

MINOLTA

The Professional Hi-Tech Autofocus SLR.

# 9000

For serious photographers: continuous autofocus; 1/4000 sec.; 1/250 sec. flash sync.; 5 fps. sequences with motor drive unit; average/spot metering with highlight/shadow biasing; auto multi-program with program shift plus multimode exposure control; high-grade SLR features.



*The Minolta 9000.  
The Professional Hi-Tech  
Autofocus SLR.*



*At last, there is a camera that reacts as quickly as the fast-breaking life about you! A camera that performs as the perfect extension of your eyes and hands. With the Minolta Hi-Tech continuous autofocus system so fast and so accurate, you'll always be ready to capture the elusive moment. With 1/4000 sec. shutter speed, you can freeze an instant in time too fast for naked eye to see. With a choice between its center-weighted average metering and spot-metering with highlight/shadow biasing, you can faithfully record even the most difficult lighting situations with the ease of an experienced professional. To this versatile 35mm SLR, simply add professional accessories to capture high-speed action at five frames-per-second...to automatically bracket exposures...to automatically record exposure data...to create beautifully-balanced, multi-flash portraits.*

*The Minolta 9000. It's destined to become the choice of serious photographers the world over. To capture the important images in a world that never slows down.*



# Here are the special features that make the Minolta 9000 the most exciting 35mm SLR and system ever made.

## ■ **Minolta Hi-Tech autofocus system**

- Body-integral autofocus system
- Continuous autofocus with shutter-release priority
- Focus-priority shutter release with Motor Drive MD-90
- Low-light autofocus with Minolta AF flash units

## ■ **Advanced-design shutter**

- Super duralumin/titanium construction
- 1/4000 sec. maximum speed
- 1/250 sec. peak flash sync.

## ■ **High speed sequences with Motor Drive MD-90**

- Up to 5 fps continuous film advance
- Focus or shutter-release priority autofocus selection

## ■ **Spot/average metering systems**

- Center-weighted average measurement
- Spot measurement with highlight/shadow biasing
- Multi-spot exposure control with Program Back Super 90
- Wireless exposure data transfer and shutter release with Flash Meter IV

## ■ **Multi-mode operation**

- Automatic Multi-Program Selection with program shift
- Shutter-priority, aperture-priority and full-metered manual
- Personalized programming with Program Back Super 90
- Auto bracketing with Program Back Super 90

## ■ **Multi-mode TTL flash exposure control**

- 1/250 sec. flash sync.
- Program autoflash with extended auto fill-flash range
- Shutter-priority autoflash
- Any-aperture autoflash
- Manual mode autoflash

## ■ **High-grade SLR features**

- Metal die-cast body for heavy-duty use
- Electronic depth-of-field preview control
- Multiple-exposure control
- Interactive control of camera and system accessories
- Interchangeable focusing screens

## ■ **Motor Drive MD-90**

- Continuous autofocus with single-frame, 2 fps, 3 fps, 5 fps film advance
- Focus-priority shutter release at up to 4 fps
- Power rewind
- Vertical and horizontal shutter release
- AA-size and Ni-Cd battery packs

## ■ **Minolta AF flash system**

- Program Flash 4000AF
  - AF-assist capability
  - Power zoom head
  - Powerful guide number
  - 6-step variable power selection
- Program Flash 2800AF
- Control Grip CG-1000
  - Reduced recycling time for 5 fps sequences
  - Automatic lighting-ratio control

## ■ **Minolta AF interchangeable lenses**

- 14 interchangeable AF lenses from 24mm to 600mm
- 300mm f/2.8 and 600mm f/4 Apo telephotos
- 6 zoom lenses plus 50mm macro

## ■ **Program Back Super 90**

- 7-exposure control with personal programming capability
- Auto bracketing
- Multi-spot metering memory
- Exposure data imprinting
- Intervalometer function
- LCD graphic display

## ■ **100-Exposure Back EB-90**

- Unique, compact design
- Built-in Program Back Super 90

## ■ **Flash Meter IV**

- Wireless data transfer to camera via Data Receiver DR-1000
- LCD readout of both flash and ambient exposure components for precise flash/ambient exposure biasing
- Data memory and highlight/shadow biasing



## **Real-time continuous autofocus**

*An instant-response autofocus system, so responsive that it actually lets you capture events as they happen.*



*The Minolta 9000's 16-tech autofocus system ushers  
in a new dimension of image gathering  
for the serious photographer.  
With its uncanny speed and precision,  
it almost seems to know what you are thinking.*

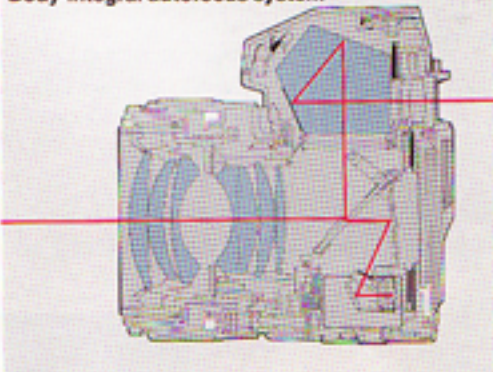


As a serious photographer, you know that the best photographs happen in the twinkling of an eye. And trying to capture those elusive moments of life can often divert your attention away from the subject matter and the magic happening before you...and towards the mechanics of operating your camera. These are the split-second moments where the Minolta 9000 makes the difference between a classic photo and "the one that got away."

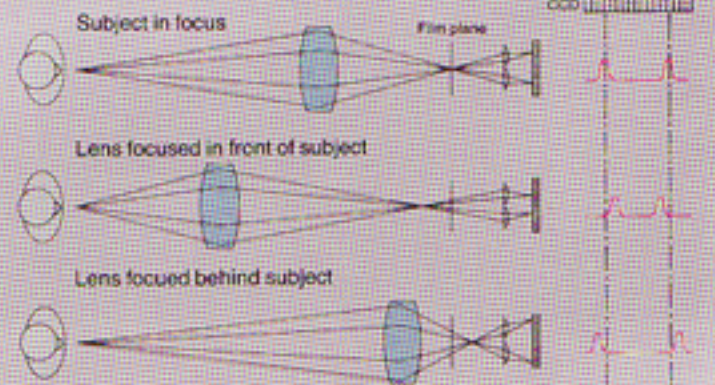
The moment you touch the surface of the camera's operating button, the Minolta 9000's Hi-Tech autofocus system drives the lens into precise focus. And if the subject moves or you suddenly change subject matter, the Minolta 9000 continues to monitor and adjust focus until you release the shutter. Looking into the camera viewfinder, you will see the Minolta 9000's continuous autofocus instantly react to bring each new subject into sharp focus as you move from one point of interest to another, looking for the perfect moment to freeze for eternity. The instant you press the operating button, the shutter is released, so that the Minolta 9000 captures the subject as you have seen it. It's almost as if the camera were an extension of your thoughts. With the Minolta 9000, there's no such thing as "following" or "leading" a moving subject. Everything is in real time. You move with subject, selecting just the images you want to record. Sporting events...fast-breaking news...a child at play...any challenging situation which can tax the ability of the most seasoned professional is taken in stride by this uniquely responsive Hi-Tech autofocus system.

The Minolta 9000's Hi-Tech autofocus system is extremely compact and lightweight. The camera's autofocus sensors, computers and lens drive motor are smoothly integrated into the camera body itself. When you pick up the Minolta 9000, you'll immediately feel the difference between this camera and those that rely upon motorized lens systems...a big difference!

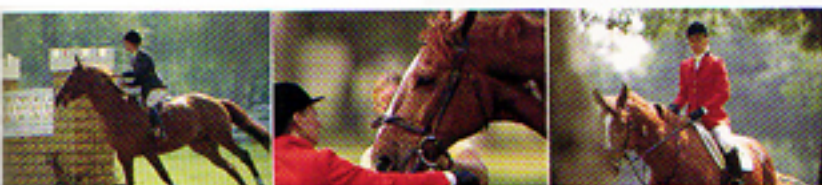
Body-integral autofocus system



Phase-detection autofocus system



Minolta's Hi-Tech autofocus system incorporates twin separator lenses to project dual images of the subject in the focus frame onto the CCD array in the 9000's AF module. The AF micro-computer compares the signals from the two images to a reference signal, and when they are "in phase", the subject is in focus. The signals produced by the CCD array vary according to focus condition: when the subject is in focus, the signals are equal to a reference signal programmed into the AF CPU. If lens is focused in front of subject, the signals are closer together. If lens is focused behind subject, the signals are farther apart.



## **5 frames-per-second sequential shooting**

*Continuous autofocus and film advance up to 5 frames-per-second create new photographic opportunities.*



*The Minolta 9000's instant response  
autofocusing merges perfectly with its variable speed,  
motor-driven film advance capability.  
You and your Minolta 9000 are one with the action.  
No matter what. No matter where.*





The Minolta 9000's Hi-Tech autofocus system gives you a new sense of freedom as you are in control of the action as it unfolds before you. You're not forced to anticipate or made to guess when and where that unforgettable photographic split-second will take place. And when you add the Motor Drive MD-90 to the Minolta 9000, something very magical happens! Time seems to slow down. You can dissect each second, instant by instant. Move with the action, keeping in focus, and select that perfect, unforgettable moment that happens in a blink of an eye...then is gone forever.

The Minolta 9000's Hi-Tech autofocus system continues to monitor and adjust focus until the moment you choose to release the camera's shutter even when the Motor Drive MD-90 is attached. When you press the operating button, focus is automatically locked-in with the first film frame and autofocusing is overridden for all sequential frames to give you the fastest possible film-advance speed for sequential shooting. Thus, the camera and motor drive combine to react in concert with your photographic instincts. You can set the MD-90 to provide single-frame advance or up to five frames-per-second film advance...matching the speed of your subject.

#### **Focus-priority sequences**

With the Motor Drive MD-90, the Minolta 9000 provides another sequential autofocus shooting capability. When focus becomes the critical factor—at times when the subject is moving quickly towards or away from you—switch the MD-90 to its focus-priority (F.P.) mode. Shoot races, action up and down the sidelines at speeds up to four frames-per-second with complete assurance of subject sharpness in each frame.

Either way, you control autofocusing to the degree you wish. And the Minolta 9000 with its Motor Drive MD-90 responds to provide the autofocus mode and film-advance speeds most appropriate for your needs.



## ***1/4000 sec. shutter speed***

*Freezing the fastest-moving subject with 1/4000 sec. shutter speed and autofocus creates photographic magic.*



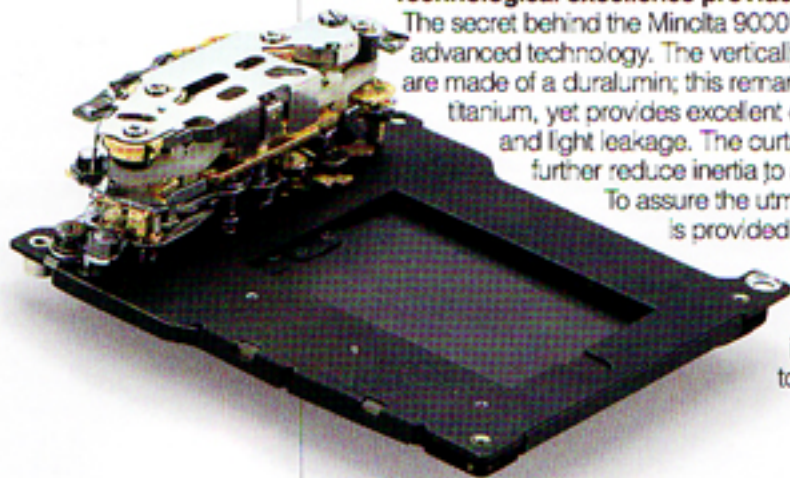
*To capture the elusive millisecond when time seems suspended forever, you and your Minolta 9000's 1/4000 sec. shutter speed allow you and others to look in on a new world of unbelievable beauty, unforgettable drama.*

Droplets of water frozen for eternity, suspended over swimmer with such clarity that even their shadows can be seen on his face. A lioness' attack, as she strives to feed her pride. These decisive moments—faster than the eye can accurately register—are the visions made possible by the Minolta 9000 and its 1/4000th sec. shutter speed. And combining this amazing camera's extremely fast-response continuous autofocusing with the capability of using shutter speeds up to 1/4000 sec. can well mean the difference between success and failure when time is of the photographic essence.

#### Technological excellence provides 1/4000 sec. shutter speed

The secret behind the Minolta 9000's incredible 1/4000 sec. top shutter speed is advanced technology. The vertically traveling curtains in the Minolta 9000's shutter unit are made of a duralumin; this remarkable material has a significantly lower mass than titanium, yet provides excellent durability and the rigidity needed to prevent warping and light leakage. The curtain swing arm is made of super-strong titanium to further reduce inertia to a point where shutter bounce is virtually eliminated.

To assure the utmost precision, timing for the shutter-control magnets is provided by an extremely accurate 4,194,000Hz ceramic oscillator. All of this advanced technology combines to produce an amazing shutter traverse time of approximately 3.3 milliseconds, in addition to stability at all speeds from 30 sec. to 1/4000 sec.



#### 1/250 sec. flash sync. speed

*The fastest flash sync. speed available in any 35mm SLR*

Another very useful benefit of the Minolta 9000's advance-design shutter is a 1/250 sec. sync. speed for flash photography. This outstanding technological achievement reduces the effects of artificial light in indoor flash photos. You'll see the difference in the more natural color rendition! And because you can shoot with electronic flash at a higher speed, you can use wider apertures for even better depth-of-field control in addition to achieving a more natural daylight-flash balance for outdoor fill-flash pictures.



The Minolta 9000's peak 1/250 sec. flash sync. gives you much more flexibility in a wider range of flash photo opportunities.



Conventional 1/60 flash sync. does an adequate job under normal circumstances.



## **Low-light autofocusing**

*Utilizing its Program Flash, the Minolta 9000 provides precise autofocusing even in total darkness.*



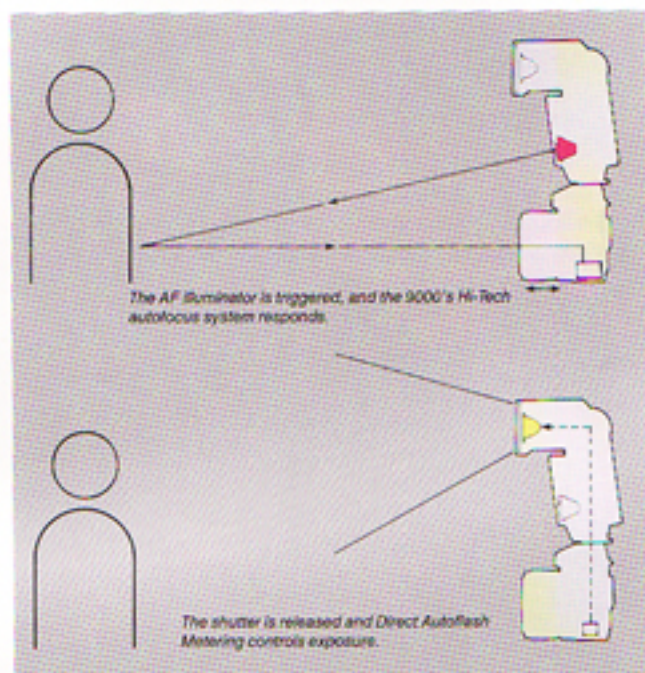
*Remember when flash photography was usually a "hit or miss" affair? Well, those days are gone forever! With the Minolta 9000 and its companion AF flash, you're always in focus...and never left in the dark.*



Manual focusing for flash photography in low light conditions can be difficult at best—and sometimes impossible! When lighting becomes so dim that it takes away the edge definition of your subject, results often are less than fully satisfying. But with the Minolta 9000 and its Program Flash 4000AF or 2800AF flash unit, the problem of accurately focusing in any lighting condition disappears...even in total darkness!

In low light conditions, the Program Flash 4000AF and 2800AF's AF illuminator is automatically activated when the camera's operating button is pressed halfway down. The Minolta 9000 utilizes a first "burst" of LED illumination to calculate and adjust correct focus. Just prior to shutter release, a second burst is used to confirm or further adjust focus. The flash then fires and the Minolta 9000's Direct Autoflash Metering System controls flash duration for accurate results in all exposure modes. With the Program Flash 4000AF, AF illumination range is up to 7 meters (23 feet) away. With the Program Flash 2800AF: up to 5 meters (16 feet).

The Minolta 9000 with its Minolta flash lets you, literally, "see in the dark". There are no settings to make, no guesswork, no fear of over- or underexposed, out-of-focus flash-assisted photographs. Thus, you are free to concentrate exclusively on the creative moment at hand...with as much confidence in your equipment after dark as you have in broad daylight.



## ***Spot and center-weighted average metering***

*Capture shades of light and shadow exactly the way you wish, with a responsiveness that enhances your creative efforts.*



*Like a fine painter, you can  
"lose" your photographs by selecting the precise area  
of composition you wish to emphasize.  
Light and color are at your command.  
Thus, you can easily add vitality,  
drama or unusual sensitivity  
to the creative opportunity before you.*

Most pictures are taken in lighting that is fairly even...where the subject contrast levels are equal to the average tone most light meters are made to see. At other times, other subjects—often the most memorable—have dramatic highlights and deep shadows that require special knowledge or equipment to capture faithfully. This is why the Minolta 9000 offers you both the freedom and simplicity of center-weighted metering, and the creative control and sophistication of professional spot metering. Right at your fingertips, to make you master of all you survey.

#### Center-weighted average metering

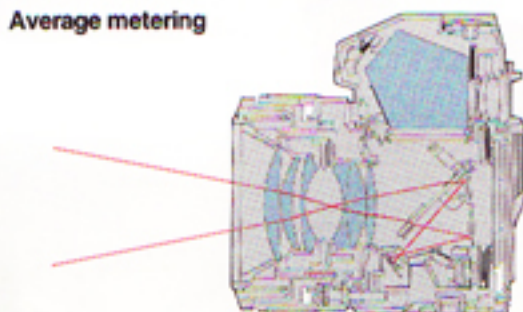
The Minolta 9000's center-weighted average metering is ideal for most automatic exposure photography. In this metering mode, a high percentage of sensitivity is concentrated in the center of your viewfinder framing. One of the great advantages of this metering system is speed: it coordinates well with the Minolta 9000's fast-response continuous autofocus, 1/4000 sec. shutter speed and 5 fps film advance to provide consistently good results in a wide range of lighting conditions.

#### Spot metering with highlight/shadow biasing

When subject contrast becomes challenging, switch to the Minolta 9000's spot metering mode. Here the Minolta 9000 meters within the area outlined by the spot metering circle in the viewfinder screen, an area comprising only 2.7% of the entire field. This permits you to meter only the most important parts of the subject...for exposure precision far beyond the realm of ordinary meters and results on film that match those in your mind's eye. In addition, when the subject you want to meter is out of center, AE lock helps you recompose any way you wish.

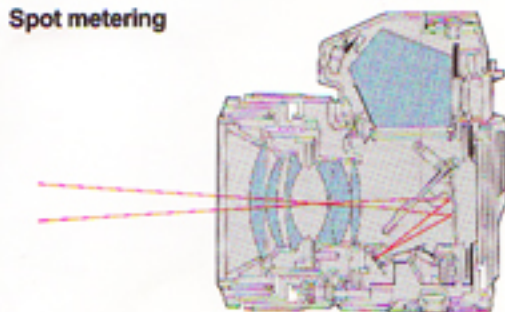
Besides normal spot readings, the Minolta 9000 also provides both highlight and shadow control. Why? Simply because even average metering and spot metering cannot effectively handle certain unusual photographic opportunities. When you use the Minolta Program Back Super 90, you also have the option of utilizing multi-spot metering to further adjust lighting values according to the results you wish to achieve.

#### Average metering



Center-weighted average-metering pattern

#### Spot metering



Spot-metering pattern



## ***Backlighting***

One of the most common lighting problems encountered by photographers is backlighting: where strong light is coming from behind your subject, flooding the scene but not illuminating the part of the subject facing the camera. If you tried to shoot the example photo (below) with average metering, what you'll end up with is subject underexposure simply because average metering will try to strike an equal balance between the lightest and the darkest tones in the total viewfinder area, thus rendering the subject's faces dark and indistinct. Spot metering on the subject will permit you to shoot a backlit picture like this one perfectly in "one take". With no bracketing, no guesswork, no error.



With average metering

With spot metering



### Bright surroundings

Shooting this bikini-clad girl (below) on a brilliant white beach is another time when an average light reading will not get you the picture you're after. As you can see, the average light reading (lower right) did a beautiful job of balancing the light beach with the shadow areas. Unfortunately, though, the sunbather is in those shadows. And—after all—wasn't she the reason the picture was taken? Once again: spot metering to the rescue! Simply take a spot-meter reading on the girl, then recompose and finish shooting. The resulting shot is the way you really saw it: a beautiful girl on the dazzling sand.



With average metering

With spot metering

### Dark surroundings

Another situation where spot metering becomes extremely useful is when only a small part of the picture—the most important part—is the only area of the composition that's properly lit. If exposed using an average light reading, the dramatic lighting will be lost and the subject's face will be washed out, losing much of its rich detail. To record the picture (below left) exactly the way you saw it, simply spot meter the man's face. Then recompose and complete the shot. The Minolta 9000 responds to keep the subject's face at the proper exposure level (and in precise focus at the same time).



With average metering

With spot metering



### **Highlight control**

When subjects aren't "average" (as in the photo example below), it's time to switch the Minolta 9000's spot-metering system over to one of its special exposure-biasing modes. If you feel—like most people—that the white wedding wear should be white, then simply turn the Minolta 9000's metering selector to H (highlight). Then take a reading of one of the areas of white and press the camera's AE Lock button. The Minolta 9000's computer will automatically shift camera settings to ensure that your whites turn out truly white. And without washing out important details.



With average metering

With highlight-biased spot metering



### **Shadow control**

Sometimes the drama and mystery of dark tones and shadows add to the atmosphere and richness of a photograph. The Minolta 9000 has the perfect solution for these situations, too. And it works just the opposite of highlight control. Simply switch the meter selector to the S (shadow) setting, take a reading of the darkest tone of the picture and press the AE lock button. Now the computer places the metered image's brightness at the bottom of the film's latitude for accurately reproducing darker colors. The result is all of the richness you expected without losing important skin tone detail. All of this with just the touch of a button. Without guesswork or bracketing.



With shadow-biased spot metering



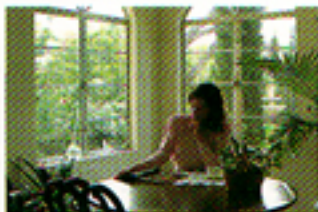
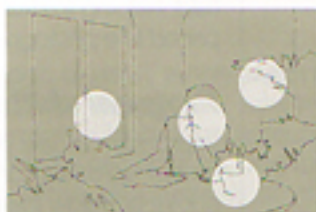
With average metering

### Multi-spot metering

The spot-metering capability of the Minolta 9000 is further enhanced when you add the Minolta Program Back Super 90. In addition to highlight/shadow biasing, this extremely useful photographic tool can store up to eight separate spot-meter readings and allow you to "fine tune" your composition to emphasize more than a single area of the photograph. As an example: you may wish to arrive at a correct exposure for two differently-lit faces in the same shot. Or, in the example (below), you may want to balance the subject's face, surroundings and outdoor lighting—each with varying light intensity—by taking separate readings to determine a correct composite exposure value that takes into account the portions of the picture you want to stand out. The Minolta Program Back Super 90's multi-spot metering capability enables you to handle any difficult lighting situation with great control...and even greater creativity.



With multiple spot metering

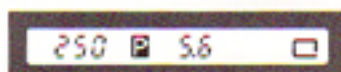
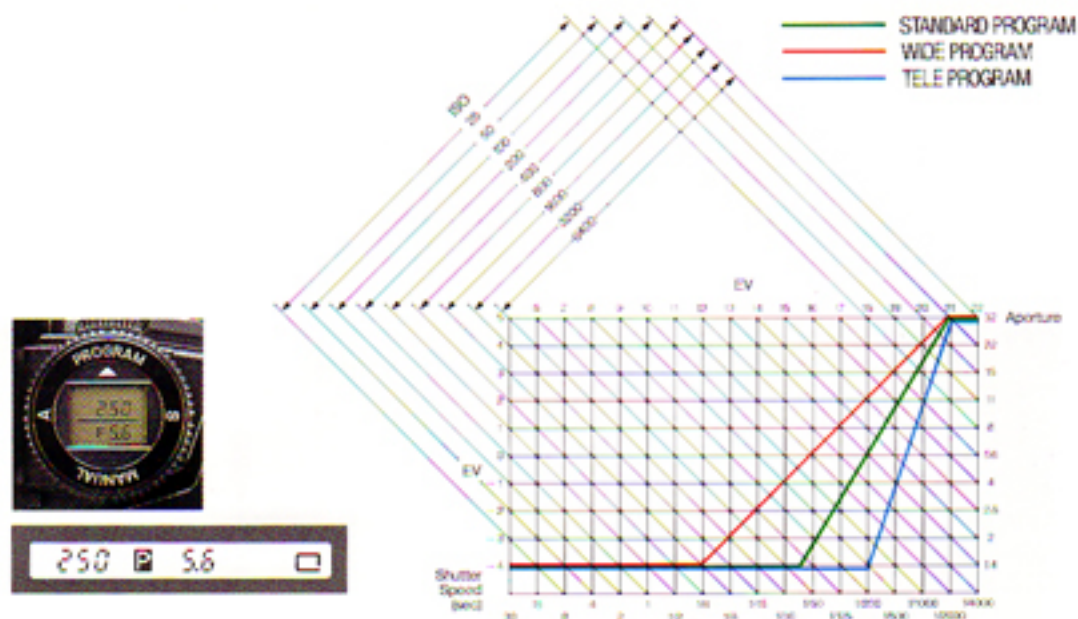


With average metering



# Automatic Multi-Program Selection

Automatic selection of the program best suited to the lens in use takes the guesswork and chances of error out of photography.



The Minolta 9000 provides the widest selection of programs of any programmed 35mm SLR currently on the market. But, even more than this, the Minolta 9000 automatically selects the correct program for any Minolta AF lens in use...even to altering its program to match changing focal lengths as you use any Minolta AF zoom lens. Thus, there are no program decisions to make. No apertures to adjust. No shutter speeds to be set. And no break in your concentration on the subject matter before you.

## Standard program

At focal lengths between 35mm and 105mm, the Minolta 9000 automatically selects its standard program. Action-weighting assures that you'll get the optimum combination of shutter speed and aperture settings for blur-free photography, while the camera's metering adjusts exposure instantly in rapidly-changing lighting conditions.

## Wide program

When you are using focal lengths less than 35mm, the Minolta 9000 automatically selects its wide program which emphasizes aperture settings over shutter speeds. Weighting this program toward the smallest practicable apertures maximizes depth of field. The results: breath-taking vistas that are razor sharp from foreground to background, portraits that are almost three-dimensional in depth.

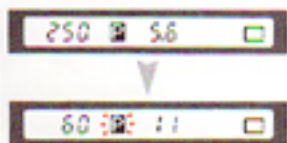
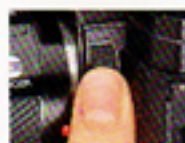
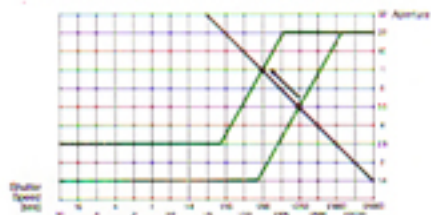
## Tele program

The Minolta 9000 automatically selects its tele program when focal lengths above 105mm are in use. Emphasis is now on the higher shutter speeds needed to reduce the chances of blurring by either subject or camera movement. Selection of larger apertures also tends to reduce depth of field, helping to distance your subject matter from the background...the perfect program for fast-paced tele photography.

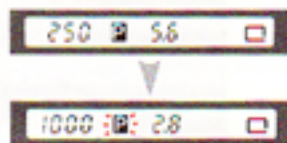
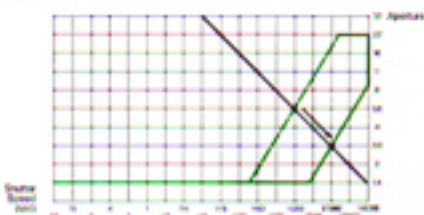
## Program shift versatility

In program mode, you can still control camera settings to better match the subject. Each time the shutter up/down control or aperture up/down control is used, the program is shifted one-half stop above or below the programmed settings. Whenever the program is shifted, the exposure mode display blinks in the viewfinder. Before exposure, the shifted settings are held for ten seconds after lifting your finger from the operating button. After exposure, program shift is cancelled.

Aperture (50mm f/1.4 lens, ISO 100)



Shutter speed (50mm f/1.4 lens, ISO 100)



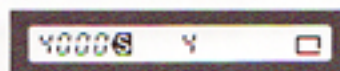
## Multi-mode creative exposure control

For the serious photographer, the Minolta 9000 offers both basic automatic exposure modes plus full-metered manual.

The Minolta 9000 offers three exposure modes in addition to program mode. With this wide selection, you are free to choose the one exposure mode most appropriate to the subject that you are shooting.

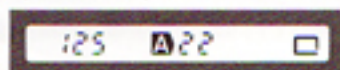
### Shutter-priority automatic exposure

This is the mode to use when your subject is in motion. By controlling the speed of the Minolta 9000's shutter, you have unlimited creative control in shooting subjects in motion: from selecting slow shutter speeds in full stops to create the illusion of speed to choosing fast shutter speeds in full stops that freeze motion solidly. The Minolta 9000's available shutter speed range is from 30 seconds to 1/4000 sec. And in its shutter-priority mode, the Minolta 9000 automatically selects the corresponding aperture for correct exposure.



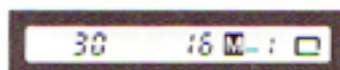
### Aperture-priority automatic exposure

Because depth of field has such a great effect on the way a photograph may turn out, the Minolta 9000 offers a virtually unlimited range of creativity with its electronic aperture-priority selection. With this mode, you can soften the mood of a picture by using large apertures in order to blur out the background...or select small apertures to attain crispness and realism. As you adjust your aperture in half-stop increments, the Minolta 9000 responds by selecting the precise stepless shutter speed for correct exposure. And you are free at any time to use the Minolta 9000's electronic depth-of-field preview control to judge the results before releasing the shutter.



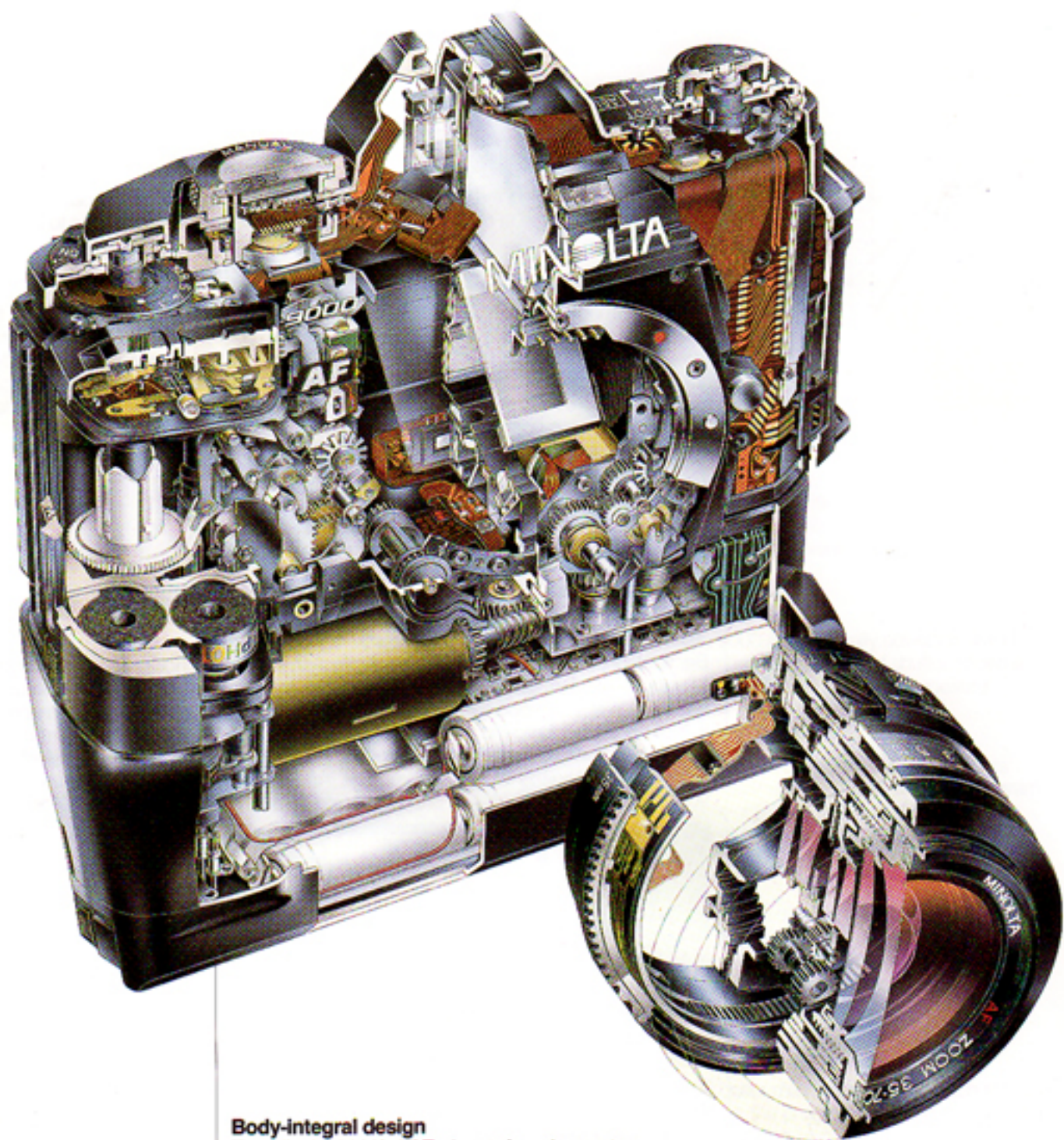
### Full-metered manual exposure

For complete control in any photographic situation, simply switch the Minolta 9000 to its full-metered Manual mode. This is where you "call the shots", selecting both aperture and shutter speed to intentionally under- or overexpose subject or background. In the viewfinder's LCD display you are kept constantly aware of the camera's ongoing metering, and all deviations are displayed for instant reference and for further exposure adjustment.



## Minolta 9000 breakthrough technology

Advanced optical, electronic and mechanical technology combines to provide flawless camera performance in the field.

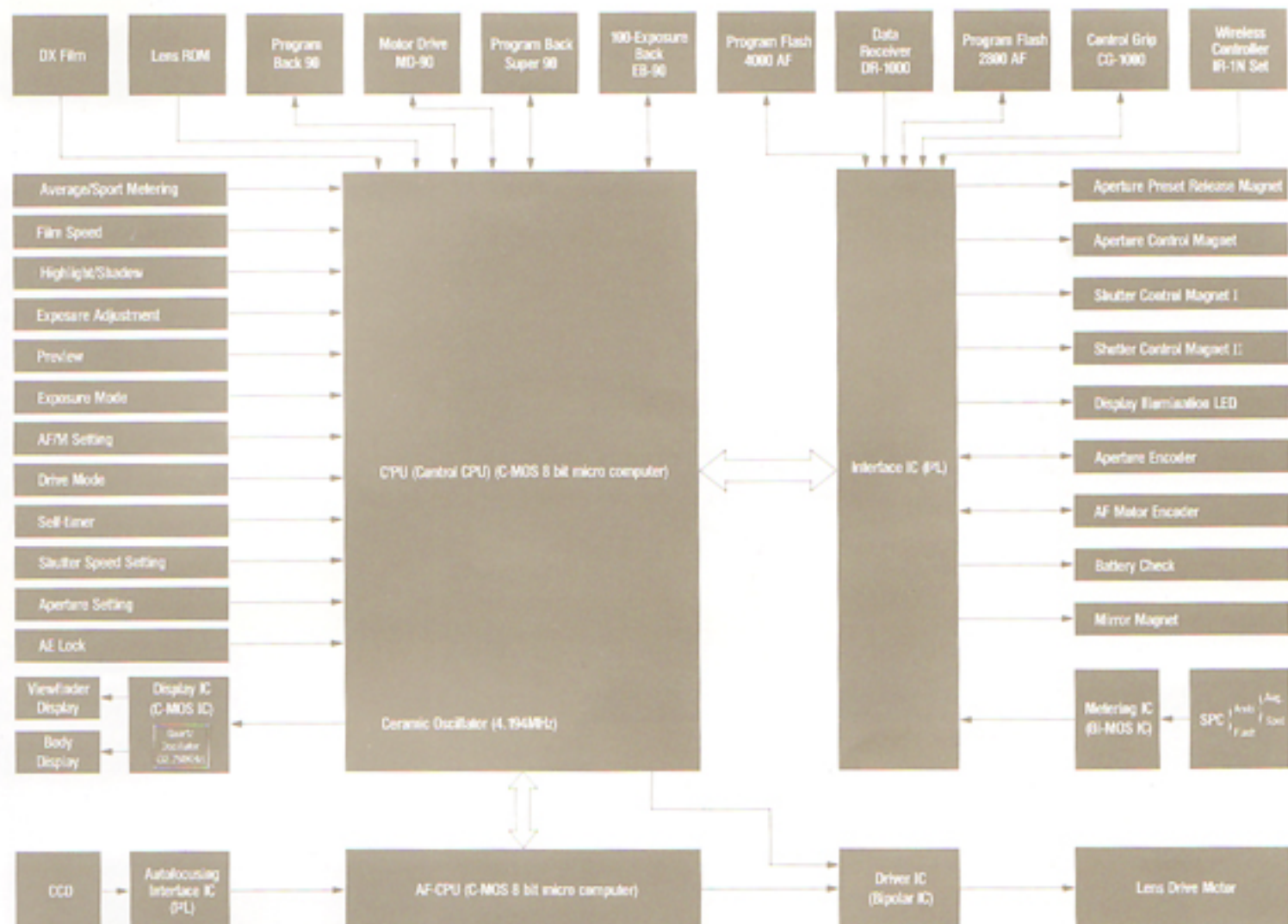


### Body-integral design

The Minolta 9000's Hi-Tech autofocus system overcomes the problems inherent in motorized lens system cameras by centralizing all focus operations in its compact SLR body. Since the focusing motor, focus sensors and microcomputers are all built into the camera body itself, the weight and the size of the camera and lens are minimized for excellent handling and control. Balance is also excellent: you'll feel what we mean when you raise the Minolta 9000 to your eye and begin to shoot.

### Advanced computer control

The Minolta 9000's integrated electronics and "intelligent" system accessories provide unmatched versatility for photographers in many fields. At the heart of the Minolta 9000 are six ICs and two CPUs, the equivalent of 150,000 transistors. All photographic information is transferred to the camera's main CPU which then processes the data and directs all camera operations. Data corresponding to the "real-time" photographic situation is transmitted as digital signals throughout the entire electronic network, causing the Minolta 9000 to act, in essence, as a "host computer" interfaced with system accessories, continuously and instantly responding to any changes in the ongoing photographic situation before you.



### Ceramic/quartz control

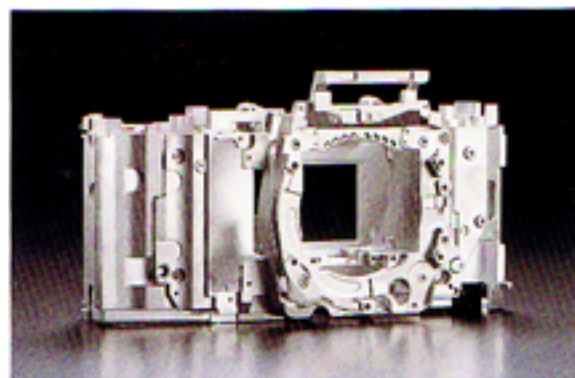
A 4,194,000Hz ceramic oscillator provides extremely precise timing for the camera's two computers as they direct autofocusing, exposure selection, shutter release and other camera operation sequencing. This very high frequency oscillator also provides the unsurpassed precision required to control the Minolta 9000's shutter timing up to 1/4000 sec. A 32,768Hz quartz oscillator times data panel and viewfinder LCD displays.

### Lens-to-camera data flow

When you fit any Minolta AF lens onto the Minolta 9000's "A" mount, both camera and lens become totally integrated through a unique electronic interlock. An on-board ROM IC located within each Minolta AF lens supplies vital focusing and exposure data to the camera's CPU. This design minimizes weight and bulk. Response is optimized and any focal length from wideangle to super-telephoto...even the changing focal length of a Minolta AF zoom lens...is instantaneously "read" for maximum lens utilization.

### Durable, die-cast body

In order to provide the strength and durability demanded by the serious photographer, Minolta made the Minolta 9000's chassis a two-piece casting of high-strength aluminum, an extremely durable, corrosion-resistant metal alloy. Seven main screws (5 in front, 2 in back) are used to fuse these parts into a single unit which provides superior protection for its internal mechanisms as well as an extra-rigid platform to mount all of the Minolta 9000's lenses...including the 300mm f/2.8 and 600mm f/4 telephotos. The result of this attention to detail and structural strength is extended service life and resistance against the bumps and knocks of constant use and travel.

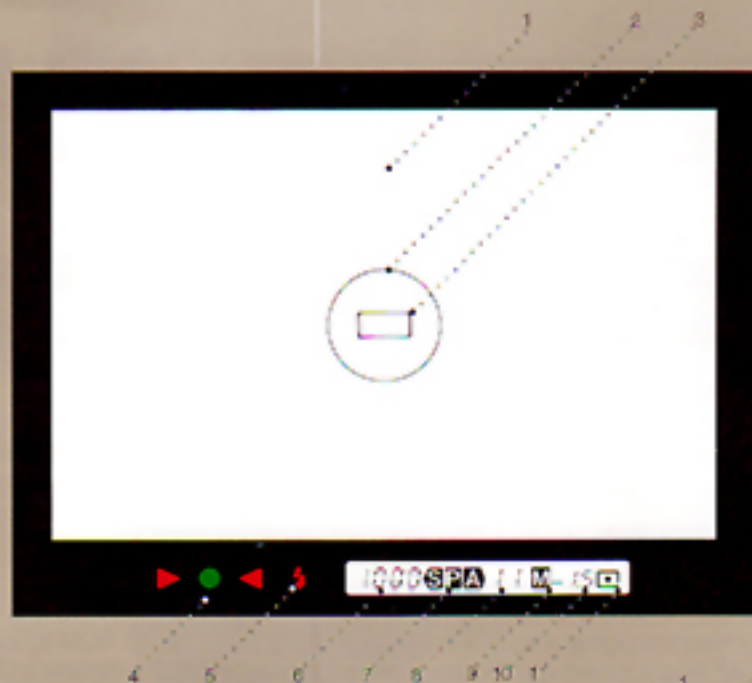


## Other high-grade features

Extra touches of camera-making knowhow make the Minolta 9000 easier to operate and provide more versatile camera performance for every type of photographer.

### Full information viewfinder

The Minolta 9000's full-information viewfinder provides all essential data readouts to guide you to precise control over camera functions. Because all information is there before you, there's no need to glance away from the viewfinder as you shoot. The Minolta 9000 even automatically illuminates its viewfinder LCD panel in low light conditions to keep you fully informed.



### Viewfinder

1. Acute-Matte focusing screen
2. Spot metering area
3. Focus frame
4. Focus signals
5. Flash signal
6. Shutter speed/film speed/bulb/elapsed time
7. Auto exposure mode indicator
8. Aperture
9. Manual mode indicator
10. Exposure adjustment/M-mode exposure deviation
11. Metering indicator



### LCD data panel

1. Exposure mode selector
2. Film speed indicator
3. Shutter speed/film speed/bulb/elapsed time
4. Selectable setting indicators
5. Exposure adjustment remainder
6. Aperture/exposure adjustment

### Touch switch

LCD displays in the data panel and viewfinder come on as soon as finger contact is made on the camera's operating button. Displays remain visible for ten seconds after removing your finger from the operating button, then automatically switch off to conserve battery power. The touch switch also automatically illuminates the LCD viewfinder display panel in low-light conditions.

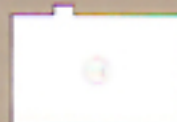


### User-changeable focusing screens

You can change the Minolta 9000's standard focusing screen with any of five additional focusing screens. Tweezers are supplied with each screen, and installation is quick and simple.



**Type G:**  
Standard screen. Focus frame and spot metering circle are centered on a matte field. For general photography.



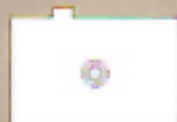
**Type C:**  
Focus frame and spot metering circle on a clear field. Note: visual focusing is not possible with this screen.



**Type L:**  
Grid. Focus frame, and spot metering circle on a matte field. For general or architectural photography.



**Type S:**  
Vertical and horizontal lines. Focus frame, and spot metering circle on a matte field. For macro, macro, and astrophotography.



**Type PM:**  
Matte field with autofocus zone along spot image. Spot metering area is the same diameter as the microprism circle.



1 Shutter up/down control



2 Depth-of-field preview switch

The Minolta 9000's electronic preview switch permits you to check depth of field by stopping down and locking the lens aperture at the setting shown in the data panel. This feature is especially useful for macrophotography or anytime you need to check the range of sharp focus in a photograph. This control functions in all four of the camera's exposure modes, including program and shutter-priority modes. With less-advanced cameras, depth-of-field preview is only possible in aperture-priority and manual modes.



3 Minolta "A" mount

The Minolta A-type bayonet is made of self-lubricating stainless steel and accepts the entire line of AF lenses. When any Minolta AF lens is attached, electrical contacts transfer data from the lens ROM IC to the camera CPU for precise exposure control and automatic multi-program selector. With the lens attached to the camera, the body-integral AF micromotor is instantly coupled to the lens' focus mechanism.

4 Lens release

5 Focus mode switch

Choose between autofocusing and manual focusing with viewfinder focus-aid signals.

6 Mirror

7 AF coupler

8 Remote control contacts

Use when employing remote shutter release by means of Remote Cords RC-1000 L or S, or the Wireless Controller IR-1N Set.

9 Strap lug

10 Fail-safe lock release

The lock release is designed to prevent accidental opening of the camera's back cover while rewinding the film. To open the back cover, slide the lock release to the right while pulling the rewind knob straight up. The back cover is spring-loaded and will pop open.

11 ±4EV exposure adjustment

Set any exposure adjustment in half-stop increments from four stops under to four stops over.

12 Metering selector

13 Film speed key

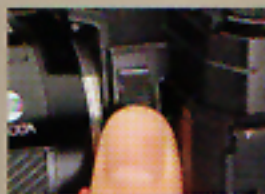
Any film speed between ISO 6 and ISO 6400 can be manually set by pressing the film speed key and moving the shutter up/down control to increase or decrease the displayed value. Each time the control is moved, the settings change by 1/3 of a stop; this procedure is useful when overriding the auto setting of DX films.



1 LCD illumination window

2 Lens contacts

3 Aperture up/down control





21 Accessory shoe

22 Exposure mode selector

23 Data panel

24 Handgrip

Sculptured grips are integrated with both camera front and back to permit one-handed ease of operation, vertically or horizontally.

25 Operating button

26 LED electronic self-timer

Easily set a ten-second shutter-release delay marked by a three-stage, blinking, front-mounted LED accompanied by an audible warning. Self-timer operations may be cancelled at any time.



27 Additive frame counter

28 Single-/multi-stroke film-advance lever

The film-advance lever swings out 90° from the camera body to its pre-advance position. To advance the film and recock the shutter, move the lever in a single 128° stroke or in several short strokes. When the film is loaded and advancing correctly, the white dot in the center of the rewind knob/metering selector will rotate counterclockwise.

29 Main switch

The camera's main switch provides not only an ON/OFF function but also can provide audible indications for focus and self-timer operation.

30 Audible Signals

When the camera's main switch is set at the ON position, an electronic audible signal indicates correct focus when focus-hold is used and while focusing manually. During self-timer operation, the signals are synchronized with the self-timer LED on the front grip. To cancel audible signals, set the main switch to ON position.

31 Sync terminal

PC-type flash-sync cords can be connected to trigger studio/commercial strobes and other non-dedicated flash units. The shutter speed for proper X-sync must be set manually to 1/250 sec. or a slower speed.

32 Faster manual rewinding

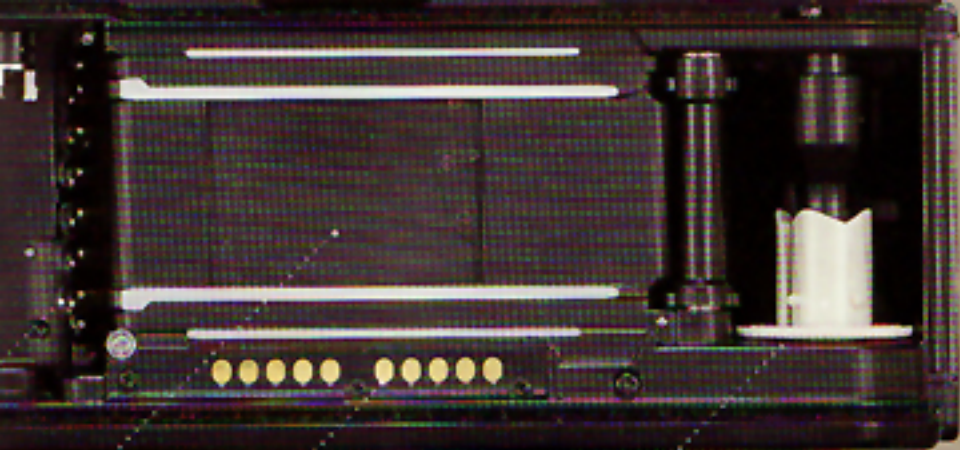
The rewind knob features a knurled surface that is easy to grip during rewinding. Pulling the knob straight up reveals the rewind crank, which is made of hardened carbon steel. The crank holds the rewind knob up and away from the camera body to permit faster rewinding, even with a flash unit attached to the camera. To rewind the film, press the film release on the bottom of the camera, then pull the rewind knob straight up and move it to one side. Rotate the rewind crank clockwise until the film is fully rewound.



33 Film window

Lets you instantly confirm whether film is loaded or not, and what type of film you are using.





#### 32 Built-in eyepiece adjustment

By turning the eyepiece adjustment dial, near- or farsighted users can adjust the eyepiece from  $-3$  to  $+1$  diopters. To use, simply turn the dial until the focus frame in the viewfinder appears sharp. If additional correction is required, a Minolta Eyepiece Corrector 1000 can be attached to the eyepiece frame.



#### 33 Eyepiece

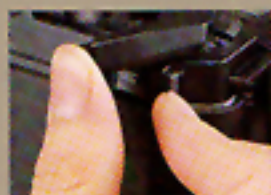
#### 34 Built-in eyepiece shutter

The Minolta 9000's eyepiece shutter can be closed to prevent stray light from entering through the eyepiece and affecting the exposure reading. It should be used whenever the eyepiece is not shielded by your head, such as during remote-control photography, self-timer operation or long exposures.



#### 35 Multiple-exposure button

By pushing the multiple-exposure button while operating the film-advance lever, the Minolta 9000's shutter can be cocked without advancing the film to the next frame. When making multiple exposures, the frame number does not change. Any number of exposures can be made on a single frame.



#### 36 Back grip

#### 37 DX contacts

With DX-coded film the film speed is automatically set. Contacts in the film chamber transfer electronically-encoded data on the film cartridge to the camera's microcomputer. The film's ISO-rated speed is then automatically set by the camera.

#### 38 Shutter curtains

#### 39 Program Back contacts

#### 40 Take-up spool

#### 41 Battery holder

The battery holder fits into the camera's front grip and holds two AA-size batteries. Alkaline-manganese, rechargeable nickel-cadmium or carbon-zinc batteries can be used. At moderate temperatures, battery performance with alkaline-manganese batteries is approx. 60 rolls of 36-exposure film; nickel-cadmium, 30 rolls; carbon-zinc, 20 rolls.



#### 42 AE lock

The Minolta 9000's AE lock comes in handy when encountering difficult lighting situations. This control is used in any of the camera's auto-exposure modes (P, A or S) to hold a meter reading of the main subject while you recompose and release the shutter. It is also used during spot metering for highlight/shadow biasing operation.

#### 43 Motor drive coupler

#### 44 Rewind release

#### 45 Tripod socket

#### 46 Motor drive/control grip contacts

**The Minolta 9000 system.  
A new standard in autofocus photography  
for professionals.**





# The Motor Drive MD-90

Variable-speed film advance combined with twin, selectable autofocus modes provides the capability of utilizing your Minolta 9000 to its maximum potential.

The Minolta Motor Drive MD-90 maximizes the action-stopping potential of the Minolta 9000 while smoothly integrating multiple-speed film advance with the camera's fast-response auto-focus system. In addition, the MD-90 permits you select focus-priority shutter release operation which ensures that the subject is in precise focus before the shutter can be released. Many other features of the MD-90 will appeal to the serious photographer in search of memorable moments to be frozen for posterity.



#### Motor Drive MD-90

1. Contact pins
2. Rewind coupler
3. Attaching screw
4. Film-advance coupler
5. Guide pins
6. 100-Exposure Back EB-90 contacts
7. Monitor lamp
8. Rewind button
9. Counter reset
10. Counter-set dial
11. Selector dial
12. Selector-dial release
13. Battery-pack release

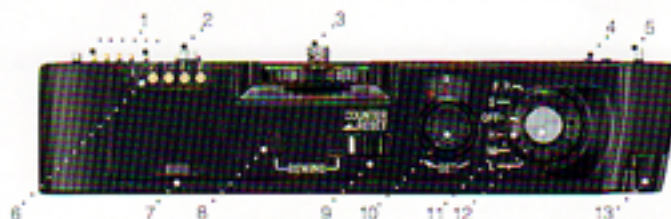
#### Ni-Cd Battery Pack NP-90M

1. Power-supply terminal
2. Attaching pins
3. Release lock
4. Shutter-release button

#### Battery Pack BP-90M

1. Power-supply terminal
2. Attaching pins
3. Release lock
4. Shutter-release button

Motor Drive MD-90



Ni-Cd Battery Pack NP-90M



Battery Pack BP-90M



### Shutter-release priority autofocus

The MD-90 works in concert with the Minolta 9000's continuous autofocus system in any of four film-advance settings: single frame, 2, 3 or 5 fps. At the higher settings, the camera's shutter is automatically recocked and the film advances continuously as long as the operating button is held down. Between exposures, the camera does not adjust focus; focus is locked in at the position used for the first exposure in the series. Film advance speed is automatically adjusted by the MD-90 when the camera's shutter speed is too slow. Maximum film advance speeds are as follows:

High (H) setting:	5 frames per second*
Medium (M) setting:	3 frames per second
Low (L) setting:	2 frames per second

\*At shutter speeds of 1/250 sec. or faster and with Ni-Cd Battery Pack NP-90M



### Focus-priority autofocus

For continuous film advance while assuring that the subject is in precise focus for each exposure, set the MD-90 to its focus-priority (F.P.) setting. Press the operating button all the way down while keeping the subject centered in the viewfinder focus frame and the camera will adjust focus for each exposure, then release its shutter. Film advance is continuous with film-advance speeds up to 4 fps.



### Auto film operation

When the MD-90 is mounted to the Minolta 9000 even film rewinding is simplified. When the end of the roll is reached, film advance automatically stops. Pressing the rewind button then begins automatic film rewinding, and rewinding automatically stops when the film has been properly rewound. Film rewinding is fast: approx. 7 seconds for 36-exposure film.

### Frame counter

The MD-90 has its own countdown-type frame counter which shows the number of exposures that remain on the roll that is loaded. The frame counter provides automatic first frame set ("36" on the dial, which can be easily adjusted for 24- or 12-exposure film rolls), automatic film-winding stop (at its "0" position) and a film-tension sensor to prevent accidental damage to the film during winding.



### Multiple exposures

The MD-90 can be used to recock the shutter when making multiple exposures on the same film frame. Any number of exposures can be made on a single frame.

### Dedicated flash use

With the flash set to its lowest power setting and using Ni-Cd batteries, the Program Flash 4000AF or 2800AF will recycle at up to 2 fps when the MD-90 is set to its "L" setting. When the Control Grip CG-1000 is used with the flash power level at its lowest setting and the MD-90's selector dial set to "H" to synchronize film advance and flash recycling, sequences up to 5 fps may be attained.

### Power sources

The Motor Drive MD-90 can be powered by either an AA-size or Ni-Cd battery pack which attaches quickly to the bottom of the unit. The Battery Pack BP-90M holds twelve AA-size batteries; alkaline-manganese or carbon-zinc batteries may be used. It can drive 40 rolls of 36-exposure film. The Ni-Cd Battery Pack NP-90M is also available for use with the MD-90: this rechargeable battery pack can drive 35 rolls of 36-exposure film and recharges in 8 hours with its supplied battery charger.

### LED indicator

An LED indicator on the back of the MD-90 keeps you informed of the motor drive's operating condition: green for winding and rewinding; red at film end.

### Vertical handling

An operating button on either of the battery packs facilitates handling and shooting with the Minolta 9000 in the vertical position.



Vertical shooting



Horizontal shooting

# The Program Flash 4000AF

An extremely powerful, dedicated autofocus that combines with your Minolta 9000 to provide virtually unlimited flash potential.

The Program Flash 4000AF is the perfect flash unit for the serious photographer. When it has been attached to the Minolta 9000's hot shoe, flash operation is totally integrated with the camera's autofocus and exposure controls to provide an extremely high performance level, suitable for a wide range of flash-assisted photography.

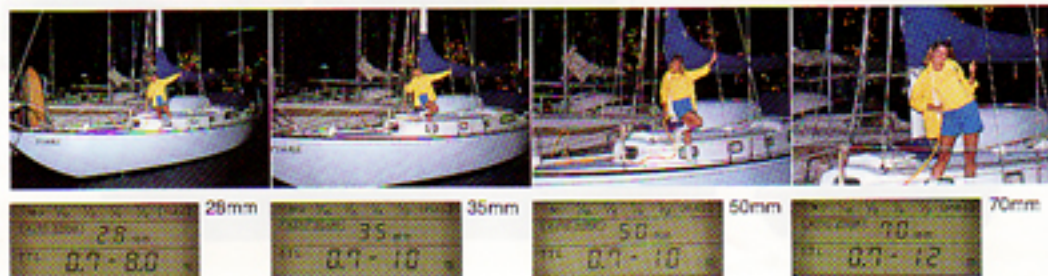
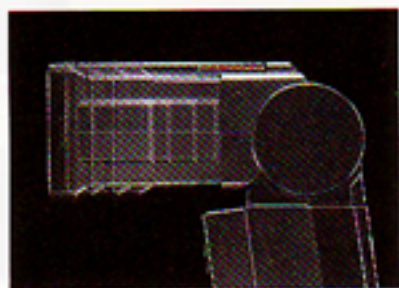


## The Minolta Program Flash 4000AF

- |                           |                               |                           |
|---------------------------|-------------------------------|---------------------------|
| 1 Power zoom head         | 7 Film switch                 | 13 Mounting clamp         |
| 2 Flash tube              | 8 Panel light button          | 14 Horizontal-angle index |
| 3 AF illuminator          | 9 Test button                 | 15 Flash data panel       |
| 4 Accessory terminal      | 10 Zoom head control          | 16 TTL/M switch           |
| 5 External power terminal | 11 Flash-ready signal         | 17 Power switch           |
| 6 Vertical-angle guides   | 12 Sufficient-exposure signal | 18 Power-level selector   |

## Automatic power zoom head

Automatically adjusts flash coverage between 28mm and 70mm, according to focal length use. The zoom position is displayed in the flash unit's back panel at 28mm, 35mm, 50mm and 70mm along with flash ranges. The head can also be manually operated for total creative control. An optional color panel set and other accessories can be used for additional creative effects, too.



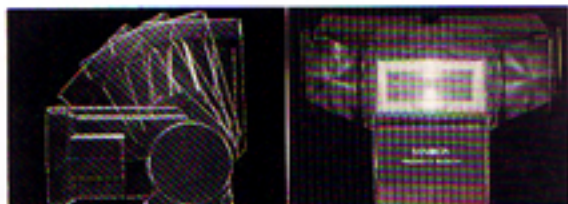


#### **AF illuminator**

Provides correctly-autofocused flash photography in low light conditions or even in total darkness. The AF illuminator triggers automatically when lighting conditions warrant. Maximum range for the AF illuminator is 7m (approx. 23 feet) based upon Minolta's standard test methods at EV1 with ISO 100 film and a Minolta AF 50mm f/1.4 lens.

#### **Two-way bounce head**

Pivots 90° upwards and 180° side-to-side for softer, more natural lighting of portraits, group shots, etc.



#### **Guide number: 40**

With a guide number of 40 in meters at ISO 100 (GN 131 in feet), the Program Flash 4000AF provides enough power to cover subjects up to 28 meters (92 feet) away when using a lens set at f/1.4. Series-thyristor circuitry assures fast recycling times and extended battery service.

#### **Variable power output**

You can select any of six stepped power settings. At its lowest power setting, flash recycling synchronizes with motor drive operation for sequential flash shooting.

#### **LCD panel**

A full range of operating data is displayed for both TTL-auto and manual flash operation: power level, flash coverage and flash range determined in either feet or meters (switchable). LEDs beneath the panel display full charge and sufficient exposure indications.

#### **TTL metering**

TTL metering is provided in all autoflash modes for accurate exposures in virtually any situation you'll encounter. When the flash is set for manual exposure operation, the LCD panel displays the correct camera-to-subject distance according to the selected aperture.

#### **Proper exposure check**

Proper exposure is confirmed both in the camera viewfinder and on the back of the Program Flash 4000AF when the subject has received sufficient exposure.

#### **Automatic charge control**

This feature automatically switches the flash unit off approximately fifteen minutes after it reaches a full charge, preventing unnecessary battery drain if you have forgotten to turn off the flash. This also assists in speedier flash charging as it commences flash charging the moment your finger contacts the operating button.

#### **Use with options**

Extended versatility can be gained when using the Program Flash 4000AF and the Motor Drive MD-90 in conjunction with the Control Grip CG-1000. Fast-action flash sequences up to 5 fps may be attained, with focus locked in on the first frame. Cables OC, EX and CD may be utilized for multiple flash photography. And a color panel set helps augment creativity.

### ***The Minolta Control Grip CG-1000***

Enhanced versatility and faster recycling make the Control Grip CG-1000 an excellent choice for the serious flash photographer. It attaches cordlessly to either the Program Flash 4000AF or 2800AF and the Minolta 9000 for the utmost in convenience. A special AF illuminator unit slides into the Minolta 9000's hot shoe to permit autofocus with off-camera flash. When two flash units are used, the CG-1000 automatically controls both flashes in a 2:1 ratio. And the extension cord included allows positioning of the Control Grip CG-1000 anywhere up to 5 meters (16.5 feet) away.



## Program flash capabilities

Enjoy a wider range of flash use when you unleash the potential of the Minolta 9000's interactive flash photography system.

Many new and creative vistas open up to you when you use the Minolta 9000 and its dedicated autofocus flash unit, the Minolta Program Flash 4000AF. Professional results with the ultimate in ease-of-operation are yours!

### Program autoflash with automatic fill-flash capability

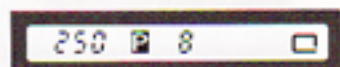
Fully-programmed flash operation makes it a snap to take flash photos that come out absolutely perfect, every time! But the Minolta 9000 and Program Flash 4000AF offer even more! Flash shutter sync. speeds automatically set to 1/60 sec., 1/125 sec. or 1/250 sec., according to brightness levels, to give you absolute mastery over all prevailing conditions. Thus, a professional technique like outdoor fill-flash can be mastered with consummate ease.



With automatic fill-flash



With conventional flash fill-in



### Lighting-ratio Control

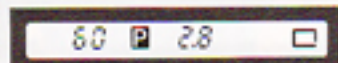
For professional flash techniques, just mount the main flash unit on the Control Grip and a fill-flash unit on the camera. After attaching the Extension Cord EC-1000, position the Control Grip up to 5m (16.5 ft.) from the camera. With the CG-1000's ratio switch on, Direct Autoflash Metering controls flash output from both units. Two-thirds of total exposure is made by the main flash, while the fill-flash supplies the final one-third.



With lighting ratio-controlled multiple flash units

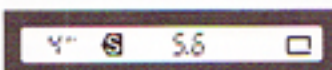


With single flash



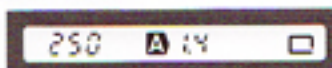
### TTL shutter mode autoflash

For the very first time in any 35mm SLR system, you can also shoot flash photos in shutter-priority mode. Simply select any shutter speed from the top flash sync. speed (1/250 sec.) to 30 sec. that you wish. When desired, camera and flash coordinate to increase background exposure with correct exposure of the main subject. This technique, slow-shutter flash, will give you a marked improvement over the results most conventional flashes provide.



### TTL any-aperture autoflash

Using the Minolta 9000 in its aperture-priority mode when shooting with the Program Flash 4000AF permits you to select any available aperture while relying upon the Minolta Direct Autoflash Metering System to deliver perfect results. Thus, you are free to choose larger apertures for maximum flash range...or smaller apertures for increased depth of field, as in close-ups.



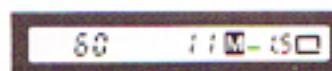
### TTL manual mode autoflash

Naturally, you are free also to choose any shutter speed from the top flash sync. speed or slower and any available aperture when shooting flash photos in the Minolta 9000's manual mode. This gives you the ultimate in creativity, and provides results that are often unforgettable.



### Non-TTL manual mode shooting

Here, the flash fires at whatever power setting you select on the Program Flash 4000AF. Any shutter speed below 1/250 sec. or below is selectable. And you set your aperture referring to the distance indication on LCD data panel. Again, this gives you a great deal of latitude in obtaining different results for different situations...and the versatility professionals want in their equipment.



## The Minolta Program Flash 2800AF

The Program Flash 2800AF provides many of the same benefits as the Program Flash 4000AF. Autofocus assist is provided in low lighting situations, up to 5m (16 feet) away. With a guide number of 28 in meters (92 in feet) at ISO 100, this compact flash unit provides plenty of flash power when needed. As with the Program Flash 4000AF, there is no need for exposure settings, calculations or compensations in program mode. Flash duration is precisely controlled by the Minolta Direct Autoflash Metering System. Both flash-ready signals and proper exposure confirmation appear in the camera viewfinder and on the rear of the flash unit itself.

The Program Flash 2800AF provides proper flash coverage for Minolta AF lenses down to 35mm, and down to 28mm with use of the supplied wideangle adapter. And automatic charge control ensures speedy flash charging and automatic flash unit switch-off after fifteen minutes of non-use.



The Minolta AF Flash System



The Program Back Super 90 will have special appeal to users in the demanding fields of scientific or technical photography, as well as for working professionals. It provides an unprecedented combination of computer-controlled features and its operation is totally integrated with that of the Minolta 9000.



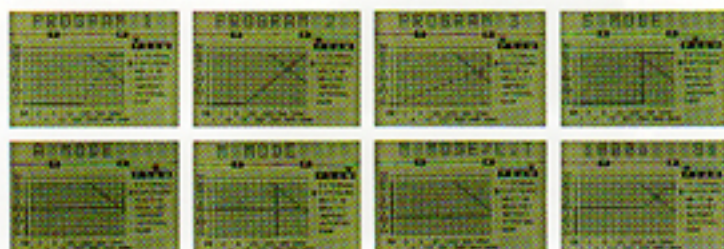
- |                      |                     |
|----------------------|---------------------|
| 1. Battery chamber   | 7. Memory clear key |
| 2. LCD display       | 8. Memory key       |
| 3. Cursor key        | 9. Enter key        |
| 4. Data setting keys | 10. Function key    |
| 5. Operate key       | 11. Mode key        |
| 6. Adjust key        |                     |

### Large-sized LCD panel

The large-sized, easy-to-read dot matrix LCD panel clearly displays exposure modes, program slopes, aperture and shutter speed settings, data to be imprinted, settings for auto bracketing and all relevant intervalometer information.

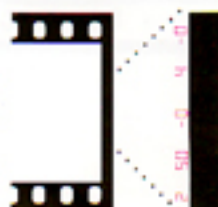
### Exposure control

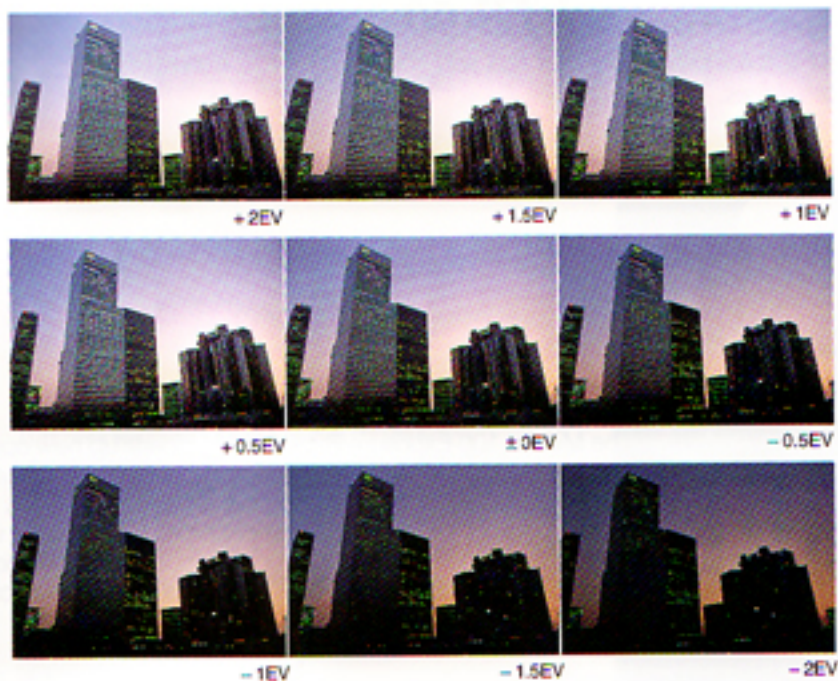
Any of the three exposure programs with different slopes can be selected by users and then further adjusted in accordance with subject or lighting requirements. Both shutter-priority and aperture-priority modes feature automatic override when subject brightness is too high or too low to assure correct exposure at the manually-set shutter speed or aperture. This auto override feature instantly changes the setting to assure accurate exposure in virtually any situation. Manual mode can be used to set any available aperture-shutter speed combination. And long-exposure mode permits the user to select exposure times from 10 seconds to more than 2 hours and 45 minutes without setting the camera to "bulb". If desired, this mode may also be combined with the intervalometer for long exposures at preset intervals.



### Data imprinting

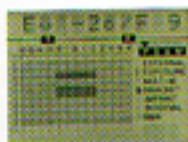
All data is printed along the righthand edge of the film frame in the area normally masked by a 35mm slide mount. Exposure data can be imprinted automatically, too: as an example, the actual aperture and shutter speed used to record each specific film frame. And a variety of manually-set data can be imprinted: time, date, fixed or sequential numbers.





#### Auto bracketing

Up to nine frames can be set to be exposed automatically at a choice of quarter-, half-, one- or two-stop differences between exposures. This feature may also be used with the intervalometer for bracketed exposures at preset intervals.



#### Intervalometer

The starting time for the first interval can be delayed up to one month, and may be set to the day/hour/minute. The length of time between the start time of each interval can be set in hours/minutes/seconds. And the number of groups of exposures and number of frames exposed in a single group can be preset.

#### Multi-spot metering

With the Program Back Super 90, you can memorize up to eight separate spot-meter readings when you encounter extremely difficult lighting situations with the Minolta 9000. Take, for example, a photographic situation that contains a variety of light intensities. If you use average metering or even single spot metering, you may very well neutralize dramatic highlighting and, at the same time, wash out important detail due to underexposure. Multiple spot metering's the answer, as it lets you take any areas of the composition you select into account to calculate the most appropriate composite exposure value in order to achieve your desired results.

### *The Minolta Program Back 90*

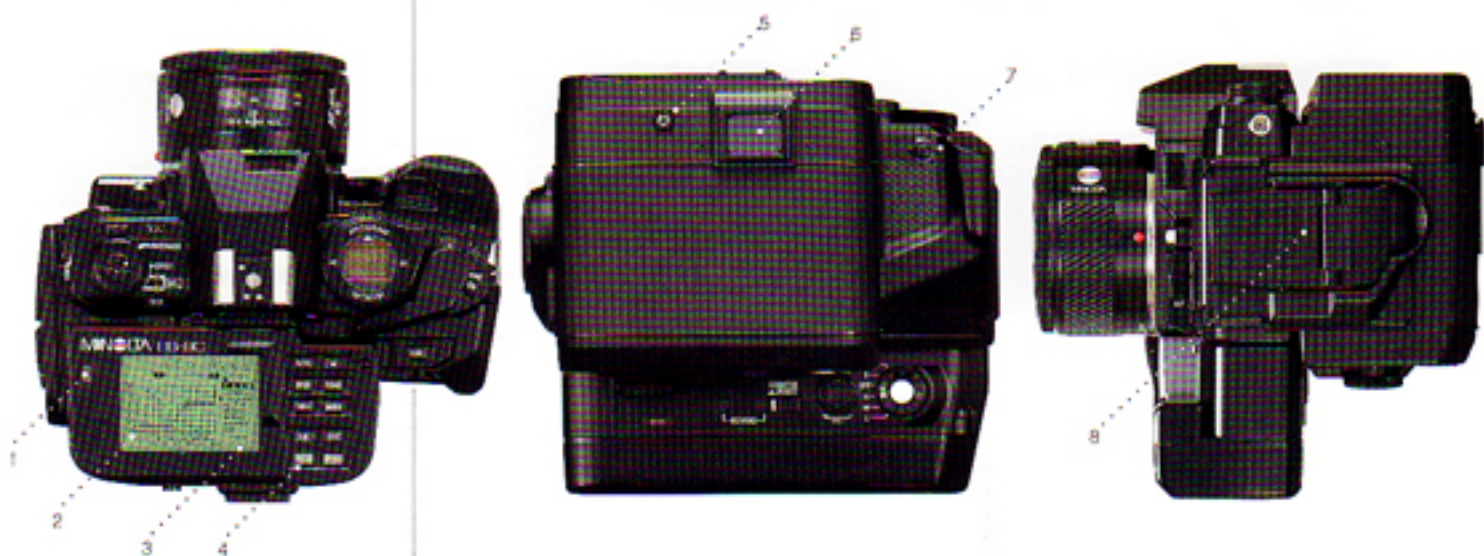
With the Minolta Program Back 90, both data imprinting and unmanned camera control can be selected at will, even combined. Imprint exposure control is automatically set according to the film-speed setting on the camera. All Program Back 90 functions are timed by extremely precise quartz-controlled circuitry to ensure a high level of accuracy and precision.



# The 100-Exposure Back EB-90

A versatile option for the Minolta 9000 that lets you shoot up to 100 exposures without changing cartridges.

The Minolta 100-Exposure Back EB-90\* opens up new opportunities for motor-driven photography. Despite being very compact, this versatile option virtually triples the shooting capacity of the Minolta 9000 by itself...making the 100-Exposure Back EB-90 ideal for photographing sporting events, news or other fast-paced action situations where there is no time to change film. And for time-lapse photography or other scientific applications, the EB-90 contains its own integral Program Super Back 90...the world's most advanced camera-control back.



## 100-Exposure Back EB-90

1. Film-advance LED
2. LCD panel
3. Frame counter
4. Control keys
5. Eyepiece adjuster
6. Eyepiece
7. AE lock button
8. Safety latch

### Compact, easy to hold

The Minolta 100-Exposure Back EB-90 is surprisingly compact. Its size and sculptured shape permit easy hand holding, far easier than conventional film backs.

### Film capacity

The EB-90's film cartridges contain approximately 100 exposures of 35mm film. Two film cartridges are supplied. Additional film cartridges may be purchased separately.

### Fast film replacement

Film cartridges are slipped into the film magazine so that the user can quickly replace used cartridges with new ones. Once the magazine has been set into place, the EB-90 automatically advances the film to its first frame. The film tail is automatically wound into its cartridge after all frames have been exposed when the "END" button is pushed.

### Integral Program Back Super 90

All functions of the Program Back Super 90 are provided with the EB-90.

### Accessory interface

Electrical contacts on the EB-90 instantly couple its operation to that of the Motor Drive MD-90. Continuous film advance is possible, with speeds up to 4.5 frames-per-second. You can also attach the Control Grip CG-1000, for further integration of system functions with the Minolta 9000.

### Film Loader FL-90

The Minolta Film Loader FL-90 is used with the Minolta 100-Exposure Back EB-90. With this easy-to-operate film loader, you can load up to 4 meters (13.2 feet) of 35mm film into a film cartridge.



\*available early 1986.

# The Flash Meter IV

A professional exposure meter that transfers meter-derived exposure data even incident readings, to the Minolta 9000, then triggers shutter release.

The Minolta Flash Meter IV is a remarkably versatile meter for measuring both ambient light and flash light. It enhances operation of the Minolta 9000 by its wireless remote data transfer, shutter release and flash triggering functions. Minolta's newest and most advanced exposure meter, the Flash Meter IV will prove invaluable in a variety of practical applications.



#### Flash Meter IV

1. Memory-cleaner key
2. IR transmitter window
3. Date panel
4. Memory button
5. On/Recall button
6. Spherical diffuser
7. Shadow key
8. Averaging key
9. Highlight key
10. Mode selector
11. Function selector
12. Sync terminal



#### Built-in infrared transmitter

The Flash Meter IV is the world's first hand-held exposure meter to incorporate an on-board infrared transmitter which permits wireless data transfer and camera control from a distance. By attaching the Data Receiver DR-1000 to the Minolta 9000, the user can transfer the shutter speed and aperture determined by the Flash Meter IV to the camera, then trigger flash and release the shutter.

#### Analyze function

Precise exposure control can be gained with the Flash Meter IV's capability of handling both ambient and flash lighting values...perfect for outdoor fill-flash operation, for example. Exposure readings for both flash and ambient light are stored in separate memories and indications on the LCD display inform the user of how much light each source contributes to the overall exposure. The flash power level, aperture setting and shutter speed can then be adjusted for optimum exposure.

#### Guide value function

A unique feature found only on the Minolta Flash Meter IV, this capability permits the required aperture setting to be easily selected on the flash meter when using flash and a specific aperture is required (such as for precise depth-of-field control). When the reading is taken, the GV number indicates how many stops the flash power must be changed in order to obtain correct exposure.

#### Incident or reflected-light readings

Either incident or reflected-light readings may be taken, simply by changing the light receptor. Supplied with the Flash Meter IV are a spherical diffuser for incident readings and a reflected-light attachment with a 40° field of view that corresponds to a normal lens on a 35mm camera.

#### Spot metering

Spot metering of reflected light is also made possible by using the optional Minolta Viewfinder 5°. By pressing the appropriate key, readings can be calculated for proper exposure of shadow, mid tone or highlight areas.

#### Cumulative reading

By using the flash meter's "Multi" setting, cumulative readings may be taken to determine how many times a flash must be fired to obtain correct exposure at a specific aperture.

## The Minolta AF lenses

The Minolta AF lens system features a growing range of autofocus lenses with focal lengths ranging from 24mm wideangle to 600mm super-telephoto. Included are a choice of six macro/zooms covering focal lengths from 28mm to 300mm. Among these outstanding zoom lenses are the ultra-compact 35-70mm and 28-135mm zooms, both of which permit the photographing of landscapes or portraits with equal ease. For autofocused close-ups to life-size, the Minolta AF 50mm Macro is sure to impress the most demanding photographer. And for the working professional, the Minolta AF 300mm f/2.8 Apo and the AF 600mm f/4 Apo\* offer the ultimate in "reach" for fast-paced sports, news and wildlife photography.



**AF 24mm f/2.8**  
Construction: 8 elements  
in 8 groups  
Angle of view: 84°  
Minimum focus: 0.25m  
Minimum f-stop: f/22  
Filter-mount diameter:  $\phi$ 55mm  
Dimensions:  $\phi$ 65.5 x 44mm  
Weight: 215 g



**AF 28mm f/2.8**  
Construction: 5 elements  
in 5 groups  
Angle of view: 75°  
Minimum focus: 0.3m  
Minimum f-stop: f/22  
Filter-mount diameter:  $\phi$ 49mm  
Dimensions:  $\phi$ 65.5 x 42.5mm  
Weight: 200 g



**AF 50mm f/1.4**  
Construction: 7 elements  
in 6 groups  
Angle of view: 47°  
Minimum focus: 0.45m  
Minimum f-stop: f/22  
Filter-mount diameter:  $\phi$ 49mm  
Dimensions:  $\phi$ 65.5 x 38.5mm  
Weight: 230 g



**AF 50mm f/1.7**  
Construction: 6 elements  
in 5 groups  
Angle of view: 47°  
Minimum focus: 0.45m  
Minimum f-stop: f/22  
Filter-mount diameter:  $\phi$ 49mm  
Dimensions:  $\phi$ 65.5 x 38.5mm  
Weight: 185 g



**AF 35-70mm f/4**  
Construction: 8 elements in 6 groups  
Angle of view: 63°-34°  
Minimum focus (macro): 1m (0.32m)  
Maximum magnification: 0.25X  
Minimum f-stop: f/22  
Filter-mount diameter:  $\phi$ 49mm  
Dimensions:  $\phi$ 68 x 52mm  
Weight: 255 g



**AF 35-105mm f/3.5-4.5**  
Construction: 14 elements in 12 groups  
Angle of view: 63°-23°  
Minimum focus (macro): 1.5m (0.41m)  
Maximum magnification: 0.25X  
Minimum f-stop: f/22-27  
Filter-mount diameter:  $\phi$ 55mm  
Dimensions:  $\phi$ 68.5 x 87mm  
Weight: 495 g



**AF 70-210mm f/4**  
Construction: 12 elements in 9 groups  
Angle of view: 34°-12°  
Minimum focus (macro): 1.1m (1.1 m)  
Maximum magnification: 0.256X  
Minimum f-stop: f/32  
Filter-mount diameter:  $\phi$ 55mm  
Dimensions:  $\phi$ 72.5 x 152 mm  
Weight: 696 g



**AF 600mm f/4 Apo\***  
Construction: 10 elements in 9 groups  
Angle of view: 4°15'  
Minimum focus: 6m  
Minimum f-stop: f/32  
Filter-mount diameter:  $\phi$ 154.5mm  
Dimensions:  $\phi$ 169 x 449mm  
Weight: 5600 g



**AF 135mm f/2.8**

Construction: 7 elements in 5 groups  
 Angle of view: 18°  
 Minimum focus: 1m  
 Minimum f-stop: f/32  
 Filter-mount diameter:  $\phi$ 55mm  
 Dimensions:  $\phi$ 65.5 x 83mm  
 Weight: 365 g

**AF 28-85mm f/3.5-4.5**

Construction: 13 elements in 10 groups  
 Angle of view: 75°—29°  
 Minimum focus (macro): 0.8m (0.25m)  
 Maximum magnification: 0.25X  
 Minimum f-stop: f/22—27  
 Filter-mount diameter:  $\phi$ 55mm  
 Dimensions:  $\phi$ 68.5 x 85.5mm  
 Weight: 490 g

**AF 28-135mm f/4-4.5**

Construction: 16 elements in 13 groups  
 Angle of view: 75°—18°  
 Minimum focus (macro): 1.5m (0.25m)  
 Maximum magnification: 0.25X  
 Minimum f-stop: f/22—27  
 Filter-mount diameter:  $\phi$ 72mm  
 Dimensions:  $\phi$ 75 x 109mm  
 Weight: 750 g

**AF 50mm f/2.8 Macro**

Construction: 7 elements in 6 groups  
 Angle of view: 47°  
 Minimum focus: 0.2m  
 Maximum magnification: 1X  
 Minimum f-stop: f/32  
 Filter-mount diameter:  $\phi$ 55mm  
 Dimensions:  $\phi$ 68.5 x 59.5mm  
 Weight: 310 g

**AF 75-300mm f/4.5-5.6\***

Construction: 13 elements in 11 groups  
 Angle of view: 32°—8°10'  
 Minimum focus (macro): 1.5 m (1.5 m)  
 Minimum f-stop: f/32-38  
 Filter-mount diameter:  $\phi$ 55mm  
 Dimensions:  $\phi$ 72.5 x 163.5mm  
 Weight: 860 g

**AF 300mm f/2.8 Apo**

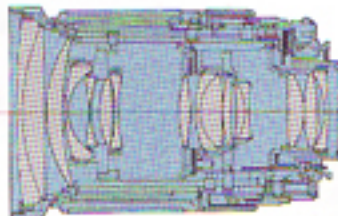
Construction: 11 elements in 9 groups  
 Angle of view: 8°10'  
 Minimum focus: 2.5 m  
 Minimum f-stop: f/32  
 Filter-mount diameter:  $\phi$ 114mm  
 Dimensions:  $\phi$ 128 x 238.5 mm  
 Weight: 2480 g

**Breakthrough technology creates a "new breed" of AF lenses!**

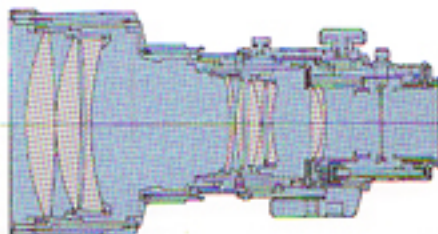
The Minolta AF lens system is the world's most extensive lineup of interchangeable autofocus lenses. To produce such a superb collection of AF lenses in such a wide focal range required breakthrough technology and a commitment to excellence rare in any industry.

**Compound aspherical lens**

In the Minolta AF 35—70mm f/4, an exclusive compound aspherical element is used to create an extremely lightweight and compact zoom lens. Minolta's advanced lens-manufacturing techniques assure optimum performance from this unique lens design.

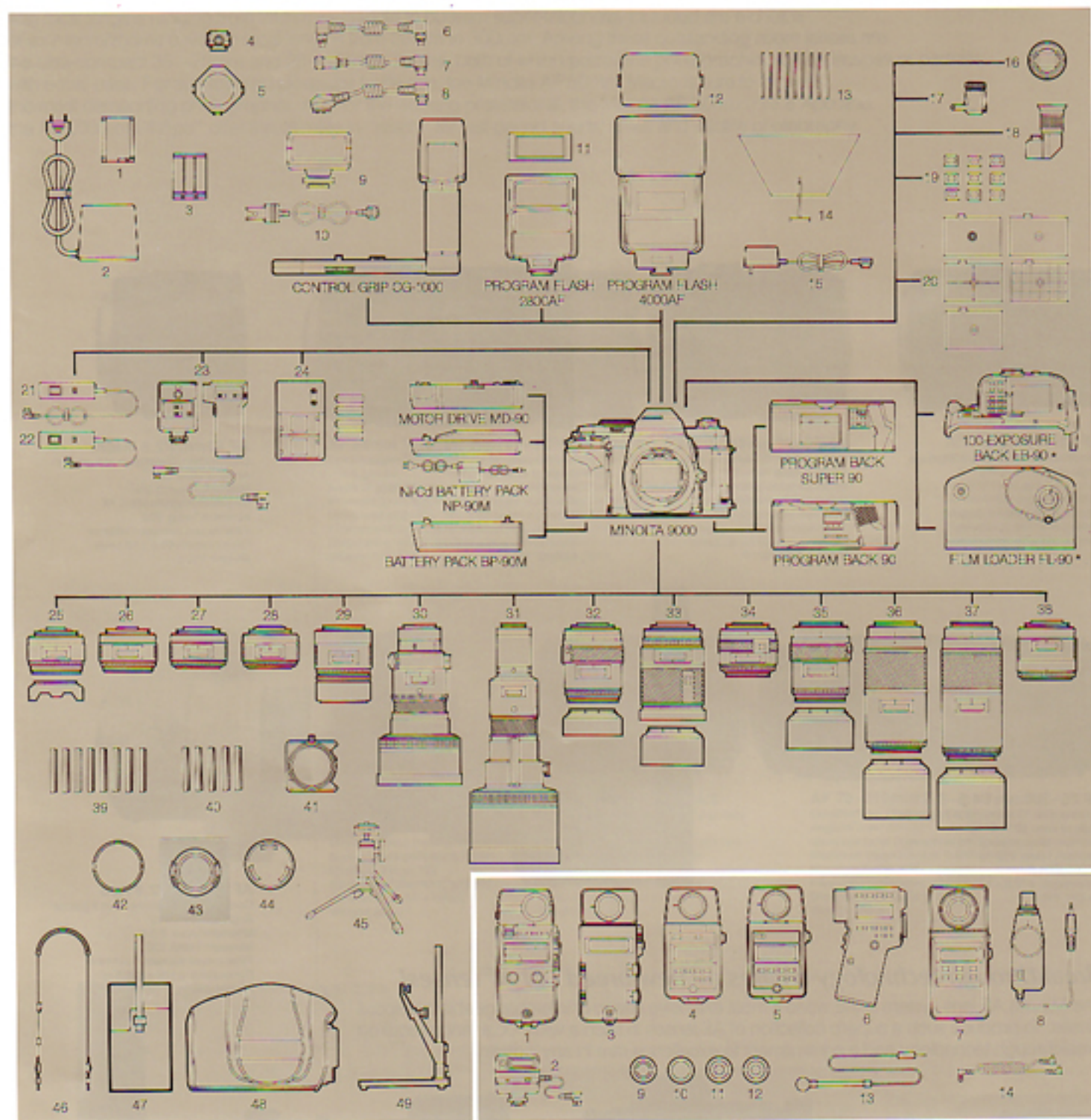
**Rear focusing system**

The Minolta AF 28—135mm f/4—4.5 zoom lens is the first zoom lens in the world to use a unique rear-focusing optical design to provide faster autofocusing since the moving mass of lens elements is greatly reduced. Reduction of overall size and weight and closer minimum focusing distances are other benefits.

**Anomalous dispersion (AD) glass**

The Minolta AF 300mm f/2.8 Apo and Minolta AF 600mm f/4 Apo tele lenses use Minolta's anomalous dispersion (AD) glass whose low refractive index and low anomalous dispersion are particularly effective in correcting lateral and longitudinal chromatic aberrations which are characteristic of most conventional telephoto lenses. Minolta's exclusive achromatic coating further improves color rendition and enhances image contrast.

# Minolta 9000 System



## MINOLTA 9000 SYSTEM

- Ni-Cd Battery Pack NP-2
- Ni-Cd Charger QC-1
- Battery Cartridge PG
- Off-Camera Shoe
- Triple Connector TC-1000
- Cable CD
- Cable EX
- Cable OC
- AF Illuminator Unit AI-1000
- Grip Extension Cable EC-1000
- Wideangle Adapter
- Wideangle Adapter
- Color Panel Set PS-1000
- Bounce Reflector II Set
- AC Adapter AC-1000
- Eyepiece Hood EH-7
- Magnifier Vx

- Angle Finder Vx
- Eyepiece Corrector 1000
- Focusing Screen 90
- Remote Cord RC-1000L
- Remote Cord RC-1000S
- Wireless Controller IR-1N Set
- Ni-Cd Charger NC-2
- AF 24mm f/2.8
- AF 28mm f/2.8
- AF 50mm f/1.7
- AF 50mm f/1.4
- AF 135mm f/2.8
- AF 300mm f/2.8 Apo
- AF 600mm f/4 Apo\*
- AF 28-85mm f/3.5-4.5
- AF 28-135mm f/4-4.5
- AF 35-70mm f/4

- AF 35-105mm f/3.5-4.5
- AF 70-210mm f/4
- AF 75-300mm f/4.5-5.6\*
- AF 50mm f/2.8 Macro
- Filters
- Portrayer Filters
- Gelatin-Filter Holder
- Body Cap
- Lens Front Cap
- Lens Rear Cap
- Mini Tripod TR-1
- Neck Strap Set NS-90
- Lens Strap Case
- Camera Case
- Copy Stand II

## METERS & ACCESSORIES

- Flash Meter IV
- Data Receiver DR-1000
- Flash Meter III
- Auto Meter III<sup>F</sup>
- Auto Meter III
- Spotmeter M
- Color Meter II
- Booster II
- 4X&8X Spherical ND Diffuser
- Spot Mask
- Flat Diffuser
- Reflected-light Attachment
- Mini Receptor
- Sync Cord II

\*available early 1986

# Specifications

## Minolta 9000

**Type:** 35mm single-lens reflex camera with autofocus and multi-mode exposure control  
**Film format:** 24 x 36mm  
**Lens mount:** Minolta "A" type bayonet, self-lubricated stainless steel  
**Autofocus system:** Minolta TTL phase-detection type, working range: EV 2 to 19 at ISO 100. LED focus signals in viewfinder for both manual and automatic focusing  
**Shutter:** Electronically controlled vertical-traverse focal-plane type  
**Shutter-speed range:** In P and A modes: stepless 1/4000 to 30 sec.; in M and S modes: 1/4000 to 30 sec. in full-stop settings; "bulb" operates in M mode  
**Metering systems:** TTL, center-weighted averaging by compound silicon photocell at bottom of mirror box, or spot metering for midtone, highlight, or shadow using center portion of same SPC; spot-measurement area: 5.5mm circle in center of focusing screen, approx. 2.7% of film frame; center-weighted averaging range: EV 1 to 20 with ISO 100 and 50mm f/1.4 lens (e.g., 1 sec. at f/1.4 to 1/4000 sec. at f/16)  
**Film speed settings:** ISO 6 to 6400 in one-third stop settings; automatic film speed setting for DX-coded films; manual override of DX setting possible  
**Exposure modes:** Program AE with automatic multi-program selection of wide, standard, or tele program and program-shift capability; aperture-priority AE; shutter-priority AE; metered-manual exposure  
**Flash exposure modes:** Direct (TTL) autofocus metering by same SPC in all modes for ISO speeds 12-1000, program AE, automatic setting of aperture and X-sync to 1/60, 1/125 or 1/250 sec.; aperture-priority AE; X-sync set to 1/250 sec.; shutter-priority AE and metered manual 1/250 or slower speeds usable; speed automatically reset to 1/250 sec. for manually set speeds above 1/250 sec.  
**AE lock:** Works in P, A, and S modes; used in all exposure modes for highlight- and shadow-based spot metering; used for slow-shutter sync with dedicated flash  
**Exposure adjustment:** -4 to +4 EV in half-stop settings  
**Viewfinder:** Eye-level fixed pentaprism type with built-in eyepiece correction adjustable from -3 to +4 diopters, field of view: 94% of film-frame area; magnification: 0.81X with 50mm lens set at infinity  
**Data display:** Data panel. LCDs indicate shutter speed, aperture, film speed, exposure adjustment, "bulb" elapsed time, Viewfinder. LCDs indicate exposure mode, metering mode, shutter speed, aperture, film speed, exposure adjustment, and exposure deviation in metered-manual mode  
**Operating button:** Touch Switch activates metering and continuous autofocus; meter stays on for 10 sec. after finger is lifted from button; pressing halfway holds focus; pressing all the way releases shutter  
**Film transport:** Manual film advance. Film-advance lever has 30° offset angle with 128° movement in single or multiple strokes  
**Film rewind:** Manual by rewind crank  
**Frame counter:** Additive type; camera sets to 1/4000 sec. and lens' minimum aperture until "1" appears in frame counter  
**Mirror:** Semi-silvered swing-back type; secondary mirror for metering and autofocus  
**Audible signals:** With main switch at ON/FF position, camera "beeps" when using focus hold, focusing manually, and during self-timer operation  
**Self-timer:** Electronic with 10-second delay, operation indicated by blinking LED and audible "beeps"; cancellable  
**Power:** Two AA-size 1.5v alkaline-manganese, carbon-zinc, or 1.2v rechargeable nickel-cadmium batteries  
**Preview switch:** Used for checking depth of field, operates in all four exposure modes, pressing halfway down stops down and locks lens diaphragm at aperture setting shown in data panel and finder; when used, "F" blinks in data panel  
**Multiple-exposure button:** Enables making more than one exposure on a single frame, when pushed all the way in, shutter can be recocked without advancing film, frame counter does not advance during use  
**Others:** Sync terminal, eyepiece shutter, remote-control terminal, film window, user-changeable focusing screens  
**Dimensions:** 53 x 92 x 139 mm  
**Weight:** 645 g, without batteries

## Motor Drive MD-90

**Type:** Detachable motor drive unit for automatic film advance and rewind with the Minolta 9000 camera.  
**Function:** Operates camera's film advance/shutter cocking mechanism, controlled by 6-position selector dial.  
**Drive motor:** Single micromotor for both film advance and rewind.  
**Power source:** Available separately, either Battery Pack BP-90M which uses 12 AA-size alkaline-manganese or carbon-zinc batteries or Ni-Cd Battery Pack NP-90M which has built-in nickel-cadmium batteries and is supplied with Ni-Cd Charger NC-90M for recharging; for maximum film-advance speed of 5 fps, fully charged NP-90M must be used.  
**Film advance:** Automatic advance to first frame after pressing operating button; film-advance rate selected by rotating selector dial to one of five operating positions: "H" (high) setting for continuous film-advance at up to 5 fps using Ni-Cd Battery Pack NP-90M; with either battery pack, "M" (medium) for up to 3 fps, or "L" (low) for up to 2 fps, "S" (single) setting for a single-frame advance, "F P" (focus-priority) setting for continuous film advance with focus-priority shutter release; manual film advance possible when selector dial is at "OFF" position.  
**Usable exposure modes:** All exposure modes can be used, 1/250 sec. shutter speed required for maximum film-advance speed; at slower shutter speeds, film-advance speed decreases to allow time for correct exposure.  
**Frame counter:** Count-down type shows remaining number of exposures on roll; film advance stops automatically whenever counter shows "0".  
**Film rewinding:** Automatic with manual activation, rewind motor stops automatically after film is rewound; film leader remains out.  
**Film-cartridge winding capacity:** Approximate number of successive 36-exposure rolls per set or charge (based on Minolta's standard test method at 20°C (68°F)): NP-36M, 35 rolls with full charge; BP-90M, 50 rolls with alkaline-manganese, 40 rolls with carbon zinc.  
**Other features:** Tension switch stops film advance at end of roll, green monitor lamp signals film advance, red monitor lamp signals film advance is stopped.  
**Dimensions:** 144 x 30 x 55mm  
**Weight:** 330 g, without batteries

## Program Flash 4000AF

**Type:** Fully dedicated autofocus with TTL metering and a built-in AF illuminator for autofocusing  
**Exposure control:** Minolta Direct Autoflash Metering (TTL off-the-film) in all flash exposure modes based on camera's film-speed setting; with camera in M mode manual flash exposure at power level selected.  
**Film-speed range for TTL metering:** ISO 12 to 1000 with Minolta 9000  
**AF illuminator:** Focus-assist LEDs automatically activated when required for autofocusing of low-contrast subjects in low light, approx. range 1m (3.3 ft.) to 7m (23 ft.) based on Minolta's standard test method with 50mm lens at EV1 and ISO 100 film.  
**Flash data panel:** LCD panel shows power level selected, automatic or manual adjustment of power zoom head, flash coverage/zoom head position, TTL or manual flash operation, and flash range for power level, zoom head setting and aperture in use.  
**Controls:** Zoom head control, panel light button, power-level selector, TTL/M switch, test button, film switch, power switch.  
**Indications:** Flash-ready signal (red LED) glows when unit is charged; sufficient exposure signal (green "OK" LED) glows after exposure if flash exposure was sufficient.  
**Power sources:** Uses four AA-size batteries, either 1.5v alkaline-manganese or 1.2v rechargeable nickel-cadmium; optional Control Grip CG-1000 or AC Adapter AC-1000.  
**Flash coverage:** Power zoom head automatically adjust flash coverage from 28mm to 70mm, manual adjustment also possible; coverage for lenses down to 24mm using wideangle adapter supplied.

### Battery performance:

Power level	Flashes per set					
	FULL	1/2	1/4	1/8	1/16	MD
Alkaline-manganese	90-1600	200-1600	450-1600	700-1600	1000-1600	1100-1600
Nickel-cadmium	40-500	70-500	140-500	220-500	300-500	360-500

### Flash recycling:

Power level	Recycling time (sec.)					
	FULL	1/2	1/4	1/8	1/16	MD
Alkaline-manganese	0.3-1.0	0.3-5.9	0.3-3.0	0.3-1.5	0.3-1.0	0.3-0.7
Nickel-cadmium	0.2-6.0	0.2-3.0	0.2-2.0	0.2-1.0	0.2-0.6	0.2-0.4

### Flash duration (sec.):

Power level	FULL	1/2	1/4	1/8	1/16	MD
TTL setting	1/25000-1/800	1/25000-1/1200	1/25000-1/2500	1/25000-1/5000	1/25000-1/10000	1/25000-1/14000
M setting	1/800	1/1200	1/2500	1/5000	1/10000	1/14000

### Angle of flash output:

Flash coverage	vertical	horizontal
70 mm	26°	36°
50 mm	34°	46°
35 mm	45°	60°
28 mm	53°	70°
24mm (wideangle adapter)	60°	78°

### Guide number at ISO 100:

Flash coverage	Power level	FULL	1/2	1/4	1/8	1/16	MD
		70 mm	45	32	23	16	11
		146	105	75	52	36	31
50 mm	40	28	20	14	10	8.4	
	131	92	66	46	33	28	
35 mm	34	24	17	12	8.5	7.1	
	112	79	56	39	28	23	
28 mm	28	20	14	10	7.1	5.9	
	92	66	46	33	23	19	
24 mm (Wideangle adapter)	20	14	10	7	5.0	4.2	
	66	46	33	23	16	14	

### Maximum flash range at ISO 100:

P mode	0.7 to 14m (2.3 to 46 ft.)
AM mode	0.7 to 28m (2.3 to 92 ft.)
S mode	0.7 to 7m (2.3 to 23 ft.)

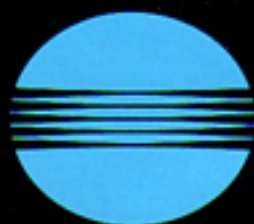
**Flash-camera contacts:** Spring-loaded contacts on attaching foot dedicate flash to camera body for triggering flash unit, automatic X-sync speed setting, signaling flash-ready indication in viewfinder, Direct Autoflash Metering, and activating AF illuminator for autofocusing, and automatic setting of zoom head.

**Exposure confirmation:** After exposure, "OK" signal on back panel glows and flash signal in viewfinder blinks rapidly if exposure was sufficient.

**Other:** Auto charge control turns unit off automatically if operating button is not touched within 15 minutes after full charge is reached; charging restarted by touching operating button; panel light button illuminates LCD panel for 8 sec. after button is pressed.

**Optional accessories:** Control Grip CG-1000 Set, Cable EX, Cable CD, Cable DC Off-Camera Shoe Triple Connector TC-1000, Color Panel Set PS-1000, AC Adapter AC-1000, Ni-Cd Charger NC-2 with Ni-Cd cells included.

**Dimensions:** 82 x 144 x 102.5 mm  
**Weight:** 495 g, without batteries



# MINOLTA

**Minolta Camera Co., Ltd.**

**Minolta Camera Handelsgesellschaft m.b.H.**

**Minolta France S.A.**

**Minolta (UK) Limited**

**Minolta Austria Gesellschaft m.b.H.**

**Minolta Camera Benelux B.V.**

**Belgium Branch**

**Minolta (Schweiz) AG**

**Minolta Svenska AB**

**Minolta Corporation**

**Head Office**

**Los Angeles Branch**

**Chicago Branch**

**Atlanta Branch**

**Minolta Canada Inc.**

**Head Office**

**Montreal Branch**

**Vancouver Branch**

**Minolta Hong Kong Limited**

**Minolta Singapore (Pte) Ltd.**

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