

Book Reviews

Sarnoff: An American Success

By Carl Dreher. Published (1977) by Quadrangle/The New York Times Book Co., 3 Park Ave., New York, NY 10016. 282 pp. 6 × 9 in. Price \$12.50.

There is hardly a more apt example of the great American dream than David Sarnoff — a very young immigrant Russian boy, Jewish, helping the family finances by selling newspapers, then making his way as a “wireless” telegraph operator, and becoming eventually the president of a large industrial concern, the Radio Corporation of America. The details of the steps through which he progressed make absorbing reading.

The developments, in turn, of “wireless telegraphy,” then of “wireless telephony,” of the vacuum tube, of extensive amateur intercommunications, of radio broadcasting and of its use in advertising, of “talking movies,” and finally of television, first in black-and-white and then in color, came upon each other so fast and loomed in such important stages as to make, each one, an extraordinary impact on the technical and commercial world. Those developments had an enormous influence on the course of our modern culture, especially in the United States, but also over the whole civilized world. In all this, RCA played an important part — in some cases even a dominating part.

It is impressive to have seen, as this reviewer has, a favela of Rio de Janeiro, where, surrounded by nearly the most primitive of living conditions, there stood a pole on which a color television receiver was mounted — almost the only electrical appliance around operated by the electrical power supply. It is an illustration of the extraordinarily extensive penetration throughout all levels of society of this art of visual showmanship.

At one place in the development RCA found itself, after much effort, in the midst of a try at introducing black-and-white television. This had involved a substantial risk capital, not only for them, but also for most of the industry. Then Dr. Peter Goldmark had a devastating idea: a proposed change to a system of color television! Much has been made of its being old-fashioned because of the use of a rotating color wheel. This is true, but the real problem went far beyond, in that it was not “compatible,” or interchangeable, with the current black-and-white system. Thus an advertiser wishing to innovate in a color program would have to duplicate his program on another broadcast station to be received by the existing black-and-white receivers.

The major problem was, of course, to find a color receiver that could also operate on the current black-and-white signal. The key to this was a compatible color picture tube, and such a tube did not exist. But Sarnoff had an extraordinarily inventive staff of engineers. Dr. Elmer Engstrom (now an Honorary Member of SMPTE) was in charge at Princeton, and Dr. Edward Herold was one of the top research engineers. The group eventually came through with the shadow-mask tube — which in spite of early misgivings has to this day turned out as the

cornerstone of the success of color television.

It is natural that in the course of his progress Sarnoff should have gradually changed his broad cultural views. As a Russian Jewish immigrant his ideas were obviously inclined toward a strong liberalism. But as he rose to the managerial scale his contacts with the industry nabobs gradually inclined him toward a conservative social view. This attitude was particularly evident during the cold war and following years — which change obviously irks the author of the book, who appears distinctly liberal and seems occasionally to chide his hero.

Sarnoff also distinguished himself as a diplomat. As a strong but understanding economic leader, he was appointed by President Coolidge to be a member of a notable diplomatic committee headed by Owen D. Young for the settling of German reparations after World War I. Sarnoff started out as a simple committee member whose qualities would be generally useful. However, he soon became the most important member and was delegated to confer directly with, of all people, Dr. Hjalmer Schacht. He was in time so successful that the final agreement reached was first unofficially called the “Sarnoff-Schacht” agreement. But later it was officially designated the “Young Plan.” However, of course, later events in Germany threw the agreement “into the wastebasket” (in the author’s words).

RCA’s business in engineering normally required a great deal of printing of its numerous reports. In the course of time much of it was done by Random House, and it was natural that it should in time be incorporated into the firm. Similarly, RCA’s engineers on location extensively employed rental cars, and it was again normal that the company should incorporate Hertz into the firm. Other incidental ventures of RCA were not always as successful. The venture into the computer field, for example, was not fortunate.

As in the book, one can quote Rear Admiral Lewis L. Strauss, “David Sarnoff was possibly the last of the rare men who have figured so importantly in American industrial history in the years since 1850 . . . He mounted from one success to another . . . to a point where he made dreams become realities . . . The times were right for his character and combination of qualities which led to the opportunities that he discovered and so successfully developed . . . David Sarnoff’s life is a landmark of success in the American Tradition.” — *Pierre Mertz*, Meadow Lakes 9:01, Hightstown, N.J. 08520.

Standard Tape Manual

By R. K. Morrison. Published (1978) by R. K. Morrison Illustration Materials, 819 Coventry Road, Kensington, CA 94707. Price \$45.

The *Standard Tape Manual* was compiled by Robert K. Morrison, who was the manager of America’s leading magnetic test tape manufacturer for ten years. He founded Standard Tape Laboratory, an outstanding producer of audio test tapes. Morrison, an international

authority in this field, recognized the need for compilation of material used in standardization efforts. The *Manual* is printed on heavy paper and is a limited edition. Charts and monographs, held by a laboratory type binding, may be flattened out for easy computation and reference.

The seven sections cover:

Head Losses — Gap losses, core losses, spacing losses.

Flux Levels — Normal, elevated and relative difference chart.

Azimuth — Determination, results of misalignment to phase error in various track configurations, level losses due to azimuth disagreements, five charts.

Reproduce Amplifier Response — Definition of induction loop response and amplifier characteristics.

Amplifier Curves — induction loop response curves, ideal response charts.

Wavelength charts

Practical Techniques of Measurement

The section on Measurement includes: how to make induction loop measurements; how to measure constant current through the record head; how to measure track widths; losses to recorded signals; how to measure distortion; how to check for magnetized components and other electrical fields causing unwanted erasure and noise; how to check for head resonance; how to check for static noise caused by ungrounded heads and how to remedy; wear patterns.

The *Manual* is a valuable data book for the audio tape recordist, engineer or designer. It is not a text book, but rather a data reference source for sophisticated users of magnetic recording equipment. It is a practical tool for those who are familiar with the fundamentals of magnetic recording and simply require a quick source of reference data to “plug in” to their routine endeavors, and is a definite must for anyone concerned with professional quality audio recording on magnetic tape. — *Alex E. Alden*

Noncoherent Optical Processing

By G. L. Rogers. Published (1977) by John Wiley & Sons, 605 Third Ave., New York, NY 10016. 176 + xii pp. Illus. Diagrams. 6 × 9 in. Price \$17.95.

The invention of the laser, with its possibilities of furnishing coherent light beams of substantial intensity, has led to the development of holography and other techniques for the use of such coherent beams. The author of this book points out that in the meantime many new optical arrangements have been presented using noncoherent beams, in part taking advantage of random variations in phase to smooth out speckle noise, thus improving the signal to noise ratio if the optical resolving power is maintained. Effectively, the author points out that the result of noncoherence in such a shaft of light is to reduce the amount of information it carries as the price paid for this noise improvement.

His discussion covers aperture angles of wide compass — and uses as a gauge of this extent what he calls “Etendu.” This is the product of the solid angles of the entrance pupil and the exit pupil (or field), each measured from the area to the center of the other as apex (i.e., each being an area/length). Thus Etendu comes out in the dimensions of an area.

The author considers large square or rectangular, as well as circular, apertures, double slits, coarse grid masks, linear lenticular grid systems (such as those used in the old Kodacolor films), zone plates (sometimes off center), rotating

gratings, and other types of intermediate devices used to accomplish diverse specific purposes in the light transmitting path. Of course, most of these devices impose exacting conditions of construction (including lens designs) if the optical resolving power is to be maintained.

In the various discussions, other radiations than usual light waves are considered by the author. Gamma rays, X-rays, and even the characterization of the radiation in terms of photons are discussed. The applications treated are numerous, and are described along with discussions of processing, production, and mathematical analyses.

Considering the large amount of material presented in a book of only some 176 pages, together with a treatment that is not really superficial, it constitutes a far from simple tutorial presentation — and does not make for easy reading. It does give a good, and wide-ranging, overview of the subject matter, and cites a generous number of references which are sometimes necessary for a more complete understanding.

The arrangement of the book is to discuss, in separate chapters, the variety of processes that can be used as portions of complete noncoherent systems. The processes run, among other things, from Fourier transformations, spatial and temporal modulation and electronic transformations to matrix methods and the use of polarized light beams. A special note is given on a compromise of partial coherence situations, together with tests for determining the partial coherence. This organization tends to group the individual detailed techniques into separate chapters, rather than assigning the complete applications to separate chapters.

The book is recommended to readers who are interested in a comprehensive overview of the subject, but who are ready when necessary to hunt out the full details of procedures in the cited original sources. — *Pierre Mertz*, Meadow Lakes 901, Hightstown, NJ 08520.

The March of Time, 1935–1951

By Raymond Fielding. Published (1977) by Oxford University Press, 200 Madison Ave., New York, NY 10016. 359 pp. Illus. 6 × 8⁷/₈ in. Price \$14.95.

A new form of pictorial journalism, evolving less from the traditional theater newsreel than from the emotional needs of the times, arose in the mid-thirties. The period was propitious for the type of coverage of global happenings that would dramatize the political and social scene. The mere recording of the tumultuous events filling those troubled times as blandly pictured weekly on the newsreel screen was no longer enough. The March of Time (MOT) changed that.

The ideal man for the job turned out to be Louis de Rochemont. Time, Inc. executive Roy Larsen hired de Rochemont because of his proven dynamism during his days with Hearst and Pathé as reporter, cameraman, film editor and writer. De Rochemont surrounded himself with an alert and highly competent crew of journalists and filmmakers headed by Jack Glenn, who became his right hand man, and which included Lothar Wolff, Tom Orchard and Gilbert Comte, among others.

Three hundred monthly reels were issued during MOT's 16 pulsating years. Each release generally tackled only one particular subject, using stock footage, graphics and, to a large extent, MOT-photographed sequences that featured impersonators of people in the news and MOT-staged events for which original footage was not available.

These MOT segments always presented a forcefully expressed point of view, attacking such figures as Hitler and Mussolini, Father Charles Coughlin, Governor Huey Long, preacher Gerald L. K. Smith and other individuals opposed to a democratic style of government. *Inside Nazi Germany* was filmed in New Jersey and *War in China*, showing Japanese atrocities, was in fact shot in a New York City garage. American social issues were also vigorously tackled during the Depression — bread lines, unemployment, and popular unrest.

Author Raymond Fielding, professor of film at Temple University has, in *The March of Time, 1935–1951*, written a fascinating and well researched work, relying largely on interviews with former MOT employees and other informed participants. He brings out the mood of the era that made the success of the enterprise possible — or even unavoidable, a sign of how the times had changed on the eve of World War II. The book, well illustrated, concludes with useful scholarly appendices: biographical notes, an extensive bibliography, a list of research resources, a filmography listing all MOT monthly issues and feature films, and a carefully compiled index. — *George L. George*, N.Y. Directors Council, Directors Guild of America, 685 West End Ave., New York, NY 10025.

Klaw & Erlanger Present Famous Plays in Pictures

By Kemp R. Niver. Published (1976) by Locare Research Group, 910 North Fairfax Ave., Los Angeles, CA 90046. 177 pp. Illus. 8¹/₂ × 11 in. Price \$13.95.

This well-researched work tells the story of Marc Klaw and Abraham Erlanger, who produced and exhibited the first feature film having a story line. Kemp Niver's book is a fascinating account of the early days of film production, distribution, exhibition and advertising; many of these early practices are still with us today.

Billed in 1897 as the Austrian Ober-Ammergau Passion Play, but actually shot in Horitz, Bohemia, with a Lumiere Cinematographe camera-projector combination, the production opened with documentary footage of the town itself, and then some tableaux introducing the actors. This was followed by 50 scenes of the Passion Play, for a total of some 50 minutes running time. The film was accompanied by a lecturer, partly to lend respectability to the use of the new medium for a religious subject. The advertisement for the premiere at Philadelphia's Academy of Music gave Professor Lacy, the lecturer, top billing and noted that the lecture was to be "illustrated" by motion pictures — this was a modification of the long-established practice of slide-illustrated lectures. The admission price of \$1.00 was very high, being the same as that charged for a live play and ten times the usual admission for a film. The film was also accompanied by a live organist. Unfortunately, no prints, negative or stills of the production have survived.

The success in Philadelphia of the first feature film inspired the first spin-off, another passion play — this one hastily shot on a Manhattan rooftop with a painted backdrop and costumes from a 17-year-old stage play. This competitive film, backed by completely fraudulent advertising including quotes referring to the original K&E version, managed to open in New York City before the original film returned from the road. The spin-off film, with its low budget and no location expenses, opened with a lower ad-

mission price of 50 cents and so cut heavily into the market for the K&E film.

Klaw & Erlanger had invested over \$20,000 in the original film, plus the theater rentals, lecturer's and organist's fees. At an estimated gross of some \$33,000 they would have been lucky to break even. To make matters worse, Thomas Edison sued for patent infringement, and K&E turned over their negative to him. After this debacle, K&E dropped out of film production but remained the most powerful theatrical booking agency in the country.

Fifteen years later, K&E announced a deal with Biograph to make motion pictures from the 104 plays that they controlled. This ambitious venture bogged down at the production stage, and only 26 of the films were completed between 1913 and 1915. During this period, D. W. Griffith resigned from Biograph and so played little or no part in the production of the 26 films. The distribution plans likewise foundered, due in part to the selection of a non-standard 3-perforation system requiring special projection equipment which precluded the renting of the films to independent exhibitors. At this point, K&E gave up on film forever. As Kemp Niver put it, "... with their knack for amassing a fortune from the legitimate theatre, (they) never did get the hang of the motion-picture business and managed to lose a great deal of money in their two widely-separated film ventures."

The 26 Biograph films were copyrighted by depositing paper rolls with the copyright office. These have been transferred to film by Niver. The second part of his book includes stills from the films, showing a young Lionel Barrymore, Alan Hale and others, which alone are worth the price of the book. The stills are accompanied by lists of the casts, and by short summaries of the plots. The book is well documented with facsimile advertisements, reviews, newspaper articles, and other pertinent material. It is easy and interesting reading and is valuable for its insight into a bygone period of Americana and of film production. — *Murray Duitz*, Consultant, Hofstra University, Hempstead NY 11550.

Deadline for News Releases

Releases and other material intended for use in any of the columns of the *Journal*, especially for the Meetings Calendar and the Forthcoming Professional Meetings column, must arrive at SMPTE Headquarters at least six weeks before the month of the issue in which it is to appear. For example, announcements for the October issue must arrive no later than 15 August; for the November issue, no later than 15 September.

It is our intention to publish as much information as possible that is of interest to *Journal* readers. We regret that when information arrives too late it cannot be used. — Edit.

A quick look at the Arriflex 16SR production camera system:



With your eye at the 16SR's eyepiece, you can frame, focus *and* set the f/stop. Fast.

Accurate readings

Through-the-lens readings tell you precisely how much light is getting to the film. ± 2 stops, visible in the finder. Range is 24/25–80 fps, 16–500 ASA.

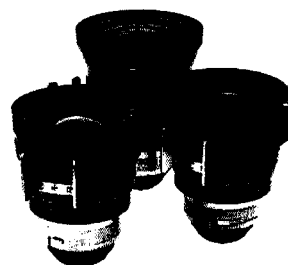
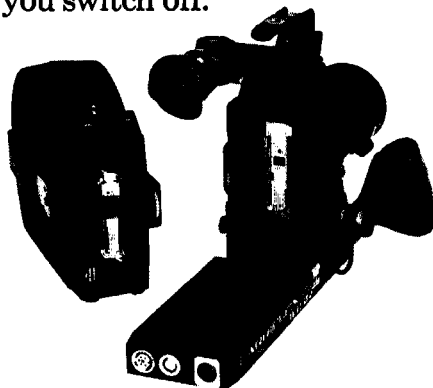
Fiber optic focussing screen

Its better light transmission makes viewing easier at

low levels and small apertures. Less light scatter and no grain result in a sharper finder image with even edge-to-edge brightness.

Automatic iris

With an auto-iris lens mounted, the 16SR stops the lens down to your pre-set f/stop when you switch on, and opens wide again when you switch off.



Four T1.3 Zeiss lenses, and 22 others

In addition to the four super-speeds, there's a choice of fifteen fixed lenses, including an Angenieux 5.9mm. And there are seven zoom lenses in the Arri steel bayonet mount.

Electronics & Crystal

At left are the 16SR's magazine and body. Inside the flat base are electronic integrated circuits for crystal sync, start-mark, off-speed light and slave operation.

Motor & speeds

The 12V DC motor is built into the body, just below the lens mount. No bulges. Off sync speed, a red light shows in the finder. There's a variable-speed accessory—5 to 75 fps.

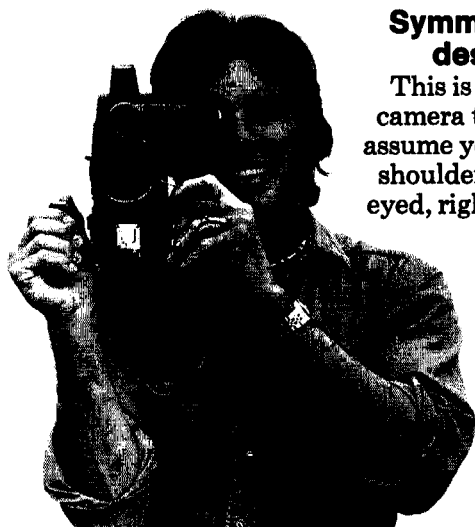
Magazine changes without touching film

It takes about ten seconds. Snap off the old magazine, check the aperture, snap on the the new one. No threading, no loop to form.

That's all done when you *load* the magazine—which is also fast and easy. All you do

Symmetrical design

This is the first camera that *doesn't* assume you're right shouldered, right eyed, right-handed.



With 10-100mm Zeiss lens and 400 foot magazine as seen here, the 16SR is 15 1/2 ins. long and weighs 14 1/2 lbs. 3 feet from the film plane, sound level measures only 29 dB/A.



Video Monitor

Video adapter (visible on right side of camera) fits onto the 16SR easily, runs on 12VDC and works with most remote TV monitors.



in the dark: put the roll on the core spindle, slide the film end out, close the feed side lid. The entire loop is visible as you form it, in daylight.

Magazine locks

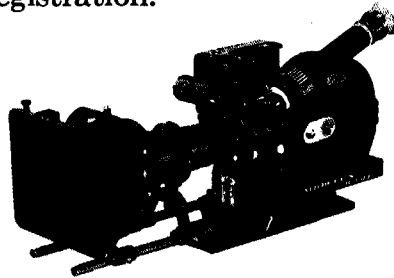
When you snap it on, the magazine is locked into place automatically, at *three* points. And its bottom rests against the camera's base.

Film channel bars

On each side of the aperture is a hardened steel guide-rail bar. They fit against the magazine's face plate, forming a fixed film channel. Only at the aperture does the film make contact with the pressure plate.

Register-pin movement

The 16SR uses a completely new compensating link film transport design with an independent registration-pin. Positive action control at *every stage* of film pull-down and registration.



Bridge Plate & Matte Box

Seen above, the 16SR is mounted on the Arri Bridge Plate, which is adjustable for balance. The Bridge Plate's rods are supporting both a long zoom lens and the 16SR Production Matte Box, which has two rotating 4 x 4 inch filter stages. Note also the 7 inch Finder Extension.



Versatile viewfinder and on-board battery

That's the battery, on the back of the camera. It drives about 2,000 feet. No cables. The finder rotates to left and right *and* it rotates 360° parallel to the camera's side. And the eyepiece swivels 25° *out* from the side.

ARRI

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