THE MONOGRAM

JANUARY, 1968

LASERS: The Light Fantastic . . . p. 11
AND: Organization, Big Quartz, DigiNet, HemisFair, Advertising.

The Cover

Sparks fly as carbon steel is vaporized by a focused LASER beam at the Research and Development Center. LASERS are investigated for their possible applications to manufacturing processes such as machining, cutting and welding. A story on LASER progress begins on page 11.

LETTERS

Deterring Delinquents

EDITOR: The Syracuse *Post Standard* has lamented that broken school window vandalism was costing taxpayers $40,000 a year. What was the answer, it asked in an editorial, to this drain on educational revenues?

Don Burns, of the Air Force plant representative's office at GE-Syracuse, read that editorial, and remembered *The Monogram* story of February, 1967, on how LEXAN® polycarbonate windows were being used in other cities to frustrate such vandalism.

He submitted the suggestion through the Heavy Military Electronics Department, which got our Community Relations office and the Chemical Materials Department Marketing Manager, Jack Lidstone, to approach the Syracuse schools with the idea of using LEXAN windows in a test installation.

Needless to say that the windows are now in place, and that HMED gave Mr. Burns a

(continued on inside back cover)

General Electric College Bowl

(NBC, Sundays, 6:00 p.m. EST)

Participants: Jan. 7—10th Anniversary Special: Brown University (Providence, R.I.)—Northwestern University (Evanston, Ill.); Jan. 14—University of Pittsburgh (Pa.); Jan. 28—University of Kansas.

The object of *The Monogram* is to keep its readers informed on General Electric activities so they may contribute more effectively to General Electric progress on the job and better represent the Company in its relations with the public.

IN THIS ISSUE

Devere E. Logan, Editor

The Monogram is produced for office employees of the General Electric Company and its affiliates. It is published monthly at New York by the Employee Communication Operation of Personnel and Industrial Relations Services and printed in the U.S.A. by the Maqua Company. Permission for reprinting articles should be obtained from the Editor, General Electric Company, 570 Lexington Avenue, New York, N.Y. 10022.

GENERAL ELECTRIC

VOL. 17, NO. 1

THE GENERAL ELECTRIC
MONOGRAM

JANUARY, 1968

THE COMPANY

Major Structural Changes

The first major structural changes in sixteen years have broadened the Company's top executive leadership assignments, including a newly-created President's Office, three newly-elected Executive Vice Presidents and an increase in the number of Groups from five to ten.

The changes, which were effective January 1st, include the announcement that the newly-established President's Office will be comprised of President Fred J. Borch, Chairman of the Board Gerald L. Phillippe and William H. Dennler, Jack S. Parker and Herman L. Weiss, who were elected Executive Vice Presidents by the Board of Directors on November 17th. The Executive Vice Presidents will share Executive Officer responsibilities with the President and the Chairman of the Board.

Mr. Borch said that the President's Office will be involved in "Company-wide commitments and policies that will have both short and long-term impact on General Electric's world-wide business."

New Groups: The expansion to ten operating Groups will provide greater top management flexibility to cope with expanding markets and increased volume.

"It would not be realistic to envision General Electric facing its projected future with its former, relatively small top-executive team," explains Mr. Borch. "With an augmented President's Office for future Company-wide planning and with a doubling of the operating Groups, General Electric expects to be ready to serve expanding customer needs in the next decade."

The expanding Group structure will produce the following changes:

The Electric Utility Group has been divided into the Power Generation Group with Hubert W. Gouldthorpe Vice Presi-

PRESIDENT'S OFFICE: *Members of the newly-formed President's Office: (seated, left to right) President Fred J. Borch, Board Chairman Gerald L. Phillippe; (standing, from left) Executive Vice Presidents William H. Dennler, Jack S. Parker, and Herman L. Weiss.*

dent and Group Executive, and the Power Transmission and Distribution Group with Robert W. Lewis as its Vice President and Group Executive.

The Aerospace and Defense Group is succeeded by the Aircraft Engine Group with Gerhard Neumann as Vice President and Group Executive, and the Aerospace Group with Hilliard W. Paige as Vice President and Group Executive.

The Consumer Products Group is divided into the newly-formed Appliance and Television Group with Vice President Walter D. Dance as Group Executive, and the Consumer Products Group, with Vice President Donald D. Scarff as Group Executive.

The Industrial and Information Group will be reorganized into three new Groups, including the Industrial Group with Hershner Cross Vice President and Group Executive, the Components and Materials Group headed by Vice President and Group Executive Charles E. Reed, and the Information Systems Group with J. Stanford Smith Vice President and Group Executive.

New Divisions

In addition to the expansion of operating Groups, the Divisional structure of the Company has been realigned, with 29 Divisions increased to 46.

The changes in no way alters the Company's commitment to decentralization or the market-focus concept of the Divisions, the Company announced late last year; "in fact, both are strengthened and extended by these changes."

Under the new Divisional organization, the following assignments and managerial responsibilities are in effect:

Aerospace Group: This Group includes the Aircraft Equipment Division, Charles W. George, General Manager; Defense Programs Division, L. Berkley Davis, Vice President; Electronic Systems Division, Roy H. Beaton, General Manager; Missile and Space Division, Mark Morton, General Manager.

Aircraft Engine Group: Included are the Aircraft Engine Operating Division, Fred O. MacFee, Jr., General Manager; Aircraft Engine Support and Service Division, Ramond E. Small, General Manager; Aircraft Engine Technical Division, Fred W. Garry, General Manager; Commercial Engine Division, Edward E. Hood, Jr., General Manager; Military Engine Division, Edward Woll, General Manager.

Appliance and Television Group: Includes the Appliance and Television Sales Division, Edward L. Stehle, General Manager; Distribution Finance and Service Division, Lester E. Pankonin, General Manager; Kitchen Appliance and Home Laundry Division, Donald W. Lynch, General Manager, Arthur E. Andres, Deputy Division General Manager, Home Laundry; Overseas Appliance and Television Operations, Hicks B. Waldron, General Manager; Refrigeration and Air Conditioning Division, Joseph H. Gauss, General Manager; Stanley C. Gault, Deputy Division General Manager — Refrigeration; Television Division, Irving L. Griffin, General Manager.

Components and Materials Group: Includes the Appliance Components Division, Fred H. Holt, General Manager; Chemical and Medical Products Division, Reuben Gutoff, General Manager; Electronic Components Division, Leonard C. Maier, Jr., General Manager; Industry Components and Metallurgical Division, John T. Castles, General Manager.

(Continued on page four)

At Deadline...

Urban Action: Board Chairman Phillippe expressed confidence that American business leaders will move swiftly with real action programs to counter unemployment in the city ghettos. Speaking to the 72nd Congress of American Industry of the National Association of Manufacturers, he said that to leave the ghetto job problem entirely to government would mean a failure by business leadership. Mr. Phillippe said that businessmen have a responsibility to help solve the problem because the public expects business to provide "the paychecks that make everything else in our society possible" and because businessmen simply cannot abdicate their position as leaders.

Computer Caravan: Phillips Petroleum Company of Bartlesville, Okla., has received the first van-mounted mobile process control computer from General Electric. Phillips will use their GE-PAC 4020® for optimization demonstration of computer control in petroleum and chemical plants.

Radio Signals: A major procurement contract for 1,042 two-way mobile radio units, 186 base stations and 696 solid-state remote control units has been received by the Communication Products Department, Lynchburg, Va., from the U.S. Navy Electronics Command...The Department is also supplying 500 radio units to the Cleveland Transit System for bus communications.

Space Sink-in: A four-month, $75,000 study contract to determine a possible correlation between underseas habitation and long duration space flights has been received by the Missile and Space Division. The NASA study will concentrate on using deep sea isolation to measure the physiological and psychological factors inherent in long flights in space.

(Continued from page two)

Construction Industries Group: Comprised of the Community Development Division, George T. Bogard, General Manager; Construction Materials Division, Carl W. Moeller, Vice President; Contractor Equipment Division, Robert B. Kurtz, General Manager; General Electric Supply Company Division, Ralph B. Glotzbach, General Manager; Area Division—Far East, J. Russell Mudge, General Manager. In addition, Vice President and Group Executive Reginald H. Jones has responsibility for the Company's interest in the Canadian General Electric Company Limited.

Consumer Products Group: Including Consumer Electronics Division, Donald E. Perry, General Manager; Housewares Division, Willard H. Sahloff, Vice President; Lamp Division, Robert V. Corning, General Manager; Area Division-Latin America, Russell E. Whitmyer, Vice President. Mr. Scarff also has responsibility for the Company's interest in General Electric Credit Corporation.

Industrial Group: Including the Industrial Drives Division, Robert C. Wilson, Vice President; Industrial Process Control Division, Louis T. Rader, Vice President; Howard D. Kurt, Deputy Division General Manager-Process Measurement and Control; Industrial Sales Division, S. Wellford Corbin, Vice President; Transportation Systems Division, Bryce W. Wyman, General Manager; Area Division—Europe, Harry P. Gough, General Manager.

Information Systems Group: Includes the Advanced Development and Resources Planning Division, John W. Haanstra, General Manager; Information Services Division, Jerome T. Coe, General Manager; Information Systems Equipment Division, Louis E. Wengert, General Manager; Verner C. Cooper, Deputy Division General Manager — Information Sales and Service; International Information Systems Division, Arthur E. Peltosalo, General Manager.

Power Generation Group: Composed of the IGE Export Division, Hoyt P. Steele, Vice President; Industrial and Marine Power Generation Division, Clement E. Sutton, Jr., General Manager; Large Steam Turbine Generator Division, Donald E. Craig, Vice President; Nuclear Energy Division, A. Eugene Schubert, General Manager; Power Generation Sales Division, Milton F. Kent, Vice President.

Power Transmission and Distribution Group: Including the Power Distribution Division, Charles J. Meloun, General Manager; Power Protection and Conversion Division, Christy W. Bell, General Manager; Power Transmission Division, Robert B. Ames, General Manager; Power Transmission and Distribution Sales Division, William R. Tackaberry, General Manager.

More Departments Ahead

In addition to the organizational and structural changes announced, approximately 40 new Product Departments will be added to the 110 currently in place "in the near future."

MANUFACTURING

Making a Million

Carolina Power and Light Company, which is one of the biggest customers of the Distribution Transformer Department's Hickory, N.C., plant, recently shared a bit of Hickory history by re-

ceiving the one-millionth transformer manufactured there.

The milestone came only 11 years after the Company began its investment in the 457,000-square-foot plant that today provides jobs for some 900 employees and represents an investment of $27 million.

The first transformer rolled off the assembly lines in 1956, when Hickory's product catalog listed pole-type transformers. Later, the line was broadened to include padmount and compad transformers, as the Company reinvested profits to expand the facility.

Plant manager Karl Lathrop joined with employees in marking the million with coffee and doughnuts, as congratulatory messages rolled in from Governor Dan Moore, various congressmen, and Department General Manager A. J. Gizzi.

Lots of Locos

At Erie, Pa., meanwhile, the locomotive and Parts Department had a celebration going, too, with its 1,000th General Electric diesel engine rolling on its way.

Just four years ago the first Erie Plant diesel engine was built, and today units are in operation on 23 domestic and six foreign railroads.

While setting records for speed, mileage, and reliability, GE diesels have meant 400 jobs at Erie since the Company first invested in the business.

Over 500 employees and their families attended an open house given by the Diesel Engine Project for the occasion.

And Jets, Too

At Lynn, Mass., Flight Propulsion Division employees turned out their 1,000th modern generation T58 military engine (the T58-5 and T58-10 series).

LYNN HITS A THOUSAND

Lynn has been making T58s since 1954, and nearly 4,000 have accumulated an impressive two-million flight hours.

The General Electric T58 engine has powered helicopters to break world speed and distance records, pluck astronauts from the sea, rescue flood victims and hundreds of downed airmen from behind enemy lines.

COMPENSATION

Exempt Salary Range Boost

Accompanying the start of the General Electric new year is an increase in the range values of the Exempt Salary Structure. The last adjustment was in January of last year.

Structure values have been boosted by 4 percent for levels 1 through 14, and by smaller amounts for higher levels. At the same time, the salary range spreads have been increased from 37 percent to 38.5 percent for levels 1 through 12. Broader ranges are already in effect for levels 13 and 14.

Under provisions of the Exempt Salary Plan, employees' salaries may be adjusted at any time of the year, based on individual merit. The new salary ranges provide a higher base against which individual salary determinations will be made.

Adjustments to the structure are based on a continuing assessment of the market for exempt positions plus such factors as cost of living, hourly and non-exempt salary adjustments and changes made by other companies.

The Company's exempt salary structure has, over the years, considerably outpaced rises in the nation's cost of living. For example, in ten years, the structure has increased nearly double the cost of living.

BUSINESS OUTLOOK

A Fantastic Threshold

Consumer purchases of major appliances in the next fifteen years will grow at least five times as fast as America's burgeoning population.

And, the electric housewares industry will more than double today's volume by 1980—spurred on by a combination of product innovations and increasing consumer affluence.

Both rosy outlooks were summarized for *The Monogram* by two General Electric vice presidents who have studied the implications of America's growing affluence, population, and family formation patterns. Their evaluation of tomorrow's consumer goods market (appliances and housewares) is upbeat, to say the least.

Supermarket: The major appliance industry is on the threshold of "fantastic business opportunities" in the opinion of W. D. Dance, vice president and group executive of the newly-formed Appliance and Television Group. And, the growth spiral producing a parallel housewares boom would be a growth rate over six times as rapid as the country's population according to Willard H. Sahloff, vice president of the Housewares Division.

With the accelerating trend in America's population—recently reaching 200 million

VICE PRESIDENTS DANCE (LEFT) AND SAHLOFF SEE STRONG DEMAND AHEAD.

—is the fact that the number of new households will grow even faster than the population. In the next 15 years, the ranks of young homemakers — the 20 to 34 age group—will grow by nearly 40 percent. This means strong demands for appliances and housewares.

By 1980, adds Mr. Sahloff, Americans will be more affluent as well as more numerous. Two-thirds of all 233 million U.S. households will then represent annual incomes of over $10,000 compared with only one-fifth today.

Old and New: Booming future sales will derive from both the established products and those still on the drawing boards.

"The future is now," says Mr. Dance in referring to the role of today's appliances in tomorrow's sales. His 1980 sales projections plot remarkable growth from current products.

The next decade for housewares, on the other hand, will see a rapid rise in product innovations with new features that will add significantly to the industry's expansion, according to Mr. Sahloff. (Change is certainly the name of the game, since only one out of ten present GE housewares products was around ten years ago.)

Unsaturated: Another factor contributing to optimism in the major appliance area is that there is a current low-saturation level in certain product lines. "Not every household that needs a dishwasher now has one," points out Mr. Dance.

This combination of positive factors rings up an estimated 100 percent sales increase in major appliances by 1980. He also sees typical families buying a major appliance more frequently.

Mr. Sahloff also sees a rosy future for the housewares industry, "With growth spirals which will make the burgeoning general economy seem slow by comparison."

THE NORTHS (CENTER) AND MAYOR (RIGHT).

PEOPLE

The Norths Go South

Mr. and Mrs. Safford M. North of Syracuse, N.Y., recently spent a weekend in Philadelphia. And what a weekend!

Mr. North, who is a consulting engineer at the Company's Heavy Military Electronics Department and a 22-year employee, won his weekend in a "Target Touchdown" contest that stimulated Department-wide cost reduction ideas of $2.5 million. Top prize was an all-expense paid trip to the Army-Navy game plus $100 pocket cash.

The Norths flew to Philadalphia's International Airport and were met by a chauffered limousine. Missile and Space Division, showing them local hospitality, invited them to brunch.

At the game, Mr. North, who served in both the Army and the Navy, had to split his loyalty, although Navy won 19-14. Their halftime was brightened when the couple was ushered to the VIP suite to meet Philadelphia's Mayor, James H. J. Tate, and Pennsylvania Governor Raymond P. Shafer.

INSTRUMENT

Okay at Three o'Clock

Shortly after the Boeing Company announced that it was looking for an instrument package for its new 490-passenger Jumbo 747 jet, a group of six men from GE's Instrument Department hopped a plane for Seattle.

The West Lynn, Mass., group, headed by Marketing Manager R. C. "Ray" Allen and Manager of Aerospace Instrumentation Sales Dave Rundle (see photo), had something new tucked away in their attache cases. During a stand-up presentation, they let Boeing get a good look at a unique new instrument design that had been over two years in the planning.

The new instruments are highly readable, have solid-state modular construction, and are built for fast-access servicing. Probably their most interesting feature, however, is that during normal take-offs, all pointers on the GE instruments are at three o'clock, allowing pilots to spot any variations quickly.

On the way back east, the group shared a guarded optimism. Competing for the order were stiff competitors: Honeywell, Sunbeam and Airesearch.

A short seven days later, Boeing had announced its choice: General Electric. By the end of the year, contracts were signed, and the Instrument Department went to work equipping the new 747s.

Over the next ten years the contract will be worth over $30 million.

Homework: Getting off the ground with a new instrument package of customer-approved features took some planning on the part of the Department.

Earlier in the year, it held a design seminar in West Lynn. On hand were the major airlines, federal aviation officials, and aircraft manufacturers (including Boeing).

In unveiling its new design approach, the Instrument Department engineers, spearheaded by General Manager Howard D. Kurt, held a two-day dialogue. The emphasis was on listening to the customers' comments.

In the four months between the seminar and the Boeing proposal, the Department made changes and refinements in their instruments to reflect customer comments. Their homework, of course, paid off.

While pleased with the Boeing contract, Mr. Kurt points out that the real winners will be the airlines and the flying public, "because this new engine instrumentation will be of great help to pilots and flight crews in their daily operation of the aircraft."

INSTRUMENT'S ALLEN (Left) & RUNDLE

A designing ear for the customer.

GE'S QUARTZ EN ROUTE

LAMP GLASS

Quartz Eye on the Sky

Astronomers at the Kitt Peak National Observatory near Tucson, Arizona, are anxiously awaiting their first peek at the universe using the world's largest fused quartz telescopic mirror blank made by General Electric.

The 15-ton, 158-inch diameter mirror blank was completed recently by the Lamp Glass Department, Cleveland. When installed (in 1972) following additional optical work, the quartz mirror will enable astronomers to scan millions of light years of the universe with greater effectiveness than ever before.

Fused quartz is favored over conventional glass telescope mirrors because it's less sensitive to temperature changes than glass. According to Richard A. Popp, general manager of the Lamp Glass Department, large telescopes such as the Kitt Peak unit must be as resistant as possible to such temperature changes since the minute distortions that result from thermal expansion and contraction can be serious enough to hinder the extremely exacting observations and measurements required by astronomers.

Hot Idea: But the very qualities that make quartz a desirable material for mirror blanks also make it difficult to manufacture. Its high melting point and viscosity led to the development by the Company of new techniques for processing.

The huge mirror blank is 23-and-a-half inches thick, weighs nearly 30,000 pounds, and was made from hexagonally-shaped quartz ingots fused together at high temperatures. A special furnace was built by the Lamp Metals and Components Department in Euclid, Ohio, to accommodate the blank. Fusion was at 3300° F, with a cycle of several weeks to complete the fusion, annealing and cooling processes.

Handle With Care: Getting the $1-million mirror blank safely to the customer over an 1800-mile route took some special planning. A custom cradle was installed on a railroad flat car to provide a "floating" ride, and a 2,500-pound spreader (224 inches long) was used in loading the blank on the car. A half-inch-thick metal cover was built to protect the quartz from stones along the way.

To move the mirror blank out of the Refractory Metals building to the waiting flatcar, an I-beam collar was placed around the rim of 158-inch blank before it was loaded aboard a tractor-trailer rig.

When the rig started out the door, employees had to chip away a few blocks to widen the doorway enough to get the blank through.

Appropriately, a General Electric U30B diesel-electric locomotive was the choice of Norfolk and Western Railway to pull the huge mirror blank on its way west.

HEMISFAIR '68

Songs for San Antone

There'll be a toe-tapping touch of Broadway in the streets of San Antonio, Texas, next April 6th, when the General Electric pavilion opens at HemisFair '68.

A half-hour musical production, "Wonderful World of Progress," written by the Broadway team of Fred Tobias and Stan Lebowsky will play to over 20,000 persons daily—an ample audience even by Broadway standards.

General Electric's HemisFair show will have two acts with a combination of live and film techniques. Tunes will swing along on the bossa nova, Latin-American, oriental and modern beats.

Details of the performance are still under wraps, but it's expected to show progress in electrical living attuned to contemporary America, but with the flavor of the Southwest.

"The Company has gone all out to give HemisFair visitors the quality of entertainment they received so well in GE pavilions at the Seattle and New York World's Fairs and currently at Disneyland," said William B. Frogue, Southwestern Regional Vice President, during a press preview.

BUILDING AT HEMISFAIR

Inside, it's a wonderful world of progress.

The show will be housed in the 5,000-square-foot GE pavilion near HemisFair's lake area. The air conditioned, cantilever-roofed building was the first pavilion at San Antonio under construction. The Company was also the first international company to sign up for the exhibition, which will run for 184 days—until October 6, 1968.

Resident manager for the GE HemisFair '68 pavilion will be Ted M. Kramer, who is succeeded at the Company's Disneyland pavilion by John A. Caldwell.

X-RAY

More From Films

There's more to X-ray films than presently meets the eye.

That's the implication in a new system recently announced by the X-Ray Department that will enable radiologists to extract information from X-ray films that can't be gained from any current film viewing equipment.

The Explorex radiograph intensifier, as it's called, is expected to find its widest application in difficult diagnosis such as the detection of tumors, vascular anomalies, gallstones, kidney stones and thoracic disorders.

The system includes a high-intensity illuminator, control console, television camera and monitor.

A prime market for the GE system, says R. B. Gustafson, medical products sales manager for X-Ray Department, is the teaching hospital. Sales potential for the Explorex system in this market alone is about $20 million. Explorex will sell for $15,700.

A very low power experimental LASER *beams by Dr. Richard L. Hansler, Lighting Research Laboratory, Cleveland.*

LASERS, The Light Fantastic

THE LASER, an amazing infant born in a flurry of scientific excitement and high hopes seven years ago, is growing up.

Avionic Controls Department has put the LASER to work, having designed and delivered a Swiveling Gunner's Station for the Army's new attack helicopter "Cheyenne" that's equipped with the first airborne LASER ranging system designed for quantity production. The airborne LASER emits a coherent beam of light in pulses and then determines the distance to target from the length of time required for a reflection to return to a receiving sensor.

By using a LASER instead of conventional radar, the Company has provided important advantages: The LASER reduces confusing background reflection, it weighs less, requires lower power, and is much more accurate.

"From our earliest LASER development contract," recalls Avionic Controls Department Manager William J. Kuehl, "we've made steady progress in perfecting a LASER ranging system designed for production quantities.

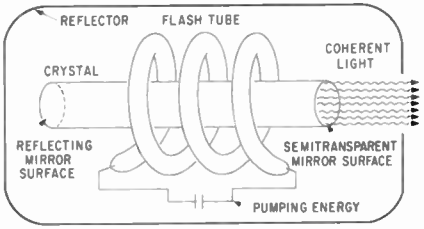
"This technical success is, of course, a major reason for our Department's ability to meet business and marketing needs and stay ahead of the tough competition in the aerospace industry," he adds.

Behind the Light: Over 350 organizations in the U.S. are directly concerned with LASERS, with over 100 engaged in their manufacture. General Electric competitors are among them, including Westinghouse, RCA, IBM, Raytheon and Hughes.

The 1967 LASER effort in the U.S. was estimated at $200 million by LASER *Focus* magazine, with applications being studied by practically every industry. The devices are already being used for welding, drilling, machining, surgery, rangefinding, guidance, and illumination.

Such practical applications were a long way off when the scientific community announced the discovery in 1960. Some called the LASER a solution looking for a problem. "Those were the bandwagon years when everyone raced for the headlines," says Dr. Joseph C. Almasi, manager of LASER programs at the Research

OPTICALLY PUMPED LASER



and Development Center in Schenectady. "It was a mixed period of both over-optimism, and over-pessimism."

The Source: Three basic kinds of LASER light sources have evolved since 1960: the optically-pumped LASER using ruby, doped glass, etc.; gaseous types, e.g., helium-neon, argon or carbon dioxide; and semiconductor types such as the gallium arsenide LASER.

Basically, a LASER oscillator consists of an active material (such as the crystal rod shown in diagram) excited by some external source of energy, and placed between two mirror-like reflective surfaces, one of which is semi-transparent. The two surfaces reflect the light back and forth, building up its intensity on each passage.

The action of supplying the LASER with the light energy needed for operation is called pumping. For instance, in optically-pumped types such as the ruby rod, the pumping is done by using a helical or linear flash tube.

Early Lasers were low-power, inefficient devices. But that's changing. Power levels of 5,000 watts have been achieved with carbon dioxide LASERS, and scientists have the capability of generating short bursts (about 50 billionths of a second) of 10,000,000,000 watts.

While the LASER was "growing up," and scientists were learning more about the new technology, General Electric scientists were contributing to its development and applications.

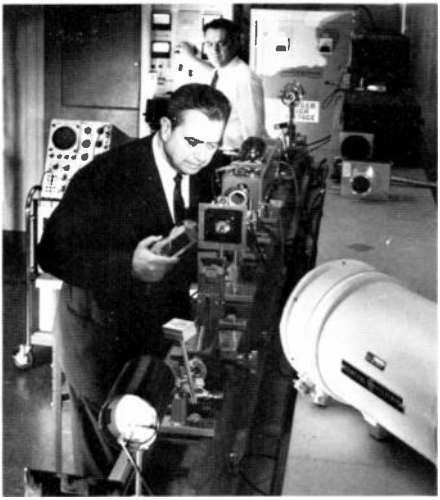
In 1961 the Company was first to use a LASER for drilling holes in a diamond, nature's hardest material. The following year, the invention of the first semiconductor LASER was announced by the Company. In 1963 the first LASER satellite rangefinder was unveiled, and the first LASER illuminator for night vision was reported by GE a year later. In 1965 General Electric delivered a highly reliable LASER rangefinder with high repetition rate to the U.S. Navy. Not long ago the R&D Center successfully completed basic

What's a LASER?

LASER is the acronym for Light Amplification by Stimulated Emission of Radiation. A LASER is a source of coherent light, the purest, sharpest, most intense light ever known.

A LASER's light is "pure color," or monochromatic. The light waves across its beam are "in step," with the cyclical ups and downs occurring everywhere at exactly the same time (spatial coherence), and along the beam periodically at the same distance (temporal coherence).

The LASER beam can be highly directional, supplying a "pencil beam" that could be used for future deep space communication. The LASER beam can be focused into a very small spot, and create temperatures several times hotter than that of the sun. At such temperatures all known materials vaporize. For communications, scientists also theorize that a single LASER beam could carry all the telephone, TV and radio channels currently in operation on earth.



COUNTDOWN: An experimental high-energy LASER is readied for firing by Dr. Joseph C. Almasi, foreground, and physicist Joseph P. Chernoch of the Research and Development Center.

investigations leading to the design of a potential "highest brightness" LASER.

The recently-delivered Gunner's Station LASER rangefinder was developed by the Avionic Controls Department working with the Research and Development Center.

The years 1964-65 are called the sobering period for LASER scientists by Dr. Almasi. Following the earlier phase of research, in which power levels grew and efficiencies improved, came a period of putting the LASER to work.

Applications: General Electric has manufactured LASER components such as the gallium arsenide light-emitting diode produced by the Semiconductor Products Department, and over a dozen components of the Company are studying applications in addition to the Avionic Control Department.

The Heavy Military Electronics Department in Syracuse, N.Y., has built devices for LASER ranging and propagation measurement over water. Research there over the past three years has led to extended life for LASER lamps, data about behavior of the beams in varied weather, and new types that are more efficient than the ruby LASER. For example, a neodymium-doped glass type was developed in cooperation with the Research and Development Center.

Engineers at HMED are very interested in applying the LASER beam to illumination, tracking and ranging of missiles, both outside the earth's atmosphere and during re-entry. The narrow beam yields more accurate measurement or range and angular positions, with antennas much smaller than on radar equipment, and minimum ground clutter.

The Electronics Laboratory has built a carbon dioxide LASER that generates sizeable amounts of power over a wide range of frequencies that could be used to detect and identify air pollutants over large areas. Harry F. Mayer, Manager of the Laboratory (who feels that the discovery of the LASER is as significant as the introduction of the vacuum tube) thinks that we might soon have CO_2 LASERS scanning from building tops "that can detect air pollutants anywhere within a 25-square-mile area."

The Electronics Laboratory has also been experimenting with LASER techniques that allow the recording of data on thin metal films. Some 30 standard book pages of data have been etched in an area the size of a pinhead.

Among the most interesting applications of the coherent light source is in producing holograms, or three-dimensional images. Holography, or LASER photography, is being investigated by the Laboratory to study the particle activity inside a turbine. The infinite depth of field of a hologram is a decided advantage

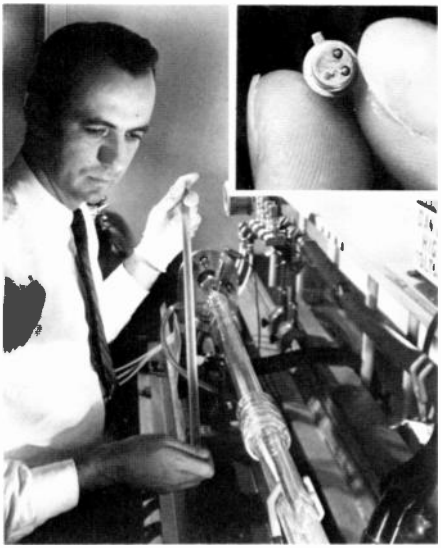
over conventional photography, and the hologram allows even microscopic particles to be recorded in perfect focus.

At the Research and Development Center, scientists are working on pattern recognition by spatial filtering, using holographic techniques. Potential applications include: identification of fingerprints and photo-interpretation of military targets.

"It is conceivable," says Dr. Almasi, "that every Company Department has a place where LASER applications can be found."

At the same time, points out Dr. Arthur M. Bueche, Vice President in charge of the Company's Research and Development Center, scientists are continuing their research, and are making the advances that will supply the raw material for tomorrow's engineering effort in this field. "General Electric is maintaining a balanced and flexible program on three levels of LASER technology—basic studies, development of new techniques, and application work—and technical people throughout the Company are making important contributions in this fast-developing and exciting field."

LASERTYPES. Dr. William S. Martin, R&D Center physicist, holds a neodymium-doped glass LASER rod, while a carbon dioxide LASER is in foreground. Inset is the injection LASER invented by the Company.



SOCIAL CHALLENGES

Sources of Insecurity

The underdeveloped nation and the underdeveloped person are two great sources of insecurity in our world, observed President Fred J. Borch.

He asked businessmen to take the initiative in attacking the twin problems in a talk at a recent convocation at the Stevens Institute of Technology, Hoboken, N.J.

"Despite two decades of subsidy," he said, "the underdeveloped nations today are relatively poorer and, in many cases, worse off than in the past. Yet in some cases, such as Puerto Rico, private capital has worked a revolution in a single generation."

Mr. Borch also said that few inroads had been made on problems of the underdeveloped person, with a growing number of people lacking in opportunity for education to earn a living. The future holds the potential for a richer and more productive society, but it cannot be achieved, he stated, if any group is excluded from the opportunity and responsibility of leadership.

Mr. Borch foresees a larger role for business in society's attack on social ills.

"I know of few things more hopeful for the future," he added, "than the growing attention of the business community to

some of our outstanding current problems — including the problems of our cities, the problems of equal job opportunity, the problems of developing nations."

ADVERTISING

Selling Coffee With the Pot

People who buy General Electric coffee makers during March and April this year will be interested in picking up a couple of cans of Maxwell House Electra-perk coffee for their first steaming cups.

After all, they'll get a three dollar refund from the Housewares Division if they do!

Such a combination offer is called a cooperative promotion. It stretches advertising dollars by combining two complementary but non-competing products, and is the brainchild of the advertising and sales promotion section of the Housewares Division. It's among the most successful consumer promotion programs in the country.

In the past year, the Division has jointly promoted free Breck Hair Beauty Kits with GE hair dryers, colorful animal baby banks with the purchase of a GE Heat 'n Serve baby dish, 14-carat gold-filled pin with GE clocks, and a slicing board with a GE slicing knife.

Cold cash refunds are offered, too, as with the $2.00 returned to the buyers of GE cleaners or polishers. A "have dinner on us" promotion offered $3.74 (exactly what a Swiss steak dinner cost when prepared at home) to customers purchasing a General Electric food cooker.

While stretching advertising dollars, points out Housewares A&SP Manager Anthony F. Forni, joint promotions give products a new look to consumers who are

BONUS DISH FOR BABY
A 1967 offer that dished up hot sales.

becoming more sophisticated and more selective in their buying.

"Today's consumers are more value conscious than ever before," says Mr. Forni. "They're looking for the extra value that means something to them personally."

The coffee offer will be advertised in the coming March issue of *Ladies' Home Journal* and the April 16th issue of *Look*. Cooperative promotions have also been advertised on the GE College Bowl and the Today and Tonight TV Shows.

Results have been most rewarding.

Sales of toasters, for example, rose by 18 percent during a special Toast 'em offer. GE Heat 'n Serve baby dish sales went up 20 percent over the previous year. The Breck Beauty Care Kit promoted with the GE hair dryer brought 17,000 requests for the kits and the Crest toothpaste offer boosted toothbrush sales 25 percent.

COMMUNICATION PRODUCTS

Meet the Modems

"A tremendous digital communications explosion is in progress today," observed Vice President Louis T. Rader during a recent Manhattan press conference. And, the corresponding need for more data transmission equipment, he noted, would grow in the immediate future.

Dr. Rader, who heads the Company's Industrial Process Control Division, then announced that General Electric "is going full scale into production of equipment for the digital transmission business."

The new family of products will be called the DigiNet Series. The devices translate computer and business machine language into special radio and telephone signals for long-distance transmission and convert them at the other end.

DIGINET'S COUPLER
Secretary Lynn Creger demonstrates.

The Communication Products Department, Lynchburg, Va., will manufacture the DigiNet Series. The devices are classed as data modems (for data modulator/demodulator).

The group of thoroughly modern modems includes data sets for varying speeds ranging from the slow-speed teleprinter at 300 bits per second to high speed applications up to 230,000 bits. Among the DigiNet family: an acoustic coupler that allows a portable teleprinter to be connected to a remote computer simply by placing a standard telephone handset in a desk-top cradle (see photo).

The high-speed unit handling 230,000 bits per second, noted Department Marketing Manager Glenn R. Peterson, translates into 24 double-spaced pages of typewritten copy per second, or, 720 single-spaced pages per minute.

Market: While there are presently about 80 firms manufacturing data communications equipment, only one—Western Electric—produces a broad line, and this is sold primarily to the Bell System. General Electric will also produce on a complete-line basis, zeroing in on the independent telephone companies, which represent one out of every five of the nation's telephones.

"We will also market the DigiNet line to original equipment manufacturers, government agencies, and major industries having their own private communications systems," said Richard P. Gifford, general manager of the Communication Products Department.

The market, while difficult to define, is estimated by Mr. Peterson at between $20 and $50 million annually depending upon the type of equipment included. The market is expected to grow "some ten-fold over the next five years," with the largest segment the independent telephone companies and equipment manufacturers.

AROUND THE COMPANY

Service Shopping: A new 4,000-square-foot service shop has been opened in Phoenix, Arizona, that will handle electric and electronic instrument repair for businesses in Arizona and western New Mexico. The new shop supplements the Company's heavy equipment Phoenix Service Shop . . . The Company has dedicated its new 80,000-square-foot Chicago Service Shop, and construction is in progress on a new Service Shops Department facility in Cincinnati, to open early this year.

Contracts: The Navy Special Projects Office has authorized funding of $5.7 million to the Ordnance Department, Pittsfield, Mass., for production of the fire control and support equipment to be used in the Poseidon Fleet Ballistic Missile system . . . The Research and Development Center has been awarded a $97,500 contract by the Air Force Materials Laboratory to identify areas in which the computer can aid in the development and manufacture of integrated electronic equipment.

Good Looking: The American Association of Nurserymen, Inc. liked the looks of the Atomic Power Equipment Department's architecture and landscaping so much that it has honored the Company with an industrial landscaping award in recognition of "achievement in landscaping and beautification." The design and construction of the San Jose facility was supervised by the Real Estate and Construction Operation.

Cinema-scope: A new 20-minute color film, "Fundamentals of AC and DC Generation" has been produced by General Electric Educational Films, a component of the Advertising and Sales Promotion Department. The 16 mm film uses animation and live demonstrations to explain such subjects as Fleming's right-hand rule for generators, sine waves, cycle, single-phase and three-phase current and components of generators. The film is $170. The internal price is $135.

Foundry's Plan: The Foundry Department, Schenectady, N.Y., has announced plans for a $1.6 million expansion of its manufacturing facilities, including some 10,500 square feet of new floor space, that will increase manufacturing capabilities by about 20 percent. Work is expected to wrap up by next summer.

Caribbean Customer: The Trinidad and Tobago Electricity Commission has ordered an 80,000 kw General Electric steam turbine-generator and associated equipment to supply their two islands. The order, worth approximately $8.5 million, was secured by IGE Export Division.

Top Security: The U.S. Defense Supply Agency has honored the Apollo Support Department, Daytona Beach, Florida, with its Outstanding Industrial Security Achievement Award for 1967. ASD was among 15 top firms selected from 14,000 eligible for the award.

French Time-Sharing: Time-Sharing has extended to the continent of Europe with the recent announcement of a new computer center in Paris, France, to be operated by Bull-General Electric . . . Back in the States, time-sharing services were announced for Houston, Texas, St. Louis, Mo., and Hamden, Conn.

PEOPLE

GRADUATE DOYLE & BOOSTERS
He got support from GE and Mrs. Doyle, too.

Long Haul: Ed Doyle has been a busy man for the past 15 years. Consider that he has: worked his way from Assembler in the Switchgear Department (1951) to Manager of Product Tooling and Machine Shop, supported his wife and eight children, gone to college nights, and won top scholarship awards at Drexel Institute of Technology. Mr. Doyle received his long-sought Bachelor of Science degree in engineering last year. "Without the General Electric tuition refund and my family's help," reflects Mr. Doyle, "I couldn't have done it." He quickly underscores the help of Mrs. Doyle, pointing out that "With five going to school, she had a lot of homework to help the children with, besides the housework for a family of ten."

Honored: Howard Baier, a test and evaluation manager at the Re-Entry Systems Department, recently received an Air Force Value Engineering Certificate of Achievement for his efforts by saving $161,175 in research and development costs . . . Paul A. Atherton, a foreman at the Armament Department, has been named "Vermont Conservationist of 1967" by the Vermont Federation of Sportsmen's Clubs.

Thinking Big: Richard E. Dickershaid, Schenectady computer operator, has pocketed $1,000 for a recent suggestion, and also became the recipient of the biggest award in the history of the Telecommunications and Information Processing Operation. He had an unexpected surprise, too, when his check was presented by Company Comptroller R. E. Pfenning... Meanwhile, at Hudson Falls, N.Y., Kenneth S. Eggleston became the largest suggestion award winner in the history of the Capacitor Department with an $875 cash award . . . And, good thinking by Household Refrigerator employee John Stockton resulted in a $2,889 suggestion award... The biggest suggestion award in the history of the Armament Department, Burlington, Vt., has been awarded to Gary W. Lambert and Leo P. Gevry. The pair split $2,494.

IEEE Fellows: The Institute of Electrical and Electronic Engineers has elected General Electric employees to the grade of Fellow, the highest award in the 160,000-member organization. Honored are: Finis E. Gentry, Semiconductor Products Department; Ralph M. Rowell, Instrument Department; John S. Saby, Lamp Division; Harold G. Towlson, Heavy Military Electronics Department.

Authors: Dr. Harold Chestnut, manager of the systems engineering and analysis branch of the Research and Development Center, is the author of a recently-published book *Systems Engineering Methods* ... Glenn J. Cook, marketing manager, Foundry Department, has written a book *The Art of Making People Listen To You*,

CLARENCE L. RUMP

ALLEN J. FISHER

based upon his experiences as a dean and instructor in the GE Effective Presentation Course . . . Gene E. Bradley of Washington Services is the editor of a new book *Building The American-European Market.* The book includes a chapter by Board Chairman Phillippe.

50-Year Clubbers: "If the impossible could miraculously happen," said Allen J. Fisher on the eve of his retirement, "the Employment Office of General Electric Company would again witness my presence." Mr. Fisher, a toolmaker in the Large Generator and Motor Department, Schenectady, speaks those words with the insight of a man who has worked for General Electric for 50 years. He was a boy of 14 when he started, and enrolled in the Apprentice course two years later, in 1919. He'll now join some 33 other pensioners in Schenectady's 50-year club. "My service adds up to 50 wonderful years, and now I'll be relaxing on retirement benefits," he says.

Another half-century service record has been achieved by Clarence L. Rump, a lathe operator for the Specialty Motor Department, Fort Wayne, Ind. Mr. Rump, who has seen the Company change over the years, says that he's delighted that his long-term membership in the Company pension plan has helped him build up an income for his years ahead. Plans? He'll have more time to enjoy bowling, golf and fishing.

Appointed: Jim Gude, production control supervisor at the Audio Products Department, has been appointed to the Illinois Commission on Human Relations by Governor Otto Kerner. Mr. Gude, a two-year employee, is also a director of the Illinois chapter of N.A.A.C.P.

Zworykin Award: Dr. Kurt Schlesinger, consultant with the Pickup Tube Operation, Syracuse, N.Y., has been selected as recipient of the 1968 Vladimir K. Zworykin Award of IEEE. He is cited for "sustained and pioneering contributions to television circuitry and electron optical devices."

Join-ins: Dr. Arthur M. Bueche, vice president in charge of the Research and Development Center, has been named to the editorial advisory board of *Industrial Research* magazine . . . O. B. Waddell of the Washington Patent Operation has been elected treasurer of the National Council of Patent Law Associations . . . James G. Rebeta, manager of special projects for Marketing and Public Relations Services, has been appointed a member of the advisory committee for the Exhibit Institute of *Sales Meetings* magazine.

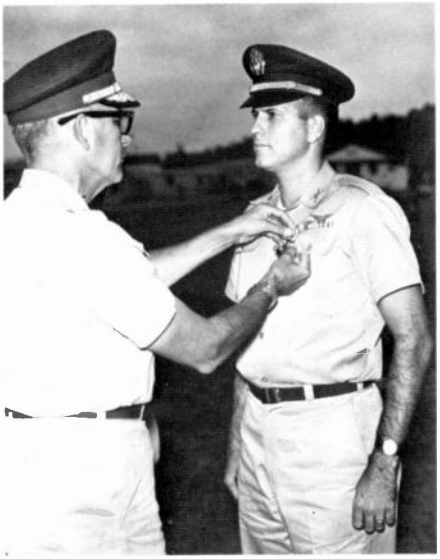
Radioman: The Consumer Electronics Award of the Institute of Electrical and Electronics Engineers has been awarded to Antal Csicsatka, engineering consultant to the Radio Receiver Department, Utica, N.Y. The honor is for Mr. Csicsatka's "outstanding engineering contribution in the FM stereo field," the first IEEE award for radio technology.

Sound Helper: Nancy Lima, 18-year-old daughter of Insulator Department's Headquarters Sales Manager Joe Lima, finds that a GE tape recorder equipped with foot switch is a big help in making "sound notes" in her classes at Towson

State College. Nancy has been blind since she was 13, and must transcribe her tape-recorded notes into braille each evening.

Army Award: The Distinguished Service Cross, the Army's second highest decoration for valor, has been given Captain James P. Simons, an employee on military leave from the Company's Financial Management Program, Louisville. Captain Simons received the honor for his heroism while a pilot of a scout helicopter during a search and destroy mission near Bon Son, Vietnam. Captain Simons made several low-altitude passes over enemy positions, delivering fire, dropping grenades, and drawing their fire away from medical evacuation of casualties. When his helicopter was hit by fire and crashed, he helped evacuate an injured crewmember and stood guard until help arrived. Captain Simons also holds Silver and Bronze Stars and 3 Purple Hearts.

SERVICE CROSS WINNER SIMONS
Heroism in a flying target.



PRODUCTS

Appliances '68: The introduction of eight new models has brought to 25 the number of General Electric refrigerators for 1968. Included are four new side-by-side Foodcenters: two with 18.1 cubic-foot capacity and compact 32-inch-wide cabinets, plus two deluxe models of 23.6 and 23.7 cubic feet. Four top freezer models are available, including two new models with 16.6 cubic-foot capacity and a 155-pound freezer section. In the full line, seven models have automatic ice-makers, 12 are on wheels for easy cleaning, and fifteen have a no-frost feature, judged today's most wanted convenience.

New 'n Cool: The new line of Fashionette portable room air conditioners for 1968 includes five decorator colors (Avocado, Frost White, Harvest, Mist Blue and Woodhue) allowing homemakers to match room decor. Installation time is five minutes. Another model, Selectathrust, features custom-tailored air flow, with controls for air direction and thrust.

Programmed Washing: A new "Programmed Washer," that automatically selects the right washing "recipe" for any fabric load, and a dryer that electrically senses the amount of moisture in clothing, lead the 1968 General Electric home laundry line. The washer's pushbutton selections include seven types of fabric loads including permanent press. It adjusts itself automatically, selecting one of four washing speeds, two spin speeds, three wash temperatures and two rinse temperatures. The "Versatronic" dryer contains an electronic control that accurately senses and measures the moisture content in the fabric load being dried.

Light News: Wiring Device Department, Providence, R.I., announces a new table top dimmer for controlling the brightness of table lamps and other plug-in lighting fixtures without altering existing wiring. The dimmer is somewhat larger than a cigarette pack, comes in satin walnut and plugs into a standard wall receptacle. Suggested retail price: $12.95 . . . A Mediterranean Lantern light is also being introduced by the Department. The night light is a decorative unit in bronze with amber lens selling for about $1.50.

Motordom: A new line of compact, high-efficiency NEMA 56-frame dc motors is now available from the Company's Specialty Motor Department, Fort Wayne, Ind. Designed for machine tool, industrial machinery and adjustable speed drive applications, the one-half to one-horsepower-rated motors use a new UL class B insulation system to save space, shipping weight and provide easier handling.

Chef-Saver: The first commercial oven with easy-to-clean Teflon® interior has been announced by the Commercial Equipment Department, Chicago Heights.

NON-STICK PANEL FOR OVENS

A lovely hold-up by CED's Beverly Lucas.

The Department has also introduced a new series of wall-mounted pressure-type water coolers extending only 12½ inches from the wall for use where aisle space is at a premium.

Dishwashers: Hotpoint predicts that 1.5 million families will either buy their first automatic dishwasher this year, or trade in their old one. The product represents the fastest growth rate of any kitchen appliance, with some 10 million presently installed, and double this number expected by 1972. Hotpoint will be ready. It has a 1968 line including three convertible models, five top-loading portables, four under-counter models and two front-loading "Swing Door" portables.

Space-Lites: A stylish new luminaire called the Space-Lite fixture is being introduced by the Outdoor Lighting Department, Hendersonville, N.C. It's designed to complement modern architectural trends and is suitable for street lighting on "whiteways" or for parking lots, shopping centers and areas where an attractive luminaire is required . . . Specialty Transformer Department, meanwhile, has produced new mercury ballasts for post lanterns designed to use new 50-watt deluxe white mercury lamps.

Mini-Q: A highly sensitive and lightweight mass spectrometer the size of a golfball has been developed by scientists at the Research and Development Center. The new device weighs under three ounces and is far smaller than any mass spectrometer of similar sensitivity and resolution. The unit is expected to be invaluable for such applications as instrumentation on a spacecraft. GE's "Mini-Q" spectrometer traps ionized gases selectively according to their masses, and uses an efficient detection system to measure the number of trapped ions.

Talking Points

Hold That Tiger!

When a pilot logs 1,000 hours in a Lockheed F-104 fighter powered by a GE J79 engine, he qualifies for a GE "Tiger by the Tail" patch. At Webb Air Force Base, Texas, recently, two pilots had qualified for their Tiger award, but GE's B. E. Gene Waugh, Field Service Engineering representative, felt that simply pinning on the patches would be too routine.

There was this 500-pound tiger in a nearby Pet-A-Zoo, thought Mr. Waugh, and wouldn't it be great if . . .

Sure enough, Mr. Waugh succeeded in getting the ceremony participants inside a cage accompanied by a very much alive Bengal Tiger called Billy. In *The Monogram* photographic evidence are, from left: Lt. Col. Jack Bailey, commander of the 4760th Squadron; R. W. Whipkey, publisher of the *Big Spring Herald;* Capt. Norman Fogg; Mr. Waugh; Major Wes Brown.

Tiger by the Tail winners Capt. Fogg and Major Brown remarked after leaving the cage that they much preferred F-104 tiger-tailing to the live kind.

REAL TIGERS, LIVE FROM TEXAS

"Now if you'll just pull the tail, Colonel . . ."

Long Distance

Some people go to great lengths to stay with a good General Electric job. Like Marcia Jones of the Audio Products Department, for instance.

She's been an employee of the Company for five years now, and commutes to work at Decatur, Illinois, from her home north of Urbana.

It's 104 miles round trip!

Guys From Maybrook

When George R. Brown was recently appointed manager of methods engineering for mechanical and nuclear service by the Installation and Service Engineering Department, it was of great interest to folks in Maybrook, N.Y., Mr. Brown's home town.

It seems that another Maybrook native son, Donald J. Fitzpatrick, is also a manager of methods engineering (electrical and electronics). And for the same Department of the same Company.

Quite an odds-beating alumni for a town of 1400.

Cream or Sugar?

Did International General Electric introduce the coffee break to America?

A 1930 issue of the *IGE Monogram* (no relation) mentions that to be internationally minded "is to recognize the good points of other nations and to adopt those that are excellent and worth adopting." Being offered a cup of coffee while conducting business abroad, it said, is a pleasant gesture and quite common outside of the United States.

On Monday, March 17, 1930, the institution of the coffee break was inaugurated in the New York offices in the presence of

TRICKY TOMMY TURNING ON
Electronics in Toyland; kids in command.

"company officials and consuls general of all the coffee producing countries of Latin America." IGE wasn't exactly alone in its refreshing pioneering. Electric Bond and Share Company and Munson Steamship Line also sipped into the picture.

Speedy Turtle

There's one phenomenal turtle who's established some impressive speed records. Ask any boy or girl his name and you'll hear "Tricky Tommy Turtle!"

The turtle, made by Remco Industries, Inc., starts and stops on voice (or whistle) command. The trick is in Tommy's circuitry, which uses a sound transducer to trigger a General Electric silicon controlled rectifier, which controls a battery-operated motor.

Kids have taken such a liking to Tommy, that Remco was sold out prior to the Christmas rush, and manufacturing facilities were taxed to the limit (some 30,000 a week).

Needless to add that the Semiconductor Products Department, Auburn, N. Y., which supplies Tommy's silicon rectifier, is urging him on to new speed records.

He Rolls Along

Despite what his name suggests, the hobby of Elton Moneymaker is *not* coin collecting. The Manager of Advance Equipment Development for the Lamp Metals and Component Department is a collector and restorer of classic cars. His labors of love involve turning wrecked vehicles into like-new restorations of glistening brass and chrome. His collection presently includes a Rolls-Royce Silver Wraithe (Price new: $19,000), Lincoln Continental and a pair of Mercedes Benzes.

At a recent Classic Cars of America gathering, the Moneymaker Rolls took a first prize. It also sported a license plate GE 2505.

CAR BUFF MONEYMAKER & ROLLS
From wrecked cars: a king of the road.

We're Making Plutonium

The first private production of Plutonium-238 from a by-product of nuclear power generation has been accomplished by the Vallecitos Nuclear Center.

Plutonium-238 production in the General Electric test reactor also means that for the first time, limited quantities of this valuable material are being made available by a commercial supplier for manufacturing and research applications. These new uses represent important potential markets for the isotope according to Dr. Leroy S. Moody, general manager of the Nuclear Energy Division's Irradiation Processing Operation.

ORGANIZATION

Aerospace

The name of the Apollo Support Department is changed to Apollo Systems Department.

Daniel J. Fink is appointed General Manager of Space Systems for the Missile and Space Division.

Components and Materials

Donald H. Rohrer is appointed General Manager of the Wiring Device Department.

Construction Industries

Raymond H. Rogers has been appointed General Manager of the Industrial Heating Department.

Consumer Products

William E. Newing is appointed General Manager of the Overseas Housewares Department.

Executive

Following over 45 years of loyal and outstandingly effective service, Vice President Harold A. MacKinnon has retired under the provisions of the Company's Pension Plan.

Information Systems

William R. Eaton is appointed General Manager of the Information Service Department.

The name of the Memory Equipment Department is changed to Information Devices Department, which is expanded to include the Printer Reader Business Section and the Document Handling Business Section.

International

Harry P. Gough is appointed General Manager-Area Division-Europe.

Effective January 1st, Area Division Mediterranean and Area Division-Europe were combined into the Area Division-Europe.

Personnel and Industrial Relations Services

A Personnel Practices Service is established with Virgil B. Day Acting Manager. Personnel Development Methods Service is discontinued.

DONALD H. ROHRER RAYMOND H. ROGERS

WILLIAM NEWING HAROLD MAC KINNON

Power Transmission and Distribution

Robert W. Lewis has been elected a Vice President of the Company by the Board of Directors.

Research and Development

A new Materials Science and Engineering component is established incorporating the present Chemical Systems and Processes Laboratory, General Chemistry Laboratory, and Metallurgy and Ceramics Laboratory, and Dr. Harold A. Dewhurst is appointed Research and Development Manager.

A new Physical Science and Engineering component is established, incorporating the present Electronic Physics Laboratory, General Physics Laboratory and Mechanical Technology Laboratory, and Dr. Roland W. Schmitt is appointed Research and Development Manager.

A new Programs and Systems component has been established and Dr. John C. Fisher is appointed Research and Development Manager.

ROBERT W. LEWIS HARRY P. GOUGH

LETTERS

(Continued from inside front cover)

Go Force '67 citation for his alertness. The citation was mounted behind a sheet of you-know-what!

STEVE HIRSCHMAN
Heavy Military Electronics Department
Syracuse, N.Y.

Monogram Cost-cutting

EDITOR: Having saved most of *The Monograms* that have been issued in the four and one-half years I have worked for General Electric, it has come to my attention that there have been a few changes made in the past year.

Number one, can you please explain to me why *The Monogram* covers have gone from living color to dreary black and white since March of 1967? It is no longer an eye catching publication in my humble opinion.

Number two, why is it that *The Monogram* is no longer issued on a monthly basis? It seems to me you used to be able to fill all the pages without any problems. Now you fill approximately the same number of pages in a period of two or three months at a time. This seems very strange to me because I work in a city where certain companies are able to publish a four page newspaper every week for their own employees as well as their business contacts.

I don't know if this would be of interest to anyone other than myself, but I am sincerely interested.

EILEEN J. KOSINSKI
FASO
Rochester, N.Y.

The change to black and white from color, plus the less frequent publication schedule of The Monogram have produced cost savings for the Company-wide "Go For Improvement" program, of which I'm sure you're aware. We have made every effort to report all newsworthy events, although we greatly condensed many stories to fit fewer available pages. We hope to return to monthly publication as soon as practical.—Ed.

EDITORIAL

In General Electric, as in many other companies, change is the name of the game.

It was 16 years ago when the Company had its last major organizational change. But what was adequate then is no longer adequate today. Things change.

Some 16 years ago, General Electric was a company of just over two billion dollars in sales. Some of the divisions of 16 years ago have grown larger than the groups of those earlier days. Some of our businesses that are now large enough to become groups by themselves didn't even exist in the early '50s.

"In other words," points out President Borch, "many of our divisions and all our groups had grown too large to be effectively managed within the old structure. This reorganization breaks them down into pieces a good manager can get his arms around.

"The new organization offers the additional benefit of providing greater opportunities to train more managers for the great growth we envision for the General Electric Company. General Electric has always been committed to the idea that its greatest challenge is people—finding and developing the kind of talented, flexible people able to manage large technological, financial and human resources in a business and social environment that grows ever more complex.

"I am personally confident that if we can meet this challenge, General Electric will continue to grow in meeting its responsibilities to share owners and employees and in service to the needs of our society."