach frequently used by our competition which often leads to over-promising), we have elected to talk about the quality sound which consumers can get from Memorex blank recording tape. We believe this has provided us with meaningful advertising distinctiveness which has been successful for us in the market place.

What happens to a person's unvested portion of his share of the Profit Sharing funds if he quits before five years?

When a membership is terminated, that portion of the member's account which is not vested is allocated as a forfeiture. Forfeitures are allocated at the end of the year to employees who were then plan members, in proportion to each member's share of profits.

People on the Move

Larry Knowles has been named vice president of marketing, and **Arnold Menn** promoted to director of marketing, according to **John Del Favero**, executive vice president and general manager of the Information Media Group.

Marketing activities under Mr. Knowles' direction include computer media, video tape, and business products. Mr. Knowles joined Memorex in November, 1969. Until his promotion, he served as general manager of the Business Products Division, guiding the Company's successful entry into the office products market.

Arnold Menn's new responsibilities include planning and management of the Information Media Group product lines. He came to Memorex in January, 1970, and most recently was director of marketing for the Business Products Division.

The two positions were created by last month's restructuring of the Group. IMG was formerly organized into divisions which were each responsible for different product lines. The Group is now organized by function, and has five departments: Marketing, Manufacturing, Technology, New Products and Administration.

Dick Boucher, vice president of manufacturing, IMG, is responsible for all manufacturing activities for computer media, video tape, Substrate and Comdata. Production Control, Purchasing, and Industrial Engineering will report into Manufacturing.

Dr. John Perri, vice president of technology, IMG, is responsible for product and process development and engineering activities. All the prior technology responsibilities plus computer tape, disc, and video product development will be the responsibility of Technology.

Jim McNabb, vice president of new products, IMG, is responsible for CMX Systems management and the Business Products launch group.

Dick Kirk, director of administration, IMG, is responsible for financial activities, group planning, and Information Systems.

Also, last month, the Personnel activities at Memorex were consolidated. The result is four functional departments to develop

personnel policies and programs to serve all employees. These four departments, their corporate managers, and their Santa Clara locations are as follows:

Carl Herington, corporate manager of compensation—Administration Building, San Tomas. Reporting to him are **Jim Pelkey**, Memorex Drive Complex, and **Gary Mittelbush**, San Tomas Complex.

Don Newton, corporate manager of employment—Building 10, San Tomas. The Employment function will be centralized in Building 10 at the San Tomas Complex.

Dave Harris, corporate manager of manpower development. He and his staff will remain in their present offices in the Administration Building, San Tomas.

Vince Shubat, corporate manager of personnel administration—Building 10, San Tomas. Reporting to him are **Dick Doherty**, Building 10, San Tomas; **Jim Gillespie**, Memorex Drive Complex; **Ron McPherson** and **Mary Burton**, San Tomas Complex.

Robert Jaunich has been named vice president and general manager of the Consumer Products Division, reporting to Company President **Laurence Spitters**.

Mr. Spitters made the announcement in a memo to management and at the same time, announced that **John Mandle** has been appointed director of operations for the Division. He is responsible to Mr. Jaunich for all technical and manufacturing activities.

In the memo, Mr. Spitters said, "The engineering and manufacturing start-up activities for the Consumer Products Division are currently in their final stage and the marketing program has been extended to national distribution. Consistent with this changed emphasis of operations, management responsibility for preparation and implementation of operating plans for the Division will be shifted . . . Mr. Jaunich will be responsible to me for all of its operations."

John Pew has joined the Corporate Staff as administrative assistant to **Laurence Spitters**. He will be working closely with Mr. Spitters on a variety of projects and on general administrative matters.



Jaunich



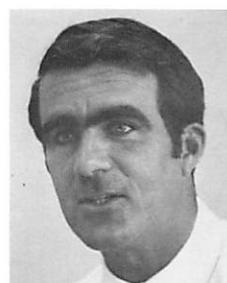
Knowles



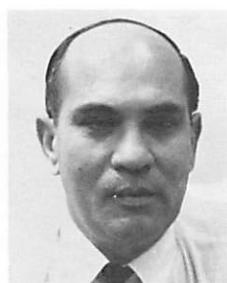
Mandle



Menn



Pew



Willems

Prior to joining the Corporate Staff, John was a senior financial analyst in Profit Planning and Analysis, in the Equipment Group. He joined the Company in June of 1970.

John has a B.S. in engineering and an M.B.A. in finance and management science, both from Stanford. He has been working in financial and administrative functions in the computer industry since 1963.

Johan Willems has been promoted to director of product development - Memorex Europe. Johan will report to **William McCalmont**, vice president and managing director of Memorex Europe for the International Group, and will receive technical direction from **Hiroshi Nagakura**, general manager of Storage Systems, in the Equipment Group.

Johan most recently was launch manager for equipment manufacturing in Liege. He came to Memorex in October, 1969.

A Guide to Reading Your Computerized Benefit Statements

Within the next several weeks, members of the Profit Sharing and Savings and Investment Plans will be receiving their quarterly statements. Some sections of the statements have been changed from earlier formats in order to make the information more concise and more understandable. In addition, both reports are now being prepared by computer because of the large number of employees participating in the plans.

Person or persons designated by member to receive account distribution. For multiple beneficiaries, names are abbreviated.

Either Common Stock Fund, Fixed Income Securities Fund or equal participation in both.

Percentage share of account earned by member. Every three months, an additional 5% becomes vested.

Most recent information on file. If incorrect, changes should be given to the Personnel Department.

The amount reported on the last statement.

Allocation of non-vested funds forfeited by former members (made at the end of the year).

Change in account value due to fluctuations in the market prices of the Trust's investments.

The current value of the account. The vested portion of the account is this value multiplied by the "vested percentage."

Either Memorex Stock Fund, U.S. Government Securities Fund or equal participation in both.

Percentage of gross pay — 2%, 3%, 4% or 5% — deposited by member for investment.

Account transactions since the last statement.

Memorex investments not yet vested to members.

Member and vested Memorex investments. (Memorex contributions from 1970 become vested on January 1, 1973.)

Investment value of member-contributed funds which are withdrawn.

Value of investments on the statement date.

Percentage difference between amount contributed and present market value.

Approximate number of shares into which above values convert.

Company funds used to purchase Memorex Stock which becomes vested two years after the end of the class year.

Unvested Company-contributed funds forfeited because of member withdrawal.

Value of member and company investments on statement date.

PROFIT SHARING PLAN

Statement of Account 06-30-XX
Beneficiary LOUISE S. STRANGHAM
Investment Choice COMMON STOCK FUND
Your Vested Percentage 100%

MORRIS G. STRANGHAM
1825 MORNINGSIDE CT.
SANTA CLARA CA 95051

	Common Stock Fund	Fixed Income Securities Fund
Previous Account Value	\$ 5,839.47	\$
Your Share of Memorex Profits	\$	\$
Forfeitures Distribution	\$	\$
Increase (Decrease) In Fund Market Value	\$ 674.33	\$
Present Account Value	\$ 6,513.80	\$

833-53-1243

SAVINGS & INVESTMENT PLAN

Statement of Account JUN 30, 19XX
Beneficiary LOUISE S. STRANGHAM
Investment Choice 50% STOCK/50% SECURITIES
Your Contribution Rate 5%

MORRIS G. STRANGHAM
1825 MORNINGSIDE CT.
SANTA CLARA, CA 95051

	Non-Vested	Vested
This Quarter		
\$ 53.00	\$ 1,672.00	
\$ 53.00	\$ 1,672.00	
\$	\$	
Your Contributions:		
Memorex Stock	\$ 5,333.40	
Government Securities	59 %	
Withdrawals	38.8	
Present Market Value	\$	
Percent Gain (Loss)	\$	
Equivalent Shares Memorex Stock	\$	
Memorex Contributions:		
Memorex Stock	302.00	
Withdrawals	\$	
Amounts Forfeited by You	\$	
Present Market Value	345.25	
Percent Gain (Loss)	\$ 3,088.50	
Equivalent Shares Memorex Stock	14 % 125 %	
Total Contributions	3.9	
Total Present Value	345.25	
833-53-1243	302.00	
	\$ 4,714.00	
	\$ 345.25	
	\$ 8,421.90	

MEMOREX

MEMOREX

Modems – A Vital Ingredient For Remote Communications

Jay Johnson and his engineering team have designed nearly a dozen products in less than a year and a half, but you'll never see most of them—except on these pages.

Jay is manager of Modem Engineering, an eight-man department reporting to Stewart Rawson, director of engineering, Communication Products, in Communication Systems. Their job is to design "modems" for use with our communication terminals and terminal control units (TCUs).

"The usual reaction is 'what's that?' when I mention modems," says Jay. Even newspapers have trouble with the name, and the Company's employment advertisements have asked for "modern engineers" instead of "modem engineers" on at least one occasion.

Basically, a modem is a device which enables ordinary telephone lines to carry data between computers, TCUs and remote communication terminals. Telephone lines are used to carry the data because of the reliability, availability and relative ease of connecting to the international telephone network. The illustration on this page shows how modems fit into the communications chain.

"We can connect a terminal to a phone line and communicate with a computer from virtually anywhere in the world," notes Jay. As an example, he cites our Minneapolis subsidiary, Midwest Systems, which uses modems and terminals to communicate directly with an Equipment Group computer in Santa Clara. This arrangement benefits Midwest Systems since it has the use of a computer at a fraction of the cost of installing its own system.

Modems are needed because phone lines are designed to carry voices, which are composed of tones, and computers are designed to "talk" with a code made of digits—ones and zeros. The modem's job is to take a computer's digital signal and change, or modulate, it into a tone. At the other end of the phone line, a second modem changes, or demodulates, the tone back into its original form. The name "modem" comes from an abbreviation of modulate-demodulate.

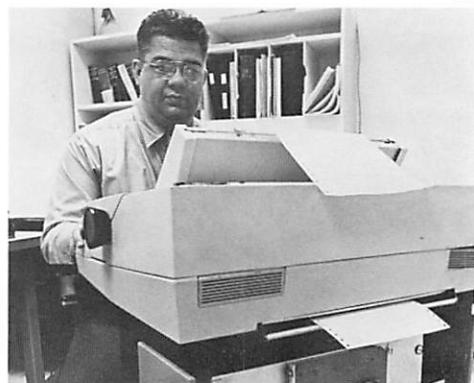
The reason few people ever see Memorex modems is, unlike modems from other manufacturers, ours are miniaturized so they fit inside the covers of our terminals and TCUs. Our customers can order Memorex terminals and TCUs without our modems, but the modems of our competitors are generally more expensive and all of them take up extra space because they are housed in separate cabinets. A modem made by our chief competitor in this field, Bell Systems, is pictured on the next page (photo H). Notice its size in comparison to the Memorex modems held by Jay Johnson.

Our modems are also designed with performance and service advantages. We have designed in special features that are important to our communications system equipment.

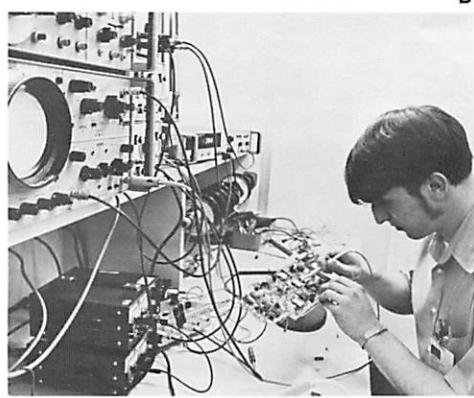
Most of the Memorex modems look like printed circuit cards, the type you see in computers and most consumer products such as televisions and transistor radios. While their small size and neat layout makes them look uncomplicated, nothing could be farther from the truth. It takes about five months to design the most simple modem and ready it for production. The photos and captions on the next page outline the development process.



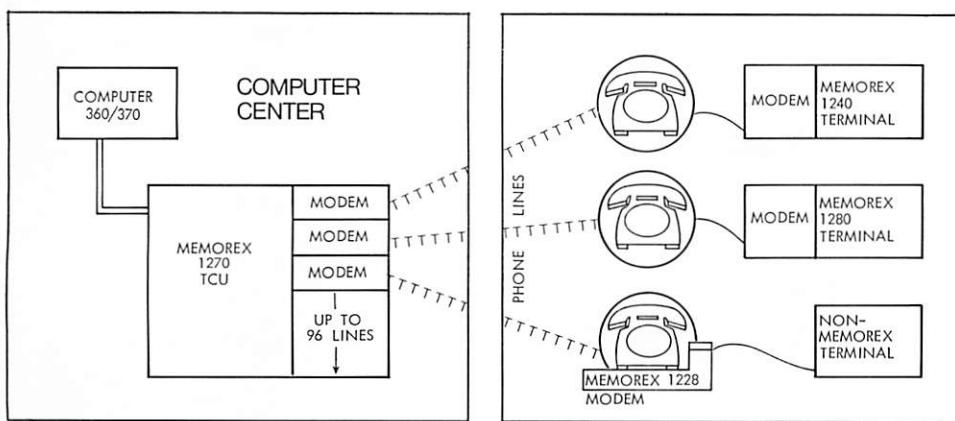
A



B



C



Modems are designed to be used with Memorex terminals and terminal control units (TCUs), and to replace several models of modems made by our competitors. Once the engineering team knows what type of modem is needed, the engineers can begin analyzing existing equipment and determining how a new model should operate. In photo A, engineers John Bingham (left) and Mike Lin are working on the design of a new modem. George Warren (photo B), also an engineer, uses a Memorex 1240 to work out complex design problems on a computer. Computer aided design using Memorex communications equipment has allowed design of circuitry for our modems that offers superior performance over our competitors. The printed circuit board on the back of George's terminal is a new model modem. "We put it on the outside of the terminal so we can get at it easily," says George. All modems are tested in actual use as well as under controlled conditions in the laboratory.

Once the circuit design is completed, the schematic diagram is laid out on a printed circuit card. Printed circuit cards do not have wires; instead, "traces" connect the components to each other. Layout determines where the traces and components are located on the printed circuit card. "This part of the card's development is critical," Jay Johnson says, "because some parts can't be placed next to others or the modem won't work."

While the card's layout is being determined, a working model of the modem, called a "breadboard," is going through a testing phase. In photo C, Don Ridinger is using an oscilloscope and other equipment to test a breadboard. When the printed circuit board

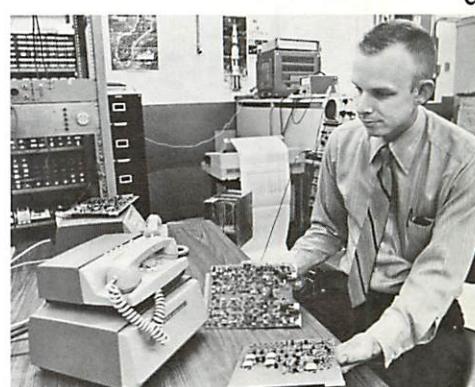
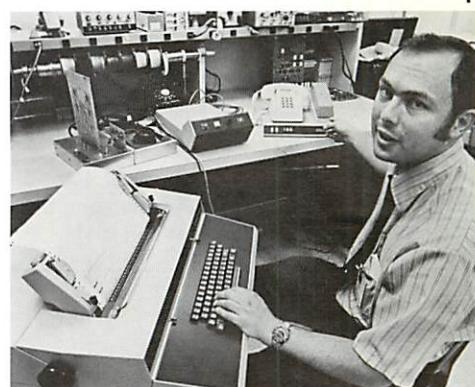
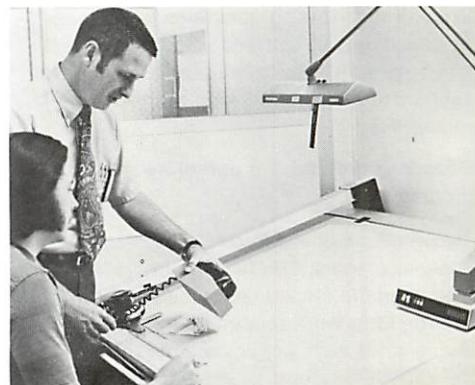
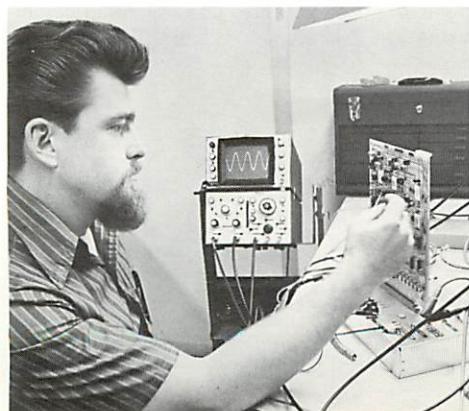
layout is complete, prototype boards are made and checked out. "This is where we find out if we need to make any last changes before the modem goes into production," explains Bob Mellberg (photo D).

"Chester's Tester" is another important piece of equipment for checking modems during various stages of development (photo E). Designed and built primarily by Chester Toma, it is used to test the modems under both simulated and actual operating conditions.

Not all Memorex modems remain anonymous. In cases where modems are used outside terminals or TCUs, the Industrial and Mechanical Design Departments are called upon to design attractive, functional enclosures. In photo F, Lee Ingram (left) and Tom Presley, manager of mechanical design, plan the mechanical design of another new modem.

Photo G shows Glen Ewart, engineer on the 1228 Modem, seated at a 1240 terminal. On the workbench behind him are the breadboard, prototype and finished model of the 1228, our new acoustic coupled dual-speed modem. Building a working prototype is the final phase before the modem is ready to be released to Manufacturing.

One of the most remarkable features of Memorex modems compared to the Bell System modems is their relative size. In photo H the card in Jay's left hand contains the same circuitry as the Bell Dataset on the table. The card in his right hand contains two of the same modems.



Answers to Employee Meeting Questions

(Note: The following questions were asked by employees at Laurence Spitters' recent meetings with employees, and Mr. Spitters suggested that the answers be printed in *Intercom*.)

Does Memorex have a patent awards program?

Two sections of the Personnel Policy Manual apply to patents. The first, policy #125, describes the steps taken when an employee applies for a work related patent. Briefly, policy #125 says any inventions relative to the various products or manufacturing methods, process, apparatus, machines, or operations or other business of the Company believed to be new and useful, must be submitted by the employee to the Company. This is done by making a disclosure to the director of research.

A patent review committee will determine the extent of novelty in the invention and the possibility of obtaining a patent on it. If

the invention is of sufficient value to the Company to apply for a patent, an application will be drawn up and filed by the Company in the inventor's name. Fees for such transactions are paid by the Company, and the inventor assigns any patent to the Company.

The Company encourages employees to develop patentable inventions in the course of their Memorex employment. So, according to Personnel Policy #530, when an employee assigns an invention to Memorex that employee receives a recognition award of \$100. If there are more than three inventors, the total award will be \$300 and will be divided equally. Any questions about policies #125 and 530 should be directed to your manager. He has a Personnel Policy Manual which contains the policies summarized in this article.

Who votes the Memorex stock held in the S & I Plan?

At this year's annual meeting of shareholders the shares of Memorex Common Stock held in trust for the benefit of Savings and Investment Plan members were voted by the Trustee. The Plan provides that the Trustee vote the shares according to instructions received from Plan members, and in the absence of any instructions, according to his discretion.

When proxy materials were mailed to shareholders in May, Plan members received proxy cards which allowed them to elect a Board of Directors and vote on the amendment to the Stock Option Plan. The instructions on the returned proxy cards were forwarded to the Trustee who in turn voted all of the shares registered to the Trust. As the Common Stock holdings of the Plan increase in the future, the Trustee's vote will become more and more important—and equally important will be each Plan member's responsibility to exercise his proxy.

Santa Clara MAG Picnics in August

Frontier Village, billed as one of Northern California's most colorful and exciting amusement parks, will be the site of two Santa Clara MAG picnics on successive Saturdays in August.

Newly-appointed MAG Coordinator, Ron McPherson, announces that the first date, August 7, is for families of employees from the Memorex Drive buildings (formerly Shulman Avenue). The second, August 14, is for families of employees from the San Tomas complex and other MEG buildings in the Santa Clara area.

Details of the two picnics are the same. The park will be open from 10 a.m. to 10 p.m., and Memorex will have exclusive use of the picnic area from 10 a.m. to 6 p.m. on both days. The picnic area will be closed after 6 p.m. Lunch (hot dogs, potato salad, beer, soft drinks) will be served between 11 a.m. and 5 p.m.

Admission is free to employees and members of their immediate families, or single employees and a guest. Special booths will be set up at the gates to Frontier Village on the day of each picnic so employees can pick up their free ticket books as they arrive. The booths will open at 9:30 a.m. and close at 2:30 p.m. Please note that you will need to show your badge to obtain free tickets.

Each book has 12 tickets, good on a wide variety of Frontier Village attractions, including the stagecoach, train, canoe, miniature autos, and numerous other amusement park rides. Baseball, horseshoes and volleyball are also planned in the picnic area.

Look for additional information on bulletin boards throughout the Santa Clara area buildings, or contact any of the MAG board members. You can also call Ron McPherson, extension 7-2357.

