

PRINCO DDR3-1600 user guide and testing for ASUS M4A88TD-V Motherboard

AMD 965 3.40G



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 [Ai Tweaker] menu
2. Enter [Ai Overclock Tuner] item and select [Auto]
3. Select [DRAM Frequency] item , and set the DDR3 memory to higher clock rate (ex:1600MHz). Don't forget setting [CPU Ratio] item to suitable ratio (ex:17.0)
4. Select[DRAM Voltage] item , and set the value to [1.60500]

Step 1 : Select " Ai Tweaker "

Step 2 : DRAM Frequency

Set [1600MHz]

Step 3 : CPU Ratio

Set [17.0]

Step 4 : DRAM Voltage

Set [1.60500]

M4A88TD-V EVO/USB3 BIOS Setup Version 1404

Main **Ai Tweaker** Advanced Power Boot Tools Exit

Step 1
CPU Level Up [Auto]

CPU OverClocking [Auto]

CPU Ratio [17.0] Step 3

DRAM Frequency [1600MHz] Step 2

CPU/NB Frequency [Auto]

HT Link Speed [Auto]

GPU Booster [Enabled]

Enhanced iGPU SpeedStep [Auto]

GPU Power Saving Mode [Disabled]

OC Tuner Utility

▶ DRAM Timing configuration

▶ DRAM Driving Configuration

***** Please key in numbers directly! *****

CPU & NB Voltage Mode [Offset]

CPU Offset Voltage 1.400 [Auto]

CPU/NB Offset Voltage 1.100 [Auto]

CPU UDDA Voltage 2.500 [Auto]

DRAM Voltage 1.590 [1.60500] Step 4

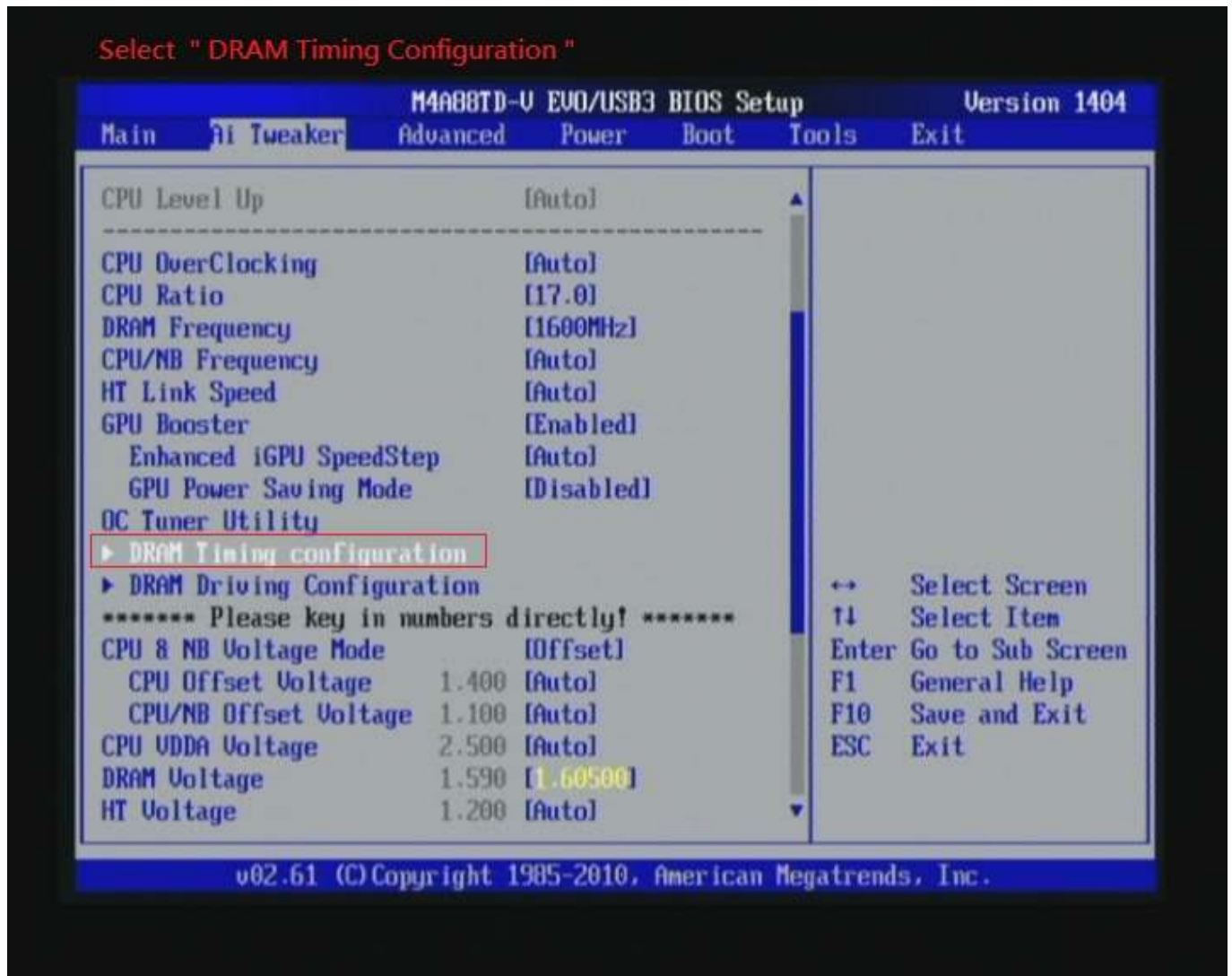
HT Voltage 1.200 [Auto]

Min = 1.20000U
Max = 1.40000U
Interval = 0.01000U
Standard = 1.20000U
+/- : Raise/Reduce

↔ Select Screen
↑↓ Select Item
F1 General Help
F10 Save and Exit
ESC Exit

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5. Enter [DRAM Timing Configuration] item



6. set [DRAM CAS# Latency] item to [7 CLK]

set [DRAM RAS# to CAS# Delay] item to [9 CLK]

set [DRAM RAS# PRE Time] item to [7 CLK]

set [DRAM RAS# ACT Time] item to [24 CLK]

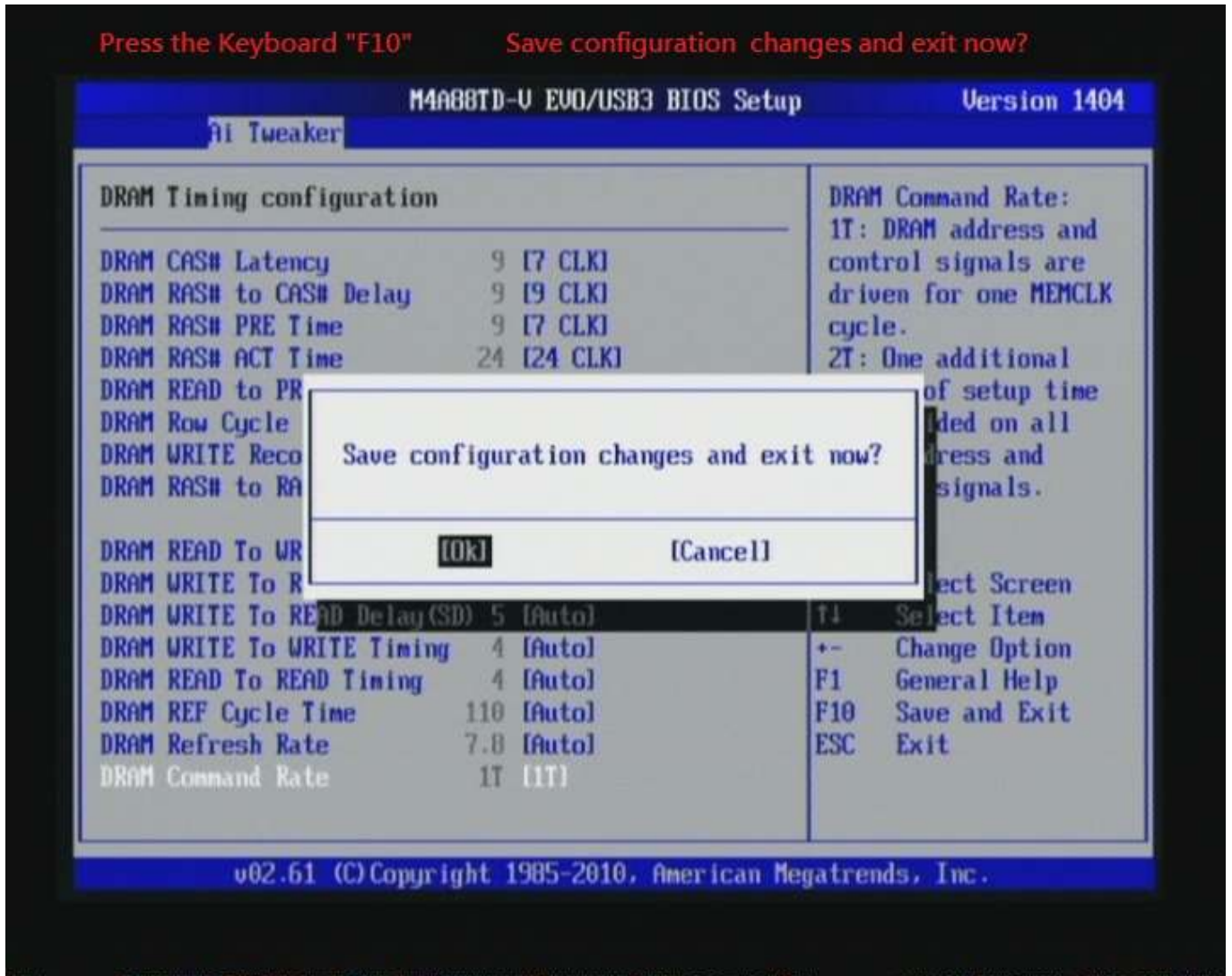
set [DRAM Command Rate] item to [1T]

then return to previous to [Ai Overclock Tuner] menu

Step 1 : DRAM CAS# Latency Set [7 CLK]
DRAM RAS# to CAS# Delay Set [9 CLK]
DRAM RAS# PRE Time Set [7 CLK]
DRAM RAS# ACT Time Set [24 CLK]
Step 2 : DRAM Command Rate Set [1T]



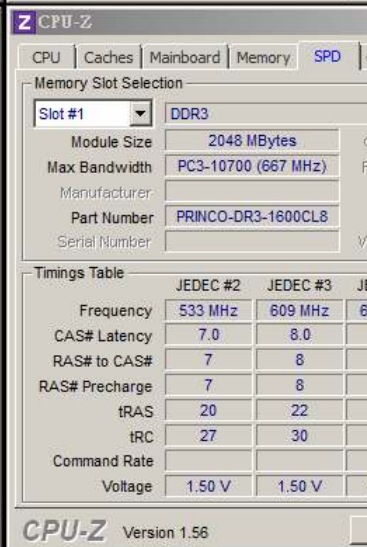
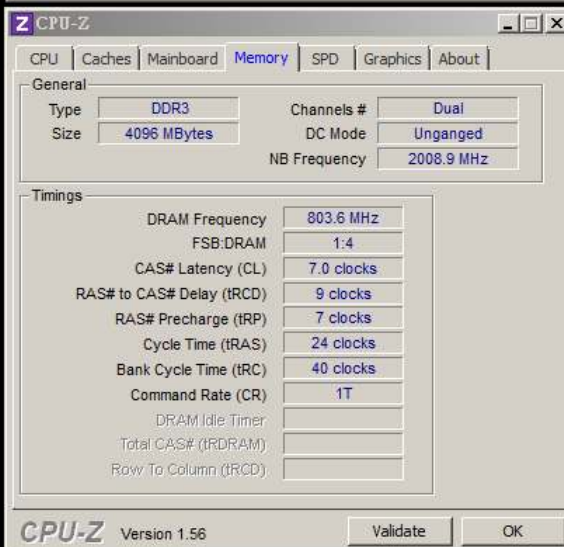
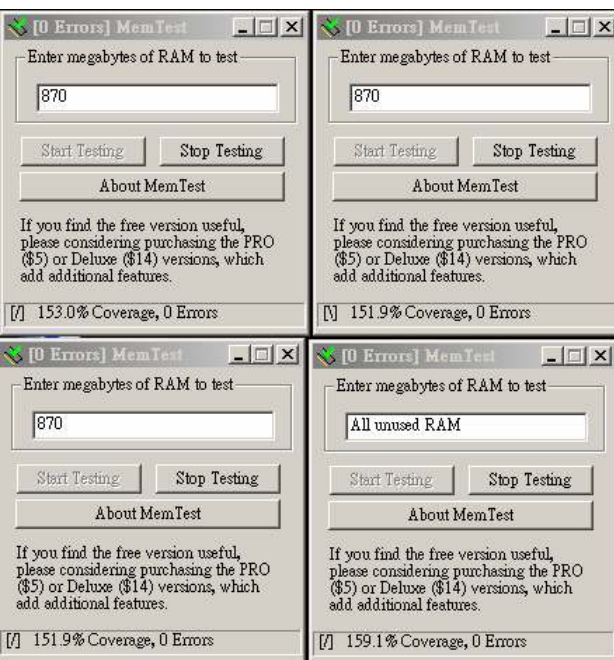
7. Save BIOS changes [F10] and exit



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 : $803.6 \times 2 = 1607$, timing : 7, 9, 7, 24, multi-core test => pass!)



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 [Ai Tweaker] menu
2. Enter [Ai Overclock Tuner] item and select [Manual]
3. Select [CPU/HT Reference Clock (MHz)] item , and increase to higher Base clock rate (ex:242). Then select [DRAM Frequency] item , and set the DDR3 memory to higher clock rate (ex:1936MHz). Don't forget setting [CPU Ratio] item to suitable ratio (ex:13.5)

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

4. Select[DRAM Voltage] item , and set the value to [1.65000]

Step 1 : Select " Ai Tweaker "

Step 2 : CPU Overclocking

Set [Manual]

Step 3 : CPU/HT Reference Clock (MHz)

Set [242]

Step 4 : DRAM Frequency

Set [1936MHz]

Step 5 : CPU Ratio

Set [13.5]

Step 6 : DRAM Voltage

Set [1.65000]

M4A88TD-U EVO/USB3 BIOS Setup Version 1404

Main **Ai Tweaker** Advanced Power Boot Tools Exit

Step-1

CPU OverClocking	[Manual]	Step2
DC From CPU Level Up	[Auto]	
CPU Ratio	[13.5]	Step 5
CPU/HT Reference Clock (MHz)	[242]	Step 3
PCIE Frequency	[100]	
DRAM Frequency	[1936MHz]	Step 4
CPU/NB Frequency	[Auto]	
HT Link Speed	[Auto]	
GPU Booster	[Enabled]	
Enhanced iGPU SpeedStep	[Auto]	
GPU Power Saving Mode	[Disabled]	
DC Tuner Utility		
▶ DRAM Timing configuration		
▶ DRAM Driving Configuration		
***** Please key in numbers directly! *****		
CPU & NB Voltage Mode	[Offset]	
CPU Offset Voltage	1.400 [Auto]	
CPU/NB Offset Voltage	1.350 [Auto]	
CPU UDDA Voltage	2.500 [Auto]	
DRAM Voltage	1.650 [1.65000]	Step 6

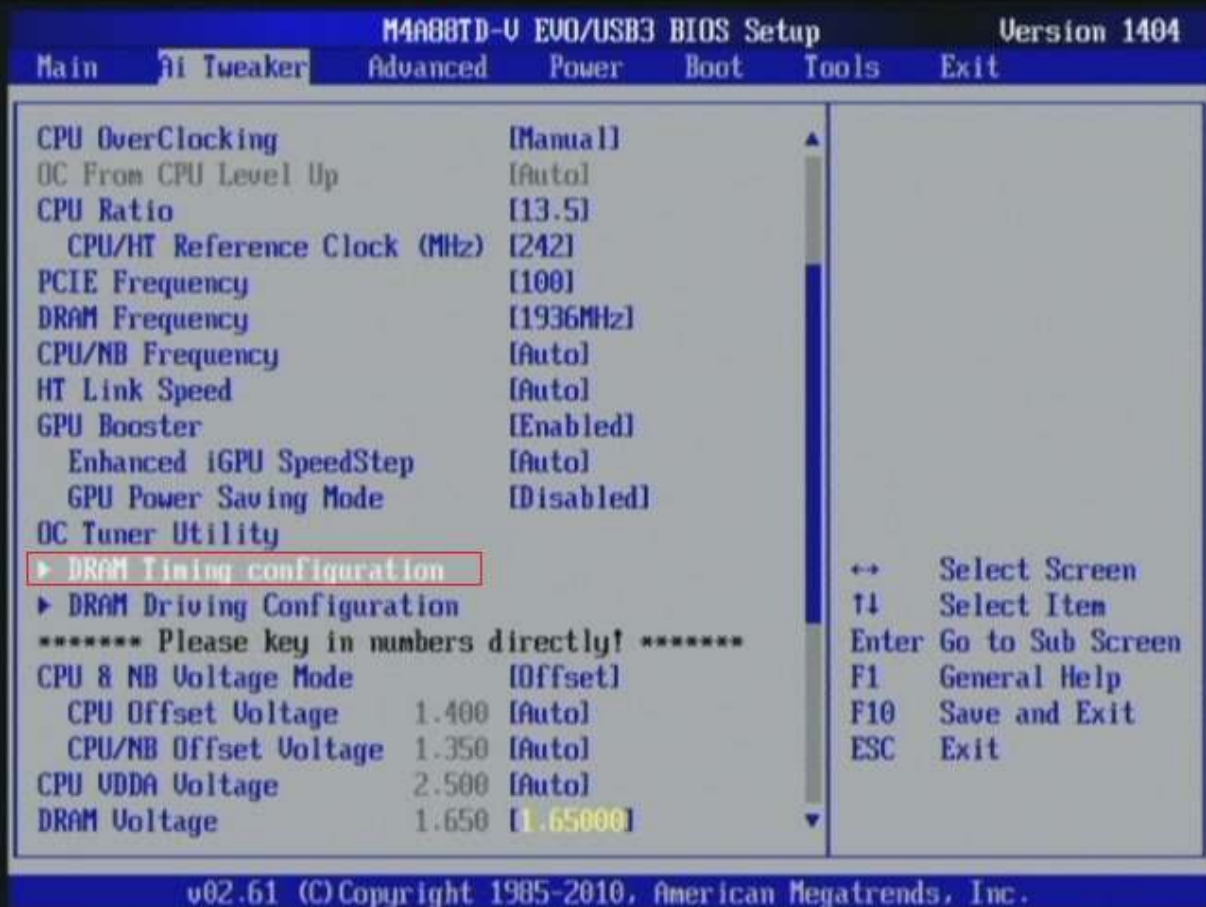
Min = 1.20000U
Max = 2.44500U(*)
Interval = 0.01500U
Standard = 1.50000U
+/- : Raise/Reduce

↔ Select Screen
↑↓ Select Item
F1 General Help
F10 Save and Exit
ESC Exit

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5. Enter [DRAM Timing Configuration] item

Select "DRAM Timing Configuration"



6. set [DRAM CAS# Latency] item to [9 CLK]

set [DRAM RAS# to CAS# Delay] item to [9 CLK]

set [DRAM RAS# PRE Time] item to [9 CLK]

set [DRAM RAS# ACT Time] item to [27 CLK]

set [DRAM Command Rate] item to [1T]

then return to previous to [Ai Overclock Tuner] menu

- Step 1 : DRAM CAS# Latency Set [9 CLK]
- DRAM RAS# to CAS# Delay Set [9 CLK]
- DRAM RAS# PRE Time Set [9 CLK]
- DRAM RAS# ACT Time Set [27 CLK]
- Step 2 : DRAM Command Rate Set [1T]



7. Save BIOS changes [F10] and exit



Test result?

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

(Data rate : $968.3 * 2 = 1936.6$, timing : 9, 9, 9, 27, multi-core test => pass!)

