PROPRIETARY RAW VS. DNG

One of the Import options available is to convert to DNG—but what does that actually mean? DNG stands for Digital Negative. It's another file format, designed primarily for raw image data, but the biggest difference is that it's openly documented unlike proprietary raw files (CR2, NEF, etc.), so anyone can download the information to decode the file.

A DNG file is comprised of 3 different parts—the image data itself, the metadata that describes that photo, and an embedded preview which can be updated to show your adjustments without affecting the raw data.
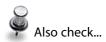

So why consider DNG as an alternative to storing files in your camera manufacturer's format?

Should I convert to DNG?

DNG is a well worn debate on every forum on the web, and there's no right or wrong answer, but there are a few pros and cons to consider when weighing your personal decision.
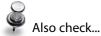
Long Term Storage

The DNG format is openly and completely documented, which means that it should be supported indefinitely, whereas proprietary formats such as CR2, NEF, RAF, etc., aren't. The question is, will you be able to find a raw converter in 20 years time that will convert your camera's proprietary format when that camera model is ancient history? Some of Kodak's early digital formats are already unsupported by Kodak

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themselves, so how long will it be before other formats start to go the same way? It may not be an issue at the moment, but do you want to have to keep checking your old files to make sure they're still supported?

Although DNG is Adobe's baby, there are a long list of other companies supporting it, including Apple, Corel, Extensis, Hasselblad, Leica, Pentax, Ricoh and Samsung, to name a few. It's also been submitted to the ISO to become an ISO Standard, just like Adobe's PDF format many years ago, so it's here to stay.

XMP

In addition to storing metadata in your Lightroom catalog, it's also possible to write that data back to the files in a header section called XMP. Because proprietary raw formats are largely undocumented, it's not safe to write most data back to those original files, so it has to be written to a sidecar file instead, whereas DNG files can have that information stored within the DNG wrapper, like JPEG, TIFF and other documented file types. The question is, do you find sidecar files a pro or con? If you use an online backup service, they could be a disadvantage as they would need uploading again each time you updated the embedded metadata, but on the other hand, sidecar files can easily become separated from their raw files.

Embedded Preview

If you choose the DNG format, along with that XMP data in the DNG wrapper, there's an embedded preview. You're in control—you choose how big you want that preview to be, and you can update it to show the Develop adjustments you make in Lightroom. That means that other programs that rely on the embedded preview will be looking at your processed image preview rather than the original camera preview. Updating that preview doesn't touch the original raw data, so it's a nondestructive way of updating the photos to look their best.

File size

The DNG lossless compression algorithms are better than those applied by the camera, so DNG files are generally 10-40% smaller than their original proprietary format, depending on the camera and on the size of the preview that you choose to embed. Although hard drives may be comparatively cheap now, they're not free, so space savings are still a benefit.

Early Corruption Warning

If the file's seriously corrupted, it often won't convert, and instead will warn you of the corruption, so you can download the file again before you reformat the cards. It's not infallible, and it's not a replacement for a visual check, but it's an additional check worth having.

DNG Hash

One of the most promising new features is the DNG Hash, which is written into files created by Lightroom 1.4.1, ACR 4.4.1, and DNG Converter 4.4.1 or later. The DNG hash allows you to validate that the image data itself hasn't changed since the DNG file was created. Very few programs can currently check that DNG hash, but the technology is moving forward rapidly, and any DNG files created now will be able to make use of that validation software in the future.

Manufacturer's Software

Until the main manufacturers start supporting the DNG format, their own software will not read a DNG file. If you use the manufacturer's software regularly, that may be an issue, although if you only use it occasionally, keeping one of your backup copies as the proprietary format for those occasions, could give you the best of both worlds.

MakerNotes

Never heard of MakerNotes? Then you probably won't care. All of the important data is carried over into the DNG file, but some camera manufacturers also put some secret data in their files. There is DNG

support for MakerNotes, however some manufacturers don't stick to the rules, and therefore MakerNotes embedded in an undocumented format can't always be carried over completely to the DNG file. If you shoot CR2 or NEF, as well as a few other formats, all of the data is copied to the correct place in the DNG file, even if Adobe doesn't understand it.

Compatibility with older ACR and Lightroom versions

In order to open files from the latest cameras newly introduced to the market, you have to be running the latest version of Photoshop/ACR or Lightroom. If you buy a new camera, but choose not to upgrade Photoshop or Lightroom to the latest release at the same time, converting the raw files to DNG using the latest free standalone DNG Converter allows you to open those files with your older versions. The DNG Converter may need to be updated before it will convert the latest camera's files.