TECHNICAL NEWS

Super Super 8

Judging by the number of press releases that have come into this office on Super 8 equipment in the last few months, things are finally at the stage where sync sound Super 8 filmmaking has come of age. Not very long ago Super 8 sound was but a gleam in the eye of a few low-budget filmmakers, who were also faced with limitations like availability of one colour and one black and white stock, no facility for making dissolves, etc. But now, not only are there all the essential film stocks in Super 8, but sound equipment has been produced that forms the lightest, most compact way to record colour motion pictures with sync sound that's ever been available.

CINEMA CANADA's Technical News Department starts devoting a major part of its attention to Super 8 in an attempt to bring our readers up to date on the state-of-the-art, letting you know what's available and where you can get it.

The objective is to determine that Super 8 is a viable medium for almost all filmmaking short of theatrical features. There are production houses turning out completed Super 8 sales films, educational films, and marketing pieces. These films can be displayed on regular projection systems, or highly portable rear screen compact machines. Even with colour and sync sound, the costs can be one-quarter to one tenth of those of 16mm. The old limitations no longer apply, and new developments have opened wide choices for the prospective user. It is possible to choose between single and double system location sound recording, and the single system can be transferred to double for editing, or run through a displacement recorder to transfer the magnetic track to editorial sync (i.e. sound parallel to picture) for cutting and then back to its original position for projection. In double system, there is the option of recording on 1/4" tape and transferring to Super 8 fullcoat magnetic, or recording direct on fullcoat. And it can be done on the same machine.

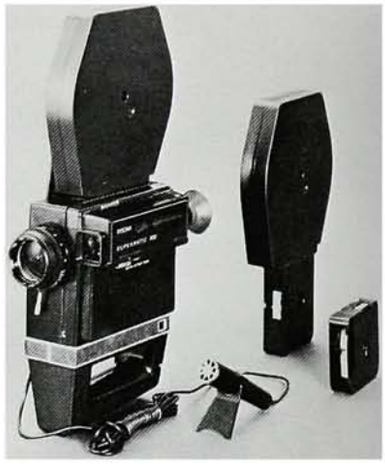
The following break down is not meant to be considered all-inclusive, but rather an indication of the kind of machinery that is needed, using as examples the equipment I could locate as being available in Toronto at the time of writing.

EQUIPMENT:

The basic item is a unit like the Super 8 Sound recorder, which is a modified Sony TC800B, battery or AC operation, 5" reels, and the additional modifications to make it the hub of the system. Any Super 8 camera with a flash socket (which is in reality a once-per-frame contact switch) can be plugged into the recorder for sync sound filming. This machine can be used to transfer other sync material to fullcoat for editing, and combines almost all the functions necessary for complete sound filmmaking. It is possible to record sync sound on other recorders, including an adapted Philips cassette machine, the Uher portable stereo cassette machine, Nagras and even the new Sony Dolby cassette recorder. Full information on the Super 8 Sound recorder follows.

As stated, most new Super 8 cameras have the necessary flash socket, making them sound-compatible. Other than that, it is possible to modify existing equipment, but it must be professionally done. New cameras have many advances, and each is slightly different. Prices go to well over $1,000 but start at about $300. The Bauer C-Royal 10E is a good example. This camera features single frame, four running speeds, 7-70mm f/1.8 2-speed power zoom lens, a variable shutter, a film rewind switch and a memory circuit for backing up the film to the precise start of a fade for making accurate dissolves. Fades and dissolves can be manual or automatic, as can exposure. There is a built-in intervalometer for shooting from 6fps to one frame per minute. Interval shooting and time exposures can be automatically handled by built-in equipment. And of course, it has the sync output.

Canon cameras have many of the same features, plus macro-focussing for extreme close-ups. Also from Canon is the converted Scoopic camera for Double Super 8. This camera is larger than the regular Super 8's and more expensive, but it fits well into the realm of professional Super 8 work.



The Kodak Supermatic single system cameras record their tracks on pre-striped magnetic film, which is now available in 50 foot cartridges in both Kodachrome II and Ektachrome 160, and 200 foot cartridges will be available soon. These cameras do not have the sophisticated equipment of the double system equivalents, but do feature simpler operation at the shooting stage, and difficulties of single system editing can be overcome. I'm hoping to be able to do some tests on these systems for next issue. The photo includes microphone, 200 and 50 foot cartridges.

For editing, there are several available methods. The most sophisticated are the flatbed editors, one by Steenbeck, and a Canadian model available at the Super 8 Centre.

All that is needed for double system editing is a synchronizer with a sound head, a viewer, and rewinds. The Super 8 Sound Recorder is capable of functioning as a squawk box, and you have the same equipment that much of 16mm film is cut on. With the addition of a synchronous motor to drive the synchronizer at 24 fps, sound speed,

you have a motorized editor capable of everything a Steenbeck can do. One of the recent innovations that makes the whole system practical is the C.I.F. guillotine splicer, well-known in 16 and 35mm, and now adapted to Super 8. The splicing tape comes on a roll, and the splicer trims it and punches perforations with a single stroke of the lever. The tape covers two frames of film, making a nearly invisible splice, and the same splicer is used on the mag track to cut in sync, working quickly and without much bother. The Muray viewer has a large bright picture, and the film track opens up to mark the film right at the viewing point without making punch marks.

Once the film and track have been cut, it is possible to project the sync sound film on the Elmo Super 8 projector, among others, by plugging in a sync cord and using a flash frame on the film to start the recorder in playback mode. This will work for sync sound transfer to mag stripe as well for single system projection.

The Muray Super 8 Viewer

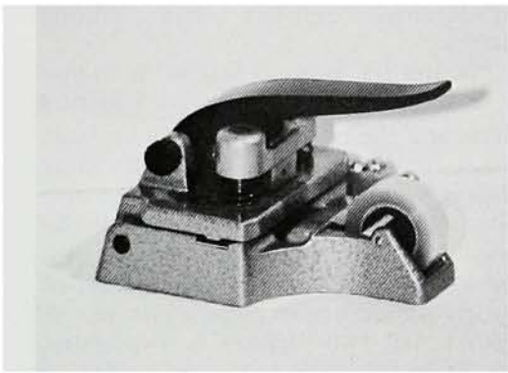
STOCK

From Canadian Kodak, there is a large range of Super 8 film stocks available, in most formats. In the silent 50 foot cartridge, usable for silent or double system sound shooting, you can use Kodachrome II; Ektachrome 40 and 160, the special low-light stocks; or EF 7242, a standard stock in 16mm. In 50 foot magnetic stripe cartridges for the Supermatic cameras there is Kodachrome II and Ektachrome 160. And in the Double Super 8 line, there's Kodachrome II in Type A or Daylight, EF 7242, ECO SO 425 which is 7252 the standard Ektachrome Commercial which is universally used in 16mm. Black and white Plus-X, Tri-X and 4-X reversal are available in 50' cartridges.

There are internegative stocks, print stocks, and duplicating stocks. Kodak processes its own Kodachrome II. Ektachrome 40 and 160 are processed by Kodak as well as independent labs, and the ECO and EF stocks are processed only outside of Kodak.

Super 8 fullcoat magnetic is readily available from The Canadian Super 8 Centre.

Often it is difficult to plan too ex-



Guillotine Super 8 Tape Splicer

Catalogs

Birns & Sawyer, Inc., Hollywood, California, now has available their latest catalog detailing their complete mobile location facilities for motion picture and TV productions.

Advanced booking for this all new, "go anywhere" camera, grip, generator and lighting packages are now being taken. *Contact Mr. Ed Engel, director of mobile productions, Birns & Sawyer, Inc., 1026 North Highland Avenue, Hollywood, California 90038, phone: (213) 466-8211, for complete information.*

The color 40-page illustrated Mini-Catalog presents condensed descriptions of photo-optical instrumentation systems/components, including 16mm and 35mm cameras and lenses, add-on automatic exposure controls, timing generators, LED data recorders, video and film data reduction equipment, eye movement recorders, photologging systems, and accessories.

Available on request from Instrumentation Marketing Corp., 820 South Mariposa St., Burbank, Calif. 91506.

An illustrated, detailed 16-page booklet introducing the Super-8 Sound Recorder is now available. The booklet explains both how the recorder works, and with which cameras, etc. it is compatible. Sections dealing with its use as location recorder, laboratory resolver, sound studio dubber, etc. are also included along with explanatory diagrams.

The booklet is available from: Super-8 Sound Recorder(TM), 77 Huron Avenue, Cambridge, Massachusetts 02138, (617) 876-5876.

tensively for the next issue of a magazine that comes out only every two months, but it is hoped that by next issue we will have been able to perform some actual tests with equipment and stocks, and will report on them fully.

THE SUPER 8 SOUND RECORDER – INGENIOUS AND LONG-AWAITED

The item that makes the entire double system Super 8 Sound idea feasible is the Super 8 Sound Recorder, manufactured by the Super 8 Sound Company, 77 Huron Ave., Cambridge Mass., 02138. Their publications on the recorder and the entire Super 8 system have complete information with drawings, and are the most informative source for up to date material.

The recorder was designed to fill the need for an inexpensive sync recorder capable of working with the new professional standard for sound editing of Super 8 films – Super 8 fullcoat. It was conceived and built by two scientists and an engineer, two of them filmmakers and one a film teacher, who experimented with a number of amateur systems and found that most had been designed in a vacuum of ignorance about the others, and with little concern about the filmmaker's need for compatibility and interchangeability.

The goals set for the Super 8 Sound Recorder:

1. A machine compatible with a maximum number of existing sync systems and existing Super 8 cameras and with a minimum (ideally zero) requirement for modifications by reaching out to include the characteristics of the many other systems in the design – so that no equipment already owned by the small filmmaker and especially none of his existing sound footage, would have to be dumped as obsolete, and so he wouldn't have to buy an entirely new "system" in order to convert to mag film.

2. A machine with a maximum number of functions, that could do as many of the different jobs in sound film production as possible, so that the need for expensive and time-consuming laboratory sound services would be minimized or even totally eliminated.

3. An absolute minimum cost, so that even the smallest independent who can afford to own a decent Super 8 camera can afford Super 8 mag film sound, so that film schools and production companies can afford the several units needed for multi-track recording and dubbing, and so that equipment rental costs and sound studio hourly charges can also be bypassed.

To accomplish these goals, the relatively inexpensive Sony TC800B – a reel-to-reel quarter-inch recorder widely used in filmmaking as a wild sound recorder was converted to sync fullcoat operation. Interchangeable Super 8 and quarter-inch guideposts were machined, and an electronic servo-control circuit was built that can match the speed of the Super 8 Sound Recorder to almost any sync signal.

Why Super 8 Fullcoat?

Super 8 mag film is Super 8 film that has been coated its full width with magnetic oxide in much the same way the edge stripe is applied to Super 8 Sound film. The magnetic oxide is the emulsion – there is no picture area. Since fullcoat magnetic film has precisely the same width, sprocket hole size, and distance between holes as film, it will run through the same machines that accept film, including projectors, synchronizers/counters and editing tables.

Sound on Super 8 fullcoat is in precise frame-for-frame sync with picture film, and the two can be cut and spliced on a length-for-length basis. The same 2-gang synchronizer that is used to edit sound and picture can therefore also be used to edit two (A & B) picture rolls, or two sound tracks. A double-headed projector can not only play picture and sound, but two pictures or two sound tracks on fullcoat.

The use of Super 8 fullcoat was pioneered by the distinguished American documentary filmmaker Professor Richard Leacock, and his associates Al Mecklenburg and Jon Rosenfeld, of MIT, in their development of the first completely professional Super 8 sync sound system – the MIT/Leacock System. The equivalent 16mm and 35mm magnetic films have been the standard method of editing sync sound in professional filmmaking for years. Now Super 8 sound filmmaking is also professional in editing technique.

The Super 8 Sound Recorder requires information from the camera (or other external sync reference) telling it the camera frame rate, so that it can precisely match the rate of the mag film sprocket holes to the camera speed. Some new cameras have a flash socket that puts out a one-pulse-per-frame signal, some have a voltage pulse sync generator, and still others are crystal-controlled, for wireless sync recording.

The Super 8 Sound Recorder performs the functions of five pieces of equipment that make Super 8 sync sound filmmaking possible:

1. Location Recorder – a general purpose sync recorder that is compatible with several unmodified Super 8 cameras;

2. Laboratory Resolver – a universal transfer machine to resolve sound from pilotone sync or digital sync pulse original recordings onto Super 8 fully-coated magnetic film, whether the original is cassette or reel-to-reel;

3. Editing Bench Amplifier – a squawk box used in conjunction with a synchronizer (motorized or not) for double system editing;

4. Sound Dubber – with interlock of multiple Super 8 Recorders for dubbing simultaneous music, effects, and narration tracks;

5. Transfer recorder – a sync transfer machine/Super 8 sound projector combination to put the edited mag film or composite master onto Super 8 magnetic edge stripe.

It wraps up that the average cost of film and sound equipment for serious Super 8 filmmaking is about one-fifth to one-tenth the cost of comparable 16mm equipment, as a consequence primarily of the economies of scale resulting from the mass market of Super 8 cameras, and for consumer hi-fi gear.

The average cost of film stocks, and other expendables, is about one-half that of present 16mm prices, with a potential for going still lower if certain 16mm practices are adopted in Super 8 (the throw-away Super 8 cartridge is more expensive than reusable magazines, etc.). The present cost of Super 8 fullcoat is slightly more per foot than 16mm fullcoat. But since almost twice as much sound is recorded per foot there is actually a saving. Additional savings will result when the novelty of Super 8 fullcoat gives way to wide scale use.

The significance to film schools and producers is that they can now begin Super 8 sync filmmaking on the same scale as a comparable 16mm operation for one fifth the capital investment.

SUPER 8 FLATBED EDITOR!

The Canadian Super 8 Centre announces the introduction of a new Super 8 Horizontal Editing Table. This machine may well be the one to make many people decide on the whole Super 8 medium. There is every capability built in to

THE CANADIAN SUPER 8 CENTRE

introduces

the Super8 Sound™ Recorder

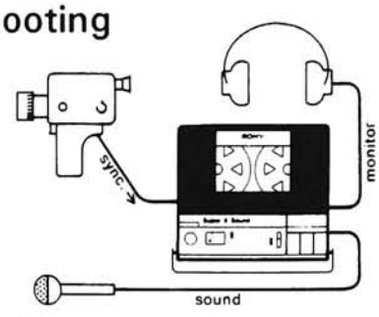
With sound on Super 8 fully coated magnetic film, Super 8 sync filmmaking is as straightforward as 16mm practice

THE Super 8 Sound Recorder IS A MULTIPLE PURPOSE MACHINE THAT RECORDS ON SUPER 8 MAGNETIC FILM AND COMBINES THE FUNCTIONS OF
LOCATION RECORDER
Crystal or Cable Operation
LABORATORY RESOLVER
SOUND STUDIO DUBBER
TRANSFER RECORDER

ıe Super 8 Sound Recorder can be used with number of Super 8 cameras, with no camera odifications, to shoot original sync sound. ıe machine servo-controls its own speed to atch the frame rate of the camera during ming. It produces a sound track directly on sily edited Super 8 Fullcoat. Or, for the mmaker who prefers to record his sound on pe in the field, this recorder will automatilly resolve the sync tape onto Super 8 Fullat for editing. The machine will also servontrol its speed to match the frame rate of a per 8 sound projector, making it possible view sync rushes or to transfer edited sound magnetic edge stripe in precise sync.

ıe **Super 8 Sound Recorder** will also synronize to other **Super 8 Sound Recorders** r multitrack rerecording or dubbing.

hooting

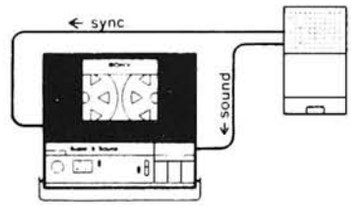


ıe **Super 8 Sound Recorder** has been deıned to sync with the latest generation of electronic" Super 8 cameras equipped with once-per-frame contact switch (electronic ash socket).

rgus 7310
auer C Royal 8E, 10E
eaulieu 4008ZM2
anon 814E, 1014E
inema Pathe DS8
ujica Z800
AF ST/802, ST/1002
eicina Super RT1
Minolta Autopak-8 D10
Nikon R8, R10
Nizo S56, S80, S480, S560, S800
Rollei SL84
Sankyo CME 1100

he **Super 8 Sound Recorder** servo-controls its eed so that one frame of Super 8 magnetic lm passes the recording head for each frame film exposed in the camera. A cable from ıe camera carries frame rate information to ıe recorder. The soundman can monitor sync ondition using a sync indication meter on ıe recorder. The recorder will run between ots for continuous sound, or it can be opped and started by remote control from ıe camera.

resolving

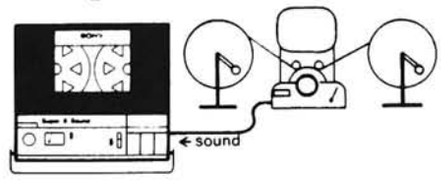


Super 8 magnetic film is now available to the filmmaker who already owns a sync sound system. The **Super 8 Sound Recorder** does not necessarily obsolete any existing equipment or, more importantly, any existing footage since it will automatically resolve sound from most* original sync tracks, Pilotone or Digital, Reel-to-Reel or cassette, including

Alan Sidi Cine Sync
Bell & Howell Filmosound 8
Carol Cinesound
*Chinon**
Cine Slave
Farnell Tandberg
Nagra
Stellavox
*Filmin/Optasound**
Fuji Puls-sync
Philips/Norelco
Rivendell
Scipio
*Synchronex**
*Volland Synton**
Tandberg
Uher

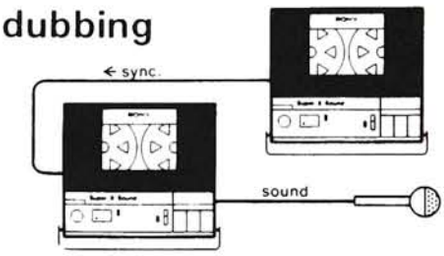
**Accessory equipment is required for systems that do not use the standard once-per-frame digital pulse or standard 60Hz pilotone.*

editing



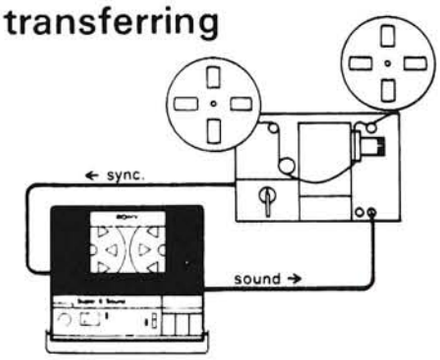
With new Super 8 fully-coated magnetic film, editing in Super 8 is almost identical to professional procedures in 16mm and 35mm.

dubbing



Any number of **Super 8 Sound Recorders** can be electronically interlocked. They are started simultaneously with a common start switch. Each recorder can be in either play or record mode, so that any number of original tracks can be rerecorded or mixed, and any number of new tracks can be dubbed in sync with original sound and with picture.

transferring



Once edited, sound can be easily transferred to magnetic edge stripe. The master sound track is placed on the **Super 8 Sound Recorder** at the sound start mark. The striped release print film is threaded into the projector to the picture start mark. When the projector is started, the recorder starts automatically and maintains sync.

Transfer from the magnetic edge stripe back to magnetic film allows double system editing of single system films (e.g. Wilcam, Kodak Ektasound, or Synchronex sound films).

For prices and availability of the system for your camera:
Dept. CC - 1,
Canadian Super 8 Centre,
205 Richmond Street West, Suite 201,
Toronto M5V 1V5
(416) 363-4554

The Super 8 Sound Recorder comes complete with all the above capabilities; camera interlock, cassette recorder interlock, self interlock, 60Hz AC interlock, projector interlock and built-in crystal speed control.