

super 8  
BEAULIEU





Marcel Beaulieu with the "5008 S".

# Super 8 Beaulieu fashion

Introduced in 1965, Super 8 film completely revolutionized amateur filming techniques. Easy to use, allowing top quality pictures, it very soon became a new vehicle for self-expression. TV networks, professionals and amateurs alike, immediately tried to see how much could be achieved with this frame size. Beaulieu has always kept one step ahead of their wishes.

For the past 20 years, Beaulieu has been making very sophisticated movie cameras. Taking many leaves out of the professionals' own book of techniques, the possibilities of these cameras have always been a source of amazement. By some they have been compared with the British Rolls-Royce. The Americans themselves have dubbed these cameras "the Super Super-8's".

And now Beaulieu goes one step further in helping you to extract yet a greater scope from all the resources of the Super 8 format. Here are 3 sound cameras, which have in common the same basic technological standards chosen by Beaulieu for better quality of both picture and sound.

So that your pictures may have that professional touch, Beaulieu has chosen reflex viewing with a mirror shutter, an automatic iris diaphragm, very

luminous high-performance lenses, and long-duration battery power.

So that the sound should conform to Hi-Fi standards, Beaulieu once more innovated by incorporating in his cameras a new, miniaturized recording system whose performance is comparable to that of high quality Hi-Fi tape recorders.

Each of the 3 Beaulieus is, in fact, 2 cameras in one.

The first, which is fully automated, will help you to make headway. It is as simple to use as the simplest of cameras. But with highly sophisticated features which open up fresh fields of expression from the moment you begin to film.

The second camera is the natural offspring of the first, as soon as you have sound and picture techniques at your fingertips. A new filming world will be revealed to you, answering your every creative whim. No bold approach will be too bold, no fancy too fanciful.

The Beaulieus are there with their full technological arsenal — ready to help you on your way — to your first professional film.



The Beaulieu 5008 S  
"Multi-Speed" sound camera.



The Beaulieu 3008 S  
"Multi-Speed" sound camera



The Beaulieu 4008 ZM4 camera

# Beaulieu super 8 cameras: the "true-to-life" look

## For better picture definition: Beaulieu reflex viewfinder

Most present day cameras have adopted one of the three classic reflex viewing systems, so that the image seen through the finder is exactly that which will be reproduced on the film. These systems, however, take their toll of light — on the film or in the viewfinder.

This is why, for all three cameras, Beaulieu have chosen mirror shutter reflex viewfinder. This full-light system, found in professional movie cameras, allows:

- Accurate focusing
- Even better definition on the film
- A very high magnification in the viewfinder
- And the use of interchangeable lenses (still 16 mm, etc.) to achieve any effect desired.

The mirror, set at 45° on the guillotine-type shutter,

alternately directs all the light either onto the film or into the viewfinder.

## No vignetting: iris diaphragm.

Most cameras have blade diaphragms which stand a risk of creating inadequately exposed areas.

Beaulieu's choice: a solution which has proven its worth in professional cameras — cine-camera lenses fitted internally with an iris diaphragm. This reconstitutes the eye's vision. Perfectly circular and perfectly centered it throws onto the film an image whose light is constant and well diffused, even at the edges.

## A field of vision covering that of the eyes: wide-screen viewing.

The Beaulieu's viewfinder gives a high magnification so as to cover almost the entire breadth of the eye's field of vision. Considerably enlarged, the picture can be analyzed easily and quickly, right down to the finest detail.

- A light emitting diode (LED) indicates that sound modulation is coming through.
- Under manual control, an indicator needle allows sound volume to be adjusted. It also acts as battery-charge and cell-reaction tester (red LED on the 3008 S).
- At the bottom of the viewfinder, a flickering indicator shows that the film is running properly.

The viewfinder eyepiece can be set to suit all eyesights (+ 2 to - 2 diopters).

## For an immediate sharp picture: fast focusing system.

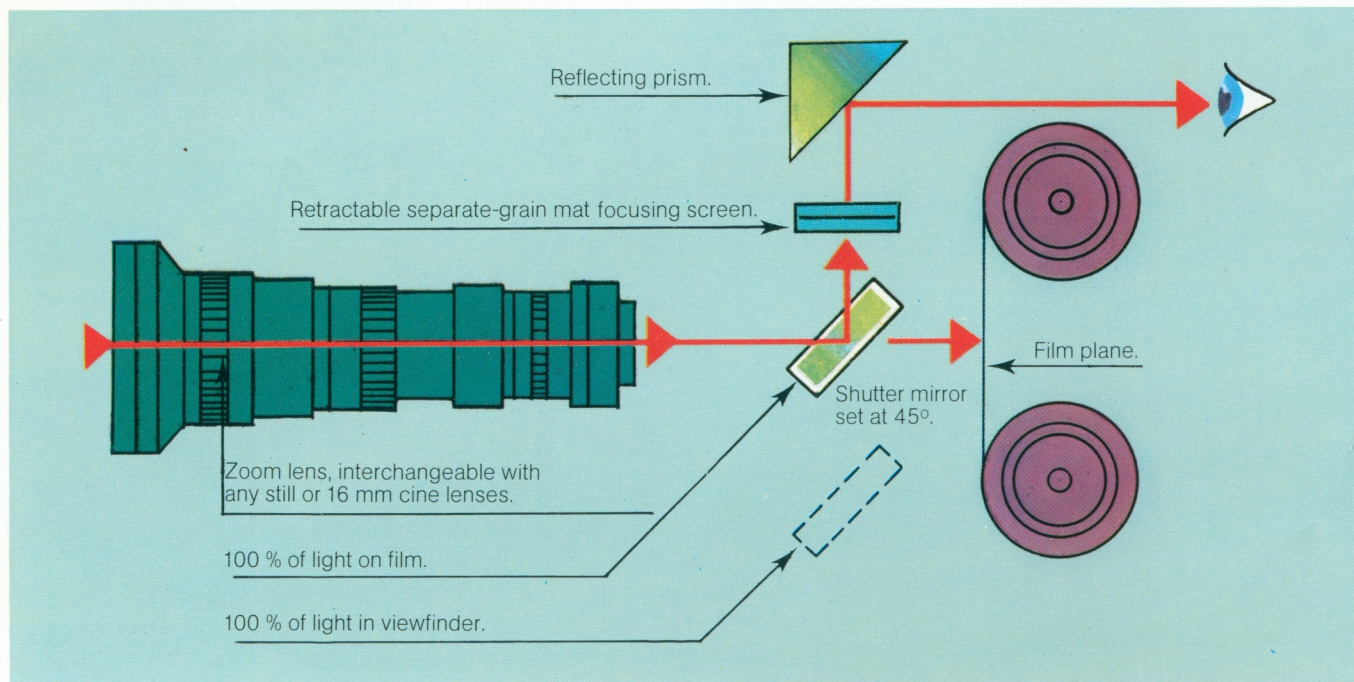
Pin-point focusing has to be done at smallest depth of field and full aperture.

Just depress a button. Immediately, the aperture ring travels to its maximum setting and the Beaulieu's zoom lenses (5008 S and 4008 ZM 4 cameras) set themselves to "telephoto".

## From the widest picture field to the closest close-up: high amplitude zoom lenses.

The 3008 S is fitted with a 8-50 mm Schneider zoom lens suitable for all types of hand-held filming (no tripod). Its range is like that of a still miniature zoom lens of focal lengths 50 to 300 mm.

The 5008 S and 4008 ZM 4 are fitted with a 6-70 mm Schneider zoom lens. It brings distant or dangerous subjects (wild beasts, for instance) considerably nearer, since it is the equivalent of a 400mm telephoto lens.



# ook of a professional picture



## For filming under poor lighting conditions: wide aperture lenses.

With sound cameras, more and more indoor filming is being done. It becomes essential that a wide aperture lens be used to overcome the poor lighting found.

Schneider zoom lenses have a maximum aperture of  $f/1.4$ , available at all focal lengths up to 40 mm (up to 50 mm on the 3008 S).

## Go from areas of shade to full sunlight without worrying about exposure: the automatic diaphragm thinks for you.

Light always varies from one moment to the next — especially when taking a panoramic shot. Why not concentrate entirely on framing your picture and recording your sound? Let the automatic diaphragm deal with setting the right exposure. It will travel automatically to the suitable aperture. Its ring revolves on its own, and stops dead, without inertia. The cell behind the lens analyzes the slightest changes in light intensity, to suit emulsion speed and filming speed data. It controls a servo-motor which rotates the diaphragm ring ("Reglomatic" and "Reflexmatic" systems, patented by Beaulieu).

If you feel the urge for special effects and want to play about with over- and underexposure, uncouple the automatic diaphragm. You can then rotate the ring by hand, the proper exposure being indicated in the viewfinder.

*With their fast standard lenses, Beaulieu movie-cameras can film even in dim light*

## Achieve steady-moving dolly shots: electric zooming is the answer.

A new style in dolly shots. Very brief lead in from one sequence to the next, subject acceleration or slowing effects, immediate change of framing, all these effects are yours to command.

Jerky, manual-controlled dolly shots are a thing of the past. On the Beaulieu, an electronic regulating system ensures uniform lens displacement over the entire zooming range. Going from wide-angle to telephoto? You will do it in 7 seconds with the 3008 S. In 4 or 12 seconds (or indeed in any intermediate time) with the 5008 S or the 4008 ZM 4.

When filming without a tripod, you can automatically limit zooming to a maximum focal length of 40 mm (5008 S and 4008 ZM 4).



# Beaulieu cameras: a complete range of prof

## **For greater magnification and special effects: interchangeable lenses**

Beaulieu cameras are the only Super 8 sound cameras with interchangeable lenses. This is because the viewing system is part of the camera and thus independent from the lens.

Give your imagination a free rein. Want to distort a picture? Replace the standard lens with a lateral-shift still lens. Want to bring closer a subject beyond the capacity of your already powerful zoom lens? Fit a 200mm telephoto lens (the equivalent of a 1,200mm lens on a miniature camera!). Want to

film wide-angle shots very close up? Fit a special lens of under 10mm focal length. Interested in medical or biological research? Light tiny fields with a ring-flashlight-fitted lens giving you a 9 to 1 enlargement ratio. Indeed, you can even fit your camera to a microscope!

All three Beaulieu cameras will take 24 x 36 still camera lenses, with an adapter ring, and all 16mm C-mount lenses.

## **To make a small subject fill the screen: built-in macro capability.**

The most common of coins, filmed so close-up that it fills the entire screen, and takes on the appearance of a bas-relief. The heart of a flower can become a bizarre background in spellbinding color.

Through the magic of macrocinematography, you can obtain startling effects from the most everyday objects, thus giving your films an artistic and creative touch.

No more need for close-up attachments or special accessories. Beaulieu has put macrocinematographic filming within your grasp.

## **Very close close-up.**

Just push a small slide switch on the lens, and immediately you're in "macro". You can film at point blank range, right up to the front of the lens. Focusing is done manually with the zooming ring (3008 S - 5008 S - 4008 ZM 4).

## **From further away**

A close-up focusing system built into the lens allows close-up filming of subjects not more than 37 inches distance from the lens, this being the necessary distance for the subject to be properly lit (5008 S - 4008 ZM 4).

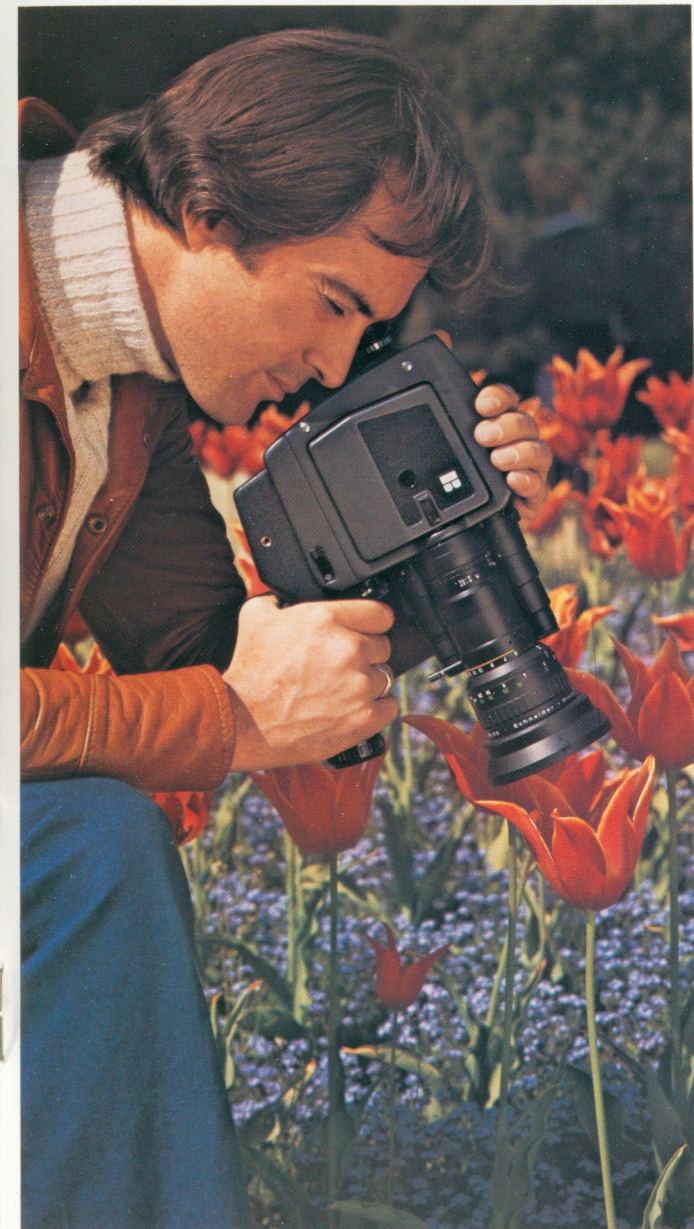
Field covered, in the case of the 5008 S and 4008 ZM 4's 6-70 mm lens: 31 X 42.5 mm (1.22 x 1.67 ins.). With the 3008 S's 8-50 lens: 22 x 30 mm (0.87 x 1.18 ins.).



*Push the slide switch:  
your subject will fill  
the entire screen.*



# Professional optical effects



## To slow down or speed up motion: a choice of several filming speeds.

Most Super-8 sound cameras have only one filming speed: 18 fps. This is the minimum speed required to make sound recording and reproduction possible. But, with only one filming speed (18 fps), accelerated or slow motion shots are then impossible.

Some cameras do however have several filming speeds available. But accelerated or slow-motion sequences can only be shot using silent film. This means taking out the sound cartridge, putting in a silent one... Meanwhile, the event won't have been standing still!



3008 S: 12 - 18 - 24 - 36 fps.

5008 S: 8 - 18 - 24 - 45 fps.



4008 ZM 4: filming speed progressively variable between 2 and 80 fps.

Beaulieu 5008 S and 3008 S cameras can use sound-film cartridges for silent filming — at several filming speeds.

If you want to film a tennis player's serve or, on the contrary, to turn the children's snail race into a Formula I Grand Prix event, you have the choice of 4 speeds, from fast motion to slow motion.

Regular film advance is guaranteed by an electronic governor system.

As for the Beaulieu 4008 ZM 4, it can take silent pictures at any speed between 2 and 80 fps. It "comes down" to 2 fps to obtain maximum acceleration of a movement or to film a motionless subject in very poor lighting. It "goes up" to 80 fps for super-slow slow motion. It is even possible to change filming speed while actually shooting, speed being automatically coupled to the emulsion speed setting and to the automatic diaphragm.

## To enhance screenplay rhythm with fades: a variable shutter.

Modifying film exposure time as desired, the variable shutter of the 4008 ZM 4 allows fade-ins and fade-outs. It can be locked in the semi-open position.

## For superimpositions: reverse motion.

Superimposition, lap-dissolves and trick shots may be achieved with the Beaulieu rewind accessory. Up to 100 frames can be wound back.

## To accelerate slow phenomena: frame-by-frame shooting.

Using the same camera socket, as for rewinds, a special Beaulieu "Single frame" accessory can be connected to a cable release to allow frame-by-frame shutter control at any rhythm the operator desires. Ideal for recording biological or physical phenomena, or chemical reactions. (Which cameras: 5008 S? 3008 S? 4008 ZM 4? ...?)

# Beaulieu cine-cameras: professional-standards

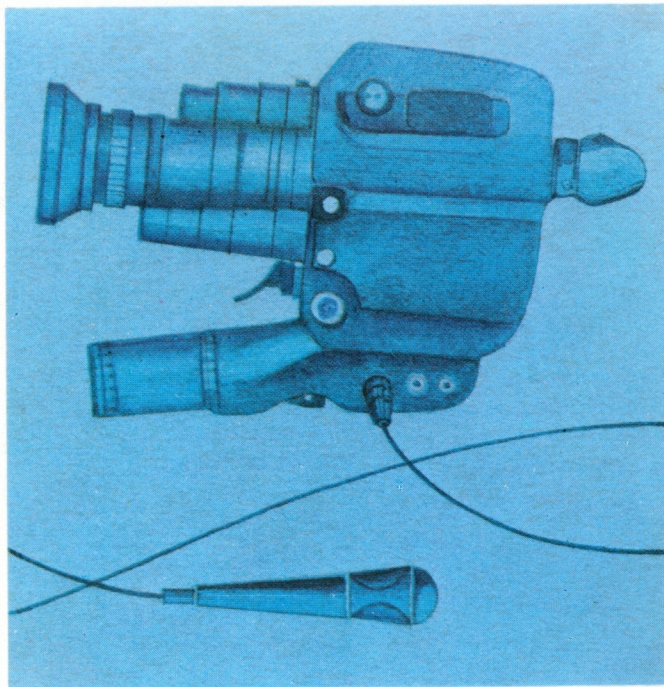
## You can choose between 2 recording systems.

Ever since 1930, professional films had sound tracks while amateur films remained silent. With Beaulieu, you now have two recording systems available:

- Sound recorded on the film itself at the same time as the picture (3008 S and 5008 S).
- Sound recorded on a separate tape recorder (4008 ZM 4 - 3008 S - 5008 S).

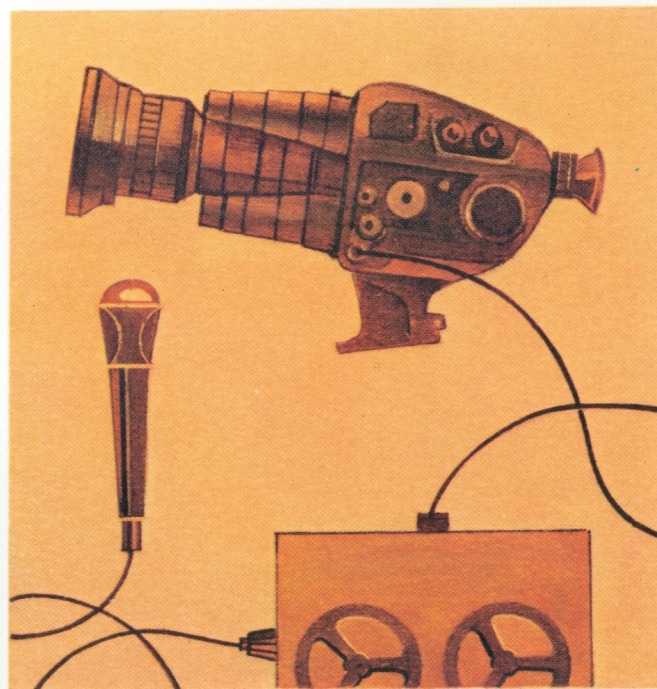
### Direct sound

The microphone is connected to the camera. Sound and picture are automatically recorded on striped film.



### Separate tape recording.

Sound is recorded on the tape by using the camera, a Beaulieu sync generator accessory and a sync tape recorder.



## Sound recorded on film.

Beaulieu 3008 S and 5008 S cameras use the new Super 8 sound cartridges. These have a pre-stripped magnetic sound track on the edge of the film.

Connect a mike. The miniaturized Hi-Fi recorder is built into the camera. All you have to do now is film. You immediately have total cinema.

Concentrate exclusively on shooting your movies. The sound takes care of itself.

## Automatic sound, or manual?

The sound of the waves, raindrops falling on the village pond, the birds' dawn chorus, a children's birthday party... in most cases you can build up a sound background with an automatic recording system.

An amplifier reduces or increases sound volume, respecting amplitude values as closely as possible. Hi-Fi performance is very high-standard, the frequency response ranging from 50 to 12.000 Hz

With the 5008 S, you can monitor the sound recording yourself. You can play about with sounds, modulate them, mix them, distort them. A potentiometer allows you to adjust the volume manually. The needle in the viewfinder then acts as a vu-meter indicating modulation intensity. You can listen to sound as it's being recorded with the earphone accessory.

You can also record playback with the 5008 S and 3008 S cameras. A mixing box makes it possible to blend sounds from various sources (tape recorder, radio, turntable or mike).

# rd sound



## “High Fidelity” technique.

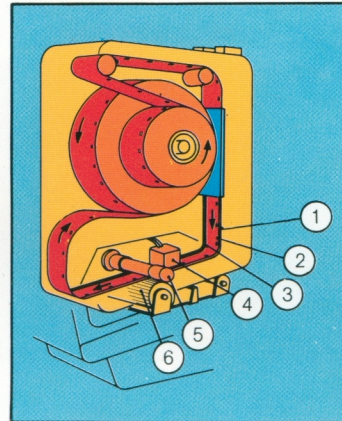
A 50-ft Super 8 “striped” sound film is as easy to load as a silent one. The film is automatically positioned. The magnetic sound track is pressed against the miniaturized Hi-Fi recording head. Synchronization is perfect.

In order to do away with the incompatibility between the cinema picture, which moves in jerks, frame-by-frame; and the sound, which calls for perfectly steady film advance, Beaulieu has incorporated an electronic governor and patented loop take-up system.

Result: perfectly smooth film speed at the magnetic head, with a wow level of less than 0.4 % (attenuated peak) which the ear cannot discern.



↑ Balance stripe (offsets bulk of sound stripe).  
Magnetic sound track striped film. ↑

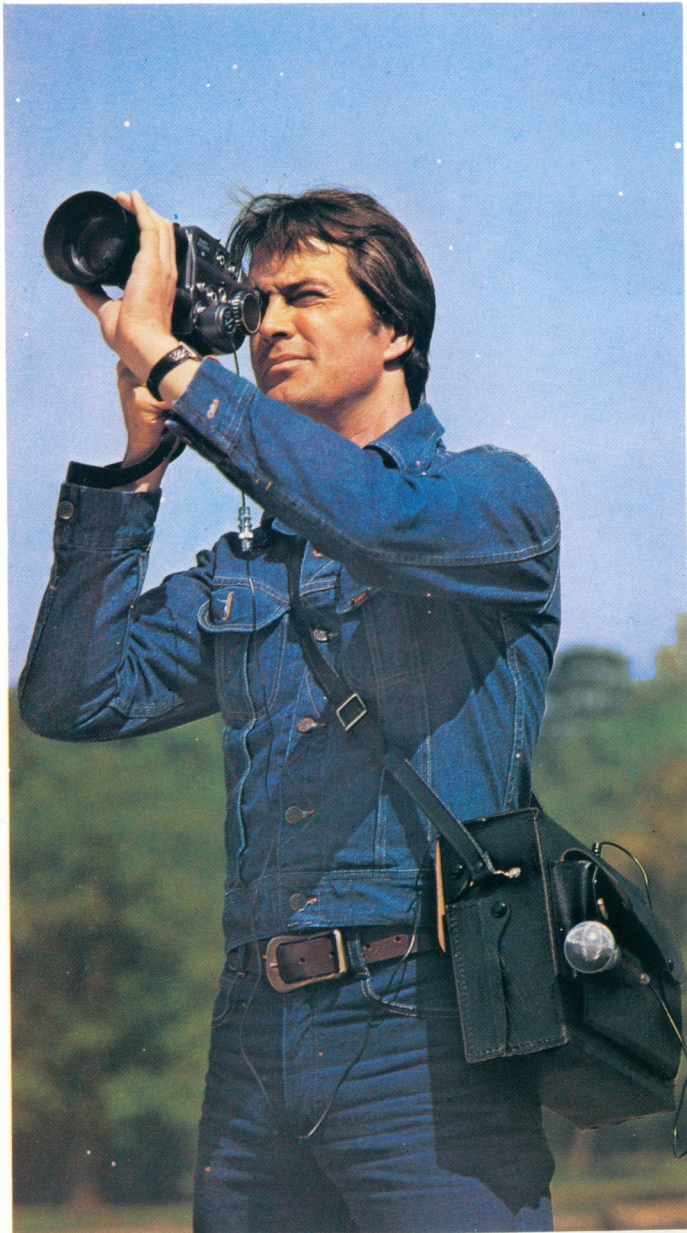


1. Film.
2. Balance stripe.
3. Magnetic recording track.
4. Recording head.
5. Capstan.
6. Presser roller.

As for sound fidelity, both in the treble and in the bass, it takes the form of excellent frequency response (from 50 to 12.000 Hz  $\pm$  1.5 dB at 24 fps) with a distortion level of less than 0.75 %. Unweighted signal/noise ratio: 57 dB.



professional-standard sound



### Sound on an outside tape recorder.

Silent sequences take on much greater dimension if they are accompanied by sound. The 4008 ZM 4 can be "teamed up" with a portable magnetic tape recorder (Uher - Nagra - Stellavox - Super-8 Sound) to form a lightweight reporting outfit.

Fit the camera with a sync generator accessory. Connect the tape recorder to the sync generator. The sync generator emits a signal which is recorded on the tape. A "pulse" to ensure perfect register between picture and sound input at the mike (Piloton and AS 2000 systems).

The laboratory will synchronize the pictures and the sound identified by the signal. Projection can then be either "film and tape", or "film only" if the sound has been transferred on to the film.

The 3008 S and 5008 S cameras can also be used with a separate tape recorder. They are equipped with the same sync generator socket.

4008 ZM4 and portable tape-recorder: a lightweight team for news films.

### Microphones: the most important link in the sound chain.

The mikes, made by Sennheiser, comply with Beaulieu's exacting standards.

#### The MDS 8 mike

Unidirectional dynamic mike. Picks up sound coming from the front



Shock-proof due to elastic suspension of the capsule inside the mike body.

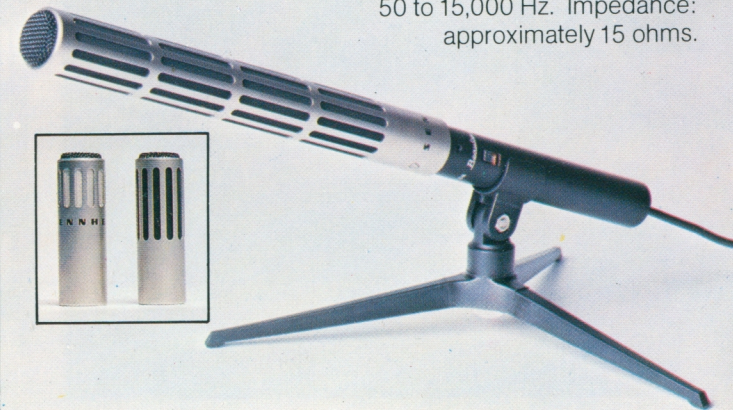
Very reliable even in the worst sound recording conditions.

Frequency response: 50 to 15,000 Hz. Impedance at 1,000 Hz: 200 ohms.

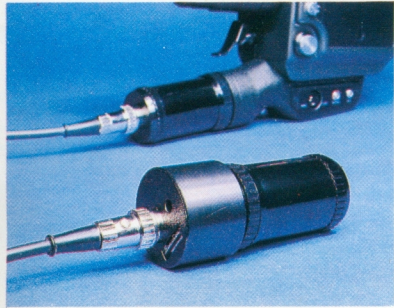
#### The MES 8 mike

This is a modular-system hypercardioid mike. It may be fitted either with a wider omnidirectional head, or with a "Cannon-type" unidirectional head to pick up sounds over a very small angle and at long range. Frequency response :

50 to 15,000 Hz. Impedance: approximately 15 ohms.

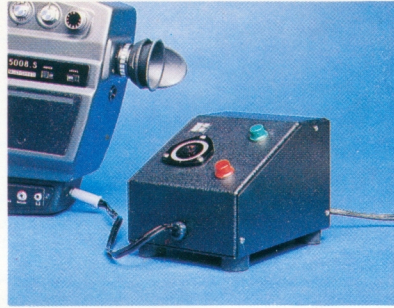


# Super 8 accessories



## Independent power-supply unit

Used for charging spare batteries outside the camera. Can also house a battery to power the camera and, in conditions of severe cold, be kept warm in the operator's pocket for full power output.



## Quick charger

Recharges batteries to 80 % of capacity in 2 1/2 hours.



## Low-voltage DC charger

Makes it possible to recharge the camera batteries off 12-volt batteries (car, boat, aircraft).



## Sound mixing box

This device inputs sounds from various sources (mike, record-player, etc.) and mixes them on to the film's sound track. Mixing is monitored by using the earphone accessory.



## Rewind knob for superimpositions

This accessory connects to the camera's mechanical socket. It allows superimposition of picture, titling, trick shots, etc.



## Sync generator

For synchronizing sound when using a separate sync tape recorder.



## Remote control cable release

For filming scenes requiring great discretion (animals in their natural surroundings) or entailing some danger (savage beasts, motor races).



## Frame-by-frame filming device

Connected to the camera motor's power socket. Allows frame-by-frame study of evolutive phenomena (science, biology, mechanical engineering).



## Reporter-type carrying case

Fully-lined black leather. Efficient protection for camera and accessories.



## Batteries

The camera is powered by Cadmium-Nickel batteries of a capacity sufficient to allow shooting of between 8 and 12 Super-8 50-ft cartridges at 18 fps.

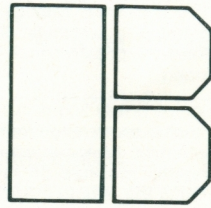
# Choose your Beaulieu Super 8 sound camera

Since their lenses are interchangeable, the 4008 ZM 4, 3008 S and 5008 S cameras can be supplied without their individual standard Schneider zoom lens. These individual lenses cannot, however, be freely changed about from camera to camera.

<b>Optical part</b>	<b>4008 ZM 4</b>	<b>3008 S</b>	<b>5008 S</b>
Reflex viewfinder with "fine grain" focusing screen	●	●	●
Exchangeable lenses { 6 x 70 f 1.4 8 x 50 f 1.4	●		●
		●	
Automatic diaphragm with manual override	●	●	●
Electric Single speed 7 sec		●	
Zoom Variable speed 4 to 12 sec	●		●
Quick-focusing system	●	●	●
Filming speeds: With click stops for 12, 18, 24, 36 fps 8, 18, 24, 45 fps Variable from 1 to 80 fps		●	
			●
	●		
Reverse and superimposition	●	●	●
Built-in macro	●	●	●
Remote control	●	●	●
Frame-by-frame	●	●	●
Variable shutter	●		
Lap dissolves	●	● (with accessory)	● (with accessory)
<b>Sound part</b>			
50-ft sound cartridges (at all filming speeds)		●	●
50-ft silent cartridges	●	●	●
Direct sound recording		●	●
Sound with separate recorder and sync generator accessory	●	●	●
Built-in amplifier		●	●
Sound mixing box		●	●
Earphone accessory		●	●
Beaulieu microphone	●	●	●

# Technical data

CHARACTERISTICS	5008 S MULTISPEED	4008 ZM 4	3008 S MULTISPEED
<b>Dimensions</b> Overall length Overall width Overall height	14 in. (35 cm) 4 1/2 in. (11 cm) 8 1/2 in. (21 cm)	11 1/2 in. (29 cm) 2 4/5 in. ( 7 cm) 7 in. (17 cm)	13 in. (32 cm) 4 1/2 in. (11 cm) 8 1/2 in. (21 cm)
<b>Weight</b> Without lens With Schneider zoom	3 lbs 11 oz (1.670 kg) 5 lbs 11 oz (2.570 kg)	2 lbs (0.9 kg) 4 lbs (1.8 kg)	3 lbs 8 1/2 oz (1.590 kg) 5 lbs (2.260 kg)
<b>Lens</b>	"C" mount lens interchangeability. Schneider f/1.4 6-70 mm macro zoom.	"C" mount lens interchangeability. Schneider f/1.4 6-70 mm macro zoom.	"C" mount lens interchangeability. Schneider f/1.4 8-50 mm macro zoom.
<b>Diaphragm</b>	Fully automatic settings provided by a servomotor (Reflexmatic motor). This automatic device is with manual override. Correct exposure check (by means of a meter needle in the viewfinder).	Fully automatic settings provided by a servomotor (Reglomatic motor). This automatic device is with manual override. Correct exposure check (by means of a meter needle in the viewfinder).	Fully automatic settings provided by a servomotor (Reflexmatic motor). This automatic device is with manual override. Correct exposure check (by means of a diode in the viewfinder).
<b>Zooming</b>	Electric power zoom. Instant start/stop. Variable zoom range from 4 to 12 seconds. Automatic prefocus control very interesting for critical focusing: fingertip pressure on the prefocus control button automatically zooms the lens to maximum telephoto position and, at the same time, automatically opens the diaphragm to maximum aperture.	Electric power zoom. Instant start/stop. Variable zoom range from 4 to 12 seconds. Automatic prefocus control very interesting for critical focusing: fingertip pressure on the prefocus control button automatically zooms the lens to maximum telephoto position and, at the same time, automatically opens the diaphragm to maximum aperture.	Electric power zoom. Instant start/stop. Zoom range in / seconds approximately. Automatic prefocus control: fingertip pressure on the prefocus control button automatically opens the diaphragm to its maximum aperture. Which is very interesting for critical focusing.
<b>Viewfinder</b>	Reflex. "Divided grain" focusing screen (retractable). An indicator inside the viewfinder (bottom) flickers to indicate the film is advancing. Eyepiece: eyesight correction: $\pm 2$ diopters. 1 rubber eyecup.	Reflex. "Divided grain" focusing screen (retractable). An indicator inside the viewfinder (bottom) flickers to indicate the film is advancing. Eyepiece: eyesight correction: $\pm 2$ diopters. 1 rubber eyecup.	Reflex. "Divided grain" focusing screen (retractable). An indicator inside the viewfinder (bottom) flickers to indicate the film is advancing. Eyepiece: eyesight correction: $\pm 2$ diopters. 2 rubber eyecups.
<b>Shutter</b>	Guillotine type. Frame exposure time: at 8 frames per second: 1/20 second, at 18 frames per second: 1/40 second, at 24 frames per second: 1/60 second, at 45 frames per second: 1/100 second.	Guillotine type. Frame exposure type: from 1/7 second at 2 frames per second to 1/300 second at 80 frames per second. Variable shutter which can be locked in "half-closed" and "fully-closed" positions. Allows fade-ins, fade-outs and lip-resolves.	Guillotine type. Frame exposure time: at 12 frames per second: 1/30 second, at 18 frames per second: 1/40 second, at 24 frames per second: 1/60 second, at 36 frames per second: 1/80 second.
<b>Speed</b>	Standard speeds: 8, 18, 24 and 45 fps.	Continuous speeds from 2 to 80 frames per second.	Standard speeds: 12, 18, 24 and 36 frames per second.
<b>Exposure meter</b>	Cds photo cell. Film speed settings: ASA 25-400.	CdS photo cell. Film speed settings: ASA 10-400.	CdS photo cell. Film speed settings: ASA 25-400.
<b>Camera loading</b>	Instant loading with 50' (15 m) Kodapak type cartridges (sound or silent).	Instant loading with 50' (15 m) Kodapak type silent cartridges.	Instant loading with 50' (15 m) Kodapak type cartridges (sound or silent).
<b>Filter</b>	Wratten 85-type/built-in. Retractable by switching of filter control.	Wratten 85 type/built-in. Retractable with flat key.	Wratten 85 type/built-in. Retractable by switching of filter control.
<b>Release</b>	Release-button (with lock possibility). Cable release possible. Single-frame filming with special accessory.	Release-button (with lock possibility). Cable release possible. Single-frame filming.	Release-button (with lock possibility). Cable release possible. Single-frame filming with special accessory.
<b>Footage counter</b>	Graduated both in meters and feet. Indicates amount of film remaining in the cartridge. Automatically resets when unloading the camera.	Graduated in meters and feet. Frame counter from 0 to 100. Indicates amount of film remaining in the cartridge. Automatically resets when unloading the camera.	Graduated both in meters and feet. Indicates amount of film remaining in the cartridge. Automatically resets when unloading the camera.
<b>Supply</b>	NICAD rechargeable battery (500 mA - 7.2 V). Three-position trigger switch power supply.	NICAD rechargeable battery (250 mA - 7.2 V). Three-position trigger switch power supply.	NICAD rechargeable battery (250 mA - 7.2 V). Three-position trigger switch power supply.
<b>Sound</b>	Recorded on magnetic striped film, inside the camera, with automatic or manual level control. Recording of sound on separate tape recorder possible. Built-in amplifier. Separation picture to sound: 18 frames. A diode flickers inside the viewfinder (top) when sound is recorded.	Recording of sound on separate tape recorder possible.	Recorded on magnetic striped film, inside the camera, with automatic level control. Recording of sound on separate tape recorder possible. Built-in amplifier. Separation picture to sound: 18 frames. A diode flickers inside the viewfinder (top) when sound is recorded.



*Beaulieu*

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