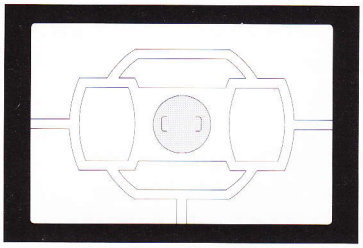
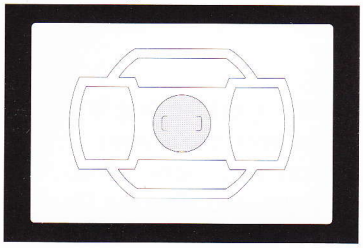
Hyper Program/Hyper Manual/Multi-Pattern Metering

Multi-Pattern Metering



■ Z-1's Eight-Segment Metering Sensor



■ Z-10's Six-Segment Metering Sensor

■ Multi-Pattern Metering

The entire metering range from flat-lighted subjects to high-contrast subjects is divided into two zones: normal lighting and backlighting. Using the focusing distance data from the AF system, the subject occupying a relatively large area within the backlit image field is compensated for automatically. In the high-brightness range, the subject is overexposed to compensate for the bright background. Under the normal lighting, the subject's details under shadow are heavily compensated while the central area of the image field where the main subject is usually positioned is mainly compensated for backlit scenes.

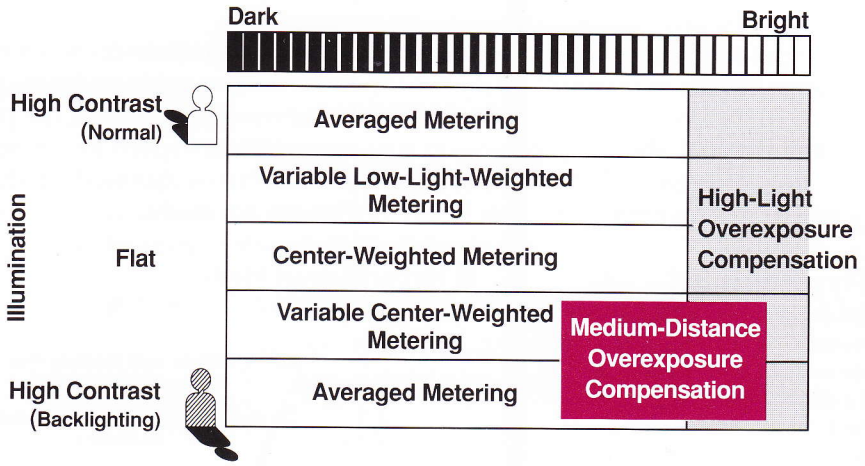
Advanced TTL multi-pattern metering is incorporated into both the Z-1 (eight segments) and the Z-10 (six segments) to ensure optimum exposure for any given lighting situation.

Basically, the camera's metering pattern is shifted from center-weighted metering to spot-metering to measure only a small central area, to the averaged-area metering to measure the entire image field evenly, then to the low-light-weighted metering according to the pre-programmed metering patterns. [See the metering pattern diagram below.]

The algorithm that provides the best possible metering weighting for various lighting situations gives priority to the shadow areas. Under normal lighting, even low-light areas away from the center are taken into consideration. In backlighting situations, however, the meter measures the light off only the central part of the image field by assuming the main subject is in shadow. The amount of exposure compensation also depends greatly on the subject's distance as detected by the AF system. The camera's exposure system then further compensates the metering value to provide even more exposure for the poorly illuminated subject at the center by measuring the bright background. [See Medium-Distance Overexposure Compensation in the diagram below.]

Another principle of the metering/exposure system of the Z-series cameras is to reproduce the dark subject dark and the bright subject bright. Based on this principle, bright subjects over 16 EV (extremely bright scenes) are programmed to receive more exposure due to their excessive brightness. Of course, very delicate metering and exposure compensation is provided to reproduce the subject's details most sharply within the film's latitude.

■ Multi-Pattern Metering



Spot-Metering

The Z-series of cameras are equipped to pinpoint light metering at a very small portion of the image field with great accuracy. The Z-1 enables the photographer to switch the metering mode instantly from multi-pattern metering to spot-metering by pressing the metering button on the camera's back cover. Both multi-pattern metering and spot-metering can be used in all exposure modes.

The Z-10's metering system is automatically switched to spot-metering when the camera is set in the Hyper Manual mode.

In both cameras, the spot-metering system measures only the central area (less than 2.5 percent of the overall image area) of the multi-segment metering patterns.

Center-Weighted

With the Z-1, the photographer is also provided with the center-weighted metering system as one of the Pentax Functions. It gives the photographer the freedom of selecting the most ideal metering system for the photographic situation out of three different metering systems.