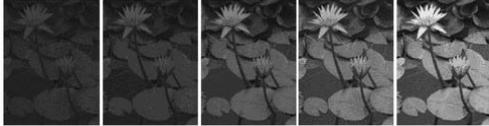


The Digital Push: Avoiding Camera Shake by Underexposing

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The digital push is a two step process that helps to capture sharper images in low light. This technique can be used in everyday hand-held situations of low light and high zoom.



When in doubt set a higher shutter speed for safety, and brighten the exposure later with image processing.

The slow shutter speeds needed to make a good exposure in low light can lead to camera-shake, a common cause of a ruined photograph. You can usually save an underexposed image, but there is almost no cure for motion or camera blur.

Borrowing from a traditional film technique, you can "push" your digital camera by shooting for sharpness and then brightening the image later with the computer.

The Digital Push gets its name from the "push processing" technique: The photographer underexposes the image, but then later instructs the photo-lab to "push" the film by leaving it longer in the processing chemicals. This results in a brighter photo but with increased grain and contrast.

Step 1: Safe Shutter Speed

The concept is simple: When you take the picture, make sure to lock the shutter at a *safe* speed. By over-riding the camera and manually setting the shutter, you can guarantee an image that is not affected by accidental camera-shake.



Safe Shutter Speed vs. Default Program Mode

Shutter Priority Mode Method -- "Shutter Priority" is the ideal mode for a digital push. Once in this mode, set the safe shutter speed and begin shooting. Consult your camera manual for more information about how to set shutter priority mode.

Simplified Safe Shutter Speed Chart

Zoom	Shakey Hands	Steady Hands
Wide Angle	1/60	1/30
Medium Angle	1/125	1/60
Zoom	1/250	1/125
High Zoom	1/500	1/250

Exposure Compensation Method -- If your camera does not have Shutter Priority Mode, you can use the exposure compensation feature if you have it. Normally identified by a plus/minus symbol, this feature allows you to "nudge" the camera's exposure meter.

Safe shutter speed quicktip: Set exposure compensation to -1 stop

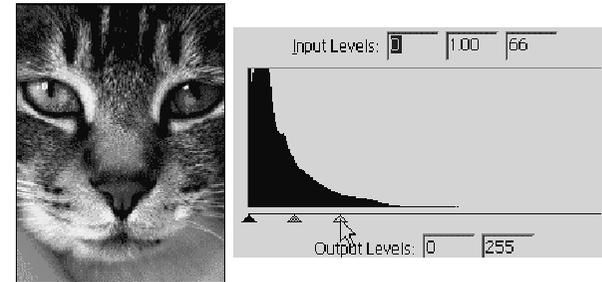
By making the exposure a little bit darker, the camera can use that extra freedom to set a higher shutter speed. It should do this automatically.

Step 2 -- Digital Push Image Processing

After shooting with the safe shutter technique, the images will usually be underexposed (but sharp!). You can then brighten and tweak the picture using image processing software.

Adjust Levels -- This single command will put the punch and detail back in to your (on purpose) underexposed photograph. Load the images into your favourite image processing application, and use the Adjust Levels command to expand the detail that is compressed into the shadow areas.

Expand Shadow Detail -- Drag highlight bar to the left. The histogram display shows a graph of image detail. Most likely, you will see most of the action towards the shadow (left) end of the scale.



To push the detail back up, you can drag the highlight slider towards the left. Preview your changes and keep going until the brightness is more to your liking.

Other Adjustments -- Experiment with moving the midtone and shadow sliders, since you have your originals backed up you can always start again.

Noise and Contrast -- You will notice increased contrast and noise in your digital-pushed images. This is the eternal trade-off between film sensitivity and quality: The lower the light level, the more noise you will get when pushing.