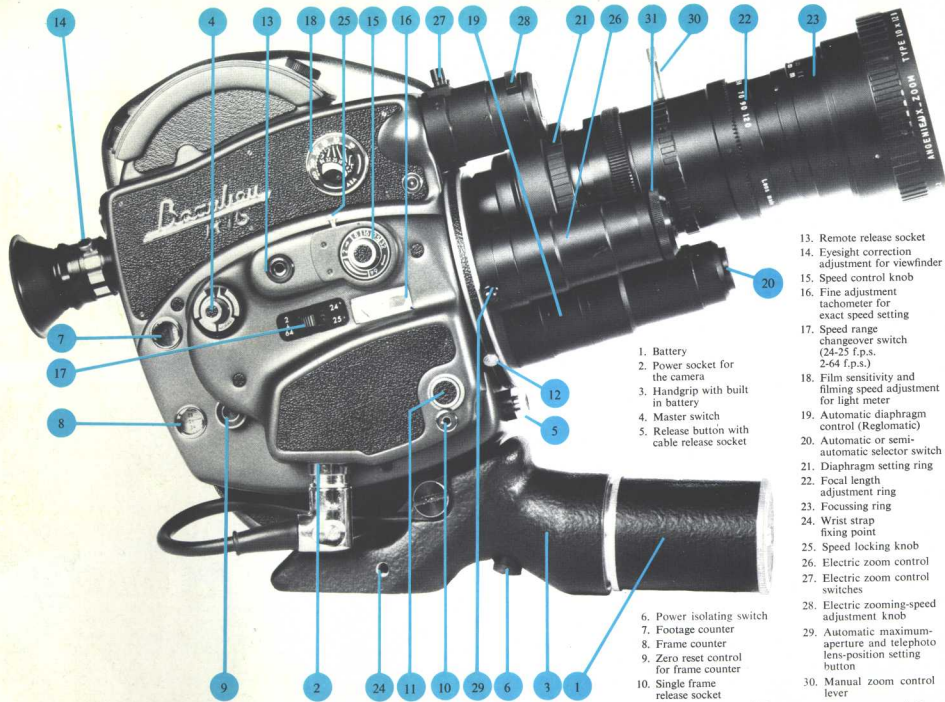




Beaulieu
R. 16 «Automatic»



1. Battery
2. Power socket for the camera
3. Handgrip with built in battery
4. Master switch
5. Release button with cable release socket

6. Power isolating switch
7. Footage counter
8. Frame counter
9. Zero reset control for frame counter
10. Single frame release socket
11. Signal generator socket
12. Turret locking catch
13. Remote release socket
14. Eyeglass correction adjustment for viewfinder
15. Speed control knob
16. Fine adjustment tachometer for exact speed setting
17. Speed range changeover switch (24-25 f.p.s. 2-64 f.p.s.)
18. Film sensitivity and filming speed adjustment for light meter
19. Automatic diaphragm control (Reglomatic)
20. Automatic or semi-automatic selector switch
21. Diaphragm setting ring
22. Focal length adjustment ring
23. Focussing ring
24. Wrist strap fixing point
25. Speed locking knob
26. Electric zoom control
27. Electric zoom control switches
28. Electric zooming-speed adjustment knob
29. Automatic maximum-aperture and telephoto lens-position setting button
30. Manual zoom control lever
31. Power zoom on/off switch dial

Wherever news is in the making... you'll find the R 16

*... On the Chamrousse slopes
during the Olympic Games
... In the hands of war correspondents
in all the world's "hot spots"
... At the World Parachute
Championship
... With the fastest cars at Le Mans*

The R16 fits in so well with reporting jobs that TV cameramen, whatever their nationality, have adopted it for good.

It is feather-light: Miniaturization and the latest of light alloys are extensively used in its manufacture. Including its lens, the R16 "Auto" weighs less than 6.6 lbs (3 kgs). For a 16 mm camera, that is unique.

It is sturdy: A central plate carries all the miniaturized components; it is well protected from shocks by two sturdy light-alloy housings.

Always ready to record the event, even under very unusual conditions, the Beaulieu R16 is the ideal camera for any news reporter.

But, besides reporting, the Beaulieu R16 has a tremendous range of other applications. It is ideal for industrial, scientific, research and space filming... to mention but a few.

Moreover, high quality 35-mm "blow ups" can be obtained from film shot with the camera.



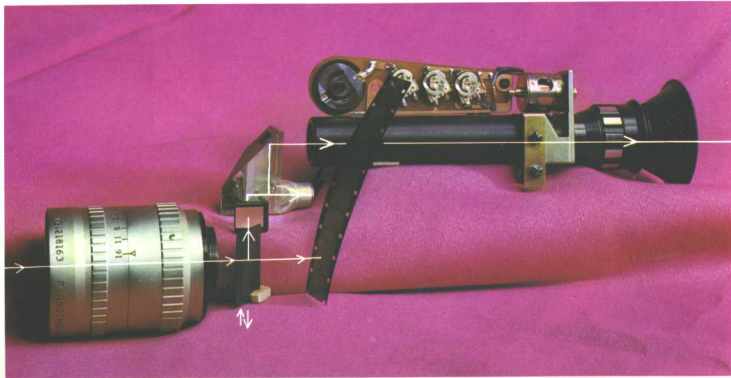
Its extra-luminous reflex viewfinder system alternately directs

- * 100 per cent of the light on to the viewfinder screen...
- * 100 per cent of the light on to the film...

This reflex viewfinder system has won acclaim with professionals all over the world. A 45° mirror on the reciprocating shutter alternately reflects all the available light on to the film, or on to the viewfinder screen, thus always giving maximum screen brightness for the aperture set.

When stopped, the shutter remains always in the open position for viewing. The divided-grain viewfinder screen makes the picture easy to compose while allowing the main subject to stand out in perfect focus. Pin-point focus and depth of field can be judged in all conditions.

The BEAULIEU R16 "Auto" is now fitted with a new viewfinder. This increases image magnification by 25 per cent thus making for even easier viewing. Finally, the BEAULIEU R16 "Auto" has an adjustable eye-piece. You can set it to your own eyesight, and lock it in that position.



Its iris diaphragm responds and adapts immediately to the slightest change in light intensity

When on a reporting job, no matter how fast events occur, you just have to get all the details...

With your eye looking through the viewfinder, all your attention is centered on the choice of subject and on how to frame it.

You can point the lens at any subject without worrying about shadow or full sunlight, for the BEAULIEU R16 "Auto" analyzes the required exposure for you and instantly adjusts its own aperture.

After the film sensitivity and film speed have been set, the diaphragm adjusts according to the extremely sensitive photo-cell built into the viewfinder system, which measures the light intensity



The Beaulieu R 16
"Auto" Reglomatic system ▶

coming through the lens, directly from the viewfinder screen.

The BEAULIEU R16 "Auto" automation in no way interferes with

its adaptability.

Very much the opposite in fact.

■ The Reglomatic system can be easily disengaged, for manual control.



At 50 m.p.h. the ski champion hurtles down a shaded slope...and now shoots out of a bend into sun-flooded snow... Throughout the slalom course, the R16 immediately makes its own exposure adjustments.

Its remarkable speed-control of action allows "sync sound" recording

Basic principle of BEAULIEU electronic regulation

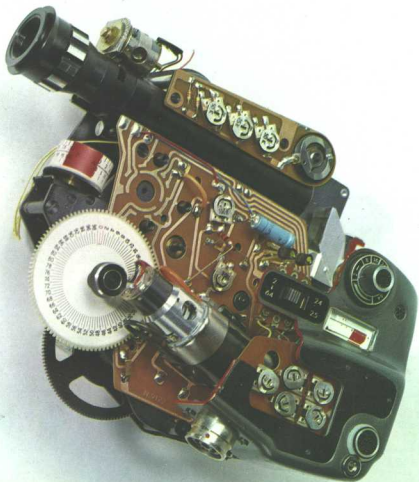
Should the motor's speed drop, the e.m.f. delivered by a dynamo coupled to the motor also drops; at this instant a transistorized amplifier delivers a higher current to the motor, thus enabling it to resume its selected speed.

Naturally, this feedback system acts in the opposite way should the motor's speed increase. This regulation control occurs within a few thousandths of a second—and acts continuously, thus ensuring completely even film transport.

The BEAULIEU R16 "Auto" gives a faithful record of the event, for it is specially designed for simultaneous, accurate registering of picture and sound...

Its motor, perfectly regulated by a transistorized electronic device (BEAULIEU patent), insures an **absolutely smooth film movement** with a stability factor able to match synchronized sound recording systems.

The variable speed control and tachometer enables it to be adjusted to available speeds from 2 to 64 f.p.s. A speed range changeover switch increases speed-setting accuracy. When set to 24-25 f.p.s. this switch allows and has a very long filming duration, instant, accurate setting of sync speed.



The connection between the BEAULIEU R16 and the tape-recorder (fitted with a synchronization head) is insured through the use of a sync pulse generator.

This **sync pulse generator**, driven by the camera motor, generates an alternating current which is recorded in the form of a control signal, at the same time as the sound, on the magnetic tape.

On processing in the laboratory, the recording is transferred to a perforated 16 mm magnetic tape which, after editing, can be transferred on to the film along unperforated edge of the developed film.

The BEAULIEU R16 connected to a portable battery powered tape recorder (UHER 1000/N NEO-PILOT or NAGRA), makes up a very light, easily handled and extremely strong picture sound outfit allowing perfect coverage of any event.

The «UHER 1000/N NEO-PILOT» tape-recorder.



*The rattle of sub-machine-guns during an ambush...
The R 16 sees everything, hears everything.*



**The 200-ft
(60-metre)
magazine
allows 5 minutes
continuous
shooting**



Perfectly suited for cameramen having to operate under the most trying conditions, the BEAULIEU R16 "Auto" is very light and has a very long filming duration.

Designed to take 50-ft or 100-ft films, the BEAULIEU R16 "Auto" can be instantaneously fitted with a pre-loaded ultralight alloy 200-ft magazine.

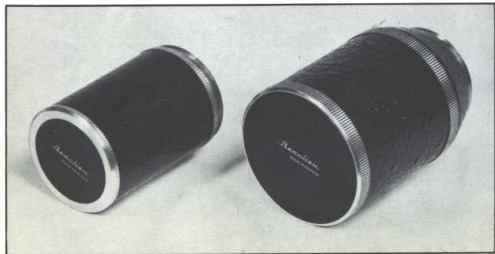
Film take-up is accomplished by a micro-motor through an internal contact working from the camera battery.

The 200-ft magazine offers a full 5 minutes of shooting at 24-25 f.p.s.



*With your head stuck out of the cockpit,
you can't be reloading all the time...*

The 1 amp. battery doubles filming time



To facilitate handling, the BEAULIEU R16 is fitted with a new hand-grip which further increases the camera's maneuverability, for it houses an-independent power supply. It will take two types of nickel-cadmium batteries:

- the 500-milliamp battery, allowing seven 100-ft films (or three 200-ft films) to be shot at 24/25 f.p.s. or
- the 1-amp battery, sixteen 100-ft films (or eight 200-ft films) to be shot at 24/25 f.p.s. Both types of battery can be charged with a special 110 or 220-volt charger (50 or 60-cycle).

You can carry one or more spare batteries, thus leaving sufficient time to charge the batteries already used.

The BEAULIEU R16 "Auto" has many features:

■ Reverse

The BEAULIEU R16 "Auto" motor is designed for forward and reverse operation... you can film in reverse to obtain special and spectacular effects at any film speed, of superimposition and wipes.

■ Single frame shooting

A flower's slow blooming, an animated cartoon, special effects using live subjects... all these can be recorded with stop motion shooting... All you have to do is to insert a cable release in a special socket on the side of the camera (the camera being on a tripod); you can also use an interval timer.

■ Remote control

The BEAULIEU R16 "Auto" has the facility to record the intimate scenes of wild life, of operating from the most dangerous bend on a motor racing circuit, of safely following an unpredictable scientific experiment... The BEAULIEU R16 "Auto" can be controlled by cable (up to 220 yds), by radio (with transmitter-receiver sets for radio control), or by a photo-electric cell.

■ Lenses

The BEAULIEU R16 "Auto" will accept any 16 mm standard C — mount cine lenses — or, with adapter rings, almost any lens intended for still miniature cameras.

The Angenieux Electric Zooming device of the 10 x 12 mm and 4 x 17 mm lenses have progressively variable speeds.

In order to achieve perfectly smooth dolly shots, particularly when the camera is hand-held, Beaulieu has fitted the 10 x 12 mm and 4 x 17 mm Angenieux Zoom lenses with a variable-speed electric drive.

This solution, while technically perfect, is costly, and was heretofore only used on "live" television cameras. It allows every type of dolly-shot effect: very quick mixes from one sequence to the next, subject-acceleration or retardation effects, and immediate changes of picture-composition.

Lens-zoom variation times have a great amplitude available, with a 1 : 5 ratio (zooming times of 3 through 15 seconds); they stretch from barely perceptible to ultra-fast movement of the subject.

If a regular-motion dolly shot is required, the electric regulation mechanism will ensure a constant speed over the entire range of focal lengths.

Usual electric zooming systems will not come to an immediate stop. So, in order to eliminate mechanical inertia, Beaulieu

has made use of a series of devices known as "all-or-nothing" micro-switches, which immediately halt the system.



The electric Zooming systems of the 10 x 12 and 4 x 17 lenses can be overridden and the lenses can be used manually.

Original refinement for easier pin-point focusing :

A simple pressure on button automatically opens the diaphragm to full aperture ($f/2.2$) and sets the lens to its telephoto position. With maximum aperture and the shallowest possible depth of field, the indispensable accurate appreciation of focus becomes available.



Zooming-speed setting (3 through 15 seconds)



Forward and reserve zooming buttons

The other three Beaulieu R16's will accept any lens system

Besides the BEAULIEU R 16 "Auto" fitted optionally with any one of the two automatic Zoom lenses (Reglomatic system), there are three other semi-automatic versions.

■ BEAULIEU R 16 Semi-Automatic, single-lens type.

This model has a fixed, single lens mount turret taking a fixed focal length or zoom type lens with a C-mount (R 16 Special Zoom).



BEAULIEU R16 semi-automatic (single-lens version)

■ BEAULIEU R 16 Turret-type semi-automatic camera

This cine-camera is fitted with a turret allowing three 16-mm standard C-mount lenses to be mounted simultaneously, or, with adapter rings, almost any lens intended for still miniature-camera work. (A "still" lens will give extraordinarily sharp definition).

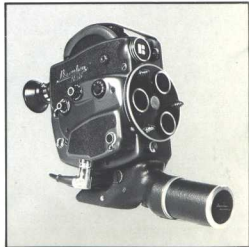


BEAULIEU R16 semi-automatic (turret version)

■ BEAULIEU R 16 "endoscopic special"

comprises :

- a/ a special "endoscopic" viewfinder. A clear space in the center of the matte screen gives the brightness required for medical filming.
- b/ a shutter-speed/emulsion-speed coupling system. This allows immediate setting of the appropriate shutter speed according to the light source and the speed of the emulsion used.



BEAULIEU R16 "endoscopic special"

These R16 camera versions have the same overall specifications as the BEAULIEU R16 "Auto", except for the automatic diaphragm control (Reglomatic system). The behind the lens light cell is the same as before but manual setting is required and must follow the indications given by the needle visible in the viewfinder.

With Semi Automatic lenses, they allow:

■ Microphotography

A set of extension tubes, consisting of 5 tubes of lengths from 5 mm to 50 mm (about 0.2" to 2") can be fitted (according to the magnification required) to the cine-camera once its own lens has been removed, and directly adapted to the microscope's eyepiece.

Focussing is performed directly on the camera's viewing screen, the built-in cell allows the light-intensity to be adjusted to the requirement of the making-up.

■ Macrophotography

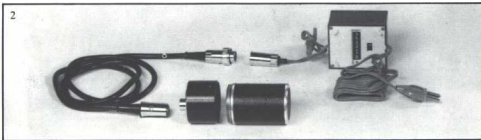
Reflex viewfinding makes for very accurate focussing, appreciation of depth of field and framing. A set of 5 extension tubes can fit between the camera and the lens chosen.

**NOTE: There is also available a special Beaulieu Endoscopic camera (EURATOM model), fitted with an "optico-electronic" device ("Euratom" Patent), which functions as an exposure servo-regulator.*



There is an extensive range of accessories

The BEAULIEU R16 "Auto" and both semi automatic BEAULIEU R16 models (single-lens and turret types) can be fitted with a large range of accessories, a few of which are shown below:



Beaulieu chargers

2 types:

- 50 mA for the 500 milliamp battery (2)
- 90 mA for the 1-amp battery

Taking up very little space, they will allow complete charging in 15 hours on 110 or 220 V a.c.

The batteries can be charged either still housed in the camera, or separately, by means of the chargers and the charging unit shown above (2).

12-volt-battery charger

The BEAULIEU R16' batteries can be charged from various 12-volt-batteries (car, boat, plane, etc.) (1).

For a comprehensive list of accessories contact your BEAULIEU dealer.



The Cine-reporter Case

Made of black leather, it gives efficient protection to the BEAULIEU R16 "Auto" and houses all its accessories (charger, filters, etc).



Metal case

Made of plywood covered with hammered aluminium, this case has its corners reinforced with sectional aluminium. It affords the equipment perfect protection against dust and rain.

TECHNICAL SPECIFICATIONS

<p>LENSES</p>	<p>According to the cine-camera.</p> <ol style="list-style-type: none"> Automatic diaphragm interchangeable lenses with Beaulieu Reglomatic system <ul style="list-style-type: none"> ■ Angenieux 4 x 17 Electric-Zoom ■ Angenieux 10 x 12 Electric-Zoom Rotating turret with three interchangeable lenses (standard 16-mm focal lengths and threads). Fixed, re-inforced mono-turret for heavier lenses. 	<p>PHOTO CELL</p>	<p>Gossen high sensibility photoelectric cell built into the viewfinder system. It receives and measures the light rays coming through the lens, and is powered by the camera's nickel-cadmium batteries. The cell actuates a shockproof galvanometer whose needle is visible in the viewfinder. A sensitivity control governs the system according to film rating.</p>
<p>ELECTRICAL FEATURES</p>	<p>CURRENT AND VOLTAGE</p> <p>The cine-camera's consumption is dependent on filming speed. It varies between 400 milliamps at 2 f.p.s. and 900 milliamps at 64 f.p.s. Normal power voltage: 7.2 volts (up to 8 volts in perfect safety).</p>	<p>DRIVE</p>	<p>An electronically regulated electric motor, insures a high stability of film motion. The motor allows filming in reverse at any filming speed, with the possibility of exposing film while in reverse (except with the 200-ft magazine).</p>
<p>ELECTRICAL POWER SUPPLY</p>	<p>Nickel-cadmium batteries housed in the grip. 500-mA batteries with a lasting power of 7 x 100-ft films at a speed of 24/25 f.p.s. Or 1-amp batteries with a lasting power of 16 x 100-ft films at the same filming speed. The batteries are charged from the mains through one of two special charger units: 50-mA for the 500-mA battery, and 90-mA for the 1-amp battery.</p> <p>The batteries can also be charged from various types of 12-volt batteries (car, plane, boat, etc.) with one of the special battery-type chargers.</p>	<p>COUNTERS</p>	<p>Footage counter: graduated in feet and in meters, it shows the number of feet (or meters) exposed. Automatic zero re-set. Frame counter: graduated from 0 to 100; adds forward shooting and subtracts reverse film movements. A knurled knob is fitted for zero re-set.</p>
<p>LOADING</p>	<p>50 or 100-ft reels (15 or 30-meters) 200-ft magazine (60-meters); this can be directly fitted to the camera. A micro-motor, fed through internal contacts by the camera batteries, insures film take-up. It allows 5 minutes shooting at 24/25 f.p.s.</p>	<p>RELEASE SYSTEM</p>	<ul style="list-style-type: none"> ■ Normal shooting: simultaneous pressure on the main general circuit switch and isolating switch ■ Continuous filming: by pressing on the isolating switch and turning it through a quarter of a revolution and depressing the release button ■ Single frame: by cable release ■ Remote control: by cable, radio, timer, etc.
<p>VIEWFINDER</p>	<p>Very high luminosity reflex viewfinder. A mirror set at 45° in the reciprocating shutter alternately throws all the light on the film or on the viewfinder screen. The "divided-grain" screen gives a general view of the field and aids pin-point focus for the main subject. The viewfinder eyepiece is adjustable to individual eyesight and has a rubber screw-on eyepiece.</p>	<p>SOUND SYNCHRONIZATION</p>	<p>The camera socket enables the Beaulieu sync pulse generator required for synchronized sound recording to be fitted.</p>
<p>SPEEDS</p>	<p>The motor makes it possible to shoot at any speed from 2 to 64 f.p.s., which can be calibrated with a very high degree of accuracy.</p> <p>The 8 different speeds correspond to the following shutter speeds.</p> <p>2 4 8 16 24/25 32 48 64 f.p.s.</p> <p>i.e. $\frac{1}{5}$ $\frac{1}{10}$ $\frac{1}{20}$ $\frac{1}{40}$ $\frac{1}{62}$ $\frac{1}{80}$ $\frac{1}{120}$ $\frac{1}{180}$ sec.</p> <p>Speed range changeover switch for super accurate setting of sound sync speed.</p>	<p>ACCESSORIES supplied with the camera</p> <ul style="list-style-type: none"> Wrist strap ■ 12" (30 cm) cable release with 90° bend ■ Dusting brush ■ Blower bulb ■ Rubber eyepiece <p>OTHER MAIN OPTIONAL ACCESSORIES (not supplied with the camera)</p> <ul style="list-style-type: none"> ■ Power Grip ■ 500-mA battery ■ 1-amp battery ■ 200-ft (60-meter) magazine ■ 50-mA charging unit ■ 90-mA charging unit ■ Charging box (for use with 12-volt-batteries) 	<p>WEIGHT</p> <p>Camera (alone): 1,650 g (3 lbs 10 oz) Grip with 500-mA battery: 610g (1lb 5 1/2 oz) Grip with 1-amp battery: 890 (1 lb 15 1/4 oz) Lenses : 4 x 17 Electric-Zoom : 450 g (1 lb approx.) 10 x 12 Electric-Zoom : 1150g (2 1/2 lbs approx.) 200-ft (60-m) magazine: 960g (2 lbs 1 3/4 oz)</p> <p>PACKING</p> <p>Rigid shock-proof polystyrene foam housing.</p>



Beaulieu R 16 "Automatic"