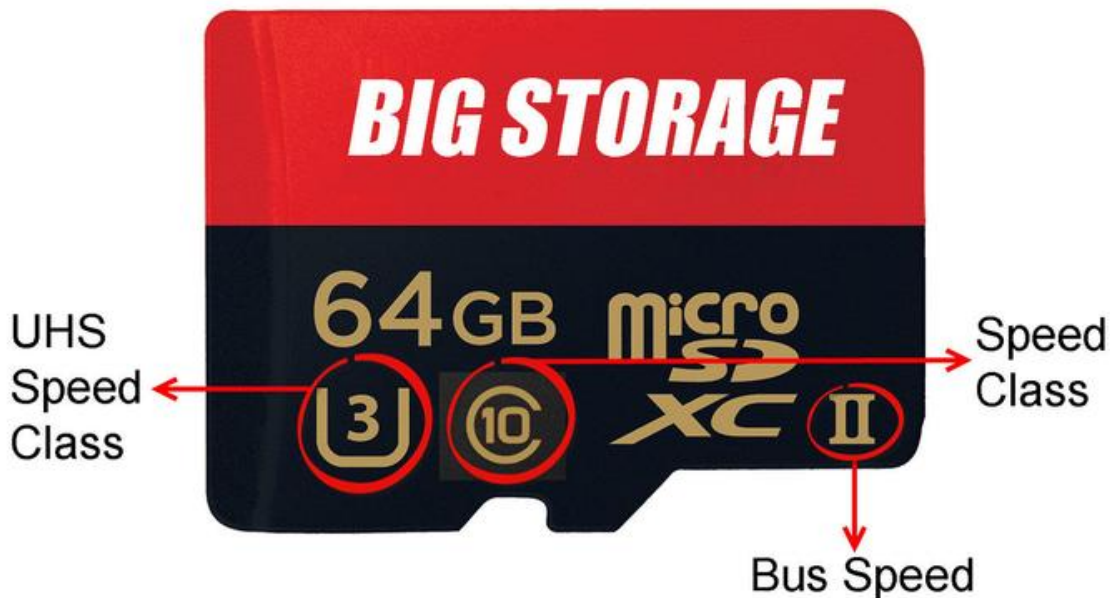


Choose a good card for writing speed (or be patient with your current card)

There are three different standards for speed, and you may see more than one on a card. The original speed marking was a number inside the letter C (middle in the image below). The number denoted the minimum sustained write speed, so a 'Class 6' card would be capable of writing at 6MB/s – that's six megabytes per second. That's a sequential write speed, so it only applies when writing large amounts of data (such as when copying large music files) in sequential memory cells.

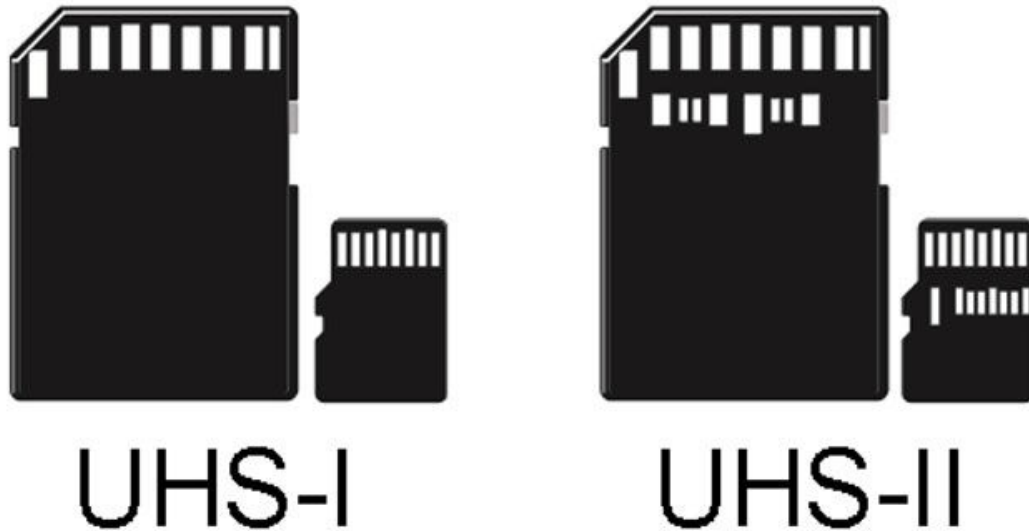
Most Class 10 microSD cards are capable of much more than the minimum of 10MB/s write speed. The SanDisk 200GB cards can do a theoretical 30MB per second on long sequential files. On shorter ones like album art you're going to see lower speeds.

Now, for even better speed on newer cards, this is where the UHS system comes in. It stands for Ultra High Speed, and uses a number in the letter U to denote the class. A UHS class 1 card writes at a minimum of 10MB/s and a UHS class 3 card writes at a minimum of 30MB/s. So basically the U number is a factor of 10 better than the C number, which also maxes out at C10.



You may also see UHS-I or UHS-II on the card. This tells you which technology the card uses. The UHS-I 'bus' can operate at up to 104MB/s, while the UHS-II bus can transfer data at up to 312MB/s. This doesn't mean the card will read and write at those speeds, only the maximums.

At the moment I don't know of any DAPs that actually take advantage of the UHS-II connections on these cards... but that's fine, we're worried about writing to them from your Mac, not your DAP. So UHSII makes a difference. Your DAP can read slowly - that's fine:



3... Choose a good card reader (writer) and use that instead of your DAP for big syncs:

Just like the cards themselves, the readers make a difference. Your DAP by itself is not a super-speed card writer. Don't expect much over 2.5Megabytes per second using your DAP, and in some cases if it's also doing other things (like emulating/masquerading as a disk using software) you may see a lot less. So a 90MB/s card in your Fiio X5 is basically trying to squeeze all that data through the X5 emulation software which can do 3MB/s if the planets are aligned or a horrific .1MB/s if it's busy.

So, take out the middleman and plug the memory card into a good, fast reader that's connected to your Mac using good, fast USB 3.0! If your Mac is older and only has USB 2.0 ports, they're going to max out at 60MB/s vs USB 3.0 at 640MB/s. Make sure to plug the reader into a USB 3.0 port directly on your Mac - no hubs, please.

Recommended Cards and Reader

SDCard Reader:

I recommend the Lexar Professional Workflow UR2 Three-slot microSDHC/microSDXC UHS-II USB 3.0 Reader - LRWUR2TBNA which is on Amazon for around \$40



SDCard:

I recommend the Samsung 256GB 95MB/s EVO Select Micro SDXC Memory Card (MB-ME256DA/AM) card available on Amazon for \$199

All these things together help make things faster. You'll never get the theoretical maximum (See the "Up to" text) since Dapper is reading, and writing files over the USB connection to the card you are using, but if you get the best reader, best card and USB 3.0 your transfers will be able to use the added speed in order to help all the operations and improve you speed dramatically - our demo video below uses the best of the best on freshly formatted cards.



My speeds vary, but with the recommended cards and a reader I get speeds around 55-60MB/s. With a 200GB SanDisk card I get only 3-5MB/s.