☆ 簡易超頻 XMP 設定

Intel® XMP (Extreme Memory Profile) · 使用者可以輕鬆做到記憶體模組超頻 · 只要選擇 XPG 記憶體模組適用的設定檔 · 不需要在 BIOS 中調整其他複雜的電壓跟時脈設定即可達到超頻設定及效能 · 下列項目需有支援 XMP 功能 · 才可進行設定:

- 1、 CPU 需為 Intel
- 2、 主機板有支援 XMP
- 3、記憶體模組有支援 XMP · (請選用 XPG 記憶體模組)

每家主機板,對於開啟 XMP 的方式不太相同,下列以華碩 Z97 Pro 為例:

進入 BISO 後,尚未載入 XMP 時,記憶體開機時頻率為預設的 1600MHz(如紅框處)

VEFI BIOS Utility - E	Z Mode	and the second sec	
07/03/2015 17:29[¢] ⊕ Englis	h 😳 EZ Tuning Wizard(F11)		
Information C 297-PR0(Wi-Fi ac) BIOS Ver. 2205 Intel(R) Core(TM) 17-4790K CPU @ 4.00GHz Speed: 4000 MHz Speed: 4000 MHz Memory: 16384 MB (DDR3 1600MHz) Speed: 4000 MHz	PU Temperature 43°C	CPU Voltage 1.040 V Motherboard Temperature 28°C	EZ System Tuning Click the icon to specify your preferred system settings for an improved system performance or a power-saving system environment Quiet Performance
DRAM Status DIMM_A1: A-DATA 8192MB 1600MHz DIMM_A2: N/A DIMM_B1: A-DATA 8192MB 1600MHz DIMM_B2: N/A	SATA Information P1: WDC WD1600A4JS P2: N/A P3: N/A P4: N/A P5: N/A P5: N/A P6: N/A Intel Rapid Storag On	0 00L7A0 (160.0GB) ge Achnology Off	Customized > Boot Priority Choose one and drag the items. P1: wDC wD1600A4j5-0017A0 (152627MB) .::
FAN Profile CPU FAN 1273 RPM CHAI FAN CHAI FAN CHAI FAN CHAI FAN N/A	AN 300 * T FAN 50 0 Manual Fan Tun	n 100 €	UEF: (FAT) ADATA USB Flash Drive (14892MB) .::
		Default(F5)	Save & Exit(F10) Advanced Mode(F7)

載入 XMP 方式 A:

如下圖紅框處,有 XMP 的選項視窗,可載入 XMP 設定,需記憶體模組有支援 XMP 此選項才會顯現

ASUS UEFI BIOS Utility – EZ Mode			
$\frac{07/03/2015}{Friday}$ 17:29 [¢] \oplus English \bigcirc EZ	Tuning Wizard(F11)		
Information CPU Tempe 297-PR0(Wi-Fi ac) BIOS Ver. 2205 Intel(R) Core(TM) 17-4790K CPU @ 4.00GHz Speed: 4000 MHz Memory: 16384 MB (DDR3 1600MHz)	erature 43°C	CPU Voltage 1.040 V Motherboard Temperature 28°C	EZ System Tuning Click the icon to specify your preferred system settings for an improved system performance or a power-saving system environment Quiet Performance
DRAM Status DIMM_A1: A-DATA 8192MB 1600MHz DIMM_A2: N/A DIMM_B1: A-DATA 8192MB 1600MHz DIMM_B2: N/A	SATA Informatio P1: WDC WD1600AAJ P2: N/A P3: N/A P4: N/A P5: N/A P5: N/A Intel Rapid Stora On	n S-0017A0 (160.0GB) Ige Achnology Off	Customized > Boot Priority Choose one and drag the items. Switch all P1:WDC WD1600A4JS-00L7A0 (152627MB) .::
FAN Profile CPU FAN 1273 RPM CHA1 FAN N/A CHA2 FAN N/A N/A CHA4 FAN CHA4 FAN N/A CPU OPT FAN N/A	CPU FAN ³⁰ ⁴⁰ ⁶⁰	ning	UEFE (FAT) ADATA USB Flash Drive (14892MB) .::
-		Default(F5	i) Save & Exit(F10) Advanced Mode(F7)

設定完成後,請按 F10 儲存後並重新開機,XMP 設定才會生效, 再次進入 BIOS 檢查,記憶體頻率已經從原本的 1600MHz 自動超頻到 3000MHz (如下圖),

07/03/2015 17:29[©] ⊕ English ♀ EZ	Funing Wizard(F11)	
Information CPU Temper 297-PRO(Wi-Flac) BIOS Ver. 2205 Enterstand Intel(R) Core(TM) 17-4790K CPU @ 4.00GHz Enterstand Speed: 4000 MHz Memory: 16384 MB (DDR3 1600MHz)	rature CPU Voltage 1.040 V Motherboard Temperature 29°C	EZ System Tuning Click the icon to specify your preferred system settings for an improved system performance or a power-saving system environment Quiet Performance
DRAM Status DIMM_A1: A-DATA 8192MB 1600MHz DIMM_B1: A-DATA 8192MB 1600MHz DIMM_B1: A-DATA 8192MB 1600MHz DIMM_B2: N/A	SATA Information P1: WDC WD1600AAJS-00L7A0 (160.0GB) P2: N/A P3: N/A P4: N/A P5: N/A P6: N/A Intel Rapid Storage Chnology 1.20	Customized > Boot Priority Choose one and drag the items. Switch all P1:WDC WD1600A4J5-00L7A0 (152627MB)
FAN Profile CPU FAN 1303 RPM Image: CHA2 FAN Image: CHA2 FAN Image: CHA2 FAN Image: CHA2 FAN Image: CHA4 FAN <	CPU FAN	● UEFI: (FAT) ADATA USB Flash Drive (148921MB) …: 業 Boot Menu(F8)
	Default(F	5) Save & Exit(F10) Advanced Mode(F7)

選擇 Profile 1 後,載入 XMP 設定(如紅框處)

ASUS UEFI BIOS Utility – EZ Mode

ASUS UEFI BIOS Utility – EZ Mode

^{07/03/2015} 17:29 [‡] ⊕ English Friday	😳 EZ Tuning Wizard(F11)		
Information CPU 297-PRO(WI-FI ac) BIOS Ver. 2205 Intel(R) Core(TM) 17-4790K CPU @ 4.00GHz Speed: 4000 MHz Memory: 16384 MB (DDR3 1600MHz)) Temperature 43°C	CPU Voltage 1.040 V Motherboard Temperature 28°C	EZ System Tuning Click the icon to specify your preferred system settings for an improved system performance or a power-saving system environment Quiet Performance
DRAM Status DIMM_A1: A-DATA 8192MB 1600MHz DIMM_A2: NA DIMM_B1: A-DATA 8192MB 1600MHz DIMM_B2: NA Profile#1 Disabled K.M.P Disabled	SATA Informati P1: WDC WD1600A P2: N/A P3: N/A P4: N/A P5: N/A P5: N/A P6: N/A Intel Rapid Stor On	on ys=00L7A0 (160.0GB) age Achnology Off	Customized > Boot Priority Choose one and drag the items. Switch all P1: WDC WD1600A4JS-00L7A0 (152627MB)
FAN Profile CPU FAN 1277 RPM CHA1 FAN CHA2 FAN N/A CHA4 FAN CHA4 FAN N/A	CPU FAN	70 - 100 - C uning	UEFI: (FAT) ADATA USB Flash Drive (14892MB) .::
-		Default(F5	5) Save & Exit(F10) Advanced Mode(F7)

依記憶體模組 XMP 參數設定,從 XMP 設定選單即可選擇 Profile 1(如紅框處),載入 XMP 設定。

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ASLIS UEFI BIOS Utility – EZ Mode		
07/03/2015 17:31 C English @ EZ T	Funing Wizard(F11)	
Information CPU Temper 297-PR0(Wi-Fi ac) BIOS Ver. 2205 Intel(R) Core(TM) 17-4790K CPU @ 4.00GHz Speed: 4092 MHz Memory: 16384 MB (DDR3 3000MHz)	rature CPU Voltage 1.056 V Motherboard Temperature 48°C 29°C	EZ System Tuning Click the icon to specify your preferred system settings for an improved system performance or a power-saving system environment Quiet Performance
DRAM_Status DIMM_A1: N/A DIMM_A2: A-DATA 8192MB 1600MHz DIMM_B1: N/A DIMM_B2: A-DATA 8192MB 1600MHz XMP DDR3-2999 12-14-14-36-3N-1.65V-7	SATA Information P1: wDc wD1600A4JS-00L7A0 (160.0GB) P2: N/A P3: N/A P4: N/A P5: N/A P6: N/A Intel Rapid Storage 1:20v On	Customized > Boot Priority Choose one and drag the items. Switch all P1: WDC WD1600A45-00L7A0 (152627MB)
FAN Profile CPU FAN 1362 RPM NIA Image: State	CPU FAN	UEFI: (FAT) ADATA USB Flash Drive (14892MB) .::
	Manual Fan Tuning	米 Boot Menu(F8)
	Default(F	5) Save & Exit(F10) Advanced Mode(F7)

載入 XMP 方式 B :

除了設定方式A之外,也可以按F7至AiTweaker 選單中的AIOverclock Tuner 找到X.M.P的選項,載入XMP設定。

ASUS UEFI BIOS Utility	– Advanced M	ode			all search and		avoies !!	1
07/03/2015 17:29 [¢] ⊕ E	nglish 🗐 MyFavo	orite(F3) 🏾 🕹 Qfa	n Control(F6)	💬 EZ Tuni	ing Wizard(F11)	🕞 Quick Note(F9)	? Hot H	leys
My Favorites Main	<u>Ai Tweaker</u>	Advanced	Monitor	Boot	Tool E	xit	Hardy	ware Monitor
Target CPU Turbo-Mode Frequ Target CPU Turbo-Mode Frequ Target DRAM Frequency: 3000 Target Cache Frequency: 10 Target CPU Graphics Frequency Ai Overclock Tuner XMP DDR3-2999 12-14-14-30 CPU Strap PLL Selection Filter PLL BCLK Frequency Initial BCLK Frequency ASUS MultiCore Enhancement	uency: 4501MHz MHz MHZ 00MHz y: 1278MHz 6-2N-1.65V-1.20V			XMP Profile #1 Auto Auto 102.3 Auto Auto Auto			CPU Frequency 4000 MHz BCLK 100.0 MHz Ratio 40x Memory Frequency 1600 MHz Capacity 16384 MB Voltage +12V 12.096 V +3.3V	Temperature 46°C Vcore 1.040 V Voltage 1.674 V +5V 5.120 V
(1) [XMP]: When the XMP(extreme m automatically.	emory profile) mod	e is selected, the B	CLK frequency	and memory	parameters wil	be optimized	3.264 V	FzMode/E7)
1	Version	2.16.1240. Copyr	ight (C) 2014	American M	egatrends, Inc		annea	

設定完成後,請按 F7 退出及 F10 儲存後並重新開機,XMP 設定才會生效,再次進入 BIOS 檢查,記憶體頻率已經 從原本的 1600MHz 自動超頻到 3000MHz (如下圖)

ASUS UEFI BIOS Utility – EZ Mode			
07/03/2015 17:31[¢] ⊕ English ♀ EZ Tu Friday	ning Wizard(F11)		
Information CPU Tempera 297-PRO(Wi-Fi ac) BIOS Ver, 2205 Intel(R) Core(TM) 17-4790K CPU @ 4.00GHz Speed: 4092 MHz Memory: 16384 MB (DDR3 3000MHz)	ture 48°C	CPU Voltage 1.056 V Motherboard Temperature 29°C	EZ System Tuning Click the icon to specify your preferred system settings for an improved system performance or a power-saving system environment Quiet Performance
DRAM Status DIMM_A1: NA DIMM_A2: A-DATA 8192MB 1600MHz DIMM_B1: NA DIMM_B2: A-DATA 8192MB 1600MHz XMP_DDB3-2999 12-14-14-36-3N-1 65V-1 2	SATA Informatio P1: WDC WD1600AAJ P2: N/A P3: N/A P4: N/A P5: N/A P5: N/A Intel Rapid Stora	n -00L7A0 (160.0GB) ge Schnology Off	Energy Saving Customized > Customized > Boot Priority Choose one and drag the items. Switch all P1: WDC WD1600AVJS-00L7A0 (152627MB)
FAN Profile •••••••••••••••••••••••••••••	CPU FAN	70 - 100 <	ی:: UEFI: (FAT) ADATA USB Flash Drive (14892MB) .::
-		Default(F5) Save & Exit(F10) Advanced Mode(F7)

☆ 進入 Windows 作業系統裡確認記憶體模組效能:

可使用 CPU-Z 程式 (需自行下載) · 在 Memory 分頁裡面是記憶體目前實際的資訊 · 顯示的頻率還要再乘以兩倍才是真正的效 能頻率

eneral			21 - 22 - 22 22 -	
Туре	DDR3		Channel #	Dual
Size	16 GBytes		DC Mode	
		NB	Frequency	3989.8 MHz
imings —				
	DRAM Frequer	ncy	1500.5 MHz	X2=3000 Mhz
	FSB:DR	AM T	1:11	
	CAS# Latency (CL) [12.0 clocks	
RAS	# to CAS# Delay (tRO	CD)	14 clocks	
	RAS# Precharge (th	RP)	14 clocks	
	Cycle Time (tR4	AS)	36 clocks	
Row Ret	fresh Cycle Time (tRI	FC) [391 clocks	
	Command Rate (0	CR)	2T	
	DRAM Idle Tin	ner [
	Total CAS# (tRDRA	M) [
	Row To Column (tRO	CD) [

☆ 查詢 XMP 版本及 SPD 參數設定

在 SPD 分頁內列出了記憶體本身是否有支援 XMP·及 SPD (Serial Presence Detect)內建的 JEDEC 標準參數內容及 XMP 各項參數,可以供微調的時候參考。

👼 CPU-Z 🗕								
CPU Caches Mainboard Memory SPD Graphics About								
Memory Slot Selection								
Slot #2 DDR3								
Module Size	8192 M	IBytes	Correction					
Max Bandwidth	PC3-12800	(800 MHz)	Registered	1				
Manufacturer	A-Data Te	chnology	Buffered		_			
Part Number	DDR3 300	0 20Z	SPD Ext	. XMP 1.3				
Serial Number	00000	A000	Week/Year 49 / 13					
- Timings Table								
-	JEDEC #5	JEDEC #6	JEDEC #7	XMP-3000				
Frequency	685 MHz	761 MHz	800 MHz	1500 MHz				
CAS# Latency	9.0	10.0	11.0	12.0				
RAS# to CAS#	9 10		11	15				
RAS# Precharge	9 10		11	15				
tRAS	24	27	28	37				
tRC	33 37		39	51				
Command Rate				2T				
Voltage	1.50 V	1.50 V	1.50 V	1.650 V				
CPU-Z Ver. 1.72.0.x64 Tools Validate OK								

☆ Intel® Extreme Memory Profile 簡介

Intel® Extreme Memory Profile (Intel® XMP) 可讓相容的 DDR3/DDR4 記憶體超頻運作,使執行效能超越標準規範。這能夠 增強搭載 Intel® 技術之電腦的遊戲效能。如果您是超頻玩家且要將電腦的效能發揮到極限,請選擇以 Intel XMP 技術為基礎的 記憶體,即可輕鬆掌握全面致勝的優勢。

☆ Intel XMP 的運作方式

預先定義且通過測試的 Intel XMP 設定檔可透過 BIOS 載入,或是透過電腦作業系統的特定微調應用程式載入。通常載入 Intel XMP 設定檔的最簡便方法,就是使用微調公用程式,這可能會由主機板製造商個別提供。若要瞭解您的系統是否有提供微調公用程式,請聯絡主機板製造商。