

[Guide]_5series-hdmi_audio_(dsdt_or_ssdt)_v2.0



5series HDMI Audio

5 Series/Socket 1156 - AMD/Nvidia HDMI audio
X58 and X79/Socket 2011 - AMD/Nvidia HDMI audio
1. AMI BIOS or 2. Award BIOS

v2: 8/15/2014 - Initial Release

OS X HDMI audio for AMD/Nvidia graphics cards with dsdt edits.

Requirements

1. OS X 10.6.5 and newer with either
 1. patched AppleHDA.kext
 2. native AppleHDA.kext
2. 5 Series/Socket 1156 Intel motherboard with
 1. AMI BIOS
 3. Award BIOS
3. X58 and X79/Socket 2011 Intel motherboard with
 1. AMI BIOS
 3. Award BIOS
4. OS X HDMI audio support with
 1. Nvidia 4xx, 5xx, 6xx
 2. some AMD 5xxx, 6xxx, 7xxx, R7 and R9.
5. 5 Series/X58/X79 desktop configurations supported
6. 5 Series/X58/X79 motherboard audio codecs
 1. Supported: ALC885, ALC887, ALC888, ALC892, ALC898 and ALC1150

2. Unsupported audio codec/HDMI audio only
7. Audio ID, select one
 - 1 - 3, 5, 6 port motherboard audio (-A1)
 - 2 - 3 (5.1) port motherboard audio (-A2)
 - 1 - Native AppleHDA.kext (w/unsupported audio codec)

Before You Start

1. OS X does not provide HDMI audio controls (no volume, no mute, no balance, etc.)
2. The connected HDMI device (TV, receiver, etc.) provides any and all audio controls
3. Remove System/Library/Extension (S/L/E)
 1. S/L/E/HDAEnabler1.kext (if present)
 2. S/L/E/HDAEnabler2.kext (if present)
4. Make a bootable backup of your system (CarbonCopyCloner/SuperDuper)

Tools

1. IORegistryExplorer (select one)
 1. IORegistryExplorer_v2.1.zip (View Raw)
 2. [IOJones Download](#)
2. dsdt editor
 1. MaciASL
3. device_id/kernel cache/status
 1. DPCIManager
4. bootable backup
 1. CarbonCopyCloner or SuperDuper

Verify BIOS supplier

1. Verify first line of an AMI dsdt is similar to:
 DefinitionBlock (".dsdt.aml", "DSDT", 2, "ALASKA", "A M I", 0x000000..)
2. Verify first line of an Award dsdt is similar to:
 DefinitionBlock (".dsdt.aml", "DSDT", 1, "GBT ", "GBTUACPI", 0x00001000)

5series HDMI Audio dsdt edits - Desktop

[toleda/audio_hdmi_5series](#)

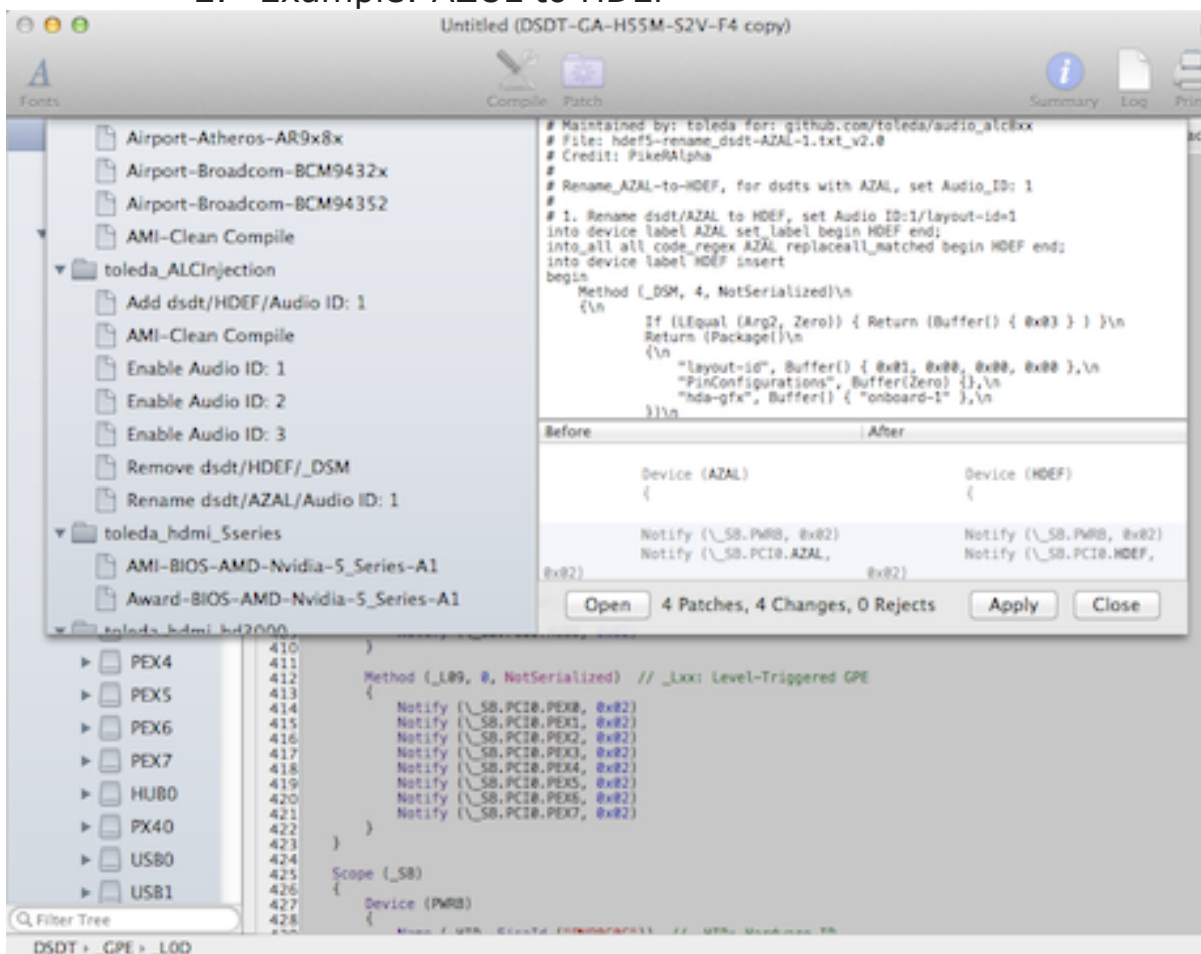
Configure MaciASL/Preferences/Sources/+ with URL: (copy/paste URL)

https://raw.githubusercontent.com/toleda/audio_hdmi_5series/master

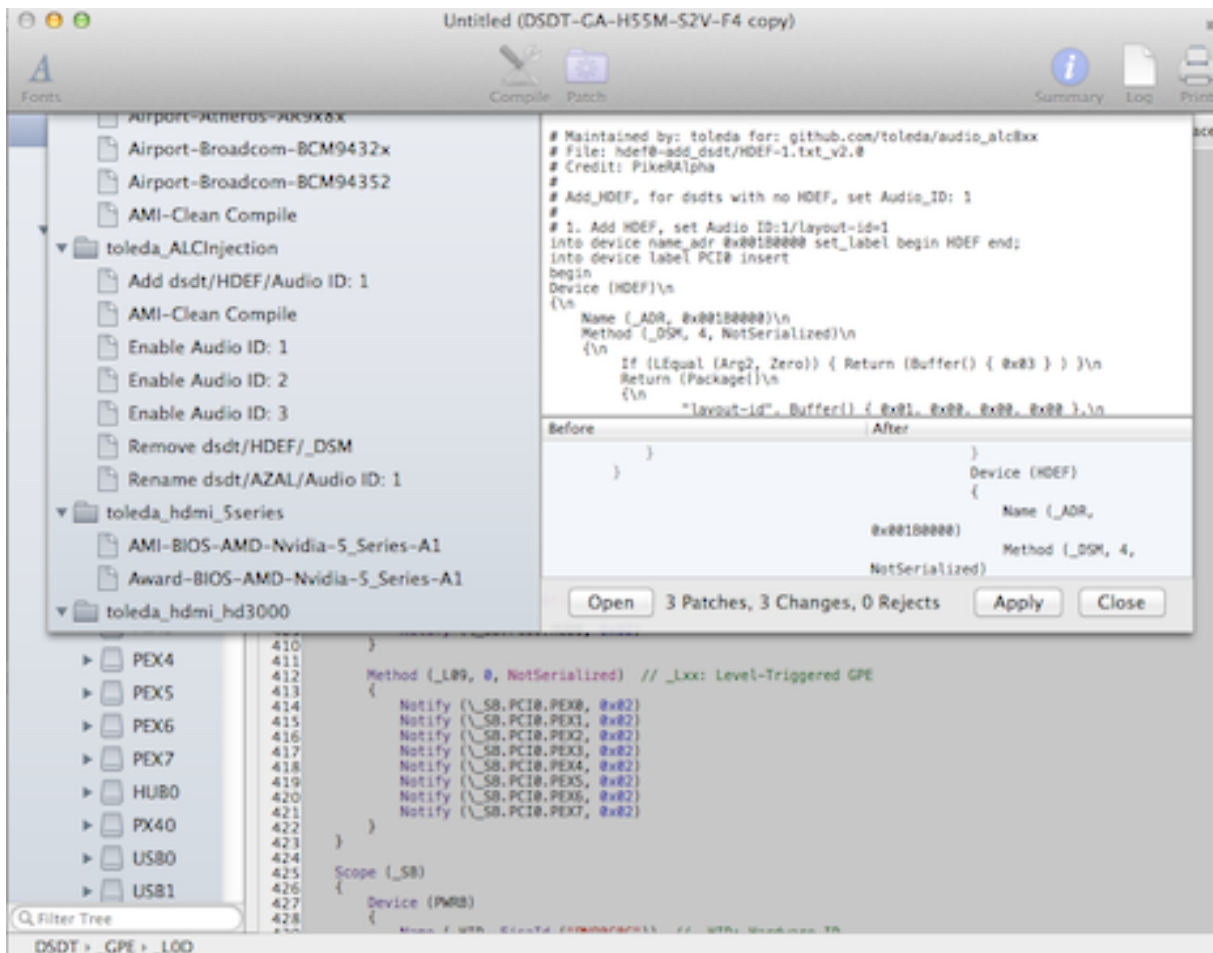
Step 1: Determine Graphics Device Name and Address

1. Verify HDEF

1. IOREG details: [Guide]-OS X-hdmi_audio_(IOReg details)_v2.pdf, step 5
2. If dsdt/AZAL, see [How to Add or Edit dsdt/HDEF v2](#)
 1. Patch/Rename dsdt/AZAL/Audio ID: 1
 2. Example: AZUL to HDEF



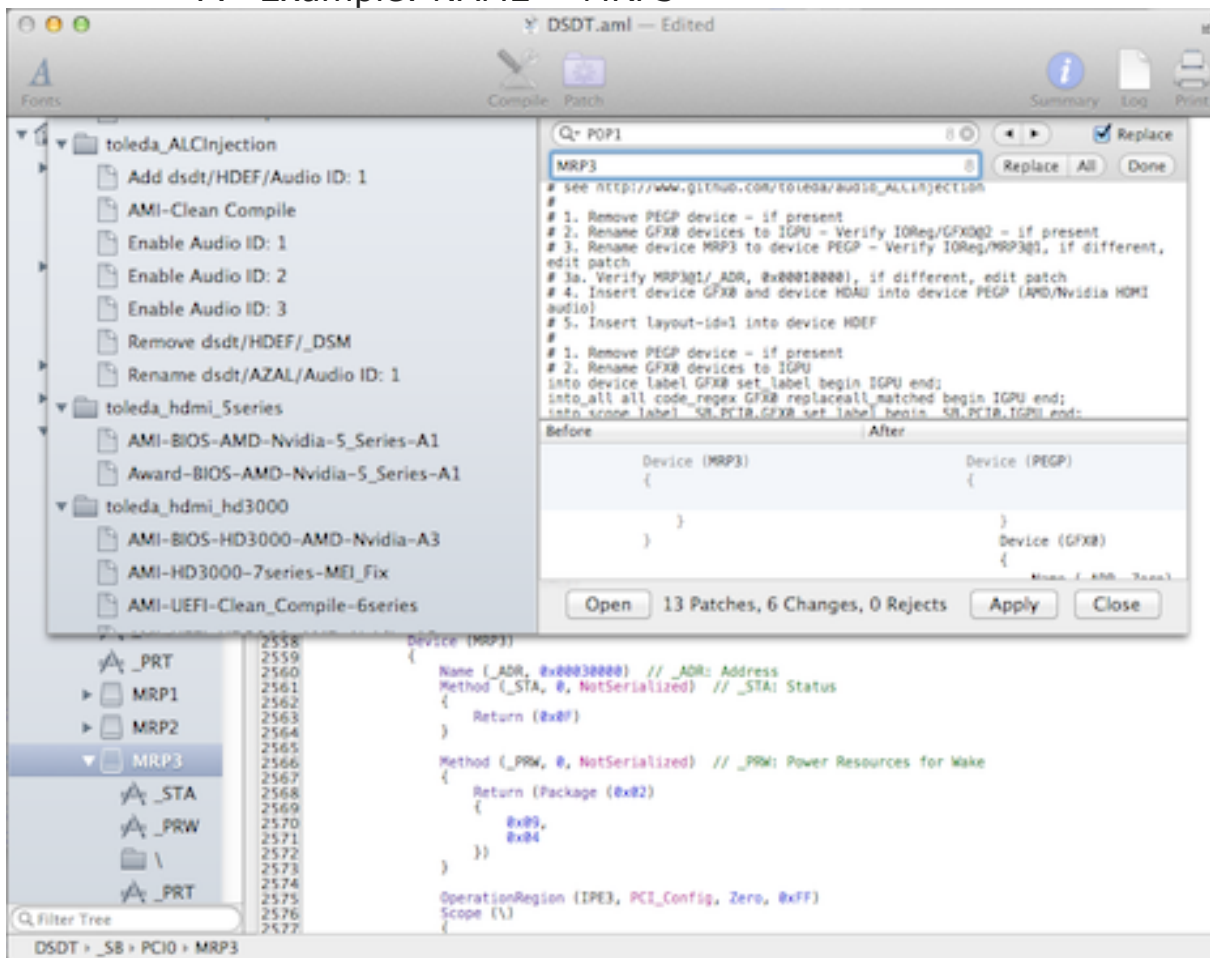
3. If no HDEF, see [How to Add or Edit dsdt/HDEF v2](#)
 1. Patch/Add dsdt/HDEF/Audio ID: 1
 2. Example: No HDEF to HDEF



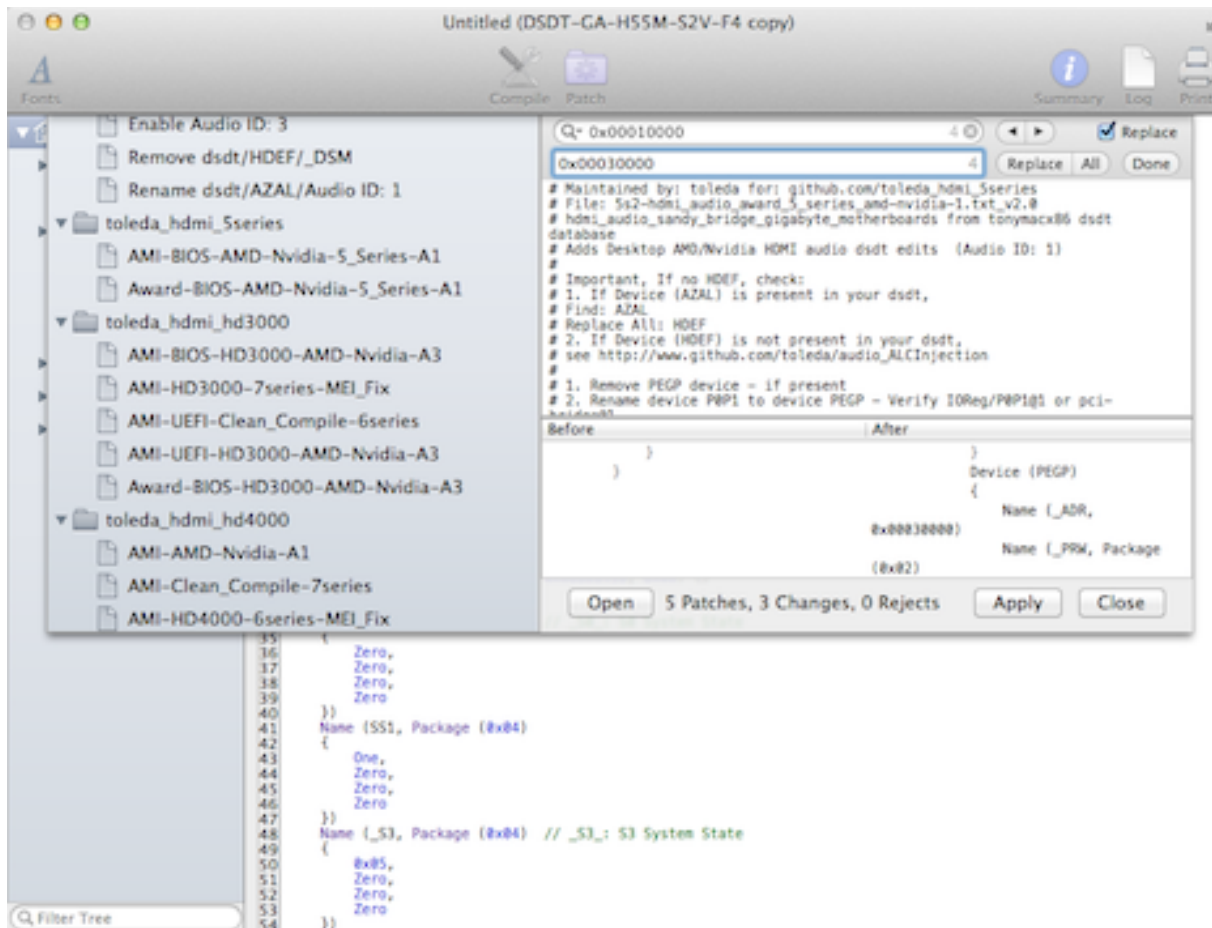
3. Determine Graphics Name and Address

1. IOREG details: [Guide]-OS X-hdmi_audio_(IOReg details)_v2.pdf, step 1 and 2
2. If Discrete Graphics = POP1@1, use AMI-BIOS-AMD-Nvidia-A1
3. If Discrete Graphics = pci-bridge@1 use Award-BIOS-AMD-Nvidia-A1
4. Patch edited required
5. Assume your graphics name and address: NAME@?
6. Edit Name: If Discrete Graphics = pci-bridge@ <> 1
 1. See Edit Address
7. Edit Name: If Discrete Graphics = NAME
 1. Patch/AMI-BIOS-AMD-Nvidia-A1
 2. MaciASL/Edit/Find/Find and Replace ...
 3. Find: POP1
 4. Replace: NAME
 5. Replace All
 6. Apply

7. Example: NAME = MRP3



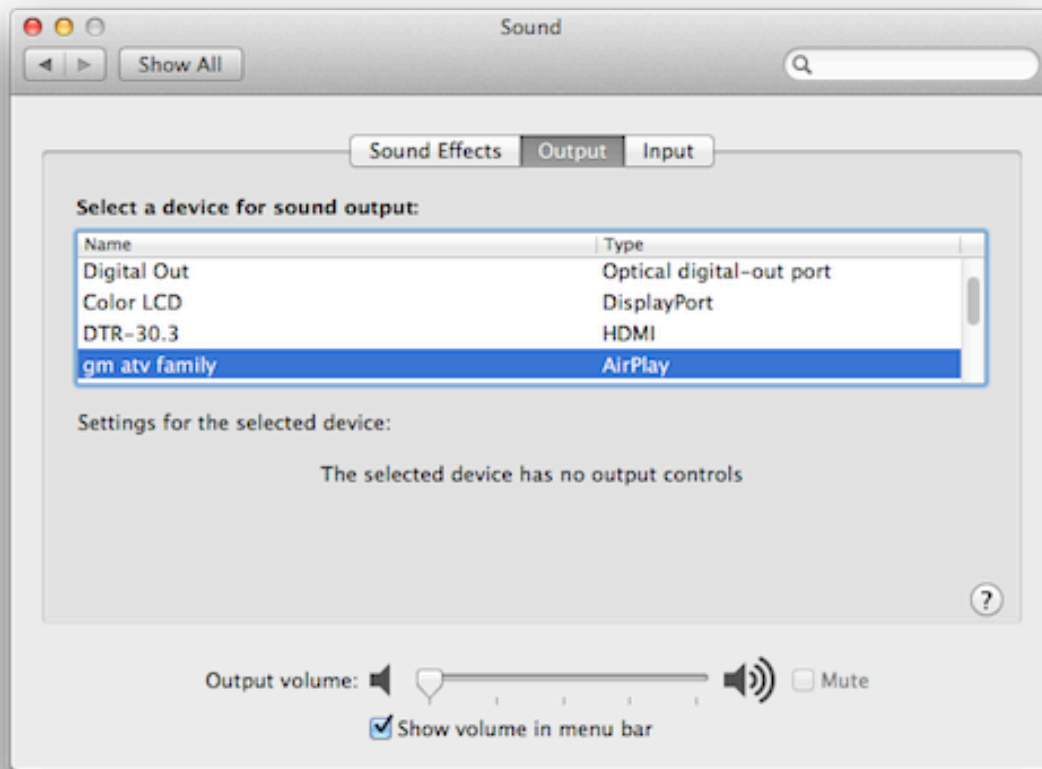
8. Edit Address: If Discrete Graphics = pci-bridge@? (? <> 1)
 1. Patch/Award-BIOS-AMD-Nvidia-A1
 2. MaciASL/Edit/Find/Find and Replace ...
 3. Find: 0x00010000
 4. Replace: 0x000?0000
 5. Replace All
 6. Apply
9. Edit Address: If Discrete Graphics = NAME@? (? <> 1)
 1. Patch/AMI-BIOS-AMD-Nvidia-A1
 2. MaciASL/Edit/Find/Find and Replace ...
 3. Find: 0x00010000
 4. Replace: 0x000?0000
 5. Replace All
 6. Apply
 7. Example: ?=3, Address = 0x00030000



Step 2: OS X HDMI Audio Guides- select one

1. Apply edits to patch as noted above (if necessary)
2. dsdt edits: [Guide]_OS_X_hdmi_audio-dsdt_v2.pdf.zip
 1. URL: https://raw.githubusercontent.com/toleda/audio_hdmi_hd3000/master
 2. Patches/5series (subject to change)
 1. AMI-BIOS-AMD-Nvidia-A1
 3. Award-BIOS-AMD-Nvidia-A1
 3. Example: Desktop with Audio ID: 1; Select
 1. AMI-BIOS-AMD-Nvidia-A1

Step 3: Verify HDMI Audio (Ex., HDMI/DP/AirPlay Audio enabled)



OS X/Discrete Graphics HDMI Audio

1. Nvidia 4xx/5xx/6xx7xx
 1. Not supported natively: GTS 450, GTX 550ti, and GTX560ti
 2. All Nvidia graphic card connectors support HDMI audio (DVI2HDMI, DP2HDMI)
 3. DP audio supported
 4. DVI audio supported
2. AMD HD5xxx/HD6xxx/HD7xxx (framebuffer injection/editing may be required)
 1. Framebuffers, see [ATI/AMD 5xxx & 6xxx Graphics Cards Framebuffer Personalities](#),
 2. Framebuffer edits,
 1. [Lion HDMI Audio - Part 3a: Kext Edits - AMD](#)
 2. [Editing custom personalities for ATI Radeon HD\[45\]xxx - ATi - InsanelyMac Forum](#)
 3. DP audio supported
 4. DVI audio not supported

3. Supported Configurations (OS X HDMI Audio)

1. Nvidia only
3. AMD only
4. Intel IGFX and Nvidia
5. Intel IGFX and AMD

dsdt/ssdt edits

```
Device (PEGP) // Rename
{
    Name (_ADR, 0x00010000)
1. Device (GFX0)
    {
        Name (_ADR, Zero)
        Name (_SUN, One)
        Method (_DSM, 4, NotSerialized)
        {
            If (LEqual (Arg2, Zero))
            {
                Return (Buffer (One)
                {
                    0x03
                })
            }

            Return (Package (0x0A)
            {
                "@0,connector-type",
                Buffer (0x04)
                {
                    0x00, 0x08, 0x00, 0x00
                },

                "@1,connector-type",
                Buffer (0x04)
                {
                    0x00, 0x08, 0x00, 0x00
                },

                "@2,connector-type",
                Buffer (0x04)
                {
```



```

        0x00, 0x08, 0x00, 0x00
    },

    "@3,connector-type",
    Buffer (0x04)
    {
        0x00, 0x08, 0x00, 0x00
    },

    "hda-gfx",
    Buffer (0x0A)
    {
        "onboard-2"
    }
    })
}
}

```

2. Device (HDAU)

```

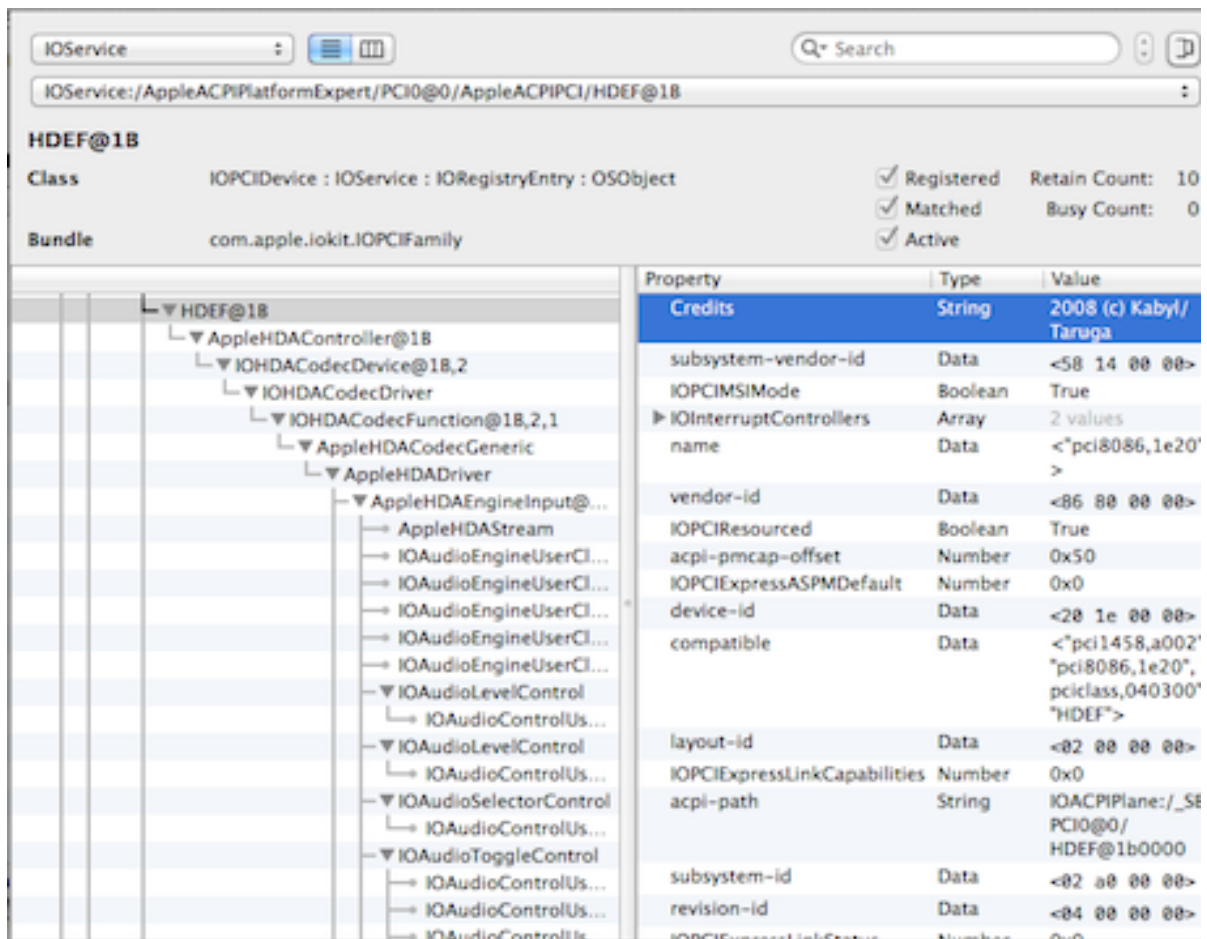
{
    Name (_ADR, One)
    Method (_DSM, 4, NotSerialized)
    {
        If (LEqual (Arg2, Zero))
        {
            Return (Buffer (One)
            {
                0x03
            })
        }

        Return (Package (0x04)
        {
            "layout-id",
            Buffer (0x04)
            {
                0x01, 0x00, 0x00, 0x00
            },

            "hda-gfx",
            Buffer (0x0A)

```

1. Verify HDMI device connected
 1. System Information/Graphics/Display/HDMI device/Television/Yes
2. Run IOReg/IOJones/Verify Devices HDEF and IGPU (native/GFX0)
 1. Ex. IOReg/Search: HDEF
 2. Select HDEF
 3. Cancel Search (x)
 4. Scroll up to view HDEF device and properties
3. IOReg/IOJones/Verify HDEF@1B
 1. If Credits, delete S/L/E/HDAEnabler1.kext or HDAEnabler2.kext
 2. Verify layout-id is 1
- 3.



4. AMD HDMI audio troubleshooting
 1. Select View Raw: [Guide]_AMD-hdmi_audio_v2.pdf.zip
5. Nvidia HDMI audio troubleshooting
 1. Select View Raw: [Guide]_Nvidia-hdmi_audio_v2.pdf.zip

Problem Reporting (include the following information)

1. Details
 1. Description of audio problem
 2. OS X version/motherboard model/BIOS version/processor/graphics
 3. Procedure/Guide Used
 4. Copy of IOReg - IOReg_v2.1/File/Save a Copy As..., verify file (no ioreg.txt)
 5. Screen shots:
 1. DPCIManager
 2. System Information/Hardware/Audio/Intel High Definition Audio (not Devices)
 6. System/Library/Extensions/AppleHDA.kext

7. System/Library/extensions/AppleHDAxxx.kext (if installed)
8. Chimera/Chameleon
 1. Extra/org.chameleon.Boot.plist
 2. DPCIManager/Misc/Boot Log
 3. Extra/dsdt.aml (if installed)
 4. Extra/ssdt.aml (if installed)
9. Clover
 1. EFI/Clover/config.plist
 2. EFI/Clover/misc/debug.log (Set config.plist/Boot/Debug/YES)
 3. EFI/Clover/ACPI/Patched/dsdt.aml (if installed)
 4. EFI/Clover/ACPI/Patched/ssdt.aml (if installed)

Credits:

VCH888: [ALC889A, Gigabyte \(Intel\): now having a working front mic - Page 38 - Sound - InsanelyMac Forum](#)

SJ_UnderWater: [Native DSDT/AML IDE & Compiler: MaciASL Open Beta](#)

[Guide] ML-Sandy_Bridge-HD3000-6_series-hdmi_audio_dsdt_edits_v1.0