

# ToolsOnAir-Support

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## What do I need for UHD playout and what are the limitations?

Georg - 2018-05-25 - in Knowledgebase just:live/play

If you would like to play out in UHD/4K you should know the hardware you need and what the limitations are.

To be able to play out in UHD/4K (up to and including 30fps) a MacPro 6,1 with at least 12GB of RAM and a 4K video device from AJA (Io4K, Kona 4) or BMD (Ultra Studio 4K, Ultra Studio 4K Extreme or DeckLink 4K Pro) is needed. Using a PCI card, a Sonnet X MacPro Server with at least Thunderbolt 2 is needed. In general, make sure all Thunderbolt cables you are using are capable to carry 20Gbit, which you can check in the System Report/Thunderbolt and make also sure that your storage can handle the high data rates which are needed to play out UHD movies.

Setting up a channel in UHD/4K works the same way like setting up an HD channel. You will be able to use the engine based scaling function, so it is possible to drop a movie with any pixel size into the timeline and it will be scaled up to UHD/4K as long as the frame rate is the same. Please keep in mind that there is NO video device based scaling available and that also the ability to switch internally to live is not available. The ability to use the built in streaming option will be limited to SD or even not possible at all, depending on parameters like the CPU power, the video format and some other functions (complexity of the realtime graphics, user interface on the same machine or not and so on). This means that all customers who want to scale the final output to another format or to switch to a live source or to stream in UHD/4K, will have to do this by adding an additional hardware to the setup.

Independent of the MacPro 6,1 model, you will be able to play out movies in ProRes (up to HQ) or certain H264 formats, add realtime graphics, mix audio to the final output, execute router/GPI events and even to start the user interface on the same machine if needed, having the limitations of your individual setup in mind. The faster the setup, the more features can be used at the same time.

The TOA Support Team