

Education, Industry News

A sapphire-covered satellite is being constructed by Bell Telephone Laboratories as part of its satellite communication program for transoceanic transmission of television, telephone calls, data, and other communications. Working toward the long-range goal of communication satellites that can exist in space for 10 years or longer, thousands of pieces of man-made sapphires are being used to protect the satellite's solar cells from electron bombardment in space and to reduce the effects of proton bombardment. The solar cells, developed at the Laboratories, are small silicon wafers which have the property of con-

verting sunlight to electricity. The cells, attached to the surface of the satellite, will be covered by slices of sapphire. Experimental satellites are being developed in two sizes, one 27 in. in diameter and the other 4 ft in diameter.

Statistics reported in the January 15, 1961, issue of *West Coast Contours*, an informational bulletin published by Chris Dunkle & Associates, 740 So. Western Ave., Los Angeles 5, show a total of 29,000 persons employed by the motion-picture industry in the Los Angeles-Long Beach metropolitan area during the month of November 1960, the highest monthly total since May 1947 the report states. Figures for total film attendance (in billions) show a

decline from 3.5 in 1948 to 2 in 1958, with a rise in 1959 to meet the 1954 total of 2.2. The report also noted a rise in the average weekly attendance during 1959 amounting to 2.3 million over the 1958 total of 40.2 million.

An IBM 7090 electronic digital computer is used at Bell Telephone Laboratories, 463 West St., New York 14, to index scientific documents alphabetically, according to important words in the title. In one instance the computer indexed 1700 documents, according to title, author, number and project in 12 minutes. The titles are fed to the machine on punched cards, along with other cards containing the names of authors and identification numbers. The machine is then instructed to ignore "unimportant" words, and is programmed to scan the cards, reorganize the information and print out the index.

Plans for the Second Workshop-Seminar sponsored by Florman & Babb, Inc., have been announced. The first seminar was held June 12-15, 1960. (*Journal*, p. 444, June 1960.) The first Seminar was limited to 100 participants but expanded facilities, this year, will provide accommodations for 200. The date of the 1961 Seminar has not been announced (although announcement is expected shortly); nevertheless, in view of last year's response and the number of applicants who applied after the registration list was filled, the sponsors suggest that those wishing to attend the Second F&B Workshop-Seminar apply immediately to: Charles Lipow, Workshop-Seminar Coordinator, Florman & Babb, Inc., 68 W. 45 St., New York 36. There is no registration fee or other charge for attendance.

The four-day schedule (including evening sessions) will include intensive discussions, workshop demonstrations and practice sessions. Roundtable discussions will include frame-by-frame technical analyses of animation films. Other activities will include special equipment exhibits, visits to animation film studios and surveys and evaluations of the latest animation techniques. Thirty animation experts have been selected to lead discussions and conduct demonstrations on various aspects of animation film production. Seminar schedules and materials are arranged with attention to the specific requirements of producers of animation films, representatives of industrial, university and government motion-picture departments, cameramen, and directors.

A four-day Animation Seminar and Work Shop to be held in November, 1961, has been announced by Photo Animation, Inc., 34 West Street, So., Mt. Vernon, N.Y. The meeting is planned to cover all phases of animation production from basic artwork to complete camera operation, including three-dimensional and multiplane animation and modern high-speed animation techniques. Persons attending will be given the opportunity of using equipment and making animation films. Each day's schedule will include morning, afternoon and evening sessions. Announced as "Second Annual Animation Seminar and Work Shop," there will be no charge for registration or attendance but attendance will be limited to approximately 100 persons.



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A training conference on the operation and servicing of transistor sound systems, held recently at the factory of the Century Projector Corp., 729 Seventh Ave., New York 19, was conducted by Gio Gagliardi, Chief Engineer of Stanley Warner Theatres. The new transistorized sound systems (Century multiple channel (6-4-1)) are being installed in a number of the Stanley Warner Corp. theaters.

The Association of Cinema Laboratories, comprising some 60 commercial motion-picture laboratories throughout the country, held several meetings in Toronto during the recent SMPTE 89th Convention there and has announced a considerably

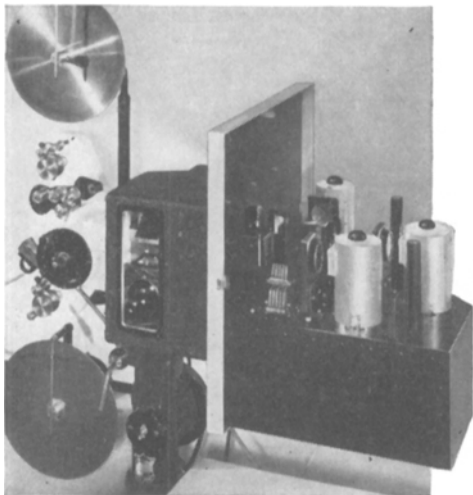
expanded program of activities. Among these will be studies to improve the industry's technical practices, the quality and performance of its products, and its relations with government in such areas as product specifications, taxation and related matters.

To coordinate this work, the ACL has appointed as Executive Secretary Preston B. Bergin. Mr. Bergin will be at the ACL office, 1925 K Street, N.W., Washington 6, D.C.

The various parts of the ACL's program will be shaped by a number of Standing Committees whose titles and chairmen are: Government Affairs, James A. Barker, Capital Film Laboratories, Inc.; Nominat-

ing, William E. Gephart, Jr., General Film Laboratories, Inc.; Trade Practices, Sidney P. Solow, Consolidated Film Industries; Product Specifications, Garland C. Misener, Capital Film Laboratories, Inc.; Membership, Saul Jeffee, Moviellab Film Laboratories, Inc.; Publications, Reid H. Ray, Reid H. Ray Film Industries, Inc.; Technical Practices, Fred Scobey, General Film Laboratories, Inc.; Program, G. Carleton Hunt, General Film Laboratories, Inc.

ACL's current officers are Byron Roudabush, Byron Motion Pictures, Inc., President; G. Carleton Hunt, General Film Laboratories, Inc., Vice-President; Louis Feldman, Du Art Film Laboratories, Inc., Treasurer; and Dudley Spruill, Byron Motion Pictures, Inc., Secretary.



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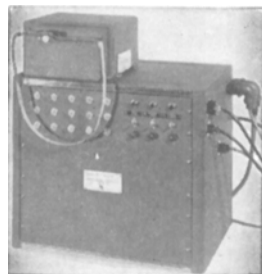
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The Annual Conference of the University Film Producers Association will be held August 20-26, at the University of California, Berkeley. Meeting with the UFPA Conference as Conference guests will be the Congress of the International Schools of Cinema and Television. Last year's Congress, which was attended by Charles N. Hockman, UFPA President, was held in Warsaw-Lodz, Poland.

The 13th International Congress on Motion-Picture Engineering, sponsored by the Associazione Tecnica Italiana per la Cinematografia (ATIC), will be held September 24-27, 1961, in Turin. This year, the Congress will be host to the 4th Congress of UNIATEC (International Association of Motion-Picture Engineering Societies), of which ATIC is a member.

The theme of the technical program will be: Evolution and Orientation of Motion-Picture Techniques as a Function of Basic Scientific Principles. Abstracts should be submitted by July 22 and manuscripts by August 5 to the XIII Congress International de la Technique Cinematographique, 60 Corso Galileo Ferraris, Turin, Italy. Other information, including hotel reservations, is available from the same address.

The Motion Picture Division of the Photographic Society of America has announced the 3d Annual Ten Best International Cinema Competition. Films entered in the PSA-sponsored contest may be in black-and-white or color and there are no restrictions as to width or length. Both silent and sound films are acceptable and a competing film may be produced by an individual or by a group. Entries are placed in one of two categories — amateur and commercial. The PSA Gold Medal is awarded for the best amateur film and other awards are granted for films in the amateur category. The film judged to be the best in the commercial category is recognized by presentation of an Award of Merit. August 15 has been set as the deadline for entries. Additional information is available from Charles J. Ross, 3350 Wilshire Blvd., Los Angeles 5.

Three Fellowship Awards and three Senior Memberships were announced at the Annual Banquet of the Society of Photographic Scientists & Engineers held May 25, 1961, in Binghamton, N.Y. The three newly named Fellows of the SPSE, so

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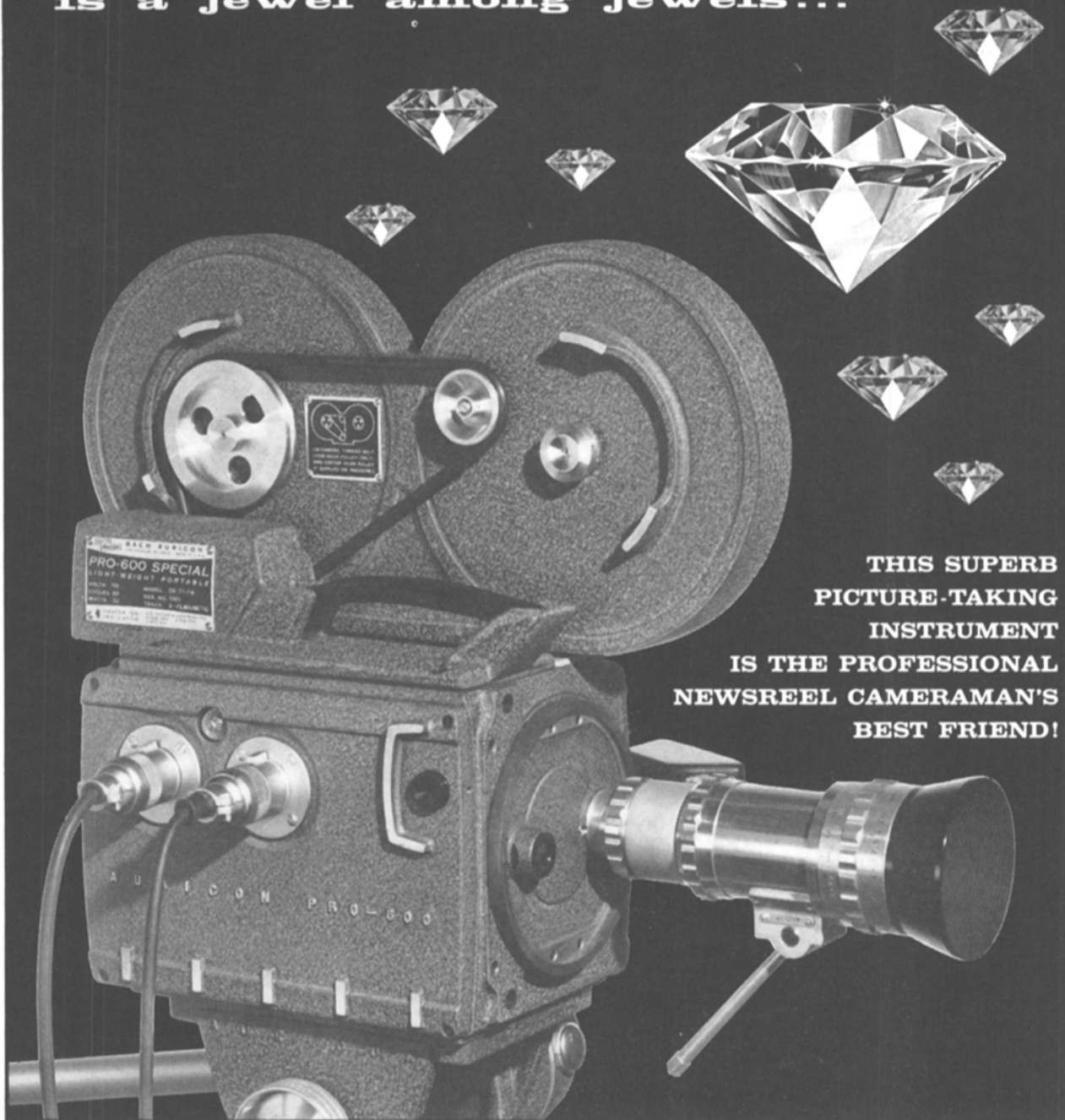
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honored for "contributions to photographic science and engineering," are: Frank Back, President of Zoomar Corp.; Heinz F. Nitka, Associate Director of Research and Development, Ansco Division of General Aniline & Film Corp.; and Robert S. Quackenbush, Jr., honored for "early work in the field of aerial photography and interpretation." A former commander of the Naval Air Station at Key West, he is now a special technical representative for Polaroid Corp.

The three newly named Senior Members are: George T. Eaton, a founding member and first SPSE President. He is Assistant Head of the Applied Photography Division of Kodak Research Laboratories; Ira R. Kohlman, Conference Coordinator for SPSE and Manager of Technical Services

for LogEtronic, Inc., Alexandria, Va.; and Joseph Mangiaracina, Chief Instructor and Training Administrator, U.S. Army Signal School, Fort Monmouth, N.J. He was cited for "exceptional work on behalf of SPSE."

The Fifth Annual International Film Festival will be held November 1-14, at the Metro Theatre, San Francisco. The Festival has received official recognition from the International Federation of Film Producers Association and representatives of 61 countries have been invited to participate. Additional information is available from The Editor, Festival Footnotes, San Francisco International Film Festival, 172 Golden Gate Ave., San Francisco 2, Calif.

The Fourth Annual Motion Picture Workshop of the Department of Television, Motion Pictures and Radio, New York University, Washington Square, New York 3, will be held July 24 - September 1, 1961. The workshop is an intensive six-week course in professional production, direction and writing, primarily for motion-picture students, special students and teachers, and professionals desiring complete production-direction experience. Emphasis is on creative film making. Enrollment is limited to 30 and the fee is \$335.

A new photoinstrumentation unit to provide specialized photographic services for research laboratories on a company-wide basis has been established in the Nuclear and Basic Research Laboratory of the Dow Chemical Co., Midland, Mich. R. Wayne Anderson has been appointed Research Photographer in charge of the new unit. Mr. Anderson, author of two papers presented at the Fifth International Congress on High-Speed Photography ("High-Speed Photography Using Ultraviolet Light to Eliminate Visible Light Masking in Self-Illuminating Events," and "Value Received - The Use of High-Speed Photographic Techniques in Research and Industry"), has been with the firm since 1945. Techniques to be used by the new unit include high-speed and time-lapse photography, photocinemicrography and photocinemacrography, and infrared and ultraviolet photography.

An experimental electronic system that can help a composer to create new music by suggesting variations and new tone combinations based on his original ideas has been developed by Radio Corp. of America. This electronic composer's assistant is a special-purpose type of computer called a "random probability" system. It consists of an arrangement of circuits designed to select notes in random fashion from among many choices, with the probability of the choice determined by the frequency with which various note sequences occur in the style favored by the composer. The composer sets the pattern of the controlling circuits, then the computer may range over the many possible variations that may be used to develop the basic theme. The machine, in a laboratory demonstration, produced original tunes in the style of Stephen Foster, guided by circuit arrangements based on the melodic and rhythmic characteristics of Foster's music. Rearrangement of the circuits would provide variations on any other style of music favored by the (human) composer, including unconventional scales and rhythms.

A new firm specializing in the design and production of electromechanical and electronic accessories for closed-circuit TV has been announced by Leonard T. Winship, former Manager of the TV Sales Application Engineering Group of GPL. The new firm, called Nassau Laboratories, is temporarily located at 42 Valley Road, Plandome, L.I., N.Y. Products immediately available include video switches, video distribution amplifiers, weatherproof housings, and similar items.

Michael W. Chitty has been appointed



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Chief Engineer for Reevesound Co., a subsidiary of Reeves Soundcraft Corp. He was formerly Division Manager for Canadian Marconi Ltd. In his new post he will inaugurate and supervise a general program of product engineering.

Frank A. Comerci has been appointed Manager of the Magnetics Research Department of CBS Laboratories, Stamford, Conn. Prior to his present appointment he was Senior Electronics Engineer with Audio Devices, Inc. He has also been associated with Rangertone Corp. and later joined the Naval Material Laboratory, Brooklyn, N.Y., where he was head of the Acoustics and Communications Section.

John C. Pennock, a Vice-President of Flight Research, Inc., Richmond, Va., has been appointed Manager of the firm's new Western Division, 2121 C Placentia Ave., Costa Mesa, Calif. Donald Bass has been elected a Vice-President and will succeed Mr. Pennock as head of Application Engineering, which has been transferred from Richmond to the firm's New York office at 116-55 Queens Blvd., Forest Hills, N.Y. The new appointments were made as part of the firm's expansion program in the photoinstrumentation field. Expansion plans include emphasis on photographic data acquisition equipment and exploration of related nonphotographic techniques.

John W. Lang, Jr., has been appointed Manager of Design for the Photo Products Division of Bell & Howell Co. He has been with Bell & Howell since 1954, and, earlier, held the post of Assistant Chief Engineer for DeVry Corp.

Arthur E. Thake has been appointed General Manager of Manufacturing Engineering, Photo Products Division, Bell & Howell Co., Chicago. He has been with Bell & Howell since 1950, first as Chief Optical Production Engineer, and later he was given successive appointments as Assistant Director and Chief Engineer of the Optical Division, followed by an appointment in 1960 to the post of General Manager of the Government and Special Products Division.

Rodney D. Chipp & Associates, Consulting Engineers, 15 Ward St., Bloomfield, N.J., is a newly organized firm equipped to offer consulting services on an international as well as a nationwide scale in the fields of electronics, communications systems, radio and television broadcasting systems, industrial TV and engineering management. Consultation services include planning, design, construction, operation, maintenance and management of the various systems. Head of the new firm is Rodney D. Chipp whose extensive background in engineering has included an appointment (with his wife, Dr. Beatrice A. Hicks) to Project Ambassador, sponsored by the National Society of Professional Engineers. This assignment involved a detailed survey and report on problems faced by engineers overseas, with a view toward improving intercontinental relationships on a scientific and engineering level. He has also traveled widely on other engineering projects. An engineering executive at Interna-

tional Telephone and Telegraph Corp., he resigned his post to head the new firm. His engineering background also includes many years with National Broadcasting Co. and the Allen B. DuMont Laboratories. In addition to developing operational equipment and techniques he has also engineered large-scale military communications systems and has previously been retained as consultant to military and civilian governmental agencies as well as many large industrial organizations.

Mediterranean Studios Association (MSA), a newly organized production company, reportedly backed by the governments of Greece, Morocco and Turkey, will utilize the services of the Anzervos Studios in Athens; Souissi Studios in Rabat, Morocco; and Fitas Studios in Istanbul, Turkey. Organized by Motion-Picture Director Marion Gering, formation of the new company was announced at the Cannes Film Festival. According to Mr. Gering, plans are to employ American as well as native actors and directors, and to make the new company's facilities and services available to other companies in the film industry.

Aerol Associates, Inc., 9024 Olympic Blvd., Beverly Hills, Calif., has been appointed national sales representative for closed-circuit TV and data transmission equipment manufactured by American Microwave and Television Corp., 1369 Industrial Rd., San Carlos, Calif. The equipment includes four types of vidicon cameras, microwave transmissions systems and a newly developed system for transmitting documents over closed-circuit TV.

Establishment of a new district office for closed-circuit TV equipment sales activities in General Electric's Communications Sales Center, 565 Broadway, Redwood City, Calif., has been announced. Head of the new office will be Raleigh E. Utterback who has been appointed West Coast District Manger for closed-circuit equipment sales of General Electric Technical Products Operation. The Technical Products Operation, which is part of the GE Communication Products Department, manufactures closed-circuit TV systems and equipment. Other products include special projection and display devices and broadcast equipment.

Purchase of a nationwide network of new Eidophor television projectors for large-screen closed-circuit TV has been announced by Theatre Network Television, Inc. (TNT), 575 Madison Ave., New York 22. Reportedly the largest single contract in the history of closed-circuit television, the agreement between Ciba, which manufactures the Eidophor, and TNT involved more than \$600,000. TNT plans to install the new projectors in all major markets in its network.

Cinebox, the Italian-born, sophisticated granddaughter of the raucous old jukebox, is an "automatic sound-motion picture unit for showing selections of short films in public places." Coin-operated, it can, if desired, be adapted to free institu-



SERIES 78 BATTERY-POWERED SYNCHRONOUS INVERTERS

provide a source of 115V A.C. 60 cycles for synchronous operation of equipment in the field. A 10 minute take made with cameras and film recorders driven from these Inverters will be in precise lip-sync $\pm \frac{1}{4}$ frame. 50 Watt thru 500 Watt models are available for driving all cameras, such as Mitchell, Arriflex, Auricon, etc. or any film recorders. All solid state, the unit pictured above, Type 78A, 50 Watts, weight 5 pounds.

SERIES 88 BATTERY-OPERATED SYNC TRACK GENERATORS for recording 60 cycles on $\frac{1}{4}$ " tape. Used with Nagra, Perfectone, or other battery operated tape recorders. All solid-state, fits in jacket pocket, or outboard on recorder. Also, A.C. powered Type 87, for 14KC sync track, available. All new, Series 78 and 88 provide *totally linkless* Double-System synchronism on location.



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- WIDE RANGE**, can correct speed deviations of +20% to -20% from sync speed.
- CONTINUOUS DISPLAY OF SYNC CONDITION** so user knows exactly whether tape is in sync. Oscilloscope semi-circle pattern moving clockwise indicates tape speed fast, counter-clockwise indicates tape speed slow, semi-circle standing still indicates precise sync speed. In addition, Comparator-driven dial registers % deviation from 7 1/2 or 15 i.p.s. normal speed.
- SYNC SIGNAL LEVEL IS INDICATED BY VU METER**, an Attenuator provides for boosting weak signals 20 DB. Also a Volt Meter indicates voltage to capstan motor.
- HAS MEMORY** if sync signal is lost, tape runs at last sync-controlled speed.
- ADVANCING OR RETARDING TAPE TO LIP-SYNCHRONISM** with picture, when screening, is achieved with a Spinner Knob Framing Control.
- VERSATILE REMOTE CONTROLS** for operating tape recorder at the Synchronizer are incorporated.
- FULLY AUTOMATIC.** Choice of automatic speed control for sync transfer work or manual speed control for special effects, pitch change, trimming time spots, etc.
- COMPACT.** All solid state. Entire 92B unit mounts in 12 1/4" of rack space, weighs 38 lbs.
- COMPATIBLE.** Can be used with tape transports including Ampex 350, 351, 354, 300, 400 and others. Uses 60 cycles or 14KC control track supplied by MTE type 87, 88, or any other control track generators, or sync head.
- ECONOMICAL.** High utility in film studios, music studios, in-plant film production facilities. Solid state reliability eliminates maintenance. Only \$1,920.00

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tional or promotional use. Patrons can select any one, or any number in succession, of 32 individual films in monochrome and color, running about 11 minutes. Manufactured in Italy by Societa Internazionale Fonovisione, the device is distributed in the United States by Don Twomey Associates, Inc., Suite 1512, 230 Fifth Ave., New York.

An all-purpose satellite communications system that would be available to all nations through two or three relay stations "fixed" in space high above the equator has been proposed to the Federal Communications Commission by the Radio Corp. of America. The proposed system would employ synchronous satellite repeaters — space-borne relay orbiting 22,300 miles above the equator, where their speed would match the speed of the Earth's rotation to keep each satellite effectively "fixed" above one point on the Earth's surface. Each satellite would carry relay equipment to receive, amplify and re-transmit signals between ground stations in various parts of the world, providing a high-capacity link for simultaneous telephone, radio and other services. The satellites are pictured as relatively small units, each consisting of a slender cylindrical body 13 ft long, with wide fins bearing solar cells to generate power from sunlight. A dish-shaped antenna at one end is directed constantly toward the center of the Earth. According to the proposal, such a system could be put in effect within the present decade.

Biographical Note



Arthur C. Hardy

Professor Arthur C. Hardy has announced his plans to stop teaching on June 30, 1961, at Massachusetts Institute of Technology where he has taught 41 years. He plans to do writing and consulting work at his home at 15 Kenilworth Rd., Wellesley 81, Mass., and as he says "reserve a little time for some of the things I've always wanted to do but never had time to do."

Dr. Hardy is a Fellow of the SMPTE, and has served on several committees, the Board of Editors and the Board of Governors. He has published more than 40 papers of which 8 appeared in the *Transactions* or the *Journal* of our Society. Dr.

Hardy's paper on "Graininess of Photographic Materials Used in the Motion Picture Industry," which appeared in the *Transactions* in 1922, was the forerunner of a number of papers on that subject that came out of the Kodak Research Laboratories.

A world authority on optics and photography, Professor Hardy is perhaps best known in the field of motion pictures for his work in the middle twenties on sound recording on film that was done as a consultant for General Electric Company. His researches in developing the concepts and instrumentation of colorimetry are important as well as the application of these concepts to color reproduction. His book *The Principles of Optics*, authored jointly with F. H. Perrin, is one of the standard references in this field.

Dr. Hardy completed his studies for the B.A. at the University of California in 1917. Almost immediately thereafter, he enlisted in the Photographic Branch of the Signal Corps, was later transferred to the newly formed Air Service, and served in France as the Commanding Officer of the 23rd Photographic Section.

After the war, he completed his Master's work at California and was an instructor at the Massachusetts Institute of Technology until 1920, when he accepted a position in the Research Laboratories of the Eastman Kodak Company. He returned to M.I.T. as an assistant professor in 1922, and in 1933 was made Professor of Optics and Photography.

During World War II, Professor Hardy was Chief of NDRC Section 16.3 (Camouflage) of the OSRD. In that capacity, he inspired and guided researchers in visibility, atmospheric optics, and the influence of color on the perception and recognition of distant objects. In recognition of the value of his war work, he was awarded a Presidential Certificate of Merit.

The St. Lawrence University conferred an honorary Sc.D. upon Professor Hardy in 1938. The next year, he received the Longstreth Medal of The Franklin Institute, which cited his invention of the recording spectrophotometer.

In his recording spectrophotometer, his pioneering use of the null balance principle throughout the optical and electrical systems established an ideal which is rarely attained to the same degree even in instruments designed now, a quarter-century later. The same instrument employed one of the first successful photoelectric servo systems, almost a decade before these systems attained prominence and commanded confidence in war-tested devices.

The commercial version of his spectrophotometer was a remarkably close copy of this prototype, and was not appreciably changed during twenty years, while hundreds were being delivered and used to establish color measurement laboratories throughout the world. The recent redesign by a new generation of engineers left all the basic features of his spectrophotometer unaltered, but used modern components and made concessions to mass-production requirements.

The invention of his spectrophotometer in 1931 coincided with the adoption, by the International Commission on Illumination, of data specifying the standard observer

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