

### How tall are the memory modules?

The height of the memory modules are listed as follows:

#### DDR4 Memory Series

Fortis: 31.2 mm (1.2in)

Aegis DDR4: 31.2 mm (1.2in)

Flare X: 40mm (1.58in)

Ripjaws 4: 40mm (1.58in)

Ripjaws V: 42mm (1.65in)

Sniper X: 43mm (1.69in)

Trident Z: 44mm (1.73in)

Trident Z Neo: 44mm (1.73in)

Trident Z RGB: 44mm (1.73in)

Trident Z Royal: 44mm (1.73in)

Trident Z RGB DC: 59mm (2.32in)

#### DDR3 Memory Series

Aegis DDR3: 31.2 mm (1.2in)

ARES: 33mm (1.30in)

ECO: 32mm (1.26in)

RipjawsX: 40mm (1.58in)

RipjawsZ: 40mm (1.58in)

Ripjaws: 40mm (1.58in)

Sniper: 42mm (1.65in)

TridentX: 54mm (2.13in) with fin; 39mm (1.54in) without fin

### What is G.SKILL memory's naming convention/nomenclature?

For example: F3-2400C10D-8GBTX

Breaks down to F3 / 2400 / C10 / D / 8GB / TX

Or for example: F4-3200C14Q-32GTZR

Breaks down to F4 / 3200 / C14 / Q / 32G / TZR

Memory type:

F1 = DDR

F2 = DDR2

F3 = DDR3

F4 = DDR4

FA = For Mac

Frequency:

8500 = 1066MHz

10600/10666 = 1333MHz

12800 = 1600MHz

14900 = 1866MHz

17000 = 2133MHz

19200 = 2400MHz

Other 4-digit numbers represent the operating frequency with no changes.

CL Timing:

CL15 or C15 = CL timing (tCL) is 15 (i.e. CL 15-x-x-x)

Modules per kit:

S = Single module kit (x1)

D = Dual module kit (x2)

Q = Quad module kit (x4)

Q2 = Eight-module kit (x8)

T = Triple module kit (x3)

T2 = Six-module kit (x6)

H2 = Twelve-module kit (x12)

\* If the model number does not have this letter to identify the number of modules for this kit, then this model number is for this specific module only, and is not the complete model number for your memory kit. For the FULL model number for your memory kit, please refer to the label on the memory module or on the package.

Total capacity:

2 / 4 / 6 / 8 / 12 / 16 / 24 / 32 / 64 / 128 / 192GB

Series:

TZ = Trident Z

TZRX = Trident Z RGB (for AMD)

TZR = Trident Z RGB

TZDC = Trident Z RGB DC (Double Capacity)

TRG / TRS = Trident Z Royal (Gold / Silver)

TRGU / TRSU = Trident Z Royal Collector Edition (Gold / Silver)

TZN = Trident Z Neo

SXF / SXK / SXW = Sniper X (Classic Camo-Green / Digital Camo-Black / Urban Camo-White)

FT = FORTIS (for AMD)

VR / VB / VK / VS / VG = Ripjaws V (Red / Blue / Black / Silver / Gunmetal Gray)

RR / RB / RK = Ripjaws 4 (Red / Blue / Black)

TX = TridentX

XL / XM / XH = RipjawsX

ZL / ZM / ZH = RipjawsZ

RL / RM / RH = Ripjaws

TD = Trident

PI = PI

AB / AO / AR = ARES

ECO = ECO

SR = Sniper

IS / ISL = Aegis  
NQ / PK / HK = Performance  
NT / NS = Value RAM  
GRS / GRSL = Ripjaws SO-DIMM for laptop  
SQ / SK = SO-DIMM for laptop

Additional Trident Z Color:

TZ = Classic Trident Z, Dual Black&Silver body w/ Red top-bar  
TZSW = Silver body w/ White top-bar  
TZSK = Silver body w/ Black top-bar  
TZKW = Black body w/ White top-bar  
TZKO = Black body w/ Orange top-bar  
TZKY = Black body w/ Yellow top-bar

\*If there is a "D" after the series name, then memory cooling fan is included, such as "8GTXD"

\*You can find the capacity of each module by dividing the Total Capacity by Modules per kit.

For example, F3-12800CL9Q-16GBXL = 16GB/4(Q) = 4GB per module, while F3-12800CL9D-16GBXL = 16GB/2(D) = 8GB per module.

\*If there is a "A", "B" or "C" as the third letter of the series, such as "TZB" or "RKB", then it typically designates a different CL timing value when compared to the original model without the "B" in the third letter.

### [How do I determine if my RAM is defective?](#)

Please use a memory testing software to test your memory modules. Memtest86 or Windows Memory Diagnostic are popular choices.

It would be best if each module is tested individually, in order to produce conclusive results.

If none or all modules produce errors, please contact our tech support with details and we will do our best to help you. (techsupport@gskill.com or ustech@gskillusa.com)

### [Why does CPU-Z \(memory tab\) show only half the frequency speed of my memory kit?](#)

CPU-Z reports the DRAM's operating frequency, but DDR (DOUBLE Data Rate) memory can carry two bits of information per cycle, so the effective frequency is double the operating frequency.

DDR memory is typically listed by their effective frequency. So if your memory kit is rated for 1600MHz, it will show as 800MHz in CPU-Z. (800\*2=1600)

### [Forum Link](#)

### [I just installed G.SKILL memory into my system. Why doesn't it boot?](#)

- 1) Make sure that your motherboard supports the memory capacity and frequency.
- 2) Clear the BIOS settings by using the "ClearCMOS" jumper/button on the motherboard. Or you may disconnect the power cord and remove the round lithium battery from the motherboard, wait 60 seconds, then put the battery back on the motherboard and reconnect the power cord.
- 3) Update the motherboard BIOS to the latest version.
- 4) Check the memory modules with a memory testing software, such as Memtest86 or Windows Memory Diagnostic.

### [What is XMP? DOCP? A-XMP?](#)

XMP (Extreme Memory Profile) by Intel is a preprogrammed profile that you can enable in BIOS to set the correct memory settings in one easy step. XMP is exclusive to Intel platforms only.

DOCP and A-XMP is similar to XMP, but developed for use on AMD platforms.

### [Does G.SKILL make ECC memory modules?](#)

No, we currently do not manufacture ECC memory modules.

### [I want to install more memory, in addition to my existing memory kit. What are my options?](#)

We do not recommend mixing memory kits, regardless of brand or model.

By mixing memory kits together, there may be compatibility issues such as unable to boot or unable to operate at rated specifications.

Each of our memory kit are thoroughly tested to ensure compatibility within each memory kit. And because we have not tested our memory kit with your existing memory kit, we cannot guarantee compatibility when multiple kits are used.

### [What does CL9-9-9-24-2N or CL15-15-15-35 mean?](#)

CL means "CAS Latency".

The four numbers represent the values of each type of latency, and are listed as "tCL-tRCD-tRP-tRAS".

The fifth number represents "Command Rate", which in this case, has a value of 2. Sometimes, this fifth number may not be listed, but our default setting for the Command Rate value is "2".

### What is a safe DRAM voltage?

#### [DDR3]

Standard DDR3 memory voltage is 1.50V.

Low voltage DDR3 is at 1.35V.

Ultra-low voltage DDR3 is at 1.25V.

When overclocking, DDR3 memory voltage can be set up to 1.65V.

#### [DDR4]

Standard DDR4 memory voltage is 1.20V.

When overclocking, DDR4 memory voltage can be set up to 1.35V; or if at DDR4-4133MHz or above, then the rated memory voltage may be up to 1.40V~1.45V.

In general, voltage above the rated memory kit specifications may damage the memory modules over time. Please also keep in mind that higher voltage means more heat, and excessive heat will shorten the lifespan of the memory modules.

### Why doesn't my computer detect the full memory capacity?

If your operating system is 32-bits, then it cannot use more than 4GB of memory. Please upgrade to a 64-bit operating system to use more than 4GB of memory.

If your Windows 7 operating system is 64-bits, then please check the Windows version. Each version has a maximum limit:

Windows 7 Home Basic: 8 GB

Windows 7 Home Premium: 16 GB

Windows 7 Professional: 192 GB

Windows 7 Enterprise: 192 GB

Windows 7 Ultimate: 192 GB

If your Windows 7 operating system version is correct, please check that Windows is not limiting your RAM usage. To check, go to the "Run..." dialogue, type "msconfig", and press Enter. Then select "Boot" tab and click on "Advanced options..." button. Please make sure "Maximum memory" is not checked, then click "OK" for all dialogue boxes and reboot your system.

Windows 8, 8.1, and 10 has a higher physical memory limitation beyond configurable memory capacity, so 64-bit versions of Windows 8, 8.1, and 10 should not experience limitations on physical memory capacity.

Windows 8: 128GB

Windows 8/8.1 Enterprise: 512GB

Windows 8/8.1 Professional: 512GB  
Windows 10 Home: 128GB  
Windows 10 Enterprise/Education/Pro: 2TB

### [Why is G.SKILL's Qualified Motherboard List different from my motherboard manufacturer's QVL?](#)

G.SKILL's Qualified Motherboard List is the result of our compatibility tests. This list is not comprehensive because new motherboards are constantly released. Each motherboard manufacturer's QVL is limited to the G.SKILL memory kit they own and are able to test. This QVL list also will not be comprehensive, because G.SKILL is constantly releasing memory kits.

If your motherboard and G.SKILL memory kit is not listed, please contact our tech support to confirm compatibility. (techsupport@gskill.com or ustech@gskillusa.com)

### [What is the difference between "DDR3-1600" and "PC3-12800"?](#)

There are two naming conventions for DDR memory, so there are two names for the same thing. When starting with "DDR3-", it will list the memory frequency. When starting with "PC3-", it will list the memory bandwidth.

DDR3-1333 = PC3-10666 or PC3-10600  
DDR3-1600 = PC3-12800  
DDR3-1866 = PC3-14900  
DDR3-2000 = PC3-16000  
DDR3-2133 = PC3-17000  
DDR3-2400 = PC3-19200

To convert between the two, just divide or multiply by 8.  
For example,  $1600 \times 8 = 12800$  or  $12800 / 8 = 1600$ .

### [Why is my memory kit only operating at DDR3-1333MHz/1600MHz or DDR4-2133MHz/2400MHz?](#)

If on an Intel platform, please make sure that XMP is enabled.  
If on an AMD platform, please make sure DOCP or XMP-equivalent is enabled.

If XMP or XMP-equivalent does not work as intended or is not available, please manually tweak the BIOS settings for the following four settings according to the information on the warranty sticker or package:

DRAM Frequency  
DRAM Voltage

CL Timing (tCL-tRCD-tRP-tRAS)  
Command Rate

Make sure to Save and then Quit/Exit!

[XMP on my Rampage IV Extreme motherboard doesn't work. Help!](#)

We have a tutorial available here: [Rampage IV Extreme XMP Tutorial](#) ([Alternative link](#))

The link went missing when we updated our website, but now is found again. If there are any further questions, please contact our tech support at [techsupport@gskill.com](mailto:techsupport@gskill.com) or [ustech@gskillusa.com](mailto:ustech@gskillusa.com)!

[Can I remove the heatsink/heatspreader?](#)

No. Removing the heatsink/heatspreader will void G.SKILL warranty.

TridentX's top fin, however, is removable without voiding G.SKILL warranty. To remove, remove the screws on the side, and then slide off the fin.

[Example Image](#)