

TECH NEWS

by Rodger J. Ross

HOME VIDEO SYSTEMS

A tantalizing prospect for the emerging visual communications industry is the development – and widespread public acceptance – of a home video system that can be sold in stores like record players. Several different types of equipment are already available that allow users to show pictures on their television sets. These machines can be divided into two main categories – (a) magnetic, and (b) optical-electronic. Magnetic systems make use of videotape as the storage medium. In the optical-electronic category super-8 film carries the pictures, and a scanning system converts the film images into video signals that are then carried by a cable to the television receiver. A third category, still in the development stage, is the videodisc. Of course, all of these systems are capable of reproducing sound along with the pictures.

Many different makes of relatively inexpensive videotape machines have appeared on the market in the past few years utilizing magnetic tape in various widths down to ¼-in. Large numbers of these machines have been sold, mainly for use in business, industry and education, but in the vitally important home market the response has been negligible. In spite of the most strenuous marketing efforts by the electronics industry, magnetic systems have not been accepted by the public for home use.

In 1973 the Eastman Kodak Co. introduced their film videoplayer. This semi-automatic playback machine accepts super-8 film in cassettes or on standard 8 mm projection reels. The player can be operated at either 18 or 20 frames/sec., as well as freeze-frame and single-frame advance. Video output is a fully interlaced composite NTSC color signal that can be reproduced in any television receiver on either Channels 2 or 3, through an

isolating switch connected to the antenna terminals.

It is too early to make even a guess as to whether the film videoplayer will have more success in the home market than videotape machines. The question could well be asked at this stage: What considerations are likely to influence prospective purchasers of home video equipment to select one system over another or reject both?

Undoubtedly cost is a major consideration. The Kodak film videoplayer is priced at about \$1200, and there are several small videotape machines on the market with color capability starting at about \$1500. Some would say that these rather high price tags will put a damper on sales in the home market. But then top-of-the-line color television receivers are selling not far below the \$1000 mark, and many thousands have been purchased with only the prospect of showing the programs available from broadcasting stations or cable TV hookups. The home videoplayer is intended to make available to viewers a much greater range of programming in much the same way that music records add another dimension to home audio systems. It is in this particular area that the film videoplayer offers the most obvious advantages.

Manufacturers of videotape machines state in their sales promotions that pre-recorded cassettes can be played back into any TV set. However, there are as yet no readily available sources of such pre-recorded programs suitable for use in home video systems. Instead, emphasis is put on the advantages of being able to make original recordings on inexpensive, reusable magnetic tape. But to do that, a machine with record capability is needed, together with a television camera to generate the video signals, and a fairly extensive range of accessories. Even the simplest editing techniques call for the use of two machines, and copies can be made only by playing back the edited original on one machine and making a new recording on another. These additional facilities can increase the cost of a home video system considerably.

One of the unresolved – and most serious – problems in videotape is

the lack of a standard recording format for the lower-cost helical scan machines. Manufacturers continue to put on the market their own individual machine designs, taking different tape widths. For the user, this means that a recording made on one machine cannot be played back on another unless it is of the same type. Other playback difficulties might be mentioned also, such as faulty synchronizing pulses (the electronic equivalent of film perforations) that make the television picture displays jittery and sometimes cause complete picture breakups.

The film videoplayer will accept any existing super-8 film made anywhere in the world. This is made possible by the universal acceptance of motion picture standards formulated by the industry. Any other manufacturers contemplating the marketing of film videoplayers would have to design their machines to conform with the standards for the super-8 film format.

Copies of any existing 35 or 16 mm film can be made in the super-8 format by an optical printing process. Many commercial motion picture laboratories have facilities for doing this kind of work. Mass production printing processes have been designed to turn out super-8 prints at the rate of 600 feet or more per minute, complete with magnetic sound tracks. Already there are many sources from which super-8 prints can be purchased or rented, in a wide variety of subject areas.

Even more intriguing for the home user is the possibility of being able to make original super-8 programs using his own simple and inexpensive equipment. A great variety of super-8 cameras can be seen in photographic stores in a price range from \$200 to \$1500. Almost all of these cameras have been designed around the standard 50-foot super-8 film cartridge. Recently Eastman Kodak Co. put on the market super-8 film with a magnetic stripe for the sound, loaded in cartridges, and several manufacturers are producing cameras with sound recording capability.

For the home user the simplest procedure is to use Kodachrome film in the camera. After exposure in the camera, the film cartridge is return-

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ed by mail to the manufacturer for processing. Alternatively, Ektachrome film can be used in the camera and processed by a nearby commercial motion picture laboratory.

After the film has been processed it can be edited with a simple, inexpensive set-up consisting of a hand-operated optical viewer and a splicer. More elaborate – and costly – editing tables are available for more ambitious super-8 production projects. Copies of the edited originals can be made by many film laboratories with super-8 printing facilities.

An important additional advantage of super-8 film is that it can be projected directly on a screen with a relatively inexpensive optical projector, as well as being played back into a television receiver with a film video-player. There are many super-8 projectors on the market with sound reproducing capability in the \$200 to \$300 range.

The videodisc is being hailed by promoters as the next stage in the

visual communications revolution. Several videodisc developments have already been announced, but there are still no clear indications which system will emerge the winner, or whether videodiscs will go the way of the once highly touted EVR, into limbo. The videodisc is an intriguing invention, but entry into the home market will depend upon the cost of the player, availability of pre-recorded programs on discs, ease and reliability of operation and, perhaps, the possibility of the home user making his own disc recordings. Of course, if the videodisc does win out in the home market, both videotape and film programs can be transferred to videodiscs for distribution, opening up immense new markets.

For the near future at least, the optical-electronic system utilizing super-8 film appears to offer the best prospects, not only for manufacturers and distributors, but for the producers of programs for the home market as well. With large-scale public accept-

ance – i.e., sales in the millions – the cost of film videoplayers might be expected to come down below \$1000. It may be possible to produce super-8 prints 20 minutes in length for less than \$10 in large runs for mass distribution. With an investment in super-8 production equipment of \$500 to \$1000, the home user should be able to make his own programs for perhaps \$2 per minute – more, of course, for higher original shooting ratios and more elaborate production projects.

All that is needed now is for the idea to catch fire in the home market, the way color television took off in the mid-1960s. Before that, most people were content to watch television programs on black-and-white sets. The day may not be far off when viewers become so dissatisfied with broadcast and cable television that they will start looking around for alternatives. When that day arrives the new visual communications industry should be ready to give them almost anything they want in the way of program variety. □

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.

those responsible for the gathering and dissemination of television news. Tentative data sheets on Eastman Ektachrome video news film 7239 (daylight) are available by writing to Kodak Canada, 3500 Eglinton Avenue West, Toronto, Ontario, M6M 1V3, Motion Picture Markets.

and picture either in or out, or fades sound only.

Elmo-Canada has introduced its finest super-8 sound projector, the Elmo ST-1200D, described as unsurpassed in sound and picture quality. Designed and engineered to meet the most exacting requirements of filmmakers, the ST-1200D includes a solid state amplifier, sound fade-in/out during double recording, 1200-foot film capacity, built-in counter, 15V-150W halogen lamp with cold mirror. Two models are available, for magnetic/optical tracks or for magnetic recording and reproduction.

New Daylight Color Film for Television

Kodak Canada announces that Eastman Ektachrome video news film 7239, balanced for daylight use, is now available in Canada.

Along with Eastman Ektachrome video news film 7240 (tungsten), this film offers news departments the flexibility of being able to use one film that can be exposed at various exposure ratings; 7239 is color-balanced for projection at 5400K.

This new film maintains the excellent quality of Kodak Ektachrome EF film 7241 (daylight); when shot at higher exposure ratings and force-processed, it exhibits significantly improved grain when compared with that film. The quality achievable with Eastman Ektachrome video news film 7239 (daylight), combined with the advantages of process VNF-1, makes it well suited to meet the needs of

New From Elmo-Canada

Designed and engineered as the ultimate in low-light super-8 sound cameras, Elmo-Canada has introduced the Model 300SL as a companion to the already world-famous 6:1 Elmo Super-8 Sound 600S camera. The new 300SL model features an f/1.2, 9-27 mm zoom lens, including macro-focusing, and automatic level control with exclusive sound fade-in/out. A cue light automatically signals the person being photographed when the camera is running.

Another super-8 camera just introduced to the Canadian market by Elmo-Canada is the Elmo Super-8 Sound 1000S camera, incorporating the highest level of technology, complete ease of operation, and an ultra-quiet film drive. The acoustically encased film drive renders the camera virtually noise-free. A single touch simultaneously fades both sound



Elmo Super-8 Sound 1000S