

# PRINCO DDR3-1600 user guide and testing for GA-X58A-UD3R Motherboard

CPU i7-950 3.07G



## Part I : Standard test

*It's the easiest way to enjoy overclock benefit by  
using PRINCO DDR3-1600 DIMM board*

How to use?

0. Clear BIOS to mainboard initial setting
1. Enter BIOS setup and [MB Intelligent Tweaker(M.I.T.) ] menu

Select "MB Intelligent Tweaker (M. I. T.)"



## 2. Enter [Advance Memory Setting] item

Select "Advanced Memory Settings"

The screenshot shows the CMOS Setup Utility interface. At the top, it reads "CMOS Setup Utility - Copyright (C) 1984-2010 Award Software" and "MB Intelligent Tweaker (M.I.T.)". The main menu lists several options, with "Advanced Memory Settings" highlighted by a red box. Below the menu, system information is displayed, including BIOS Version (FB), BCLK (159.05 MHz), CPU Frequency (3022.15 MHz), Memory Frequency (1908.70 MHz), Total Memory Size (6144 MB), CPU Temperature (59.0 °C), Ucore (1.312 V), and DRAM Voltage (1.584 V). A legend at the bottom explains navigation keys: ↑↓: Move, Enter: Select, +/-/PU/PD: Value, F10: Save, ESC: Exit, F1: General Help, F5: Previous Values, F6: Fail-Safe Defaults, and F7: Optimized Defaults.

CMOS Setup Utility - Copyright (C) 1984-2010 Award Software MB Intelligent Tweaker (M.I.T.)		Item Help
▶ M.I.T Current Status	[Press Enter]	
▶ Advanced Frequency Settings	[Press Enter]	
▶ <b>Advanced Memory Settings</b>	<b>[Press Enter]</b>	Menu Level ▶
▶ Advanced Voltage Settings	[Press Enter]	
▶ Miscellaneous Settings	[Press Enter]	
BIOS Version		FB
BCLK		159.05 MHz
CPU Frequency		3022.15 MHz
Memory Frequency		1908.70 MHz
Total Memory Size		6144 MB
CPU Temperature		59.0 °C
Ucore		1.312 V
DRAM Voltage		1.584 V

↑↓: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help  
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults



3. Enter [Extreme Memory Profile(X.M.P.) ] item and choose [Profile 1] option , BIOS will load X.M.P parameter in SPD on DIMM board , which are performance optimized for PRINCO DDR3-1600 DIMM board

Step 1 : Select " Extreme Memory Profile (X. M. P.) "

Step 2 : In the pop menu, select " Profile1 "



#### 4. Save BIOS changes [F10] and exit

Press the Keyboard "F10"

Save to CMOS and EXIT (Y/N)? Y

CMOS Setup Utility - Copyright (C) 1984-2010 Award Software  
Advanced Memory Settings

	Item Help
Extreme Memory Profile(X.M.P.) [Profile1]	
System Memory Multiplier (SPD) [Auto]	
Memory Frequency(Mhz) 1600 1600	Menu Level >>
Performance Enhance [Turbo]	
DRAM Timing Selectable (SPD) [Auto]	
Profile DDR Voltage 1.6V	
Profile QPI Voltage 1.2V	
x Channel Interleaving 6 Auto	
x Rank Interleaving	
>>>>> Channel A	
▶ Channel A Timing	
▶ Channel A Turnaro	
>>>>> Channel B	
▶ Channel B Timing Settings [Press Enter]	
▶ Channel B Turnaround Settings [Press Enter]	
>>>>> Channel C	
▶ Channel C Timing Settings [Press Enter]	
▶ Channel C Turnaround Settings [Press Enter]	

SAVE to CMOS and EXIT (Y/N)? Y

↑↓←→:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help  
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

# Test result?

In order to demonstrate the performance and stability of PRINCO DDR3-1600 DIMM board, We use the strictest stress testing, that is, multi-core MemTest in window 7.

(Data rate :  $799.4 \times 2 = 1599$ , timing : 7, 9, 7, 24, multi-core test => pass!)

The image displays a Windows 7 desktop environment during a stress test. On the left, eight instances of MemTest86 are running, each showing 0 errors and a coverage percentage between 103.9% and 109.4%. The CPU-Z application is open in the center and right, providing detailed hardware specifications. The CPU is an Intel Core i7 950 (Bloomfield) running at 3.07GHz. The memory is DDR3-1600 (PRINCO-DR3-1600) running at 799.4 MHz. The Windows Task Manager is visible at the bottom, showing 100% CPU usage and 5.67 GB of memory usage.

**MemTest86 Results (8 instances):**

- Instance 1: 109.4% Coverage, 0 Errors
- Instance 2: 109.0% Coverage, 0 Errors
- Instance 3: 106.9% Coverage, 0 Errors
- Instance 4: 103.9% Coverage, 0 Errors
- Instance 5: 106.1% Coverage, 0 Errors
- Instance 6: 103.9% Coverage, 0 Errors
- Instance 7: 105.0% Coverage, 0 Errors
- Instance 8: 261.3% Coverage, 0 Errors

**CPU-Z Processor Information:**

- Name: Intel Core i7 950
- Code Name: Bloomfield
- Package: Socket 1366 LGA
- Technology: 45 nm
- Core Voltage: 1.168 V
- Specification: Intel(R) Core(TM) i7 CPU 950 @ 3.07GHz
- Family: 6, Model: A, Stepping: 5
- Ext. Family: 6, Ext. Model: 1A, Revision: D0
- Instructions: MMX, SSE (1, 2, 3, 3S, 4.1, 4.2), EM64T, VT-x
- Clocks (Core #0): Core Speed 3197.7 MHz, Multiplier x 24.0, Bus Speed 133.2 MHz, QPI Link 2398.3 MHz
- Cache: L1 Data 4 x 32 KBytes 8-way, L1 Inst. 4 x 32 KBytes 4-way, Level 2 4 x 256 KBytes 8-way, Level 3 8 MBytes 16-way
- Selection: Processor #1, Cores 4, Threads 8

**CPU-Z Memory Information:**

- Type: DDR3
- Size: 6144 MBytes
- Channels #: Triple
- DC Mode: [ ]
- NB Frequency: 3197.7 MHz
- Timings: DRAM Frequency 799.4 MHz, FSB-DRAM 2:12, CAS# Latency (CL) 7.0 clocks, RAS# to CAS# Delay (tRCD) 9 clocks, RAS# Precharge (tRP) 7 clocks, Cycle Time (tRAS) 24 clocks, Row Refresh Cycle Time (tRFC) 88 clocks, Command Rate (CR) 1T

**CPU-Z Memory Slot Selection:**

- Slot #1: DDR3
- Module Size: 2048 MBytes
- Max Bandwidth: PC3-10700 (667 MHz)
- Manufacturer: [ ]
- Part Number: PRINCO-DR3-1600
- Serial Number: [ ]
- Timings Table: JEDEC #2 533 MHz, JEDEC #1 609 MHz, CAS# Latency 7.0, RAS# to CAS# 7, RAS# Precharge 7, tRAS 20, tRC 27, Command Rate, Voltage 1.50 V

**Windows Task Manager:**

- CPU 使用率: 100%
- 記憶體: 5.67 GB



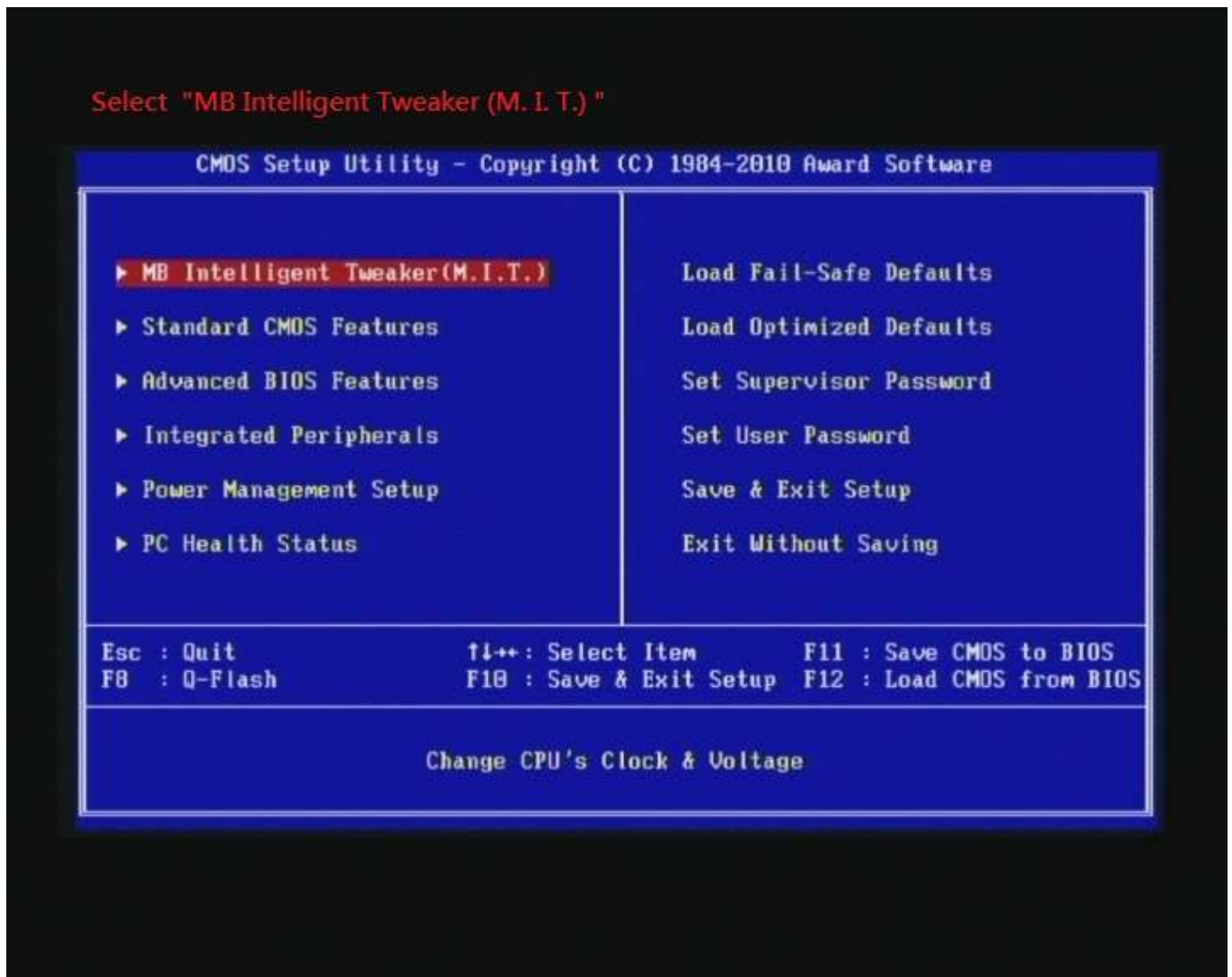
# Advanced Overclocking and Testing

## Part II : Heavy test

*If you want to know the potential of PRINCO DDR3-1600? Following are step-by-step howto.*

How to use?

0. Clear BIOS to mainboard initial setting
1. Enter BIOS setup and [MB Intelligent Tweaker(M.I.T.) ] menu



## 2. Enter [Advance Frequency Setting] item

Select "Advanced Frequency Settings"

The screenshot displays the CMOS Setup Utility interface. At the top, it reads "CMOS Setup Utility - Copyright (C) 1984-2010 Award Software" and "MB Intelligent Tweaker (M.I.T.)". The main menu lists several options, with "Advanced Frequency Settings" highlighted in red. Below the menu, system status information is displayed, including BIOS Version, BCLK, CPU Frequency, Memory Frequency, Total Memory Size, CPU Temperature, Vcore, and DRAM Voltage. A legend at the bottom explains the navigation and function keys.

CMOS Setup Utility - Copyright (C) 1984-2010 Award Software MB Intelligent Tweaker (M.I.T.)	
▶ M.I.T Current Status	[Press Enter]
▶ <b>Advanced Frequency Settings</b>	<b>[Press Enter]</b>
▶ Advanced Memory Settings	[Press Enter]
▶ Advanced Voltage Settings	[Press Enter]
▶ Miscellaneous Settings	[Press Enter]

BIOS Version	FB
BCLK	133.28 MHz
CPU Frequency	3198.51 MHz
Memory Frequency	1599.38 MHz
Total Memory Size	6144 MB
CPU Temperature	52.0 °C
Vcore	1.184 V
DRAM Voltage	1.584 V

↑↓←→: Move   Enter: Select   +/-/PU/PD: Value   F10: Save   ESC: Exit   F1: General Help  
F5: Previous Values   F6: Fail-Safe Defaults   F7: Optimized Defaults



- Set [Base Clock(BCLK) Control] item to [Enabled] , Select [BLCK Frequency(Mhz) ] item , and increase to higher Base clock rate (ex:150). Then set [System Memory Multiplier (SPD) ] item to [12.0]. Don't forget setting [CPU Ratio Setting] item to suitable ratio [ex:20]

*( In this case we only focus on memory over clocking, not CPU )*

Step 1 : Base Clock(BCLK) Control                      Set [ Enable ]

Step 2 : BCLK Frequency(Mhz)                              Set [ 150 ]

Step 3 : System Memory Multiplier (DPS)              Set [ 12.0 ]

CMOS Setup Utility - Copyright (C) 1984-2010 Award Software		Advanced Frequency Settings		Item Help
CPU Clock Ratio	[20 X]	Step 4		Menu Level ▶▶ Set CPU Ratio if CPU Ratio is unlocked
CPU Frequency	3.00GHz ( 150x20)			
▶ Advanced CPU Core Features	[Press Enter]			
QPI Clock Ratio	[Auto]			
QPI Link Speed	5.4GHz			
Uncore Clock Ratio	[Auto]			
Uncore Frequency	3600MHz			
>>>>> Standard Clock Control				
Base Clock(BCLK) Control	[Enabled]	Step 1		
BCLK Frequency(Mhz)	[ 150 ]	Step 2		
Extreme Memory Profile(X.M.P.)	[Disabled]			
System Memory Multiplier (SPD)	[12.0]	Step 3		
Memory Frequency(Mhz)	1066 1800			
PCI Express Frequency(Mhz)	[Auto]			
>>>>> Advanced Clock Control				
CPU Clock Drive	[ 800mV]			
PCI Express Clock Drive	[ 900mV]			
CPU Clock Skew	[ 0ps]			
IOH Clock Skew	[ 0ps]			

↑↓←→:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help  
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

Step 4 : CPU Clock Ratio                                      Set [ 20 X ]

then return to previous to

[MB Intelligent Tweaker(M.I.T.)] menu

#### 4. Enter [Advance Memory Setting] item

Select "Advanced Memory Settings"

CMOS Setup Utility - Copyright (C) 1984-2010 Award Software  
MB Intelligent Tweaker(M.I.T.)

		Item Help
▶ M.I.T Current Status	[Press Enter]	
▶ Advanced Frequency Settings	[Press Enter]	
▶ <b>Advanced Memory Settings</b>	<b>[Press Enter]</b>	Menu Level ▶
▶ Advanced Voltage Settings	[Press Enter]	Configure DRAM Features
▶ Miscellaneous Settings	[Press Enter]	

BIOS Version	FB
BCLK	146.04 MHz
CPU Frequency	3066.89 MHz
Memory Frequency	2044.50 MHz
Total Memory Size	6144 MB
CPU Temperature	55.0 °C
Vcore	1.168 V
DRAM Voltage	1.584 V

↑↓←→:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help  
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

5. Set [DRAM Timing Selectable (SPD) ] item to [Quick]

6. Enter [Channel A Timing Settings] item

Step 1: DRAM Timing Selectable (SPD)

Set [Quick]

Step 2: Select "Channel A Timing Setting"

into Timing Settings





7. set [CAS Latency Time] item to [7]

set [tRCD] item to [9]

set [tRP] item to [7]

set [tRAS] item to [24]

set [DRAM Timing Mode] item to [1]

Step 1 : CAS Latency Time                      Set [ 7 ]

          tRCD                                      Set [ 9 ]

          tRP                                        Set [ 7 ]

CMOS Setup Utility - Copyright (C) 1984-2010 Award Software  
Channel A Timing Settings

>>>>> Channel A Standard Timing Control			Item Help
CAS Latency Time	7	[ 7 ]	Menu Level >>>
tRCD	7	[ 9 ]	
tRP	7	[ 7 ]	
tRAS	20	[ 24 ]	
>>>>> Channel A Advanced Timing Control			
tRC	27	[ Auto ]	
tRRD	4	[ Auto ]	
tWTR	4	[ Auto ]	
tWR	8	[ Auto ]	
tWTP	19	[ Auto ]	
tWL	7	[ Auto ]	
tRFC	60	[ Auto ]	
tRTP	4	[ Auto ]	
tFAW	16	[ Auto ]	
Command Rate (CMD)	1	[ 1 ]	
>>>>> Channel A Misc Timing Control			
B2B CAS Delay	-	[ Auto ]	
Round Trip Latency	53	[ Auto ]	

↑↓←→:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help  
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

          tRAS                                      Set [ 24 ]

Step 2 : Command Rate (CMD)                      Set [ 1 ]

then return to previous to

[MB Intelligent Tweaker(M.I.T.)] menu

## 8. Enter [Advance Voltage Setting] item

Select "Advanced Voltage Settings"

The screenshot shows the CMOS Setup Utility interface. At the top, it reads "CMOS Setup Utility - Copyright (C) 1984-2010 Award Software" and "MB Intelligent Tweaker (M.I.T.)". The main menu lists several options, with "Advanced Voltage Settings" highlighted in red. Below the menu, system information is displayed, including BIOS Version, BCLK, CPU Frequency, Memory Frequency, Total Memory Size, CPU Temperature, Vcore, and DRAM Voltage. At the bottom, a legend explains the navigation keys: ↑↓: Move, Enter: Select, +/-/PU/PD: Value, F10: Save, ESC: Exit, F1: General Help, F5: Previous Values, F6: Fail-Safe Defaults, and F7: Optimized Defaults.

CMOS Setup Utility - Copyright (C) 1984-2010 Award Software MB Intelligent Tweaker (M.I.T.)	
▶ M.I.T Current Status	[Press Enter]
▶ Advanced Frequency Settings	[Press Enter]
▶ Advanced Memory Settings	[Press Enter]
▶ <b>Advanced Voltage Settings</b>	<b>[Press Enter]</b>
▶ Miscellaneous Settings	[Press Enter]

BIOS Version	FB
BCLK	146.05 MHz
CPU Frequency	3066.00 MHz
Memory Frequency	2044.60 MHz
Total Memory Size	6144 MB
CPU Temperature	54.0 °C
Vcore	1.168 V
DRAM Voltage	1.584 V

↑↓: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help  
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

9. Select [CPU Vcore] item to [1.20008V]

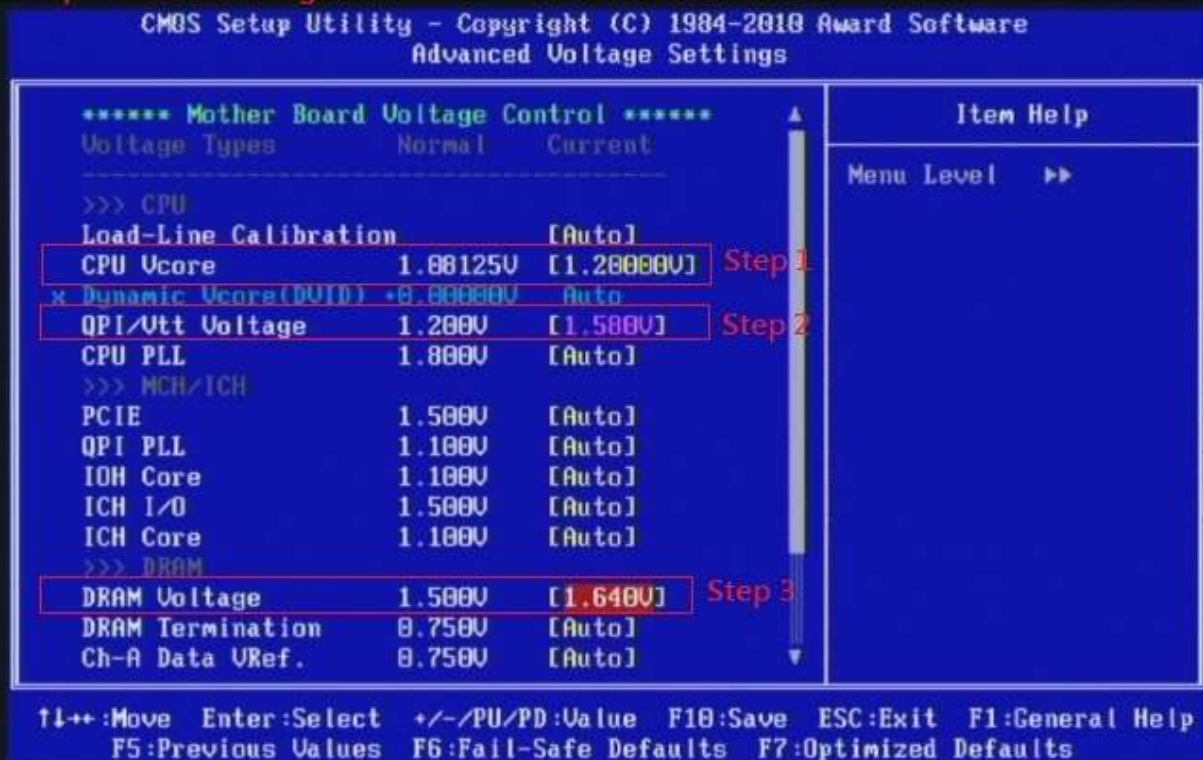
Select [QPI/Vtt Voltage] item , and set the value to [1.580].

Select[DRAM Voltage] item , and set the value to [1.640V]

Step 1: CPU Vcore Set [1.20000V]

Step 2: QPI/Vtt Voltage Set [1.580V]

Step 3: DRAM Voltage Set [1.640V]





## 10. Save BIOS changes [F10] and exit

Press the Keyboard "F10"

Save to CMOS and EXIT (Y/N)? Y

CMOS Setup Utility - Copyright (C) 1984-2010 Award Software  
Advanced Voltage Settings

***** Mother Board Voltage Control *****			Item Help
Voltage Types	Normal	Current	Menu Level >>
>>> CPU			
Load-Line Calibration		[Auto]	
CPU Vcore	1.10000V	[1.20000V]	
x Dynamic Vcore(DVID)	+0.80000V	Auto	
QPI/Utt Voltage	1.200V	[Auto]	
CPU PLL			
>>> MCH/ICH			
PCIE			
QPI PLL			
IOH Core			
ICH I/O	1.500V	[Auto]	
ICH Core	1.100V	[Auto]	
>>> DRAM			
DRAM Voltage	1.500V	[1.600V]	
DRAM Termination	0.750V	[Auto]	
Ch-A Data VRef.	0.750V	[Auto]	

SAVE to CMOS and EXIT (Y/N)?

↑↓←→:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help  
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

# Test result?

We use the strictest stress testing, multi-core MemTest in window 7, to show you PRINCO DDR3-1600 potential.

(Data rate :  $900.0 \times 2 = 1800$ , timing : 7, 9, 7, 24, multi-core test => pass!)

Four pairs of MemTest86 windows showing test results for 700MB RAM. Each window reports 0 errors and coverage percentages ranging from 110.9% to 113.8%.

Row	Column	Coverage	Errors
1	Left	116.2%	0
1	Right	113.8%	0
2	Left	112.3%	0
2	Right	112.9%	0
3	Left	112.5%	0
3	Right	113.4%	0
4	Left	110.9%	0
4	Right	276.9%	0

CPU-Z Processor details for Intel Core i7 950:

- Processor Name: Intel Core i7 950
- Code Name: Bloomfield
- Package: Socket 1366 LGA
- Technology: 45 nm
- Core Voltage: 1.152 V
- Specification: Intel(R) Core(TM) i7 CPU 950 @ 3.07GHz
- Family: 6, Model: A, Stepping: 5
- Ext. Family: 6, Ext. Model: 1A, Revision: D0
- Instructions: MMX, SSE (1, 2, 3, 3S, 4.1, 4.2), EM64T, VT-x
- Clocks (Core #0): Core Speed 2999.8 MHz, Multiplier x 20.0, Bus Speed 150.0 MHz, QPI Link 2699.8 MHz
- Cache: L1 Data 4 x 32 KBytes 8-way, L1 Inst. 4 x 32 KBytes 4-way, Level 2 4 x 256 KBytes 8-way, Level 3 8 MBytes 16-way
- Selection: Processor #1, Cores 4, Threads 8

CPU-Z Motherboard details for Gigabyte Technology X58A-UD3R:

- Manufacturer: Gigabyte Technology
- Model: X58A-UD3R
- Chipset: Intel
- Southbridge: Intel
- LPCIO: ITE
- BIOS: Brand Award Software International, Version FB, Date 08/24/2010
- Graphic Interface: Version, Link Width x16, Side Band

CPU-Z Memory details for DDR3 6144 MBytes:

- Type: DDR3
- Channels #: Triple
- DC Mode
- NB Frequency: 3600.0 MHz
- Timings: DRAM Frequency 900.0 MHz, FSB:DRAM 2:12, CAS# Latency (CL) 7.0 clocks, RAS# to CAS# Delay (tRCD) 9 clocks, RAS# Precharge (tRP) 7 clocks, Cycle Time (tRAS) 24 clocks, Row Refresh Cycle Time (tRFC) 100 clocks, Command Rate (CR) 1T

CPU-Z Memory Slot Selection for Slot #1, DDR3:

- Module Size: 2048 MBytes
- Max Bandwidth: PC3-10700 (6600)
- Manufacturer: PRINCO
- Part Number: PRINCO-DR3-1600
- Serial Number
- Timings Table: JEDEC #2, Frequency 533 MHz, CAS# Latency 7.0, RAS# to CAS# 7, RAS# Precharge 7, tRAS 20, tRC 27, Command Rate, Voltage 1.50 V

Windows Task Manager screenshot showing system performance:

- CPU 使用率: 100%
- 記憶體: 5.67 GB
- CPU 使用率記錄: [Graph showing 100% usage]
- 實體記憶體使用記錄: [Graph showing memory usage]

## Part III : Advance test

If you set parameter in BIOS as below ,

BaseClock(BCLK) Control : [Enabled]

BCLK frequency(Mhz) : [139]

CPU Clock Ratio : [22 X]

System Memory Multiplier (SPD) : [14.0]

CPU Vcore : [1.20000V]

QPI/VTT Voltage : [1.580V]

DRAM Voltage : [1.640V]

DRAM timing : 9, 9, 9, 27

you can check next page

(Data rate :  $973 * 2 = 1946$  , timing : 9, 9, 9, 27 , multi-core test =>

pass!)



[0 Errors] MemTest

Enter megabytes of RAM to test

700

Start Testing Stop Testing

About MemTest

If you find the free version useful, please considering purchasing the PRO (\$5) or Deluxe (\$14) versions, which add additional features.

[N] 127.8% Coverage, 0 Errors

[0 Errors] MemTest

Enter megabytes of RAM to test

700

Start Testing Stop Testing

About MemTest

If you find the free version useful, please considering purchasing the PRO (\$5) or Deluxe (\$14) versions, which add additional features.

[V] 124.2% Coverage, 0 Errors

[0 Errors] MemTest

Enter megabytes of RAM to test

700

Start Testing Stop Testing

About MemTest

If you find the free version useful, please considering purchasing the PRO (\$5) or Deluxe (\$14) versions, which add additional features.

[N] 123.3% Coverage, 0 Errors

[0 Errors] MemTest

Enter megabytes of RAM to test

700

Start Testing Stop Testing

About MemTest

If you find the free version useful, please considering purchasing the PRO (\$5) or Deluxe (\$14) versions, which add additional features.

[N] 124.5% Coverage, 0 Errors

[0 Errors] MemTest

Enter megabytes of RAM to test

700

Start Testing Stop Testing

About MemTest

If you find the free version useful, please considering purchasing the PRO (\$5) or Deluxe (\$14) versions, which add additional features.

[N] 123.4% Coverage, 0 Errors

[0 Errors] MemTest

Enter megabytes of RAM to test

700

Start Testing Stop Testing

About MemTest

If you find the free version useful, please considering purchasing the PRO (\$5) or Deluxe (\$14) versions, which add additional features.

[V] 121.6% Coverage, 0 Errors

[0 Errors] MemTest

Enter megabytes of RAM to test

700

Start Testing Stop Testing

About MemTest

If you find the free version useful, please considering purchasing the PRO (\$5) or Deluxe (\$14) versions, which add additional features.

[N] 123.1% Coverage, 0 Errors

[0 Errors] MemTest

Enter megabytes of RAM to test

All unused RAM

Start Testing Stop Testing

About MemTest

If you find the free version useful, please considering purchasing the PRO (\$5) or Deluxe (\$14) versions, which add additional features.

[N] 304.8% Coverage, 0 Errors

Z CPU-Z

CPU Caches Mainboard Memory SPD Graphics About

Processor

Name Intel Core i7 950

Code Name Bloomfield Brand ID

Package Socket 1366 LGA

Technology 45 nm Core Voltage 1.152 V

Specification Intel(R) Core(TM) i7 CPU 950 @ 3.07GHz

Family 6 Model A Stepping 5

Ext. Family 6 Ext. Model 1A Revision D0

Instructions MMX, SSE (1, 2, 3, 3S, 4.1, 4.2), EM64T, VT-x

Clocks (Core #0)

Core Speed 3058.0 MHz

Multiplier x 22.0

Bus Speed 139.0 MHz

QPI Link 2502.0 MHz

Cache

L1 Data 4 x 32 KBytes 8-way

L1 Inst. 4 x 32 KBytes 4-way

Level 2 4 x 256 KBytes 8-way

Level 3 8 MBytes 16-way

Selection Processor #1 Cores 4 Threads 8

CPU-Z Version 1.56 Validate OK

Z CPU-Z

CPU Caches Mainboard Memory SPD Graphics About

Motherboard

Manufacturer Gigabyte Technolo

Model X58A-UD3R

Chipset Intel

Southbridge Intel

LPCIO ITE

BIOS

Brand Award Software

Version FB

Date 08/24/2010

Graphic interface

Version

Link Width x16

Side Band

CPU-Z Version 1.56

Z CPU-Z

CPU Caches Mainboard Memory SPD Graphics About

General

Type DDR3 Channels # Triple

Size 6144 MBytes

DC Mode

NB Frequency 3892.2 MHz

Timings

DRAM Frequency 973.0 MHz

FSB:DRAM 2:14

CAS# Latency (CL) 9.0 clocks

RAS# to CAS# Delay (tRCD) 9 clocks

RAS# Precharge (tRP) 9 clocks

Cycle Time (tRAS) 27 clocks

Row Refresh Cycle Time (tRFC) 108 clocks

Command Rate (CR) 1T

DRAM Idle Timer

Total CAS# (tRDRAM)

Row To Column (tRCD)

CPU-Z Version 1.56 Validate OK

Z CPU-Z

CPU Caches Mainboard Memory SPD Graphics About

Memory Slot Selection

Slot #1 DDR3

Module Size 2048 MB

Max Bandwidth PC3-10700

Manufacturer

Part Number PRINCO-DR3

Serial Number

Timings Table

JEDEC #2

Frequency 533 MHz

CAS# Latency 7.0

RAS# to CAS# 7

RAS# Precharge 7

tRAS 20

tRC 27

Command Rate

Voltage 1.50 V

CPU-Z Version 1.56

Windows 工作管理員

檔案(F) 選項(O) 檢視(V) 說明(H)

應用程式 | 處理程序 | 服務 | 效能 | 網路功能 | 使用者

CPU 使用率

100 %

記憶體

5.66 GB

CPU 使用率記錄

實體記憶體使用記錄