

Beta_Asus_Sandy_Bridge_Sleep/Wake_Fix

toleda 2012-3-

Requirements

1. Asus P8H67, P8H61 and P8Z68 motherboard
2. Lion 10.7.3 or newer
3. Native Lion Power Management - Note 1
- a. AppleIntelCPUPowerManagement.kext_v167.3.0 or newer
4. Extra/dsdt.aml - Note 2

Notes

1. Works with or without working SpeedStep. Must have installed a or b below.
 - a. Patched BIOS: samisnake <http://www.tonymacx86.com/viewtopic.php?f=14&t=49340>
 - b. MultiBeast/Drivers & Bootloaders/Miscellaneous/flAked SpeedStepper
 - c. Does not work with NullCPUPowerManagement
2. If you don't have a dsdt.aml, see <http://www.tonymacx86.com/viewtopic.php?f=14&t=35559&start=0&hilit=make+dsdt>
 - a. If you don't have a dsdt.aml and don't want one; this will work in an extracted dsdt.aml with only these edits and no other changes.

Steps

- I. BIOS
- II. DSDT Edits
- III. System Preferences
- IV. Restart
- V. Working Sleep
- VI. Troubleshooting

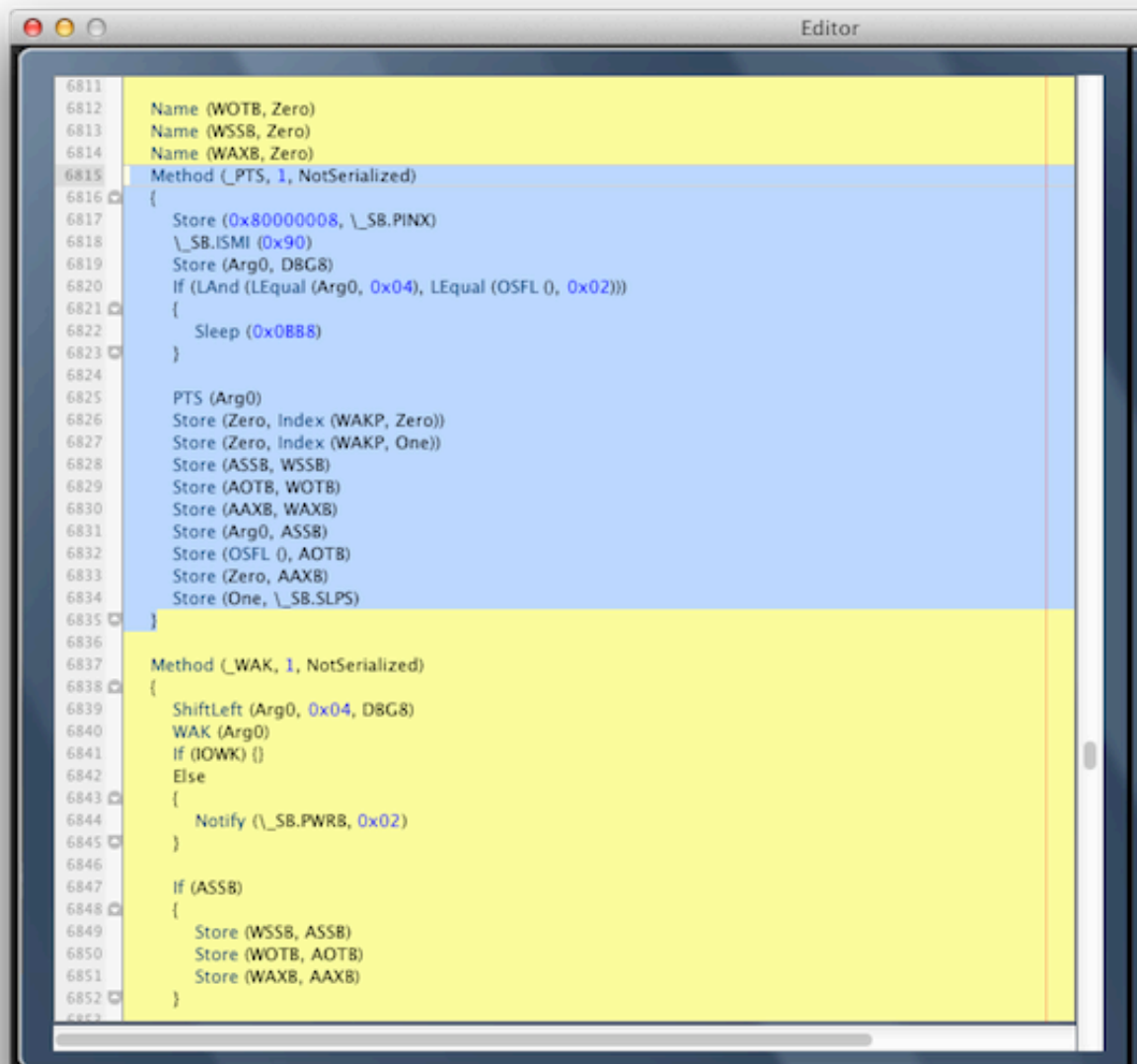
I. BIOS

Set BIOS

1. Press Delete Key to bring up BIOS
2. BIOSAdvanced/CPU Configuration/
 - a. H67/H61 - Execute Disable Bit/Enabled
 - b. P67/Z68 - Internal PPL Overvoltage/Disabled
3. BIOS/Exit
4. BIOS/Save and Restart
5. BIOS/Confirm/Yes

II DSDT Edits

1. Backup Extra/dsdt.aml
2. Copy Extra/dsdt.aml. Desktop
3. DSDTSE/Desktop/dsdt.aml
 - a. Search _PTS > should look similar



The screenshot shows a window titled "Editor" containing AML code. The code is organized into two main sections, each with a yellow background. The first section, starting at line 6811, defines the _PTS method. It includes name fields for WOTB, WSSB, and WAXB, followed by the method definition for _PTS. The method body includes a sleep instruction and several store instructions for various fields. The second section, starting at line 6837, defines the _WAK method, which includes a shift left instruction and conditional logic for WAK, IOWK, and ASSB.

```
6811 Name (WOTB, Zero)
6812 Name (WSSB, Zero)
6813 Name (WAXB, Zero)
6814
6815 Method (_PTS, 1, NotSerialized)
6816 {
6817     Store (0x80000008, \_SB.PINX)
6818     \_SB.ISMI (0x90)
6819     Store (Arg0, DBG8)
6820     If (LAnd (LEqual (Arg0, 0x04), LEqual (OSFL 0, 0x02)))
6821     {
6822         Sleep (0x0BB8)
6823     }
6824
6825     PTS (Arg0)
6826     Store (Zero, Index (WAKP, Zero))
6827     Store (Zero, Index (WAKP, One))
6828     Store (ASSB, WSSB)
6829     Store (AOTB, WOTB)
6830     Store (AAXB, WAXB)
6831     Store (Arg0, ASSB)
6832     Store (OSFL 0, AOTB)
6833     Store (Zero, AAXB)
6834     Store (One, \_SB.SLPS)
6835 }
6836
6837 Method (_WAK, 1, NotSerialized)
6838 {
6839     ShiftLeft (Arg0, 0x04, DBG8)
6840     WAK (Arg0)
6841     If (IOWK) {}
6842     Else
6843     {
6844         Notify (\_SB.PWRB, 0x02)
6845     }
6846
6847     If (ASSB)
6848     {
6849         Store (WSSB, ASSB)
6850         Store (WOTB, AOTB)
6851         Store (WAXB, AAXB)
6852     }
6853 }
```

4. DSDTSE/Downloads/
a. Copy Method (_PTS, 1, NotSerialized) as highlighted below:

```
1 Beta_Asus_Sandy_Bridge_Sleep/Wake_Fix - toleda - 2012-3-5
2
3 File: Beta_Asus_Sandy_Bridge_Sleep/Wake_Fix_v0.2
4
5 Line Contents
6 10 _PTS Edit
7 32 PWRB Edit
8
9
10 1. _PTS Edit
11
12 Method (_PTS, 1, NotSerialized)
13 {
14     Store (Arg0, DBG8)
15     If (LAnd (LEqual (Arg0, 0x04), LEqual (OSFL 0, 0x02)))
16     {
17         Sleep (0x0888)
18     }
19
20     PTS (Arg0)
21     Store (Zero, Index (WAKP, Zero))
22     Store (Zero, Index (WAKP, One))
23     Store (ASSB, WSSB)
24     Store (AOTB, WOTB)
25     Store (AAXB, WAXB)
26     Store (Arg0, ASSB)
27     Store (OSFL 0, AOTB)
28     Store (Zero, AAXB)
29     Store (One, _S8.SLPS)
30 }
31
32 2. PWRB Edit
33
34 Device (PWRB)
35 {
36     Name (_CID, EisaId ("PNP0C0C"))
37     Name (_UID, 0xAA)
38     Name (_STA, 0x08)
39     Method (_PRW, 0, NotSerialized)
40     {
41         Return (GPRW (0x08, 0x04))
42     }
43 }
```

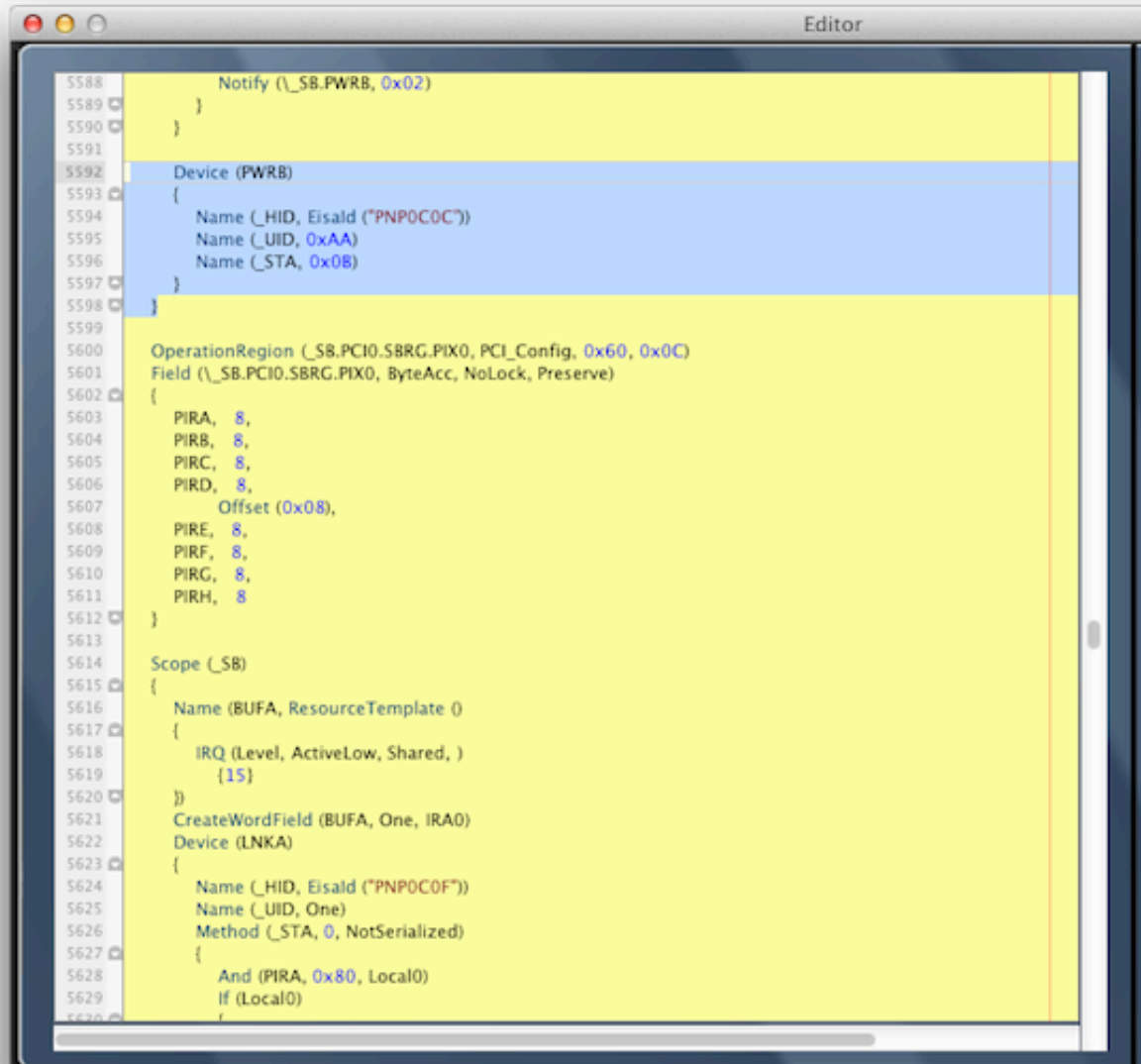
5. DSDTSE/Desktop/dsdt.aml

- a. Paste Downloads/Method (_PTS, 1, NotSerialized) over Desktop/Method (_PTS, 1, NotSerialized)
- b. Verify DSDTSE/Desktop/dsdt.aml looks similar

```
6295
6296     Name (WOTB, Zero)
6297     Name (WSSB, Zero)
6298     Name (WAXB, Zero)
6299     Method (_PTS, 1, NotSerialized)
6300     {
6301         Store (Arg0, DBG8)
6302         If (LAnd (LEqual (Arg0, 0x04), LEqual (OSFL 0, 0x02)))
6303         {
6304             Sleep (0x0BB8)
6305         }
6306
6307         PTS (Arg0)
6308         Store (Zero, Index (WAKP, Zero))
6309         Store (Zero, Index (WAKP, One))
6310         Store (ASSB, WSSB)
6311         Store (AOTB, WOTB)
6312         Store (AAXB, WAXB)
6313         Store (Arg0, ASSB)
6314         Store (OSFL 0, AOTB)
6315         Store (Zero, AAXB)
6316         Store (One, \_SB.SLPS)
6317     }
6318
6319     Method (_WAK, 1, NotSerialized)
6320     {
6321         ShiftLeft (Arg0, 0x04, DBG8)
6322         WAK (Arg0)
6323         If (IOWK) {}
6324         Else
6325         {
6326             Notify (\_SB.PWRB, 0x02)
6327         }
6328
6329         If (ASSB)
6330         {
6331             Store (WSSB, ASSB)
6332             Store (WOTB, AOTB)
6333             Store (WAXB, AAXB)
6334         }
6335
6336         If (DerefOf (Index (WAKP, Zero)))
```

6. DSDTSE/Desktop/dsdt.aml

a. Search PWRB/Repeat Next 4 - 5 times > should look similar



The screenshot shows an AML editor window titled "Editor". The code is as follows:

```
5588     Notify (\_SB.PWRB, 0x02)
5589   }
5590 }
5591
5592 Device (PWRB)
5593 {
5594     Name (_HID, Eisaid ("PNP0C0C"))
5595     Name (_UID, 0xAA)
5596     Name (_STA, 0x0B)
5597 }
5598
5599
5600 OperationRegion (_SB.PCI0.SBRG.PIX0, PCI_Config, 0x60, 0x0C)
5601 Field (\_SB.PCI0.SBRG.PIX0, ByteAcc, NoLock, Preserve)
5602 {
5603     PIRA, 8,
5604     PIRB, 8,
5605     PIRC, 8,
5606     PIRD, 8,
5607     Offset (0x08),
5608     PIRE, 8,
5609     PIRF, 8,
5610     PIRG, 8,
5611     PIRH, 8
5612 }
5613
5614 Scope (_SB)
5615 {
5616     Name (BUFA, ResourceTemplate ()
5617     {
5618         IRQ (Level, ActiveLow, Shared, )
5619         {15}
5620     })
5621     CreateWordField (BUFA, One, IRA0)
5622     Device (LNKA)
5623     {
5624         Name (_HID, Eisaid ("PNP0C0F"))
5625         Name (_UID, One)
5626         Method (_STA, 0, NotSerialized)
5627         {
5628             And (PIRA, 0x80, Local0)
5629             If (Local0)
5630             {
```

7. DSDTSE/Downloads/

a. Copy Device (PWRB) as highlighted below:

```
File: Beta_Asus_Sandy_Bridge_Sleep/Wake_Fix_v0.2
Line  Contents
10  _PTS Edit
32  PWRB Edit

1. _PTS Edit
Method (_PTS, 1, NotSerialized)
{
    Store (Arg0, DBG8)
    If (LAnd (LEqual (Arg0, 0x04), LEqual (OSFL 0, 0x02)))
    {
        Sleep (0x0888)
    }

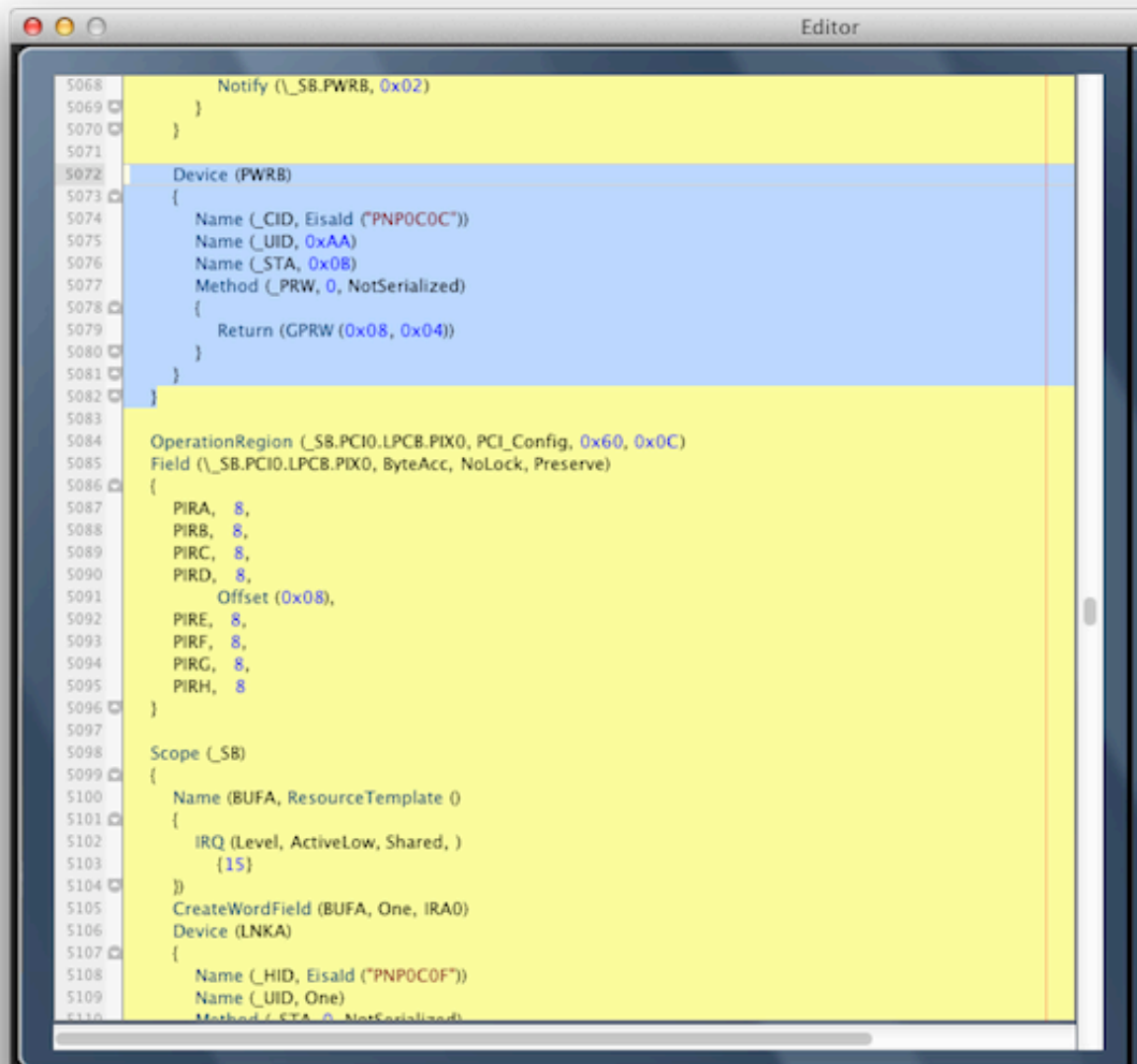
    PTS (Arg0)
    Store (Zero, Index (WAKP, Zero))
    Store (Zero, Index (WAKP, One))
    Store (ASSB, WSSB)
    Store (AOTB, WOTB)
    Store (AAXB, WAXB)
    Store (Arg0, ASSB)
    Store (OSFL 0, AOTB)
    Store (Zero, AAXB)
    Store (One, _SB.SLPS)
}

2. PWRB Edit
Device (PWRB)
{
    Name (_CID, EisaId ("PNP0C0C"))
    Name (_UID, 0xAA)
    Name (_STA, 0x08)
    Method (_PRW, 0, NotSerialized)
    {
        Return (GPRW (0x08, 0x04))
    }
}
```

8. DSDTSE/Desktop/dsdt.aml

a. Paste Downloads/Device (PWRB) over Desktop/Device (PWRB)

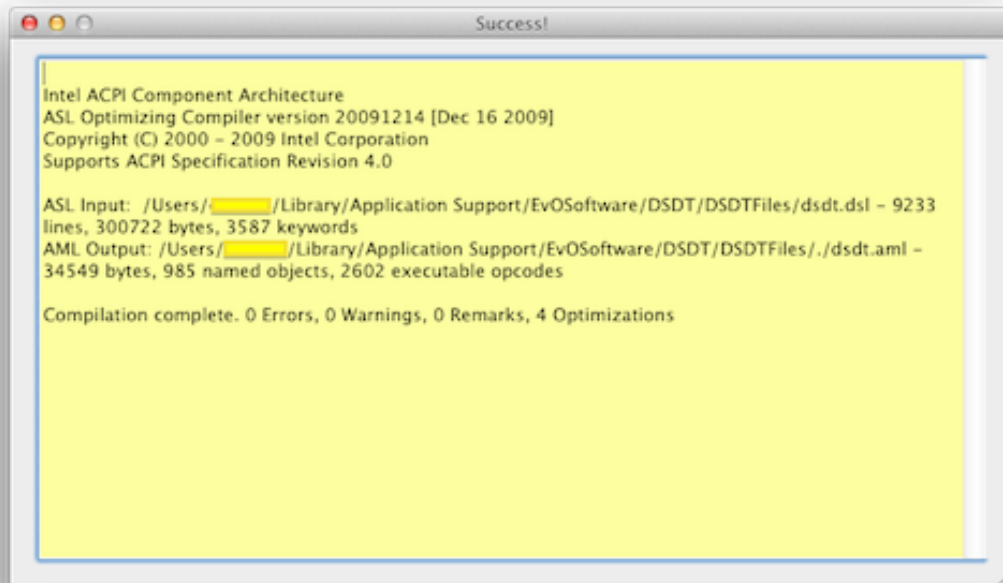
b. Verify DSDTSE/Desktop/dsdt.aml looks similar



```
5068     Notify (_SB.PWRB, 0x02)
5069   }
5070 }
5071
5072 Device (PWRB)
5073 {
5074     Name (_CID, Eisald ("PNP0C0C"))
5075     Name (_UID, 0xAA)
5076     Name (_STA, 0x0B)
5077     Method (_PRW, 0, NotSerialized)
5078     {
5079         Return (GPRW (0x08, 0x04))
5080     }
5081 }
5082 }
5083
5084 OperationRegion (_SB.PCI0.LPCB.PIX0, PCI_Config, 0x60, 0x0C)
5085 Field (_SB.PCI0.LPCB.PIX0, ByteAcc, NoLock, Preserve)
5086 {
5087     PIRA, 8,
5088     PIRB, 8,
5089     PIRC, 8,
5090     PIRD, 8,
5091     Offset (0x08),
5092     PIRE, 8,
5093     PIRF, 8,
5094     PIRG, 8,
5095     PIRH, 8
5096 }
5097
5098 Scope (_SB)
5099 {
5100     Name (BUFA, ResourceTemplate ()
5101     {
5102         IRQ (Level, ActiveLow, Shared, )
5103         {15}
5104     })
5105     CreateWordField (BUFA, One, IRA0)
5106     Device (LNKA)
5107     {
5108         Name (_HID, Eisald ("PNP0C0F"))
5109         Name (_UID, One)
5110         Method (_STA, 0, NotSerialized)
```

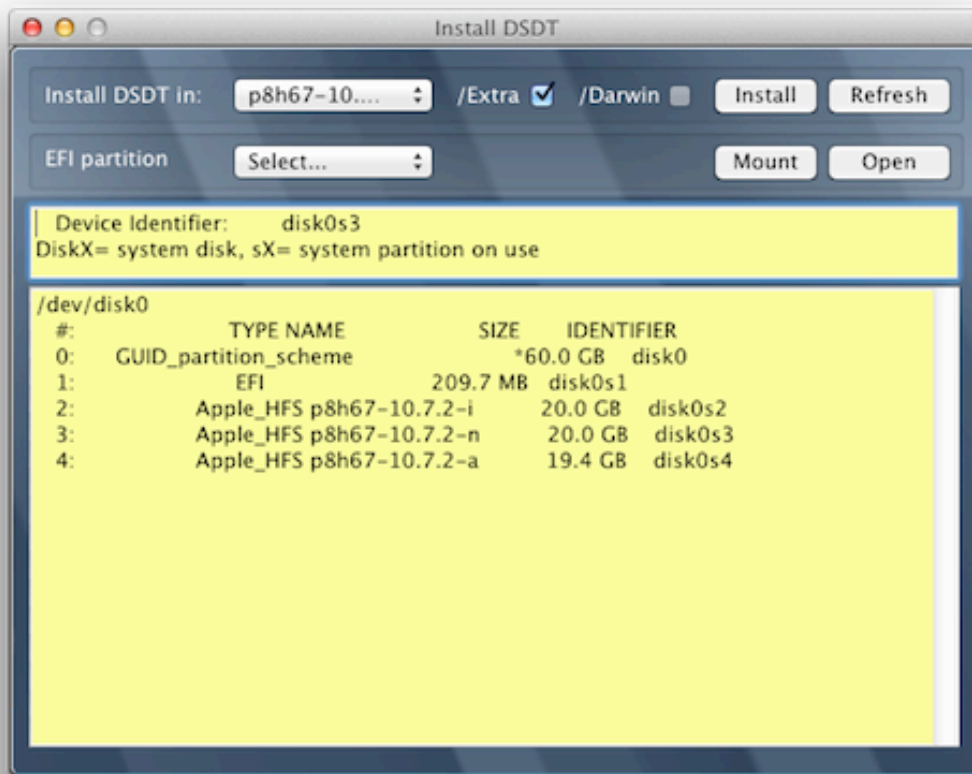
9. DSDTSE/Compile DSDT

a. If errors, fix if possible, otherwise start over at Step 2.

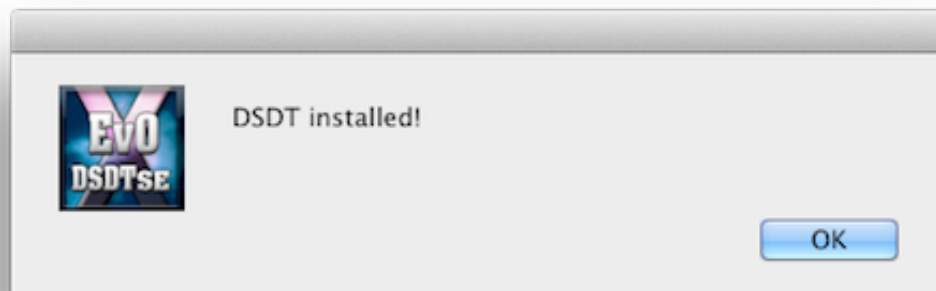


```
Success!  
  
Intel ACPI Component Architecture  
ASL Optimizing Compiler version 20091214 [Dec 16 2009]  
Copyright (C) 2000 - 2009 Intel Corporation  
Supports ACPI Specification Revision 4.0  
  
ASL Input: /Users/[redacted]/Library/Application Support/EvoSoftware/DSDT/DSDTFiles/dsdt.dsl - 9233  
lines, 300722 bytes, 3587 keywords  
AML Output: /Users/[redacted]/Library/Application Support/EvoSoftware/DSDT/DSDTFiles/./dsdt.aml -  
34549 bytes, 985 named objects, 2602 executable opcodes  
  
Compilation complete. 0 Errors, 0 Warnings, 0 Remarks, 4 Optimizations
```


10. DSDTSE/Install
- Select boot partition
 - Check Extra
 - Install

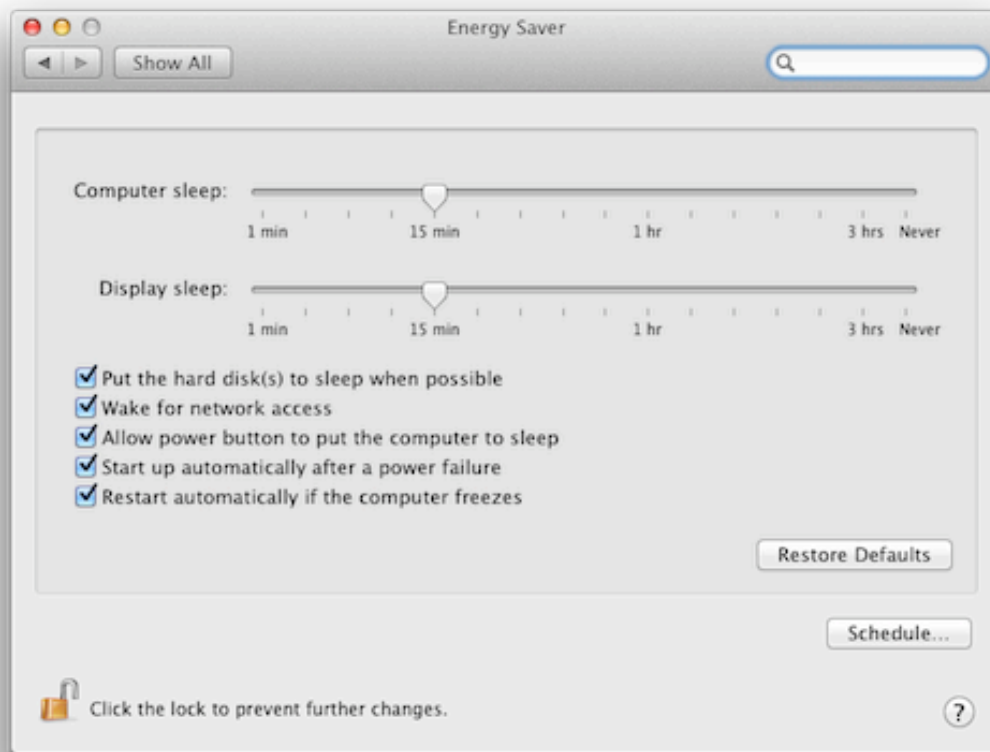


11. DSDT/Installed



III. System Preferences

1. System Preferences/Energy Saver/
 - a. Set Computer sleep and Display sleep
 - b. Check all boxes



IV. Restart

1. Give the system a chance to finish all startup tasks
2. Verify sleep.

V. Working Sleep

1. Display off
2. Processor sleeping/CPU fan off
3. Power light blinking

VI. Troubleshooting

1. Sleep/Power light on - processor not sleeping
 - a. Verify/Asus_Sandy_Bridge_Sleep-Wake_Fix dsdt edits
 - b. Remove kexts noted above
 - c. Remove all third party kexts
 - d. Install MacOSXUpdCombo10.7.3
2. Wake/Power light on - no display
 - a. Verify/Asus_Sandy_Bridge_Sleep-Wake_Fix dsdt edits
 - b. Verify/BIOS/Advanced/CPU Configuration/Execute Disable Bit/Enabled