CORSAIR DDR4 RGB Pro RAM User Manual

DDR4 RGB Pro RAM
User Manual

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DDR4 RAM FAQ

Q: Why do we need DDR4?

A: There are four major reasons why DDR4 has replaced DDR3: it's capable of hitting faster speeds, it's capable of hitting higher densities, it has improved error correction built into the baseline specification, and it consumes less power for equivalent or better performance than DDR3. In short, DDR3 reached its limits and DDR4 has been able to push beyond that threshold.

Q: Is DDR4 slower than DDR3?

A: Because DDR4 uses looser latencies than DDR3 does, it can be slightly slower than DDR3 at the same clock speeds. What makes DDR4 important is that it can easily make up for that deficit by hitting higher clock speeds than DDR3 can. Getting DDR3 to run at 2666MHz or higher requires very careful binning of memory chips and can be very expensive, while 2666MHz is the lowest speed of our DDR4.

Q: Is DDR4 backwards compatible with DDR3?

A: No. DDR4 and DDR3 have key notches in different places on the DIMM to prevent them from being mixed up, and Haswell-E and X99 are DDR4 only.

Q: Does DDR4 have XMP?

A: Yes! DDR4 employs a new specification, XMP 2.0, while DDR3 remains on XMP 1.3.

Q: How does XMP work on DDR4?

A: Very similarly to DDR3, but with some caveats. For starters, Haswell-E tops out at a 2666MHz memory strap, which is very low for what DDR4 can do. Since XMP specifies speeds in excess of 2666MHz, your motherboard BIOS has to compensate somehow. Typically, when XMP tells the motherboard to use a higher memory speed than 2666MHz, the motherboard BIOS will bump the BClk strap from 100MHz to 125MHz. That's normal, but that change will also increase the clock speed of the CPU itself; a well-designed BIOS will compensate and bring the CPU clock speed in line.

Q: Why are there two XMP profiles on my Corsair DDR4?

A: We include a pair of XMP profiles instead of just one for users who want to control how much power is consumed by the memory. The first XMP profile runs the DDR4 at its specification of 1.2V, while the second offers a higher speed at the cost of bumping the voltage to 1.35V. The first profile, then, is officially supported, while the second is not and instead offers a baseline of what the memory should be able to achieve.

Q: Why am I encountering stability issues with XMP?

A: If you have trouble with stability using either XMP profile, we recommend either manually entering the speed and timings the DDR4 is rated for or running your memory at its default speeds until your motherboard vendor provides a BIOS update to improve stability.

Q: I'm running at the default 2133MHz speed, but my system still isn't stable.

A: Double-check to see which memory slots your DDR4 is installed in against your motherboard's instruction manual. We've found that you have to install your DIMMs in the primary set of memory channels first, in order, to ensure stability. If this checks out, please contact our tech support.

Q: What's the difference between Dominator Platinum DDR4 and Vengeance LPX DDR4?

A: Vengeance LPX is our mainstream DDR4, utilizing a standard-height PCB and heatspreader. Dominator Platinum DDR4 adds a larger, more robust heatspreader.

Q: Can I combine multiple kits of CORSAIR DDR4 memory?

A: We strongly recommend you do NOT combine multiple kits of CORSAIR DDR4 memory. Our memory kits

are only validated for their rated performance when using only the modules provided within that specific kit (box). Combining multiple kits, even if they are rated for the same speed, may result in your memory modules not being able to reach their rated performance specification.

Q: Where can I learn more about DDR4?

Documents / Resources

	CORSAIR DDR4 RGB Pro RAM [pdf] User Manual DDR4, DDR4 RGB Pro RAM, RGB Pro RAM, RAM

References

- User Manual