

Thermal Calibration Guide for Power Mac G5 and Power Mac G5 (June 2004 Series)

Revision 05
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The only time you should need to run Thermal Calibration is after a CPU has been removed or replaced. To run TC select "Initiate Calibration" from the "Thermal Calibration" menu. If it is required then a thermal calibration window appears displaying what conditions triggered a calibration alert. Follow the instructions for the proper corrective action. When a re-calibration is required press the Calibrate button to proceed with the automated calibration process. If calibration fails the result will be given as "Calibration Failed" displayed in red text. Also displayed will be an error string describing the cause of the failure. Refer to the errors and actions. If calibration passes press the Quit button to continue to the diagnostics.

<u>ERROR STRING</u>	<u>REPAIR ACTION</u>
TaFS out of range	Replace Processor.
Calculated CPU temperature Too High calibrate.	Reseat processor, assure proper torque and mating to heat sync. Retest and If failure persist replace processor.
Calculated CPU temperature Too Low calibrate.	Reseat processor, assure proper torque and mating to heat sync. Retest and If failure persist replace processor.
Processor 0 ID EEPROM checksum error.	Replace Processor CPU0.
Processor 0 ID EEPROM Target Voltage error	Replace Processor.
Processor 1 ID EEPROM checksum error.	Replace Processor CPU1.
Processor 1 ID EEPROM Target Voltage error	Replace Processor.
Processor Current error.	Replace Processor.
Processor Target Frequency error.	Replace Processor.
Processor Temperature error.	Replace Processor.
Ambient Temperature sensor not detected error.	Check or replace temperature inlet sensor on housing.
Ambient Temperature error.	Check ambient temperature sensor (I2C) on Main Logic Board.
Sysclock PLL value error.	Replace Processor.
Processor 1 communications error.	Replace Processor CPU1.
Temperature never stabilized. replace processor.	If calibration fails run calibration again. if calibration fails a second time replace processor.
CPUID eeprom upper checksum error.	Replace Processor.
CPUID eeprom lower checksum error.	Replace Processor.
CPU Slot Number Verify failed. processor.	If calibration fails run calibration again. if calibration fails a second time replace processor.
CPUID eeprom is blank.	Replace Processor.
CPU Intake Fan Speed Error.	Check that inner door is secure and in place then rerun calibration.

Processor Max. temperature exceeded.	Reset processor and retest unit. Replace processor if it continues to fail.
Ambient Max. temperature exceeded.	Move unit to cooler environment and retest.
CPU cooling pump speed error.	Check pump and controller. Replace pump assembly if necessary.
CPU Calibration Verify failed. replace processor.	If calibration fails run calibration again. if calibration fails a second time

CONFIGURATION ERRORS

The following errors can occur for installing the wrong components together.

ERROR STRING

REPAIR ACTION

CPU0 and CPU1 are not the same clock speeds.	In dual systems install CPUs that have the same clock speeds specification. After installation restart Macintosh and run ASD to calibrate.
MLB bus speed is less than CPU0 bus speed	Install CPU0 that has a bus speed equal to or less than the MLB bus speed. After installation restart Macintosh and run ASD to calibrate.
MLB bus speed is less than CPU1 bus speed	Install CPU1 that has a bus speed equal to or less than the MLB bus speed. After installation restart Macintosh and run ASD to calibrate.

Miscellaneous messages

Calibration could take up to 30 minutes to finish.

Calibration starting on CPU0.

CPU0 Calibration Passed.

Calibration starting on CPU1.

CPU1 Calibration Passed.

Press Quit to continue to diagnostics.