

Understanding RAW Files, DNG Conversion, and Competition Requirements

Original File Formats and Photography Competitions

As part of the authentication process, CAPA and international photography competitions require submission of original, un-retouched JPG or RAW image files directly from your camera—not converted formats like DNG or edited PSD files.

Why Competitions Require Original Files

1. **Direct Camera Output:** JPG and RAW files are produced directly by your camera, containing unaltered metadata that verifies when and how an image was captured. This metadata includes your camera model, lens information, exposure settings, GPS coordinates and timestamp.
2. **Authenticity Verification:** Original camera files contain embedded manufacturer-specific signatures and metadata that will assist in the verification process to ensure the competition specifications have been complied with and to ensure the use of generative AI technology is not rewarded.
3. **Clean Edit History:** Unlike PSD (Photoshop Document) files, which preserve editing layers and history, original camera files don't contain edit records that might hide manipulations.
4. **Level Playing Field:** Using original files ensures all entries start from the same baseline, creating fair conditions for judging technical skill.
5. **Workflow Transparency:** While DNG (Digital Negative) files are raw in nature, they're typically conversion files created during post-processing, potentially after adjustments to the original RAW data have been made. (Note that this does not apply to cameras that natively produce DNG files as their original RAW format, which is addressed in a separate section below.)

Some international photography competitions require potential winning photographers to submit not only their original image file but also two or three images captured immediately before and after the submitted photograph. This verification process authenticates that the submitted image is genuine and wasn't substantially manipulated beyond the competition's guidelines.

Metadata in an **'original un-retouched JPG image file'** will indicate if the image has been edited. If editing is detected, the file is no longer considered **'original un-retouched.'**

This approach helps maintain competition integrity by ensuring entries represent authentic photographic capture rather than digital art or heavily processed images, while still allowing for the standard level of post-processing specified in the competition rules.

DNG as Native RAW Format for Some Devices

Several camera devices use the DNG format as their RAW alternative since they don't provide native RAW files. These include:

- Apple iPhone
- Leica
- Nokia smartphones
- Ricoh
- Casio
- LG
- Panoscan
- Samsung
- DxO
- MegaVision
- Pentax
- Sinar

Images captured with these devices will be accepted in competitions as comparable to RAW image files. However, photographers must preserve the original DNG file unedited and use only a copy for any post-processing or modifications.

Understanding Lightroom's RAW Handling

When importing RAW files into Lightroom, the software does not automatically convert them to DNG. Lightroom keeps your original RAW files intact, but offers conversion options:

Import Options in Lightroom

1. **Add:** Simply adds RAW files to your Lightroom catalog without moving or converting them.
2. **Copy:** Copies RAW files to a new location without converting them.
3. **Copy as DNG:** Copies RAW files to a new location and converts them to DNG format during import.

It would be wise for photographers to determine which folder Lightroom is saving your RAW file to, so it can be retrieved when required.

Post-Import Conversion

If you want to convert RAW files to DNG after importing them into Lightroom:

1. Select the photos you want to convert in the Library module.
2. Go to the Library menu and choose "**Convert Photos to DNG**".

Converting to DNG is optional and not required for using Lightroom. The software works with various RAW formats directly, and the decision to convert depends on your specific workflow and preferences.

Why File Formats Matter for Authentication

Screen-Captured JPG Files

- Screen captured images will not be accepted as original images.
- These images contain minimal metadata similar to a Generative-AI text-to-image creation. When you take a screenshot of an image (rather than saving the original file), most of the important authentication metadata is not available, making it impossible for the authentication process to verify the image's origin and editing history.

PSD File Vulnerabilities

- Layers can be flattened before submission, removing the layer-by-layer history of changes
- Adjustment layers, masks, and smart objects can make non-destructive edits harder to detect
- Edit history can be cleared before saving
- Multiple saves can effectively "launder" the edit history

DNG File Vulnerabilities

- DNGs are typically converted from camera-native RAW files, creating opportunities for intermediate edits
- DNGs can contain embedded edit instructions that appear as if they're part of the original file

- Metadata can be manipulated to make edited files appear unedited
- Advanced users can manipulate the actual raw image data within the DNG container

The Authentication Advantage of Original Files

These possibilities create authentication challenges for the coordinator of a competition. Original camera-generated JPG or RAW files provide stronger verification because:

1. They contain camera-specific encoding patterns unique to each manufacturer
2. They include secure metadata that's difficult to falsify without detection
3. They lack the built-in editing infrastructure of formats designed for post-processing
4. Any significant manipulation typically leaves forensically detectable artifacts

This is why serious photography competitions insist on original files—they provide the most reliable foundation for authenticating that an image meets competition rules about allowable adjustments.

Recommendations for Photographers

1. **Always preserve your original RAW files:** even if you typically work with converted DNG files in your workflow and know what folder Lightroom is saving the RAW file to.
2. **Read competition rules carefully:** to understand exactly which file formats are required for submission.
3. **Consider a non-destructive workflow:** that maintains original files separately from your edited versions.
4. **Document your post-processing steps:** if a competition requires information about your editing process.
5. **Use metadata tools responsibly:** and be transparent about any adjustments made to your images.

By understanding the technical and ethical considerations behind file format requirements, you can ensure your competition entries meet standards while maintaining the integrity of your photographic work.

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