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50 years ago in the Journal

W. C. Jones, "Condenser and Carbon Microphones — Their Construction and Use," January 1931

Of the numerous microphones which have been developed since Bell's original work on the telephone, only two are used extensively in sound recording for motion pictures, namely, the condenser microphone and the carbon microphone.

The condenser microphone was first proposed in 1881 but owing to its low sensitivity was limited in its field of usefulness until the development of suitable amplifiers. In 1917 E. C. Wente published an account of the work which he had done on a condenser microphone having a stretched diaphragm and a back plate so designed as to introduce an appreciable amount of air damping. The major portion of the condenser microphones used today in sound recording embody the essential features of the Wente microphone. Marked progress has, however, been made in the design and construction of these instruments with the result that they are not only more sensitive but also more stable. The factors which contribute to this improvement are described in detail in this paper. Recently a number of articles have appeared in the technical press calling attention to certain discrepancies between the conditions under which the thermophone calibration of the condenser microphone is made and those which exist in the studio. The nature of these discrepancies and their bearing on the use of the microphone are discussed.

Microphones in which the sound pressure on the diaphragm produces changes in the electrical resistance of a mass of carbon granules interposed between two electrode surfaces have been used commercially since the early days of the telephone. In recent years the faithfulness of the reproduction obtained with the carbon microphone has been materially improved by the introduction of an air damped, stretched diaphragm and a push-pull arrangement of two carbon elements. This instrument is finding extensive use in sound recording and reproduction fields where carbon noise is not an important factor. The outstanding design features of the push-pull carbon microphone are described in this paper and suggestions made as to the precautions to be taken in its use if the best quality, maximum life, etc., are to be obtained.

P. D. Brewster and Palmer Miller, "Three Color Subtractive Cinematography," January 1931

It is suggested that the most promising line of development of the three-color camera will involve use of three films sen-



Ikegami's third microprocessor- controlled camera reduces registration set-up time and cost

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Ikegami HK-357A

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J. B. Carrigan and Russell C. Holslag,
"An Estimate of the Present Status and
Future Development of the Home
Talkies," January 1931

In this paper the 16mm home talkie situation is considered from the viewpoint of the amateur. The nature and interests of present users of 16mm apparatus are discussed. It is concluded that only a modest distribution of sound equipment among the amateurs will be realized, and that widespread use of this equipment will be found in a new group looking more for a source of entertainment than for a hobby. Available 16mm sound apparatus and subject matter are described. An estimate of possible developments in apparatus and appropriate subjects is given. There is also a discussion of the amateur's requirements in regard to sound apparatus from the technical viewpoint.

25 years ago

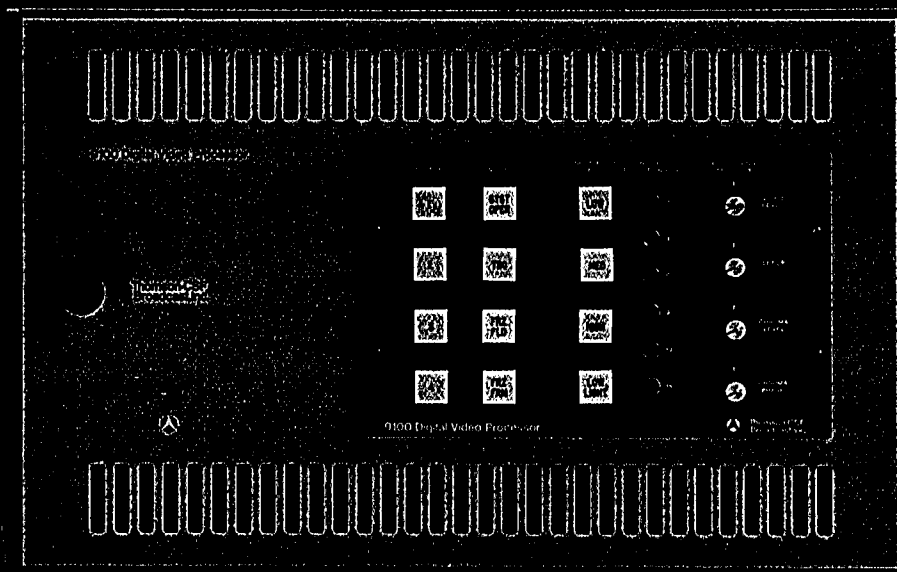
James L. Caddigan and Thomas T. Goldsmith,
"An Electronic-Film
Combination Apparatus for Motion-
Picture and Television Production,"
January 1956

The Du Mont Electronicam TV-Film System utilizes television equipment as the electronic operating control for direct recording on motion-picture film. Both the 16mm and 35mm versions are in regular use. . . .

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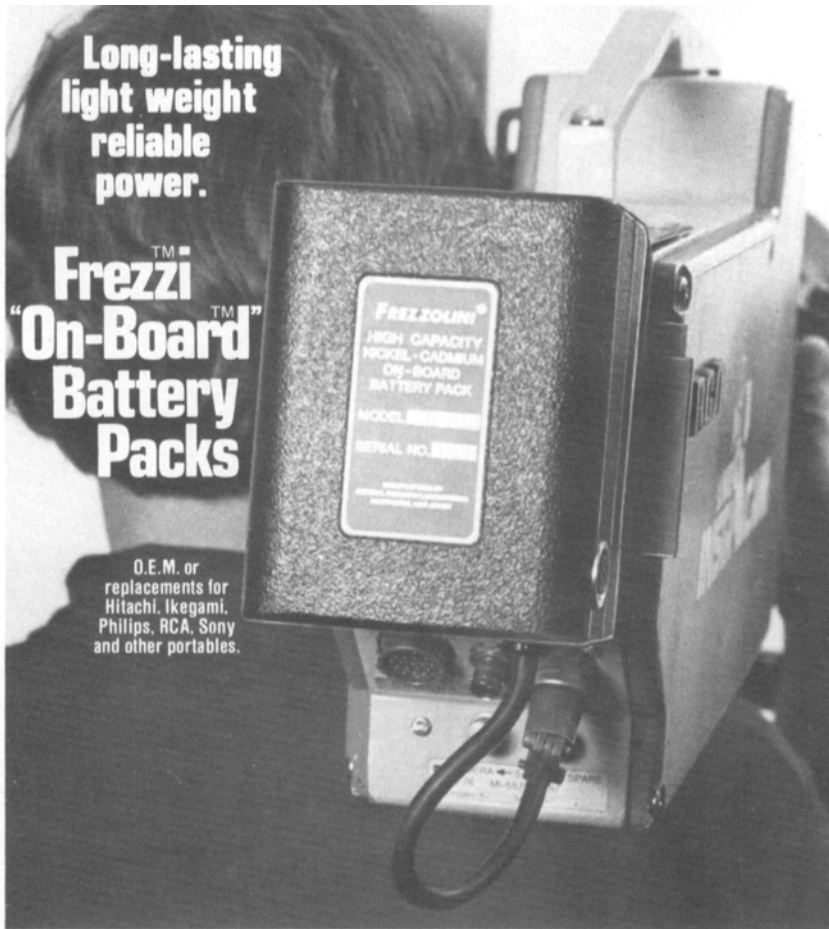
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times operate in the manner of a television broadcasting crew shooting in long continuous takes. The composition of the program, the selection of shots and the direction of the show are accomplished by watching the pictures on the television monitors during the show. A film recording of the particular camera shots which are chosen in sequence by the director during the show is made in the current television-transcription practice so that an editing or cutting master film of the program is promptly available. This master film, along with the three continuously running films in a three-camera system, permits easy cutting of the final show from the high-quality negatives which have been exposed directly in the studio during the program.

**John G. Frayne, "SMPTE in 1955,"
January 1956**

The activities of the SMPTE during 1955 paralleled very closely the continuing widespread interest in new technologies in the associated industries. The problems associated with the introduction of the various wide-screen processes continued to absorb the interest of engineers and production personnel alike. Some of the developments engaging the interests of motion-picture engineers during 1955 are outlined below.

The CinemaScope system which had been introduced in 1953 continued to grow during the past year as evidenced by the reports on the number of theater installations in this country and abroad.

. . . During 1955, Paramount reported several installations of their double-frame VistaVision system. The projectors are the horizontal type with standard 35mm film running at twice normal speed. The combination of the large VistaVision negative and the large print produces on the wide screen an image of excellent quality.

. . . The Todd-AO 65-70mm wide-screen system was first presented to the public in October of this year at the Rivoli Theatre in New York City. The camera negative employed in this system is 65mm wide and the release print width will ultimately be 70mm, added space being provided outside of each set of sprocket holes to permit the recording of six magnetic soundtracks.

SMPTE Conferences

25-30 October 1981
123rd Technical Conference and Equipment Exhibit, Century Plaza Hotel, Los Angeles.

5-6 February 1982
16th Television Conference, Opryland Hotel, Nashville.