



ML Realtek ALC AppleHDA

For Realtek ALC885 through ALC898 on board audio codecs

Requirements

1. Realtek ALC*, one of the following Device_IDs:

*See Notes below for supported ALC codecs

1a. 10ec0885

1b. 10ec0887

1c. 10ec0888

1d. 10ec0889

1e. 10ec0892

1f. 10ec0898

2. Mountain Lion 10.8.4 or later

3. Supported Audio-IDs (Audio_ID = layout-id)

3a. Audio_ID: 1 - 5/6 port ALC898 onboard audio and AMD/Nvidia HDMI audio*

3b. Audio_ID: 2 - 3 port ALC898 onboard audio and AMD/Nvidia HDMI audio*

3c. Audio_ID: 3 - 3/5/6 port ALC898 onboard audio and HD3K/HD4K/AMD/Nvidia HDMI audio*

Audio_IDs: 1 and 2 support analog 5.1 surround sound, 3 does not

Audio_IDs: 1, 2 and 3 require HDMI audio dsdt edits for HDMI audio.

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	AMD/Nvidia	AMD/Nvidia	HD3K/HD4K

Realtek ALC AppleHDA Enabling Techniques

1. No dsdt/audio enabler = Audio_ID, install either enabler (use 1a or 1b, not both)

- 1a. Audio_ID = 1, HDAEnabler1.kext
https://github.com/toleda/audio_HDAEnabler1 Download ZIP
- 1b. Audio_ID = 2, HDAEnabler2.kext
https://github.com/toleda/audio_HDAEnabler2 Download ZIP
2. dsdt/HDEF/layout-id = Audio_ID, see [Guide] Add or Edit dsdt/HDEF.pdf
- 2a. Audio_ID = 1, 0x01, 0x00, 0x00, 0x00, 0x00
- 2b. Audio_ID = 2, 0x02, 0x00, 0x00, 0x00, 0x00
- 2c. Audio_ID = 3, 0x03, 0x00, 0x00, 0x00, 0x00
3. Clover/config.plist/PCI/HDAInjection
- 3a. Audio_ID = 1, HDAInjection=1
- 3b. Audio_ID = 2, HDAInjection=2
- 3c. Audio_ID = 3, HDAInjection=3

No dsdt/HDEF?

See ML: How to Add or Edit dsdt/HDEF.pdf

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

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

Optional Installs

1. Configure 5.1 Surround Sound Aggregate Device (Not available with Audio ID: 3)
 - a. Applications/Utilities/Audio MIDI Setup
2. Install Line In - <http://www.rogueamoeba.com/freebies/>

Customization

See ML-Customizing the Realtek AppleHDA.pdf

Notes

1. ALC can be:
 - a. ALC885, 889a
 - b. ALC887, 888b
 - c. ALC888, 888s,
 - d. ALC889
 - e. ALC892
 - f. ALC898

Kexts

1. AppleHDA_v2.3.7

- 1a. Audio ID: 1
 - i. ALC on board - 5/6 audio ports
 - ii. HDMI audio - AMD/Nvidia discrete graphics
- 1b. Audio ID: 2 (3 port motherboard audio)
 - i. ALC on board - 3 audio ports
 - ii. HDMI audio - AMD/Nvidia discrete graphics
- 1c. Audio ID: 3 (HD3K/HD4K HDMI audio only)
 - i. ALC on board 3/5/6 audio ports
 - ii. HDMI audio - HD3K/HD4K integrated graphics
 - iii. HDMI audio - AMD/Nvidia discrete graphics

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
 - a. Delete ALC8xxHDA, ALC8xx, 8xxHDAEnabler HDAEnabler... and any other audio enablers from S/L/E
 - b. Verify 10ec 08xx (IOReg/AppleHDAControllerIOHDACodecDevice/IOHDACodecVendorID)
 - c. Reinstall Reinstall MultiBeast/Audio/Realtek ALC8xx/
3. System Preferences/Sound/Output/Audio Devices present - No Sound
 - a. Check Mute
 - b. Check Volume
 - c. Reinstall MultiBeast/Audio/Realtek ALC8xx/
4. System Preferences/Sound/Input/Audio Devices present - No Sound
 - a. Check Mute
 - b. Check Volume
 - c. Reinstall MultiBeast/Audio/Realtek ALC8xx/
5. Center/Sub - No sound
 - a. Audio MIDI Setup/5.1 Surround Sound Aggregate Device/Configure Speakers
 - b. Line In/Select Input/Select Output (5.1 Surround)/Select Pass Thru
 - c. Verify Center/Sub working in Audio MIDI Setup
6. Internal Microphone/Line In - No sound
 - a. Audio MIDI Setup/5.1 Surround Sound Aggregate Device/Configure Speakers
 - b. Line In/Select Input/Select Output (5.1 Surround)/Select Pass Thru
 - c. Select a speaker in Audio MIDI Setup/verify test tone
7. Headphone static
 - a. Check green front port connection (chassis)
 - b. Check green rear port connection (motherboard)
8. Mic static
 - a. Check pink front port connection (chassis)
 - b. Check pink rear port connection (motherboard)

Problem Reporting

1. Description of audio problem, including the following information:
2. OS X version/motherboard model/BIOS version/processor/graphics
3. Procedure/Guide Used/AppleHDA.kext version
4. Extra/dsdt.aml (if installed)
5. Copy of IOReg - IOReg/File/Save a Copy As..., verify file (not ioreg.txt)
6. Console/All Messages/kernel Sound Assertions selected/Save Selection As.....
7. Screenshot of System Information/Hardware/Audio/Intel High Definition Audio (not Devices)
8. Screenshot of System Information/Hardware/Graphics/Displays

Credit

The KiNG [HOW TO] Patch AppleHDA - Knowledge Base - Project OS X Forums
 VHC888 ALC889A, Gigabyte (Intel): now having a working front mic - InsanelyMac Forum
 .: ErmaC.: AppleHDA patching in Mountain Lion - Page 4 - Sound - InsanelyMac Forum
 RevoGirl Not forgotten