

MC MARTIN

INTRODUCTION

The pictures and text that follow tell the story of a company, McMMartin Industries, Inc. The book is really a kind of family album. But it's not just about the family whose name appears on the letterhead, it's also about the family of people who are responsible for designing, building and selling McMMartin products.

We want you to get to know this extended family, so that you can really know the products they produce, the pride they take in their work, and the capabilities of the plant in which they work. The photographs and text present these things in a broad context.

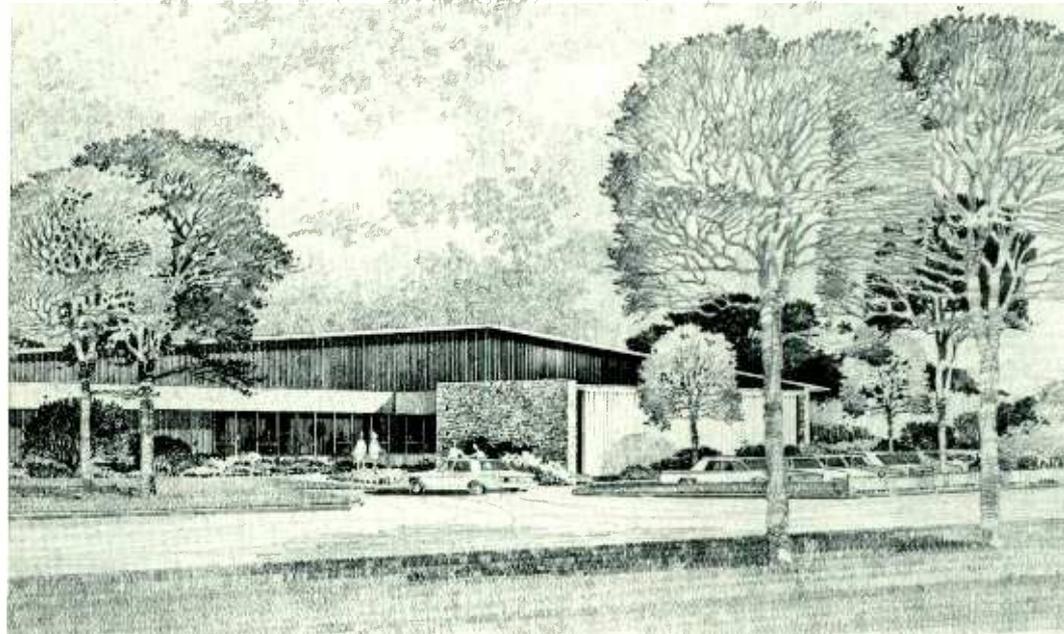
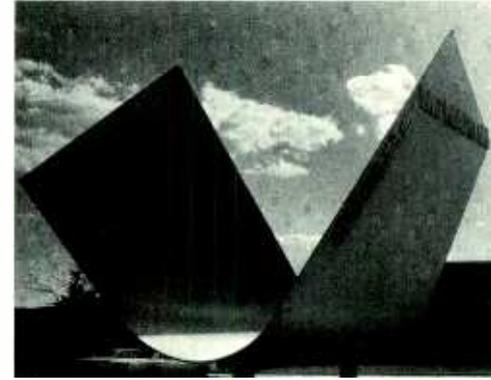
We hope that by knowing us better you will believe, as do we, that McMMartin Industries is a truly outstanding industry leader and a company dedicated to serving the diverse needs of its customers.

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and broadcast markets using the "McMartin" trade name. The corporate name was changed to "McMartin Industries, Inc." early in 1962.

The first products sold under the McMMartin label were FM receivers designed to pick up "SCA" signals — special sub-channel signals broadcast by some FM stations along with their regular broadcast signal, and used for background music,



radio reading service for the blind and other limited service applications.

Subsequently, the McMartin product line expanded into radio station monitors, audio mixing equipment and broadcast transmitters. Today McMartin Industries is a full line audio communications manufacturer with lines cover-

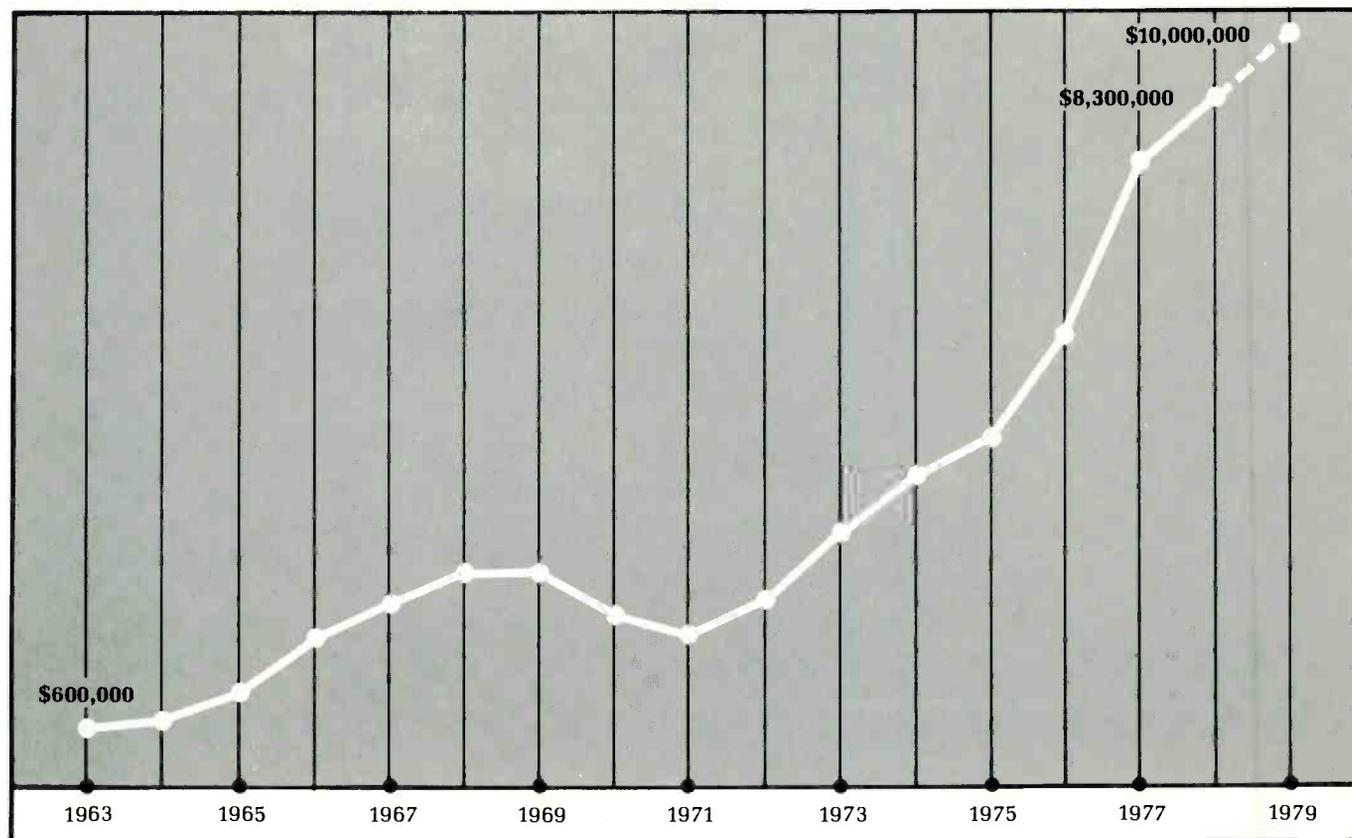
ing a wide range of products for broadcasting stations, engineered and commercial sound installations, SCA systems and data distribution networks.

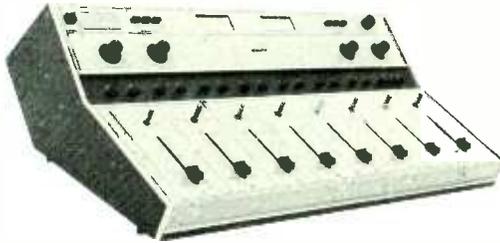
The most rapid growth of McMartin Industries has occurred in the past 15 years as gross annual sales have increased from about \$600,000 in 1963 to nearly \$9 million by

1978. And the growth continues to increase as McMartin assumes a developmental role in the expansion of electronic communications.

Presently, McMartin Industries occupies 55,000 square feet of factory space situated on seven acres of land in Omaha, Nebraska.

Gross Sales, McMartin Industries, 1963-78.





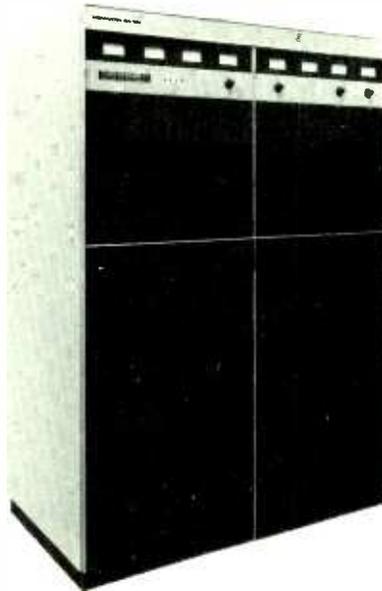
Audio control consoles



FM Modulation monitors



Remote broadcast transmitters



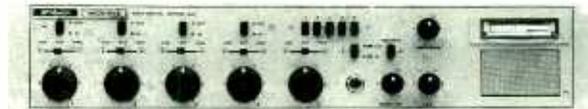
AM/FM Transmitters



TV/SCA Receivers



FM Relay Receivers



Portable/Mini-consoles



BROADCAST PRODUCTS



above—McMartin B-1082 audio console in studio of KLOV, Loveland, Colorado

bottom—Exterior of KLOV, one of many radio stations fully equipped with McMartin broadcast products.

McMartin remote pickup equipment used in Network News Pool coverage of President Carter's visit to Lagos, Nigeria.



McMartin broadcast products are designed to function reliably and effectively in specific broadcast station uses. Equipment failure can be costly to a radio or television station. McMartin Industries believes that advanced engineering should mean advances in signal quality and reliability in a piece of equipment, and that a simple, straightforward design is generally more useful than an overly complex one.

The McMartin broadcast line includes AM and FM transmitters for just about any power requirement; FM exciters, stereo and SCA generators; audio mixing consoles in several sizes from large production consoles to small remote location mixers; remote pickup transmitters and receivers; FM signal monitors; rebroadcast receivers; and various support equipment.

In addition, McMartin is a worldwide supplier of full radio station packages that include products manufactured by McMartin, along with system components from other manufacturers.

McMartin equipment is used throughout the world in commercial, non-commercial and government-owned stations. Although McMartin does not manufacture video equipment, McMartin audio equipment enjoys wide acceptance by television broadcasters.

McMartin also supplies equipment to the major U.S. networks. McMartin remote pickup equipment was recently selected by the Network News Pool for aural coverage of President Carter's trip to Lagos, Nigeria.

SCA

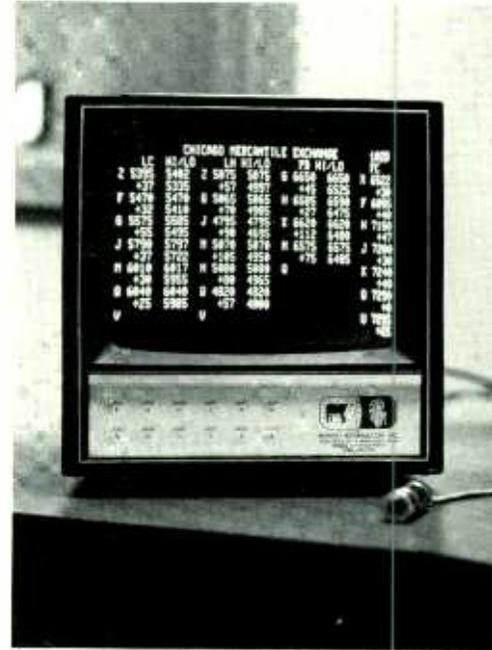
Subsidiary Communications Authorization, or "SCA," is the use of FM sub-channel to broadcast specialized information to a specific class of users. SCA transmissions are carried by FM stations in addition to their regular program services. Only persons authorized to use a specific SCA service may acquire SCA receivers, and those receivers are pre-tuned to the frequency of that particular service.

Initially, FM stations utilized SCA primarily for background music services. For many years McMMartin has produced receivers for the best known of the music services: Muzak. In recent years the FCC has allowed SCA to be used for a great many specialized services including Physicians Radio Network (medical information for physicians), Radio Reading Service (information for the visually

handicapped) and Market Information, Inc. (commodity quotations for brokers, grain elevators, feed lots). Market Information, Inc. not only transmits voice quotations over SCA channels, but also sends computer data for display on video monitors. McMMartin is the world's largest manufacturer of SCA equipment.

FM broadcasters are finding that SCA lease income increases profits. Information services find SCA transmissions far more economical than distribution via telephone lines.

Recently McMMartin Industries has developed a pocket-sized receiver designed to receive SCA signals transmitted over the television aural carrier. Television stations and networks plan to make use of this service for communications with remote news crews.



above—Commodities market quotations, digitally coded for visual display, are transmitted via SCA channels by Market Information, Inc.

lower left—Physicians Radio Network uses SCA channels to provide up-to-date medical information to health care professionals.

below—Jay B. McMMartin, SCA products manager.



COMMERCIAL AND ENGINEERED SOUND

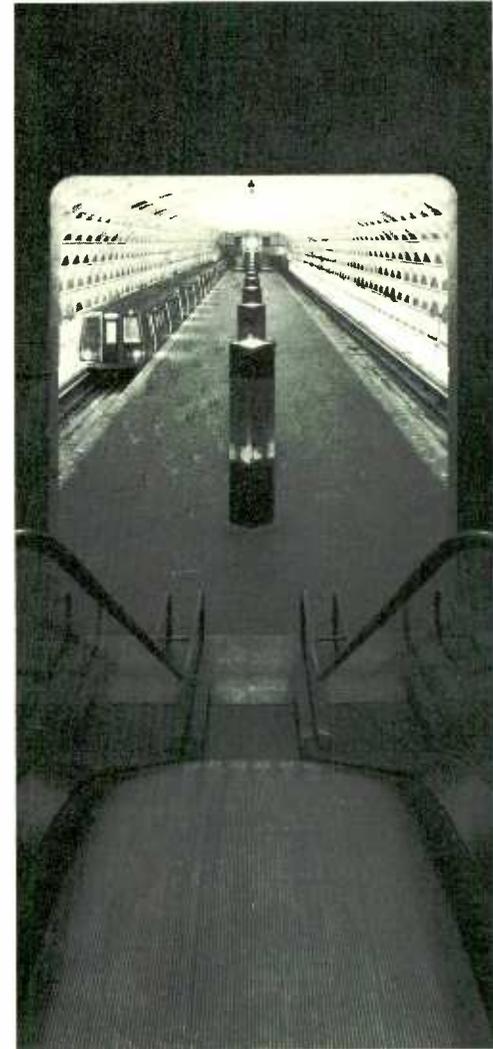
McMartin Industries is also a major manufacturer of audio equipment engineered into building sound systems and incorporated into various commercial sound applications.

The product line includes a wide variety of power amplifiers, utility amplifiers, line amplifiers, mixers, AM and FM tuners, life support communications equipment and intercom systems.

McMartin equipment is at the heart of some of the country's largest sound systems, includ-

ing those of the Washington, D.C., Boston and Atlanta Rapid Transit subway systems, the San Francisco Hyatt Regency Embarcadero Hotel, the Mississippi Queen and Delta Queen luxury riverboats, the Seattle Airport and most of the automotive plants.

Many telephone companies, both independents and members of the Bell System, utilize McMartin engineered sound equipment — another testament to McMartin quality and reliability.



above—The Stadium-Armory Section, WMATA-Metro, Washington, D.C. transit system. (Photo, courtesy of the Primary Design Consultant: Henningson, Durham and Richardson.

left—The Mississippi Queen luxury riverboat.



MUZAK • FM/SCA Receivers

PRIVATE LABEL

All of the equipment McM Martin makes does not carry the "McMartin" brand label. Some is manufactured for "OEM" — Original Equipment Manufacturer — accounts, or for special customers, under the name of the OEM company or customer.

For example, McM Martin makes receivers and amplifiers under the "Muzak" brand name for Muzak Corporation, a division of Teleprompter. Some amplifiers and intercom systems used in fast food chains are made by McM Martin for the 3-M Corporation.

Currently McM Martin has contracts for private label manufacturing and/or special research and development projects with Muzak; 3-M; Physicians Radio Network; Dow Jones, Inc.; Hughes Aircraft; SCI, Inc.; RCA Service Company; Western Electric; A.D.T. and Collins Radio.

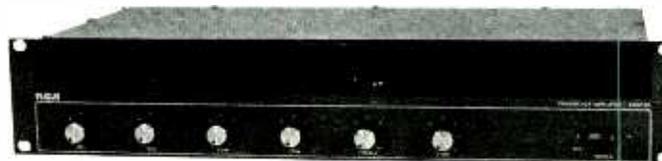
Private label manufacturing is a major element in corporate marketing and planning. McM Martin Industries actively seeks new projects related to other McM Martin product areas, or to areas in which McM Martin seeks expansion.



PRN • FM/SCA Receivers



3M • Amplifiers



RCA • Amplifiers/Mixers/Tuners



PEOPLE



Ray B. McMartin

Ray B. McMartin is founder, President, and owner of McMartin Industries, Inc.

He holds a Bachelor of Science (S.B.) degree in Business and Engineering Administration from the Massachusetts Institute of Technology. Prior to founding the company, Ray McMartin worked in market research, sales engineering and marketing for several major corporations and served as a First Lieutenant in the U.S. Air Force.

In addition to building a corporation, McMartin has distinguished himself as a major civic leader. He has served on the board of directors of the Boy Scouts, Junior Achievement, the Nebraska Humane Society, Nebraska Goodwill Industries, Brownell-Talbot School, the Omaha Club and the Omaha Symphony.

An active member of the Young Presidents' Organization, Ray



McMartin has held all offices in the Nebraska YPO Chapter, has served as General Chairman of a Western Area YPO conference held in Sun Valley in 1976, and as Finance Chairman for YPO an "International University for Presidents" in Athens, Greece in 1975.

The McMartin's have been very generous in their gifts to Omaha. Among their philanthropies was the donation of a new science laboratory for Brownell-Talbot School, new costumes for the Omaha Ballet's annual "Nutcracker Suite" and a new Steinway concert grand piano for the Omaha Symphony.

As President of McMartin Industries, Mr. McMartin guides the growth of the company and works closely with the various managerial areas to maintain a consistent goal orientation and dynamic marketing structure.

Juan F. Alonso is Executive Vice President for Accounting and Manufacturing. A native of Cuba, Alonso served as a professor and later as a Dean for the Havana Business College. He was also a partner in an industrial products firm in Cuba.

Prior to joining McMartin Industries in 1967, he held a management position in the Dominican Republic farming operation of ConAgra.

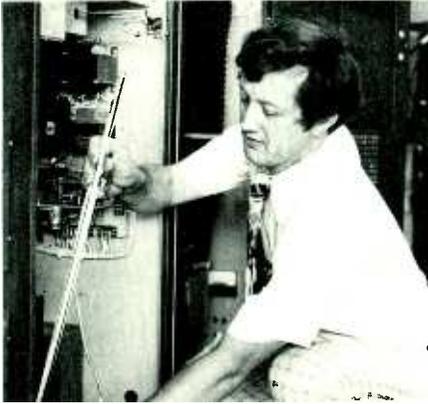


Joseph M. Engle is Executive Vice President for Sales, Marketing and Engineering. He has had over twenty-five years of experience in the broadcast electronics industry covering broadcast station engineering, equipment manufacturing, field sales and sales management. He is active in several professional associations and has participated in numerous management workshops.

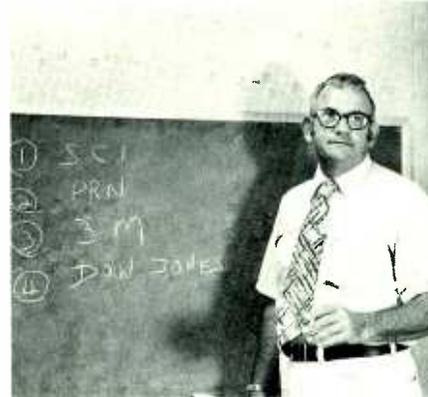


Richard Funk is Manager of Purchasing. He was trained in the Sciences at the University of Nebraska and Wayne State University. He served as a manufacturing engineer for a large computer corporation before joining McMartin Industries. Prior to his appointment as purchasing agent, Dick Funk served as Quality Control Manager.





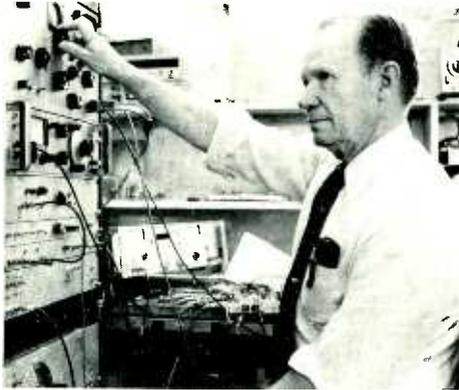
Charles E. Goodrich is Director of Engineering. His background includes broadcast station engineering and over ten years as an aerospace engineer. He is a member of the I.E.E.E. and holds several patents. Goodrich supervises the entire engineering output at McMartin and serves as a design engineer on some broadcast equipment projects.



Carl Willard is Director of Manufacturing. A career Air Force man, Willard came to McMartin following 26 years of military electronics experience in both operations and maintenance. Willard received his technical training in Air Force technical schools and studied Business Administration at Snead State College and in overseas extension courses offered by the University of Maryland.



Howard W. West serves as Manager of Corporate Design, a position that gives him responsibility for the visual design of McMartin products, as well as all graphic arts materials used in McMartin product bulletins, manuals, public relations materials and advertisements. His background includes training in industrial design at schools on both coasts. While at McMartin, West has won several regional awards for graphic arts designs.



Leonard Hedlund is Vice President for Research and Development. He joined McMartin in 1957 after having worked in both military and civilian electronics engineering positions.

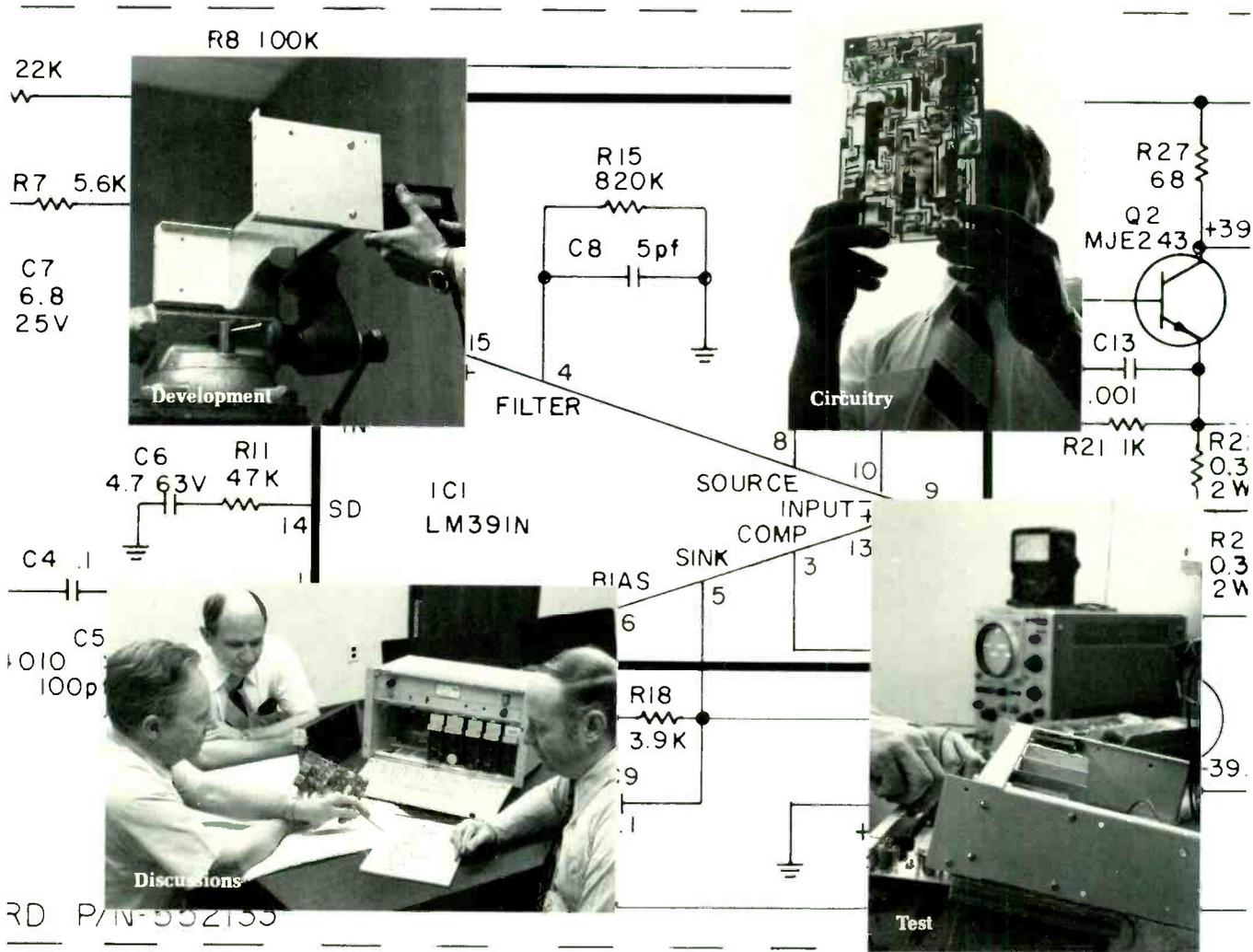
Largely through his work at McMartin, Hedlund has become recognized internationally as an authority on RF and audio design. He has served as a member of Study Group X of the International Radio Consultative Committee (CCIR), Geneva, Switzerland, which establishes world-wide standards for broadcasting services. He holds several patents and is active as a full member in the Audio Engineering Society and the Insti-

tute of Electrical Electronic Engineers (I.E.E.E.). Hedlund is the author of numerous journal articles and technical papers.

His recent accomplishments at McMartin include development of the Precise Tracking Decoder (P.T.D.) circuit — a new kind of IF circuit used in McMartin FM and RPU tuners to achieve exceptionally low distortion and a high signal-to-noise ratio even under relatively poor reception conditions; and Multiple Access Processing — a method of distributing multiple audio and data signals throughout a building by means of the normal AC power lines used in the building.



Leonard E. Hedlund



An Idea . . .



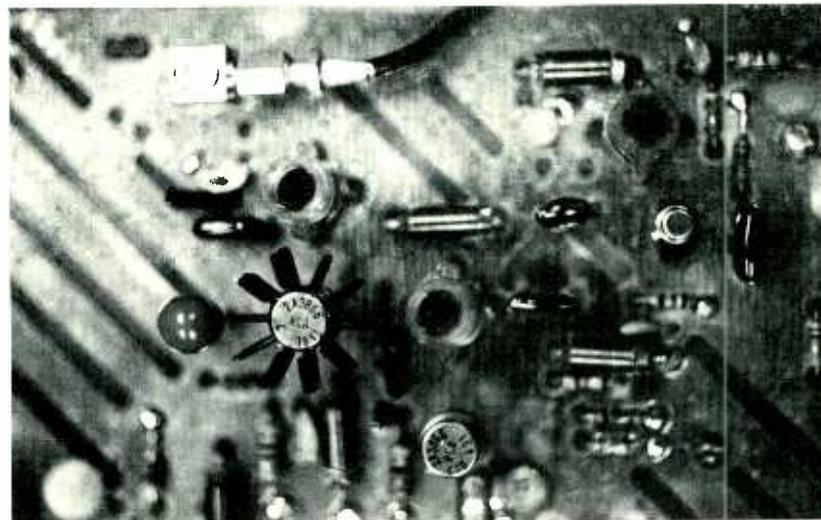
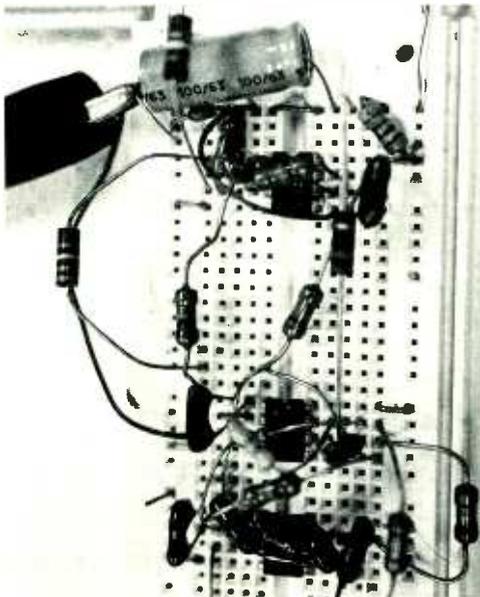
Projects are initiated through a coordination of the marketing, engineering and design departments of McMartin Industries. Marketing ascertains the market potential of a proposed new product; Engineering solves the electronic problems and Design creates the physical appearance of the product.

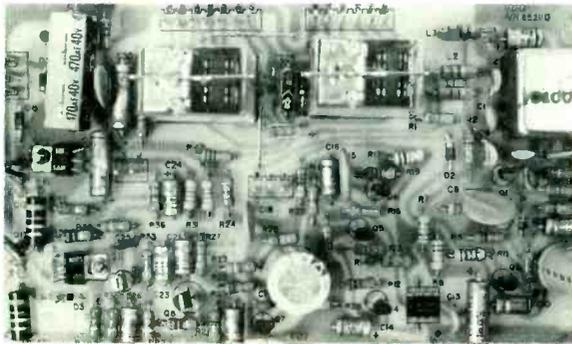
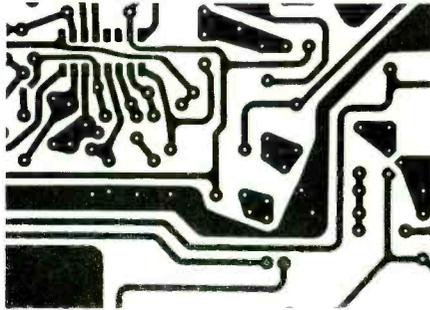
As the project takes shape, the three departments continue to coordinate their efforts to assure an end result that is satisfactory to each.

The initial engineering phase of any project is the *breadboard model*. This is the electronic equivalent of an author's rough draft. It demonstrates the viability of a particular circuit design and provides a basis for evaluating the potential of the project.

A *prototype* is then constructed which is a combined effort of Engineering and Design. At this stage, both the circuit design and the physical appearance of the product are close to final form.

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In the pre-production stage, the prototype is used as a pattern to show production personnel how the final units are to be built. Also at this stage, the Drafting Department produces final schematic diagrams, printed circuit board drawings and other drawings needed to communicate the intent of Engineering and Design to the Production Department, and to make a permanent record of the product design.

The McMartin engineering staff consists of eight engineers and technicians, each a specialist in a particular area of product design. Each engineer is involved

with about three projects at any one time.

Throughout the Engineering process and on into the Manufacturing process, each project is carefully coordinated with the Quality Control Department.

Because of McMartin Industries' large staff but relatively small size, it can respond to new technologies very rapidly. The result is technologically advanced products that have long life expectancy even in the rapidly changing world of electronic communications.

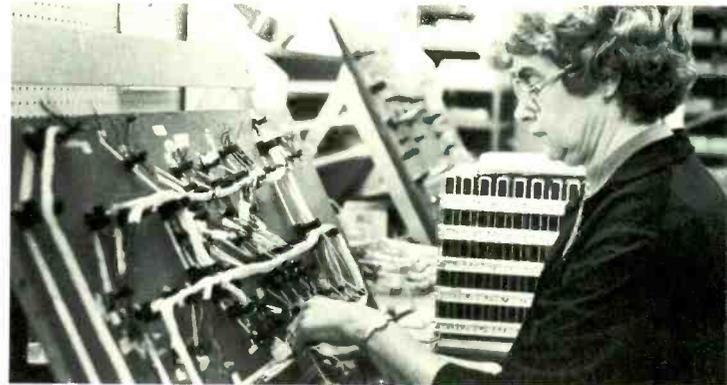
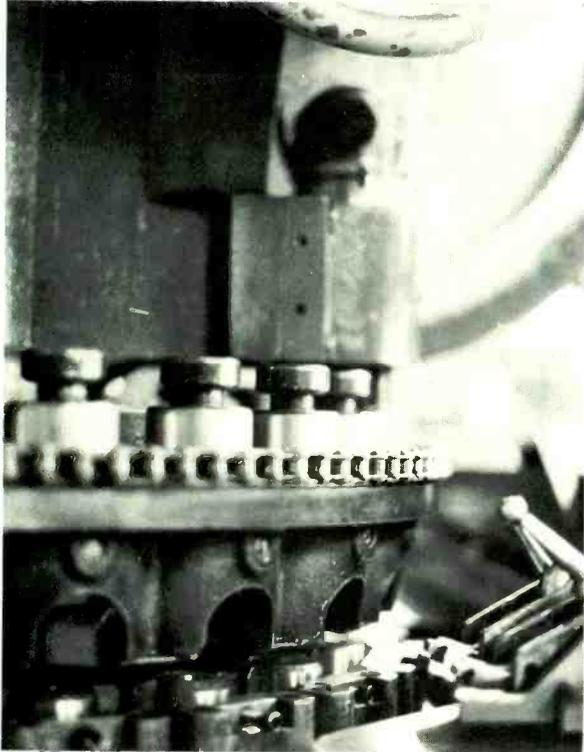
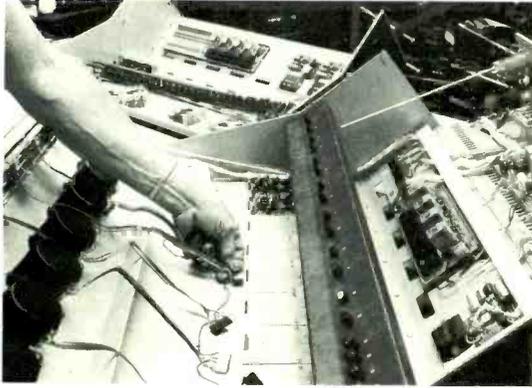


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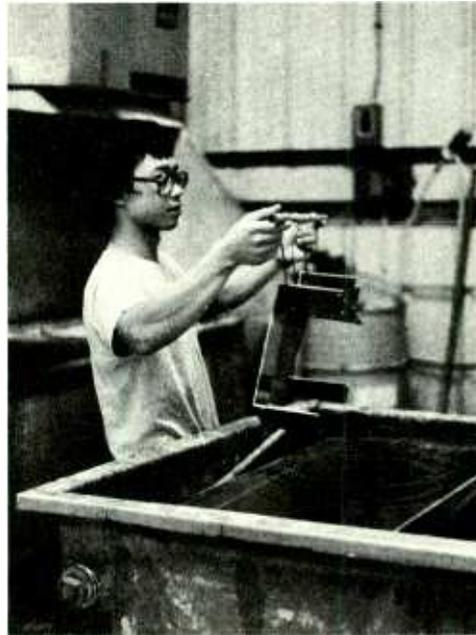
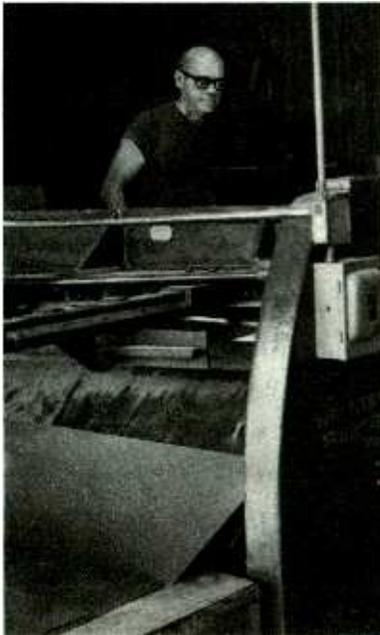
B-1082V Stereo Production Audio Console

The Product . . .



MANUFACTURING

The production of electronic equipment involves the coordination of several areas of craftsmanship. These include sheet metal fabrication and painting, printed circuit board fabrication, wiring and inspection and testing.



SHEET METAL AND PAINT

All of the chassis, cabinets and sub-assemblies used in McMartin equipment, with the exception of the large transmitter frames, are fabricated in the McMartin Sheet Metal and Paint Department.

Major metal forming equipment consists of three 18-station turret punch presses, a shear, two single-station punch presses and two press breaks. The metals used are steel and aluminum.

Sheet metal components are painted in a special spraying booth and are dried in a conveyor oven. Aluminum parts are etched prior to painting to insure a good paint bond.

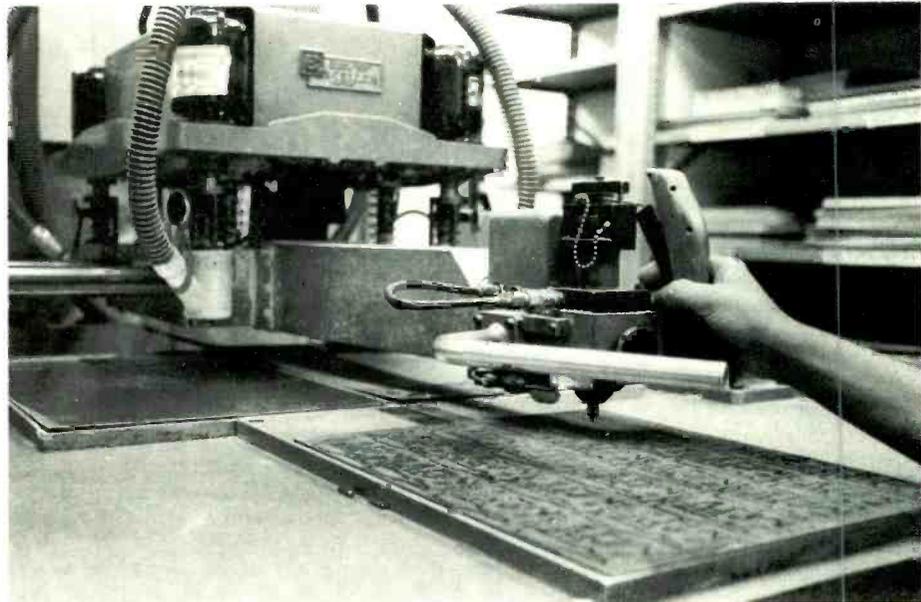


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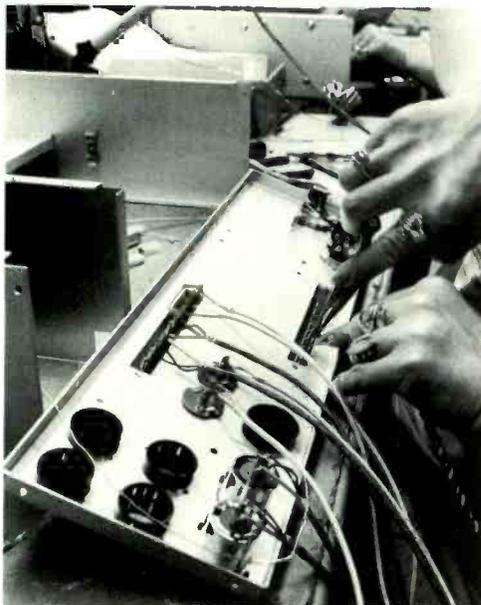
Printed circuit board fabrication entails several steps, each performed in-house at McMartin Industries.

The drafting department creates a photo positive of each circuit board. From this a photographic silk screen is produced by contact printing the positive in a vacuum exposure table.

Two power silk screen printing machines apply resist solution to the copper side of a copper and fiberglass laminated board. The copper is etched, the board is drilled, then a seal coating is applied to prevent oxidation. The top (fiberglass) side of each board is also screened to show location of each component.



**PRINTED CIRCUIT
BOARD FABRICATION**



WIRING

Before final wiring is done, certain sub-assemblies must be produced. McMartin Industries, for example, manufactures all of the coils and some of the transformers used in McMartin products. Three coil winding machines are used for this task.

Wiring assemblies used on some products must be hand-stitched and laced. Wire stripping and crimping, however, is done by automatic machines.

In final assembly, components are placed by hand onto printed circuit boards. The fully populated boards are then soldered in one step on a wave soldering machine.



INSPECTION AND FINAL TESTING

McMartin products are each inspected twice while being made and then given a final test upon completion.

Many products are operated for hours in normal loading situations, and under conditions of overload and shorting, in order to assure reliability and endurance in the field.

A copper-clad screening room is used for tests where it is necessary to block out all external RF signals and also to prevent product-generated RF from interfering with other tests within the factory.

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the SUPPORT GROUPS



Equally as important as manufacturing reliable products is providing customer support after purchase. Equipment "down" time can be very expensive to broadcasters and professional sound equipment users. McMartin believes that the manufacturer should take an active part in helping the customer get maximum service from each product bought.

Many customers have praised McMartin for its efficient Customer Service department. Included as a function of this department is a 24-hour emergency radio transmitter service.

A central U.S. location, virtually equidistant from both coasts, serviced by many major airlines, assures the fastest possible delivery of parts and replacement equipment in emergency situations.

CUSTOMER SERVICE



COMPUTER SERVICES

McMartin Industries has been praised by banks and auditors for its sophisticated accounting system. A tool of this sophistication is the company's IBM System 3 Model 15 computer, a very popular and powerful business computing system.

The computer enables management to be more efficient and more accurate in making business decisions. Computer handling of order processing, inventory control and production scheduling keeps these areas coordinated.



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ADVERTISING AGENCY/PRINTSHOP

Because the corporate communications needs of McMartin are specialized and demanding, a separate in-house advertising agency, AD-West, is maintained.

Included in this agency is a complete printing plant consisting of three presses along with the equipment used for negative production, platemaking and bookbinding.

The printshop is capable of single and multicolor printing, and is used to produce product

data sheets, instruction books, direct mail advertisements, and in-house business forms, letterhead, etc.

In addition to serving the communications needs of McMartin Industries, AD-West has provided graphics design, printing and photographic services to local and regional civic organizations. Several of these donated campaigns have received awards for advertising excellence.



NEW HORIZONS

Like most corporations, McMartin Industries seeks growth. But only that growth which can be absorbed without loss of product quality, responsive research and development, customer support and corporate stability.

Each of the product areas, Broadcast, Commercial and Engineered Sound, SCA and Private Label, are developed individually so that change can be responsive to the demands of those individual markets.

Electronic communications are expanding in utilization and in diversity. Already McMartin Industries is manufacturing and developing products in such growth areas as SCA data transmission, space satellite communications and television SCA. McMartin also continues to bring the latest technologies to the established broadcast and audio products markets. As the various communications mar-

kets change, so will the products made by McMartin Industries.

But whatever that change, McMartin seeks to remain one of the most respected names in electronic communications. And that respect comes from innovative engineering, sound craftsmanship, thorough customer support and responsible business conduct. By constantly striving to earn customer respect now, the future is assured.



The managerial structure of McMarten Industries is designed to allow for maximum communication between employees and management.

All employees have frequent direct access to the President, Ray B. McMarten, and Mr. McMarten works closely with members of the professional staff in the realization of various projects.

Input from the production and assembly employees is facilitated by an Employee Committee. Members are elected by their fellow workers and meet-



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EMPLOYEE/MANAGEMENT PHILOSOPHY

ings are held regularly to discuss common problems and to draw up a list of concerns, questions and suggestions for management. All questions are personally answered by Ray B. McMarten.

Effective employee communications has resulted in exceptional employee loyalty and satisfaction. Employee turnover is low and many employees have spoken of the family-like atmosphere of McMarten Industries. This satisfaction is often evident in the care and craftsmanship that go into McMarten products.



A PERSONAL NOTE...

When Dad asked me to prepare a facilities brochure for the company, I thought it was a good idea because I could work on my photography and learn how to design a brochure.

Well, I did learn about those things, but I also learned a lot about the company. What impresses me most is that McMartin Industries is really a family company. Of course, it's always been a part of my family, almost like another sibling. But I realize, too, that the people who work here make up a kind of family. The family attitude creates strong loyalties. The people of this company really care about each other, what they produce, and about the people who buy and use their products. So I've tried to make this brochure more of a *people* brochure than a facilities brochure, and I hope you learn as much about us as I did.

I'd like to thank Howard West and Eric Somers for their patience and guidance. And, I'd really like to thank my dad for giving me this opportunity.

Now, I'd like to tell you about my cat. . .

—Elizabeth J. McMartin



MC MARTIN

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