TECH NEWS

by Rodger J. Ross

MOTION PICTURE VIDEO

Television has created an enormous new market for films, but neither broadcasters nor filmmakers have been entirely satisfied with the results. On the television side, there is a decided preference for videotape as a program source, while filmmakers complain that television distorts their pictures, often in a less desirable direction.

When a film is to be shown by television, it has to be projected into a television camera in an apparatus known as a telecine. All television installations include this type of equipment, and television technicians are responsible for operating projectors and camera. This division of responsibility between those who make the films and those who reproduce the films in the television system has been a serious handicap in making the best possible use of the film medium in television programming.

In the last year or so, changes are beginning to take place on both sides that will radically alter these practices. With the increase in automation of television station operations, it is now more economical and convenient to broadcast from videotape. According to recent reports, CBS Television Network now broadcasts all evening prime-time programs from videotape, even when the programs were produced originally on film. At some stage prior to broadcast the films must be transferred to tape. This could be done either by the broadcaster who already has the facilities to do the work, or by the film-producing organization or laboratory if the necessary equipment and operating organization or laboratory if the necessary equipment and operating staff can be acquired.

Long time Supervisor of Technical Film Operations at the programming centre of the CBC, Mr. Ross is the author of two books, ***Television Film Engineering*** *and* ***Color Film for Color Television,*** *has won the Agfa-Gevaert Gold Medal, awarded by the Society of Motion Picture and Television Engineers, and is presently chairman of the SMPTE Board of Editors.*

A few motion picture laboratories have been installing television equipment, mainly for small-format videotape cassette distribution. But now DeLuxe Laboratories in Hollywood has announced a major expansion of its video duplication and film-to-tape transfer facilities. Several Ampex recorders including an AVR 1, VR2000 with editor, and two VR1200 models have been installed. Included also is a Fernseh color film chain with both 35 mm. and 16 mm. composite and interlock capabilities; a digitally controlled scene-to-scene color corrector; an 2-inch high and low band dubbing system, and film-to-quad and cassette formats.

At the March meeting of the Toronto Section of SMPTE there was a standing-room-only crowd on hand to hear papers and see demonstrations by Motion Picture Video Corp. staffers, showing what can be done with their film and television production facilities. They have installed a Rank-Cintel flying spot scanner and Autocolorgrade, and an Ampex-designed computer control terminal. With a projection television unit, they showed how the computer is used to assemble programs on tape. Samples of commercials produced with this equipment were also shown.

As the trend towards what might be termed integrated television film operations accelerates, we will no doubt see fairly extensive changes taking place in film handling practices. The first – and undoubtedly the most important – change will be the deactivation of automatic video signal level controls in telecine, when transfers to videotape are being made.

Broadcasters adopted automatic signal control many years ago, as an economy measure, and to relieve television technicians of the tedious task, all day long, and into the night as well, of manually adjusting signal levels from the telecine camera, to compensate for shifts in maximum and minimum film densities, scene-to-scene, and film-to-film. But now, when a film transfer is being made in a motion picture laboratory, an entirely different situation exists – advantage can be taken of the opportunity to make adjustments of the camera controls so as to obtain the most pleasing television pictures, consistent with professional video practices.

Automatic signal level control, so extensively employed in television stations, gives an output from the telecine camera in which uniform peak white and black levels are maintained, whatever variations there may be in maximum and minimum film densities. Many attempts have been made to develop electronic color correction devices as well, so as to give broadcasters completely automatic film-reproducing facilities, but as yet no really satisfactory method of automatic color correction is available.

Manual telecine camera operation enables any desired changes to be made in the color balance of the television pictures, while at the same time adjustments are being made in signal levels to compensate for density shifts. A skilful telecine operator can make slight adjustments in camera control settings to compensate for color shifts between scenes, or the color of the pictures can be changed drastically to produce almost any desired effect. The changes that are needed to obtain best possible television pictures – or any desired special effects – can be determined in a preview or rehearsal session in telecine, and then a computer can be utilized to make these predetermined changes automatically while the film is being transferred to videotape.

Electronic color correction takes place in a very simple signal processing stage – the red, green and blue signals from the telecine camera can be combined in different proportions by raising or lowering the signal levels in the color channels. This is just one of the innumerable possibilities that the transfer process offers for producing special effects. With the aid of an electronic switcher-mixer and special effects amplifier – every television studio has one – effects such as fades, wipes, super-impositions and many, many more, can be

inserted into a program as the transfers are being made, or afterwards, by playing back and re-recording the videotapes.

The greatest advantage of film as an original picture and sound recording medium is that the release for viewing by the public can be either on film or on videotape. For viewing by direct projection on a screen, prints can be made from the originals in any convenient format – 35 mm, 16 mm or super-8. Then, one of these prints could be turned over to a broadcasting organization to be seen by the public on home receivers.

But now, as filmmakers acquire electronic transfer facilities, entirely new and different methods for making use of film can be envisaged. For example, as Jack Sinclair of Motion Picture Video Corp. told his audience at the SMPTE meeting in Toronto, a program can be finished on film and transferred to tape, or finished on tape after the transfers have been made, by electronic editing. In some situations, especially where reversal film is used for making the originals, there would be no need to make a timed and color-corrected print – the originals could be transferred to tape and electronically edited into finished program form.

This method of working will no doubt open up many new opportunities for filmmakers. To make up for the loss of print business, laboratories will no doubt offer electronic transfer services. But with printing, duplicating and optical effects facilities still available, laboratories will be able to give their clients a greatly expanded service, with finished productions either on film or tape, or on both.

EQUIPMENT NEWS

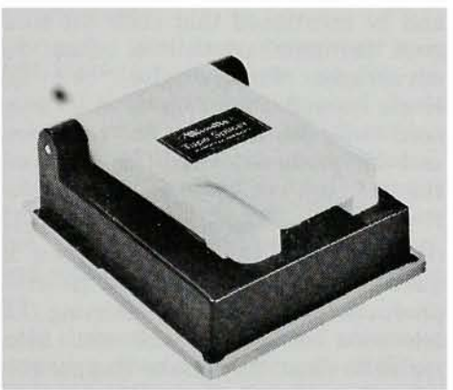
Note to Canadian distributors: We would like to include the names and addresses of Canadian distributors of equipment and services mentioned in this section. Please ask your suppliers to give Canadian sources in their publicity releases. Ed.

Super-8 Distribution Centre

The Canadian Super-8 Distribution Centre has been opened in Toronto to promote super-8 filmmakers and videographers and distribute their works. The Centre is funded by the Ontario Arts Council. Immediate objectives are publication of a catalogue and regular film showings. The Centre is seen as offering equal distribution and viewing facilities for both media. Enquiries or suggestions could be sent to the Centre at P.O. Box 305, Stn. A, Toronto, Ont. M5W 1C2.

New Hervic/ Minette Tape Splicer

The new Hervic/Minette tape splicer, for either super-8 or single-8 films, is professionally designed, very easy to operate, and at no time do the user's fingers touch the tape while

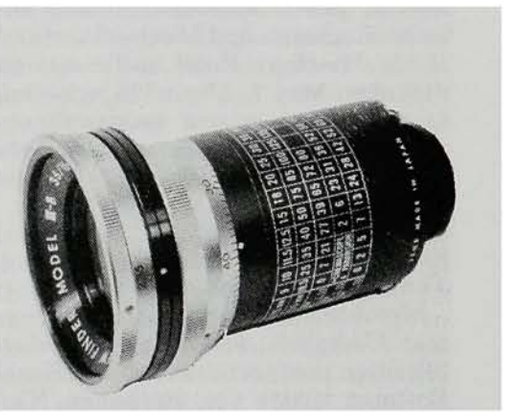


Hervic /Minette Splicer

splicing. The splicing tape is affixed to a special paper surface and the tape is transferred from the paper during the final steps of making a splice. A 1 mm "clearing" on the recorded side of the film is allowed so that the sound track will not be affected or damaged. The splicer is made of durable plastic and priced at $10.70 (US). Additional supply of splicing tape is available at $1.40.

Director's Zoom Finder

A new model of the popular 111B 35/16 Director's Zoom Finder is now available from Alan Gordon Enterprises Inc. The new finder has been recalibrated to include all widescreen formats and film ratios from 1:1.33 (Academy), safe-action TV and other formats including Panavision and Cinemascope. The finder also has an easy-to-read scale on the barrel which simplifies the selection of lenses in the various formats. The finder helps in two ways – it can show what the camera reveals through the lens with which it is fitted, and it can aid in selecting the best composition by determining what focal-length lens should be used. Price for the Model 111B is $149.50 (US). Available from Alan Gordon Enterprises Inc., 1430 N. Cahuenga Blvd., Hollywood, Calif. 90028.



Director's Zoom Finder

SMPTE MINI-CONFERENCE

The changes currently taking place in television program production methods, especially the increasing use of electronic cameras and videotape recorders in television news, are causing great concern in motion picture circles. Advocates of ENG (electronic newsgathering) are so convinced of the advantages and benefits that they are predicting ENG methods will be expanded into entertainment programming. This was the subject of a panel discussion at the SMPTE mini-conference, jointly sponsored by the Toronto, Rochester and Montreal sections at the Westbury Hotel in Toronto on Saturday, May 7. About 175 registered for this event, as well as a fairly extensive papers program on other subjects.

Panel Discussion – The Film Challenge

Members of the panel included Norman Campbell, well-known Canadian television producer-director; Bill Koch, Eastman Kodak Co., Rochester, NY.; Ray Schneider, CBS Television Network, New York; Ed Messina, American Broadcasting Co., New York; Tom Glyn, Chetwynd Films, Toronto; Marcel Auclair, CBC Engineering Headquarters, Montreal; Steve Sulewki, CBC TV Film Service, Toronto; Finlay Quinn, Quinn Laboratories, Toronto; and Rodger Ross, TV Film Consultant, Cobourg, Ont. The moderator was Stanley F. Quinn, director of engineering operations and development, CBC, Montreal.

To set the stage for the panel discussion, each member was invited to make a brief statement of his views on the subject. An animated dialogue developed among the panel members, in which the different views expressed in the opening statements were further developed, and in some cases, defended. This was followed by some questions from the floor, but there was not nearly enough time for everyone who wanted to speak his piece or question members of the panel.

The moderator said, in introducing the session, that while the title on the published program was "The Film Challenge", he hoped the discussions would not develop into a confrontation between film and television, but rather that an attempt would be made to show how each medium can contribute to television production.

It was generally agreed, from the outset, that both media have a place in television, and that film would continue to be used into the foreseeable future. But the trend is towards automated television station operations, in which videotape is more convenient and economical than film. Ray Schneider outlined the work being done at CBS in replacing film with electronic systems. This summer television cameras and videotape recorders will be installed in a Hollywood film studio to produce entertainment programs. This trend was questioned by Ed Messina who said that film accounts for the greater part of the programming on the ABC network. Norman Campbell said he has had a considerable amount of experience making programs with both film and videotape, and he mentioned that each has some good features, as well as some disadvantages. Figures given by Bill Koch showed that film is still being used very extensively in television, and he predicted that this will continue.

Tom Glyn received sympathetic response from the audience when he questioned the economics of program production on videotape, claiming that television companies are not being realistic when they make comparisons with the costs of film production, because they are not including the heavy capital costs of the electronic equipment. Steve Sulewski said that film will continue to be used extensively in television programming, but there is a need for film people to become more aggressive and innovative in the face of electronic developments.

Findlay Quinn pointed out that, in view of the very high costs of producing television programs, maximum use has to be made of the programs, and distribution is much easier when the programs are on film. Marcel Auclair commented that one of the disadvantages of film is the quite large shifts in color that are often encountered between commercials and programs, whereas with electronic cameras and videotape there is much better uniformity.

Rodger Ross referred to a paper presented by Jack Sinclair of Motion Picture Video Corp., immediately prior to the panel discussion. He said what is being done there represents a big step forward, eliminating the division of responsibility between filmmakers and television technicians in the reproduction of programs on film. When film is being transferred to videotape in a motion picture laboratory, the automatic video signal level controls in telecine, normally used by television stations to save manpower, would almost certainly be deactivated, and every effort would be made to obtain the very best television pictures.

Papers program

Joint meetings between the Toronto and Rochester sections of SMPTE have been an annual event for at least 10 years. This year, the program chairman, Harold Eady, invited the Montreal section to participate, and quite a few members were on hand. A papers program took up the entire morning, starting at 8:45 a.m. with a computer-controlled multi-projector slide and sound presentation by Avcor AV Corp., Toronto, entitled "Life in America". This enormous wide-screen show was repeated after lunch for those who were unable to be on hand in the morning.

In a paper with the title "Film and Electronics", Arnold Schieman of the National Film Board, Montreal, described the electronic facilities that the Board has acquired to make transfers from film to videotape, and videotape to film, featuring this operation with super-8 film.

Gerald Graham gave a well-illustrated paper on the multi-media techniques used at the United Nations Habitat conference in Vancouver last summer. He also gave another paper on Film and Television in Three Dimensions".

Other papers were: "Testing Audio-Visual Equipment Three Years Later" by Ralph Curtis, NFB, Montreal; "Broadcasting Satellite Experiments", Stanley Quinn, CBC, Montreal; "Multi-Track Magnetic Avex System" by Manfed Klemme, Braun of Canada; "Eastman Ektachrome Video News Film, High Speed Type 7250 (tungsten)" by Colin Davis, Kodak Canada; "Dula-Language Photographic Sound Tracks", by Ronald Uhlig, Eastman Kodak Co.; and "Motion Picture Video: A Video Laboratory" by Jack Sinclair of Motion Picture Video Corp. The papers session chairman was Creighton Douglas, Dept. of Supply and Services, Ottawa.

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