

Flowcharts for (some) Lumix cameras

Earlier versions of the stills manuals I have written included flowcharts to give a pictorial way of understanding the use of the camera. As they say, 'a picture saves a thousand words'. I removed these from later versions as I found that some people couldn't follow them and they took up space. However, other readers have responded that they preferred the flow charts. This document aims to provide them again for the custom modes for 'stationary' subjects. It should be referred to in conjunction with the manual for your specific camera.

Each manual provides instructions for setting up the custom modes for a number of photographic scenarios. The Lumix cameras I've written manuals for have from 3 to 5 custom modes. You should choose the ones you use and program them onto the available custom modes, as described in the manuals. The flowcharts in this manual cover three custom modes for 'stationary' subjects, which differ mainly in the combination of exposure and AF modes used, as shown in Table 1.

Custom mode name	Shooting mode	Metering mode	Focus mode	AF mode
Opportunistic	P (or A)	MULTI	AFS	XX-AREA ¹
People	P or A	MULTI	AFS	FACE
Classic	A (or P)	SPOT	AFS	1-AREA

Table 1: Key settings for 3 custom modes for 'stationary' subjects

Use P or A shooting mode as you prefer. Detailed settings for each custom mode are documented in the relevant manual. You can rapidly select a complete configuration for the camera by switching to the relevant custom mode.

All three custom modes use the AFS (single) focus mode: automatic focus is taken once, but can then be adjusted manually. Obviously, you can quickly select to AFF, AFC or MF as discussed in the camera manual.

Each of the three custom modes can be used by following four operating sequences that only differ in (a) what action locks the focus and (b) whether you leave the camera (AF and metering modes) to select the subject or use the buttons or touch screen to select (or hint at) the subject, as shown in Table 2. Note that the shooting mode, AF mode and metering mode are all set by the custom mode chosen.

Operating sequence:	Standard	AF LOCK	Subject	Subject and AF LOCK
Lock focus on:	½ press shutter	AF LOCK	½ press shutter	AF LOCK
Subject selected by:	Camera (AF and metering modes)		User, via buttons or touch screen	
Shooting mode used:	Set by custom mode: P or A			
AF mode used:	Set by custom mode: XX-AREA ¹ , FACE or 1-AREA			
Metering mode used:	Set by custom mode: MULTIMETERING or SPOT			

Table 2: Differences between the four operating sequences²

This section describes these four operating sequences, pointing out the few (but important) differences between the custom modes as they arise. This should allow you to concentrate on using the camera and make the operating sequences second nature.

The four operating sequences are shown in Figure 1. Note how similar the sequences are – they are variants of each other.

¹ **XX-AREA mode:** for example, 23-AREA mode on the GX7 and 49-AREA mode on the G7.

² **Caution:** This manual assumes that TOUCH AF is OFF. If TOUCH AF is set to AF+AE, when the screen is touched the AF mode and metering mode are set to 1-AREA AF and TOUCH AE respectively.

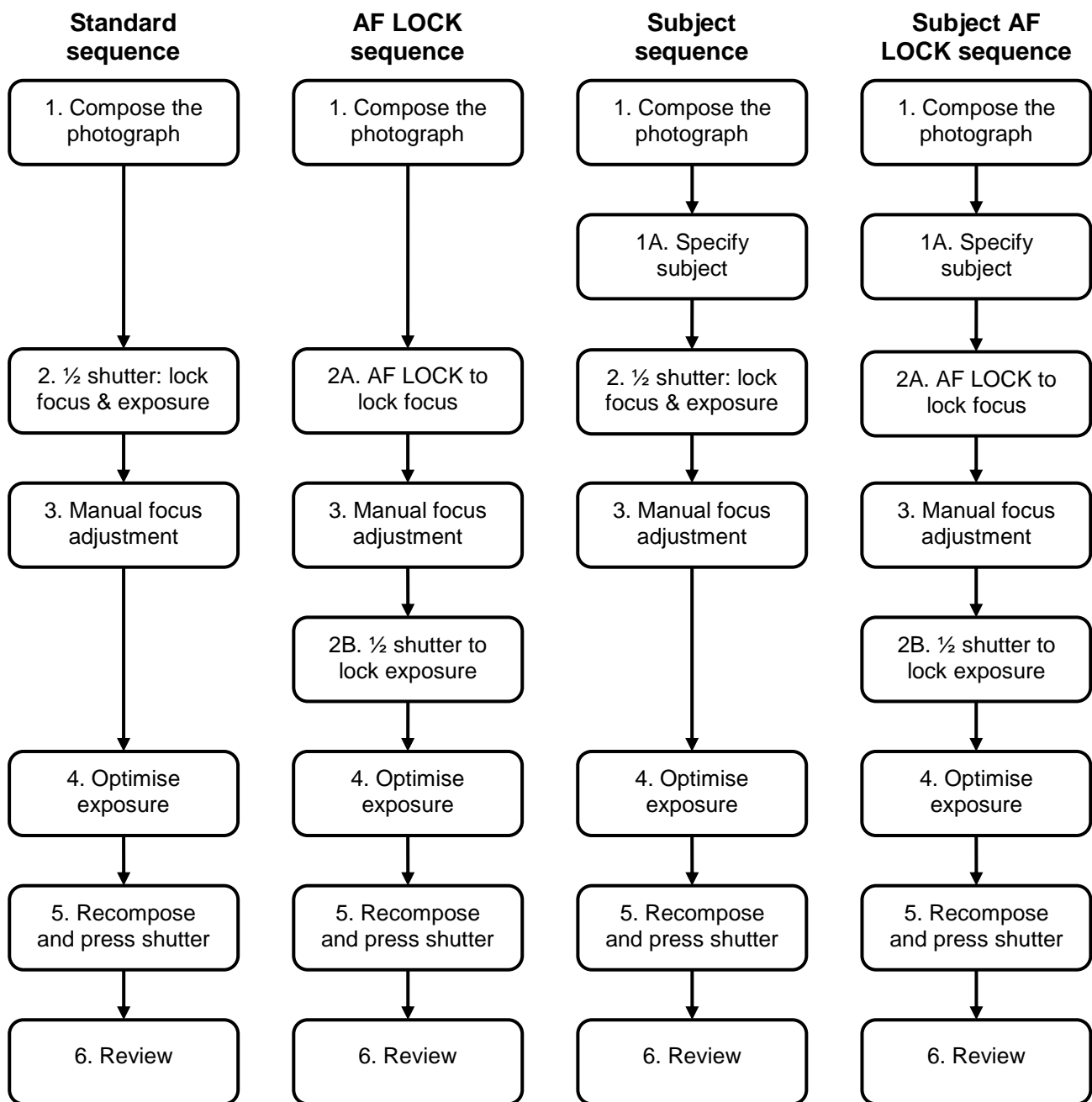


Figure 1: 4 operating sequences for 'stationary' subjects

The operating sequences can be summarised as:

Standard sequence: This is a 'point and shoot' approach, although you can easily adjust the exposure and/or focus if necessary. Half-press the shutter button to lock focus and exposure, adjust the focus and exposure if necessary, and fully press the shutter button to take the photograph.

AF LOCK sequence: Press and release the AF LOCK button to lock focus, adjust focus if necessary, half-press the shutter button to lock exposure, adjust the exposure if necessary, and take the photograph.

Subject sequence: Specify the subject by pressing FOCUS AREA SET and then using the cursor buttons or touch screen. Then proceed as for the standard sequence.

Subject AF LOCK sequence: Specify the subject by pressing FOCUS AREA SET and then using the cursor buttons or touch screen. Then proceed as for the AF LOCK sequence.

More details of each operation, numbered as in Figure 1, are given in the following sections. Any differences between the custom modes are covered as they arise in a given operation.

Work through each operating sequence in turn with your camera. They build on each other. Skip over operations that are not relevant to the sequence you are working through and return to them later.

1. Compose the photograph

Move yourself and aim the camera to frame the photograph as desired. Adjust the magnification with the zoom ring if using a zoom lens.

In FACE DETECTION AF mode ('People' custom mode), any detected faces will be framed in white and the one that will be used for the AF area will be framed in yellow.

1A. Specify your subject (Subject and Subject AF LOCK sequences only)

Instead of leaving the camera to select the subject, press the FOCUS AREA SET button:

- In XX-AREA AF¹ mode ('Opportunistic' custom mode) a white cross will appear surrounded by a few yellow AF frames. Use the cursor keys or touch screen to move the cross (and surrounding AF frames) around. XX-AREA AF mode will look for focus in these frames.
- In FACE DETECTION AF mode ('People' custom mode) a yellow AF frame will appear. Use the cursor keys or touch screen to move it and the rear dial to change its size. The FACE AF mode will look for faces in the AF frame.
- In 1-AREA AF mode ('Classic' custom mode) a yellow AF frame will appear. Use the cursor keys or touch screen to move the frame (cross) and the rear dial to change the size of the frame. The AF system will look for focus in the AF frame.

Now either:

- **Subject sequence:** To proceed to operation 2, half-press the shutter button to accept the location of the AF region, which will turn green if focus is achieved. If you release the shutter button the AF region will turn white. You can then either half-press the shutter button again and proceed, or move to the Subject AF LOCK sequence, as if you had pressed SET in the next bullet point.
- **Subject AF LOCK sequence:** Press SET to accept the location of the AF region, which will turn white. Focus will be locked when you press AF LOCK (operation 2A).
- **Cancel the move:** Press FOCUS AREA SET to cancel the move and start again at operation 1

The AF region will remain where you have moved it between shots. To re-centre it, press FOCUS AREA SET, then DISP (to centre the AF region), and then press SET or half-press the shutter button to accept the move.

2. Half-press the shutter to lock focus and exposure (Standard and Subject sequences only)

The AF region will be in the centre of the display for the Standard sequence. For the Subject sequence, you will have moved it in operation 1A.

- In XX-AREA¹ AF mode ('Opportunistic' custom mode) the camera will assess the scene and focus in one or more of the XX areas across the image. The frames in which focus has been taken will be displayed in green. No frames will be displayed if focus has not been obtained.
- In FACE DETECTION AF mode ('People' custom mode) the camera looks for faces in the image and (if a face is detected) displays a green frame around the face on which focus and exposure have been taken. Yellow frames will be shown around other faces. If a face is not detected XX-AREA AF mode will be used.
- In 1-AREA AF mode ('Classic' custom mode), centre the AF frame over your subject and half-press the shutter button to lock focus and exposure on it. The AF frame will turn green if focus is obtained and red if it is not obtained.

It can be tricky to adjust the focus whilst keeping the shutter button half depressed. You may prefer to use AF LOCK to lock focus, as in operation 2A below.

2A. Press AF LOCK to lock focus **(AF LOCK and Subject AF LOCK sequences only)**

You can separate locking the focus from locking the exposure by pressing **and releasing** the AF LOCK button. Frames will be displayed for the various AF modes as described for operation 2.

This allows you to lock focus first, before taking the exposure later, possibly on a different part of the scene. 'Classic' custom mode, in particular, is set up to exploit this separation: centre your subject in the display and then press and release AF LOCK to focus on it before locking the exposure separately.

2B. Half-press the shutter to lock exposure **(AF LOCK and Subject AF LOCK sequences only)**

Having previously locked focus with AF LOCK, lock the exposure by half-pressing the shutter button.

When using the 'Classic' custom mode, centre a point in the scene on which you want to take exposure in the display and then half-press the shutter button to lock exposure.

3. Adjust focus manually

When necessary, adjust focus manually with the focus ring. If you half-pressed the shutter button to lock focus you will need to keep it half-pressed. I find it easier to lock focus with AF LOCK, as in operation 2A.

A distance indicator will appear, showing roughly where you are focused (there is no distance scale). Focus peaking (enabled by default in the setup) will highlight edges in the scene that are in focus.

MF ASSIST, which enlarges an area of the screen, can be switched on by pressing the AF MODE (left cursor) button. The enlarged AF area can then be moved around using the cursor keys and the magnification varied using the rear dial. Press BACK to close the enlarged area.

4. Optimise exposure

Optimise the exposure to meet your objectives for your photograph by selecting an appropriate combination of ISO setting, aperture and shutter speed. You can increase or decrease the exposure (overriding the automatic exposure) using exposure compensation.

Adjusting the ISO setting

Press the ISO (cursor up) button and select AUTO ISO, intelligent ISO (iISO) or an ISO setting. Intelligent ISO increases the ISO setting when movement is detected in the scene. You can adjust the ISO LIMIT for AUTO and iISO with the front dial whilst in the ISO menu. The ISO setting being used is displayed when the shutter is half depressed³. Try using AUTO ISO and an ISO LIMIT of 3200 (the default in the setup). You may rarely need to change it.

The camera will produce images with the least noise if operated at as low an ISO speed as possible. A higher ISO speed will allow a faster shutter speed (with less motion blur) or operation in lower light. A lens with a wider maximum aperture will let you use a lower ISO speed, with less noise in the image.

Adjusting aperture and shutter speed

You will have programmed each custom mode to use P or A shooting mode, as you prefer.

- In program (P) shooting mode, the camera selects the best combination of aperture and shutter speed. Turn the front dial to adjust the balance between shutter speed and aperture – this is known as 'Program Shift'. A yellow arrowed indicator will appear to the left of the aperture value. To cancel Program Shift, press the ONE PUSH AE button; otherwise the same shift will be used in the next photo.
- In aperture priority (A) shooting mode, set the aperture using the front dial. The camera will set the shutter speed for correct exposure. You can press ONE PUSH AE button to obtain an aperture and shutter speed to start from. The aperture you use is retained from one shot to the next.

³ Except in Intelligent ISO, when the ISO setting is selected dynamically

As a rule, you will use a wide aperture to obtain a shallow depth of field (for, say, portraits). Use a narrower aperture for a deeper depth of field and the best sharpness (for, say, landscapes). Too small an aperture (say beyond f/8) will reduce sharpness due to diffraction.

Adding exposure compensation

If you consider that your intended subject is over- or under-exposed, one option is to adjust the exposure compensation so that your subject appears correctly exposed in the display. Rotate the rear dial to adjust the exposure compensation, increasing or decreasing the light reaching the sensor.

You can use the histogram to view the distribution of brightness in the picture. Adjust the exposure compensation so that the histogram has the peak for your subject towards the middle of the distribution. For example, you usually want a face in a portrait to be correctly exposed. For a face on a dark background you will have two peaks in the histogram (a bright peak for the face and a dark one for the background). Adjust the exposure compensation so that the bright peak is towards the centre of the histogram.

On some cameras, clicking on the rear dial will toggle how the exposure compensation is displayed (it will still be controlled by the rear dial) and the front dial will (if Flash>'Auto Exposure Compensation' is set to ON) control FLASH ADJUST, which increases / decreases the flash output in addition to any exposure compensation applied.

5. Recompose and take the photograph

Recompose and fully press the shutter button to take the photograph.

Take care if you are using a wide aperture (with a shallow depth of field) with a nearby subject, as moving the camera may shift the plane of focus, taking your subject out of focus: you can refocus manually. Alternatively, in such situations, you may want to keep the camera still (possibly on a tripod) and specify the subject.

6. Review the photograph

Review the photo, if the review option is set. You can delete it immediately by pressing DELETE.

If you are using P shooting mode and have used Program Shift, remember to press the ONE PUSH AE button to reset Program Shift. If you don't reset it, the same shift is retained for the next photograph.

If you have moved the AF region in operation 1A, remember to reset it to the centre if necessary.