

Files types and HDR

Introduction

There are basically 5 file types that can be saved when using an iPhone or iPad as follows:

- **JPG**
This was the standard file type for iPhones and iPads prior to iOS 11. It remains the most compatible file format.
- **HEIC**
The High Efficiency Image File Format (HEIC) is a new image format that improves the quality beyond that of the JPG while requiring approximately half of the file size. It is now the new default file type starting with iOS 11 unless you change it in Settings, Camera, Formats.
- **DNG or Raw files**
This file type is not supported by native iPhone and iPad apps but many 3rd party apps support it such as Snapseed and Lightroom Mobile and other Photoshop apps. The advantage of this file type is that it has a larger dynamic range providing a lot of latitude when editing. More data in both the bright and dark portions of an image can be recovered. Several 3rd party camera apps can save images in the raw format.
- **PNG**
This file type can be created in various ways. All screenshots, for example, are saved as PNGs. You can't tell these apart from the JPGs in the Photos app but apps such as PhotoSync and ACDSee Pro will show the filetype. Also, you can log into your iCloud account and download the PNGs. Be sure to download the unmodified original.
- **TIFF**
This file type can be used in several 3rd party camera apps including ProCamera. TIFFs are high quality, large files.

Typical file sizes

These file sizes are based on a few samples on my phone.

File Type	Typical file size in Megabytes
JPG	2 to 5
HEIC	1 to 2
DNG	11
PNG	1 to 10
TIFF	15

HDR

- What is HDR or High Dynamic Range imaging
 - HDR is the process of combining several images, each taken with a different exposure. Typically, 3 exposures are taken with one for the mid-tones, one for the brights and one for the darks. This allows the camera to capture the entire dynamic range. This process is required in circumstances where the dynamic range of the scene exceeds that of the camera.
- HDR or High Dynamic Range images can be created in several ways
 - Using a camera app that combines several images into a single HDR image.
 - By using a camera app that can save 3 or more images with different exposures that can be combined in an app that has the ability to merge several exposures and create an HDR result.

Considerations

- Viewing raw images - when viewing raw images in the Photos app, raw images may appear to be blurry or flat due to the lack of raw support. It's best to open a raw image in Snapseed to see the real image.
- Capturing raw images
 - An app such as ProShot or ProCamera can save images in the raw format.
 - An app such as Pro HDR X can combine 3 images into an HDR result.
 - An app such as Affinity Photo for the iPad does a great job of merging multiple images and can handle more than three images at a time. This app costs \$14.99 and is also available as a Windows program for \$39.99.

Notes

- Either raw or JPG images can be used for HDR but the results for raw images are usually better except in low light.
- Affinity Photo can also stitch Panorama images.