

# expodisc

## FILM INSTRUCTIONS

### Table of Contents

1. Introduction
  2. Meter Calibration
  3. Film Exposure
    - a. Front-lit subjects
    - b. Side-lit subjects
    - c. Back-lit subjects
  4. Pre Exposing, or 'Flashing' film
  5. Testing films and processing
  6. Using your camera meter as a Densitometer
  7. Previsualization
  8. Zone V Color Printing Aids
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## Film Instructions

By George A. Wallace

### *1. Introduction*

The reflected-light-metering systems provided on most SLR cameras are very fast and convenient, and they are good enough for general use in capturing images on negative films. However, they are not good enough for satisfactory use with color slide films, nor for controlling image tones rather than simply recording them.

Our ExpoDiscs are the key to direct incident-lightmetering methods that are a little slower than reflected- light-metering methods, but they do provide for consistently better exposures on any film in any lighting, and they offer the photographer accurate control of image tones whenever he wishes to use it.

The procedures provided below should be easily within the grasp, and of value, to all 35mm SLR camera photographers. The procedures on the following pages are intended for more serious and advanced photographers who want to get the most out of their cameras and films.

Enjoy!

## 2. Meter Calibration

On any clear day when your shadow isn't more than four strides long, install your ExpoDisc in front of your SLR camera lens, set the aperture at f/16, shutter speed at 1/125th of a second, and ASA indicator at 100.

Focus the lens at infinity, turn on the camera meter, point the camera and ExpoDisc directly at the sun, and reset the ASA indicator (if necessary) until the meter indicates good exposure conditions.

Note the number of "click-stops" involved, and apply that same amount of re-adjustment to the recommended ASA indicator setting for any film used in the camera, after first setting it to match the film's ASA rating.

EXAMPLE: If you had to lower the ASA indicator setting from 100 to 80 (i.e., one "click-stop"), in the above procedure, then for use with Fuji Velvia 50 ASA film, you would lower the ASA setting from 50 to 40.

## 3. Film Exposure

### 3.a. Front-lit Subjects

This category includes all front-lit and uniformly lit subjects and scenes in which there are no significant highlight or shadow areas.

1. Stand in the same lighting as your subject (although not necessarily beside it), put your camera in its manual exposure mode and mount your ExpoDisc in front of the camera.
2. Then point the camera and ExpoDisc in the direction directly opposite that in which you will be pointing it to make the exposure.
3. Turn on the camera meter, adjust the aperture and/or shutter speed settings until the camera meter indicates good exposure conditions, and turn off the meter.
4. Return to your shooting position (if you left it to do your metering) and remove the ExpoDisc from in front of the camera lens.
5. Cock the shutter, aim the camera, check the framing, and shoot.

### 3.b. Side-lit Subjects

These include all subjects and scenes in which there are significant highlight and shadow areas, and in which the highlight areas are most important.

Follow the procedure described for photographing front-lit subjects, but after pointing your camera and ExpoDisc directly away from the subject and before adjusting the exposure settings, swing the camera and ExpoDisc about one-third of the way towards the main light source.

### 3.c. Back-lit Subjects

This category includes all subjects and scenes in which there are significant highlight and shadow areas, and in which the shadow areas are most important.

Follow the procedure described for photographing front-lit subjects, but just before clicking the shutter, reduce the exposure one full stop, to provide for appropriately darker-than-normal image tones in the shadow areas.

#### *4. Pre-Exposing or "Flashing" film*

Note. Your camera must first be able to do a double exposure on a frame to "flash" the film as it's described in the following section.

Photographers sometimes pre-expose or "flash" film before using it in order to reduce overall contrast or to modify color in the darkest image areas – without altering the mid-range and lighter image tones. This is particularly useful when working with color slide films.

1. Mount your ExpoDisc in front of your camera lens and point it in any direction, depending upon the color of "flashing" desired.
2. Adjust the exposure settings to provide for "normal" exposure, and then increase the aperture number or shutter speed setting by four full stops.
3. With the ExpoDisc still in front of the lens, trip and re-cock the shutter without advancing the film.

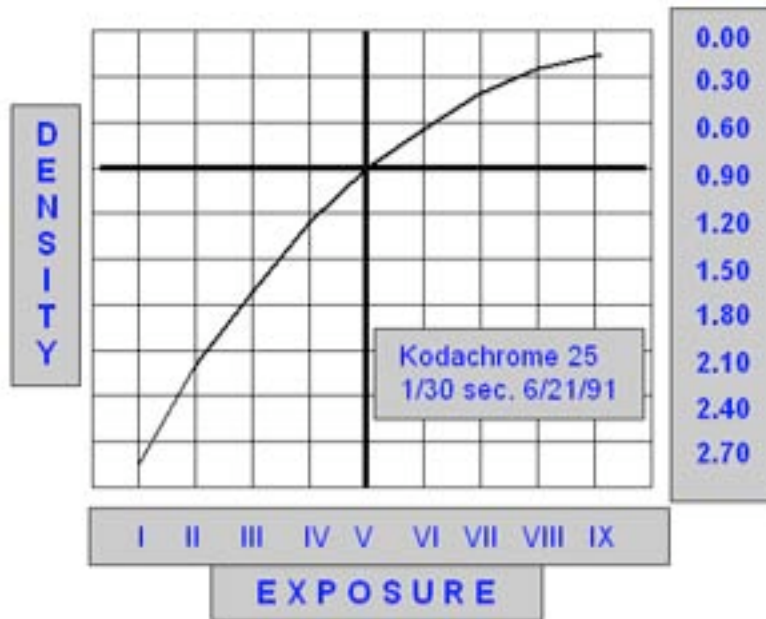
Note: When they can anticipate the color of flashing they will be wanting, some photographers pre-expose entire rolls of film in advance.

#### *5. Testing Films and Processing*

There isn't much any photographer can do about controlling image tones unless he has a pretty good idea of just how his film (and processing) will render different exposure levels. The procedure described below puts this information within every photographer's grasp.

1. Set your 35mm SLR camera's ASA indicator to match the ASA rating of the film in the camera and set the aperture at f/16.
2. Point the camera and ExpoDisc towards any light source and set the shutter speed at any setting that causes the camera meter to indicate good exposure conditions.
3. Make a series of five exposures using f/16, f/11, f/8, f/5.6, and f/4 aperture settings, and label them V, VI, VII, VIII, and IX, respectively.
4. Leave the shutter speed unchanged, set the aperture at f/4, and point the camera and ExpoDisc in a different direction, even move to a different location if necessary so that the camera meter again indicates good exposure conditions.
5. Make a second set of five exposures using f/16, f/11, f/8, f/5.6, and f/4 aperture settings, and label these I, II, III, IV, and V, respectively.
6. Process the film or have it processed, determine the film densities associated with each exposure level or "zone," and plot the exposure/density relationships as shown in the graph on the following page.

\*Make a note of the shutter speed employed. Light intensities requiring very long or short exposure times may provide different results.



If you started with the ASA indicator set at 30, and ended with it at 200, this involves an 8-click change.

$$\text{Density} = 8 \times 0.10 = 0.80$$

### 6. Using your 35mm SLR Camera Meter As A Densitometer

Each “click-stop” reduction in your camera’s ASA indicator setting has the same effect upon 35mm SLR camera meters (with TTL metering) as placing a 0.1 neutral density filter in front of the lens would have. Consequently, we can use one to evaluate the other.

1. Mount your ExpoDisc in front of your SLR camera lens and set the ASA indicator at 30.
2. Hold an open slide in front of the ExpoDisc and point it towards any light source. Adjust the aperture and shutter speed until the meter indicates good exposure conditions.
3. Replace the open slide mount with one containing the slide or negative whose density is to be read.
4. Reset the ASA indicator until the camera meter again indicates good exposure conditions, and note the number of “click-stops” involved.
5. Multiply the number by 0.10 to determine the film density.

### 7. Previsualization

Previsualization is often thought of as some form of exotic visualization somehow related to Ansel Adams, Zone Systems, and photography. However, during the two years that I participated as a full-time student in Ansel Adams’ and Minor White’s classes in San Francisco in the forties, it was taught or

practiced not as any form of visualization at all, but rather as preparation for visualization or as a verbal substitute for it.

As we learned it, previsualization consisted of:

1. First planning the amount of exposure and developing time to be used with each sheet of film, and
2. Then applying Ansel Adam's Zone System to each subject's brightness range to create a set of mini-ranges or "zones," for linkage with similarly organized exposure levels and image tones.

With color slide films, previsualization and tone control can be both easy and uniquely effective.

For the most life-like rendering of everything in the same lighting as the ExpoDisc when exposure settings were determined, simply provide for "normal" exposure.

For lighter, airier and more pastel-like images, and shorter tonal range, provide up to one stop more exposure.

For darker, heavier, more three-dimensional images, and greater tonal range, provide up to one stop less exposure.

Then, if you want to go further, leave the settings as they will be for making the exposure, remove the Expo-Disc from in front of the lens, point the camera in any direction and turn on the meter.

If the meter reading changes by less than half a stop, then the brightness of the area the camera "sees" lies in the Zone V range and will be rendered in a Zone V image tone.

If the meter shows a 1, 2, 3, or 4-stop increase in brightness, the brightness lies in the Zone VI, VII, VIII, OR IX range, and will be rendered in a corresponding image tone.

If the meter shows a 1, 2, 3, or 4-stop decrease in brightness, the brightness lies in the Zone IV, III, II, or I range, and will be rendered in a corresponding image tone.

The precise color slide density or tone that you might prefer to identify with the Zone V range of image tones can be a matter of taste but once chosen, it should be constant regardless of the film employed.

The image tones associated with all other zones will depend upon the film involved, but these will be constant for any given type of film – and all can be previsualized.

This previsualization can be done either from familiarity with the film involved, or from a study of its characteristics as portrayed by a graph similar to the one in the preceding pages.

## *8. Zone V Color Printing Aids*

If you point your 35mm SLR camera and ExpoDisc towards any light source and adjust the aperture and shutter speed settings to provide for “normal” exposure and then trip the shutter, you can also provide for an ideal Zone V neutral density test slide or negative to aid in printing any slides or negatives exposed on the same or an identical roll of film, and in that same lighting. To use such an aid:

1. Place the slide or negative to be printed in the enlarger, turn on the enlarger and adjust its height and focus to project the desired image size on the easel when that image is in sharp focus. Turn off the enlarger.
2. Replace the slide or negative to be printed with the Zone V test slide or negative and turn on the enlarger. Adjust the color filtration and exposure settings to provide for a print tone matching that of 18% neutral gray card. Turn off the enlarger.
3. Replace the test slide or negative in the enlarger with the slide or negative to be printed. Recheck the focus and framing, and make the exposure. Turn off the enlarger. This should provide for a very good proof print of the subject as seen in “white” light. Then it’s up to you to add the color effect of the ambient lighting or any other lighting, and to burn and dodge as you choose.

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What ExpoImaging, Inc. Will Do To Correct Problems: Should your ExpoDisc filter prove to be defective during the warranty period, please call ExpoImaging, Inc. Technical Support at (408) 778-2040 for warranty repair instructions and return authorization. An ExpoImaging, Inc. service technician will provide telephone diagnostic service to determine whether the product requires service. If service is needed, ExpoImaging, Inc. will exchange the product without charge. ExpoImaging, Inc. will ship a replacement filter to you, freight prepaid. You are responsible for securely packaging the defective filter and returning it to ExpoImaging, Inc. within ten (10) working days of receipt of the replacement. Expo-Imaging, Inc. requires a debit or a credit card number to secure the cost of the replacement product in the event that you fail to return the defective one. The item replaced becomes ExpoImaging, Inc. property. The replacement filter may be new or refurbished to the Expo-Imaging, Inc. standard of quality, and, at ExpoImaging, Inc.'s option, may be another model of like kind and quality. ExpoImaging, Inc.'s liability for replacement of the covered filter will not exceed the original retail sales price of the covered filter. Exchange filters assume the remaining warranty period of your original product covered by this limited warranty.

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