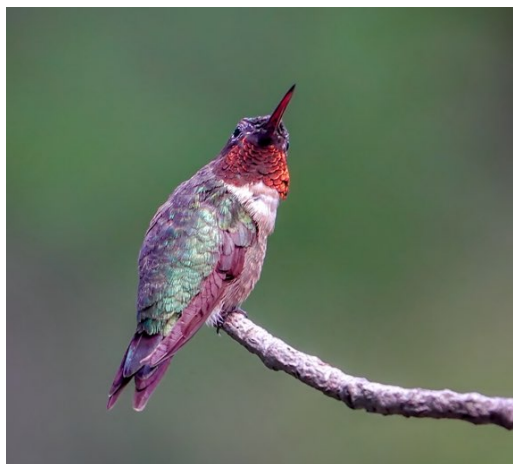


Point and Shoot Nature Photography with the Sony RX10 V

Part one: Birds and Wildlife, Flight and Action





Point and Shoot is intentionally provocative. My theory is that we spend a bunch of money on sophisticated cameras, which contain sophisticated processors and programs, and we ought to be able to trust them to do their job: to handle the technical aspects of photography—both exposure and focus—for us—freeing us up to point and shoot—to find the images worth taking and sharing—to frame them as they deserve framing—and to press the shutter at the right instant. Pointing and shooting (and sharing), if you come right down to it, is the hardest part of photography, and the only part that only a human hand and eye—some would say spirit—can do. I say, if the camera can handle the rest, then let it. That is what we spent the money on, after all.

Of course, Point and Shoot photography requires a different kind of discipline. It requires someone to play with a new camera to determine how to set up its features and programs to get the best images in the widest variety of situations with the widest variety of subjects. That is where I come in. That is what I do, because that is how I choose to shoot—pretty much how I choose to live my life.

If you follow my instructions for setting your Sony RX10 V up, you will end up with 3 sets of modifications to Program mode, and one set of modifications to Aperture mode—a set for more or less stationary birds, wildlife, and insects (no living thing is ever completely still)—a set for active wildlife, and flying birds and insects—a set for macro work: insects, flowers, moss, lichen, etc.—and a set for landscapes, both grand and intimate—which you will save to 4 of the camera's 10 memory slots for still photos, and select with a twist of the main dial or even the simple press of a button—as and when the situation and subject call for them.

What we are really doing is creating 4 custom Shooting Modes, similar to the Scene Selection Modes already built into Intelligent Auto, but tailored specifically for nature photography.

You will also learn several ways of adjusting those modifications in real time, as the saturation and subject require, by using the two dials already programmed for such changes, and by programming the custom buttons on the camera for quick access to the few changes you are likely to need to make most often. I will show you what to look for and how to make those real-time adjustments—but only when they might improve a particular photo, or make a difficult situation or subject easier.

It might take you a few hours to get your Sony RX10 V set up for Point and Shoot Nature Photography, but once set up, you really will be able to go out day after day and let the camera



do its job, while you do yours: see the photo, frame the photo, take the photo, share the photo. Point and Shoot.

(I could provide a “camset” that will make all the changes I am suggesting for you, but I want you to understand the reasoning behind the changes. Understanding that will help you when you do need to make real-time adjustments.)

By the way, when I photograph people, which of course I do—parties, events, portraits of friends and family, travel shots, even the occasional wedding—I use the Intelligent Auto program. It is the program the engineers spent the most time on—the one they designed the camera around since most cameras are used to take people photos most of the time—and it almost always does a better job than I could of determining both focus and exposure. Intelligent Auto—scene select auto—actually works quite well for almost all general shooting. You could get away with using it for all your photography, but if nature photography is your thing, then my modification sets/custom shooting modes will give you better results and allow you to adapt to specific situations and subjects with more ease.

My modifications for birds and wildlife, both stationary and active, and my modifications for landscapes are based on the Program Mode (P on the main dial). The Program mode is designed to choose the lowest ISO possible, given the subject and scene, generally in my experience the widest aperture available at the given focal length, and the highest possible shutter speed, given the other two. You want the lowest ISO to keep the digital noise down in the image and to render the most detail and the truest colors. You want the highest shutter speed possible to overcome subject motion—and nature is never completely still. And today’s lenses for digital cameras are, I suspect, actually designed to be at, or near, their best at their widest apertures, since digital sensors are so highly dependent on getting enough light. The lowest ISO possible given the subject and light. The widest lens aperture for the most light. The highest shutter speed possible given the ISO and aperture. Those are exactly the choices any professional nature photographer would make manually in 90% of situations, with 90% of subjects.

Program does however, unlike scene select Auto, give you the ability to tweak the program to meet the needs of your particular style and favored subjects. You can set limits on ISO. You can set a minimum shutter speed or adjust how fast ISO rises with falling light, to maintain a higher shutter speed. You can control where and how the camera does its metering of the scene. You can change the area where the camera begins to focus and adjust the parameters of the AI subject recognition and eye-tracking to suit your favored subjects. You can use features like Dynamic Range Optimization and Creative Looks to tailor your files to suit your vision. You do not have to do any of this in real-time, as you are taking the photo. You can make these modifications once, for each kind of photo you take regularly, save them to the camera’s memories, and use them with confidence in the field day after day. And you will bring back correctly focused and exposed images day after day. Instead of counting the few photos which are in focus and are correctly exposed, you will be counting the few that are not.



Though I start with Program for Landscapes, they are a whole different subject. Literally. And they have their own challenges. They often contain a range of light and dark that is actually beyond what the eye can see—bright clouds and sunspots—deep dark shadows—and that range is certainly beyond what any film or digital sensor can record. They are full of color, and often motion. If I am just taking a quick landscape here and there, I always begin with auto landscape scene selection mode,

which the designers of the camera have put a lot of work into, balancing all the parameters to produce the best possible results in the widest set of situations—but I have developed some modifications to Program for particularly challenging landscapes, and for when I am actually shooting landscapes for the landscape's sake. The big landscapes with big skies. Intimate landscapes with lots of deep shadows and bright spots of sun through the canopy. Maybe a flowing stream or river or lake. Foggy mornings.

Macro requires a slightly different approach. The challenge in macro is always to get enough depth of field—to get as much of your very close subject in focus, front to back, at the same time—so that it does not turn into a thin slice of bug or mushroom surrounded by fuzz. To do that, you need direct control over the aperture, which, along with distance to subject, determines depth of field. Smaller apertures produce greater depth of field. So my macro modifications begin in Aperture Program, which works just like regular Program, except that you have direct control of the Aperture setting. It still adjusts ISO and shutter speed for the best exposure given the aperture you choose. In addition,



for effective macro you need to be able to choose the exact point of focus. It is not always the closest object. More often than not your point of focus will be somewhere in the middle distance, again to make use of the greater depth of field. Most of my intimate macros are taken from a small tripod to compensate for the slow shutter speeds that smaller apertures required to maintain correct exposure, and to keep the ISO as low as possible.

I also, you might be surprised to find, shoot exclusively in JPEG, not in RAW. I say JPEG, but on newer Sony cameras like the RX10 V, I use HEIF, the higher efficiency compressed format with smaller file sizes and greater bit depth, which some say leads to slightly more color detail and dynamic range. I make this choice because I want to be able to use the sophisticated in-camera exposure and processing features like Dynamic Range Optimization, Creative Looks, and in-camera sharpening and noise reduction. Intelligent use of these features can, on correctly exposed images (which you will have if you are using the camera's exposure system to best advantage), duplicate the results available with RAW, and with a fraction of the effort in post-processing. Right in the camera, as the image is being processed and compressed. You will still be able to improve your files in post-processing or editing apps, but working with the already processed HEIFs from the camera will be quick and easy. And you will be able to achieve results that only a master of RAW processing could. There will always be particular scenes and situations and subjects that are simply beyond the ability of the camera to satisfyingly record, but those are beyond even the best RAW processing anyway.

(A note on HEIF. Some computer operating systems and some post-processing apps still do not play well with HEIF. If you are working in the Apple Universe (I do all my photo processing on my iPad Pro), you will have no issues. Working in the Windows sphere, you may find that JPEG is more commonly supported. HEIF is undoubtedly the better format, but make sure your systems will handle it before you commit to it. HEIF is often automatically converted to JPEG when you upload the file to any web based application anyway.)

Most importantly, do not let anyone tell or convince you or make you feel that you are not a real photographer unless you shoot in manual and RAW. What matters is not how you took the photo, but the photo itself, and how people respond to it when you share it. Do not be ashamed of letting the camera do what it does well. It is a choice, like everything we do. I have

been doing nature photography for a long time—close to 70 years now. I could shoot in manual and raw. I chose not to. You do not have to either.

I call it Point and Shoot Nature Photography.

The Sony RX10 V for Nature Photography

The Sony RX10 V is not my first camera, by a long shot, and not even my first RX10 camera. I bought the RX10 III on release day, and preordered the RX10 IV when it was announced a year later. The RX10 IV went with me to Africa 3 times, to the Amazon, the Galapagos, Peru's Manu Road and Machu Picchu, the golden triangle of India for birds and tigers. Honduras 7 times, Panama 3 times, Costa Rica at least 10 times, and to most of the most birdy and wildlife and scenic places in the continental US. For seven of the 9 years the RX10 IV was current, it was my only camera for all but the widest landscapes. I wrote a book similar to this one on Point and Shoot Nature Photography with the RX10 IV and produced a video detailing my custom shooting modes. The book has been downloaded and passed around I do not know how many times, but the video has, to date, over 112,000 views. Thousands, maybe tens of thousands, of RX10 users have started with my modifications, and many have been completely satisfied to stick with them.



When it appeared that Sony was not going to update the IV with the latest in AI subject recognition and eye-tracking, I moved on to the OM Systems OM-1 (and then OM-1 Mk II when it came out a year later) and the only OM lens I could afford which was suitable for wildlife. I never learned to love the OM System, so when they introduced yet another big and expensive lens for wildlife, I took the money I might have spent on that, and bought a Sony a6700 and the best wildlife lens I could afford (at the time, the Tamron 50-400, still a great lens). I sold all my OM gear a month later. I developed the same sets of modifications to Program and Aperture Program for the Sony a6700 as I had for the RX10 IV. (Some 35,000 people have watched that video—and again, the book is regularly downloaded.)

Now, 9 long years after the IV was introduced, along comes, as somewhat of a surprise, the V. It has a processor and menu system that is actually at least one generation newer than the processor and menu system in the a6700, and which includes most of the latest advances in exposure and focus automation. It has almost exactly the same sensor and lens as the IV. (Some rumors have it that is is actually the sensor from the latest RX100 model, which was a tweaked version of the original.) I do not have to reinvent all my modifications—only adapt them to take advantage of improved technology and new control layouts and options, and to incorporate the lessons I have learned from the a6700 since I wrote the book and did the videos.

Learning to get the best out of new camera is a never ending process. I will revise this eBook and issue updates as I refine the Point and Shoot method for the RX10 V, but this will give you a place to start. If you are really only interested in the modifications themselves and do not care

about my reasoning for each one, it might be simpler just to watch the modification videos on my YouTube channel. There is (or soon will be) one for birds and wildlife, action and flight. And one for macro and landscape. (There are also condensed lists of the changes I recommend at the end of each section here, if you are adverse to video.) For those who want to understand the changes I am recommending, read on.

Custom Birds and Wildlife Shooting Mode.



By far the easiest way to make these modifications is by using the touch screen on the menus. I know not everyone is comfortable with touch screens, though most of us have to use them on our phones. The alternative is using the 5-way control wheel (or just 5-way control) on the back of the camera to scroll through the menus using the up, down, left, right edges of the wheel, and selecting options using the center button. Your choice. In the beginning, as you are getting comfortable, I will give both sets of instructions.

To fully enable the Touch Screen, put the Main Control Dial in the P position (Program) and turn on the menu system with the button on the left back of the camera. Scroll down to the Toolbox icon using the down button on the 5 way control wheel on the back of the camera (lower edge of the wheel). Select the Toolbox by pressing the center button of the 5 way control wheel. Scroll down to Touch Operation. Select and open by pressing the center button of the 5 way control or the right edge of the wheel. Under Touch Operation set it to ON (it is generally ON by default on this camera). Scroll down to Touch Panel/Pad, open it, and choose Both Valid. This makes the touch screen active when using the LCD and, as a pad (like the touch pad on a keyboard) when using the EVF. Scroll down to Touch Panel Settings and open it. Scroll down to Touch Func. in Shooting. You will see the Live View with icons down the left side and across the bottom. Scroll to Touch Focus.. Now when shooting, you will be able to relocate the focus area by touching the screen. This will be very useful when shooting macro and landscape—less so when shooting birds and wildlife. Some care is needed when handling the camera, especially when adjusting the LCD to other angles, to prevent accidentally moving the focus area, but the net benefit of having the touch screen active, as far as I am concerned, outweighs the extra care needed. We will program a button on the camera to return the focus area to center when it is misplaced. This is a global change. You will not be able to save different versions of this setting with your custom modifications. Close the menu System.

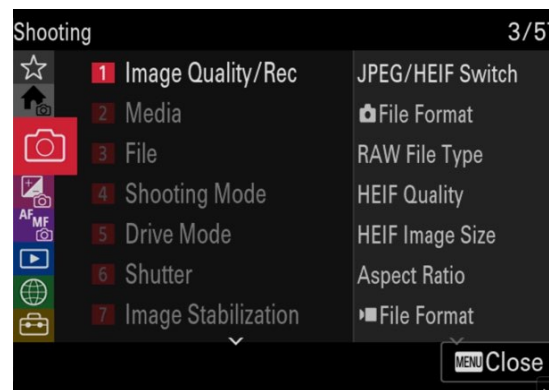
Bird and Wildlife Modifications to Program

(For those who are already comfortable with the Sony Menu system, and already know how to make changes, there is a simple step by step list of changes that need to be made at the end of this section. Jump right there if you dare. Otherwise read on.)

This birds and wildlife custom Shooting Mode will be your base set. You will not have to make all these modifications all over again for Flight and Action. This one is going to seem long. Be patient. This is the hardest one because it is the first one. By beginning with this custom mode, you can only make the necessary modifications to create the sets for action and flight, macro, and landscape. The others will be easier, I promise.

Check to make sure the main dial is still in the P position. Open the menu with the menu button and touch the Main Camera menu option (the little camera icon) or scroll down to the Camera menu using the bottom section of the 5-way control dial on the back of the camera.

Touch the Image Quality/Rec option in the column on the right. Or scroll right (right edge of the 5-way control dial on the back of the camera) to the Image Quality/Rec setting. Touch the JPEG/HEIF Switch option on the right. Or scroll right again to the JPEG/HEIF switch and scroll right once more to open it. If your systems can handle HEIF, set the switch to HEIF 4.2.2 by touching it to select, or by scrolling down to it and pressing the center button on the 5-way control to fill in the selection circle. You will get a warning about system compatibility. If you are all set for HEIF, touch OKAY. Or press the center button of the 5-way control to OKAY it. That will return you to the Image Quality menu. If you are not certain about HEIF, or are having second thoughts about compatibility, set this option to JPEG. If you already set it to HEIF and change your mind, reopen the JPEG/HEIF switch menu and change your selection to JPEG.



Under File Format, select HEIF. (Read JPEG for HEIF, here and following, if you made that choice.)

Under HEIF Quality, select Extra Fine (your files will be slightly larger but maintain more detail and color).

Leave all other settings under Image Quality at their factory defaults (do not make any more changes).

Touch the Camera Icon to return to the Main Camera Menu or use the left edge of the 5-way control to scroll back to it.

Touch or scroll down to Shooting Mode. Scroll over to or touch Shoot Mode Limit. You will see a list of all the available shooting modes: from. Auto to your custom memories. They are all checked, which means they are all active with the Main Control Dial in the Star (☀) position. We are only going to use two MR (memories) here. Uncheck all but MR3 and MR4. We will store our Birds and Wildlife Shooting Mode in MR3 and our Flight and Action Shooting Mode in MR4. That way we can program a custom button to switch rapidly between them, as we will

often have to do in the field. We will still have access to all the other shooting modes, either under the Auto position of the Main Control Dial, or in their own designated spots on the dial (S or A). We will access our Landscape and Macro Shooting Modes in the 1 and 2 position on the Main Control Dial.

Touch or scroll down to Drive Mode. Touch or scroll right to Drive Mode (same name) in the column on the right. Open it by touch or by pressing the right edge of the 5-way control. You will see the live view of the camera with selections for drive mode along the left side of the screen. Touch Cont. Shooting (or scroll down to it). In the options that appear at the bottom edge of the screen, touch or scroll to Lo. If touching, you will automatically return to the Drive Mode menu. If scrolling, you will have to use the center button on the 5-way control to OK your choice. Lo (low) will give you 5 frames per second no matter which shutter you select. I find that 5 frames per second is enough for stationary wildlife and birds. It is enough to give you a variety of poses, without filling your card with hundreds (thousands?) of all but identical images.

Return to the main camera menu by scrolling left or just touch the Camera icon. Touch or scroll down to the Shutter menu. If scrolling, use the right edge of the 5-way control wheel to open it. You have two choices: Electronic and Mechanical. The electronic shutter offers higher speeds (up to 1/16000 of a second) and higher frame rates (up to 30 frames per second) and is silent. The Mechanical shutter tops out at 1/2000th of a second on apertures smaller than f/8 (ie f/11) and 1/1000th of a second on apertures larger than f/8 (ie f/4)—and at 15 frames per second. The Mechanical shutter on the RX10 V is a leaf shutter, so it does not have the “clunk” that most DSLRs and mirrorless cameras have, but it still makes a faint “snicking” sound. Some folks think that the Mechanical shutter can deliver slightly more dynamic range in the image (more detail in darker darks and lighter lights) than the electronic shutter, and less distortion on moving subjects, but its speed limitations make it only really useful for macro and landscapes. I use electronic for Birds and Wildlife and Flight and Action. Set your choice and return to the main Camera menu.

Check to make sure Steady Shot is on, under Image Stabilization. You want all the help you can get to hold the camera steady, especially near the 600mm end of the zoom. Sony materials advise us to turn it off when using a tripod, but I never remember to do it, and my photos come out just fine. And if you do turn it off, you have to remember to turn it back on.

Select Zoom and set it to Optical Only. Sony provides two zoom extension options. Clear Image Zoom crops into the center of your frame to increase the apparent reach of the zoom beyond 600mm, by a factor of 1 to 2. The camera then applies sophisticated expansion to fill the frame with the crop, in much the same way modern photo apps can increase the resolution of an image. It works pretty well, but unfortunately when you go into the Clear Image zoom range you lose Subject Recognition and tracking, so it is not much use for Birds and Wildlife. The other option, Digital, is even worse. You can get even higher magnifications, but it is like zooming your phone camera. All the pixels just get larger and eventually all you have is mud.

Those are all the changes under the Main Camera menu, but we will return here when we are ready to save these modifications to one of the 10 camera memories.

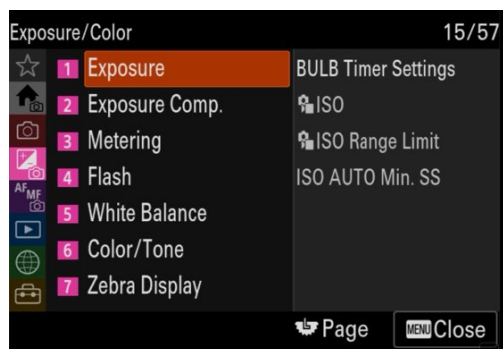
Touch the Exposure Menu in the left column, or scroll all the way to the left and scroll down to it. It is the little square divided into light and dark triangles with the plus and minus and the tiny camera.

Touch Exposure at the top of the column on the right or scroll right to it. If scrolling open it by scrolling right once more. Touch or scroll down to ISO, and right to open it. Again you will have

the live view with ISO options along the left edge of the screen. The top option is ISO Auto. Touch it, or select it by pressing the center button on the 5-way control.

Touch or scroll down one and open ISO Range Limit. On this screen you can select a minimum ISO and a maximum. Select 100 for the minimum by touching the up and down arrows or using the top and down edge of the 5-way control. (As I understand it, ISOs below 100 are extrapolated from the true base at 100, and will give you lower quality, not greater). For maximum, on this camera I set it to ISO 8000. In my tests, ISOs above that begin to show noticeable noise and reduced dynamic range. With the f4 lens on the RX10 V, you will be shooting at lower ISOs already than with most comparable cameras. After making your selections touch OK or press the center button on the 5-way control to return to the Exposure menu. (By the way, the Camera will override your setting here if it cannot capture a correctly exposed image any other way.)

Touch or scroll down one and right to open ISO AutoMin SS. Here you can set two similar but slightly different things. The top option on the left, ISOASS, allows you to tell the camera how fast you want the ISO to increase as light levels fall and shutter speeds go down. Notice the options across the bottom of the screen. Standard on most cameras will set the shutter speed to 1 over the ISO (a convention from non-stabilized lens days) to minimize the effects of camera and subject movement. On the RX10 V, they apparently have factored in the advanced image stabilization and Standard will sometimes set a shutter speed that is too low to counteract subject motion with active birds and wildlife. Either choose Faster or return to the options on the right and scroll down, either by touch or 5-way control, to something like 1/250. If you choose 1/250, the camera will raise the ISO to maintain that shutter speed whenever possible. 1/250 is faster than you need to eliminate camera motion with this camera most of the time, but it is barely fast enough to eliminate subject motion most of the time. If you run out of ISO, according to the limits you just set above, the camera will lower the shutter speed to maintain correct exposure, so it is completely safe to set your min SS to either faster or 1/250.



Touch the main Exposure menu icon (or scroll left until you reenter the main exposure menu). Touch or scroll to and open the Metering option. Then open Metering Mode. Again, you will see the live view. In this case, the live view is actually useful as you can see the way changing your metering pattern will change the scene as it is recorded. Multi Metering reads many different areas of the scene and attempts to compute the exposure that will give you the best balance of lights and darks and the truest colors. It is a good choice. The other option I sometimes use is the bottom option: Highlight. This setting reads the scene, makes note of the brightest areas, and adjusts exposure to

maintain color and detail in those highlight areas, often at the expense of darker, denser shadows. Highlight is useful with very bright birds and wildlife in bright sun (think Egrets or Silver Fox, but also Macaws or Cardinals), and I program the switch to Highlight Metering to the Lens button when I get to Custom Keys/Dials below.

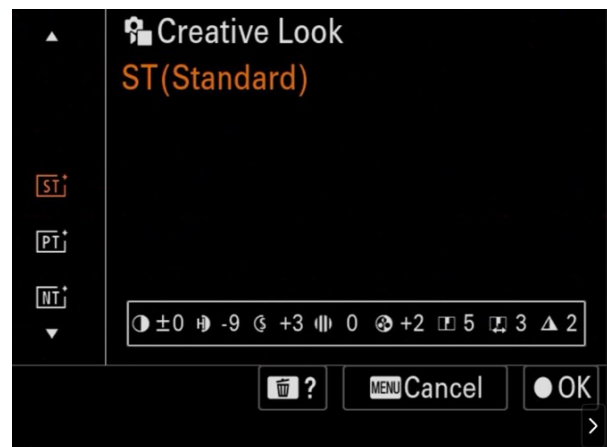
Select the Exposure menu again. Select Color/Tone. The top option is D.RangeOptimizer, which stands for Dynamic Range Optimizer. As I have mentioned, there is a delicate balance between the highlights and shadows of any scene. You want enough exposure so that there is detail and color in all but the darkest shadows, and yet not so much that you lose detail in the brightest areas. DRO analyzes the scene by metering many different areas or zones and attempts to apply different levels of processing to the different zones of the image to maximize apparent dynamic range. It works best on shadows, bringing them up to preserve detail and

color, and less well on highlights—but better than nothing. You have options for Auto and 8 different levels. For birds and wildlife, moving in the real world of constantly changing light, I set it on Auto.

Returning to the main Exposure Menu options, select Creative Looks. Creative Looks is Sony's name for the kind of fine adjustments you might make to a RAW file in post-processing, but done right in the camera as the image is processed to a JPEG or HEIF. And done to every image you take. When you open Creative Looks, you are presented with live view again, with options down the left side of the screen and across the bottom. The left side column of options are your main profiles: Standard, Portrait, Neutral, Vivid 1 and Vivid 2, three film-look profiles, Instant Camera look, Soft High Key (faded like an old print photo), and Black and White. The same choices repeat with a 1 next to them, in case you want to modify the same look two different ways. As you scroll down through them, you will see the live display change to reflect the effect of the different looks.

After a good deal of experimentation, for birds and wildlife, I use the Standard Look and modify it as needed. Standard, once more, attempts to process the raw file to maintain what the camera determines is the best balance between shadow and highlights and the truest colors. It uses a sophisticated algorithm and many sampling points. It does a very good job.

Each of these looks can be modified by adjusting the settings for Contrast, Highlights, Shadows, Fade, Saturation, Sharpness, Sharpness range, and Clarity. The adjustments I make to Standard for birds and wildlife are to decrease highlights to -9, increase shadows to +3, increase Sharpness by 2, and increase Sharpness Range by 1. Again, you can experiment with these settings yourself, but my experience with this sensor—ostensibly the same type 1 stacked sensor from the RX10 III, the IV, and now in the V—is that it “runs hot.” It has very little headroom. Highlights blow out fast. I make the changes I do to tame the highlights, while adding a bit of sharpness, without going the Vivid route. I will still apply minimal post process to every image I keep.



By all means, experiment with the other Looks as well. Neutral produces a look somewhat like a RAW file and is good for those who want to do a lot of post processing in an editing app. The two Vivids, on the other hand, are for people who do not want to do any post-processing at all—who want to share photos directly from the camera. They add lots of pizzazz (Vivid 1) and more than lots (Vivid 2).

If you pick the Creative Look that matches your needs and vision, and then tweak it a bit as you feel the need, you can accomplish most of what the pros do in post-processing with RAW files. Right in the camera. For every shot you take.

I do modify other Creative Looks for both landscape and macro modifications, as my vision for macro and landscapes and the demands of macro and landscapes are different from Birds and Wildlife.

Which brings us to the Focus Menu. The icon with the AF/MF and the tiny camera. Select it.

Select Focus Mode in the column on the right and choose Continuous Auto Focus. Since we will enable Subject Detection and Eye-tracking a few steps later, it makes sense to run the Focus on Continuous.

Select Focus Area Limit. This is one of the places where you can limit the number of choices you have to those you will actually use, to make switching back and forth between them quicker and easier. When you select Focus Area Limit, you will be presented with a screen of focus area patterns, of two kinds: a set of non-tracking and a set of tracking. The ones I use for Birds and Wildlife (leave checked) are Wide, XL-Spot, and Expanded Flexible Spot. When we get to setting up custom buttons I will show you how to program these Focus Areas to the down press on the joystick control (multi-selector) so that each press of the joystick cycles through your choices. For birds and wildlife I start with X-L Spot, since I find that the focus system sometimes needs a little help knowing where your subject is, even when the bird or wildlife or bug is not deep in foliage or against a very confusing background. I switch to Expandable Spot as a last resort when I can only see a part of the subject through obstructions or the subject is too small and too far away to trigger recognition in any other mode. Expandable Spot uses the very small spot in the center to find focus, but then expands to the slightly larger spot if it needs to. Experience in the field has taught me that these two focus area options are the ones I actually use. I do leave Wide active, and use it sometimes when there is little else in the frame but the subject. By switching off all other options in this step, I can easily switch between them with the push of a button. When you have unchecked all the patterns you will not need, scroll down to the bottom of the screen until Okay is highlighted and press the center button on the 5 way control to lock your choices in—or just touch OK.

Now go back up one, under Focus Area, set it to XL-Spot.

Select AF Area Registration and turn it ON. You will get a message that says that you can Register a Focus Area by long-pressing the Function button. We are going to use this feature to customize our AF-On button to use a different Focus Area than the shutter button. This will allow us to run the XL-Spot Focus Area as our primary Focus Area in Birds and Wildlife and to instantly switch to Expanded Spot for difficult situations and subjects. And it will allow us to run our Flight and Action mode in Tracking Wide for birds in flight and charging animals against a plain background, and instantly switch to a non-tracking smaller Focus Area for action on the ground.

Return to the Focus Area Menu. Select Circ of Focus Point (it is on the second page of the menu, near the bottom). This is where you set your choices to repeat endlessly as you press your custom button. Choose Circulate.

Now select Subject Recognition. Set Subject Recog in AF to on. Set Recognition Target to Auto.

Select the next option in the Subject Recognition menu: Recog Trgt Select Set. This is another chance to limit the options you have to the ones you are actually going to use. Deselect all but Auto, Animal/Bird, and Insect (experience has shown that Animal/Bird works better than either Animal or Bird, for both birds and animals). You are going to save this as your options for Birds and Wildlife. When shooting in Auto, the camera will still use all the options, including Human, Airplane, etc., but for Birds and Wildlife, having Human, in particular, selected is just one more thing the camera has to think about. If you use Auto Subject Target with these limits, acquiring a bird, an animal, or an insect is all but instantaneous at least 90% of the time—and that is pretty amazing.

Now we are going to go back to the Recognition Target and set some of the options for the three targets we are using. When you select Recognition Target from the menu, you will see that there is one left arrow on the left that indicates a return to the Subject Recognition Menu, and a right arrow next to each option. Select your first checked option below Auto: Animal/Bird. Open it either by scrolling right or by touching the little right arrow. In the menu that opens, select Animal Details. Select Recognition Sensitivity. Increase it to 4. That will speed up subject recognition for animals. Setting it to 5 only increases the number of false positives (a rock that looks like a bear, etc.). Leave it at 4.



Select Bird Details and make the same change. Go back a menu level to the list of options, and select Insects and make the same change.

One of the things you could change here is the Recognition Part. It is set to Eye/head/body by default and there is no reason to change it. The camera will look first for the eye of your subject and if it can find one it will track that. If it cannot find the eye it will find the head and track that. If it cannot identify the head, it will find the body and track that. Automatically. Let it do its job.

Once again, with these settings the camera will, almost all the time, find your subject and track its eye (or at least the body or head) as it moves and as you move the framing. Just like magic!

Return to the Main Focus Menu. Scroll all the way down to Peaking Display, and turn it off.

And there! You have just created your first custom set of modifications to program for Birds and Wildlife. Congratulations. In essence we have created a highly specialized Programmed Auto or Scene Mode specifically for the subjects you want to shoot, and the situations you will find yourself in.

One more major step and a couple of minor ones.

Close the menu. Use the right wheel on the top of the camera (the one with the locking button) to adjust Exposure Compensation to -0.3. As I said, the sensor in the RX10 V runs hot, and using some negative Exposure Compensation will help to tame the highlights and produce deeper, richer colors. The Exposure Compensation setting will be saved with your other settings so that when you go into Bird and Wildlife memory mode, you will not have to change it every time.

Zoom the zoom all the way out to 600mm. The position will also be saved with all your settings so that when you go into Bird and Wildlife mode, or turn the camera on with it already set to Bird and Wildlife mode, the zoom will automatically extend to 600mm. (Warning. The camera saves the zoom position when you turn the camera off, so if you zoom out wider in your Birds and Wildlife mode and then turn the camera off, it will zoom out only that far when you turn the camera back on, no matter what your memorized settings are.)

Finally we are going to register our secondary Focus Area for Birds and Wildlife. Reopen the Menu. Choose Focus, Focus Area, Focus Area and set it to your secondary Focus Area choice. In my case it is Expandable Spot. Close the menu and long press the Function Button until you

get the message telling you that the Area is registered. Open the menus again, and return to Focus, Focus Area, Focus Area, and reset it to your primary choice. In my case that is XL-Spot.

Now we are going to save the whole set. Select the Main Camera Menu. Select Shooting Mode from the column to the right. The top option on the right is now Camera Set Memory. Open it. You will get a screen showing all your current settings with "Memorize this setting" across the top. Check them if you can decipher the icons. Select OK. You will see a screen which asks you to set a title. Touch the current name, MR1, and you will get a old fashioned keyboard like the one you hated on your first flip phone (if you an remember that). You have to scroll to a set of letters (best done with the 5 Way Control), and press the center button as many times as need to select the letter you want from the group. To make a Capital, you have to scroll to the Up Arrow and select it with the center button before you choose your letter. There are also left and right arrows to move within your text, and a delete key (white with and X in it). It is fiddly and funky and bothersome. But with patience you can type in a name. I highly recommend something really simple, like BW for Birds and Wildlife. When you select okay, which you have to scroll down to, you will get a screen with a list of 10 memory slots, numbered 1 - 10, MR1, MR2, etc. MR1 should already be selected. Do not Okay it! We are going to save Birds and Wildlife to Memory 3. This is important. Later on we will program a button to switch instantly between our custom shooting modes. When in Birds and Wildlife and a bird suddenly flies right overhead, we can be in Flight and Action with a single button press, and back to Birds and Wildlife with another press of the same button. We will store our Landscape and Macro modes in Memory 1 and 2. There are already spots on the Main Control Dial for those two memories. You have time to move the main control dial to position 1 or 2 when faced with a landscape or macro. Neither is going anywhere soon. Touch MR3...or better yet scroll down to it and press the center button on the 5 way control. It is very easy to touch the wrong Memory on this screen. Select OK. You will see a screen that tells you your Mode is committed to memory. Select Okay.

For now, until you get your custom buttons set, to access your new Birds and Wildlife shooting mode put the Main Control Dial in the Star (☀️) position, open the menus, go to Camera, Shooting Mode, Shoot Mode, and set it to MR3. Once we have a custom button set to Switch Shooting Mode it will be as easy as pressing the button.

Give yourself a hand! Refill your coffee. Take a stroll around the house and get the kinks out. You have just successfully programed your RX10 V to shoot Birds and Wildlife!

Condensed list of changes: Birds and Wildlife

Put the main control dial on P for Program. Open the menu system with the button.
Set Camera, Image Quality/Rec, JPEG/HEIF Switch to HEIF (4.2.2)
Set Camera, Image Quality/Rec, Camera File Format to HEIF
Set Camera, Image Quality/Rec, HEIF Quality to Extra Fine
Set Camera, Image Quality/Rec, HEIF Image Size to L:20M
Set Camera, Shooting Mode, Camera Shout Mode Limit to MR3, MR4. (uncheck all other modes) We will store our B&W Shooting Mode in MR3, and our F&A Shooting Mode in MR4.
Set Camera, Drive Mode, Drive mode to Continuous Shooting, Lo (Low, 5 fps)
Set Camera, Shutter, Shutter Type to Electronic
Set Camera, Image Stabilization, Camera Steady Shot, to ON
Set Camera, Zoom, Zoom Range, to Optical Only
Set Exposure, Exposure, ISO to Auto
Set Exposure, ISO Range Limit to Minimum 100, Maximum 8000
Set Exposure, ISO AUTO Min. SS to either Fast or 1/250th (they do much the same thing)
Set Exposure Metering, Metering Mode to Multi.

Set Exposure, Color/Tone, DRO, to Auto
Set Exposure, Color/Tone, Creative Look to STD (Standard), and make these modifications to the parameters: Highlights -9, Shadows +3, Sharpness 6, Sharpness Range 4, and Clarity 2.
Set Focus, AF/MF, Focus Mode to Continuous
Set Focus, Focus Area, to XL-Spot
Set Focus, Focus Area Limit to Wide, X-Large Spot and Expanded Spot, (uncheck all other options).
Set Focus, Focus Area, Register Focus Area to ON
Set Focus, Subject Recognition, Subject Recog in AF to ON
Set Focus, Subject Recognition, Recognition Target to Auto
Set Focus, Subject Recognition, Recog Trgt Select Set, to Auto, Animal/Bird, and Insect. (uncheck all other options)
Set Focus, Subject Recognition, Recognition Target, Animal/Bird, Animal Details, Recognition Sensitivity to 4
Set Focus, Subject Recognition, Recognition Target, Animal/Bird, Bird Details, Recognition Sensitivity to 4
Set Focus, Subject Recognition, Recognition Target, Insect, Sensitivity to 4.
Set Focus, Focus Assistant, Auto Magnifier in MF to Off
Set Focus, Peaking Display, Peaking Display, to Off
Set Focus, Focus Area, Focus Area to your secondary Focus Area choice: Expanded Spot
Close the menus.
Set Exposure Compensation to -0.3 using dial 2 on the top outside right of the camera.
Zoom the zoom all the way out to 600mm
Register your secondary Focus Area choice by long pressing the Function Button.
Open the menus again.
Return to Focus, Focus Area, Focus Area and reset it to your primary Focus Area, XL-Spot.
Under Camera, Shooting Mode, Camera Set Memory, give this shooting mode a name, and save it to MR3. (you will have to OK the steps 4 times).
Celebrate.

For now, until you get your custom buttons set, to access your new Birds and Wildlife shooting mode put the Main Control Dial in the Star (☀️) position, open the menus, go to Camera, Shooting Mode, Shoot Mode, and set it to MR3. Once we have a custom button set to Switch Shooting Mode it will be as easy as putting the Main Control Dial in ☀️ and pressing the button.

Action and Flight



Since the next set of modifications, for Action and Flight, uses all but a few of the same settings, let's dive right in. (Once more there is a compressed list of changes at the end of the section for those who dare.)

Put the Main Camera Control Dial in the Star position (☀️). Open the menus and Camera, Shooting Mode, Shoot Mode and select MR3. This will load all your Birds and Wildlife modifications.

Select the main Camera menu. Select Drive Mode, Drive Mode. Change from Continuous Shooting Lo (low), to Continuous Shooting Hi

(high). This will increase your frame rate from 5 frames per second to 15. Again, I find that 15 fps is plenty to give me every possible angle of a flying bird's wings, and to catch the subtleties of wildlife action. More than 15 fps will, once more, fill your card with lots of all but duplicate images. Even 15 fps will leave you with several hundred shots every time you press and hold the shutter. Shots that you will have to go through to select the absolute best one. And if the camera is doing its job, they will all be correctly exposed and in focus.

Select the Exposure Menu. Select ISO Auto Min SS. Change your minimum shutter speed to 1/2000. This is fast enough to freeze all but the wing tips of flying birds (and the wings of hummingbirds) and to stop all but a charging cheetah in mid-stride. If you do want to completely freeze all motion, set Min SS to 1/4000, but realize that will mean much higher ISOs when shooting Action.

Select the Focus menu, AF/MF and change AF Trk for Speed Change to Responsive. This will help with the erratic flight of birds and especially dragonfly's and butterflies.

Select Focus, Focus Area, Focus Area Limit. Uncheck the ones currently checked. Check non-tracking Large Spot, Tracking Wide and Tracking Expandable Spot. This will give you an option for birds in flight (Wide) and an option for action on the ground (non-tracking Large Spot). Select OK to lock them in. In my experience having both Subject Recognition with eye tracking and conventional predictive motion tracking on at the same time only confuses the focus system when there is any clutter in the view. The camera is trying to do two jobs at once, and it struggles to do either well. Tracking works for flying birds where there is no clutter, and for a single charging animal on a plain background, but as soon as there is any other high contrast, colorful object in the same field as your subject, tracking will pick that up and try to track it, instead of your subject, even when the camera has already identified your subject—and it will certainly delay identifying your subject. There is only so much processing power devoted to focus. Since you want the camera to do its best to recognize and track your subject, it is best not to confuse it with having to predict motion based on a completely different set of criteria. Subject Recognition and eye-tracking is very good at finding, focusing on, and tracking your subject, even when your subject is technically outside your chosen focus area. Let it do its job.

And if you do not follow all that just take my word for it. Subject Recognition and Eye-tracking Focus works better with Tracking turned off, except for birds and bugs in flight and similar uncluttered situations.

Now set Focus Area to your secondary choice for Flight and Action: Large non-tracking Spot.

This next one is not necessary but worth a try, especially if your action is primarily birds in flight. You can go back to the Subject Recognition menu and open your Bird and Insect targets and set the recognition Sensitivity to 5, since the birds and insects will mostly be against a clear background. This limits the effectiveness of the setting when the birds are active on the ground, generating way too many false positives when in the Wide Focus area, but switching to one of the narrower focus areas will often solve that.

Close the menus.

Set your Exposure Compensation to -0.3, and your zoom to 600mm.

Register your secondary Focus Area by long-pressing the Function Button.

Open the menus.

Return to Focus, Focus Area, Focus Area and reset your Focus Area to your primary Focus Area choice: Tracking Wide

Select Shooting Mode under the Main Camera menu and open Camera Set Memory. Select OK. Give this custom shooting mode an appropriate name. (FA, AF?) This time when your list of memories appears, select MR4. This is essential. MR3 will be selected. You must change that to MR4, otherwise you will over-write the settings you worked so hard on the first time through. When it says you have saved your settings, select Okay.

You now have programmed your modifications for more or less stationary birds and wildlife and for action and flight to positions to MR3 and MR4. Until you get your custom Switch Shooting Modes button programed, the way to access Flight and Action is to put the Mine Control Dial in the Star (☀️) position, open the menus, go to Camera, Shooting Mode, Shoot Mode and select MR4. Before going out into the Field, you should save yourself some frustration and take the time to program your buttons, so Switching Shooting Modes can be done with a button press. Then you go out and Point and Shoot Birds and Wildlife.

Condensed list of changes: Flight and Action

Put the main control dial in the Star position.

Open the menus system with the button

Camera, Shooting Mode, Shoot Mode, set to MR3, your Birds and Wildlife modifications.

Camera, Drive Mode, Drive Mode. Change from Continuous Shooting Lo (low), to Continuous Shooting Hi (high, 15 fps)

Exposure. Exposure, ISO Auto Min SS. Change your minimum shutter speed to 1/2000.

Focus. Focus Area Limit. Uncheck the ones currently checked. Check the corresponding tracking areas. Tracking Wide and Tracking Medium Spot.

Set Focus Area to your secondary choice, L-Spot.

Close the menus.

Register your secondary focus area by long pressing the Function Button.

Set Exposure Compensation to 0.0

Check that the zoom is all the way out to 600mm

Open the menus.

Return to Focus, Focus Area, and reset it to your primary focus area: Tracking Wide.

Under Camera, Shooting Mode, Camera Set Memory, save these settings to MR4.

And again, to access your Flight and Action Mode, until you get your custom buttons set, you will have to open the menus, go to Camera, Shooting Mode, Shoot Mode and set it to MR4.

Setting Custom Buttons and Controls

One of the things that makes the RX10 V such a joy to use in the field is the ability to program almost every button and dial on the body to do what you often need to do at the press of a button or twist of the dial. (Again, there is compressed list of changes at the end of this section.)

Open the menus. Select the toolbox icon. Select Operation Customize. Select Camera (the little camera icon) Custom Key/Dial Set. You will get a set of diagrams with the various buttons and dials you can customize highlighted. Rear 1, Rear 2, Back, Top, Lens, Dials, down the left side. Begin with Rear 1. Some buttons already have default functions. Some do not. When you select a Button you will get a page that displays all the menu options from the current function on the right to the main menu on the left. The current function is highlighted at whatever level you would find it. To change the setting you need to navigate to the menu where your desired settings live and select that setting.

Under Rear 1 I reprogram the AF-On button to do two things at the same time. What I want to happen when I press it is for the Auto Focus to engage (as it is already programmed) but also I want the Focus area to switch to the secondary, more precise focus areas we already Registered and saved to our Shooting modes. To do that I navigate to Camera, Shooting Mode and select Recall Custom hold (1, 2, or 3). When I do a menu opens with all the functions I can program to that button. They are all checked. I only want to change the Focus Area and Auto Focus On, so go down the list and uncheck all the others. Then I select Focus Area and set to Registered Focus Area. Then I scroll down bottom and set AF-On to On. Now when in Birds and Wildlife, which has a primary Focus Area of XL-Spot with the shutter button, I can engage Expanded Spot by pressing the AF-On button. When I release the AF-On button the Focus Area will return to XL-Spot. I can use the shutter button to take photos while holding the AF-On button and force the camera to use the Expanded Spot for Focus. This works really well when the bird or critter suddenly drops into deep brush, and XL-Spot is not longer working. Just use the AF-On button and place the Expanded Spot on any visible portion of the subject and it should find the eye and focus.

I leave the Movie buttons as it is.

I change custom button 3 (the trash can) to Switch Shutter Type. For this button that means going to the Main Camera Menu, Shutter, and selecting Shift Type Switch. Note that Shift Type Switch is not an option on the regular menu system. It is only available to be assigned to a button.

Now select Back 2. The first button is actually the multi-selector (joystick control). You can program what happens when you press down on the joystick. It is unassigned by default. I set it to switch quickly between focus areas. Select it. Navigate to the Focus menu, Focus Area, Switch Focus Area. This is another function that is only available to assign to a button. Now when you press down on the joystick it will cycle through your focus area options for whichever shooting mode you are using at the moment.

I set button 5, the lower edge of the 5-way control, to Metering mode. It is set to Exposure Compensation by default, but since we already have a dial for that, it makes more sense to be able to access the actual metering mode for those times when you want to switch from Spot metering to, say, Highlight, or Multi for improved effects.

I set the center button of the 5 way control, #2 in the diagram, to Focus Standard so that pressing it returns the Focus Area to the center of the screen.

Move to the Top section. Button 1 I program Shoot Mode Switch. This one takes some explaining, but is one of the most powerful and useful features of the RX10 V. Shoot Mode Switch is another function that can only be programmed to a button. When you do, pressing the button while the Main Control Dial is in the Star position, cycles through all the available shooting modes, and I mean all of them, from auto, to the various scene select options (portrait, landscape, macro, night scene, etc.), to program, aperture, shutter, and then to each of your memory modes, one for each press of the button. As it happens though, Sony has not left it there. In the Main Camera menu, in the Shooting Mode menu, Shooting Mode Limit, you have already unchecked all the modes you will not be using in the Star position of the Main Control Dial. We have already unchecked every mode except MR3 and MR4. This is a global change. You do not have to save it to your Shooting Modes.

Then, when, I program Custom Button one on the top the camera to Shoot Mode Switch (Camera, Shooting Mode, Shoot Mode Switch)—because I only have two Shooting Modes active, with Main Control Dial in the Star position, pressing Top button 1 switches rapidly back and forth between them. Memory 3 is my Birds and Wildlife. Memory 4 is Flight and Action. This is so very useful in the field! Because Landscape and Macro are set to MR1 and MR2, when I want to shoot a landscape I just put the Main Control Dial in the 2 position. When I want to shoot a Macro, I put the Main Control Dial in the 1 position. Both landscapes and macros give me plenty of time to change the dial. Birds and Wildlife and Flying and Active birds and wildlife, not so much. When I want to shoot people or events, I put the Main Control Dial in the Auto position, and shoot way.

Top button 2 I program engage Direct Manual Focus when the camera is stuck and will not focus on my subject even though it is right there in the center of the view. Open Button 2. Navigate to Recall Custom Hold 2 (chances are you already used 1 above) under Camera, Shooting Mode. When you set this you will again get a menu of things you can program. Turn all of them off, except for Focus Mode. When you select Focus Mode, you will have the option to set DMF. Set it. Then in the field when focus is absolutely refusing to find your subject, you and press Button 2 to instantly engage DMF and use the focus ring to get close enough to focus for the camera to recognize your subject.

I program the Lens Focus Hold button to another Recall Custom hold (3), this one with everything unchecked but Metering Mode, which I set to Highlight, for those times when the sun hits the white egret or the polar bear, or the color of the Macaw is just too intensely red for the sensor to handle. Pressing and holding the Lens button will then switch instantly to Highlight metering, and when released the camera will return to Multi.

Finally, as a personal choice I also reprogram the two top dials so that Exposure Compensation is on dial One, and TV (Shutter, effectively Program Shift) is on Dial 2. That is where my fingers want them, since I change Exposure Compensation way more than Program Shift. If you do this, you must remember you did it, not only in the field, but when using the dials in conjunction with the menu to set future parameters for custom Shooting Modes Landscape and Macro.

A reminder that, unlike the modifications we have made for birds and wildlife and action and flight, these custom button changes are global. They apply across all modes. Most do not

actually work in Auto mode, and the Switch Shoot Mode only works with the main dial set to the Star position, but in any other mode your button and dial customizations will apply.

Condensed list of changes: Custom Buttons.

Under the Toolbox menu, Operations Customize, Custom Key/Dial Set

Rear One: Change Change Button 1, the AF-On button, to Recall Custom hold 1, and set Focus Area to Registered Focus Area and AF-On to ON. Change 3 to Shtr Type Switch so you can quickly switch from Electronic to Mechanical and back at need.

Rear Two, Change 1 to Switch Focus Area, change 2 (the center button in the 5 way control) to Focus Standard. change 5 to Metering Mode

Top, change 1 to Shoot Mode Switch, change 2 to Recall Custom hold 2, with only Focus Mode checked, and set to DMF

Lens, change 1 to Recall Custom hold 3, with only Metering Mode selected, and set to Highlight

If you like, reverse the setting of top dials 1 and 2.

Finally, and this is totally subjective, I prefer Zoom on the front lens ring and focus on the back, wider, lens ring. I change this under Operation Customize, Lens Ring SetUP (on the second page of the Customize Menu).

Now you have a Birds and Wildlife Shooting Mode programmed to MR3 and Fight and Action programmed to MR4. Accessing them is as simple as putting the Main Control Dial in the Star position, and pressing Top Button 1 to switch back and forth between them. Point and Shoot.

In the Field

This is the part where I show you how to actually use the modifications we have created in various situations and with various subjects. You can literally just point and shoot and come back with more keepers than you would have otherwise, but you can increase your keeper rate even more, and eliminate some level of frustration with missed shots by taking advantage of some quick and easy adjustments. Some on-the-fly, in-the-moment adjustments.

First steps:

Before we get to the Sony RX10 V tips, let me give you three which will make a big difference in your photography, no matter what camera you use.

1. Adjust the diopter on the eyepiece of the camera. There is a little wheel next to the eye-level-viewfinder (Electronic View Finder: EVF) that focuses the viewfinder—not the view, but the lines and numbers and other information that is displayed. You will be using the EVF for the majority of images. It is simply more stable than trying to look at the LCD on the back with the camera held way from your face, and with practice the camera becomes an extension of your eyes and hands so that when you point, your subject is right there, and you are ready to shoot. If the EVF is not focused, however, the view through it will always be fuzzy even when the camera is correctly focused. Bring the camera up to your eye and twist the little wheel until the lines and numbers and letters are as sharp as you can make them. The wheel is finicky. Persist until you find the right focus point for your eye. If you wear glasses, do this with your glasses on. You should only have to do this once, though on occasion you will probably knock it off its setting when putting the camera into its bag or getting it out, and have to redo it. One of the improvements of the V over the IV is its larger, brighter, higher-resolution EVF. Use it. Not some of the time, but almost all of the time. (Low-angle landscapes and macro are two exceptions.)



2. Practice holding the camera correctly. The camera should be supported by the bones of your body, not your muscles. If you are right-handed and right-eyed, turn your left shoulder

toward your subject. Cradle the camera loosely in your left hand and keep your left elbow in as close to your body as possible. Do not brace it. Keep the arm relaxed but let the body support the arm so the forearm is more or less vertical under the camera. Raise your right hand and loosely take hold of the camera grip with your finger on the shutter button. The right hand is your guide and control hand. It should be as relaxed as possible. The RX10 V has improved image stabilization, which should make shooting even at the long end of the zoom (600mm) manageable, even in low light, but only if you are using the bones of your body as a tripod. Bones, not muscle. Train yourself. (If you are left-handed and left-eyed, you will face an extra challenge. Either you have to adapt your stance or you have to learn to view with your right eye and operate the shutter button with your right hand. Cameras are, unfortunately, all built for right-handed folks.)

3. Always half-press the shutter button and let the camera tell you when it is ready to take the photo. Give the focus time to settle on your subject. If the camera does not find your subject, let off on the shutter button and try again. And again, as many times as needed until the focus indicator is where you want it on your subject. Body certainly, eye if possible. Or in a landscape, the area you want in critical focus. You may need to adjust the focus area to get consistent results. See the Focus Modifications section. You may need to give the camera a hint as to how far away your subject is—by moving your focus point to some high-contrast object about the same distance as your subject, focusing there, letting off on the shutter to release focus, and then returning to your subject. The point is that until the focus indicator is where you want it, taking the photo will only result in an out-of-focus image. In fact, if you just jam down the shutter button, chances are very good that the camera will not have finished either finding focus or setting exposure, and your photo will not only be fuzzy, it will be over or under-exposed. Train yourself. Half-press the shutter button. Check that everything looks right, both focus and exposure, and then take the photo. You will come back with way more satisfying photos. (The high-resolution EVF on the V will show you a good approximation of how the camera is going to expose the image. Pay attention.)

If I can tell you one thing that will improve your photography overall, it would be: PAY ATTENTION! In order to see the images that need taking, of course, you have to be paying attention. The pros who shoot in Manual and RAW have to divide their attention somewhat equally between what nature is doing and what the camera is doing, or what they want the camera to do. Sometimes it seems they, especially the teachers, spend more attention on the camera than they do on nature. Our goal here is to enable you to spend your attention on what nature is doing, but that does not mean, if you would avoid frustration and get better results in difficult situations and with difficult subjects, that you do not have to pay at least a bit of attention to what the camera is doing, or what you are asking it to do.

The RX10 V and our custom Shooting Modes

Both the LCD and the EVF on the RX10 V are very high quality. And Sony's Live View does an excellent job of displaying what your image is going to look like after you press the shutter. The camera tells you where it is focused. The display shows you what the exposure will look like. Pay attention. If the image in the EVF or on the LCD does not look the way you want it to, then do not press the shutter. Sometimes it is as good as it is going to get—but sometimes there is a quick and easy adjustment that you can make to improve the image before you take it. I am not talking about a deep dive into the menus. I am talking about the press of a button or the twist of a dial. Simple. Quick. And sometimes effective.

The one thing you will change most is your shooting mode. You will be switching between more or less stationary Birds and Wildlife mode as stored in MR3, and Action and Flight as stored in MR4 (and of course, Landscape and Macro when you have those sets of



modifications stored in MR1 and MR2). This is the reason we programmed the Top Button 1 to change rapidly between them. Set the main control dial to the Star position. Press the top button as needed to select Birds and Wildlife. Leave the camera set to this mode most of the time as it is where you will take most photos, and birds and wildlife often do not wait for you to change modes. The camera will remember where it was even when you turn it off, so when you turn it

back on it will still be in Birds and Wildlife mode. If, while observing your subject, you have a flyby, or action suddenly brakes out, a single press of the top button will put you into Action and Flight mode. A second press will bring you back to Birds and Wildlife. I always try to remember to put the camera back in Birds and Wildlife before I turn it off, otherwise it will still be in Flight and Action when I turn it back on. ;)

Exposure



Then let's talk about Exposure. The major limitation of this camera is the way it handles highlights, especially highlights on your subject. You need to be aware of the point when the reds lose definition, the greens block up, and especially when the whites go pure white without any detail. When they do, often all you need to do is decrease the exposure slightly. There is a dial for that. As I have it set, Dial number 1 on the top of the camera, the one without the locking button. Twisting this dial pulls up a scale in the EVF or on the LCD that allows you to decrease or increase the exposure in thirds of a stop increments. Negative numbers make the scene darker. Positive numbers make the scene lighter. To tame the

highlights when they offend, you would dial in a bit more negative Exposure Compensation. You can see the effect as you move the dial. Be careful, if you darken the scene too much, you will lose all detail in the shadows, though shadows are easier to fix in post-processing than highlights. Err on the side of protecting the highlight detail. Again, we are not talking about every scene or subject here. You have already dealt with highlights in Creative Looks and with shadow detail using DRO. Only adjust for bright colors in bright light. If you find yourself fiddling with EV on every exposure, then you are not doing something right :)

At the other end of Exposure Compensation, sometimes your subject will be semi- or completely silhouetted against a bright background. You will see little or no detail in your



subject, just a shadow. In this case, you need to lighten the overall exposure by dialing in some positive Exposure Compensation. Same dial, just turn it the opposite direction, to the positive side. There are limits to what you can do here. Increasing the exposure enough to see detail in the subject often washes out the whole background and produces an unnatural “fog” effect over your subject from the light leaking around the edges. Let your eye make the decision. Adjust the EV to the positive side just enough to gain some detail without fogging the whole image out. Accept the fact that you are probably not going to be satisfied with the results, but they might be better than nothing.

When shooting white birds in the sun, or red Cardinals or Macaws for that matter, changing your metering pattern can help. We have programmed the Lens button to switch to highlight metering for just such occasions.

The other dial on the top of the camera, when using any variation of Program mode, is set to adjust the balance between shutter speed and aperture, while maintaining the correct metered exposure. This is called Program Shift, but for some reason, Sony calls this the shutter dial. You might use this, for instance, if you wanted greater depth of field for a shot at close distance. Rotating the dial brings up the two numbers, shutter speed and aperture. Rotate it further, and you will see the numbers change, at the same time. As shutter speed goes up, aperture numbers become smaller as the aperture opens wider. And vice versa. If your goal is to increase depth of field for a close-up, you want the aperture numbers to become larger—from f4 to f8, for instance. There is a limited amount this dial will do, as it is designed to maintain correct exposure, but it can be useful in specific situations.

Pay attention.

Focus

Then too, while the subject detection, eye tracking AI-driven auto focus on the Sony RX10 V is nothing short of amazing, it is not foolproof. The XL-Spot focus area works most of the time with most subjects, but you will find yourself in situations where the clutter in the view, or especially the size of the subject in the view, gives the focus system problems. We have programmed the push down on the joystick to cycle between your primary Focus Areas. Rocking the joystick moves the target area around on the screen if you need it other than in the center, perhaps for composition reasons. As your subject and the situation become more challenging, the general rule is to decrease the size of the focus area, down as far as the expandable spot for subjects that are only partially in sight, or very small in the view. Fortunately the camera will recognize subjects that are “near” your chosen area as well as within your chosen area, so you don’t have to worry about making the Focus Area too small.

Then too, never give up focus on the first try. If the camera does not focus where you want it to the first time, let off on the shutter button or the AF On button (back button focus) and try again, and again. Sometimes it will take 3 to 5 tries before Subject Recognition kicks in. Be patient. Be persistent.

There will be, on rare occasions, situations and subjects that just completely defeat the focus system, good as it is. Generally, this happens when the focus system gets stuck on distant objects when you want it to focus on something closer—especially within a yard or two. The system is just too far out of focus for it to recognize the subject at all. In



the Sony Help Guide it says that when this happens the focus system is supposed to revert to normal, non-subject recognition focus, but it certainly appears to me that it sometimes fails to do so. On other Sony cameras, there is a feature called Full-time DMF (full-time direct manual focus) that allows you to override the auto-focus with the manual focus ring at any time, no matter how you have the focus set up. Then, when the camera refuses to release focus on the far distance and come in to your close subject, you just twiddle the focus control and bring it close to focus manually, and then let subject recognition take over. They did not include full-time DMF on the RX10 V. (Why, oh Sony, why!?). You can select DMF or Continuous Focus, but you cannot select them at the same time.

This is way we programed Top Custom Button 2 to Recall Custom Hold 2, and programed in the switch to DMF. Now when the camera refuses to focus, just hold the button down to engage DMF and focus with the focus ring on the lens until your subject comes into view. It does not have to perfectly in focus. If it is close enough so you can see what the subject is, the camera will recognize it and lock on.

You may also find that DMF is useful in very low light, or when the bird or critter is almost completely obscured by foreground brush, trees, or foliage. If you engage DMF and get just close enough to focus with the focus ring, you will actually be able to see the Recognition kick in.

There is another way around this frustration. Often just tipping the camera down toward your feet and half pressing the shutter button so it focuses close, is enough so that when you go back to your subject it will immediately recognize it as the bug or bird or beaver. Or point the camera at something closer than your subject that has high contrast—a branch, the edge of a leaf, even the bird or critter's legs and feet—and half press to force focus. When you return to your subject and half press again the subject recognition should kick in. The same thing works when shooting birds in flight. The camera can get locked on the sky and not want to move in to find your bird. Pointing the camera at the horizon or, better yet, a bush or tree or sign post 30 to 50 feet away, and half pressing the shutter to force focus will reset the focus system to a closer distance, and when you swing back to your birds in flight the camera will recognize them and lock on and track the eye. This even works for dragonflies and butterflies, but generally your pre-focus should be on something even closer.

Low Light Shooting



There is no doubt about it, digital cameras, like the RX10 V, work best in good light. Low light makes everything more difficult. Focus and Subject Recognition and Tracking struggle. Because low light requires higher ISOs (more gain on the sensor), Image Quality suffers—you lose dynamic range, highlights clip, colors become muddy or garish, and the whole image looks more or less blotchy and shows a lot of what we call noise—squiggles and swirls and lumps which are not part of the real world. Digital artifacts.

The RX10 V has the latest noise reduction and management software, inherited from the latest alpha series cameras—but what it does not have is the latest sensor technology. The Type 1 Stacked Sensor with Phase Detection Auto Focus was way ahead of its time when the IV was released 9 years ago, but today it is more than a little dated. That means that there are limitations to what you can expect in low light shooting. Modern sensors with the tech in the RX10 V handle ISOs well above the 12800 limit on the RX10 V and handle them well. The RX10 V barely handles ISO 12,800. In fact, I would not use 12,800 at all. That is why I set the upper limit to ISO 8000. The IV had a built-in feature to handle low light, called Multi-frame Noise Reduction that worked very well. For some reason Sony (Why, oh Sony, why?) did not include it in the V, perhaps thinking that the advanced AI exposure and processing tech would compensate. It does not, or at least not well enough.

And they eliminated the built-in flash. What were they thinking!



For really low light work, I recommend a small TTL speedlight (shoe-mounted automatic exposure flash)—or, for situations where flash is not permitted—or advised—as in photographing nocturnal wildlife at close distances—a shoe-mounted photoflashlight or small video light. There are several models available that will add just enough light to make low light work possible, without unduly disturbing the wildlife.

When using supplemental light, managing highlights will become even more challenging. Get a light that you can adjust to a variety of output levels, and use as much exposure compensation as needed to keep highlights under control. Trust your eye, not your brain. Less extra light is always better than too much.

Finally, remember getting a poor image in low light is better than getting no image at all. With sophisticated noise reduction software now available, you can often pull out a usable, and sometimes satisfying, image from a very dirty file.

And do not think that shooting in RAW is going to give you better low-light performance. The limitations are in the camera sensor, not in the software.

Don't get me wrong. The RX10 V will do well in low light. Do not despair. Images will be quite satisfying right up to ISO 8000, and because of the fast f/4 lens, you will rarely need higher ISOs than that. But do not expect miracles either. Low light will be an issue with any camera.

Carrying your camera

Over the years, I have owned and used just about every camera carrying solution offered for sale. My current favorite is a harness strap made by USA Gear and available on Amazon. The camera is supported by both shoulders and hangs in the center of your chest, where it is easy to get up and on target. (Better yet, I can hike or ride my recumbent bike with the camera ready for anything.) It has two battery pouches and one SD card pocket, so it has the basics covered. It is a good strap and a good solution on its own, but instead of attaching it directly to the camera, I add a quick release strap tripod plate socket from Koolehoda (also on Amazon). I remove the existing attachments on the strap and install Peak Design-type quick connects (for added security). I then attach the little doggies to the quick release and the quick release to the strap and install the included standard tripod plate on the bottom of the camera. When I want to release the camera from the strap, I only have to push the button on the side of the quick release and lift it out of the socket. I can then use the camera at ground level or mount it on a tripod directly (using the already installed tripod plate) or put it in the seat beside me in the car, without taking the strap off my shoulders. I have standard over-the-shoulder straps that I have also modified to use the quick release so I can switch straps entirely when the harness is not appropriate. For my style of shooting in the field, it is almost the perfect solution.



The end of part one.

And that is about it for birds and wildlife. Set the camera up. Make the decisions only you can make and make the camera automation play by your rules. In the field, pay a little attention to what the camera is doing or you are asking the camera to do. Spend most of your attention on finding the subject that needs imaging, framing it, pressing the shutter and sharing it.

And don't let anyone tell you you are not a real nature photographer because you do not shoot in manual and RAW.

That is Point and Shoot Nature Photography with the Sony RX10 V, part one.

In part two we will take a look at Landscape and macro. Lots more fun to come.