ML_Optimized_AppleHDA_v2.3.1 (OS X 10.8.2)

Requirements
1. Lion 10.8.2 or newer -
2. Realtek ALC8xy (see Note 7, below), one of the following Device_IDs:
2a. 10ec0885
2b. 10ec0887
2c. 10ec0888
2d. 10ec0889
2e. 10ec0892
2f. 10ec0898
3. Chimera 1.11.1 or later
4. KextBeast

Configuration

Device	Port	Location	Notes	Audio ID: 1	Audio ID: 2	Audio ID: 3
1. Mic	Pink	Rear	1 & 2 Linked	Yes	Line Out (Center/Sub)	Yes
2. Mic (LineIn)	Pink	Front	2 Mutes 1	Yes	Yes	Yes
3. LineIn	Blue	Rear		Yes	LineOut (Rear)	Yes
4. SPDIFIn	Yellow	Rear	Optional			
5. Speakers (Front)	Green	Rear	5 & 6 Linked	Yes	Yes	Yes
6. Headphones	Green	Front	6 Mutes 5	Yes	Yes	Yes
7. LineOut (Center/Sub)	Orange	Rear		Yes	Not Available	No
8. LineOut (Rear)	Black	Rear		Yes	Not Available	Yes
9. LineOut (Side)	Grey	Rear		Optional	Not Available	No
10. SPDIFOut	Orange	Rear	Stereo/ DD/DTS	Yes	Yes	Yes
11. HDMI		Rear	Edits Required	AMDNvidia	AMD/Nvidia	HD3000/ HD4000

No dsdt/HDEF?
Important - Use layout-ids below
ML: How to Add or Edit dsdt/HDEF

Audio ID/layout-id Table

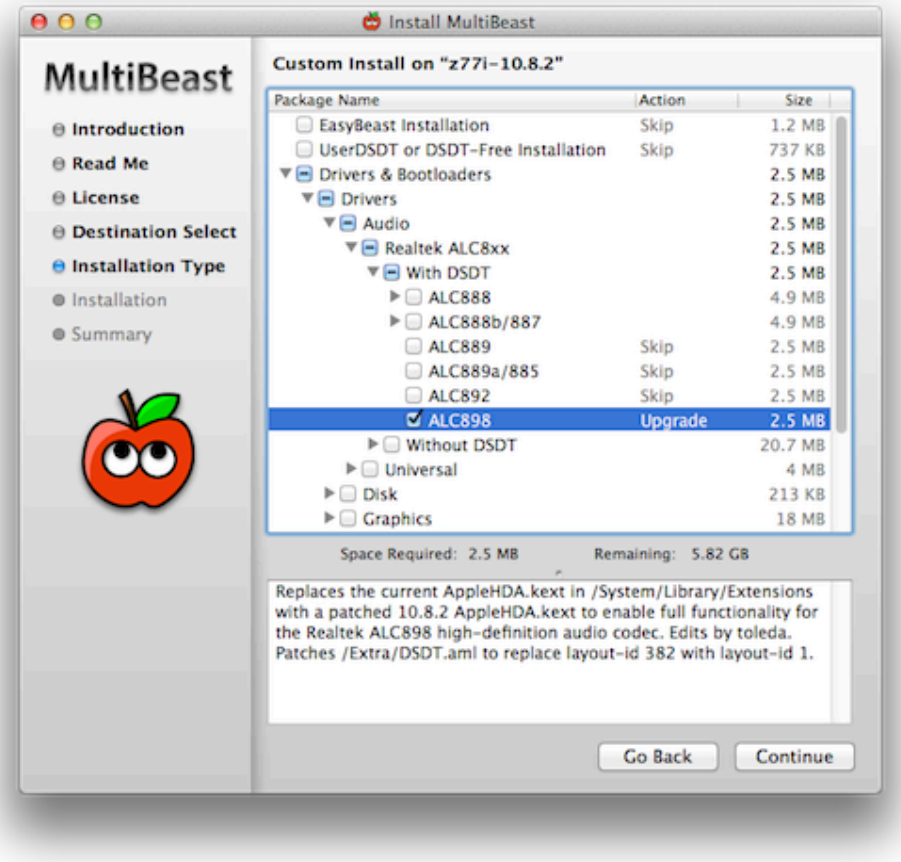
Audio ID (dec)	LayoutID (dec)	layout-id (hex)	dsdt layout-id Injection (hex)
1	1	1	0x01, 0x00, 0x00, 0x00
2	2	2	0x02, 0x00, 0x00, 0x00
3	3	3	0x03, 0x00, 0x00, 0x00

dsdt/HDEF edits

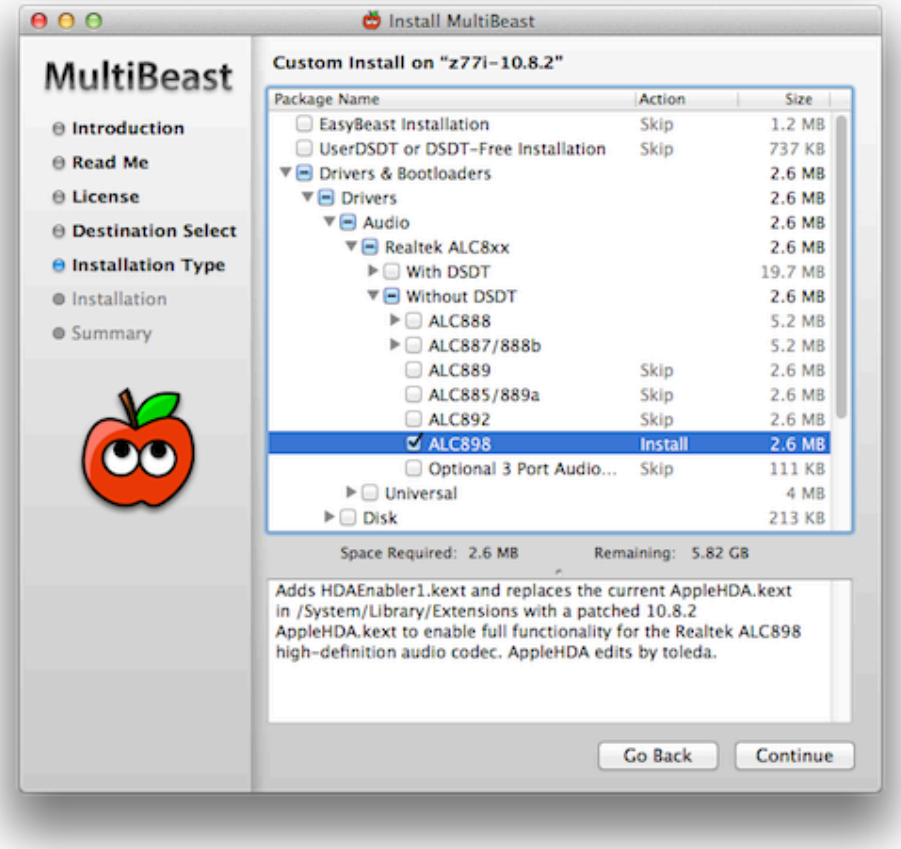
```
        Device (HDEF)
        {
            Name (_ADR, 0x001B0000)
            Method (_PRW, 0, NotSerialized)
.
.
.
            Method (_DSM, 4, NotSerialized)
            {
                Store (Package (0x04)
                    {
                        "layout-id",
                        Buffer (0x04)
                        {
                            0x01, 0x00, 0x00, 0x00   /*  Example, use table above for correct layout-id */
                        },

                        "PinConfigurations",
```

```
                Buffer (Zero) {}
            }, Local0)
        DTGP (Arg0, Arg1, Arg2, Arg3, RefOf (Local0))
        Return (Local0)
    }
}
```

Installation - MultiBeast_5.1.0 or newer
1. Backup S/L/E/AppleHDA.kext
2. Verify dsdt/HDEF/layout-id
3. MultiBeast - Select/Drivers & Bootloaders/Drivers/Audio/Realtek ALC8xx
3a. With DSDT/ALC8xy or



3b. Without DSDT/ALC8xy



4. Continue
5. Install
6. Restart

Installation - Download/Backup
1. Backup S/L/E/AppleHDA.kext
2. Verify dsdt/HDEF/layout-id
3. Delete ALC8xxHDA.kext, HDAEnabler8??.kext and any other audio enablers from S/L/E
3a. Copy Downloads/ML_AppleHDA.../AppleHDA.kext Backup/AppleHDA.kext to Desktop
3b. Without dsdt, copy Downloads/ML_AppleHDA.../HDAEnabler1.kext to Desktop
4. Run KextBeast
5. Restart

Speakers
1. Audio ID: 1 and 3, match connector color to same motherboard/case port color
2. Audio ID: 2 (3 port motherboard audio)
a. Plug black connector into blue motherboard port for rear speakers
b. Plug green connector into green motherboard port for front speakers
c. Plug orange connector into pink motherboard port for center/sub speakers
d. Front panel: Match connector color to same case port color

Audio Input Level Setting
1. Mic (Pink/Motherboard), Line In (Pink/Chassis) and Line In (Blue/Motherboard) levels are the same
2. Three Amplifiers
a. Source (mic, player, etc.): set volume high
b. OS X Input Amp (System Preferences/Sound/Input/device): set volume 50%
c. OS X Output Amp (System Preferences/Sound/Output/device, keyboard): set volume to personal preference

HDMI Audio
1, Mountain Lion HDMI Audio

Optional Installs
1, Configure 5.1 Surround Sound Aggregate Device (Not available for Audio ID: 3)
a. Applications/Utilities/Audio MIDI Setup
b. Universal 5.1-channel analogue audio
2. Install Line In - http://www.rogueamoeba.com/freebies/

Customization
1. Mountain Lion: Customizing the Optimized AppleHDA

Notes
1. AMD/Nvidia HDMI audio dsdt and kext edits required
2. HD3000 HDMI audio dsdt and kext edits required.
3. Use Applications/Utilities/Audio MIDI Setup to configure analog 5.1 surround sound with 3 Line Outs
4. Requires Platforms.xml edit, adds Grey LineOut and deletes SPDIFOut. Use Audio MIDI Setup to configure analog 7.1 surround sound with 4 Line Outs
5. SPDIFOut Encoded Digital Audio (Surround Sound) requires DD/DTS source, DD/DTS player (Plex, XBMC, Boxee) and DD/DTS sound system. Audi MIDI Setup/Audio Devices/Digital Output/ always shows 2 Channel Stereo. VLC encoded digital audio requires optional Optical Surround/AppleHDA binary, see Customization above.
6. For Audio ID: 1 or 2, a non-dsdt Enabler can be be installed in S/L/E with MultiBeast.
7. ALC8xy can one of the following Realtek audio codecs:
a. ALC885 aka ALC889a
b. ALC887 aka ALC888b, ALC888s
c. ALC888 aka ALC1200
d. ALC889
e. ALC892
f. ALC898

Kexts
1. AppleHDA_v2.3.1
1a. Audio ID: 1
1a. ALC8xy on board/Standard
1a. HDMI audio - discrete graphics
1b. Audio ID: 2 (3 port motherboard audio)
1b. ALC8xy on board/Customized
1b. HDMI audio - AMD/Nvidia discrete graphics
1c. Audio ID: 3 (HD3000/HD4000 HDMI audio only)
1c. ALC8xy on boardCustomized
1c. HDMI audio - HD3000/HD4000 integrated graphics

ML_AppleHDA Uninstall
1. Copy AppleHDA.kext backup to Desktop (backup from **Installation**, Step 1, above)
2. Run KextBeast
3. Restart

Diagnostic Tools
1. IORegistryExplorer
1a. See [Guide] How to Make a Copy of IOReg
2. DSDT Editor - Registration required, olarila.com • View topic - DSDT editor and patcher
3. Applications/Utilities/Console
4. System Information/Hardware/Audio/Intel High Definition Audio
5. System Information/Hardware/Graphics/Displays
5. System Preferences/Sound/Outputs
6. System Preferences/Sound/Inputs

Problem Reporting
1. Description of audio problem, include the following information:
1a. Motherboard/processor/OS and version/graphics
1b. Procedure/Guide Used/AppleHDA.kext version
1c. dsdt
1d. copy of IOReg
1e. Console/All Messages/kernel Sound Assertions selected/Save Selection As…..
1f. Screenshot of System Information/Hardware/Audio

1g. Screenshot of System Information/Hardware/Graphics/Displays

Troubleshooting
1. Shutdown/Pull power cord/Press power button twice/Wait 30 seconds/Plug power in/Boot
2. System Preferences/Sound/Output - No Audio Devices
2a. Delete ALC8xxHDA, ALC8xx, 8xxHDAEnabler and any other audio enablers from S/L/E
2b. Install correct ML_AppleHDA/AppleHDA.kext
3. System Preferences/Sound/Output/Audio Devices present - No Sound
3a. Check Mute
3b. Check Volume
3c. Reinstall ML_AppleHDA/AppleHDA.kext
4. System Preferences/Sound/Input/Audio Devices present - No Sound
4a. Check Mute
4b. Check Volume
4c. Reinstall MLAppleHDA/AppleHDA.kext
5. Center/Sub - No sound
5a. Audio MIDI Setup/5.1 Surround Sound Aggregate Device/Configure Speakers
5b. Line In/Select Input/Select Output (5.1 Surround)/Select Pass Thru
5c. Verify Center/Sub working in Audio MIDI Setup
6. Internal Microphone/Line In - No sound
6a. Audio MIDI Setup/5.1 Surround Sound Aggregate Device/Configure Speakers
6b. Line In/Select Input/Select Output (5.1 Surround)/Select Pass Thru
6c. Select a speaker in Audio MIDI Setup/verify test tone
7. Headphone static
7a. Check green front port connection (chassis)
7b. Check green rear port connection (motherboard)
8. Mic static
8a. Check pink front port connection (chassis)
8b. Check pink rear port connection (motherboard)