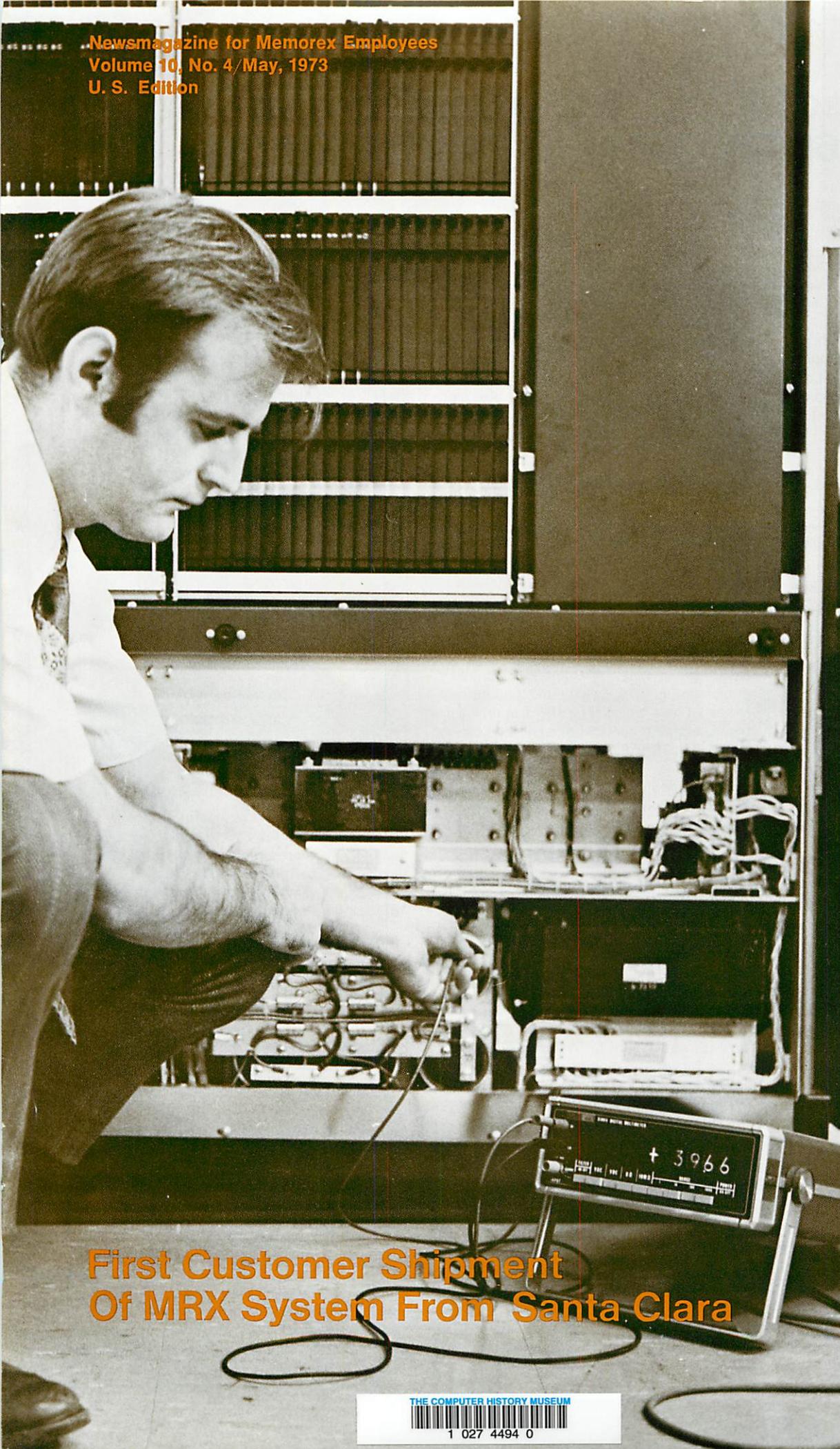


News magazine for Memorex Employees  
Volume 10, No. 4/May, 1973  
U. S. Edition



First Customer Shipment  
Of MRX System From Santa Clara

MEMOREX

# First 3670 Disc Storage Subsystem Installation On System/360 Computer

Memorex has announced the first installation of its 3670 Disc Storage System on a large IBM System/360 computer.

The Memorex 3670 is compatible with the IBM 3330 disc system, but is offered for attachment to both System/370 and the larger models of the older System/360. The IBM 3330 is offered for attachment to System/370 computers only.

"This installation marks a major milestone in the growing movement toward the enhancement of System/360 computers," said **John J. Kramer**, Memorex vice president and general manager of equipment marketing. "The Memorex 3670 is the only 3330-compatible disc unit with the unique internal architecture necessary to provide full 3330 functions on large System/360's without excessive system modifications."

The 3670, which consisted of one 3671 controller and four 3670 disc drive modules of two spindles each, was installed at the National CSS Inc. facility in Sunnyvale, Calif. NCSS, one of the fastest growing computer timesharing companies in the world, has recently doubled its capacity at Sunnyvale by adding a second IBM System/360 Model 67.

Although the Sunnyvale facility has six full 2314-type disc systems installed totaling 48 on-line spindles, the single 3670 system increases disc capacity 57% to 2.2 billion bytes.

NCSS vice president Robert Degan said the 3670 was selected by NCSS because of its superior performance and increased availability through better reliability and serviceability.

"Although we are developing the software interface to our proprietary timesharing system, only Memorex offered the special microprogramming necessary to implement

features such as command retry, necessary for 3330-type error recovery and reliable operation," Degan said.

The special microprogram is loaded into the alterable control memory of the 3671 controller from a flexible disc cartridge. This cartridge is mounted on a special disc unit within the 3671 and is removable, allowing the microprogram to be easily changed or updated.

The 3670 will enhance the performance of NCSS' 3670/67's, Degan said, and will greatly extend the life of the machines. Once NCSS begins its planned conversion to System/370 computers, the Memorex 3670's ability to dynamically share files between System/360 and System/370 computers will make the conversion period much easier and quicker.

NCSS began installing Memorex computer equipment in 1970, Degan said, and currently has 24 disc controllers, 192 disc drives, twelve terminal control units and 80 communications terminals.

"We have been very pleased with the performance of our Memorex equipment and the support we have received for it," Degan said. "Our experience with Memorex equipment and the superior performance of the 3670 led us to select it over competing models."

"This installation of the 3670 on the System/360 Model 67 at NCSS will allow us to complete the final checkout, shakedown testing and performance tuning for the System/360 Attachment Feature," said Kramer. "Memorex has been delivering the 3670 for attachment to System/370 machines for several months, and quantity delivery of 3670's for attachment to large System/360's will begin at the end of the second quarter of this year."



Thomas Del Prete, NCSS operations manager, looks on as Richard Neihaus, Memorex field service representative, inserts the flexible disc cartridge with special System/360 microprogramming into the 3671 controller attached to the NCSS 360/67.

## INTERCOM

Editor: William D. Bellou  
Production: J. B. Shallenberger, Jr.



### On The Cover

Testing the power supplies on an MRX/40 Computer System before being shipped to Europe from Santa Clara, is Kenneth Klinskowski, electronics engineer. Volume shipments of the MRX System are now underway from Santa Clara to both Domestic and European customers. (For the complete story on the first MRX System shipment from Santa Clara, see page 4.)

# News In Brief

## Six Employees Graduate From Supervisory Training

The first session of the recently introduced Supervisory Training Program (STP), has concluded with the presentation of certificates of completion to six graduates. The presentation was made by **Robert Smith**, vice president of manufacturing, to **Jim Aguar, George Chaisson, Dorothy Peavey, Richard Penstein, Dave Schedler** and **John Weathers** of PCB Manufacturing.

## Nappe Appointed Director Of New Media Planning Group

**Paul Nappe** has recently been appointed director of a newly established Media Business Operations and Planning Group, it was announced by **J. Garrett Fitzgibbons**, vice president and general manager of Media Products. "The new group will work with all elements of media management in the achievement of our operating plan goals, definition of long-range business plans and programs to improve operating profits," said Fitzgibbons. Nappe joined Memorex in August of 1970.



Paul Nappe

## Testing For Semiconductors

The Memorex Component Engineering Department has developed a total testing capability for semiconductor components (integrated circuits, transistors, etc.) for the purpose of ensuring their reliability when used in Memorex products. The testing equipment allows stress testing on an accelerated mode, enabling the availability of specifications within 12 weeks. This testing service for new components, as well as failure analysis on currently used components, is available upon request to Component Engineering.

## 90% Process Yields For 3670 Disc Drive Heads

Memorex is achieving process yields of 90 percent on 3670 Disc Drive Heads, according to **Al Osterlund**, director of quality assurance and test engineering. "We are achieving a high process-yield due to the improved processes and quality control points used in magnetic head manufacturing," said Osterlund. "This is a substantial improvement over process yields attained for 3660 heads, which reached a maximum yield of 75 percent after two and a half years in production," he said.

## SPHE Tours Packaging Lab

The combined Central and Golden Gate Chapters of the Society of Packaging and Handling Engineers (SPHE) toured the Memorex Packaging Test Lab recently. The tour was part of an applied package engineering course sponsored by the SPHE and UC Davis. Memorex is one of the few companies in the Bay Area equipped to perform certified packaging and transportation tests.

## U. S. Patent Awarded For Diazo Film Developer

The U.S. Patent Office has recently issued Patent No. 3,720,150 to **Roy Hurtig, Don Geri** and **Paul Becker** for the Diazo Film Developer. This Diazo Film Developer was invented during the development of the Memorex 1603 Computer-Output-Microfilm (COM) printer, which was the first to be specifically designed to operate on-line with a computer system.

## First 1242 Installation With 48 Character RPQ

The first installation of a Memorex 1242 Communication Terminal equipped with the 48 Character RPQ and Answerback Code Features was made at AT&T recently.

Twenty terminals were installed as part of a nationwide network to replace AT&T's Model 33/35 Teletype Terminals.

At the center of the network a Memorex 1270 Terminal Control Unit was installed with special features designed by the Custom Systems Department. The 1270 Control Unit allows the Memorex terminal network to work with the Bell automatic dialing equipment.

## New Field Packing Program

MEG Packaging Engineering has recently developed and implemented a Field Packing Program, which provides complete re-packing kits to the field for all transferred equipment. The new program will provide greater efficiency for field equipment shipments.



## Memorex 3670 10% Faster Performance Than IBM's 3330

A recent benchmark test of the Memorex 3670 Disc Storage Subsystem performed by the Product Test Lab, has shown it to be 10 percent faster in total performance than the IBM 3330. Not only was average seek time significantly better, but the control unit microprogram was found to be more efficient in its operation.

## Memorex Receives Patent For Airflow Control System

Patent No. 3,720,931 has been issued to Memorex as the assignee of **William F. Anderson** for the Airflow Control System (self-actuating air baffle). A patent application for this invention has also been filed in several foreign countries. The Airflow Control System is a significant improvement in air flow technology for cleansing and cooling disc drives. It is now being utilized in the Memorex 3670 Disc Drive Module.

## Annual MAG Picnic Slated For June 23

The annual Memorex Activities Group (MAG) Picnic will be held at Frontier Village on Saturday, June 23. Memorex employees and their families will have exclusive use of the entire park from 6:30 p.m. to midnight. There will be unlimited rides for the entire family and special activities planned for the adults.

To Kurt Luer, Germany

# First Customer Shipment Of MRX System From Santa Clara

The first Santa Clara-produced MRX/40 Computer System was shipped recently to one of the leading wholesalers in Germany, Kurt Luer. The shipment included an MRX/40 Computer, 1240 Communication Terminal, 8010 Card Reader, 8025 Card Reader/Punch, 5120 Line Printer, and two 3664 Disc Drives.

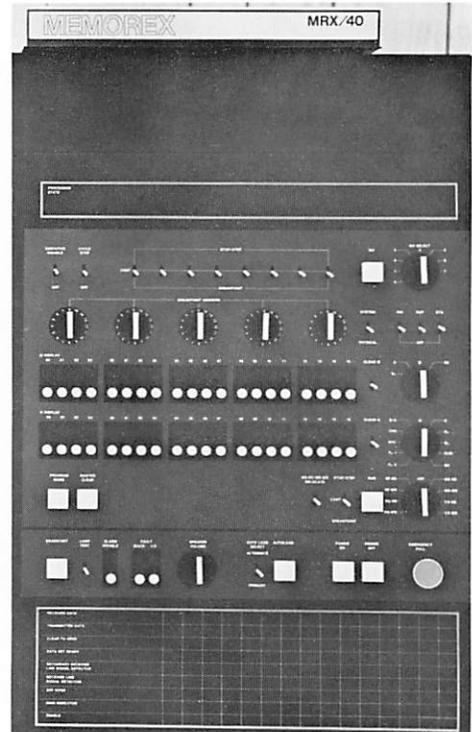
Included in the shipment to Kurt Luer was a Memorex 3237 Tape Drive, which was shipped from the Memorex manufacturing facility in Minneapolis. The Minneapolis facility, which began both Domestic and European Computer System shipments in the fourth quarter of 1972, will now provide MRX Systems for the Domestic market. The Santa Clara manufacturing facility will provide MRX Systems for both the European and Domestic market.

"The first customer shipment of the MRX/40 Computer System from our Santa Clara manufacturing facility was accomplished through the great cooperation and coordination of all Memorex Manufacturing groups," said Robert Smith, vice-president of manufacturing. "Each group has contributed to the system's successful on-schedule completion," said Smith.

"These groups, which include Manufacturing Engineering, Test Engineering, Production Control, Assembly, Final Test, and Quality Assurance have made significant contributions to the Memorex Systems Program," Smith said. "Their enthusiasm for our pro-



Completing the back panel wiring of an MRX/40 mainframe during final assembly in Santa Clara is Connie Velasco, final assembler. The MRX Computer Systems are now in volume production at Santa Clara and Minneapolis.



The MRX/40 Computer

## System's Strategy

Memorex's systems strategy began in 1967 with the start of its disc storage drive development, which led to the manufacturing of disc drives for other computer manu-

gram is tremendous, and they are doing a very commendable job," he said.



A few members of the Memorex manufacturing organization gather around the first Santa Clara-produced MRX Computer System before it was shipped to Germany.

facturers' systems in 1968. Memorex successfully achieved two necessary objectives in this phase: Demonstration of the company's ability to develop and manufacture high quality disc storage devices, and the generation of cash to finance growth.

Further advancement of the Memorex Systems strategy was accomplished in 1969 with the introduction of plug-compatible peripheral devices which were offered on a rental basis directly to end users. In this phase Memorex achieved two more important objectives: The development of a broad product line of peripheral equipment, and the creation of a worldwide field sales and service organization.

Attainment of these objectives permitted Memorex to become the largest independent plug-compatible peripheral equipment manufacturer in the world, and provided the company with a large customer base, satisfied by products and support, for the successful development and marketing strategy for the MRX/40 and 50 Computer Systems.

#### **Growth Opportunities For MRX Systems**

Significant growth is generally projected for the small-scale systems market, not only in the number of customer sites, but in applications involving telecommunications and large data bases. In addition, medium and large-scale systems users will require small-scale systems, like the MRX/40 and 50, with powerful compatible software and remote communication processing.



**Stan Stegemeyer (l), director of systems, peripheral manufacturing, receives congratulations from Robert Smith, vice president of manufacturing, just hours before the first Santa Clara-produced MRX System is**

**shipped to Germany. Smith said the first customer shipment was accomplished through the great cooperation and coordination of all Memorex manufacturing groups.**

## **Model 20 Feature Provides Smooth Conversion**

Memorex customers are finding that the use of the new Model 20 compatibility feature on the MRX Computer Systems results in a much more orderly and smooth conversion than was previously available to them.

The Memorex Model 20 compatibility system (MCS) is a program designed to assist the IBM System 360 Model 20 user in making the transition to an MRX/50 computer system. MCS creates a virtual image of the functional characteristics of an IBM S360/20 and its associated input/output devices.

The MCS feature provides a system for executing the user's S360-20 object programs under CPS, TPS, or DPS on an MRX/40 or 50 and ensures results identical to those obtained on the IBM computer.

MCS functions as a user program running under control of Job Monitor and using facilities of the System Control Program and Data Management. It may be executed in either a single partition or a multi-programming environment.

The multiprogramming environment capability gives the customer the ability to perform his day-to-day 360-20 batch work in only one partition, making another partition available for use in re-compiling his 360-20 jobs to Memorex native mode, or any other job he chooses to run.

All Model 20 programs execute under MCS without program change, except for those programs that are time dependent or utilize 360-20 input/output devices that are not supported by MRX-OS.

Among the 360-20 features are supported under MCS are stacker select commands, magnetic or optical character readers, and binary synchronous communications. Restricted support of the IBM 2560 MFCM can be provided via the hardware capabilities of the MRX 8025 Card Read Punch and the MRX 8010 Card Reader.

# Memorex Communication Terminals Bring Large Scale Computers To Small Business

Marcoin Management Services and BUSCO, both divisions of Marcoin, Inc., are utilizing 27 Memorex 1280 Cassette Communication Terminals to bring the power of large-scale computers to small business.

The Memorex terminals are used for bi-directional communications over WATS lines with a Burroughs 3500 computer to provide accounting and consulting services for small business. Marcoin currently services more than 10,000 gasoline service station clientele, and BUSCO's diversified

small business clientele is growing 20 percent monthly.

"The 120-cps transmission speed and cassette data storage features of our Memorex terminals has made it possible for us to provide a standard product from a central computer throughout our branch and licensee system," said Edward Hoffman, manager of Marcoin Computer Services. "Furthermore, we can now provide additional reports such as depreciation scheduling that were formerly prohibitive."

"With the Memorex cassette storage capability, we enter data offline and therefore always transmit at maximum speed of 120 cps," explained Hoffman. "Conversely, maximum speed is maintained on return data being printed offline from the cassette. Therefore nonprinting functions do not affect our transmission speed."

Marcoin's operating analysis for service stations is transmitted in an average of 22 seconds compared with 3 minutes 55 seconds by previous equipment.

## Bourgerie Named VP For Media Operations

**Richard M. Bourgerie** has been named vice president of Media Operations for Memorex Corporation.

In this position, Bourgerie will be responsible for the manufacture of precision computer media products including Video Tape, Business Products and Disc Packs.

Bourgerie joined Memorex in 1970 as manager of production control, and in 1972 he was named director of media manufacturing. Prior to joining Memorex, Bourgerie served with Honeywell Corporation. He received a BA in math and physics from the University of Minnesota.

Bourgerie, his wife, and three children reside in Cupertino, California.



## Yaconelli Appointed VP Of Marketing-Media Products

**Philippe Yaconelli** has been appointed vice president of Marketing-Media Products for Memorex. Yaconelli will assume responsibility for the marketing of all computer media in addition to his current responsibilities as General Manager of Business Products.

Yaconelli first joined Memorex in 1962 as one of the company's first five salesmen, heading up the Southwest sales office. In 1965, he left Memorex and founded Caelus

Memories in 1966. In 1969 he became chairman and president of Katun Corporation. In 1970, Yaconelli became president and director of Computer Synectics, and was chief executive officer for his own corporate development firm.

A graduate of the University of Southern California with a B.S. Degree in Mechanical Engineering, Yaconelli resides with his wife and family in Los Gatos, California.



# Promotions

**James Allen, Jr.**, to Advisory Marketing Education Specialist  
**Celia Alvares** to Inprocess Inspector C  
**Carsten Andersen** to Senior Financial Analyst  
**Bruce Anderson** to Senior Electronic Technician  
**Ron Arima** to Senior Engineer-Mechanical  
**David Barker** to Electronic Technician A  
**David Berry** to Product Manager, CPD  
**Mary Blais** to Sub-Assembler  
**Katherine Brown** to Production Inspector, Comdata  
**Bruce Campbell** to Senior Product Control Analyst  
**Manuel Carvalho** to Production Control Specialist  
**George Chaisson** to Department Technician-Fabrication/Testing  
**Robert Contreras** to Product Control Expeditor/Dispatcher  
**Robert Coppola** to Field Support Engineer  
**David Cortis** to Toner Process Operator  
**Nancy Crippen** to Support Services Administration Specialist  
**Rosario Cruz** to Department Technician-Assembly  
**Leroy LeLappe** to Senior Financial Analyst  
**John Dick** to Department Technician-Fabrication/Testing  
**Harold Edelstein** to Senior Engineer-Facilities  
**Wilfred Eggleton** to Warehouseman B  
**John Essick** to Senior Electronic Technician  
**Ronald Ferg** to Senior Associate Field Support Representative  
**John Franklin, Jr.**, to Inprocess Inspector B  
**Maureen Fratis** to Electronic Technician B  
**Roland Gallegos** to Supervisor-Finishing Operations  
**Carol Gallizioli** to Supervisor Equipment Manufacturing  
**Sandra Gallo** to Personnel Specialist  
**Jerald Gingold** to Senior Engineer, Quality Control  
**Cherie Golick** to Statistical Clerk  
**Margaret Green** to Inprocess Inspector A  
**Jean Hare** to Associate Engineer  
**Thomas Harris** to Department Technician-Assembly  
**Shirley Hart** to Inprocess Inspector A  
**John Henry** to Manager, Technical II  
**Linda Hockett** to Inprocess Inspector B  
**Sarah Hood** to Personnel Specialist  
**Tim Horn** to Mix Operator B  
**Donald Houlihan** to Territory Supervisor  
**Jo Humble** to Senior Media Order Administrator  
**Larry Hurst** to Senior Field Support Representative  
**Richard James** to Manager, Engineering Section  
**Angel Jaramillo** to Department Technician-Assembly  
**Bobby Jenkins** to Product Control Specialist

**Lola Jenkins** to Keypunch Operator A  
**Floyd Jensen** to Manager-Technical I  
**Alva Jones, Jr.**, to Senior Buyer  
**Henry Jordan** to Field Support Production Specialist  
**Ellen Kannally** to Order Correspondent A  
**Curtis Kendall** to Data Processing Center Coordinator  
**Betty Kennedy** to Sub-Assembler  
**John King** to Regional Systems Engineering Manager  
**Frank Kirchhoff** to Advisory Marketing Education Specialist  
**John Lamsens** to Field Support Representative  
**Dennis Lasch** to Senior Field Support Representative  
**James Layton** to Mix Operator B  
**Dorothy Leary** to Administrative Specialist  
**William Libbey** to Senior Electronic Technician  
**Virgil Lohoff** to Manager-Engineering Section  
**Robert Luke** to Video Test Operator A  
**Ronald Lyons** to Department Technician-Assembly  
**Stanley Marshall** to Department Technician-Assembly  
**Roger Mauermann** to Territory Supervisor  
**Stephen McGill** to Field Support Representative  
**Robert Mendez** to Mix Operator B  
**Margaret Mendoza** to Head Assembler  
**Duane Meulners** to Manager-Technical I  
**John Miller** to Electronic Technician A  
**Eloy Molina** to Surface Treat Operator  
**Joyce Mollett** to Technical Instructor  
**Robert Mueller** to Manager-Engineering Section  
**Clifford Murphy** to Molding Technician Trainee, Comdata  
**Philip Norton** to Branch Manager  
**Peter Palomo, Jr.**, to Final Assembler  
**Bob Patterson** to Product Control Analyst  
**John Pedemonte** to Product Control Analyst  
**Alfred Plant** to Director-Marketing  
**Bent Pristed** to Systems Programmer  
**William Protzmann** to Manager, Technical I  
**Nicholi Rabchenia** to Senior Associate Field Support Representative  
**Richard Rawie** to Manager-Engineering Section  
**Manuel Reyes** to Slitter Operator A  
**Stanley Rojo** to Technical Specialist  
**Robert Rugnao** to Product Control Analyst  
**Charles Saylor** to Engineer II-Manufacturing  
**Jerline Scheibli** to Inventory Control Clerk B  
**Henry Shumake** to Coating Operator B  
**Kenneth Siderine** to Slitter Operator B  
**Zoran Simic** to Associate Product Test Technician  
**Irma Souza** to Secretary C  
**Daniel Spinner** to Physicist II  
**Harold Stanley** to Manager-Systems Design Group  
**Donald Stellman** to Senior Engineer  
**Donald Stoye** to Principal Engineer  
**Leif Sundblom** to Senior Staff Engineer  
**R. Lynn Swidersky** to Senior Field Support Representative  
**George Switzer** to Field Support Representative  
**Patrick Thompson** to Offset Press Operator B  
**Charles Tuttle** to Engineer II

**Lanora Tuttle** to Inprocess Inspector C  
**Ernest Tydell, Jr.**, to Manager of Administrative Services  
**Mary Vilhauer** to Product Control Clerk A  
**Christopher Wagener** to Mechanical Technician C  
**Ronald Weller** to Senior Engineer  
**Jackie Whitham** to Senior Field Support Representative  
**Ray Wilson** to Manager-Systems Development  
**John Wix** to Data Center Senior Systems Engineer  
**Fred Wright, Jr.**, to Branch Manager  
**Jeannine Wuschnig** to Purchasing Clerk A  
**Etsuo Yoshida** to Department Technician-Fabrication/Testing  
**Otto Ziemendorf** to Receiving Inspector A

## 5-Year Anniversaries

The following employees have marked their fifth anniversary with Memorex. Each employee will receive a five year pen in recognition of his or her contributions to the company.

**Inocencio A. Asuelo**  
**Raymond J. Avila**  
**John C. Byington**  
**James R. Callison**  
**James L. Cherrette**  
**Ovido Garcia**  
**Chung H. Kim**  
**Harry J. Krall**  
**Sally Lopez**  
**Clovice McDuffy**  
**William H. Simpson**

## 10-Year Anniversary

**Tony Mahoney**, mix supervisor (I), was presented with an engraved clock honoring his 10th year with Memorex. **Richard M. Bourgerie**, vice president of Media Operations, made the presentation at ceremonies held recently at the tape plant. Bourgerie expressed his appreciation for Mahoney's participation and contribution to the company's growth.



# INTERCOM

MEMOREX CORPORATION  
SAN TOMAS AT CENTRAL EXPRESSWAY  
SANTA CLARA, CA 95052

## First Class Mail

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### Why new Memorex sounds better than the cassette you're probably using now.

Thank  $MRX_2$   
Oxide.

$MRX_2$  Oxide  
makes new Memorex  
the best cassette tape  
you can buy for use on all  
equipment. Bar none.

$MRX_2$  Oxide particles  
are smoother and more  
uniform than low-noise or  
"energized" particles. So we  
can pack more of them on  
our tape surface to pick up  
and play back more sound.

In short, new Memorex  
with  $MRX_2$  Oxide means  
superior fidelity.

And, after all, isn't  
that what you buy a  
tape for?

**MEMOREX** Recording Tape

