

Firmware v2.02 Supplement



The Friedman Archives Guide to

Sony's Alpha 1

by Gary L. Friedman

*"Professional Insights for
Experienced Photographers"*


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1.1 HOW TO UPDATE THE FIRMWARE

So the A1 has had a LOT of firmware updates in the past few months. Why so many?

- Firmware version 2.0 introduced a lot of new features but bricked many A1s after updating.
- Firmware version 2.01 fixed the bugs that were contained in version 2.0. Updating the camera was now safe.
- Firmware version 2.02 is identical to version 2.01 but they fixed a bug where it wouldn't work with Sony's 200-600mm lens.

The firmware update to version 2.02 can only be completed successfully if your current version is 2.01. And the update to version 2.01 can only be completed successfully if your firmware version is 1.35. If your firmware version is *less* than 1.35, then you need to update to version 1.35 first. You can find your current firmware version via **MENU** →  → **Setup Option** → **Version**.

The starting point for your updates is here, which leads to all firmware version updates, for both Mac (MacOS 12, 13, or 14) and PC (Windows 10 and 11):

<https://www.sony.com/electronics/support/e-mount-body-ilce-1-series/ilce-1/software/00343092>

Be sure to read the instructions carefully since the update method for 2.02 is different than the methods for 2.01 and earlier!!

Important TIP: Yes, there's a chance you'll lose your camera settings when you upgrade. It all depends on the firmware version you're upgrading from.

TIP 2: On Mac computers with an Apple silicon processor, you need to change the security policy. The **About This Mac** screen will show an item labeled **Chip**, followed by the name of the chip. Refer to the **How to change the security policy on Mac computers with Apple silicon** article (<https://support.d-imaging.sony.co.jp/mac/security/11/l/index.php>). For Mac computers with an Intel processor, this step is not necessary.

1.2 SUMMARY OF NEW FEATURES

1.2.1 *CREATORS' APP AND CREATORS' CLOUD SUPPORT*

Remember that Imaging Edge Mobile program you had downloaded to your phone to control your camera remotely and have it receive images sent by the camera? Well, it won't work anymore after the upgrade. Now Sony wants you to use the new Creators' App instead, which has all of the functionality of the old app but also has a Sony Creators' Cloud attached to it, allowing you to upload images to Sony's cloud when you return to a known Wi-Fi access point. Available in all the usual places.

To accommodate the "Upload to the Cloud" function, the A1 now has two new menu items: Cloud Connection and Cloud Information.

1.2.2 *CLOUD CONNECTION*

Menu Position MENU →  → Creators' Cloud → Cloud Connection

What it Does Establishes connection to Creators' Cloud via your smartphone or tablet

Recommended Setting On

So this is all really unintuitive. Before you can do anything you need to start the Creators' App on your phone/tablet and then sign into your Sony account (Section 4.2.1 of the original book). Then go to this function, and tell it you have the Creators' App already.


The first problem you'll encounter is this display screen, telling you to launch the Creators' App and "start the settings from "Cloud Functions". The only problem is I couldn't find "Cloud Functions" in the app. What you're *supposed* to do is hit "Camera Settings" (near the bottom of the screen), then hit "Cloud Function" on the page that comes

up. Then hit “Start Settings (at the bottom of the screen) then start following the step-by-step instructions.

1. Setup the Camera’s Wi-Fi – this actually changes the camera settings for you, so you don’t have to menu dive. Nice touch. *If you want your images and video to be sent using the phone’s internet connection, set up a wi-fi hot spot on your phone first, then connect to that hot spot in this step.*
2. Link the Camera with the Cloud – hit “Start Linking” at the bottom. The app works the camera in this regard as well. Hit OK on the back of the camera to continue.
3. Cloud Upload – hit “Go to Settings” at the bottom of the phone to configure. Here you can specify which file formats you want automatically uploaded. Beware that RAW files and videos can take a long time to upload and fill the cloud space quickly.
4. Then a quick tutorial appears.

There is no need to keep the app open while uploading. (The camera must remain on, however.)

Your Sony account gives you 25 GB of free storage on Creators’ Cloud.

TIP: In order for this to work, **MENU** →  → **Cnct./Remote Sht.** → **Remote Shooting** must be **OFF**. (No error message will appear if it’s on.)

TIP 2: Even after trying it twice and contacting Sony Pro support, I still wasn’t able to get it to work. Damn technology!

1.2.3 CLOUD INFORMATION

Menu Position MENU → 🌐 → Creators' Cloud → Cloud Information

What it Does Shows you the status of your Creators' Cloud connection established via the above function




Recommended Setting n/a



Not much to say about this one, other than 1) This and the Cloud Connection function (previous section) are new with Firmware v2.0, and 2) The information on this screen doesn't provide enough troubleshooting information for when things go wrong. For example, after configuring the app and the camera to upload images to the Creators' Cloud, I received an orange cloud icon with an orange "!" next to it on the screen, indicating that the upload had failed. Checking this screen (**Figure 1**), the "Error Info" tells me only that the camera is "properly connected" to the cloud. Not helpful.





Figure 1: This is the status screen you get when invoking the Cloud Information function.

1.2.4 SHOT MARKS AND DIVIDER FRAMES



These features represent a new way to “jump around” in playback mode. There have been times in my life when I would be shooting a sequence of images (measuring frame rates for cameras I’m writing about, for example) and I’ll need to take a “separator” frame to let the future me know that “what follows is a new batch of images”. The separator frame almost always entailed taking a picture of the floor or the ceiling. Well, here’s a more sophisticated version that is actually useful: Sony calls it the Divider Frame, and it has one advantage over my floor shots: while playing back a day’s shooting in the camera, you can quickly jump to the next divider frame (or the image *after* the next divider frame). Great time saver while out in the field. In order to use it you have to assign **Create Divider Frame** to a button (**MENU** →  →  **Custom key/Dial Set.** → **[Pick a button]** → **9** → **Selection/Memo** → **Create Divider Frame**) then when you’re about to play them back you can go to **MENU** →  → **Playback Option** → **Image Jump Setting** and assign the Front Dial to **Divider Frame Only**. Then, when playing back, rotating the front dial will jump from one divider frame to the next. Quite a time saver!

A similar tool for marking places in videos is called a “Shot Mark” – just assign **Add / Delete Shot Mark 1/2** to a button (**MENU** →  →  **Custom Key Setting** → **[Pick a button]** → **3** → **Slection/Memo** → **Add/Delete Shot Mark[1/2]**), and press it while recording or playing back a movie.

The Shot Mark on a video can serve two different purposes:

1. It can be used by the Image Jump Setting to mark which video to jump to next when you’re playing back. (Section 8.7.6 of original book.)
2. It can specify a place within the video as a mid-point for automatic trimming – when you send the video to your phone, and you have **MENU** →  →  **Cnct./PC Remote** → **Select on Cam & Send** → **Movie with Shot Mark** set to **Cut to [xx] seconds** set, the camera will send a sub-clip to your phone, which is centered around the Shot Mark. For example, I shot a 1-minute video clip on the camera, and placed a shot mark at

the 0:30 mark. I had **Movie with Shot Mark** set to **Cut to 15 seconds**, so the video clip that landed on my phone started at 0:23 and ended at 0:37 – a 15-second clip with 7 seconds before and 7 seconds after my Shot Mark.


You can also mark the shot while you're shooting the video – just assign **MENU** →  →  **Custom Key/Dial Set.** → **[pick a button]** → **9** → **Add Shot Mark[1,2]** to a button and then press that button while you're shooting.

1.2.5 NEW FTP FEATURES

Only Protected Images

You can have images automatically marked as “Protected” when uploading them via FTP. (Recall that Protecting images just means you can't accidentally delete images while on the card in the camera.) (Section 4.6 of the original book.)

Auto FTP target now also has a “Protect Only” option for both stills and video, meaning it will only transfer images that have previously been marked as “protected”. (Again, Section 4.6.)

Here's a list of ALL of the submenus for **MENU** →  → **FTP Transfer** → **FTP Transfer Func.** and what they do. (Items in **RED** are new features:

Save/Load FTP Settings	All of the servers and passwords are saved to a file on the memory card. The camera recommends password protecting the file but that is completely optional.
FTP Transfer	This is where you can manually initiate the transference of a group of images.
Display FTP Error Info	View your connection or transference errors here as a first step toward troubleshooting.
Display FTP Result	This gives you a scoreboard of images that have and have not been uploaded successfully (“No. of Scs. Trn. Img.”) or failed (“No. of Fail. Trn.

	Img.”).
Auto FTP Transfer	My favorite FTP function. When On, the camera will automatically try to connect and upload every time you take a picture.
Auto FTP Target	What type of media do you want automatically sent with the Auto FTP Transfer feature (above)? You can select Still Image and/or Movies, and of the movies, you can select between all of them or only ones previously marked with a “Shot mark” (Section 4.6). Firmware 2.0 adds the option to only send files that have been previously protected. Also allows you to add “Shot Marks” to the video while playing back. (See “Protect” feature in the original book, Section 8.3.1) [XXX]
RAW+J/H Transfer Target	Do you want to upload just JPEG/HEIF, or RAW too? (Or just RAW?)
Transfer JPEG Size	Choose from Large or Small.
(Px) Transfer Target	Do you want to upload full-scale movies or just proxies? (Or both?)
Protect Image in FTP transfer	(New in Firmware v2.0) Do you want to camera to automatically set the Protect Image flag when uploading images via FTP? (Recall that Protecting images just means you can’t accidentally delete images while on the card in the camera.)
FTP Power Save	Do you want to the camera to disconnect from the FTP server after a timeout?

SFTP protocol



Figure 2: A new, easier-to-implement secure file transfer protocol has been added to the Secure Protocol choices.

A new option appears under **MENU** → **🌐** → **FTP Transfer** → **FTP Transfer Func.** → **Server Setting** → **[Server X]** → **Destination Settings** → **Secure Protocol**. The new option, **On: SFTP**, is a secure, encrypted FTP protocol that doesn't require a root certification like the **FTPES** feature above it. You will still need a username and password and other technical stuff that your FTP Server administrator will give you.

More details about using FTP can be found in the original

book, Section 4.6.

1.2.6 NEW FEATURES WITH THE REMOTE CAMERA TOOL

The Remote Camera Tool is a way of shooting tethered(ly) via an Cat5 Ethernet cable rather than using a USB cable to connect the camera and computer. In addition to having complete control of the camera (including many menu items), it also offers capabilities not found in the other tethering tools, such as the ability to control up to 20 cameras at once, and to turn the camera on and off remotely via RCT's Wake on LAN setting.

Detailed instructions for downloading and for use can be found at <https://support.d-imaging.sony.co.jp/app/remotecameratool/en/>.

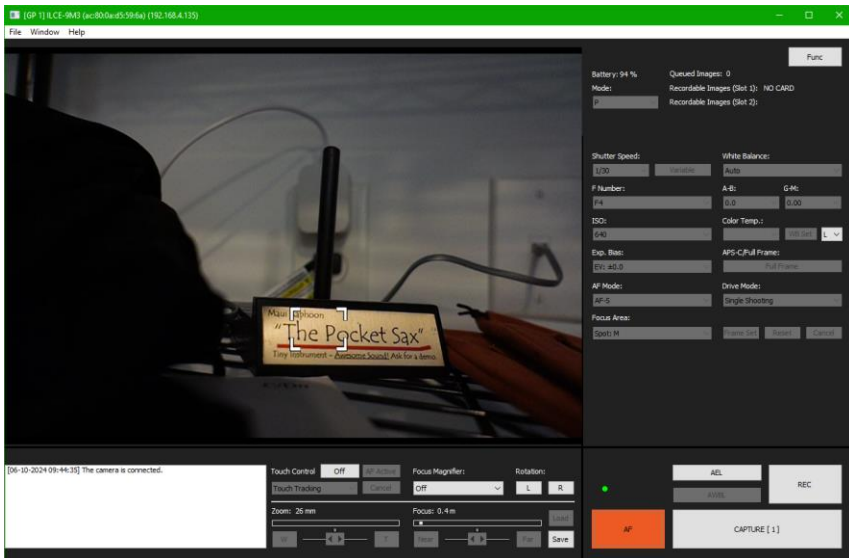
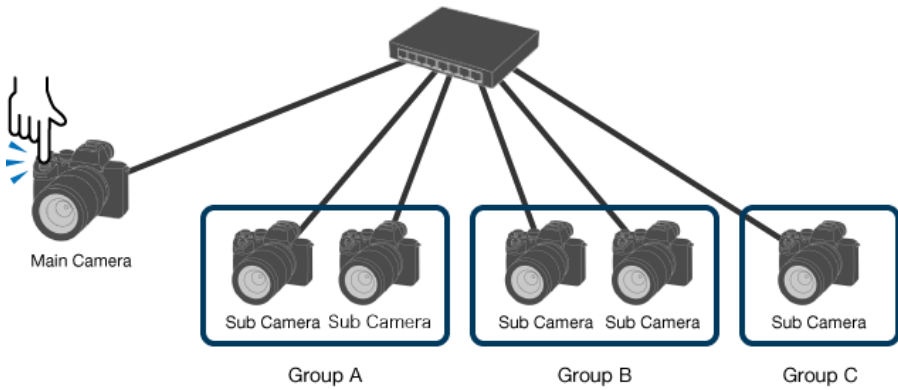


Figure 3: Probably the most versatile and capable option for tethered shooting comes with Sony's free Remote Camera Tool.

1.2.7 NEW WAYS TO FILTER IMAGES UPON PLAYBACK

The **MENU** →  → **Playback Target** menu has changed (Section 8.1 in the original book). It has been replaced by the following:

1.2.8 PLAY SET OF MULTI. MEDIA

Menu Position **MENU** →  → **Playback Target** → **Play Set of Multi. Media**

What it Does Do you want the camera to show you images from Slot 1, or Slot 2?

Recommended Setting n/a


Not much to say about this one, other than the fact that it used to be called “Select Playback Media” in previous cameras. Usually Sony doesn’t change the name of a function unless that function’s behavior has changed. In this case, if you only have one memory card in the camera, then the camera will only use that memory card, regardless of how this function is set.

1.2.9 DISP SET OF MULTI MEDIA

Menu Position **MENU** →  → **Playback Target** → **Disp Set of Multi. Media**


What it Does Gives the camera permission to treat the two memory cards as one, big, continuous memory card.

Recommended Setting Follow PB Settings

This feature exists because sometimes it can be a pain to switch memory cards when playing things back using the **MENU** →  → **Playback Target** → **Play Set of Multi. Media** function. With this set to “All Slots”, the two cards are treated as one large virtual card.

In my opinion the strongest reason for having two card slots is for redundancy. If you're shooting an important assignment like a wedding, I like to write everything to both cards as insurance against a card failing during the event. For that reason I keep this function set to "Follow PB Settings", which means treat them as two separate cards and play the card specified in "Play Set of Multi. Media" (previous section).


1.2.10 PLAYBACK FILTER CONDITION

Menu Position MENU →  → Playback Target → Playback Filter Condition

What it Does Lets you specify what gets played back (or, more specifically, lets you filter out media types you don't want to see)

Recommended Setting I keep everything unchecked because I want to see it all.

Got a healthy mix of video, images, voice memos, videos with shot marks, image format types, video format types all on one card? You could spend forever looking for them by pressing the left button a billion times in playback mode, or you could reduce the search space by having the camera show you only certain types of media.

To use, while playing back hit the **MENU →  → Playback Target → Playback Filter Condition** function. The following choices will appear:

Date	Pick a date by highlighting a date on the calendar and pressing the center button.
Folder	Lets you choose from the folders containing viewable media on the card.
Still Images/Movies	Choose between images and video. If the left box is NOT checked, both are played back.

Rating	Select images that have been ranked as having one star through five stars, or only images that have no stars. (Rating is covered in Section 8.3.2 in the original book.)
Protect	Show only images that have been protected or not protected. Protecting images is covered in Section 8.3.1.
Shot Mark	Show only videos that contain Shot Marks, or only Shot Mark 1, only Shot Mark 2, or no Shot Marks. (Section 1.2.4 of this supplement).
FTP Transfer Status	Choose between media files that have transferred successfully; files that haven't transferred successfully, or files that haven't transferred at all.
Smartphone Trans(fer) State	Same as above, except this time choose between images that have or haven't been successfully transferred to your phone.
Voice memo	Is or isn't a voice memo. (Section 8.3.7 of original book)
File Format	Choose between every kind of image: JPG, HEIF, RAW&JPG, (RAW or RAW+JPG), etc.


The display actually contains two columns; the left column containing the checkboxes which enable/disable the filter), and the right column which contains the descriptions and are usually changeable by highlighting it and hitting the center button. To invoke the filter, hit the "Execute Filter" button in the lower right hand corner of the screen.

This filtering is only temporary; the filter is cancelled by either shooting an image or movie or turning the camera off.



Figure 4: The Playback Filter lets you filter out stuff so you can quickly find what you're looking for in playback mode. Left image: page 1 of the media types and characteristics. Right image: Check on the dates you want to view. (What? You don't empty your memory cards every night?? 😊)

1.2.11 IMAGE ORDER

Menu Position MENU →  → Playback Target → Image Order

What it Does Lets you choose between showing Date Order or Folder Order. ("Folder Order" shows all of your video first, then images.)

Recommended Setting Date Order

Do you want to play back the images in date order (or, more specifically, reverse date order), or by the alphabetical order of the folder names that the images are contained in? This will only matter if you have more than one folder of name DCIM\1xxxMSDCF on your memory card, or if you have any video on your card. In the case of video, *they will be displayed first*. So that's a faster way of filtering for video when playing back.

Directories can take on more than one naming convention. See Section 5.3.5 in the original book for details.

1.2.12 TWO DIFFERENT TYPES OF FORMATTING

Menu Position MENU → 📷 → Media → Format

What it Does Formats one of the memory cards, erasing all content and mapping out corrupted blocks

Recommended Setting: n/a

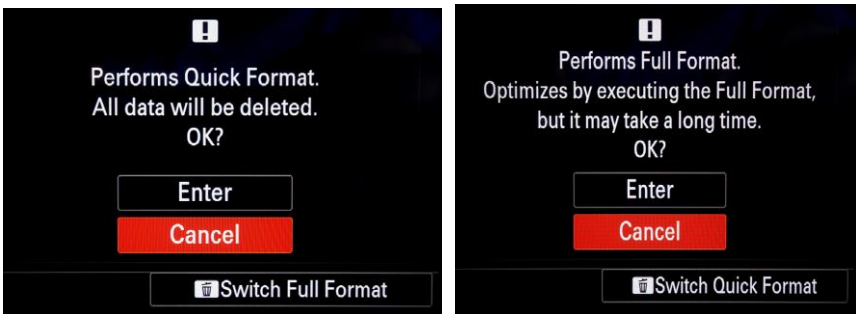



Figure 5: You can choose between Quick and Full formats when formatting the card.

There are two kinds of formatting: A “quick format” and a “thorough format”. A quick format is like burning the card catalog at a library but not touching what’s on the shelves. A thorough format burns the card catalog AND gets rid of all the books on the shelves, and also checks the shelves for their ability to hold books.

Now the camera allows you to choose which kind of format you want. Hitting the C4 (trash can) button on the confirmation screen will toggle between Quick and Full formats. Full format takes longer, but it can fix all sorts of corruption issues on the memory card. On the downside, you won’t be able to recover deleted images on the card after-the-fact.

1.2.13 BREATHING COMPENSATION

(This new addition to the **MENU** →  → **Image Quality/Rec** → **Lens Compensation** menu is only available in movie mode.)

Macro shooters who do focus stacking know all too well what focus breathing is – it’s how the angle of view changes slightly when you change focus. (Making it one more thing Photoshop has to compensate for when merging just the sharp parts of stacked images.)

This feature is especially useful if you’re shooting movies, and employing a “rack focusing” technique of focusing on just one subject, then another. You don’t want the room to get bigger or smaller as you do so.

Here’s the current list of lenses that this feature is compatible with. (An up-to-date list can be found here: <https://support.d-imaging.sony.co.jp/support/ilc/breathing/en/index.html>):

SEL11F18	SEL50F14Z	SELP1635G
SEL14F18GM	SEL50F25G	SEL2070G
SEL15F14G	SEL85F14GM	SEL2470GM
SEL20F18G	SEL85F18	SEL2470GM2
SEL24F14GM	SEL100F28GM	SEL24105G
SEL24F28G	SEL135F18GM	SELP28135G
SEL35F14GM	SELP1020G	SEL70200GM
SEL35F18F	SEL1224GM	SEL70200GM2
SEL40F25G	SEL1224G	SEL70200G2
SEL50F12GM	SEL1635GM	
SEL50F14GM	SELC1635G	

You can set this feature to either On or Off.

TIP: A good real-world example of breathing compensation appears in the YouTube video I made talking about focus bracketing and focus stacking, starting at 1:14: <https://www.YouTube.com/watch?v=K6XI7cqvkis>

(This video was part of the blog post dealing with focus bracketing in general, and was made before Sony introduced their Focus Bracket feature. I still say that the methods demonstrated in the blog post are better than what Sony has

provided in the Focus Bracket feature:
<https://friedmanarchives.blogspot.com/2022/06/focus-stacking-on-sony-olympus-and.html>)

1.2.14 ENHANCED IMAGE STABILIZATION

Don't worry about the actual numbers; just know that if you have shaky hands, the a1 and the lens (if it has Optical Image Stabilization feature built in) will work better together to combat it.

1.2.15 FOLDERS CAN NOW HOLD 9,999 IMAGES ON MEMORY CARD

‘Nuff said.

1.2.16 TIME CODE SYNCING WITH DEDICATED CABLE

If you had five Sony video cameras to shoot an event, and you wanted them all to have the same time code (to make it easy to align all the video clips in post production), you would have to manually set the time code for each camera via **MENU → ■ → TC/UB → Time CodePreset → [Set your time code here]**. Yeah, a manual process which might not align everything perfectly.

Most live event productions use a Time Code cable which feeds into all of the cameras to ensure perfect sync with no drift. The industry term for this is “jam sync” and finally your camera is able to do it.

It requires the purchase of a Sony VMC-BN1 Timecode Adapter Cable (USD \$50, available at <https://tinyurl.com/5edx4akc> . To use, make sure **MENU → ■ → TC/UB → Time Code Run** is set to **Free Run** and just hook up the cable. That's it! More detail can be found in this [youtube](https://www.youtube.com/watch?v=WO00BzNBmU4) video:
<https://www.youtube.com/watch?v=WO00BzNBmU4>

1.2.17 ADDS LOSSLESS COMPRESSED RAW FILES IN S, M, AND L

See original ebook, Section 5.1.2.2.

In the past it was sacrilegious do to ANYTHING to a RAW file (because that would go against the definition of RAW – i.e., pulled directly from the sensor and then written to the memory card untouched). So even if you specified small images sizes like Medium or Small, if you shot RAW+JPG the RAW file would always be full-sized. If you wanted a reduced-resolution raw file you had to do it yourself later on your computer.

Well, Sony has caught up with some competitors here and have added

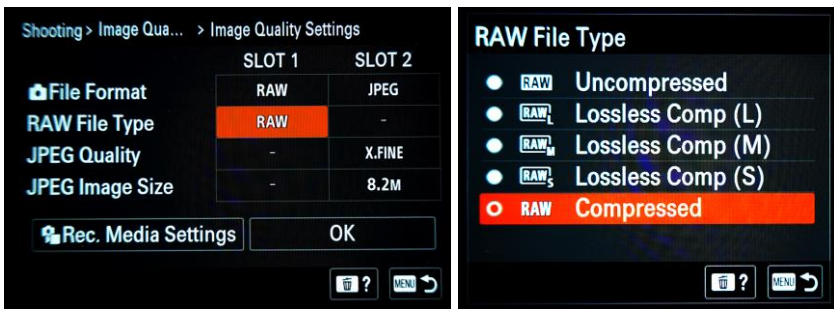



Figure 6: Smaller RAW files are now a thing.

the feature as well. Keep in mind this is not cropping the image; it is simply “pixel binning” and saving the image you composed as if you had shot it using a lower-megapixel camera.

You can access this new feature via **MENU** →  → **Image Quality** → **Image Quality Settings**. If the File Format is set to RAW, then clicking on the RAW File Type button will get you the screen in **Figure 6b**.

TIP: As of this writing, Adobe Camera Raw / Photoshop / Lightroom cannot open the new Lossless Compressed L, M, or S RAW files. But you can open

them in Imaging Edge Viewer and export them to 16-bit TIFFs for further processing in your favorite program. You can still open the other RAW file types – compressed and uncompressed without needing Sony's software.

1.2.18 UP TO 20 (COUNT 'EM!) IPTC PRESETS

Section 5.3.8 of the original book discussed how to create and store a file on the memory card that contained the author, copyright, and event into (among many other things). Well now your A1 lets you store up to 20 of those and switch between them rather quickly! You can access the new screen via **MENU** → **📷** → **File** → **IPTC Information** → **Import/Delete**, and you'll end up with the screen in Figure 7b.



Figure 7: Here are the menu screens for loading and writing IPTC information. Up to 20 IPTC files can be saved and recalled at a moment's notice.

1.2.19 CUSTOM GRID LINE (A PAID FEATURE UPGRADE! \$149!!)

You can now PAY Sony for the privilege of adding a new feature: You can configure a Custom Grid Line for your viewfinder. Costs USD \$149 for a per-camera license (!). I'm sure Sony is testing the market for paid new features and is waiting for the backlash from users.

If you're interested in purchasing a license and adding the functionality to your camera, the details can all be learned here: https://pro.sony/ue_US/digital-imaging/custom-grid-line

1.2.20 USING YOUR CAMERA AS A HIGH-QUALITY WEBCAM

Let's face it, the webcam in your laptop is awful. It has a wide-angle lens, probably 720p, low dynamic range, and probably looks up your nose. (Want proof? See my webcam shootout video at https://youtu.be/8fMn_BHx6K4).


People who are serious about how they look online (that's me – I give Zoom lectures for photo clubs worldwide now) use good lighting and adapt their high-end cameras to become high-quality webcams. To do this you once needed either an HDMI-to-USB converter (USD \$80 or higher), or some Sony software which offered a lower-quality signal.

So how about this: All you Twitch and YouTube streamers can now use your camera to natively stream in 8K! (HD also, if you want.) And no special hardware or software drivers are needed! Just a computer and a USB-C cable, both of which are USB v3.2-compliant.



Figure 8: Way better than a webcam!!

1.2.21 USB CONNECTION MODE

Menu Position MENU →  → USB → USB Connection Mode


What it Does Specifies how the camera appears to your computer when attached via the USB cable

Recommended Setting Sel. When Connect

To support using your camera as a webcam, a new option has been added to the USB Connection Mode menu.


When the camera is hooked up to another device via its USB cable, it can actually “behave” like a different device. Below are the choices the camera gives you every time you plug the camera into a computer via the USB-C connector:

Sel. When Connect	Bring up a menu of connection options (essentially all of the items below)
USB Streaming	Set the camera to act as a webcam
MassStorage(MSC)	Emulate a USB drive. This is essential if you're having programs like iPhoto or Lightroom import your images.
MTP	A useless mode pioneered by Microsoft. This setting was designed for beginners to allow whatever you plugged your camera into to provide intelligent options based on the fact that it knows you've plugged a camera in. Works with Windows 7 and up. I don't recommend this as it's very slow.
Remote Shooting	Configure the camera to work with Imaging Edge Desktop - Remote

TIP: The last two options are greyed out if MENU →  → FTP Transfer → PC Remote Function → PC remote is set to On.

With USB Connect Mode set to USB Streaming, the next sections detail how to actually use this feature on a Zoom call.

1.2.22 USB STREAMING

Menu Position MENU →  → Streaming → USB Streaming


What it Does Configures your camera for when you're going to use it as a live webcam

Recommended Setting HD(1080p)

Before I get in to the details of how you use it, let me advise you that for some services, there's a maximum bitrate they can accept; and if you try to send a higher quality than that your image quality will not improve. Zoom is one such service. But you don't need to use an outrageously high resolution in order to realize huge improvements in image quality. Just this camera and good light. If you're going to stream in 8K, only do that for services that you know will accept it (YouTube and Hitbox should; Twitch can but they appear to frown upon anything that sends more than 3.5 Mbps). More technical details are provided below.

So let's say you want to use your camera with Zoom.us (I use zoom as an example because it's the most popular¹, but other services should work similarly.) Here are the steps you need to make this feature work:

¹ I often wondered how Microsoft let slip their 10-year market lead with the purchase of Skype. But I digress...

1. Hook up a USB-C cable from the camera to your computer.
2. It's helpful to have **MENU** →  → **USB** → **USB Connection Mode** set to **Sel. When Connect** so that the camera will ask you how you would like to use the USB port every time you hook it up.
3. Turn on the camera. If **Sel. When Connect** was selected you'll see the first screen as shown in **Figure 9**, asking you to choose what USB mode to use. Choose the top one, "Live Stream(USB Streaming). (Section 10.10.1 in the original book, **USB Connection**, explains what the other ones do.)
4. You'll briefly see an information screen explaining some things about how it works. You can ignore these, and hit "Don't show this again".
5. Open Zoom (software can be downloaded from zoom.com), and either start or join a meeting.
6. At the bottom of the screen, choose the "up arrow" sign next to the "Stop Video" icon, and choose the "ILCE-1" option. (**Figure 10**).
7. Voila! Your camera is now a world-class webcam!

The camera automatically switches to video mode here, so the framing, exposure mode, and any button customizations for video will be invoked while in this mode, regardless of the position of the Stills-Video-S&Q ring.

TIP: *There are other things I use to give my presentations a professional feel, including using a portrait lens and video lights. I've shared them all with you in my blog post from 2020:*

<https://friedmanarchives.blogspot.com/2020/05/turning-your-camera-into-high-quality.html>

And here's a 2-minute YouTube video showing the difference between using a webcam vs. a camera with portrait lens (and good light) in a warehouse using this USB Streaming feature and a really cheap desk lamp (which also demonstrates the importance of a diffuser to soften your light!):

<https://youtu.be/LeaNq5fOVFO>

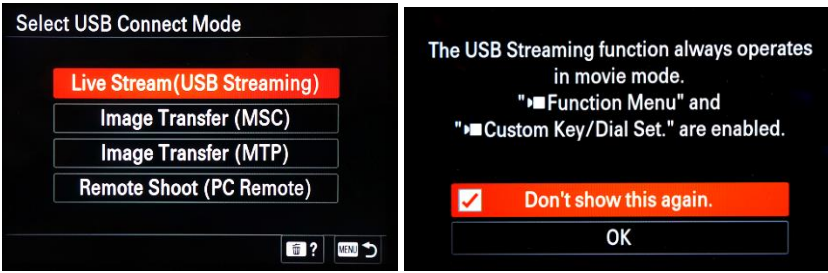


Figure 9: The first screens you'll encounter when invoking USB Streaming mode.

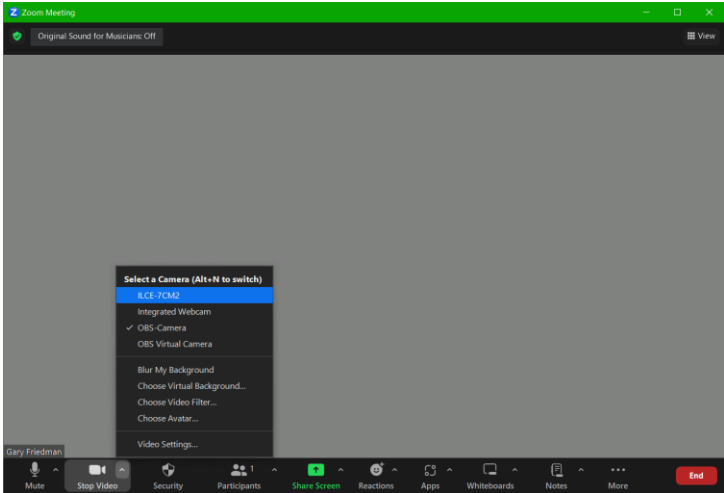


Figure 10: In Zoom, you can select “ILCE-A1” as your camera, and you’re all set!

TIP: You need a USB 3.2-compliant USB-C cable in order to live stream any resolution higher than 720p.

The next two sections talk about the video settings for live stream mode.

1.2.23 OUTPUT RES/FRATE RATE

Menu Position MENU →  → Streaming → USB Streaming → Output Res/Frame Rate

What it Does Allows you to choose the resolution and frame rate when using the camera as a webcam

Recommended Setting For average use HD(1080p) 30p

When using your camera as an über-high-quality webcam, what video format would you like it to generate? Mine is set to HD (1080p) 30p because I know that anything higher will probably not be discernable on the receiving end when giving talks to photo clubs over Zoom.


TIP: If you’re using a cheapie USB-C cable that’s not USB 3.2 compliant, then the camera’s USB streaming rate automatically drops to 720p. Same if your older computer USB port isn’t up to spec.

If you’re a gamer, you might make use of the 8K setting at 30 frames per second. But I can’t emphasize enough the fact that just using the A1 as a webcam (WITH GOOD LIGHT!) will immediately improve the quality of your stream, regardless of the option you choose.




Figure 11: Sure, you can stream in 8K, but the other party might only see a down-sampled version of your video (like this). Don't waste bandwidth – using even HD 1080p (30p) will provide superior results to whatever webcam is in your pedestrian laptop. (Image of Santa Gary and Christmas Carol used with permission. 😊 I was giving virtual Santa sessions during the pandemic utilizing my hard-earned COVID beard.)

1.2.24 MOVIE RECORDING DURING STREAMING

Menu Position MENU →  → Streaming → USB Streaming → Movie Rec During Streaming


What it Does Do you want the camera to record your streaming output on your memory card too?

Recommended Setting Disable

The description pretty much says it all – you can have the camera record your video on the memory card as you stream. The recorded format can be different than the streaming format – it is determined by **MENU →  → Image Quality/Rec → (Movie) File Format** (when the exposure mode dial is set to “Movie”).

This could be handy if you want to keep a 8K “Master” for archival purposes while you stream in a lower resolution now. (You never know what footage will end up in the Smithsonian! 😊) Keep in mind that power consumption and heat buildup will be greater if you choose this option.

When set to “Enable”, recording doesn’t start automatically – after you start your streaming you have to press the red button to start and stop recording on your memory card, as usual.

TIP: Keep in mind that when plugged in, your computer will also be powering your camera. You can stop this from happening (like if you’re on a laptop out in a field and are concerned about battery life) by doing **MENU →  → USB → USB Power Supply → Off.**

1.2.25 MORE FEATURES WITH THE MONITOR AND CONTROL APP

Sony has been enhancing their online services over the years. The full catalog of tools (some free, some subscription) can be found at <https://creatorscloud.sony.net/catalog/en-us/index.html> . Of note for you video shooters is the Monitor and Control app, which allows you to turn a tablet or phone into a video monitor (rather than having to spring for a dedicated unit that mounts atop the camera). Check out its capabilities!

1.2.26 WPA3-SAE ENCRYPTION NOW SUPPORTED FOR LOGGING INTO A WI-FI ACCESS POINT.

When connecting to an access point (Section 4.4 in the original book), certain encryption standards were supported to prevent anyone in the house from eavesdropping on your Wi-Fi activity. The encryption standards were WEP, WPA, WPA2. With Firmware 2.02, now WPA3-SAE has been added to the list. If you don't know what that is, then this is a capability you don't need.

1.2.27 PRESET FOCUS/ZOOM

Menu Position MENU → ^{AF}MF → AF/MF → Preset Focus/Zoom


What it Does Allows you to instantly recall a preregistered focused distance and zoom position for lenses with built-in zoom motors (“Power zoom”)

Recommended Setting n/a

This feature allows you to register your lens’ current focus distance and zoom position (if the lens has a motorized zoom). You can store up to five different settings this way.

Astrophotographers who get frustrated with getting E-mount lenses to focus manually at infinity will appreciate this feature, for most of these lenses will happily focus past infinity, and it’s tough to focus manually with a dark sky (and the Bright Monitoring feature helps with composing in very dark environments, but not with focusing.)

Here's how to use it:

1. First, assign Preset Focus/Zoom [1-6] to a button: **MENU →  → Operation Customize → Custom Key/Dial Set. → [Choose a button to assign] → [Page 21/22 of the menu] → Preset Focus/Zoom [1-5]**
2. Set your lens to the desired zoom level and focusing distance. (You can do this in Manual Focus mode if you like.)
3. Long-press the button you assigned in step 1 above. You will see “Registered to Preset Focus/Zoom [x]” on the screen.
4. Go about your day. To recall the zoom and focus setting (while in Manual or Autofocus mode), merely short-press the assigned button.
5. To see what lenses and settings you have registered, you can go to **Menu → ^{AF}MF → AF/MF → Preset Focus/Zoom** and the screen in **Figure 12a** appears. Highlighting any entry and pressing the center button brings up a different screen with the same details (**Figure 12b**), but it does have a checkbox allowing you to specify “Only remember the zoom, not the focus distance!”.

TIP: The camera seems to also adjust the lens to the pre-focused/pre-zoomed position every time it is turned on; not just when I press the pre-configured button. And I don't know how to disable it. 😞

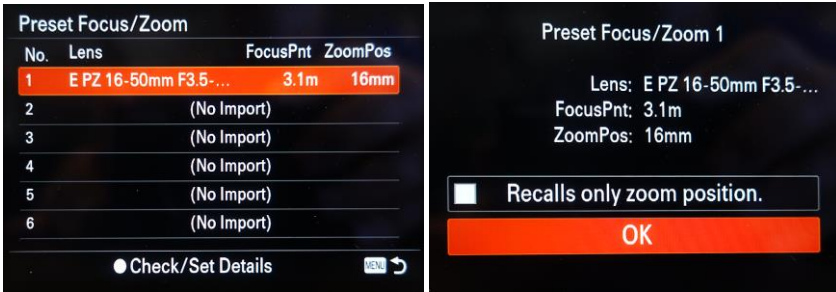


Figure 12: Once you have registered the Preset Focus/Zoom by long-pressing the assigned button, you can see the details by bringing up this menu item.

1.2.28 TOUCH PANEL SETTINGS

Menu Position MENU →  → Touch Operation → Touch Panel Settings

What it Does Gives you control over a whole slew of touch operations

Recommended Setting Read on...

This is a completely revamped menu item, allowing you to define what happens when you swipe from the left/right/bottom edge of the LCD. **With Firmware v2.02, it also allows you to touch the screen and take a picture – at long last!!**

Here are the options presented to you by this function:

Shooting Screen	Takes you to a submenu containing 7 things you can do with touch operating when shooting images. (See below)
Playback Screen	Enables/Disables touch operation when playing back (allowing you to double-tap to zoom, and then scroll around in zoomed image for example).
Menu Screen	Enables/Disables touch operation when operating the menus. (Not recommended for people with fat fingers; otherwise with some practice this REALLY speeds up menu navigation and screen typing.)

The Shooting Screen option above provides seven sub-menus:

Shooting Screen	Enables/Disables touch operation when shooting stills or videos
Footer Icon Touch	Allows you to adjust the exposure parameters that appear on the bottom of the screen (on some DISPLAY screens) via touch.

Swipe Right	Gives you three choices of what appears when you swipe from the left edge to the center: 1) Display only the left icons, 2) display both left and right icons, or 3) off.
Swipe Left	Gives you three choices of what appears when you swipe from the right edge to the center: 1) Display only the right icons, 2) display both left and right icons, or 3) off.
Swipe Up	Enables/Disables the ability to call up the Fn menu when you swipe from the bottom edge toward the center. This “swipe up” feature is handy when you’re operating the camera from the front using the screen in vlogging mode.
Touch Func. In Shooting	<p>What do you want to happen when you press the display while in Shoot mode? Choices are:</p> <ul style="list-style-type: none"> • Touch Focus • Touch Tracking • Touch Shutter • Off – don’t do anything when touched


TIP: With Menu Screen set to OFF, you’re still able to use the touch screen to change the boxes in the **Fn** screen when it’s displayed.


1.2.29 OTHER NOTES

Image Quality is now **Image Quality/Rec** .

1.3 NEW ASSIGNABLE FUNCTIONS

The table below replaces the one in Section 10.3.1. New functions are shown in **RED** and apply to assignments you can make in both image and video modes.

Feature	Description	C1-C4, Movie	Control Wheel	Center Button of Control Wheel / Multi- Selector	Left, Right, Down	AEL, AF- ON, Focus Hold
Aperture	Changes the f/stop while in P, A, or M modes (or the movie equivalents)		✓			
Shutter Speed	Changes the shutter speed while in P, A, or M modes (or the movie equivalents)		✓			
White balance (C Temp.)	When the White Balance is set to C. Temp  , then turning the rear control wheel will quickly change the color temperature.		✓			
Move AF Frame L-R: Standard	When Focus Mode is set to Zone, Spot, or Expand Spot, this moves the focus area LEFT or RIGHT when the control wheel is turned.		✓			
Move AF Frame L-R: Large	When Focus Mode is set to Zone, Spot, or Expand Spot, this moves the focus area LEFT or RIGHT by a larger amount when the control wheel is turned.		✓			

Feature	Description	C1-C4, Movie	Control Wheel	Center Button of Control Wheel / Multi- Selector	Left, Right, Down	AEL, AF- ON, Focus Hold
Move AF Frame U-D: Standard	When Focus Mode is set to Zone, Spot, or Expand Spot, this moves the focus area Up or Down when the control wheel is turned.		✓			
Move AF Frame U-D: Large	When Focus Mode is set to Zone, Spot, or Expand Spot, this moves the focus area Up or Down by a larger amount when the control wheel is turned.		✓			
Image Quality Settings	Brings up the screen to select RAW, HEIF/ JPEG, or both.	✓		✓	✓	✓
Aspect Ratio	A quick way to access MENU →  → Image Quality → Aspect Ratio menu (Section 5.1.3).	✓		✓	✓	✓
APS-C S35 / Full Frame Select	Switches to crop sensor (APS-C) mode, using only the center of the sensor to take a picture. (Section 5.1.8)	✓		✓	✓	✓
HLG Still Image	When HEIF image format is selected, this brings up the screen that lets you use the stills equivalent of HLG gamma normally used in HDR TV video.	✓		✓	✓	✓

Feature	Description	C1-C4, Movie	Control Wheel	Center Button of Control Wheel / Multi- Selector	Left, Right, Down	AEL, AF- ON, Focus Hold
Rec. Media Settings	If two memory cards are present, this lets you select which memory card get the single image (among other things). (Section 5.2.2)	✓		✓	✓	✓
Select REC Folder	If there is more than one directory properly labeled to hold still images on the memory card, this function lets you choose which one the camera will store images into. (Section 5.3.6)	✓		✓	✓	✓
Create New Folder	Creates a new folder for recording future still images.	✓		✓	✓	✓
Write IPTC Info	Enable/Disable embedding author, copyright, and event info into jpg/hif images. (Section 5.3.8)	✓		✓	✓	✓
(MR) Camera Set. Memory	Allows you to store up all of the items in the Shoot Mode menus to seven memory slots for instant recall in the field. (Section 5.4.5)	✓		✓	✓	✓
Recall Custom hold 1-3	Lets you instantly recall a mini-collection of settings previously defined by Reg. Cust Shoot Set (Section 5.4.8)	✓		✓		✓

Feature	Description	C1-C4, Movie	Control Wheel	Center Button of Control Wheel / Multi- Selector	Left, Right, Down	AEL, AF- ON, Focus Hold
Drive Mode	Lets you specify a drive mode (single or continuous or self-timer). (Section 3.6.1)	✓		✓	✓	✓
Selftimer during Bracket	Specifies an optional self-timer duration during all bracketing modes (Section 5.5.3)	✓		✓	✓	✓
Interval Shooting	Allows you to specify all of the parameters needed to shoot a time-lapse video. (Section 5.5.7)	✓		✓	✓	✓
Pixel Shift Multi Shoot.	Invokes the Pixel Shift menu (Section 5.6)	✓		✓	✓	✓
Switch Silent Mode	Enables / Disables audio feedback for things like focus confirmation and self-timer. If Mechanical Shuter is enabled, this switches to Electronic Shutter when “on”.	✓		✓	✓	✓
Shutter Type	Quickly choose between a mechanical or electronic shutter (or ‘Auto’). (Section 5.7.3)	✓		✓	✓	✓
Anti-Flicker Shoot Sel.	Eliminates the flicker that can happen when shooting at high shutter speeds at indoor sporting events. (Section 5.7.6)	✓		✓	✓	✓

Feature	Description	C1-C4, Movie	Control Wheel	Center Button of Control Wheel / Multi- Selector	Left, Right, Down	AEL, AF- ON, Focus Hold
Var. Shutter Select	Brings up the menu to turn Variable Shutter on or off (Section 5.7.6)	✓		✓	✓	✓
Var. Shutter Set.	Change the shutter speed by fractional values to help squelch banding when shooting under some LED lights (Section 5.7.6)	✓		✓	✓	✓
SteadyShot Select	Enables / Disables the steady shot feature (Section 5.10.1).	✓		✓	✓	✓
SteadyShot Adjust.	Lets you tweak SteadyShot variables when a non-native E-mount lens is attached. (Section 5.10.3)	✓		✓	✓	✓
(SteadyShot) Focal length	Same as above. This is the 2 nd setting in the “SteadyShot Settings” menu. (Section 5.10.4)	✓		✓	✓	✓
Zoom	Just a digital zoom – throws away pixels and doesn’t try to upsize it back to 50 MP. (Most useful when shooting videos – gives you a nice smooth zoom when you hold down the right arrow button.)	✓		✓	✓	✓
Zoom Operation (T)	Used in conjunction with the “Zoom” function above – when pressed, zooms in.	✓		✓	✓	✓

Feature	Description	C1-C4, Movie	Control Wheel	Center Button of Control Wheel / Multi- Selector	Left, Right, Down	AEL, AF- ON, Focus Hold
Zoom Operation (W)	Used in conjunction with the “Zoom” function above – when pressed, zooms out.	✓		✓	✓	✓
Fixed Speed during Standby	Used with the Zoom (W) and (T) functions above. Lets you specify how fast to do a digital zoom during standby.	✓		✓	✓	✓
Fixed Speed during Recording	Used with the Zoom (W) and (T) functions above. Lets you specify how fast to do a digital zoom when shooting video.	✓		✓	✓	✓
(Bluetooth Remote) Fixed Speed during Standby	Used with the Zoom (W) and (T) functions on bluetooth remote control. Lets you specify how fast to do a digital zoom during standby.	✓		✓	✓	✓
(Bluetooth Remote) Fixed Speed during Recording	Used with the Zoom (W) and (T) functions on bluetooth remote control. Lets you specify how fast to do a digital zoom when shooting video.	✓		✓	✓	✓
Add Rating [1-5]	Assigns a star rating (from 1 to 5 stars) to the most recent image.	✓		✓	✓	✓
Create Divider Frame	Inserts a “divider frame” (a .jpg with an arrow) into your current shooting directory. (Section 1.2.4)	✓		✓	✓	✓

Feature	Description	C1-C4, Movie	Control Wheel	Center Button of Control Wheel / Multi- Selector	Left, Right, Down	AEL, AF- ON, Focus Hold
Aperture Preview	Performs the classic depth-of-field preview (which shouldn't be necessary since e-mount lenses ALWAYS are in stopped down mode!) However, it does stop down the lens on an A-mount lens when attached, and so I declare that that's what this feature is specifically for.	✓		✓		✓
Shot. Result Preview	Lets you preview things like lens correction, DRO effects, and even blurry moving objects with slow shutter speeds before you shoot. (DRO seems to be previewed all of the time with this camera).	✓		✓		✓
Grid Line Display Select	Enables / Disables a grid line in the viewfinder. (Selected via "Grid Line Type".) (Section 5.12.1.)	✓		✓	✓	✓
Grid Line Type	Lets you choose between one of three grids (compositional aids) or turn it off. (Section 5.12.2)	✓		✓	✓	✓
Live View Display Sel.	Lets you control whether Live View will also preview exposure and white balance. Essential to disable this when shooting with studio strobes. (Section 5.12.3)	✓		✓	✓	✓

Feature	Description	C1-C4, Movie	Control Wheel	Center Button of Control Wheel / Multi- Selector	Left, Right, Down	AEL, AF- ON, Focus Hold
Exp. Effect Select	Tough one to explain in one sentence. When Live View Display is set to "Setting Effect On" and you turn the flash on, do you want the display to brighten up so you can see what you're shooting? Toggles this function on and off (Section 5.12.3).	✓		✓	✓	✓
Bright Monitoring	Brightens the Live View image to help you compose and focus your shot in extreme darkness (like for star trail shots). (Section 10.3.2)	✓		✓	✓	✓
Switch Aspect Marker	Toggles the Aspect Marker (a preview showing a pre-selected aspect ratio) On or Off. (Section 5.13.1)	✓		✓	✓	✓
In-Camera Guide	Not sure what a particular menu of Fn function does? Press the assigned button and a one-line memory jog appears on your screen.	✓				✓
ISO	A quick way to access the Fn → ISO	✓	✓	✓	✓	✓
ISO AUTO Min. SS	Specifies the slowest shutter speed allowed before Auto ISO kicks in (Section 6.1.1)	✓		✓	✓	✓

Feature	Description	C1-C4, Movie	Control Wheel	Center Button of Control Wheel / Multi- Selector	Left, Right, Down	AEL, AF- ON, Focus Hold
AEL hold	Locks the current exposure, for as long as you hold your finger on the assigned button.	✓		✓		✓
AEL toggle	Locks the current exposure until you press the assigned button again.	✓		✓	✓	✓
<input type="checkbox"/> AEL hold	Switches to Spot Metering mode and then locks the current exposure for as long as you hold your finger on the assigned button. (Section 6.3.3)	✓		✓		✓
<input checked="" type="checkbox"/> AEL toggle	Switches to Spot Metering mode and then locks the current exposure until you press the assigned button again. (This one's my personal preference.) (Section 6.3.3)	✓		✓	✓	✓
Exposure Comp.	Make the image darker or lighter. This goes from -5 to +5 stops (although the live preview will only show you from -3 to +3 stops) (Section 6.2.1).	✓	✓	✓	✓	✓
Metering Mode	A quick way to access the Fn → Metering Mode menu (Section 6.3.1).	✓		✓	✓	✓

Feature	Description	C1-C4, Movie	Control Wheel	Center Button of Control Wheel / Multi- Selector	Left, Right, Down	AEL, AF- ON, Focus Hold
Face Prty in Multi Metering	Bias the exposure toward the face when in multi-segment metering mode? (On/Off). (Section 6.3.7)	✓		✓	✓	✓
Flash Mode	A quick way to access the Fn → Flash Mode menu (Section 6.4.1)	✓		✓	✓	✓
Flash Comp.	A quick way to access the Fn → Flash Compensation menu (Section 6.4.7).	✓		✓	✓	✓
Wireless Flash	Enables / Disables wireless flash. (Chapter 13)	✓		✓	✓	✓
Wireless Test Flash	Allows you to send a “Can you hear me?” test flash to your off-camera optical flashes when in wireless mode. (Chapter 13)	✓				
Ext. Flash Firing Set.	Brings up the Ext. Flash Firing Set. Menu screen (Section 6.4.12)					
FEL Lock hold	Flash Exposure Lock (Hold) – Use in the same circumstances as when using AEL above – when your flash-illuminated subject is not being metered properly by the camera. (Section 10.3.4)	✓		✓		✓

Feature	Description	C1-C4, Movie	Control Wheel	Center Button of Control Wheel / Multi- Selector	Left, Right, Down	AEL, AF- ON, Focus Hold
FEL Lock toggle	Flash Exposure Lock (Toggle) – Use in the same circumstances as when using AEL above – when your flash-illuminated subject is not being metered properly by the camera. (Section 10.3.4)	✓		✓	✓	✓
FEL Lock / AEL hold	This combines Flash Exposure Lock and Exposure Lock in one convenient button. (Section 10.3.4)	✓		✓		✓
FEL Lock / AEL toggle	This combines Flash Exposure Lock and Exposure Lock in one convenient button. (Section 10.3.4)	✓		✓	✓	✓
White balance	A quick way to access the Fn → White Balance menu (Section 6.5.1).	✓	✓	✓	✓	✓
Priority Set in AWB	Allows you to “tweak” whether Auto White Balance produces images that are either more yellowish or more whitish than the standard setting. (Section 6.5.6).	✓		✓	✓	✓
AWB Lock Hold	Locks the white balance for as long as you hold the button down. (Similar in concept to Shutter AWB Lock, Section 6.5.7.)	✓		✓		✓



Feature	Description	C1-C4, Movie	Control Wheel	Center Button of Control Wheel / Multi- Selector	Left, Right, Down	AEL, AF- ON, Focus Hold
AWB Lock Toggle	Same as above except the white balance is locked until you press the button again.	✓		✓	✓	✓
D-Range Optimizer	A quick way to bring up the D-Range Optimizer menu which selectively lightens the shadows in an intelligent way. (Section 6.6.1).	✓		✓	✓	✓
Creative Look	A quick way to access the Fn → Creative Looks menu (Section 6.6.2).	✓	✓	✓	✓	✓
Picture Profile	Brings up Picture Profile screen, designed to quickly select video gamma curves and other variables. (Section 6.6.3)	✓		✓	✓	✓
Zebra Display Select	Toggles Zebra display on or off. (Section 6.7)	✓		✓	✓	✓
Zebra Level	Sets the exposure level at which zebra stripes will occur. (Section 6.7).	✓		✓	✓	✓
AF/MF Selector Hold	Changes the Autofocus / Manual Focus status for as long as you hold that button down.	✓		✓		✓
AF/MF Selector Toggle	Changes the Autofocus / Manual Focus status until you press it again.	✓		✓	✓	✓

Feature	Description	C1-C4, Movie	Control Wheel	Center Button of Control Wheel / Multi- Selector	Left, Right, Down	AEL, AF- ON, Focus Hold
Focus Standard	When the Focus Area is set to "Zone", "Spot", or "Expand Spot", this lets you change the focusing location quickly. If the AF Area is set to Wide or Tracking: Wide, pressing the center button instantly switches to Center focus area and locks the focus. In all other focusing modes, it does nothing.	✓		✓		✓
AF Tracking Sensitivity	Changes how aggressive the camera should be in tracking moving subjects (Section 7.1.2)	✓		✓	✓	✓
Aperture Drive in AF	Allows the camera to focus faster when shooting with a small f/stop (Section 7.1.4)	✓		✓	✓	✓
Preset Focus/Zoom [1-5]	Allows you to instantly recall a preregistered focused distance and zoom position for lenses with built-in zoom motors ("Power zoom") (Section 1.2.27)	✓		✓	✓	✓
AF On	Assign just the ability to autofocus to a button. (No exposure lock)	✓		✓		✓

Feature	Description	C1-C4, Movie	Control Wheel	Center Button of Control Wheel / Multi- Selector	Left, Right, Down	AEL, AF- ON, Focus Hold
Focus Hold	Tells the camera to stop trying to focus right now. (Kind of the inverse of “AF On”).	✓		✓		✓
Focus Area	A quick way to access the Fn → Focus Area menu (Section 7.2.1).	✓	✓	✓	✓	✓
Switch Focus Area	Allows you to cycle through the various focus areas with the press of a button. (Section 7.2.8)	✓		✓		✓
Regist. AF Area hold	Allows you to save an AF point and an AF area for instant recall later on (Section 7.2.11)	✓		✓		✓
Regist AF Area toggle	Same as above, except the button is a toggle (switches to the new setting until you press the button again).	✓		✓	✓	✓
Register AF Area + AF On	Recalls the registered AF area (like the two options above) AND invokes the autofocus – kind of like a Back-button focus on steroids.	✓		✓	✓	✓
Tracking On	Initiates the Tracking of your subject when the Focus Area is set to something other than “Tracking:” .	✓		✓	✓	✓

Feature	Description	C1-C4, Movie	Control Wheel	Center Button of Control Wheel / Multi- Selector	Left, Right, Down	AEL, AF- ON, Focus Hold
Tracking On + AF On	Sets the Focus Area to “Tracking” and initiates AF while the button is held down.	✓		✓	✓	✓
Tracking- Off Hold	Temporarily disables Tracking while the button is held down. The focus area and Focus Mode still hold, though.	✓		✓		✓
Tracking- Off Toggle	Toggles the Tracking function. The focus area and Focus Mode still hold, though.	✓		✓	✓	✓
Tracking/ Face-Off Hold	Temporarily disables both Tracking and Face Detection and Eye AF.	✓		✓		✓
Tracking/ Face-Off Toggle.	Same as above except the function toggles – press once to disable Tracking and Face Detection; press again to restore it.	✓		✓	✓	✓
Sw. AF Frame Move hold	When the focus area is set to “Spot” or “Exapnd. Spot”, pressing and holding this button will change how fast the focus area moves across the screen. (Section 7.2.18)	✓		✓		✓
Face/Eye Priority Select	Turns Face / Eye Detection on and off.	✗		✗	✗	✗

Feature	Description	C1-C4, Movie	Control Wheel	Center Button of Control Wheel / Multi- Selector	Left, Right, Down	AEL, AF- ON, Focus Hold
Face/Eye Prior. In AF	Enables / Disables Subject Recognition	✓		✓		✓
Face/Eye Prio. Off Hold	Temporarily disables Face Detection / Eye AF while the button is held down.	✓		✓		✓
Face/Eye Prio. Off Tggle	Same as above except it's a toggle function.	✓		✓	✓	✓
Eye AF	Tries to focus on the eye if it detects a face. (No face? No focus.) You can invoke this feature even if Face Detection is off. Unlike the default mode, when this button is pressed the camera will ONLY focus on an eye, and won't fall back to anything else if it can't find one. And the focus area is temporarily set to "Wide".	✓		✓		✓
Face/Eye Subject Select	Toggles between Human, Bird, and Animal Eye AF. (Section 7.3.2)	✓		✓	✓	✓
Switch Right/Left Eye	Didn't like the eye the camera picked? Press this button to swap eyes.	✓			✓	✓

Feature	Description	C1-C4, Movie	Control Wheel	Center Button of Control Wheel / Multi- Selector	Left, Right, Down	AEL, AF- ON, Focus Hold
Face/Eye Frame Disp Sel.	Enables / disables the white square the camera shows you when it finds a human face <i>when you're not pressing the shutter release button.</i>	✓			✓	✓
Focus Magnifier	Magnifies the Live View image so you can manual focus with great precision (Section 7.4.2).	✓		✓	✓	✓
Peaking Display Select	Brings up Peaking Level / Peaking Color menus (Section 7.5)	✓		✓	✓	✓
Peaking Level	Lets you set the Peaking Level to high-medium-low (Section 7.5)	✓		✓	✓	✓
Peaking Color	Lets you set the Peaking Color to yellow-red-white (Section 7.5)	✓		✓	✓	✓
Connection	Shortcut to MENU →  → Smartphone Connect → Smartphone Connection.	✗		✗	✗	✗
Send	Shortcut to MENU →  → Transfer/Remote → Select on Cam & Send. (Section 9.1.3)	✓		✓	✓	✓

Feature	Description	C1-C4, Movie	Control Wheel	Center Button of Control Wheel / Multi- Selector	Left, Right, Down	AEL, AF- ON, Focus Hold
Sync. Release hold	This is used when multiple cameras are connected together via Ethernet and controlled with the Remote Camera Tool. When this assigned button is pressed, the camera that releases the shutter is switched. See https://tinyurl.com/27tuk6d4 for more info.	✓		✓	✓	✓
FTP Transfer	Initiate a transfer to your FTP server (Section 4.6)	✓		✓	✓	✓
Playback	Dude, your camera already has a dedicated playback button which can't be reassigned! Why create a 2 nd ?	✓		✓	✓	✓
Movie Shooting	Starts / Stops the recording of video. Now you no longer have to use that über-convenient red button!	✓		✓	✓	✓
Menu	For those of you who enjoy one-handed operation. You can assign a button to act as if you had pressed the dedicated MENU button. (I've assigned this to the C2 button.)	✓		✓	✓	✓
Display My Menu	Instantly brings up the My Menu page. (I've assigned this to the C3 button.)	✓		✓	✓	✓

Feature	Description	C1-C4, Movie	Control Wheel	Center Button of Control Wheel / Multi- Selector	Left, Right, Down	AEL, AF- ON, Focus Hold
Display Main Menu	Brings up the Main Menu to let you quickly change a common variable.	✓		✓	✓	✓
Not Set	The assigned button does nothing.	✓	✓	✓	✓	✓
My Dial 1 during Hold	When you press and hold this assigned button, whatever you configured in My Dial 1 is invoked. (Section 10.4.1)	✓	✓	✓		✓
My Dial 2 during Hold	When you press and hold this assigned button, whatever you configured in My Dial 2 is invoked. (Section 10.4.4)	✓	✓	✓		✓
My Dial 3 during Hold	When you press and hold this assigned button, whatever you configured in My Dial 3 is invoked. (Section 10.4.1)	✓	✓	✓		✓
My Dial 1 → 2 → 3	When you press this assigned button, you cycle through the configurations of My Dial 1, 2, and 3. (Not unlike pressing the DISP button to cycle through all the different display settings). (Section 10.4.1)	✓	✓	✓	✓	✓

Feature	Description	C1-C4, Movie	Control Wheel	Center Button of Control Wheel / Multi- Selector	Left, Right, Down	AEL, AF- ON, Focus Hold
Toggle My Dial 1	Press this button to invoke My Dial 1 configuration; press it again to go back to 'normal' configuration. (Section 10.4.1)	✓	✓	✓	✓	✓
Toggle My Dial 2	Press this button to invoke My Dial 2 configuration; press it again to go back to 'normal' configuration. (Section 10.4.1)	✓	✓	✓	✓	✓
Toggle My Dial 3	Press this button to invoke My Dial 3 configuration; press it again to go back to 'normal' configuration. (Section 10.4.1)	✓	✓	✓	✓	✓
Touch Operation Select	Toggles touch operation on/off. (Section 10.5.1)	✓		✓	✓	✓
Touch Func. In Shooting	Lets you choose between Touch Focus, Touch Tracking, Touch Shutter, Touch AE, and "Off". (Section 1.2.28)	✓		✓	✓	✓
Finder / Monitor Sel.	Temporarily forces the display through the EVF only. (Section 10.6.1)	✓		✓	✓	✓
Monitor Brightness	Brings up the Monitor Brightness function (Section 10.6.2.)	✓		✓	✓	✓

Feature	Description	C1-C4, Movie	Control Wheel	Center Button of Control Wheel / Multi- Selector	Left, Right, Down	AEL, AF- ON, Focus Hold
Viewfinder Magnifi.	Brings up screen that controls how large the image appears in the EVF. (Set to "Small" for eyeglass wearers.) (Section 10.6.5)	✓		✓	✓	✓
Finder Frame Rate	Lets you choose between an EVF refresh rate of 60 Hz at high resolution or 120 Hz at lower resolution. (Section 10.6.7)	✓		✓	✓	✓
TC/UB Disp. Switch	Enables the viewing of time code and userbit on screen while shooting video (Section 10.7.1)	✓		✓	✓	✓
Gamma Disp. Assist Sel.	Toggles correction for Gamma Display Assist with S-Log or HLG. (Section 10.7.2)	✓		✓	✓	✓
Gamma Disp. Assist Typ.	Brings up the menu to select between S-Log2, S-Log3, and HLG conversions for use in the Gamma Disp. Assist above. (Section 10.7.2)	✓		✓	✓	✓
Audio Signals	Enables / Disables audio feedback during camera operation. I prefer my camera to remain as quiet as possible ("Off"). (Section 10.9.3)	✓		✓	✓	✓

***** The End *****