# Annotation Legend

**THIS LEGEND NEEDS TO BE DEFINED BY YOU**. The following is just for illustration.

STATE  
MECHANICAL ACTION  
MANUAL ACTION

FEATURE  
COMPONENT

# Dials and Buttons of the Camera

Command Dial:

The camera has a command dial (shown below) that is used to select the operational mode of the camera.



The dial can accept only one of the following states at each point in time:

* Lock (**L**): When the camera is not being used, the command dial should be turned to Lock to prevent accidental operation. As long as the command dial is set to Lock, the camera responds to no button presses except for midroll film rewind.
* Full Auto (**A**): This is the fully-automatic picture-taking mode; the only non-automatic operation allowed in this mode is manual focusing (see Section 5).
* Manual (**M**): In this mode, the photographer is given full control over the exposure settings.

Shutter Button:

The camera has a shutter button that can be depressed halfway or all the way. There is a click stop at the halfway point. The click stop can only be sensed by the photographer at the time (s)he is pressing the shutter button; in other words, there is no click stop when the shutter button is being released.

The shutter button works as follows:

* When it is pressed halfway, auto-focusing is activated. After focus is achieved, the in-focus indicator lights in green.
* When it is pressed completely:
  1. The shutter is released to take the picture.
  2. In the Full Auto mode, the film advances by one frame. In the Manual mode, the film advances to the next frame after the set number of exposures for the current frame are taken (see Section 7). The number of exposures will default to one for the next frame.

Midroll Film Rewind Button:

This button can be pressed to rewind the film before reaching the last frame.

Focus Mode Switch:

There is a focus mode switch on the lens that can be set to MF (Manual Focus) or AF (Auto Focus).

Self-Timer Button:

This button enables the self-timer. The self-timer is used when the photographer wants to be in the picture.

Flash Button:

In the Manual shooting mode, the flash will pop up when the flash button is pressed (see Section 7).

# Loading and Unloading the Film

After the film is loaded into the camera, the camera first winds the entire roll onto the camera’s takeup spool. Then, each time a picture is taken, one frame of the film is rewound back into the film cartridge. Before loading the film, the command dial must be turned to any setting except **L**. After the film is loaded and the camera’s back is closed, the film will be prewound around the takeup spool. While the film is prewinding around the takeup spool, the frame counter counts up. When it stops, the camera will make a shutter release sound. After the film’s last frame is exposed, the camera rewinds the film automatically. To rewind the film before reaching the last frame, the midroll film rewind button should be pressed.

# Full Auto Mode Shooting

To prevent spoiled shots caused by accidental operation of camera controls, the Full Auto mode overrides all custom camera settings that are effective in the Manual mode except for red-eye reduction. The picture taking scenario in this mode is as follows:

1. The photographer aims the camera at the subject.
2. The photographer presses the shutter button halfway.
3. The camera automatically tries to achieve focus. The focusing behaviour depends on whether the subject is moving or not:
   * If the subject is still, the focus is locked immediately after focus is achieved (One-Shot AF). The exposure settings, namely shutter speed and aperture, are automatically calculated by the camera and locked at the same time. Taking the picture (i.e., pressing the shutter button completely) is inhibited until focus is locked.
   * If the subject is moving, focusing is continuous and predictive (Artificial Intelligence AF). Auto-focusing continues to match the subject’s movements and the exposure settings are set just before the exposure. Taking the picture (i.e., pressing the shutter button completely) is inhibited until the camera predicts the movement pattern of the subject.
4. If focus is achieved in One-Shot AF or the movement pattern is successfully predicted in Artificial Intelligence AF, the in-focus indicator will light.
5. The photographer presses the shutter button completely to take the picture. Under low or back-lit conditions, the built-in flash will pop up and fire automatically.

The film-advance behaviour in this mode is *single*, i.e., holding down the shutter button does *not* execute continuous shooting.

# Manual Mode Shooting

In this mode, the shutter speed and the aperture can be set for total exposure control; moreover, a number of the camera features are available only in the Manual picture-taking mode (see Section 7). The picture-taking scenario in this mode is as follows:

1. The photographer selects the desired shutter speed and aperture.
2. The photographer aims the camera at the subject.
3. The photographer presses the shutter button halfway.
4. The focusing behaviour in this mode is the same as that of the Full Auto mode.
5. The photographer adjusts the exposure level if necessary (this is done while the shutter button is depressed halfway). Exposure level is used to make the picture darker or brighter intentionally. It can be set up to +/- 2 stops in half-stop increments (i.e., one of the values in the following set: {-2, -1½ , …, 0, …, 1½ , 2}). Zero is the correct exposure (according to the values of shutter speed and aperture specified in step 1). A positive value will cause overexposure and a negative value will cause underexposure.
6. The photographer presses the shutter button completely to take the picture. The built-in flash does *not* automatically pop up and fire (see Section 7).

The film-advance behaviour in this mode is *continuous*, i.e., holding down the shutter button executes continuous shooting. The maximum shooting speed is 1½ frames per second.

# Manual Focusing

In both the Full Auto and Manual picture-taking modes, the camera may fail to achieve focus with a number of subjects that are difficult for auto-focusing. The in-focus indicator blinks when the camera fails to achieve focus. In such cases, the photographer should focus manually by first setting the lens focus mode switch to MF and then turning the lens focusing ring until the subject is in focus in the viewfinder. When the shutter button is pressed halfway this time, the focusing point(s) which achieved focus lights in the viewfinder, and the in-focus indicator also lights.

In manual-focus mode, pressing the shutter button completely is *not* inhibited before focus has been achieved. In other words, the photographer may take a picture even if focus has not been achieved.

# Common Features

This section describes the features that are available in both picture-taking modes:

Red-Eye Reduction:

When flash is used in a low-lit environment, the subject’s eye’s may look red in the photograph. The camera’s red-eye reduction feature uses a red-eye reduction lamp that shines a gentle light into the subject’s eyes reducing the changes of red eye from recurring. The photographer may enable or disable this feature at any time. If the feature is enabled, the red-eye reduction lamp will be turned on when the shutter button is pressed halfway.

AF-Assist:

Under low-lit conditions, the built-in flash flashes continuously when the shutter button is pressed halfway. This is to illuminate the subject to enable easier focusing and is thus called AF-assist. The AF-assist lamp lights automatically when necessary. In the Manual mode, however, the AF-assist lamp works only when the built-in flash is out of its compartment.

Self-Timer:

The self-timer is useful when the photographer wants to be in the picture. For enabling this feature the self-timer button should be pressed. At this stage, the self-timer can be cancelled by pressing the self-timer button again or turning the command dial to Lock. After activating the self-timer, the shooting instructions of the respective picture-taking mode should be taken. When the shutter button is pressed completely, the shutter will be released 10 seconds later. During the final 2 seconds, the red-eye reduction lamp stays lit. Pressing the self-timer button or turning the command dial to Lock after the self-timer starts, will cancel the self-timer. The self-timer mode will automatically be cancelled after the picture is taken.

# Features Specific to the Manual Mode

This section describes the features that are available only in the Manual picture-taking mode:

Built-in Flash:

In the Full Auto mode, the built-in flash will pop up and fire automatically when necessary. In the Manual mode, flash photography is possible at anytime by pressing the flash button. Pressing this button will cause the flash to pop up. From then on, the flash will fire for every shot as long as the flash has not been physically retracted by the photographer. If the command dial is turned to Full Auto, the flash behaves as it should behave in the Full Auto mode, but it will not automatically be retracted. Like other electronic flashes, the built-in flash of the camera works by charging up a capacitor with electricity, then releasing the stored power in a burst of light. This charging process is called the recycling time. The built-in flash recycling time is approximately two seconds.

Multiple Exposures:

a single frame can be exposed multiple times. Up to nine exposures can be set. To cancel the multiple-exposure setting, set the number of multiple exposures to 1. After the set number of multiple exposures are taken, the film advances to the next frame and the multiple exposure setting is cancelled (defaults to 1 for the next frame). To cancel the multiple-exposure setting before completing all the multiple exposures, the number of multiple exposures should be set to zero. If the command dial is turned to the Full Auto mode, the multiple-exposure setting will be cancelled automatically.