

OM System Mentorship Program

Drive Mode Notes & Homework: OM-1



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UNDERSTANDING DRIVE MODES:

Single

In Single Drive Mode, with each full press of the shutter button, the camera will take one photo and one photo only. To take multiple images requires multiple presses of the shutter button.

My Uses:

- Very rarely or not at all. Occasionally used for Interval Shooting (Time Lapse Photography)

◆ Single

In ◆ Anti-Shock Single Drive Mode with each full press of the shutter button, the camera will take one photo and the small amount of blur caused by the shutter operation will be reduced. This uses a combination of the electronic (first curtain) and (second curtain) mechanical shutter. This is particularly useful during macro and when using long telephoto lenses. You can set a shutter waiting time (delay) to improve anti-shock performance, the waiting time (delay) can be 0sec, 1/8sec, 1/4sec, 1/2sec, 1sec, 2sec, 4sec, 8sec, 15sec, or 30sec. Using a setting other than 0sec helps reduce vibration caused from pressing the shutter button.

When the shutter speed is below 1/320 or less, the first shutter curtain is switched to the electronic.

My Uses:

- Landscape & Night Sky Photography: Tripod Mounted, Shutter Waiting Time at 1/4sec (Sequential Shooting Settings)
- Interval Photography: Tripod Mounted, Shutter Waiting Time at 0sec (Sequential Shooting Settings)

♥ Single*

In ♥ Silent Single Drive Mode with each full press of the shutter button, the camera will take one photo using the electronic shutter so that there is no noise from the operation of the shutter. Electronic shutter can cause issues with fast moving items due to the rolling nature of the shutter. It also offers faster frame rates (FPS) and faster shutter speeds from 1,8000's up to 1/32,000's. However, it is very rare that you will have enough light for such shutter speeds apart from high speed flash. The good thing is that the electronic shutter doesn't affect the lifespan of the mechanical shutter.

My Uses:

- Very rarely or not at all, occasionally use for very long exposures.

Sequential

In Sequential Drive Mode the camera takes photos up to 10fps (frames per second) as long as the shutter button is fully pressed. In Sequential Drive Mode when AF Mode is C-AF, C-AF+MF, or C-AF+TR, then the camera will

refocus between each shot and this is very important for wildlife and macro photography. If metering is set to Yes, then the camera will also meter the brightness and determine the exposure before each shot (P, A, S Exposure Modes). You define the fps from 1 to 10. You can also set a maximum number of images (Frame Count Limiter) per burst at 50 or turn off for unlimited images. I leave it off.

This is my preferred mode for general wildlife and bird photography. If I desire more frames per second, I will either use Sequential (20fps), High-speed Sequential SH2 (50fps) or Pro Capture SH2 (25fps).

My Uses:

- General Wildlife & Bird Photography: Handheld or Tripod Mounted, 10fps, Frame Count Limiter is turned off for unlimited shooting

◆ [Anti-Shock] Sequential

In ◆ Sequential Drive Mode the camera takes photos up to 10fps (frames per second) as long as the shutter button is fully pressed and will reduce the small amount of blur caused by the operation of the shutter. In

◆ Sequential Drive Mode when AF Mode is C-AF, C-AF+MF, or C-AF+TR, then the camera will refocus between each shot and this is very important for wildlife and macro photography. This is particularly useful during macro and when using long telephoto lenses. However, when shooting wildlife/birds, shutter speeds are generally fast enough that the benefit of ◆ Sequential Drive Mode is probably negligible at best. If metering during sequential shooting is set to yes, it will also meter the brightness and determine the exposure before each shot. You define the fps from 1 to 10. You can also set a maximum number of images (Frame Count Limiter) per burst at 50 or turn off for unlimited images. I leave it off.

My Uses:

- Macro Photography: Handheld or Tripod Mounted, Flash or No Flash, 10fps, Frame Count Limiter is turned off for unlimited shooting
- Landscape Photography: Handheld, Lower Shutter Speeds, 4fps, Frame Count Limiter is turned off for unlimited shooting

♥ [Silent] Sequential*

In ♥ Sequential Drive Mode the camera takes photos up to 20fps¹ (frames per second) as long as the shutter button is fully pressed and uses the electronic shutter to produce no noise. In ♥ Sequential Drive Mode when AF Mode is C-AF, C-AF+MF, or C-AF+TR, then the camera will refocus between each shot and this is very important for wildlife and macro photography. You define the fps from 5, 10, 15 or 20fps. You can also set a maximum number of images (Frame Count Limiter) per burst at 50 or turn off for unlimited images. I leave it off.

My Uses:

- Occasionally for Bird Photography/Birds in Flight: Handheld, 20fps, Frame Count Limiter is turned off for unlimited shooting, the 20fps really helps you capture many more images of a bird in flight, it just doesn't work well for very fast birds like swifts and hummingbirds as the wings can get a weird distortion due to the way an electronic shutter works.
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♥High-speed Sequential SH1

In High-speed Sequential SH1 Drive Mode the camera takes photos up to 120fps as long as the shutter button is fully pressed. You define the fps at either 60, 100, or 120fps. You can also set a maximum number of images (Frame Count Limiter) per burst at 50 or turn off for unlimited images. I leave it off.

Limitations:

- The downside of this drive mode is that once you press the shutter button, focus, exposure, and white balance are locked at the values for the first image in a series. This limits the potential use but if you know your subject will remain in the same plane of focus and the light will remain constant, this will work fine.
- In this mode, the camera displays the shot immediately preceding the current frame, not a live view through the lens.
- In this mode, the lowest useable shutter speed is 1/15's.
- Just be careful, you can take a LOT of images quickly!

My Uses:

- Very rarely or not at all as the fact that focus, exposure, and white balance is locked once you begin to capture images is too big of a downside to rely upon it. Also, at 120fps you can really get way too many images in a hurry!

♥High-speed Sequential SH2

In High-speed Sequential SH2 Drive Mode the camera takes photos up to 50fps as long as the shutter button is fully pressed. When AF Mode is C-AF, C-AF+MF, C-AF+TR or C-AF+TR+MF, then the camera will refocus between each shot and this is very important for wildlife and macro photography. If metering during sequential shooting is set to yes, it will also meter the brightness and determine the exposure before each shot. You define the fps at either 25fps or 50fps. You can also set a maximum number of images (Frame Count Limiter) per burst at 50 or turn off for unlimited images. I leave it off.

Limitations:

- When AF Mode is C-AF, C-AF+MF, C-AF+TR or C-AF+TR+MF and you have an aperture value larger than F8, focus accuracy will decrease.
 - The lower limit of the shutter speed is 1/640's when Max fps is set to 50 and 1/320's when it is set to 25.
 - This drive mode is only compatible with the following lenses at 50fps, all other lenses are compatible at 25fps:
 - ✓ M.Zuiko Digital 12mm-40mm F2.8 PRO
 - ✓ M.Zuiko Digital 12mm-40mm F2.8 PRO II
 - ✓ M.Zuiko Digital 12mm-100mm F4.0 IS PRO
 - ✓ M.Zuiko Digital 40mm-150mm F2.8 PRO
 - ✓ M.Zuiko Digital 150mm-400mm F4.5 TC1.25x IS PRO
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✓ M.Zuiko 300mm F4.0 IS PRO

- In this mode, the camera displays the shot immediately preceding the current frame, not a live view through the lens.

My Uses:

- Very rarely or not at all as I find that if I were going to use this for certain situations, that ProCap Drive Mode is more fitting.
- Would be excellent for predator/prey interactions if you had enough time to switch drive modes! Learn how to change the drive mode rapidly using the Sequential Shooting/Self-Timer/Flash Button on the upper left of the camera, using the Super Control Panel, or in the menu.

ProCap

In ProCap Drive Mode you capture images by 1/2 pressing the shutter button and the camera begins to store images in the buffer (not yet writing them to the storage card) at up to 20fps and a total of 0 to 50 images as determined by you in the Sequential Shooting Settings tab. I recommend a setting from 15 to 30 images for most situations. Once you see the action or sequence you wish to capture occur, you fully press the shutter button and while you are holding the shutter it will continue to record images at the rate you set or to the maximum number of images per the Sequential Settings. In ProCap Drive Mode, the focus, exposure, and white balance will change before each shot. You define the fps at either 5, 10, 15, or 20fps. You can set the Pre-shutter frames (the number of images kept in the buffer) from 0 to 50. I recommend 15 to 30 for wildlife photography. You can also set a maximum number of images (Frame Count Limiter) per burst at 50 or turn off for unlimited images. I leave it off.

My Uses:

- This is my preferred ProCap mode when I don't need quite so many images.
- Wildlife/Bird Photography: Handheld or Tripod Mounted, 20fps, Pre-shutter frames at 20, Frame Count Limiter is turned off for unlimited shooting
- Real World Shooting Example: Capturing Marine Iguanas expelling excess salt out of their nostrils

ProCap SH1

In ProCap SH1 Drive Mode you capture images by 1/2 pressing the shutter button and the camera begins to store images in the buffer (not yet writing them to the storage card) at up to 20fps and a total of 0 to 50 images as determined by you in the Sequential Shooting Settings tab. I recommend a setting from 15 to 30 images for most situations. Once you see the action or sequence you wish to capture occur, you fully press the shutter button and while you are holding the shutter it will continue to record images at the rate you set or to the maximum number of images (Frame Count Limiter) per the Sequential Settings. You define the fps at either 60, 100, or 120fps.

Limitations:

- In this mode, the camera displays the shot immediately preceding the current frame, not a live view through the lens.
 - In this mode, the lowest useable shutter speed is 1/15's.
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- In this mode, focus, exposure, and white balance is locked once you begin to capture images and this is too big of a downside to rely upon it for most nature photography.

My Uses:

- Very rarely or not at all as the fact that focus, exposure, and white balance is locked once you begin to capture images is too big of a downside to rely upon it.

ProCap SH2

In ProCap SH2 Drive Mode you capture images by 1/2 pressing the shutter button and the camera begins to store images in the buffer (not yet writing them to the storage card) at up to 50fps and a total of 0 to 50 images as determined by you in the Sequential Shooting Settings tab. I recommend a setting from 15 to 30 images for most situations. When AF Mode is C-AF, C-AF+MF, C-AF+TR or C-AF+TR+MF, then the camera will refocus between each shot and this is very important for wildlife and macro photography. If metering during sequential shooting is set to yes, it will also meter the brightness and determine the exposure before each shot. Once you see the action or sequence you wish to capture occur, you fully press the shutter button and while you are holding the shutter it will continue to record images at the rate you set or to the maximum number of images (Frame Count Limiter) per the Sequential Settings. You define the fps at either 25fps or 50fps.

Limitations:

- In this mode, the camera displays the shot immediately preceding the current frame, not a live view through the lens.
- When AF Mode is C-AF, C-AF+MF, C-AF+TR or C-AF+TR+MF and you have an aperture value larger than F8, focus accuracy will decrease.
- This drive mode is only compatible with the following lenses at 50fps, all other lenses are compatible at 25fps:
 - ✓ M.Zuiko Digital 12mm-40mm F2.8 PRO
 - ✓ M.Zuiko Digital 12mm-40mm F2.8 PRO II
 - ✓ M.Zuiko Digital 12mm-100mm F4.0 IS PRO
 - ✓ M.Zuiko Digital 40mm-150mm F2.8 PRO
 - ✓ M.Zuiko Digital 150mm-400mm F4.5 TC1.25x IS PRO
 - ✓ M.Zuiko 300mm F4.0 IS PRO

*These modes utilize an electronic shutter which should be used with shutter speeds above 1/8000 or when the sound of the shutter would be unwelcome.

Notes:

- Shooting speeds are lower for all modes when ISO is 16000 or higher.
 - To use flash in silent shooting modes, you must select "Allow" for Flash Mode in Silent ♥ Settings.
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My Uses:

- This is my preferred ProCap mode when I need more images.
- Wildlife/Bird Photography: Handheld or Tripod Mounted, 50fps, Pre-shutter frames at 35, Frame Count Limiter is turned off for unlimited shooting
- Real World Shooting Example: Capturing grasshoppers when they take off.

Self-Timer 2, 12, & Custom

In Self-Timer Drive Modes, there is a 2, 12, or a custom delay based on which of the three modes you choose. When you press the shutter button, there is a delay of 2, 12 or any number of seconds you choose in custom mode. The self-timer lamp will flash for the 2 second delay and it will light for 10 seconds and then flash for the last 2 in 12 second delay mode. In the custom mode, you can program the self-timer delay and the number of shots taken when the timer expires.

My Uses:

- Very rarely or not at all, but on occasion I use to capture self-portraits, especially with the Milky Way or large landscapes.

High Res Shot

Hi Res Shot drive mode allows you to capture a higher resolution image in one of two ways. The first option is handheld mode and the camera will take advantage of your own movement to capture four (4) images and overlap them to create a 50MP image. The second option is tripod mode where the camera moves the sensor and takes eight (8) images and overlaps them to create an 80MP image. We will take a more in-depth look at this special feature in the Computation Photography session.

My Uses:

- This mode is perfect for landscape images and wildlife/macro images when your subject is perfectly still. I use this mode for very high resolution panoramic and you can get some blur in moving subjects like water for an interesting effect similar to the use of a neutral density filter.

PROJECT ONE (LEARNING HOW TO CHANGE DRIVE MODES)

Objective

To quickly change your drive mode using the Drive Mode/Flash button and the Super Control Panel.

Goals

The goal of this project is to develop the skills to quickly change the drive mode using the sequential shooting button on the top left, the Super Control Panel, and the menu.

Project

This project will equip you with the skills to quickly and easily change your drive mode for when conditions warrant.

Project Description

1. We will first use the Drive Mode/Flash button on the upper left of the camera to change our drive mode. Make sure your OM-1 is powered on. Now, while handholding the camera, press the Drive Mode/Flash Button and with your right hand, spin the rear dial to move through the drive mode options. Select any one of the options (remembering what your drive mode was to begin) and press the OK Button or push the multi-selector.
2. To change our drive mode back to the original settings, we are going to use the Super Control Panel.
3. Press the OK Button to launch the Super Control Panel on the monitor. The drive mode option is the fifth box down in the left hand column. Using the multi-selector or the arrow pad to highlight the drive mode option. Once the box is highlighted, press the OK button or push the multi-selector to bring up the drive mode options. Once the options are displayed, you can use the arrow pads, multi-selector, front dial, or rear dial to scroll through the options. Now, select the original drive mode when you began this exercise.
4. Feel free to use both methods for a while to begin developing the muscle memory to make these adjustments in the drive mode.

PROJECT TWO (SINGLE, ANTI-SHOCK SINGLE, & SILENT SINGLE DRIVE MODES)

Objective

To be able to shoot with all three single drive modes and see how they function.


Goals



The goal of this project is to experience how single, anti-shock single, and silent single drive modes operate.

Project

This project is designed to give you some experience shooting with all three of the single drive modes.

Project Description

1. I recommend handholding the camera and using a wide angle lens for practicing landscape images since these three drive modes are best suited for landscape and/or night sky photography. Of course, night sky photography would be on a tripod.
 2. Using the Drive Mode/Flash button or the Super Control Panel select the single drive mode.
 3. Take a few images using this mode. You can detect when the shutter is triggered because of the slight sound.
 4. Next, we need to go into MENU ->  -> 7. Drive Mode -> Anti-Shock [◆] Settings and turn this to on before continuing with our project.
 5. Next, using one of the two options mentioned above, change the Drive Mode to anti-shock single drive mode. Take some landscape images, what do you notice about this while shooting? Try pushing your shutter speed to a very slow shutter speed for you. Maybe 1/2's or 1/15's? Can you get a sharp shot handholding with a slower shutter speed? Try various slow shutter speeds and see if you can get a sharp shot with the anti-shock single drive mode? What was your best?
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6. Trying going into MENU ->  -> 7. Drive Mode -> Anti-Shock [◆] Settings and set a delay of 1/8sec. This will cause a very short delay after you press the shutter button before the camera takes an image. Does this help? Be sure and turn this off if you want after experimenting with it.
7. Next, change the drive mode to silent single. Take an image, did you hear anything? This mode is more beneficial for where you want to take images without any noise. But remember, it can cause some distortion with very fast moving subjects or very fast moving light. If you are some fast birds or fast moving traffic, try taking an image to see if you notice any distortion. I see it if I use this mode with hummingbirds.
8. Be sure and go back into MENU ->  -> 7. Drive Mode -> Anti-Shock [◆] Settings and set to off and return any settings you adjusted.

PROJECT THREE (SEQUENTIAL, ANTI-SHOCK SEQUENTIAL, & SILENT SEQUENTIAL DRIVE MODES)

Objective

To be able to shoot with all three sequential drive modes and see how they function.


Goals

The goal of this project is to experience how sequential, anti-shock sequential, and silent sequential drive modes operate.

Project

This project is designed to give you some experience shooting with all three of the sequential drive modes.

Project Description

1. I recommend handholding the camera and using medium telephoto or super telephoto lens for practicing wildlife images since these three drive modes are best suited for such.
 2. Using the Drive Mode/Flash button or the Super Control Panel select the sequential drive mode.
 3. Practice shooting in this mode on a pet or wildlife. The noise from this mode isn't that substantial and is a good regular go to drive mode for much of your wildlife photography.
 4. Next, we need to go into MENU ->  -> 7. Drive Mode -> Anti-Shock [◆] Settings and turn this to on before continuing with our project.
 5. Next, using one of the two options mentioned above, change the Drive Mode to anti-shock sequential drive mode. Take some wildlife images, what do you notice about this while shooting? Try pushing your shutter speed to a slower shutter speed the lens you are using. Maybe 1/200 or 1/320's? Can you get a sharp shot handholding with a slower shutter speed? Try various slow shutter speeds and see if you can get a sharp shot with the anti-shock single drive mode? What was your best? Try practicing on a subject the size of larger bird but isn't moving. How well did you do?
 6. Next, change the drive mode to silent sequential. Take an image, did you hear anything? This mode is more beneficial for where you want to take images without any noise. Take a series of images of something moving,
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doesn't matter what. This takes up to 20fps, do you see how many shots you can get in a sequence? But remember, it can cause some distortion with very fast moving subjects or very fast moving light. If you are some fast birds or fast moving traffic, try taking an image to see if you notice any distortion. I see it if I use this mode with hummingbirds. I like to use for birds in flight or action where the speed of the moving subjects isn't too fast.

7. Be sure and go back into MENU ->  -> 7. Drive Mode -> Anti-Shock [◆] Settings and set to off and return any settings you adjusted.

PROJECT FOUR (HIGH-SPEED SEQUENTIAL SH1 & HIGH-SPEED SEQUENTIAL SH2 DRIVE MODES)

Objective

To be able to shoot with all three high-speed sequential drive modes and see how they function.

Goals

The goal of this project is to experience how high-speed sequential sh1 and high-speed sequential sh2.

Project

This project is designed to give you some experience shooting with both of the high speed sequential drive modes.

Project Description

1. I recommend handholding the camera and using medium telephoto or super telephoto lens for practicing wildlife images since these three drive modes are best suited for such.
 2. Using the Drive Mode/Flash button or the Super Control Panel select the high-speed sequential sh1 drive mode.
 3. If we remember from above, the high-speed sequential sh1 drive mode fixes focus, metering, and other such features when we press the shutter button. It would be great if you have something moving to use this mode on so we could see the impact of the focus and metering locking when we press the shutter button.
 4. This mode also can not show a live view through the lens so it shows the image immediately prior to the current frame. This can affect following moving objects.
 5. What did you find when using this drive mode? Do you see a situation where you might use it?
 6. Next, using one of the two options mentioned above, change the Drive Mode to high-speed sequential sh2 drive mode.
 7. Take a series of images and notice how focus will change from image to image. Do you anything else about this mode that you like more? Do you see how easy it is to rack up a lot of shots? Given that, what type of situations would you use this?
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PROJECT FIVE (PROCAP DRIVE MODES)

Objective

To be able to shoot with at least one of the ProCap drive modes and see how they function.

Goals

The goal of this project is to experience how one of the ProCap modes work.

Project

This project is designed to give you some experience shooting with at least one of the ProCap modes.

Project Description -

1. Because you can take so many photos with ProCap mode, we are only going to work with the mode I most prefer which is ProCap for most situations (it doesn't capture as many shots as ProCap2 which is my other preferred mode, but so you don't end up with crazy number of images we will work with ProCap mode).
2. I recommend handholding the camera or using on a tripod, either way is fine.
3. Using the Drive Mode/Flash button or the Super Control Panel select the ProCap drive mode.
4. The point of using ProCap mode is to capture images for which you couldn't anticipate when it was going to occur such as a butterfly taking off a flower, a snake striking, or the marine iguanas expelling the salt from their nostrils in the Galapagos Islands.
5. To use this mode, you half-press the shutter button and you will notice a green, circular arrow in the lower left of the EVF or monitor. This indicates that images are being recorded into the buffer. They are not recorded to the memory card until you fully press the shutter button. If you have some bird feeders at your house, are near a beach, or have some place where waterfowl land or take off, this would be a great subject to practice on.
6. If you have bird feeders, that is probably the best as birds come and go frequently from them. Locate a subject and acquire focus. Once you have focus acquired, half-press the shutter button and wait until the bird takes off. Once you see the bird take off, fully press the shutter button for a short bit. You do not need to hold it down long.
7. Wait for all images to record to the memory card? Do you remember the icon that you see when the camera is recording images?
8. Now, review the images. Do you see how you captured actions that you would never be able to get without ProCap mode?
9. If you don't have bird subjects, you can have someone hold a ball. Prefocus on the ball. Tell them to throw it up or down without announcing when they will do it. Follow the same process as in steps 6-8.
10. What other situations can you think of where you might use this drive mode?

PROJECT SIX (SELF-TIMER 2, 12, & CUSTOM MODES DRIVE MODES)

Objective

To be able to shoot with at least one of the self-timer drive modes and see how they function.

Goals

The goal of this project is to experience how one of the self-timer modes work.

Project

This project is designed to give you some experience shooting with at least one of the self-timer modes.

Project Description

1. I recommend placing the camera on a tripod for this project. We are going to do some selfies with the self-timer!
2. In my experience, the standard 🕒 2's self-timer is too short (unless I just want a delay for triggering the shutter in single drive mode because I forgot my remote control) or 🕒 12's is too long for any situation. So, I set a custom self-timer and you will learn how convenient this is and how many options you have!
3. Place the exposure mode dial in Manual Exposure Mode (M) and get your settings correct for a landscape selfie!
4. Using the Drive Mode/Flash button or the Super Control Panel select the 🕒 C (this is the custom self-timer) drive mode. Once the 🕒 C is highlighted, press the INFO button. You will now see a line of four (4) possible settings.
5. From left to right is the length of the timer (I like 5's but choose what you want), next is the number of frames (let's choose 3 where you can smile in one, laugh in one, and make a face in the third one - have fun with it), The third setting is the interval between shots, give yourself 2's to prepare your face! Finally, the fourth settings is Every Frame AF and we want this set to off! We don't want it to refocus between images.
6. The next step is to press the shutter button which will begin the 5's countdown! You will hear the first image being taken (unless you chose the silent self-timer), then a 2's countdown, the second image will be taken, another 2's countdown, and then the final image will be captured.
7. How did the images turned? While I hope that was fun, I find that this can be very handy if I forgot my remote control and I am not using silent or anti-shock drive modes where I can set a delay.
8. Be sure and return to your original drive mode after the exercise.

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