

JPEG vs HEIC

Analysis and Opinion
by
Andy Howard

hihofoto@earthlink.net

JPEG vs HEIC

Developed in 1992	Developed in 2015
Joint Photographic Experts Group	Motion Picture Experts Group
File format	File container
More widely used	Smaller size file, better quality
Single image	Can hold sequence of images/data
Modify it, lose quality	Rotate and crop without altering
8-bit color	16-bit color
* Smoother workflow	* Save storage space

JPEG vs HEIC

- How do computers, cameras and programs talk
- Files formats
- HEIC vs JPG
- Examples
- Conclusion

HOW DOES IT WORK?

- Digital
- Ones and zeros - formatted to a standard
- Word, Excel, Pages, Numbers, Lightroom
- Camera 🖱️ computer 🖱️ program

FORMAT/FILE TYPES

- JPEG (Joint Photographic Experts Group)
 - Developed in early 90's
 - Lossy compression - change it, lose quality
 - Well-known - "everybody uses it"

FORMAT/FILE TYPES

- TIFF/PNG/CR2/NEF/raw
 - Lossless graphic formats
 - Some are proprietary
 - Broader dynamic range
 - Larger file size
 - Do we need another file type?

FORMAT/FILE TYPES

- HEIF (High Efficiency Image File)
 - 2015, Moving Picture Experts Group (MPEG)
 - Container for images, sequences, metadata
 - More efficient compression than JPEG
 - Smaller size with better image quality
 - Coded in several formats - HEVC and AVC

FORMAT/FILE TYPES

- HEVC (High Efficiency Video Codec)
 - Major improvements in compression
 - Supports rectangular cropping
 - Supports rotation by 90, 180, and 270 degrees
 - Reframe the image without recoding

FORMAT/FILE TYPES

- HEIC (High Efficiency Image Container)
 - A HEIF container coded with HEVC
 - .HEIC file extension used by Apple

JPEG vs HEIC

- JPEG - been around longer, more prevalent, larger in size
- HEIC/HEIF - more versatile, smaller size, higher quality, for the future
- Currently, hard to tell the difference between a JPEG and HEIC straight out of the phone
- A HEIC converted to JPEG increases in size

EXAMPLES

- <https://nokiatech.github.io/heif/comparison.html>

CONCLUSION

- If you are concerned about storage space, use HEIC
- For ease of workflow, when a JPEG is the end result, use JPEG
- Stay tuned for future developments