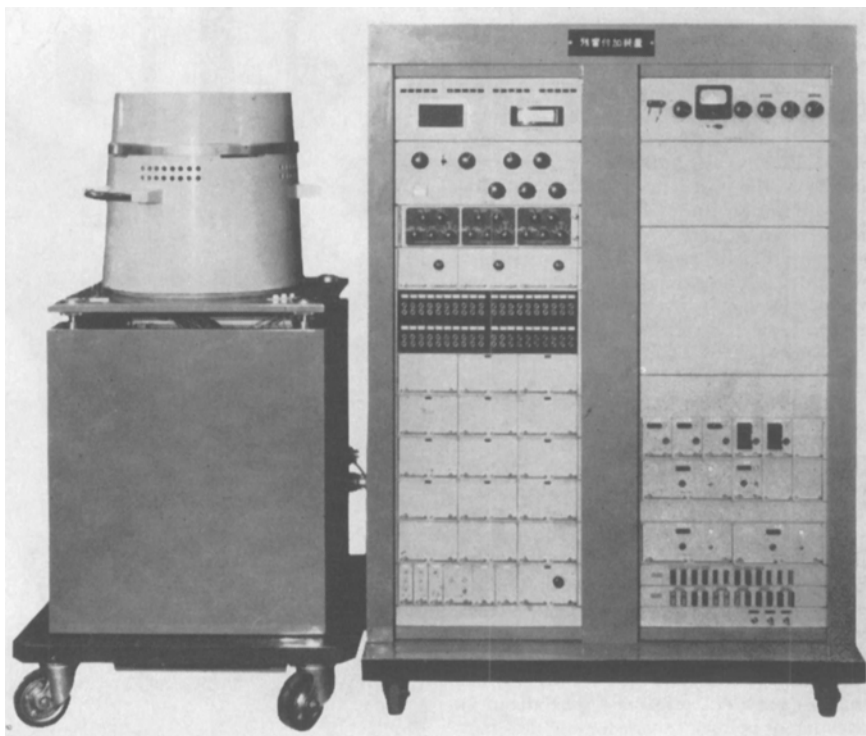


NHK Technical Research Laboratories

NHK is a public service corporation engaged in broadcasting for general reception throughout Japan and it is the only nonprofit broadcasting corporation in Japan. It also maintains Radio Japan, an overseas broadcasting service which began operating in 1935. In addition to broadcasting, NHK is actively engaged in research activities covering all phases of television. To carry out research and development activities, NHK maintains Technical Research Laboratories, Broadcasting Science Research Laboratories, Radio and TV Culture Research Institute and Public Opinion Research Institute.

Technical Research Laboratories was founded in 1930, five years after radio broadcasting was introduced in Japan. A staff of 16 conducted research on radio broadcasting transmitters, receivers and radio wave propagation. In 1931, the Laboratories initiated research in television. These studies led to successful experimental broadcasting in 1939, but work was halted because of World War II. After the war, research in radio and television broadcasting was resumed and at present more than 200 scientists and engineers are working in various fields. There are now ten divisions covering various phases of activity including acoustic and audio frequency, television, radio frequency, electron tubes, mathematical processing, recording techniques, development and work-



NHK's artificial reverberator

shop, research and information services, patents and general services. In 1965, the Broadcasting Science Research Laboratories was established to engage in basic research in auditory and visual psycho-

physics and neurophysiology and in solid-state physics.

The results of the Laboratories' research activities are applied to NHK's broadcasting services. Some of the research has



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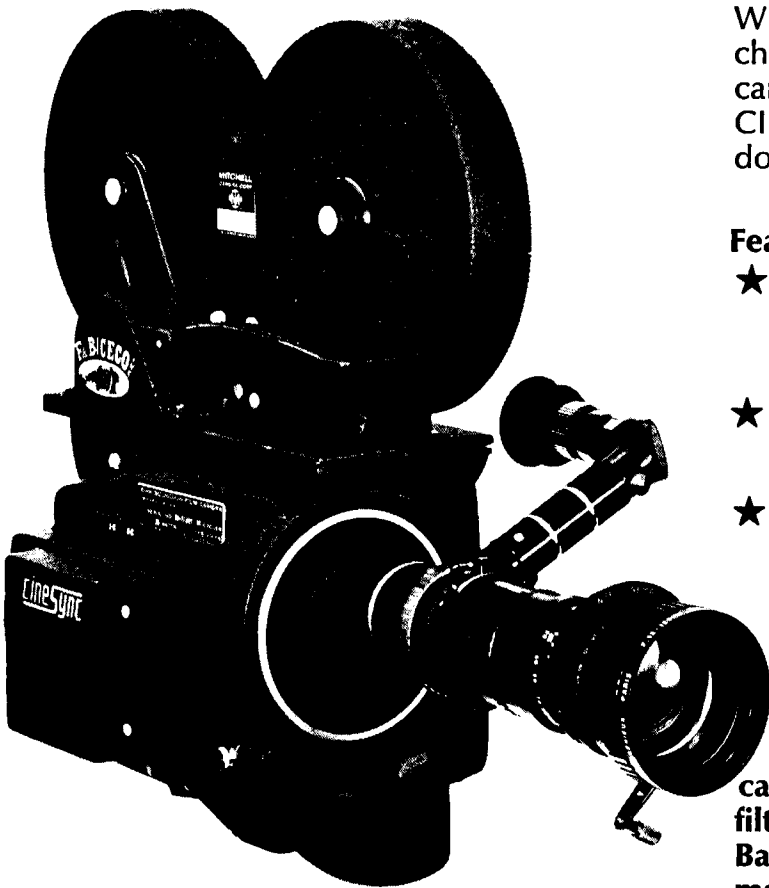
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brought about streamlining of program production, more frequent newscasts, better maintenance policies, more efficient utilization of studio equipment and improvement in sound and picture quality. The information thus acquired is made available to Japanese commercial broadcasters, electronics manufacturers and other interested concerns. NHK has also set up a technical system to provide technical guidance upon request.

Publications by which research results are disseminated for general use include *NHK Technical Journal*, *NHK Giken Geppo*, *NHK Technical Monographs* and *NHK Laboratories Notes*.

Among the many research projects in which NHK is currently engaged are included color television recording techniques and international program exchange. A standard converter for monochrome-television, with delay line which uses only electrical processing, has been developed. A converter for color television is now under development. Researches on TV receivers include studies of the UHF tuner and all-channel color receiver. Measuring instruments have also been developed to adjust color reproduction on monitors or receivers.

Some interesting projects are now underway at the Broadcasting Science Research Laboratories. Psychophysical studies are being made of the pattern discrimination function of the eye and of the binaural hearing of the ear. Neurophysiological studies are being made of the coding system of the visual pathway and of the information processing at the visual cortex.

Extensive studies are also being made of phenomena relating to electrooptics or magneto-optics and of problems associated with solid-state physics. Recent research projects include nonlinear optical phenomena and applications of the laser to communications.

Considerable work is also being done in the field of acoustics including architectural acoustics, acoustic analysis, electroacoustics and synthesis of acoustic signals. It is especially interesting that in the study of musical instruments, the structure and materials of Japanese transversal flutes as well as the analysis of sound-generating mechanisms and the sounds produced are being investigated. Among the systems developed as a result of research in acoustics is an artificial reverberator which can control the maximum value of reverberation time frequency characteristics and transmission characteristics independently.

Albert P. Lofquist has been appointed President of Perfect Film Laboratories, Inc., with headquarters in Los Angeles. He was formerly with Technicolor, Inc., of Hollywood, which he joined in 1945 as Assistant Technical Director. He resigned recently as Corporate Vice-President and Assistant to the President. Perfect Film Laboratories is the professional processing division of Perfect Film & Chemical Corp., 1615 Northern Blvd., Manhasset, L.I., N.Y. 11030.

E. J. Manzo has been appointed Manager, Commercial Video Systems, Philips Broadcast Equipment Corp., Paramus, N.J. He was formerly Eastern Regional Sales Manager for Cohu Electronics, Inc. and he has

also been associated with CBS Laboratories and GPL-General Precision, Inc. His new post involves marketing studies and product development for closed-circuit TV systems;

Donald V. Kleffman has been appointed Marketing Manager of Ampex Corp.'s Video Products Div. In other marketing assignments, Richard Sirinsky has been appointed National Sales Manager and Frank B. Thompson has been appointed Manager of Video Product Management for the division. All three men joined Ampex in 1959. Prior to joining Ampex, Mr. Kleffman was with the engineering department of WHO-TV in Des Moines, Iowa. Mr. Sirinsky was formerly with the engineering department of WFIL, Philadelphia, and Mr. Thompson was formerly with the engineering department of WSM-TV in Nashville, Tenn.

Morton Stein has been appointed Assistant Director of the Motion Picture Equipment Sales Division of Alan Gordon Enterprises, Inc., 5362 North Cahuenga Blvd., North Hollywood, Calif. He was formerly with F&B/Ceco of Hollywood.

Biographical Notes



Jerome W. Stafford

Jerome W. Stafford retired January 1, 1968, as Senior Engineering Specialist, Litton Industries, Data Systems Division.

He attended Pomona College and was graduated in 1926 with a B.A. in Mathematics. He continued his studies at Massachusetts Institute of Technology and in 1928 he was granted a B.S. in Physics. His career began formally in 1928 when he joined General Electric's Engineering Laboratory as Head of the Optics Section, though beginning in 1922 he had worked as a studio electrician at night and during vacations to pay for his college education.

While with General Electric he worked on the development of sound-on-film recording machines. Between 1929 and 1942, he held various engineering positions with Fox Film Corp., Hughes Development Corp., Multicolor Inc. and Metro-Goldwyn-Mayer. As Sound Engineer with Metro-Goldwyn-Mayer, among other research and development activities, he designed a microdensitometer for soundtrack analyses and developed the early push-pull light valve and optical system for push-pull recording. During World War II (1942-1945) he was on the staff of M.I.T. as a project engineer. He worked on the designing, developing and engineering of 584T anti-aircraft trainers and acted as engineer-