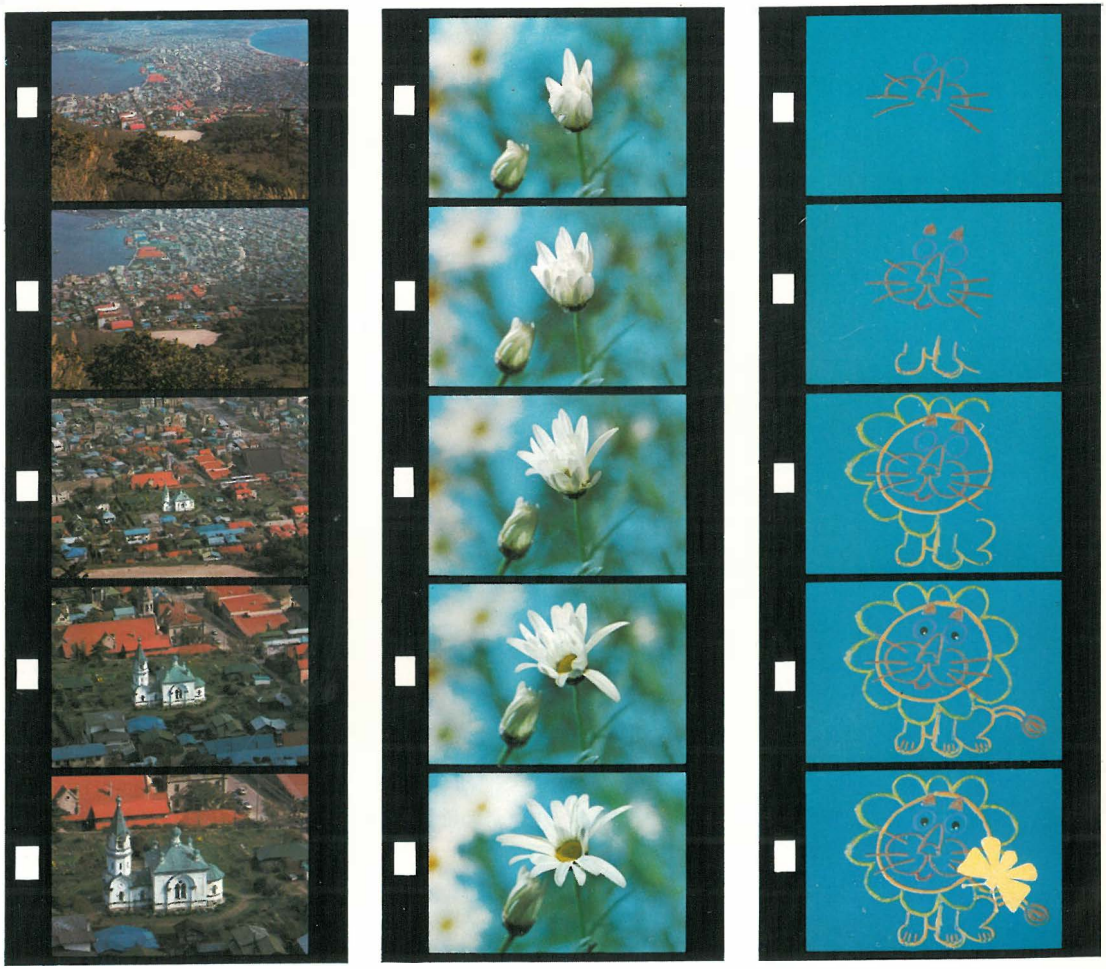
MINOLTA AUTOPAK-8 D12

The Super-8 System Movie Camera with 12X Power Zoom Lens



THE SUPER-8 CAMERA THAT'S A SUPER-8 SYSTEM

The Autopak-8 D12 is not only the most versatile 8mm movie camera ever made, it is also the heart of a total and unique *system* of 8mm cinematography. No other Super-8 camera, at any cost, matches the D12's features or capabilities:

A 12-time 6.5 to 78mm Zoom Rokkor Lens with power zooming at any speed from 2 to 12 seconds is the most advanced of its kind. The lens is Achromatic Coated for superior color rendition.

An interchangeable electromagnetic shutter release is the key to an outstanding system of Super-8 photography.

Macro filming capability built-in to the D12 lets you focus and photograph subjects as close as the surface of the lens itself.

An automatic variable rotary shutter opening, up to seven filming speeds, and a variety of exposure times permit automatic fade-ins and fade-outs, plus automatic lap-dissolves.

A control-center viewfinder provides total filming information.

Seven filming speeds for unlimited creative expression.

Through-the-aperture electric eye exposure measuring for perfect exposure at all times, and manual override for deliberate over- or under-exposure settings.

A total system of photography. Accessories like a release cord, remote-control cord, two intervalometers and a tape recordercontrol cord for every special effect or special filming application.

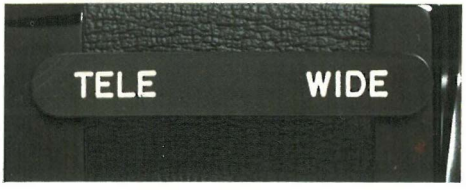
Even if you are a serious filmmaker used to working with much larger film image sizes, you will be constantly challenged by the ways the D12 solves creative problems. And if you are a serious amateur, or the novice taking a first interest in film, you will discover the D12 to rival the more complicated large film format camera. By any standards, it is an uncompromising camera for the creation of extraordinarily professional films.

THE 6.5MM—78MM ZOOM ROKKOR LENS WITH 5-SPEED POWER ZOOMING

Minolta used its own computers to design this lens, one of the biggest ever created for an 8mm movie camera. Its ultra-wide angle focal length of 6.5mm is equivalent to a 35mm still camera equipped with a 40mm lens. While its maximum telephoto focal length of 78mm is equivalent to a 480mm still camera lens. Built with 16 elements in 13 groups, and featuring variable 5-speed power zooming, the D12's lens is a masterpiece of optical and mechanical design.

Variable Speed Power Zoom

You may zoom over the entire 6.5mm—78mm range at any speed from 2 to 12 seconds with the D12's variable speed power zoom mechanism. Equipped with an IC-governed, 4-transistor micromotor for precision, this control is useful for zooming with frame speeds other than the standard 18 frames per second. The control has a click-stop adjustment to permit changing of zoom speeds without stopping the power zoom operation.

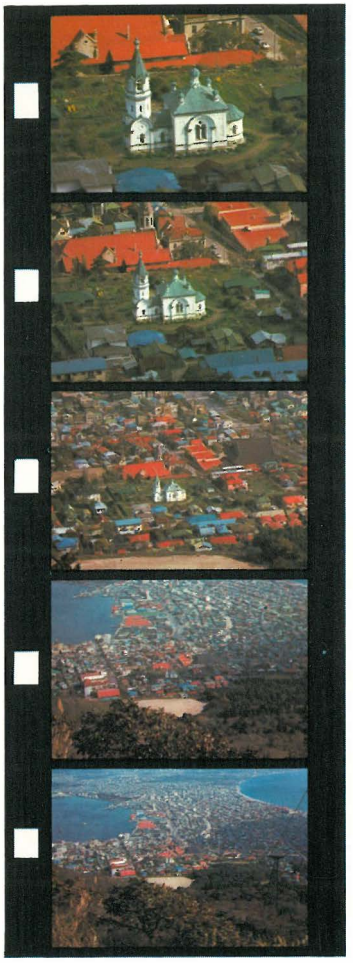


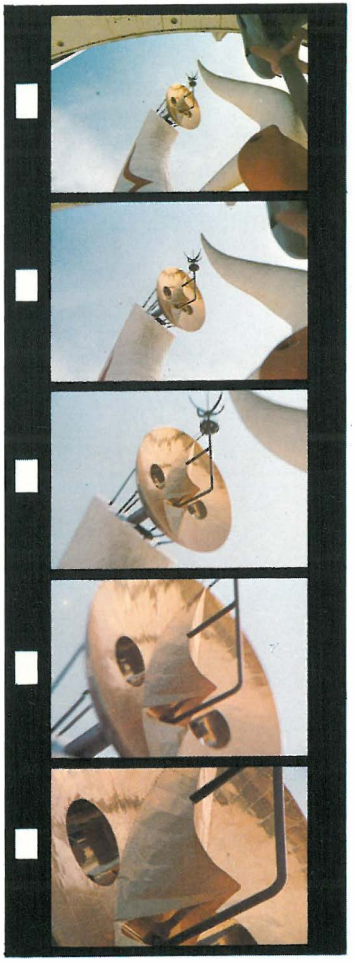
Two-way Rocker Control

A simple touch of the finger operates the power zooming mechanism of the D12. The rocker control, coupled with an electronic governor motor, permits unusually smooth and accurate zooms. You may also zoom the D12 manually, or set it at any single, specific focal length by operating a telescoping handle that attaches to the zoom ring.

Achromatic Coating

The D12's Zoom Rokkor Lens is Achromatic Coated to deliver unparalleled color rendition. This exclusive Minolta lens development has resulted from 45 years of research in photographic optics. All in all, the D12's zoom lens is the most complex lens ever made by Minolta for an 8mm camera. And like all Minolta Rokkor Lenses, its performance is guaranteed.





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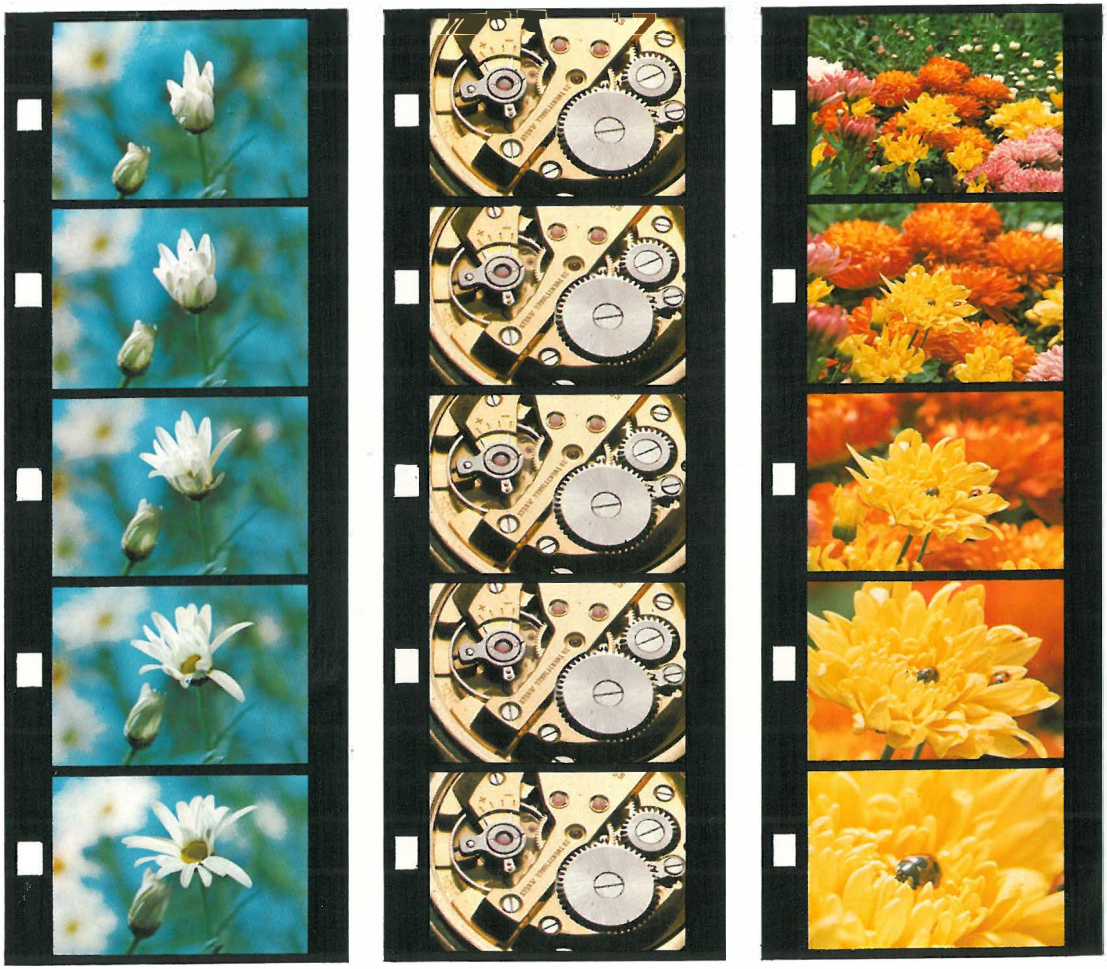


BUILT-IN MACRO FILMING CAPABILITY

Focusing and photography of subjects as close as the surface of the lens itself are possible with the D12, and this outstanding macro photographic capability is *built-in* to the camera. No special lenses or attachments are required for close-up photography.

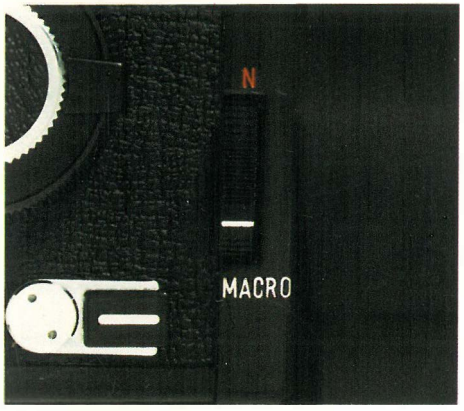
The exciting cinematic possibilities with this feature are limitless. Close-ups of insect and plant life, extraordinary scenes of coins, stamps, art reproductions, maps, etc., may be added to your films with the ease of conventional filming.

Macro filming with the D12 requires only that you move the index of the "normal/macro" switch to the MACRO position, and set the focusing distance at infinity. This converts the lens to macro capability and still permits you to focus by automatic or manual zooming.

With the lens set at its MACRO position, the focusing range of the D12 is from 5.3 meters (16.5 feet) at the 78mm focal length all the way down to the surface of the lens itself at 6.5mm. Minimum dimensions of subject field that can be photographed are 26.7×35.8mm ($1\frac{1}{8}\times1\frac{5}{8}$ inches).

Optional Close-up Lens

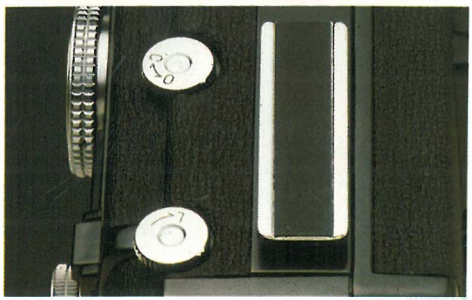
Photography of even smaller subject-field areas and macro-zooming are possible with the D12 by attaching an optional close-up lens. This lens can frame a subject as small as 14.7× 19.7mm ($\frac{9}{16}\times\frac{3}{4}$ inches); it requires no special focusing.



THE FULL-INFORMATION VIEWFINDER

Full creative control is inherent in the D12's design. This is in no way better apparent than by looking through its control-center viewfinder which provides total, continuous information as your film is made. At all times you will be able to frame and focus your scene as it later will appear on your home movie screen. All viewing and focusing adjustments are made with the D12 as your eye peers through the viewfinder. The objective, of course, is to enhance the making of creative films.

For the D12, Minolta has created an extraordinarily bright and distortion-free single lens reflex type viewfinder. Its viewing screen is exceptionally large, and accurate focusing is ensured by the use of a split-image focusing center spot that moves into sharp focus as you rotate the focusing ring. Sharp focusing is even possible when you are filming with the telephoto lens extended to its full 78mm focal length.



Here is what you can see in the D12's viewfinder; The *F-number scale,* that indicates the exact F-number at which the film is being exposed. An *exposure warning signal* that tells you if there is too much or too little light for proper exposure.

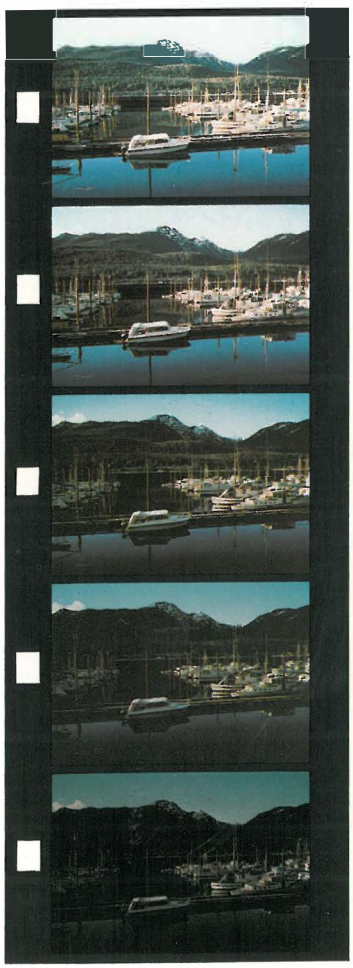
A *film safe-run signal* that indicates that the film is being properly transported. A *shutter-opening fade indicator* permitting you to view the progress of all automatic or manual fades. And a *film end signal* that tells you when you have exposed a full 50-foot film cartridge.

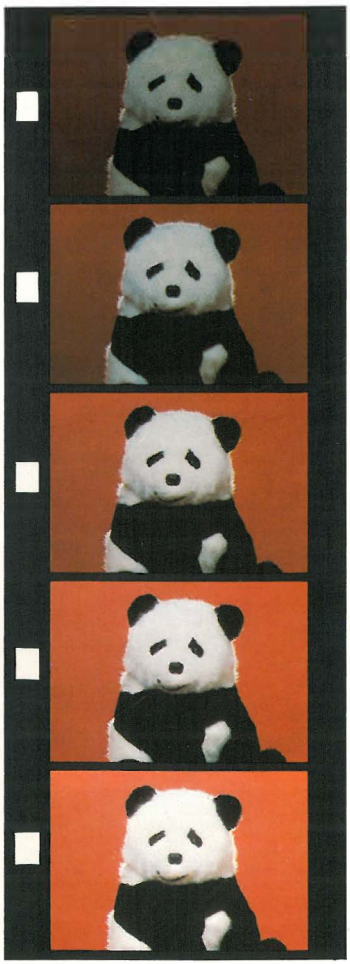
Special vision problems are overcome with an *eyepiece adjustment.* You aim your camera at a subject more than 100 feet (about 30 meters) away, focus, then lock the eyepiece into correct viewing position. The eyepiece diopter may be adjusted from +1 to −4 for different eyesights.

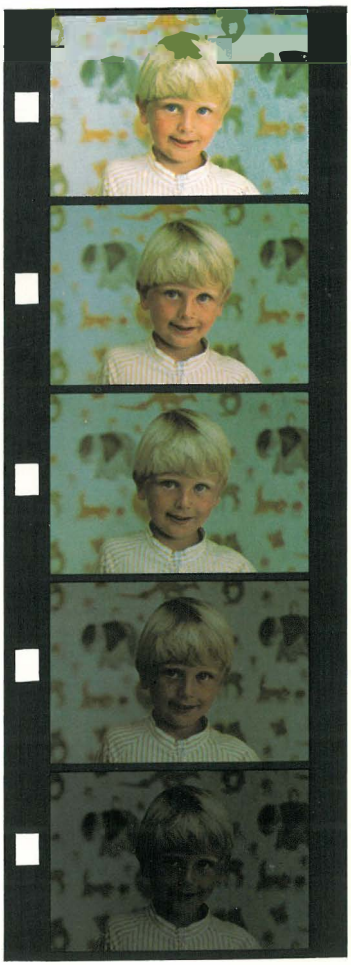
Finder Shutter

This device blacks out the viewfinder to prevent extraneous light from entering through the eyepiece and causing improper exposure measurement. You will especially want to use the finder shutter when using the remote control and wireless control units, or at anytime when you are filming but not looking through the viewfinder.

1. Shutter-Opening Fade Indicator
2. ½ Open Shutter
3. ¼ Open Shutter
4. Closed Shutter
5. Film Safe-Run Signal
6. F-Number Scale
7. Exposure Warning Signal
8. Film End Signal
9. Split-Image Focusing Center







AUTOMATIC AND MANUAL FADES, AUTOMATIC LAP-DISSOLVES

The automatic, variable shutter opening system in the D12 is unique and exclusive with Minolta. It is the key to a variety of professional filming touches—including automatic and manual fades, and automatic lap-dissolves.

Among the cinematic expressions now possible with D12 are simultaneous zooming and fading, or simultaneous fading and single-frame title or animation filming. These professional touches are as easy to make as conventional filming is with any other camera.

Automatic Fading

You not only fade-in and fade-out with ease with the D12, you also watch the progress of your fade *through the viewfinder.* A complete automatic fade is made in about 3 seconds at 18 fps or 2.2 seconds at 24 fps. Fade-outs are made by turning the selector index to the F.O. position and continuing to film. The fade is complete when the film transport stops automatically. Fade-ins are then accomplished by setting the selector to N and depressing the filming button. Normal filming then continues.

Manual Fading

You may choose to use manual fading to achieve special effects, or to make very long or short fades. But once

again, you can view the progress of your fade through the viewfinder by watching the position of the shutter-openig index. Manual fades are made by opening or closing the shutter sector with the manual fade knob. This operation is accomplished with the ease of automatic fades, although a tripod is recommended for best results.

Automatic Lap-Dissolves

Only very sophisticated Super-8 cameras today offer this exciting feature. The advanced drive system of the D12 lets you dissolve one scene into another by the simultaneous fading out of one scene and the fading in of another on the same film frames. And all of this is accomplished automatically.

To create a lap-dissolve, you'll first depress the camera's selector release while you're filming the first scene and then turn the operation/effect selector to L.D. This scene will then fade-out as you continue to film—and the film will be rewound to the beginning of the fade, with a change in the sound of the motor alerting you that the function is successfully completed. You will then stop filming, reset the selector to the N position and begin to film the next scene in the normal way. This scene will fade in to complete the lap-dissolve, and normal filming again continues.

THROUGH-THE-APERTURE ELECTRIC EYE EXPOSURE MEASURING

No matter what the lighting situation, the through-the-aperture electric eye exposure measuring system in the D12 continuously and automatically adjusts itself for accurate exposure. This system is unique since it measures light *after* it passes through the lens aperture, while the through-the-lens system measures light that has passed only through the lens.

The D12's TTA system is more than just an exposure measuring device. It also automatically controls the opening and closing of the lens aperture, and makes possible all-automatic compensations for frame speed, zooming and filter variations.

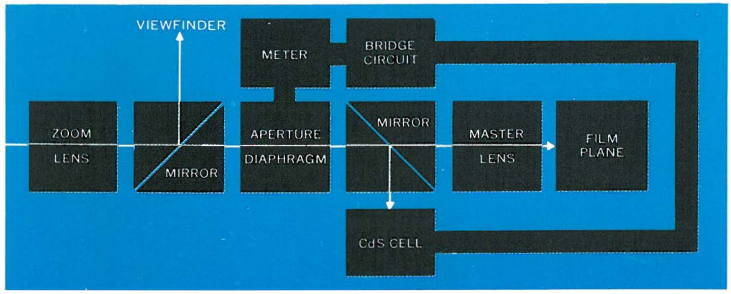
The 5 AA-size (penlight) 1.5 volt dry batteries contained in the camera's handgrip power this system, as well as film transport and power zoom system. A mercury battery for TTA operation is not required.

An ND filter is rarely required when bright subjects are filmed with high speed film. This is because you can adjust the length of exposure with the D12 by setting its shutter-sector opening at only ½ or ¼ open, and because the servo unit control of the shutter sector opening lets the lens aperture close down to as small as F45.

Use any film with the D12. The camera's ASA coupling range is from 10 to 400 with daylight color film, and 16 to 640 for tungsten light. A No. 85 filter is positioned automatically by the Super-8 cartridge when necessary.

Exposure Adjustment

You can compensate exposure manually with the D12 for special effects or unusual lighting conditions. The auto exposure system can be overriden and any aperture set manually. The auto-exposure adjustment knob permits under and over-exposure graduations of 0.5, 1.0, 1.5 and 2EV. The over-exposure side is recommended for filming backlighted subjects, those against a very light background, or to make proper exposure compensation when the variable shutter is set at ½ or ¼ opening. Under-exposure is recommended when filming spotlighted subjects, or subjects that stand bright against a dark background.

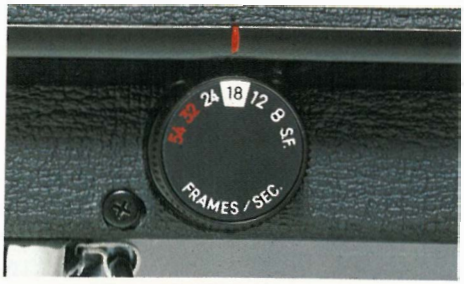


MORE SPECIALIZED FEATURES FOR PROFESSIONAL SUPER-8 FILMS

7 Filming Speeds

The D12 gives you a choice of 7 different filming speeds, and unlimited creative expression. These speeds are 8, 12, 18, 24, 32 and 54 frames per second, plus single frame, and they are made possible by the use of an integrated circuit governor motor with four transistors. Each speed has a special application.

You'll use single frame mainly to film titles or animation, and this task is easier than ever with the D12's electromagnetic release cord (see page 20.) Speeds of 8 and 12 fps are recommended to emphasize or exaggerate effects of abrupt and speeded-up subject movements.



Normal filming speed for most 8mm films without sound is 18 fps. You'll use it for general filming for natural effects. The 24 fps speed is used when recording sound for film or to smooth subject or camera movement.

The 32 and 54 fps high speeds are excellent for slow-motion effects. They also smooth camera movement when the film is projected at the standard 18 fps speed.

Hi-Speed Power Pack

Filming with the 32 and 54 fps speeds requires the use of this optional power source. It attaches to the top of the camera by a special socket, and runs on 7 AA-size 1.5 volt dry batteries. Very fast shutter speeds—up to 1/486 second—are possible with the Hi-Speed Power Pack. They are accomplished by setting the shutter sector of 1/4 open while filming at 54 frames per second. The ultra-fast shutter speed is especially valuable for scientific and educational films, for filming sports scenes, physical impact, the habits of wildlife and other phenomena requiring minute analysis.

Uni-Power Source

All power for the electric eye operation, electromagnetic shutter release, film transport and power zoom operation is supplied by 5 inexpensive AA-size (penlight) 1.5 volt dry batteries installed in the handgrip. A mercury battery is not required for exposure meter operation.

Super-8 Convenience

Unrivaled for convenience, ease and world-wide availability, Super-8 cartridges give 50-feet of film and a film image area nearly 50% larger than other 8mm films. Insertion of the cartridge automatically sets film speed and positions the filming filter when indoor color film is used outdoors.

Continuous-Run Lock

You can operate the D12 continuously without having your finger on the filming button. The continuous-run lock lets you get in to your own film, or facilitates long filming sequences.

Battery Checker

This feature normally measures the power of the handgrip batteries, but with the D12, it has an automatic switch-over system. When the Hi-Speed Power Pack is attached to the camera, the checker only measures the power of the power pack's batteries. The camera is also provided with an on-off master switch.

Sync. Terminal for Strobe

This feature lets you use electronic flash (strobe) when the D12 is at the single frame setting. It is also useful for time-lapse photography when the Minolta Intervalometers are used. Round-the-clock exposures of plant life with electronic flash are possible with the sync. terminal while the photographer pays only minimal attention to the camera's function.

Automatic Type A Filter

This filter is built into the D12 to permit the use of indoor Type A color film outdoors. The filter automatically moves aside when a movie light is mounted on the camera. For manual operation, a special "switch" is provided.

ELECTROMAGNETIC SHUTTER RELEASE FOR UNLIMITED VERSATILITY

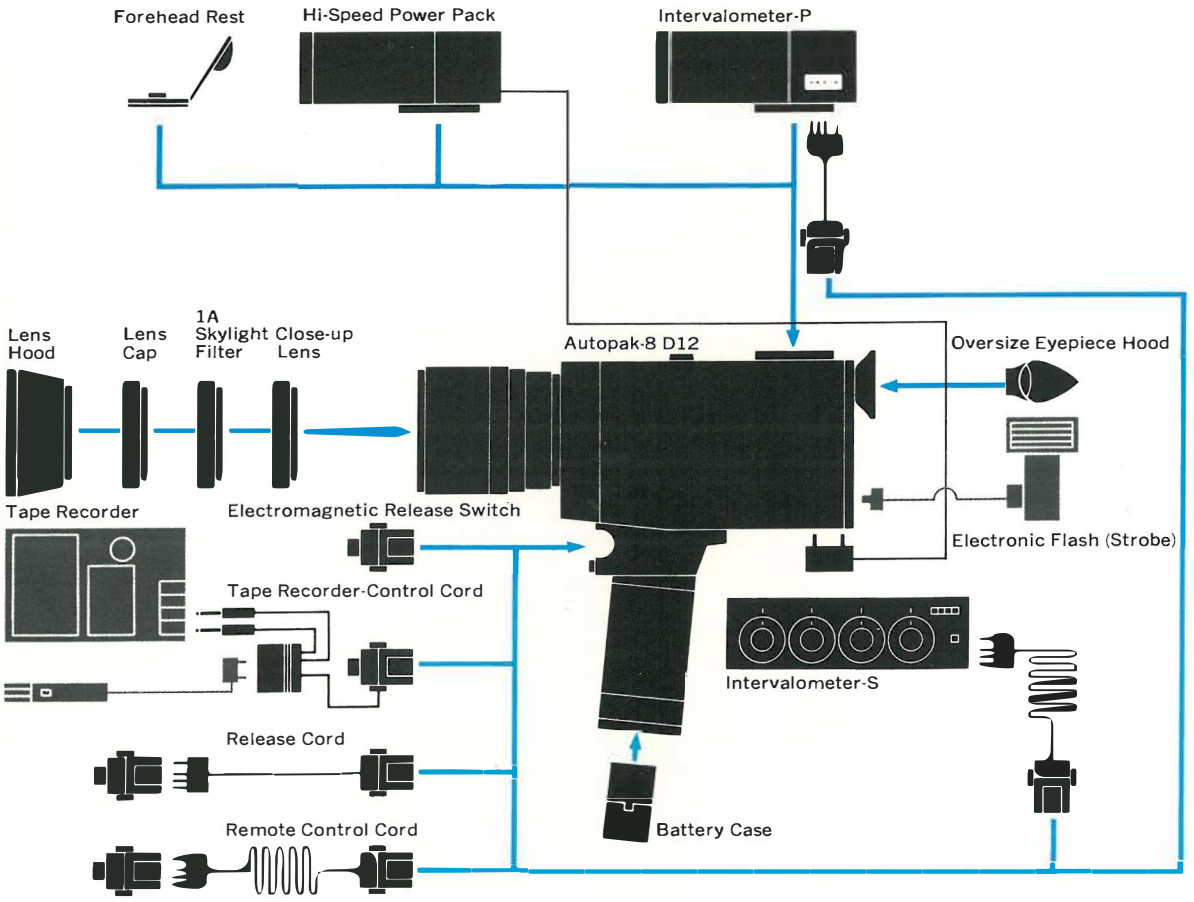
Key to the camera's outstanding versatility and the nucleus of its system of accessories is the electromagnetic shutter release. Its function is similar to an electric switch that performs an on-off switching operation. However, the Minolta EMR may also be replaced with other Minolta interchangeable releases or the inputs from the variety of D-system accessories. The versatility of the EMR is unparalleled. Most any kind of special effect or special filming application may be accomplished with the camera. Your imagination is spurred to new creative highs.

As one example, the electromagnetic release may be removed from the camera and connected to a short extension cord. In this case the switch serves as a remote-control unit, performing the same function as an "on-off" switching cable release.

The switch may also be connected to either of two Minolta Intervalometers for time-lapse photography. This makes possible a variety of industrial, scientific or conventional filming applications. Connected to a cassette tape recorder, the switch lets you add sound to your Super-8 films.

The electromagnetic shutter release may be used to control as many as a dozen or more Minolta D-system cameras for simultaneous filming. And a variety of different accessories—such as a timer, tape recorder and strobe—may be operated and controlled simultaneously by this release mechanism.

No other Super-8 camera offers such unusual creative potential. No other camera offers such a complete system of accessories. The Autopak-8 D12 is more than just a Super-8 camera, it's a complete *system* of Super-8 photography.


Forehead Rest
Hi-Speed Power Pack
Intervalometer-P
Lens Hood
Lens Cap
1A Skylight Filter
Close-up Lens
Autopak-8 D12
Oversize Eyepiece Hood
Tape Recorder
Electromagnetic Release Switch
Electronic Flash (Strobe)
Tape Recorder-Control Cord
Intervalometer-S
Release Cord
Battery Case
Remote Control Cord


1:1.8 f=6.5-78mm
ZOOM ROKKOR-MACRO
MINOLTA
1017240
minolta
SUPER 8
minolta
INTERVALOMETER · S
TIMER 1
FUNCTION
STAND BY
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ON
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Hi-Speed Power Pack
MINOLTA CAMERA CO., LTD. JAPAN
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MINOLTA CAMERA CO., LTD. JAPAN
minolta
TAPE CONTROL CORD
JAPAN
minolta
RELEASE CORD
JAPAN
CLOSE-UP LENS for

Intervalometer-P

This intervalometer provides photographic intervals of 0.5, 1, 2, 4, 8, 15, 30 and 60 seconds by activating the D12 shutter automatically upon receiving an input pulse. Since its operating temperature range is from −10°C to +50°C, it is effective for collecting atmospheric data and in recording production and research phenomena. Its other specialized uses include measurement of cloud movement, the movement of the sun at sunrise and sunset, transition of hues in the sky at sunset, and the filming of animations by moving cut-out pictures and titles. The Intervalometer-P is also a fascinating tool for filming nature, such as the blooming of plants and flowers, and for traffic studies. Only 5

AA-size penlight 1.5 volt dry batteries are required to power the unit. It is shockproof and extremely lightweight.

Intervalometer-S

This more specialized timing device is recommended for advanced photographic techniques. It consists of three quality timers plus a counting device. Among its uses are for time-lapse and memomotion (a series of single-frame exposure actuations at fixed intervals), work sampling (a series of continuous-run sequences filmed for a certain duration at fixed intervals), and indent work sampling (a series of time lapse or memomotion single-frame exposures filmed for a certain duration at regular intervals).
It is an ideal tool for studies in education, meteorology, traffic control, sports, industry, medicine, and others. The Intervalometer-S provides an unusually broad range of intervals—ranging from 1/5 second up to 10 minutes. Power for its operation comes from 6 C-size 1.5 volt batteries contained in a built-in battery compartment. Its working temperature range is from −10°C to 50°C. Other features include relays, a magnetic counter to four digits, battery check, and work sampling or indent work sampling cycle start signal lamp.

Release Cord

This accessory serves many of the same purposes as a mechanical cable release, although it is much more versatile than the conventional release. It is used by removing the shutter release switch assembly from the camera and replacing it by one of the ends of the release cord. With the release cord attached to the shutter release switch, the unit is transformed into a hand-operated switch. The camera starts and stops in the same way as if it was operated by the regular shutter release. But unlike conventional remote-control systems, which stop the shutter at a randomly-chosen position —either open or closed— the D12 system stops the shutter only at the closed position. This eliminates all blank frames in the exposed film. The 30cm (12 inches) release cord is valuable for single frame exposure, animation and titling. It prevents camera movement while allowing the photographer great freedom of movement.

Remote Control Cord

This five-meter (16.5-foot) cord is simply a release cord of extended length. It is installed the same way as the shorter release cord, and is also hand operated. For remote control filming at great distances, it is possible to connect up to three cords and hand-operate the camera from a distance of 15 meters (50 feet). The remote control cord may also be used to operate more than one camera at a time, or to allow the photographer to get in his own picture.

Tape Recorder-Control Cord

The electromagnetic shutter release permits synchronized sound recording when the D12 and a cassette tape recorder are connected. Portable recorders using the popular two-pin plug may be used to add sound to all D12-made films.

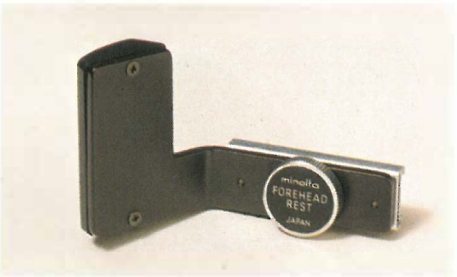
1A Skylight Filter

Designed exclusively for the D12, this filter is on a 67mm diameter mount.

Transparent to the eye and without a filter factor, the 1A skylight filter absorbs ultra-violet rays to give sharper color and greater black-and-white contrast to all films. It may also be used as a lens protector.

Forehead Rest

Recommended for steady filming, especially for panning and zooming without a tripod. Slides onto the camera accessory bracket, adjusts to most comfortable position.



Lens Hood

Prevents lens flare when filming occurs in strong, direct light.
Also protects barrel and lens from rain or snow when filming is done in adverse weather. Oversized, made of soft, flexible rubber.

Oversize Eyepiece Hood

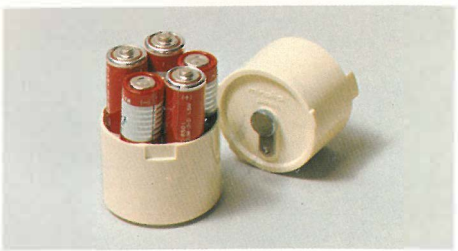
Used to prevent extraneous light from entering the viewfinder when filming with the naked eye. Made of soft, flexible rubber, easily attached to the viewfinder.

Close-Up Lens

Attaches to the zoom lens, allows titles and portraits to be made as close as 43cm (17 inches). Can also frame a subject as small as 14.7×19.7mm ($\frac{9}{16}\times\frac{3}{4}$ inches). Requires no special focusing. With close-up lens in place, normal zooming is still possible.

Battery Case

A convenient accessory for lengthy filming sessions. Takes up to 5 AA-size 1.5 volt dry batteries, is interchangeable with the D12's handgrip battery case.



SPECIFICATIONS

Type
8mm movie camera using Super-8 film cartridges

Lens
Rokkor F1.8 zoom type with 16 elements in 13 groups. Focal length continuously variable from 6.5mm to 78mm (12X) for manual or power zoom. Macro-zoom capability from 5.3 meters to the lens surface.

EE System
Through-the-aperture measuring system using sensitive CdS cell. Includes bridge circuit powered by battery-compartment dry cells.

EE Working Range
Uses any Super-8 cartridge film. Daylight color and black-and-white films: ASA 10-400 (DIN 11-27); Color film for artificial light: ASA 16-640 (DIN 13-29), coupled to F45. ND filter rarely required.
Film speed set automatically when cartridge is loaded.

Drive System
Electric micromotor controlled by 3 transistors for film transport. Separate zoom-power micromotor controlled by integrated circuit to operate at 5 speeds from 2–12 seconds for the full zooming time. Automatic overlapping function backs up film 54 frames for lap-dissolves.

Power Source
For filming at 8–24 fps: 5 AA-size (penlight) 1.5 volt dry batteries contained in handgrip. Seven additional AA-size dry batteries contained in optional hi-speed power pack allows speeds of 32 and 54 fps.

Shutter
Rotary, variable-sector type, operable full, 1/2 or 1/4 open for shutter-speed adjustment, continuously variable for manual or automatic fade-ins or fade-outs. Equipped with X synchronization at single-frame.

Viewfinder
Erect-image, single-lens-reflex type, with split-image focusing. Includes locking eyepiece adjustment and extraneous light shutter. Visible in viewfinder are exposure warning signal and F-number, shutter opening, safe-run and film-end signals.

Footage Indicator
Length of exposed film registered in both meters and feet. Automatic return.

Other Features
Electromagnetic shutter release. Device for ±2EV continuous adjustment of automatically set aperture, plus full-manual aperture control. Built-in automatic-positioning, No. 85 filter (for using Type A color film in daylight) can also be positioned by manual switch. Built-in X sync. terminal. Accessory bracket. Movie light socket. Tripod socket. Folding-type battery handgrip.

D-System Accessories
No. 1A filter. Lens hood. Close-up lens. Oversize eyepiece hood. Forehead rest. Outfit case. Hi-speed power pack. Intervalometer-P. Intervalometer-S. Release cord. Remote-control cord. Tape recorder-control cord.

Size & Weight
70×208×238mm (2¾×8×9¼ in.); 2,010g (70¾ oz.)

Specifications subject to change without notice.

Minolta

MINOLTA CAMERA CO., LTD. 30, 2-CHOME, AZUCHI-MACHI, HIGASHI-KU, OSAKA 541, JAPAN

D12 708E-D2

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