

JOURNAL of the SOCIETY OF MOTION PICTURE AND TELEVISION ENGINEERS

.....
P U B L I C A T I O N O F F I C E T W E N T I E T H A N D N O R T H A M P T O N S T R E E T S E A S T O N , P A .

Officers

President, 1961-62
JOHN W. SERVIES, National Theatre Supply Co., 50 Prospect Ave., Tarrytown, N.Y.

Executive Vice-President, 1961-62
REID H. RAY, Reid H. Ray Film Industries, 2269 Ford Parkway, St. Paul 16, Minn.

Past-President, 1961-62
NORWOOD L. SIMMONS, Eastman Kodak Co., 6706 Santa Monica Blvd., Hollywood 38, Calif.

Engineering Vice-President, 1960-61
DEANE R. WHITE, Photo Products Dept., E. I. du Pont de Nemours & Co., Inc., Parlin, N.J.

Editorial Vice-President, 1961
GLENN E. MATTHEWS, Research Labs., Bldg. 59, Kodak Park, Eastman Kodak Co., Rochester 4, N.Y.

Financial Vice-President, 1960-61
ETHAN M. STIFLE, Eastman Kodak Co., 342 Madison Ave., New York 17, N.Y.

Convention Vice-President, 1961-62
HARRY TEITELBAUM, Hollywood Film Co., 956 Seward St., Hollywood 38, Calif.

Sections Vice-President, 1960-61
GARLAND C. MISENER, Capital Film Laboratories, 1905 Fairview Ave., N.E., Washington, D.C.

Secretary, 1961-62
HERBERT E. FARMER, 7826 Dumbarton Ave., Los Angeles 45, Calif.

Treasurer, 1960-61
G. CARLETON HUNT, General Film Laboratories, 1546 N. Argyle Ave., Hollywood 28, Calif.

Governors, 1960-61
MAX BEARD, 10703 East Nolcrest Dr., Silver Spring, Md.
EDWARD H. REICHARD, 13059 Dickens St., North Hollywood, Calif.
MALCOLM G. TOWNSLEY, Bell & Howell Co., 7100 McCormick Rd., Chicago 45, Ill.
W. W. WETZEL, 725 Ridge St., St. Paul, Minn.
CHARLES W. WYCKOFF, 69 Valley Rd., Needham 92, Mass.

Governors, 1961-62
JAMES W. BOSTWICK, General Motors, 465 W. Milwaukee, Detroit 2, Mich.
G. R. CRANE, 212 24th St., Santa Monica, Calif.
ROBERT G. HUFFORD, Eastman Kodak Co., 6706 Santa Monica Blvd., Hollywood 38, Calif.
WALTER I. KISNER, 123 Browncroft Blvd., Rochester 9, N.Y.
KENNETH M. MASON, Eastman Kodak Co., Prudential Bldg., Room 2006, Chicago 1
RODGER J. ROSS, 784 Dutchess Dr., Applewood Acres, Port Credit, Ont., Canada

Governors and Section Chairmen, 1961
WILLIAM H. METZGER, Ansco, 405 Lexington Ave., New York 17
RALPH E. LOVELL, 2554 Prosser Ave., Los Angeles 64, Calif.
WILLIAM H. SMITH, 9930 Greenfield Rd., Detroit 27, Mich.

Section Chairmen
DONALD E. ANDERSON, 1718 Valley View Ave., Belmont, Calif.
ROBERT M. FRASER, Information Technology Laboratories, 10 Maguire Rd., Lexington 73, Mass.
ERIC C. JOHNSON, 139 Tobey Rd., Pittsford, N.Y.
MALCOLM D. McCARTY, 440 Wildwood Rd., Dallas, Texas
FRANK M. McGEARY, M-P Laboratories, 781 South Main St., Memphis 6, Tenn.
FINDLAY J. QUINN, TransWorld Film Laboratories Ltd., 4824 Cote des Neiges Rd., Montreal, Que., Canada
WESLEY R. SANDELL, Kodak Processing Lab., 4729 Miller Dr., Chamblee, Ga.
WILLIAM E. YOUNGS, 231 Mayflower Dr., McLean, Va.

Editorial Office

55 West 42 St., New York 36, New York

Editor—VICTOR H. ALLEN
Advertising Manager—DENIS A. COURTNEY

BOARD OF EDITORS

Chairman—PIERRE MERTZ
66 Leamington St., Lido, Long Beach, N.Y.

HARLAN L. BAUMBACH	CLYDE R. KEITH
MAX BEARD	W. I. KISNER
GERALD M. BEST	RALPH E. LOVELL
GEORGE R. CRANE	HERBERT W. PANGBORN
HAROLD E. EDGERTON	BERNARD D. PLAKUN
CARLOS H. ELMER	WALDEMAR J. POCH
CHARLES R. FORDYCE	ALLAN L. SOREM
LLOYD T. GOLDSMITH	R. T. VAN NIMAN
LORIN D. GRIGNON	DEANE R. WHITE
A. M. GUNDELFINGER	W. T. WINTRINGHAM
CHARLES W. HANDLEY	HAROLD WRIGHT
RUSSELL C. HOLSLAG	CHARLES W. WYCKOFF
	EMERSON YORKE

Papers Committee Chairman—ROBERT C. RHEINECK
CBS News, 485 Madison Ave., New York 22, N.Y.

.....

Subscriptions to nonmembers, \$12.50 a year (outside continental United States, add \$1.00 for postage); subscribers residing in countries which participate in UNESCO may use UNESCO coupons in submitting subscription payments in the event other means of remitting are not available; single copies, \$2.00 for one-part issues, \$2.50 for special two-part issues. A 10% discount is allowed to individual members and accredited agencies on orders for subscriptions and single copies. A list of priced and gratis publications is available. Order from the Society's Headquarters Office, 55 West 42d St., New York 36.

.....

THE SOCIETY is the growth of over forty years of achievement and leadership. Its members are engineers and technicians skilled in every branch of motion-picture film production and use, in television, and in the many related arts and sciences. Through the Society they are able to contribute effectively to the technical advance of their industry. The Society was founded in 1916 as the Society of Motion Picture Engineers and was renamed in 1950.

Membership in Sustaining, Active, Associate or Student grades is open to any interested person according to his qualifications. Information about membership, technical activities and standards and test films for the industry is available from Society Headquarters. Members residing in countries which participate in UNESCO may use UNESCO coupons in submitting membership payment in the event other means of remitting are not available.

SOCIETY OF MOTION PICTURE AND TELEVISION ENGINEERS

Headquarters Office: 55 West 42d St., New York 36, N.Y. Cables: Somopict Telephone: L Ongacre 5-0172

Executive Secretary: CHARLES S. STODTER

Published monthly by the Society of Motion Picture and Television Engineers. Publication office 20th and Northampton Sts., Easton, Pa. Second-class mail privileges authorized at Easton, Pa. This publication is authorized to be mailed at the special rates of postage prescribed by Section 132.122. Copyright 1961, by the Society of Motion Picture and Television Engineers, Inc. Permission to republish Journal text material must be obtained in writing from the Society's Headquarters Office, 55 West 42nd St., New York 36. The Society is not responsible for statements of contributors. Printed by Mack Printing Company, Easton, Pa.