



HDMI 4K->2K / UHD->HD SUPERSAMPLING

An HDMI-based 4K (4096x2160) or UHD (3840x2160) video signal can be supersampled in realtime in the Odyssey7Q+ to a 2K (2048x1080) or HD (1920x1080) video signal and recorded in Apple ProRes (HQ, 422, or LT).

Some cameras that, over HDMI, can output 4K or UHD can also output 2K or HD. But many of the smaller cameras are limited in the quality of their lower resolution outputs. Some truncate the bit depth to 8-bit, and some lower the resolving capabilities due to either limited circuitry space within the camera or to protect the internal recording codecs that cannot handle highly detailed imagery.

The Odyssey7Q+ devotes considerable computational power to supersampling the 4K or UHD video signal to yield superior resolution 2K or HD results in realtime, without aliasing or "false resolution." The resulting images out-resolve the in-camera processing available in many small cameras. Another advantage is if the camera is limited to 8-bit output, the Odyssey7Q+ supersampling will result in a pseudo-10-bit color sampling for improved color reproduction. Use Apple ProRes 422 (HQ) to take full advantage of these improvements. Examples of cameras benefitting from the 4K->2K / UHD->HD Supersampling include the Panasonic GH4 and the Sony a7S.

Additionally, some cameras such as the Samsung NX-1 do not offer a clean 1080p output at all, so the UHD->HD mode is the only way to record an HD signal from the camera.

While any 4K or UHD video can be reduced to 2K or HD in post, this requires four times as much Odyssey SSD recording space, four times the offload time, four times the memory space in drives on set and off, and considerable extra horsepower in the post system. Get the highest quality 2K or HD video out of your camera with the greatest efficiency, courtesy of the Odyssey7Q+.

SAMPLE COMPARISONS:

In the images on the next page a resolution chart was photographed by each camera outputting HD using its own internal sampling and outputting a native 4K/UHD that is then supersampled to 2K/HD in the Odyssey7Q+ and recorded in Apple ProRes 422(HQ).

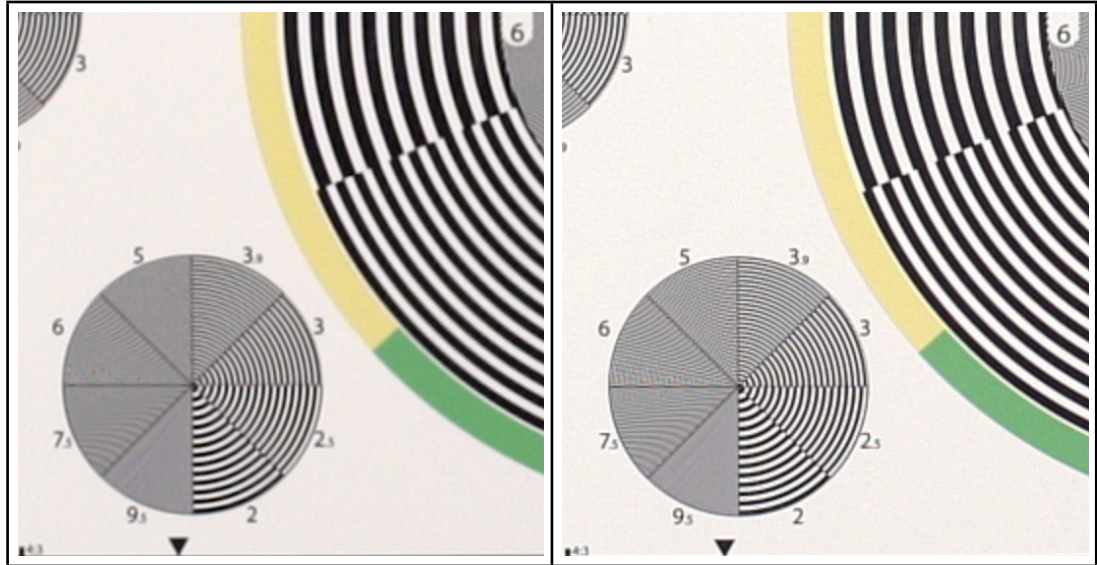
Cameras compared include the Panasonic GH4, the Sony a7S and the Samsung NX1. Please note that the NX1 does not offer a clean 1080p output, but it is included here for technical comparison.

Note that on the center target of the resolution chart, the wedge on the lower left marked 5 represents 500 line pairs per screen height. 500 line pairs is very close to 1080 lines of resolution, so this is very close to the theoretical limit for a high-resolving 1080p image.



Sony A7S HD Output

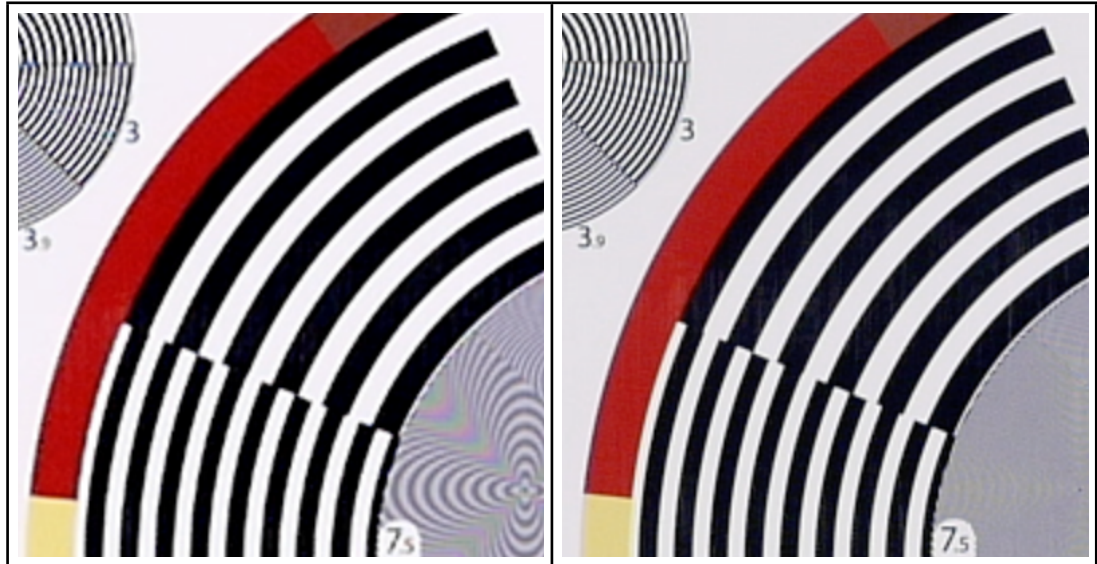
Odyssey7Q+ Downscaling



(Click on image to view full-resolution)

Lumix GH4 HD Output

Odyssey7Q+ Downscaling

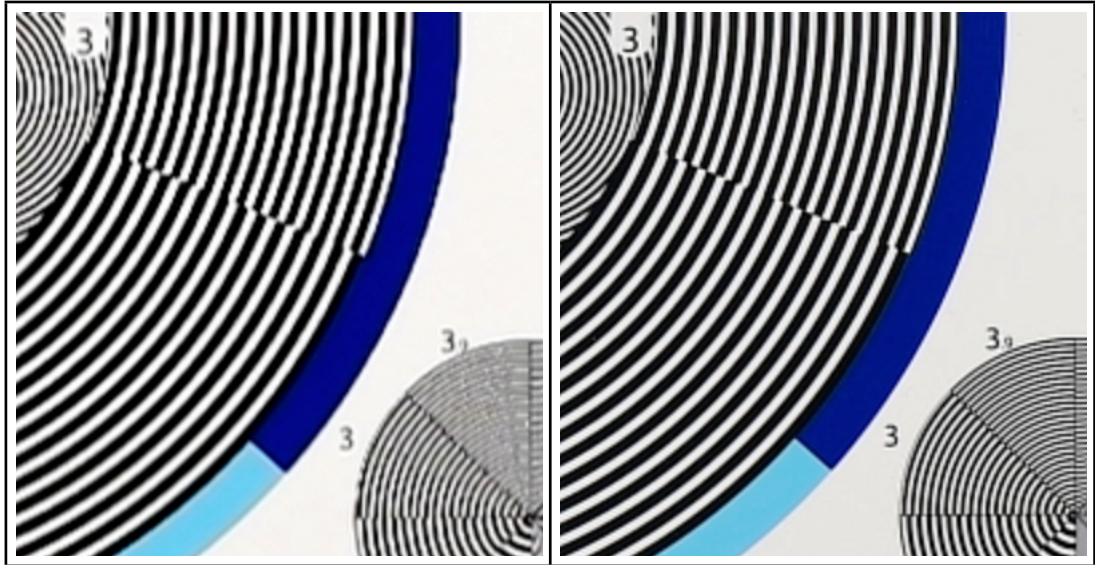


(Click on image to view full-resolution)



Samsung NX1 Internal Recording

Odyssey7Q+ 4K to HD



(Click on image to view full-resolution)