# How to Overclock DDR5 Memory?





#### Using XMP/EXPO

Manual overclocking

# How to Overclock DDR5 Memory

There are two main methods to overclock DDR5 RAM: XMP/EXPO profiles or manual overclocking. XMP and EXPO profiles are pre-configured settings stored in the memory modules and can be enabled in the BIOS. Manual overclocking involves manually adjusting the memory frequency, timings, and voltages in the BIOS or using software tools.

Here is a summary of how to overclock DDR5 RAM using both methods:

#### 1. Using XMP/EXPO profiles (One-Click Overclocking):

• Press Delete or F2, enter the BIOS and look for the XMP/EXPO option under the Advanced or OC settings depending on your motherboard.

					Thurso	Jay 1 T. 2	
找的最愛 (F11) Tweaker	Settings	System Info.	Boot	Save & Exit			
CPU 基质	* Auto	100.00MHz			CPU		
展列 经市门	日期	_			短率	BCIK	
CPU Ratio Mode CPU 倍插调整	All core	\$ 47.00			4729 4264	101 2244	
Processor Graphics Clock	Auto	47.00			4728.4514112	101.2.5MH	
<ul> <li>Advanced CPU Settings</li> </ul>					温度	電壓	
					29.0 °C	1.074 V	
DDR5 Auto Booster							
Extreme Memory Profile(XMP/EXPO) 記憶體倍頻調整	Extreme Memory Profile(XMP/EXPO)				記憶體		
Infinity Fabric Frequency and Dividers		關閉			頻率	Size	
UCLK DIV1 MODE		XMP 1			4859.47MHz	16384MB	
		XMP 2					
DDRS Voltage Control	EXPO 1						
CPU 核心電壓		EXPO 2			電壓		
Dynamic Vcore(DVID)					+5V	+12V	
處理器繪圖核心電壓	Auto				5.070 V	12.024 V	
Dynamic Vcore(DVID)	Auto	+0.000V					
記憶履 Termination(CH A/B)	Auto	1.100V					
記憶短電座 (CHA/B)	Auto	0.750V					
也在是他们的时候,我们的时候,我们的时候,我们的时候,我们的时候,我们就是我们的问题。	Auto	1.800V					
80-1±687/00/1 (-1± militar	Auto	1.8007					
		and the start	說明	Easy Mode (F2)	Smart Fan 6 (F6)	Q-Flash (F8	
			titter of the second				



#### Using XMP/EXPO

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 Select the XMP/EXPO profile that matches your memory kit's rated speed and timings; for example, if your memory kit is rated for DDR5-6000 CL38-38-38-76, select the XMP/EXPO profile that has those values.

CPU 基頻	* Auto	100.00MHz	CDU	
展頻控制	自動		CPU	
CPU Ratio Mode	All cores		頻率	BCLK
CPU 倍頻調整	* Auto	47.00	4726.08M	Hz 100.59MH
Processor Graphics Clock	Auto		温度	電歴
Advanced CPU Settings			29.0 °C	1.065 V
DDR5 Auto Booster				
Extreme Memory Profile(XMP/EXPO)	* XMP 1	DDR5-6000 38-38-38-76-1.300	274±28	
Low Latency Support	關閉		記憶短	
XMP/EXPO High Bandwidth Support	關閉			Size
記憶履行的時間。 Infinity Exhric Economy and Dividers	Auto	60.00	4828.32M	Hz 16384MB
	Auto			
進階記憶體設定	Adto		100	
DDR5 Voltage Control			电型	
CPU 核心電壓	* Auto		5.070 V	12.006 V
Dynamic Vcore(DVID) 使用與倫圖技力。電廠	Auto	+0.000V		
Dynamic Vcore(DVID)	Auto	+0.000\/		
記憶體 Termination(CH A/B)	Auto	1.100V		
記憶體電壓 (CH A/B)	Auto	0.750V		

• Save and exit the BIOS and boot into Windows.



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#### 2. Manual overclocking:

- Press Delete or F2 to enter the BIOS and disable XMP/EXMP if it is enabled. Look for the memory settings under the Advanced or OC settings depending on your motherboard.
- Increase the memory frequency by small increments (e.g., 100 MHz) and save and exit the BIOS. Boot into Windows and check your memory speed using CPU-Z or other software tools.
- Run a stability test using AIDA64, HCI MemTest, or other software tools to make sure your system is stable at the new frequency. If it is not stable, lower the frequency or increase the voltage.
- Repeat steps 2 and 3 until you reach your desired frequency or encounter instability.
- Tweak the memory timings by lowering them one by one (e.g., CL, tRCD, tRP, tRAS) and save and exit the BIOS. Boot into Windows and check your memory timings using CPU-Z or other software tools.
- Run a stability test using AIDA64, HCI MemTest, or other software tools to make sure your system is stable at the new timings. If it is not stable, raise the timings or increase the voltage.
- Repeat steps 5 and 6 until you reach your desired timings or encounter instability.
- Save your final overclock settings in a BIOS profile for future use.



**GIGABYTE** 

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	Curren	I JEDEC 🛙	XMP1	🛛 XMP2	🛛 хмрэ	USER4	🛛 USERS 🗆	Micron 1	Micron i	
Frequency	4800	4800	6400	6000	5600					
tCL	38	40	38	38	38					
tRCD/tRP	38	40	38	38						
tRAS										
∨dd			1.30	1.30						
∨ddq			1.30							
∨рр		1.80								
∨imc			1.30	1.30						
tRC		127	127	127	127					
twr					84					
LRFC			940	884						
tRFC2					447					
tRFCsb					364					
tRRD_L										
tcco_L										
tcco_L_WR										
CCD_L_WR2										
tRTP			24							
CCD_L_WTR					14					
CCD_S_WTR					14					
Load SPD Profile						Clear 🕤	Clear 🕤			
SPD Profile						Set	Set			

SPD Setup

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