



AMD HDMI Audio

Intel chipsets, 5 Series and Newer

1. AMI UEFI, 2. AMI BIOS or 3. Award BIOS

v2: 8/15/2014 - Initial Release

OS X HDMI audio for AMD graphics cards with dsdt edits or HDMI audio ssdts. With appropriate HDMI audio exist (dsdt or ssdt), OS X natively supports AMD HDMI audio with a few graphics cards (ex., Sapphire Vapor-X HD5870, Sapphire Vapor-X HD6870). Most AMD graphics cards require identifying a working framebuffer and editing the framebuffer to get all connectors working and enable HDMI audio. Note, a solution that works on a specific graphics will likely not work with the same graphics card from a different manufacturer (different VBIOS).

Requirements

1. OS X 10.6.5 and newer with either
 1. patched AppleHDA.kext
 2. native AppleHDA.kext
2. Intel chipsets: 5 Series and newer, all flavors
 1. AMI UEFI
 2. AMI BIOS
 3. Award BIOS
3. OS X HDMI audio support with
 1. Nvidia 4xx, 5xx, 6xx

4. Configurations supported
 1. All desktop
 2. Some Laptop
 3. Most Intel NUC/Gigabyte BRIX
5. Motherboard audio codecs
 1. Supported: ALC885, ALC887, ALC888, ALC892, ALC898 and ALC1150
 2. Unsupported audio codec/HDMI audio only
6. Audio ID, select one
 - 1 - 3, 5, 6 port motherboard audio (-A1)
 - 2 - 3 (5.1) port motherboard audio (-A2)
 - 3 - 3, 5, 6 port motherboard audio with Intel IGFX HDMI audio (-A3)
 - 1 - Native AppleHDA.kext (w/unsupported audio codec)

Step 1: AMD HDMI Audio kext edits

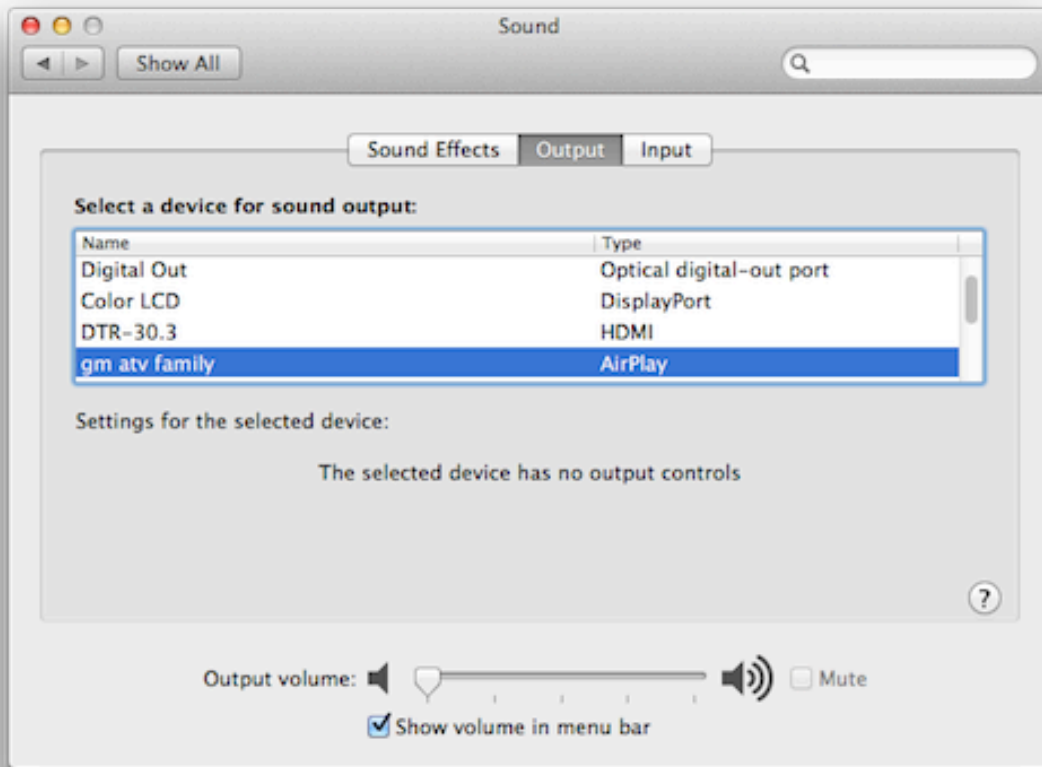
1. AppleHDA.kext
 1. AppleHDAController binary edit likely required
 1. [Lion HDMI Audio - Part 3a: Kext Edits - AMD](#)
2. Controller/AMD5000Controller.kext/AMD6000../AMD7000.../..
 1. Working framebuffer (framebuffer w/HDMI connector)
 1. [ATI/AMD 5xxx & 6xxx Graphics Cards Framebuffer Personalities](#)
 2. Working connectors (edit connector for VBIOS sense_id)
 1. [Editing custom personalities for ATI Radeon HD\[45\]xxx - ATi - InsanelyMac Forum](#)
3. [Case_Studies]_AMD-HD7xxx_HDMI_Audio_v2.pdf.zip

Step 2: OS X HDMI Audio Guides

1. See toleda/audio_hdmi_.... OS X HDMI Audio Guides
 1. Select appropriate repo
2. Additional OS X/AMD HDMI audio steps
 1. Add framebuffer injection
 1. edit dsdt/ssdt
 2. edit Clover/config.plist/Graphics
 1. Inject/ATI/YES
 2. FBName/framebuffer
 2. AMD HDMI audio edited kexts (select one)
 1. Install edited HDMI audio kexts
 2. edit Clover/config.plist/KernelAndKextPatches
 1. KextsToPatch/AMD....Controller

3. Rebuild kernel cache
4. Restart

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



OS X/Discrete Graphics HDMI Audio

1. AMD HD5xxx/HD6xxx/HD7xxx/R7/R9 (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
2. Supported Configurations (OS X HDMI Audio)
 1. AMD only

4. 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 (0x02)
            {
                "hda-gfx",
                Buffer (0x0A)
                {
                    "onboard-2"
                }
            })
        }
    }
}

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



```
Buffer (0x07)
{
  "Slot-1"
},

"device-id",
Buffer (0x04)
{
  0x3F, 0x68, 0x00, 0x00
},

"@0,name",
Buffer (0x0E)
{
  "ATY,Dashimaki"
},

"@1,name",
Buffer (0x0E)
{
  "ATY,Dashimaki"
},

"@2,name",
Buffer (0x0E)
{
  "ATY,Dashimaki"
},

"@3,name",
Buffer (0x0E)
{
  "ATY,Dashimaki"
},

"model",
Buffer (0x13)
{
  "AMD Radeon HD 7750"
},
```

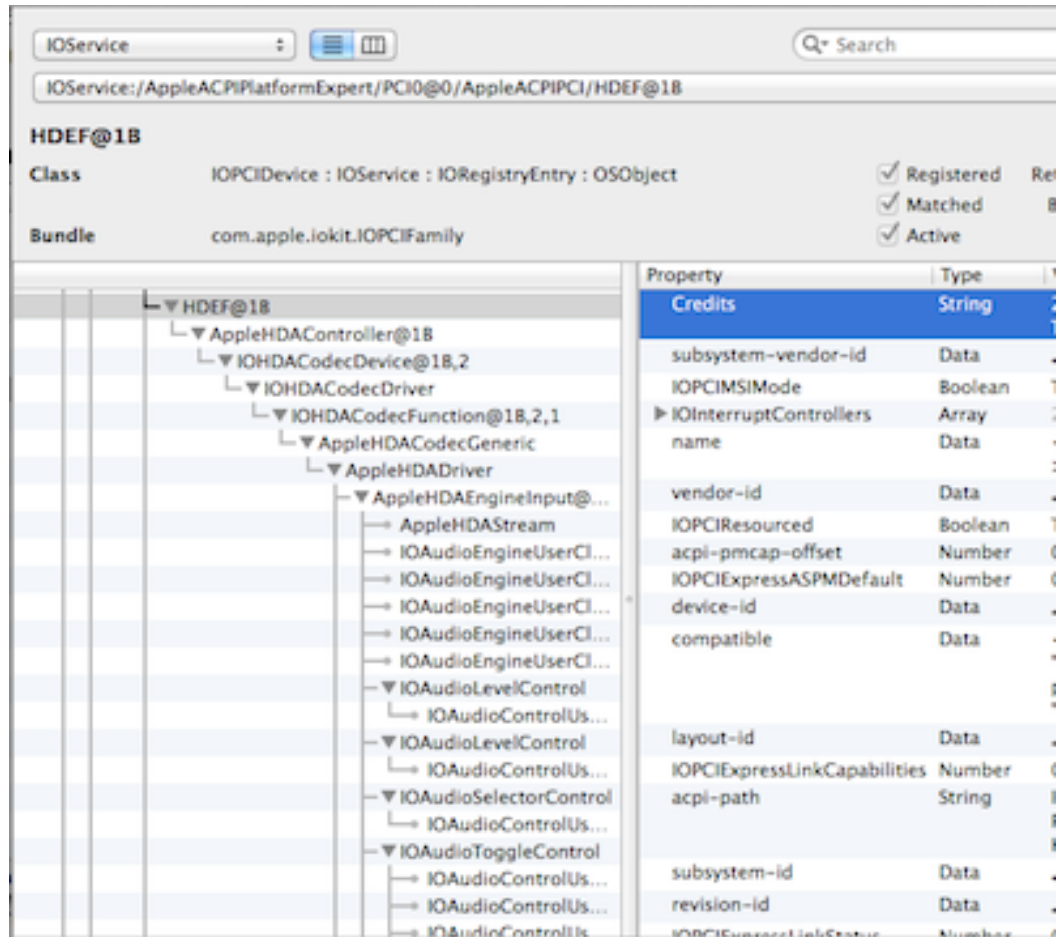
```

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

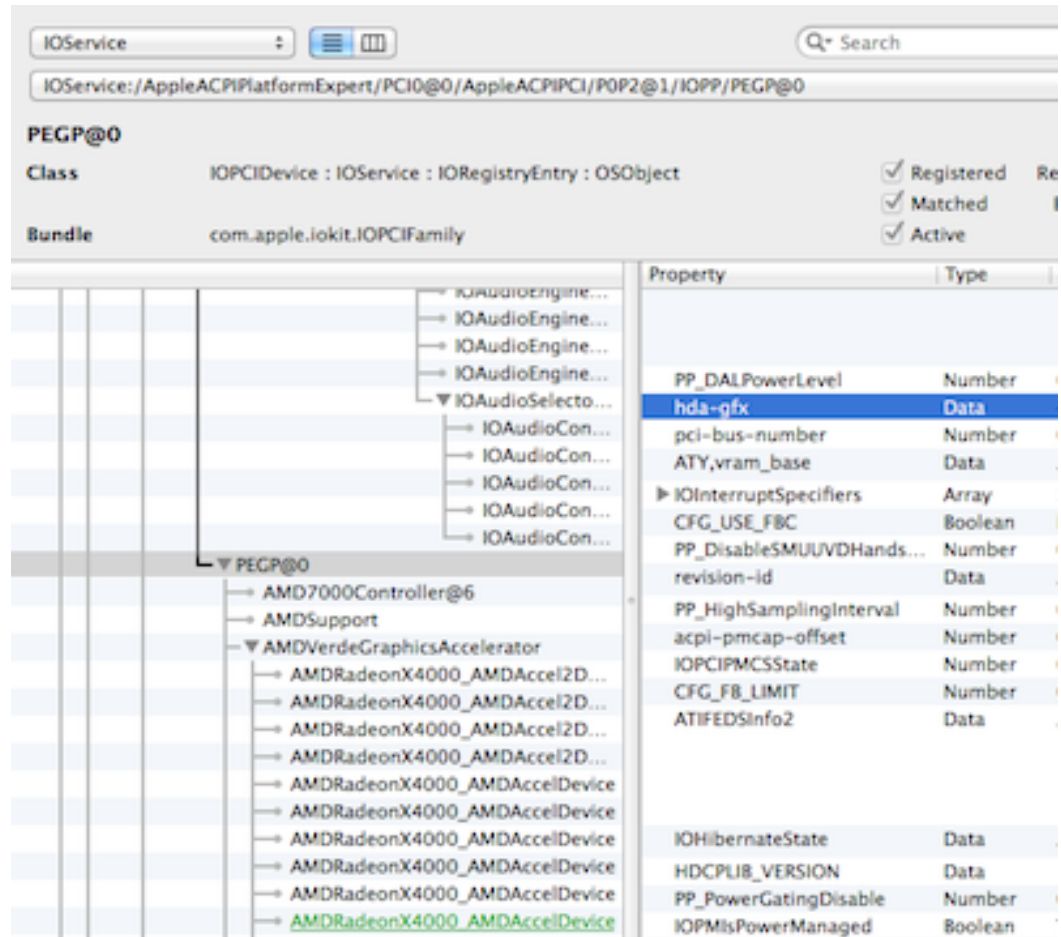
```

Troubleshooting

1. Verify HDMI device connected
 1. System Information/Graphics/Display/HDMI device/Television/Yes
2. Run IOREG/IOJones/Verify Devices HDEF and GFX0 (native/PEGP)
 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. IOReg/IOJones/Verify PEGP@1/GFX0@0 (or native PEG0@1/PEGP@0)
 1. Verify hda-gfx = <"onboard-2">
 2. If injection missing, see dsdt/ssdt HDMI audio edits
 - 3.



5. IOReg/IOJones/Verify NVDA, Display-... (find display0 attached)
 1. Verify connector-type=<00 08 00 00>
 2. If wrong connector-type, see dsdt/ssdt HDMI audio edits
 - 3.

IOService : Search

IOService:/AppleACPIPlatformExpert/PCI0@0/AppleACPIPCI/P0P2@1/IOPP/PEGP@0/ATY,Dashimaki@1

ATY,Dashimaki@1

Class AtiFbStub : IOPlatformDevice : IOService : IORegistryEntry : OSObject ☒ Registered ☒ Matched ☒ Active

Bundle com.apple.kext.AMDSupport

Property	Type
display-type	String
audio-codec-info	Data
connector-type	Number
ATY,ActiveFlags	Number
IOFBDependentIndex	Number
IOFBDependentID	Number
device_type	String
AAPL,gray-page	Data
ATY,ControlFlags	Number
av-signal-type	Data
AAPL,iokit-ndrv	Data
AAPL,gray-value	Data
display-connect-flags	Data
name	String
port-number	Number

ATY,Dashimaki@0

- AMDFramebufferSI
 - AGPM
 - gpu-control
 - AMDNDRVService
 - AppleMCCSControlModule
 - AppleMCCSParameterHandler
 - AppleUpstreamUserClientDriver
 - IOFramebufferI2CInterface
 - IOFramebufferUserClient

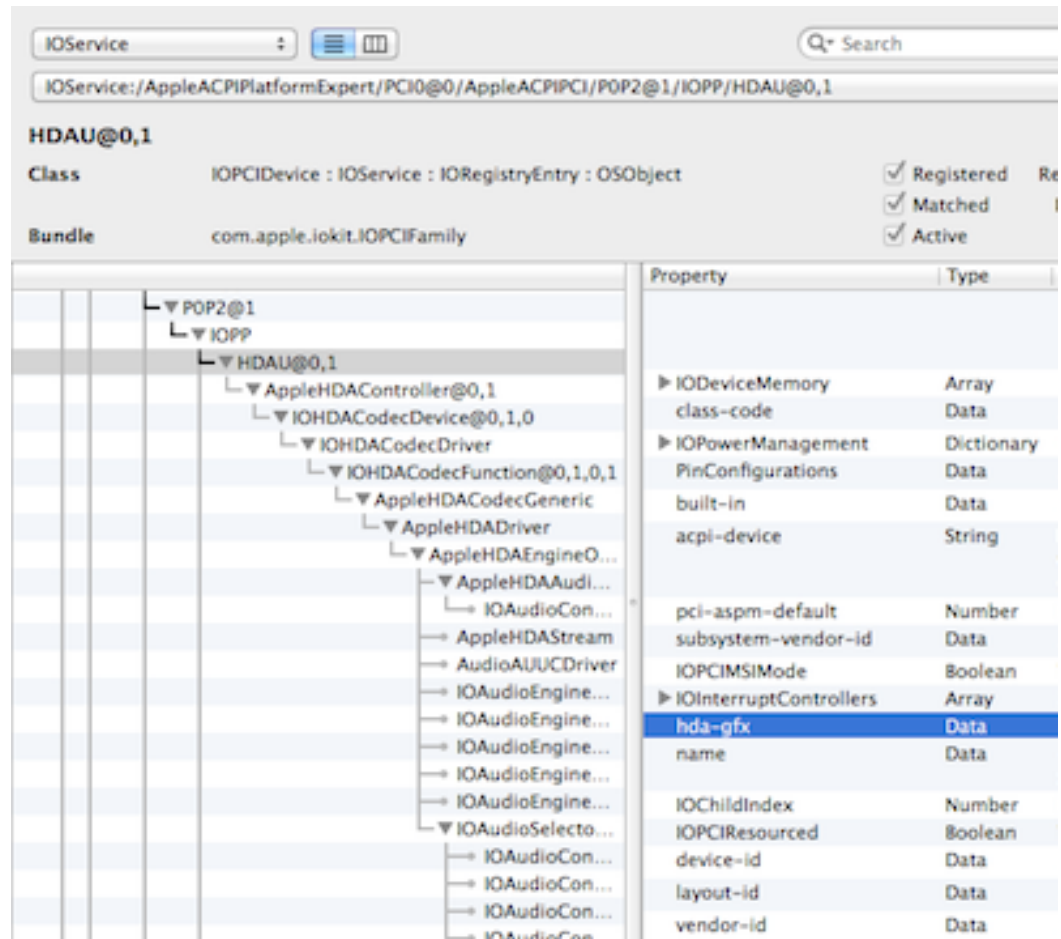
ATY,Dashimaki@1

- AMDFramebufferSI
 - AMDNDRVService
 - AppleMCCSControlModule
 - AppleMCCSParameterHandler
 - AppleUpstreamUserClientDriver
 - display0
 - AppleDisplay
 - IOFramebufferI2CInterface
 - IOFramebufferUserClient

ATY,Dashimaki@2

- AMDFramebufferSI
 - AMDNDRVService
 - AppleMCCSControlModule

6. IOREG/IOJones/Verify PEGP@1/HDAU@0
 1. Verify hda-gfx = <"onboard-2">
 2. If injection missing, see dsdt/ssdt HDMI audio edits
 - 3.



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)

Credit:

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