

## Nikon Z 5/6/7 Tips

### Camera Features:

(There is a space between the Z and the number.)

- **Z 6 vs. Z 7 Differences:** 24.5 vs. 45.7 MP. 6048 x 4024 vs. 8256 x 5504 pixels. Low pass filter vs. none. 12 fps vs. 9 fps. Buffer at 14 bit = 43 vs. 19 rows. 273 vs. 493 AF pts. Video full vs. line skipping. Current price with FTZ = \$1,647 vs. \$2,847. Competition to D750/780 (Z 6) vs. D850 (Z 7).
- **Z 5:** (≈D610) 24.3 MP non-BSIS, no top LCD, 2 SD cards, 4.5 fps, 4K video at 1.7x crop. \$1,400.
- The **EN-EL-15b & c** can be charged in camera with a USB-C. About 310/330 (*15c* ≈470) shots.
- **XQD card** increases write speeds about 4X at 400 MB/s write. **CFexpress 2.0 B** about 1200-1480 MB/s write (firmware v.2.2 or 3.0). (SD cards write top out at 300 MB/s, most <170.) (N/A Z 5)
- The MB-N10 **Battery Pack** (\$198) holds 2 batteries (≈590 shots), but no buttons. Hot-swappable.
- Remember, there is no mirror to protect the **sensor** with the lens off. (Z 6 has a Low Pass filter)
- **Back light** does not enter the viewfinder when uncovered (no shade needed).
- **Backside Illuminated Sensor** (BSIS) moves the wiring to behind the photocells, allowing 35-40% more light through, with less noise. It is especially useful in high MP cameras. (N/A Z 5)
- **EXPEED 6** processor is a first use for Nikon. 12 bit or 14 bit (14 bit-no advantage above ISO 400).
- **Assembled** in the same factory in Japan as the D5.
- Same **weather sealing** as D850. 2/3rds the weight & size (-11.5 oz. or with FTZ, 6.8 oz. lighter).
- Wider, shorter **Z mount** allows more flexibility in lens design. Better wide angles, wider apertures.
- **FTZ adapter** passes communications for 93 Nikon F mount lenses. It has its own tripod mount.
- Instead of finding **maximum sharpness** about two stops down, it is at the widest aperture and more consistent across the lens according to DxOMark. DP Review says it is “Class leading.”
- Since no mirror, **no mirror slap** vibration, but still some shutter vibration...
- **Shutter** rated at 200,000 actuations, same as D810. 4 modes: mechanical (avoid 1/15<sup>th</sup> ±2 stops with macro), electronic front curtain (to 1/2000<sup>th</sup>), silent/full electronic (except flickering), and auto.
- David Busch shoots **concerts** with a 70-200mm f/2.8 FL on the FTZ, VR-ON, 1/160<sup>th</sup> shutter priority, adjust ISO for f/4-5.6. Soccer at 1/800<sup>th</sup>, f/5.6, ISO 100. Racing vehicles at 1/200<sup>th</sup> for blur.
- More convenient oblong shaped **fn1** and **fn2** buttons on front near grip.
- New **S Line** lenses are the top level for Z mount. Silver ring instead of gold. Brass mount on lens.
- All S Line lenses (and 24-200mm) have Nano coating and ARNEO **anti-glare coating**.
- Four lug instead of three lug **bayonet mounting** for stronger mount and shorter rotation.
- The HDMI port is a mini **HDMI C** (not standard A).
- In Body **VR** (IBIS) gains about 5 (3 with FTZ) stops of speed on 5 axis, theoretically (e.g. 1/2” can be as steady as non-VR 1/60<sup>th</sup> sec.). It works with lens VR. Turn off when faster than 1/500<sup>th</sup> sec.
- A customizable **L-fn** (and **L-fn2** with firmware v.3.0) on some S lenses.
- With the **EFV**, even menus and playbacks are available. Noise is visible.
- Automatic hybrid phase-detect **AF** with contrast AF switching.
- **Focus points** cover 90% horizontally and vertically (D5 only 55%). All good at f/11 (1.4X & 2X TC).
- **Sub-selector** joystick is handy to move, or re-center, focus points.
- **Manual Focus Override** in all AF modes. Continue AF while turning the focus ring for AF-S. You get the Rangefinder in the viewfinder, the green box for in-focus, and the *d10 Peaking Highlights*.
- You can zoom to **check focus** in the viewfinder.
- *Continuous High Extended (AF-C<sub>H</sub> \*)* is about 12 (Z 6) /9 (Z 7) fps if JPEG or 12 bit (exposure locked?), about 9 (Z 6) /8 (Z 7) fps if 14 bit. No flash use. 12 fps is not smooth viewing. (N/A Z 5)
- Busch recommends 2 fps for **AF-C<sub>L</sub>** shooting brackets. (Set *U#*. *SETUP > Save User Settings*.)
- The **Built-in AF-Assist Illuminator** is only for AF-S and any Area AF mode. OFF for stealth.
- **Low-Light AF** lets the camera reduce AF speed in dim light to attain focus. AF-S only. Not AA-AF.
- *Busch almost always uses **Lossless, Compressed** (~30%) 14 bit NEFs (~33% larger than 12 bit), except for weddings and sports, then JPEG-fine\* (& sRGB).*
- Busch found good results up to ISO 25,600. **Hi ISO NR** is for JPEGs only, and starts at ISO 800.
- Higher tech **viewfinder** has 3.6 million pixels (50% more than others).
- **Viewfinder magnification** is 0.80:1 & 60 fps which is higher than others.
- **Preview** is better at DoF and noise at apertures smaller than f/5.6.
- Touch screen **monitor** tilts up and down, and has a viewable angle of 170°.

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### Menu Features & Settings:

- When **bracketing** exposures, select *Custom e7 > MTR > under > over*, otherwise your view dims.
- Set *Custom d11* to *ON* to keep the **viewfinder** from blacking out during *Continuous Release*.
- **Matrix metering** tends to underexpose in dark, overcast conditions ( $\approx + \frac{1}{2}$  stop).
- **Highlight-weighted** metering is not spot, but *Matrix* that prioritizes highlights.
- **Auto HDR** (*PHOTO SHOOTING MENU*) is for JPEG only\* and takes two shots: Auto, 1, to 3 stops, but with *Save Individual Images (.NEF)-On\**, you get raws of each frame, plus one JPEG.
- **AF-C<sub>H</sub>** is about 5.5 fps, unless 1/250<sup>th</sup>+, high or *Auto ISO*, small apertures, VR active.
- **PinPoint AF** is only available in photo AF-S mode (primarily uses contrast detection-slower).
- **Single point AF** is for static subjects and focuses faster. (AF works even with smaller than *f/8*.)
- **Dynamic AF** is Single Point with the surrounding 24 points and is for AF-C photos only.
- **Wide-area AF**, S or L is small (subjects small proportion of view) or large (close-ups).
- **Auto area AF** has **Face and Eye**, and **Animal Detection** = dogs and cats (*Custom Setting > a4*), up to 5 faces and eyes. You may move the yellow box, AF with half-shutter/AF-ON, get a green box if in AF-S. Good for about 2-10 feet at 70mm. If eyes are lost, it switches to face detection.
- **Auto area AF** will also automatically do **Subject Tracking** (best with color contrast). Press *OK* or a custom button to enable, position the white box over the target, hold *AF-ON/shutter* release to track with yellow box. To stop tracking/re-center, release *AF-ON/shutter* release. (With *Touch AF*, just tap for a yellow box, no *OK*, or with *Touch Shutter/AF*, just tap to release and track.) To exit, press *Zoom Out/Index* or your custom button (I use *Lens Fn* button for tracking on my 70-200 S).
- A **Blocked shot AF response** setting is at *a3*. *Delayed* keeps subject longer when interference.
- To use *a6 Store Points by Orientation*, before shooting, select the desired points for horz & vert.
- To **Back Button Autofocus BBAF**, select exposure area, press halfway, recompose, press fully.
  - *CUSTOM SETTING MENU > f Controls > f2 Custom Control Assignment > AF-ON button > AF-ON. a Autofocus > a7 AF Activation > AF-ON Only > Enable, Okay.*
- For **Focus Shift Shooting**, use *AF-S* or *C*, *Single-Point AF*, manual exposure, ISO & WB. Stop down at least 1 1/2 stops of aperture. *VR-Off*. Focus on nearest part of subject. In the *Shooting* menu, select *Focus Shift Shooting*. Landscapes to 50 frames, macros 20-30 (cuts off beyond  $\infty$ ). *Step Width* at  $\approx 4$ . *Interval  $\approx 2$ "* (*Silent Photography ON = 0"*). *First Frame Exposure Lock-ON*. (*Peaking Stack Image-ON > Create*). Select a folder for each sequence. *Highlight Start, OK*.
  - In *Lr*, *Edit In...* *Open As Layers in Ps*, or in *Ps*, *File > Scripts > Load Files into Stack*. Shift-click all layers. *Edit > Auto-Align Layers, Auto, OK*. Wait. *Edit > Auto-Blend Layers. Stack Images, Seamless Tones... & Content Aware...*, *OK*. Wait. *Cmd/Ctrl+D*. Right-click, *Flatten Image. Save*.
- For **Trap Focus**, use *BBAF*, wide apertures. Set *Custom a7* to *AF-ON only*,  $\rightarrow$ , *Out-of-focus release-Disable, OK*, *Custom a2* to *Focus Priority. AF-S, Single-point AF*. Pre-focus on desire distance (not spot) with *AF-ON* button or *Manual*. Re-compose to empty spot. Then press fully.
  - To return to normal, reset AF to *AF-C*, *a7 AF-ON* to *Enable*.
- **Long Exposure NR** is for all formats (>1 sec), doubling the exposure, capturing a blank exposure.
- **WB AUTO<sub>0</sub>** = *Keep White*, **AUTO<sub>1</sub>** = *Overall Atmosphere*, **AUTO<sub>2</sub>** = *Keep Warm*, **Natural Light AUTO**.
- Set *Shooting* menu > **Diffraction Compensation-On** for the Z 6, especially at *f/22+*. Likewise, *Auto Distortion Control-On. Flicker Reduction* as needed only.
- **Active D-Lighting** - use *Matrix* mode. Shadows boost +10, Exposure is bumped incrementally.
- My **Auto ISO** settings for hand-held: *PHOTO SHOOTING MENU > ISO Sensitivity Settings > 200, ON, 10000, 10000, AUTO*. (If it hits the maximum limit, it drops the shutter speed, beware of blur.)
- The manual is available in a **PDF** form from Nikon Downloads at [https://downloadcenter.nikon-imglib.com/en/products/493/Z\\_6.html](https://downloadcenter.nikon-imglib.com/en/products/493/Z_6.html) . Also *Manual Viewer 2* is in the *iOS App Store/Google Play*.
- **SnapBridge uploads** are for JPEGs only. During *Playback*, press the "i" button. Uses lower resolution ( $\sim 2$ MP) transfers. Use built-in wi-fi for remote control.
- **Camera Profiles** can take precedence over *Camera Raw's* and *Lightroom's*. *Lens Profiles* are *Built-in*. In *Lr v.9.2+*, create new *Raw Defaults* in *Preferences > Presets. Master to Adobe Default, Camera: Z 6, Default: Camera Settings, Nikon Z 6, "v", Camera Settings. Update Default*.