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Abstracts of Papers From Other Journals

Abstracts of papers appearing in other journals chosen for their importance and possible value to researchers as well as those of timely interest are published in the *Journal* from time to time. Many translations of abstracts from foreign journals, chiefly those of the USSR, are made available to the *Journal* by the Research Laboratories of the Eastman Kodak Company. As a rule, translations are made of the abstracts and not of the papers. The journals in which the papers appear can be consulted at some libraries. Current issues of *Tekhnika Kino i Televidinya* can be consulted at, or borrowed from, the Society's Headquarters Office.

Those requiring definitive and thorough searches of current literature and patents are referred to *Abstracts of Photographic Science & Engineering Literature* (APSE), published monthly by the Engineering Index, Inc., 33 E. 47 St., New York, N.Y. 10017, with the editorial cooperation of the Society of Photographic Scientists & Engineers.

The subject areas are grouped below:

Acoustics
Cinematography
Data Recording, Processing

ACOUSTICS

Effective absorption of sound absorbing materials for acoustic design of studios, Mrs. C. K. Kesavan, *J. Inst. Telecom. Eng.*, 12: 302-314, May 1966.

Effective absorption coefficient of absorbing materials has been measured at various frequencies from 125 to 4,000 Hz under different mounting conditions in chambers of different volumes. It has been found that in the frequency range where Sabine's coefficient for the material is maximum, the value of effective absorption coefficient is greater than the Sabine's coefficient. It varies appreciably with the mounting conditions. When the material is divided in patches and mounted on all the surfaces of the chamber, the smaller the patches the higher is the maximum value. The effect of total area of the material used and the volume of the room, on the effective values of absorption coefficient, is comparatively small. It has been shown that if values measured in diffused sound field under proper mounting conditions are used, the acoustic treatment of a studio can be planned fairly accurately. Also by judicious selection and installation of the

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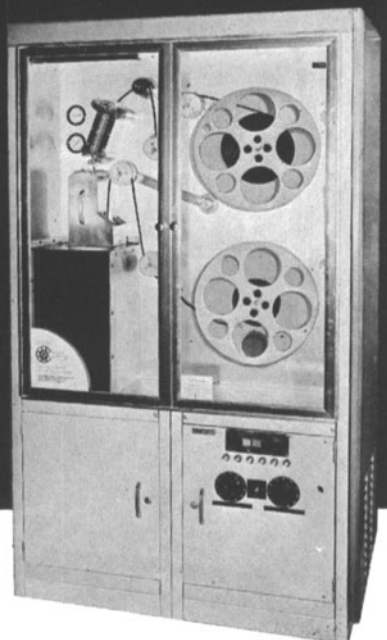
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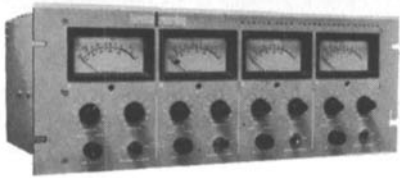
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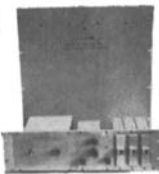


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material the cost of the acoustic treatment of a studio can be reduced and not more than about 30 per cent of the total surface need be covered with acoustic materials to obtain the optimum R/T values suggested by Morris and Nixon.

CINEMATOGRAPHY

The Significance of image perspective for the perception of distance in stereoscopic cinematography (in Russian), V. S. Shchekochikhin, *Tekh. Kino i Televideniya*, 10: 21-31, Dec. 1966.

The importance of the orthostereoscopic point (i.e., the position from which a viewer sees the objects in the picture with the same visual angles as those at the camera objective in taking) for the correct perception of distances in stereoscopic cinematography is stressed. The effect of the focal length of the objectives on perception of distance in stereoscopic pairs has been investigated and the choice of objectives in order to give the best effect under the conditions of viewing in a cinema auditorium are discussed.—S.C.G.

The problem of correlating the speeds of moving objects in stereoscopic cinematography (in Russian), V. S. Shchekochikhin, *Zh. Nauch. i Prikl. Fot. i Kinemat.*, 11: 403-406, No. 6, Nov./Dec. 1966.

A method of determination of the speeds of moving objects, based on a comparison of the stereoscopic image with real space in which a movable fiducial mark is placed, allows the experimentally reproduced speed correlation of moving objects in the image (i.e., the relation between the apparent speeds of objects before and behind the screen in the stereoscopic image space) to be evaluated with sufficiently good approximation. When the magnitude of the parallax is altered the correlation of the speed of the moving objects in the stereogram changes insignificantly for the space in front of the screen and increases for the space behind the screen. The maximum speed of a moving stereoscopic object is obtained with a parallax of 55 mm. On further increase of the parallax the speed falls to zero and takes on negative value. The apparent correlation of speeds of a moving stereoscopic object on altering the viewing distance changes in proportion to the distance.—S.C.G. (Based on authors' abstract.)

Stereocinematography on 70mm film (in Russian), N. Ovsyannikova and D. Khanukaev, *Kinomekhanik*, 27-31, Oct. 1966.

A system of stereoscopic cinematography on 70mm film has been developed in the laboratories of NIKFI. It can be applied to cinematography using polarized light and spectacles or to the form in which a raster screen is used. The attachments for use with standard 70mm cameras and projectors are briefly described.—S.C.G.

DATA RECORDING, PROCESSING

The computer in education—some examples, A. L. Goldberg, M. Tondow and D. D. Bushnell, *Proc. IEEE*, 54: 1656-1662, Dec. 1966.

Educational institutions are now beginning to develop projects and programs

and to find the people to carry out both administrative and instructional activities which involve computer technology. The examples in this paper cover a broad spectrum of activity in handling information which is important to educational decision makers—the teacher, the guidance counsellor, the principal, the administrator—relating to the allocation of resources, to the effectiveness of educational programming, and to learning more about the process of education itself.

Included in the paper are a discussion of the Palo Alto School District Educational Data Services operation and an explanation of the developing regional data processing concept in California. Later, the notion of the Computer Utility Data Bank is explored in terms of the present and future state-of-the-art as they are related to educational applications.

Finally, the relationship of information to the user outside of the formal instructional situation (in the school) is considered in the light of new styles of urban planning and the total communications requirements which may be suggested for the user's home. The focus here is on Columbia City, Md.

This sampling, and it can only be that, should suggest that a major revolution is in the offing. It will change our notions of how people learn, of what information is required for the meaningful life and for the contributing and participating citizen. As with other disciplines, the dialogue between the educator and the computer scientist has barely begun.

Imaging microdensitometer, Jacob Rotstein and Robert R. Billups, *SPIE Jour.* 5: 9-12, No. 1, Oct./Nov. 1966.

The extension of the dynamic range of the vidicon to 10^4 as the result of work conducted at the Lincoln Laboratory suggested the use of this sensor for information retrieval of data recorded on photographic film. In this particular application, microdensitometry is used to read-out radiometric, spatial and spectral data recorded on film. Conventional microdensitometers utilize microscope optics and photomultipliers.

A new approach to microdensitometry is proposed in which the microscope optics are replaced with longer focal length projection optics and a vidicon tube replaces the photomultiplier. An experimental imaging-microdensitometer was built and its performance is discussed.

A natural language information retrieval system, B. G. Lamson and B. Dimsdale, *Proc. IEEE*, 54: 1636-1640, Dec. 1966.

The problem of natural language information retrieval is difficult because of vocabulary size, semantics and syntax. For some specialized disciplines, in particular, tissue pathology, vocabularies are limited, semantic problems largely disappear, and syntactic structure can be replaced by a much simpler structure. Experience with the language of surgical pathology is given, also an outline of an automatic data processing system applied to the problem. A considerably expanded system, for dealing with larger data bases and larger varieties of queries, is being designed.

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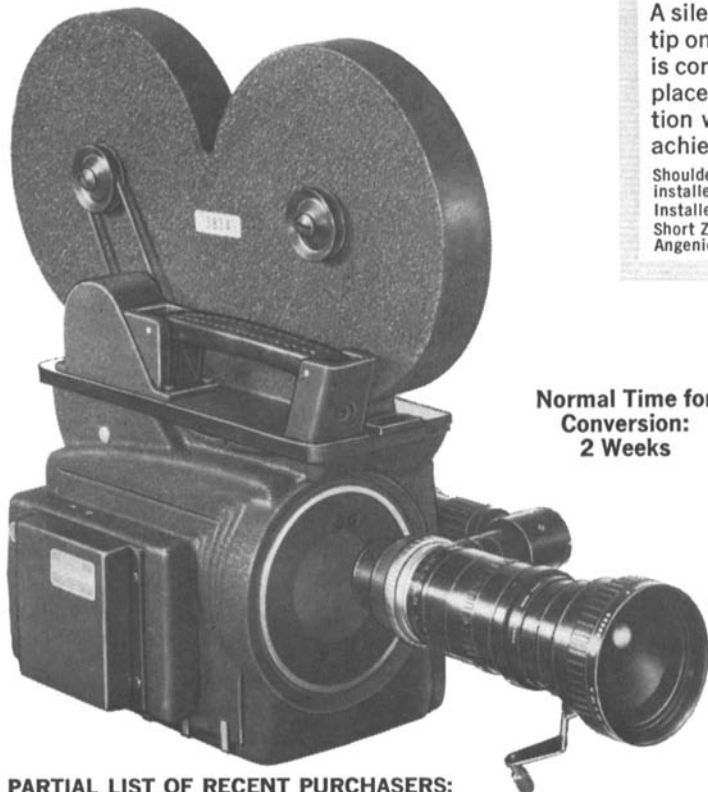
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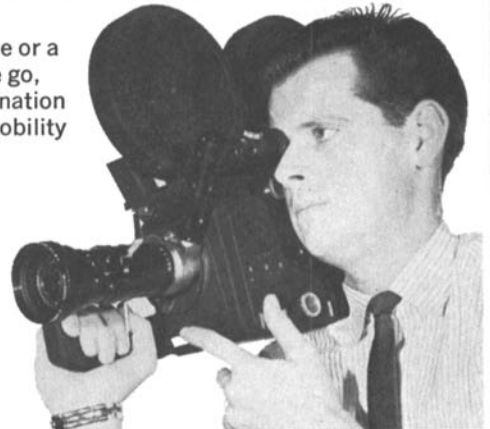
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