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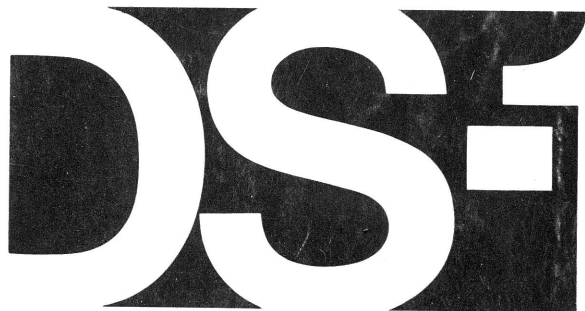
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# EE Aperture Control Attachment

The logo consists of the letters 'DSF' in a bold, white, sans-serif font. The letters are set against a solid black rectangular background. The 'D' is on the left, the 'S' is in the middle, and the 'F' is on the right. The 'F' has a distinctive shape with a horizontal bar that is slightly offset from the vertical stem.

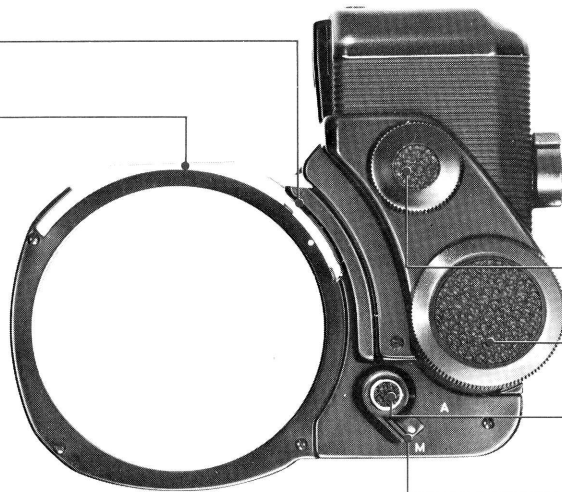
**Nikon** INSTRUCTION MANUAL

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# NOMENCLATURE

Drive gear

Loop arm



Lock knob

Battery housing

Lens release button

A·M switch lever

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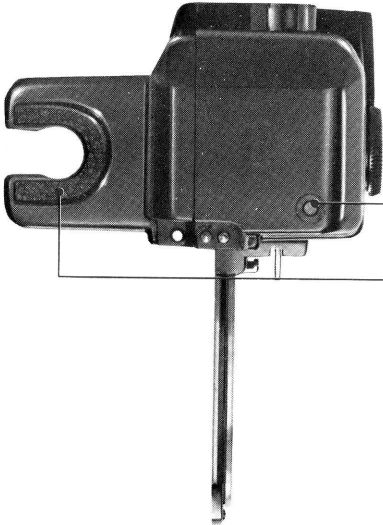
Control switch

Run-control knob



Battery checker lamp

Fork



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## FOREWORD

Designed for use in combination with the F2S Photomic Finder, the EE Aperture Control Attachment DS-1 provides the Nikon F2 camera with automatic exposure-metering control. Once the shutter speed is selected, the meter in the F2S Photomic Finder reads the scene brightness and commands the attachment to drive the lens aperture diaphragm to the correct aperture corresponding to the selected shutter speed.

The automatic exposure metering control is coupled with all shutter speeds on the shutter-speed dial of the F2S Photomic Finder and accepts, without factory modification, all lenses with a meter coupling prong. The rechargeable Ni-Cd battery DN-1, C-type batteries and an AC power source can be used to power the unit.

The attachment can be manually overridden to allow the photographer convenient exposure adjustment for creative control of his pictures.

## SETTING UP THE ATTACHMENT



Remove the lens from the camera and pull up the camera rewind knob as far as it will go. Before mounting the DS-1 attachment, make sure that its A-M switch lever (which also doubles as the lens release button when the attachment is mounted on the camera) is set at the M position. If not, push down on the button and the lever will spring to the M setting. Slide the attachment into place, with the fork sliding into the accessory shoe and the loop arm settling around the lens bayonet mount. Turn the milled lock knob on the attachment until you feel an increased tension. The attachment is now locked in place. (Note that the knob can still be turned; this leeway prevents over-screwing of the knob thread into the synch terminal on the camera.) The attachment can be mounted before or after the F2S Photomic Finder is attached to the camera.

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## SETTING UP THE ATTACHMENT—continued

Push the recessed catch on the toothed drive gear as far to the right as it will go. Set the lens aperture diaphragm at  $f/5.6$  and position the lens in the camera bayonet mount so that the coupling prong on the lens settles into place between the prongs of the recessed catch. Twist the lens counterclockwise until it clicks into place.



Turn the lens' aperture ring all the way to the minimum aperture setting, then all the way in the opposite direction. Check the maximum aperture indicator on the F2S Photomic Finder to make sure that the maximum aperture of the lens in use appears in the window. For example, if the 50 mm f/1.4 lens is mounted on the camera, the number 1.4 should appear in the window.

**Caution:** When carrying the camera/attachment assembly around, specially with a long lens, always hold the camera body—never the attachment.

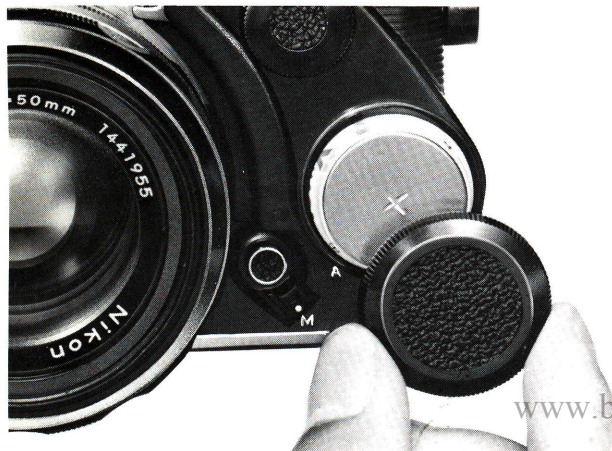


## SETTING UP THE ATTACHMENT—continued

### Installing the Battery

Unscrew the large milled cap on the attachment and place the accessory Ni-Cd Battery DN-1 into the battery well. Be sure that the plus (+) side faces out. If the battery is inserted in the wrong direction, the cap cannot be replaced.

**Note:** The battery DN-1 supplied with the DS-1 is fully charged. However, even if the battery is not used, there may be some battery drain after a time lapse. Recharging will restore it to full capacity (see page 15).



### Checking the Battery

A built-in battery checker lets you check the condition of the battery at a glance. Turn the run control knob down until the CH mark is opposite the black dot, and watch the lamp on the top deck. If the lamp comes on with a bright light, the battery is in good condition.



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## Removing the Attachment

Depress the button on the A-M switch lever so that the lever, if at the A position, springs to the M setting. Continue depressing the button and turn the lens clockwise to the limit of its travel to remove the lens from the camera. Loosen the lock knob on the attachment and then pull out the attachment.

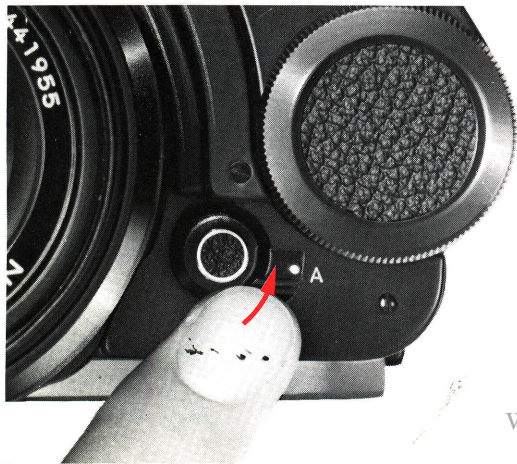


# AUTOMATIC EXPOSURE CONTROL

## A-M Switch Lever

The A-M switch lever sets the DS-1 for either automatic or manual exposure metering. To set it at automatic, push the lever upward until it clicks into place with the white dot aligned with the A mark.

To override it for manual control, depress the button and the lever springs back to the M setting. This stops the servo action of the attachment, and you can manually set any desired aperture on the lens aperture scale.



## Automatic Metering

Position the A-M switch lever at automatic. Set the desired shutter speed by turning the selector until the desired speed appears opposite the white dot. Depress the chrome button on the run-control knob on the side of the attachment; you will hear the attachment buzzing and will see one of the signal lights in the viewfinder glowing. This indicates the servo motor is working to adjust the lens diaphragm for the correct aperture.



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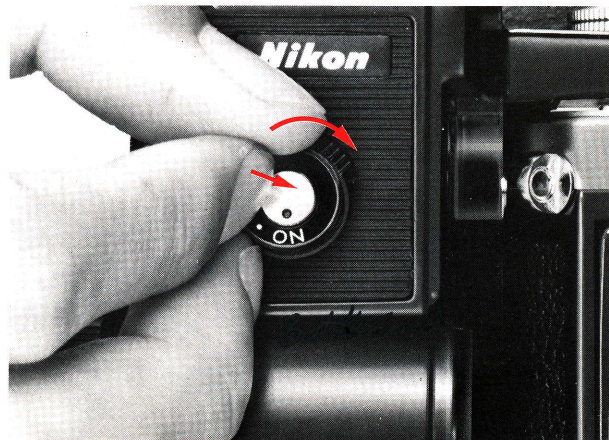
Keep depressing the chrome button and when the proper aperture for the selected shutter speed has been obtained, the sound stops and both signal lights glow. In the viewfinder you will see the selected aperture and shutter speed. When another combination is desired, reset the shutter speed and the attachment will adjust again for the right aperture.

On automatic metering control, the range of usable f/numbers is from f/16 to the maximum aperture of the lens in use. For example, with the 50 mm f/1.4 lens, the range is from f/16 to f/1.4. The servo motor stops when the drive gear reaches either of these limits. Change the shutter speed until the servo motor starts to move. If the attachment does not move again after all shutter speeds have been tried, then the light is too bright or too dim to cover the automatic metering range. Switch to a new film that matches the available light or mount a neutral density filter onto the lens to cut down on the amount of light or use artificial lighting to increase the luminosity.

## Run-Control Knob

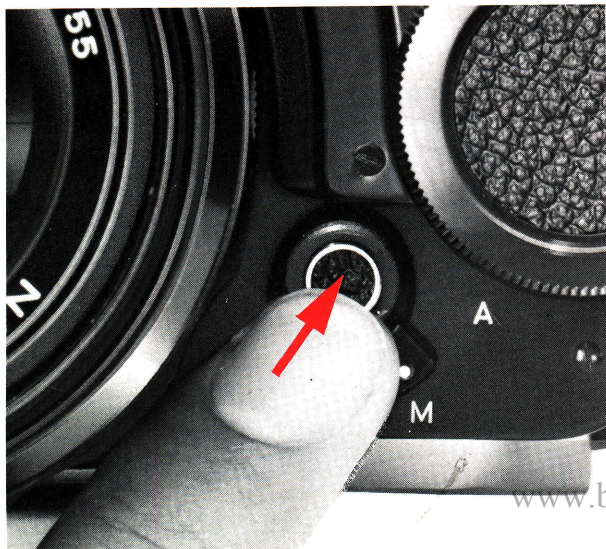
For rapid shooting with or without the motor drive and for motor-driven remote-control photography, the run-control knob locks the DS-1 attachment for continuous automatic metering. Locked in this position, the servo motor automatically and continually changes the aperture setting with any lighting variations to insure correct exposures.

To lock the attachment for continuous metering, depress the chrome button on the run-control knob and turn the knob down until the ON mark is opposite the black dot.



## MANUAL OVERRIDE

To override the automatic exposure metering for manual control, set the A-M switch lever at the M position. Now you can make your own plus or minus exposure selections for unusual subjects or lighting situations, or for creative control of the subject. Manual control also allows you to maintain a desired f/number.



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# RECHARGING THE Ni-Cd BATTERY

The Nikon Quick Charger DH-1 recharges a completely exhausted Ni-Cd Battery DN-1 to about 80% capacity in a brief three hours. It has a voltage selector for inputs of 100, 117, 220 and 240V.

## Setting the Proper Voltage

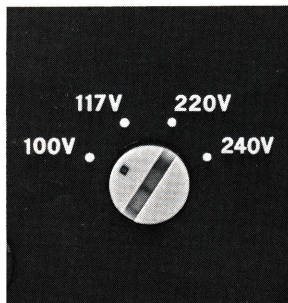
First, set the voltage selector on the back of the Quick Charger to the right voltage. This is done by inserting a small coin or similar object into the slot of the voltage selector and turning it so that the red dot is opposite the correct 100, 117, 220 or 240V setting.



## Charging the Battery

Unscrew the milled screw cap on the front panel and insert the Ni-Cd battery into the battery well. Be sure that the plus side faces out, otherwise the quick charger will not work. Replacing the screw cap switches on the quick charger. Plug the power cord into an AC power source. The white neon power lamp on the front panel will glow green and the red neon charge-indicator lamp goes on with a red light to indicate start of charging.

Charging time depends on the power remaining in the Ni-Cd battery, but normally a completely depleted battery will be recharged to 80% capacity in about three hours after which the charge-indicator lamp goes out. Unscrew the cap and remove the battery.





# ALTERNATIVE POWER SOURCES

## AC/DC Converter MA-4

This converter adapts the DS-1 attachment to any standard house current and supplies a constant output of 3.6V 400 mA DC. After removing the Ni-Cd battery from the attachment, connect the battery well with the 3.6V output jack on the converter with the connection cord which comes with it. Plug the power cord of the converter into an AC power source, and turn on the power switch on the converter.

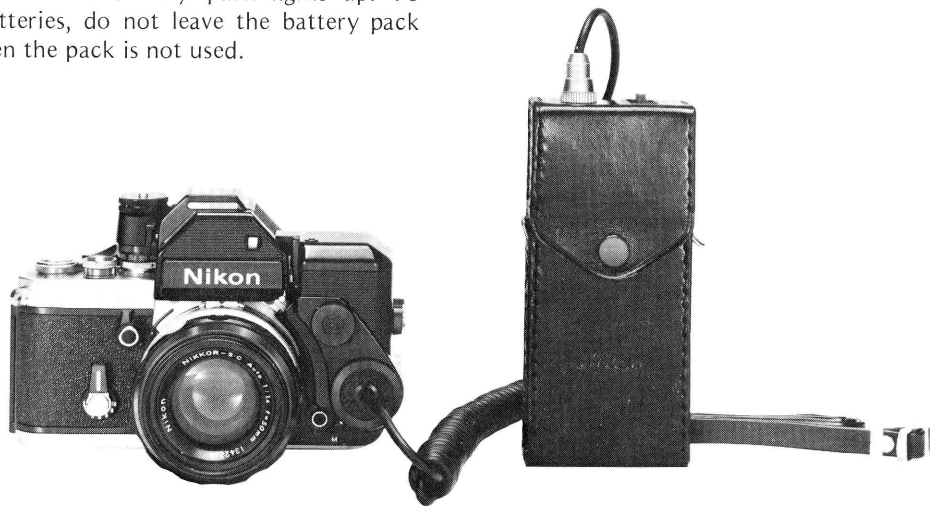
Before using the converter, check to see that it is working properly by pressing the run-control knob on the DS-1 attachment. If the lamp on the converter glows, then it is operating correctly.

The converter also supplies power for the Motor Drive MD-1 so that both the DS-1 attachment and the motor drive can be used simultaneously.



## Battery Pack

The battery pack holds four 1.5V C-type batteries to power the DS-1 attachment. Its built-in voltage stabilizer insures constant light output. To connect the pack, remove the Ni-Cd battery from the attachment and connect the pack to the DS-1 attachment with the connecting cord which comes with the battery pack. Before using the battery pack, depress the run-control knob on the DS-1 attachment to make sure that the battery checker on the battery pack lights up. To conserve the batteries, do not leave the battery pack switched on when the pack is not used.



# CHECKING FOR MALFUNCTION

**A.** If either of the signal lights in the finder (or atop the finder) fails to glow after the power switch on the EE control attachment is depressed, make the following checks:

- 1) Pull out the film-advance lever on the camera and see if either signal light goes on. If one of them glows, this indicates that the camera batteries are still good.
- 2) Verify that the attachment and the finder are properly mounted on the camera. If not, mount them properly.
- 3) If, after making the above checks and neither signal light glows, then the battery of the attachment needs recharging or replacement.

**B.** If the EE control attachment fails to operate even with either signal light glowing, check to see that:

- 1) The A-M switch lever is set at the M position.
- 2) The battery of the attachment and those of the camera are still good.
- 3) Both the attachment and the finder are properly mounted on the camera.
- 4) The drive gear reaches either the maximum aperture or  $f/16$  of the lens in use and stays there. If the drive gear stays at  $f/16$ , try faster shutter speeds; if it stays at the maximum aperture of the lens, try slower shutter speeds.

If, after the above checks have been made and the attachment still fails to operate properly, consult a Nikon dealer.

## FEATURES / SPECIFICATIONS

**Camera:** Accepts only Nikon F2S Photomic

**Lens:** Any Nikkor Auto lens with meter coupling prong  
(no modification necessary)

**Auto/manual selector:** Provided

**Meter coupling range:** f/1.2 – f/16 on automatic control,  
f/1.2 – f/32 on manual control

**Shutter speed coupling range:** 10 sec. – 1/2000 sec.

**Power source:** Either Nikon Ni-Cd Battery DN-1, four  
1.5V C-type batteries or Nikon AC/DC  
Converter MA-4

**Battery checker:** Provided

**Power switch:** With run-control knob

**Dimensions:**

**Weight:** 250g (without battery)