Overclocking the ASUS P5B Motherboard

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Equipment used during our tests

ASUS P5B Motherboard
Intel Core 2 Duo CPU E6600
A-DATA Value Data DDR2-800 RAM
Arctic Cooling Freezer 7 Pro
Arctic Cooling CPU Paste
MSI NX 7300GT 256MB Video card
Seasonic 430 watt – Very stable power is required for Core2 Duo Processors

BIOS Version = 1102
RAM speed = DDR2-800 {5-5-5-15}

On Boot Hit "Del" ,To enter Bios.
Select "Advanced" then,
"*JumperFree Configuration*"

THE Process

1. Disable "AI Tuning" buy setting to "Manual", many more options will now appear.
2. Set "DRAM Frequency" = DDR2-533 Mhz
3. Set "PCI Express Frequency" =100
4. set "PCI Clock Synchronisation Mode" = 33.33Mhz
5. Set "Spread Spectrum" = Disabled
6. Set "Memory Voltage" = 2.10V
7. Set "CPU VCore Voltage" = 1.400V (E6600 CPU)

Table
CPU E6300 = 1.370V
CPU E6400 = 1.375V
CPU E6600 = 1.400V
CPU E6700 = 1.400V
CPU X6800 = 1.400V

8. Set "FSB Termination Voltage" = 1.40V
9. Set "SB Vcore (SATA, PCIE)" = 1.50V

Esc, then Select

10. "*CPU Configuration*"
11. Set "Modify Ration Support" = Disabled
12. Set "C1E Support" = Disabled
13. Set "Max CPUID Value Limit" = Disabled
14. Set "PECI" = Disabled
15. Set "Configure" DRAM Timing by SPD" = Disabled, {more options will now appear}

TABLE	DDR2-667	DDR2-800
CAS#	4	5
RAS# Delay	4	5
RAS# Precharge	4	5
RAS# Activate	12	15

Table is only a guide, Check YOUR ram, you will find something similar to these 4 numbers.

Esc, then Select

16. "*CPU Configuration*"
17. Set "CPU Frequency" =

Use the Plus (+) or minus (-) sign, to do this.

TABLE

E6300 = 333 x 7 = 2331
E6400 = 333 x 8 = 2664
E6600 = 333 x 9 = 2997
E6700 = 333 x 10 = 3330
X6800 310 x 10 = 3410

You can be extra brave and and increase the FSB by 2 or 5 Mhz step

To Overclock these Intel Core 2 Duo's, simply Adjust the FSB (front side bus) base clock speed starting at 266 to 333,366, and then 400Mhz. You should do this gradually, when you see problems booting, you should sloooowly increase CPU voltage, by increments of **0.02** volts.

As you Increase "CPU Frequency", you should notice that your FSB is increasing.

Save settings and reboot.

Some of the results which were stable

CPU Vcore	Memory Voltage	NbVcore	CPU Frequency	
1.475	2.1	1.4	399	3.59 Ghz
1.425	2.0	1.4	386	
1.400	2.0	1.4	366	

So these were our results yours may be totally different, so tread carefully.

Conclusion:-

With our CPU attaining nearly 3.6 Ghz out of a 2.4 that is almost 50% increase in power, we ran quiet a few virtual machines and they ran quickly, at 3.6 Ghz.
What we did notice was the chipset was getting hotter than we would have liked, which we believe justifies purchasing the more expensive boards, but a supplemental fan was not available for our testing, nor was water cooling…..maybe try both next time?

Still we believe this is an excellent result for the “Base” model P5B motherboard, we are currently using this machine in a training environment, where it gets daily use.

Disclaimer: -
The author of this guide and anyone else are NOT responsible for ANY damage caused, this is for informational purposes ONLY.
Overclocking IS dangerous to your equipment and shouldn’t be done, if the possible damage to components in your pc will be an issue for you.

----------You have been warned.----------