ABSTRACTS

Studio Practice in Noiseless Recording. GEORGE LEWIN. *Electronics*, October, 1931, p. 146. The theory of noiseless recording by the light-valve method was discussed in a preceding article (*Electronics*, September, 1931). Some modifications must be made in adapting the method to studio practice and special instruments must be designed to check the characteristics quickly and accurately. The author points out one very practical advantage of noiseless recording—namely, that the average level may be kept lower, thereby reducing the danger of over-shooting. With the introduction of noiseless recording, however, a certain amount of background noise that had previously been taken for granted has become more noticeable. This includes noises originating on the stage or in the theater itself due to the ventilating system or projection machines. A. C. H.

Glow-Lamp Noiseless Recording. E. H. HANSEN. *Electronics*, November, 1931, p. 177. A description of the method of producing "noiseless" records by the glow-lamp method. A. C. H.

Ideal Camera Blimp in Daily Use. IRA HOKE. *Internat. Phot.*, **3**, November, 1931, p. 27. A new and extremely useful camera casing is reported from the Educational Studios in Hollywood. It is of cast aluminum and sound insulated. The new feature is the possibility of pumping the air out with a vacuum pump whenever conditions demand the extreme in noiseless equipment. Only 25 seconds are required in this process and the method interferes in no way with the operation of the camera or sound apparatus. A. A. C.

A Standard Aperture for Sound Films. JOHN ARNOLD. *Amer. Cinemat.*, **12**, November, 1931, p. 14. Sound on film destroyed the 3 × 4 proportion of the motion picture screen, when it was first introduced. Theaters remedied the condition by using a reduced aperture of the old proportion, thus forcing the producer to plan his picture to suit, as well as possible, the various sizes that were being used in the theaters. This has been accomplished by the expedient of masking the camera aperture accordingly, and confining the action to that portion of the film. About twenty per cent of the frame area is not used at all, under these conditions.

A new standard, 0.651 × 0.868 inch, for camera aperture and 0.615 × 0.820 inch, for projector, is now proposed by the Academy of Motion Picture Arts and Sciences. A full report of the proposal is being circulated by Lester Cowan, Executive Secretary of the Academy. A. A. C.

New Photoelectric Cell. *Mot. Pict. Proj.*, **5**, November, 1931, p. 37. A description is given of the Weston Photronic Cell, which employs a light-sensitive disk to transform light directly into electrical energy without the use of auxiliary voltage. It delivers about one microampere per foot candle of light intensity and the response to light variations is said to be instantaneous. The simplicity and ease of operation of the new unit are advantages that are expected to lead to its wide use as an indicator in measurements of illumination. A. A. C.

Rectifying Contact Photoelectric Cells. R. SINGER. *Technique Cinemat.*, **2**,

November, 1931, p. 18. It has been known for some time that certain devices, notably those using copper oxide in contact with metal for rectifying alternating currents, also possessed the property of developing an electrical potential difference at their electrodes when radiated with light. The characteristics of two commercial cells of this type are discussed briefly. Another cell is mentioned which depends on a needle contact with galena crystal. It is stated that these cells are rugged and simple in use. They require neither vacuum nor a liquid electrolyte. C. E. I.

How to Determine the Position of the Pick-up Arm. L. LUMIÈRE. *Technique Cinemat.*, **2**, November, 1931, p. 4. The author proposes a method of determining a position for the pick-up arm which minimizes variation in the angle made with the tangent to the record grooves. The geometrical steps are shown. Reference is made to an article on this subject which appeared in the preceding issue. C. E. I.

The Panoramic Motion Picture and the Chrétien Hypergonar. H. PICARD. *Technique Cinemat.*, **2**, November, 1931, p. 7. A wide-screen picture can be obtained with film of normal width by compressing the image in width by the use of an auxiliary cylindrical lens both in making the negative and in projecting the positive. This method is open to the objection that the graininess of the negative shows up in the magnified image of the positive. It is proposed to overcome this fault by using wide negative film and compressing the image by the use of the auxiliary lens in the process of projection printing to the fine grain positive. The illustrations with the article show pictures of the French Colonial exposition buildings made in this manner. Other applications using this scheme are mentioned, such as narrow vertical pictures, and color and stereoscopic processes requiring two or more pictures in the standard frame. C. E. I.

New Sound-on-Film Method. *Mot. Pict. Herald*, **105**, October 24, 1931, p. 11. This process uses a variable density record on 16-mm. film, having the usual double rows of perforations and 40 frames to the running foot of film. The sound record is made on a bias which allows greater width of the frequency band, the over-all width of the track being 0.025 in. It is claimed to be possible to record not only at the old silent speed of 60 feet per minute but also as slowly as 32 feet per minute without volume or quality loss. Reduction prints from 35 mm. film are planned to form the nucleus of a film library for non-theatrical distribution. G. E. M.

New Photoelectric Cell. *Film Daily*, **51**, November 22, 1931, p. 6. A highly light-sensitive disk on the face of this photoelectric cell transforms the light energy directly into electrical energy without the use of auxiliary voltage. The cell has an instantaneous response to light variations and relays may be operated directly from the current generated by the cell. About 1 microampere is delivered per foot candle of light intensity. When exposed to direct sunlight, the output is about 5 milliamperes. The cell resistance varies from about 1500 ohms for 10 foot candles to 300 ohms for 240 foot candles. A moulded black bakelite case $2^1/_4$ inches in diameter and 1 inch in thickness encloses the cell. G. E. M.

The Screen: A Problem in Exhibition. BEN SCHLANGER. *Mot. Pict. Herald*, **105**, Sect. 2, October 24, 1931, p. 14. With the exception of the progress made in projection engineering, the author claims that the art and science of exhibition have advanced very little. The position of the screen, for example, is still being

determined from the stage floor of the drama theater. The average life of a theater building should be at least 15 years in order to amortize the initial construction cost and to show a reasonable investment profit. Bodily comfort of the patron is considered of primary importance in theater design. A maximum screen size having the ratio of 1 to 1.67 is considered preferable to satisfy various requirements. G. E. M.

A Portable Sound Recorder. *Kinemat. Weekly*, **177**, November 19, 1931, p. 56. A very light and portable sound recording apparatus, capable of being carried in a small automobile, has been developed by a British manufacturer. The recorder may be fitted to almost any modern camera, provided, however, that the camera has been silenced for sound work. This comprises changing certain gears to fit construction, enclosing the shutter drive in a sound-proof casing, and providing more sturdy bearings for the sprockets.

The recording head and amplifier of this new equipment fit underneath the camera in a casing which consists of two compartments; the front chamber carries the sound slit and guide rollers while the rear compartment contains a two-valve amplifier. The glow lamp projects in front of the forward casing and can be slipped out to protect it from damage. The lamp is made of Pyrex glass, and special non-spluttering metals are used for the electrodes, thus minimizing the risk of the glass turning black. The motor is mounted at the rear of the camera case and has incorporated with it a tachometer of improved design. The microphone used is of the transverse current type. Ear-phones are provided for monitoring purposes. C. H. S.

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