



[Guide] Add HDEF/Clover_v2

For Realtek ALC AppleHDA

Clover supports Realtek ALC AppleHDA.kext Audio ID Injection; no kext, dsdt or ssdt enabler required. If required, Clover can add dsdt/HDEF.

audio_ALCInjection

toleda/audio_ALCInjection

Requirements

- A. OS X versions supported:
 - 1. Yosemite/10.10 or newer
 - 2. Mavericks/10.9 or newer
 - 3. Mountain Lion/10.8.4 and newer
- B. Realtek ALC, one of the following Device_ID - Codec Name
 - 1. 10ec0885 - ALC885/ALC889a
 - 2. 10ec0887 - ALC887/ALC888b
 - 3. 10ec0888 - ALC888/ALC888s
 - 4. 10ec0889 - ALC889
 - 5. 10ec0892 - ALC892
 - 6. 10ec0899 - ALC898
 - 7. 10ec0900 - ALC1150 - 10.8.5 or newer
- C. Supported Audio-IDs (Audio_ID = layout-id)
 - 1. Audio_ID: 1
 - 5/6 port Realtek ALC onboard audio and HD4600/AMD/Nvidia HDMI audio
 - 2. Audio_ID: 2

- 3 port/5.1 Realtek ALC onboard audio and HD4600/AMD/Nvidia HDMI audio
- 3. Audio_ID: 3
 - 1/2/3/5/6 port Realtek ALC onboard audio and HD3000/HD4000/AMD/Nvidia HDMI audio
- 4. Audio_IDs: 1 and 2 support analog 5.1 surround sound, 3 does not
- 5. Audio_IDs: 1, 2 and 3 require HDMI audio dsdt edits/ssdts for HDMI audio
- D. Clover_v1597 or newer

Remove Enabler (if installed)

- A. Remove any audio enablers
 - 1. kexts, S/L/E/HDAEnabler1.kext, HDAEnabler8--.kext, ALC8xxHDA.kext, etc.
 - 2. dsdt, remove dsdt/HDEF/layout-id
 - 3. ssdt, remove ssdt/HDEF/layout-id

Tools

- A. [IORegistryExplorer](#) (Download: select View Raw)
- B. [Clover Configurator](#)

Procedures

- I. IOReg/HDEF Verification**
- II. IOReg/Audio_ID verification**
- III. Add dsdt/HDEF**
- IV. Set Audio ID**
- V. Verification**
- VI. Troubleshooting**

I. IOReg/HDEF Verification

- A. IOReg/Search: HDEF
- B. IF IOReg/HDEF present, see **II. IOReg/Audio_ID verification**
- C. If no IOReg/HDEF
 - 1. IOReg/Search: @1B
 - a. Example: IOReg/pci8086,1c20@1B, see **III. Add dsdt/HDEF**
 - b. If no IOReg/@1B, **No Codec**, do not proceed

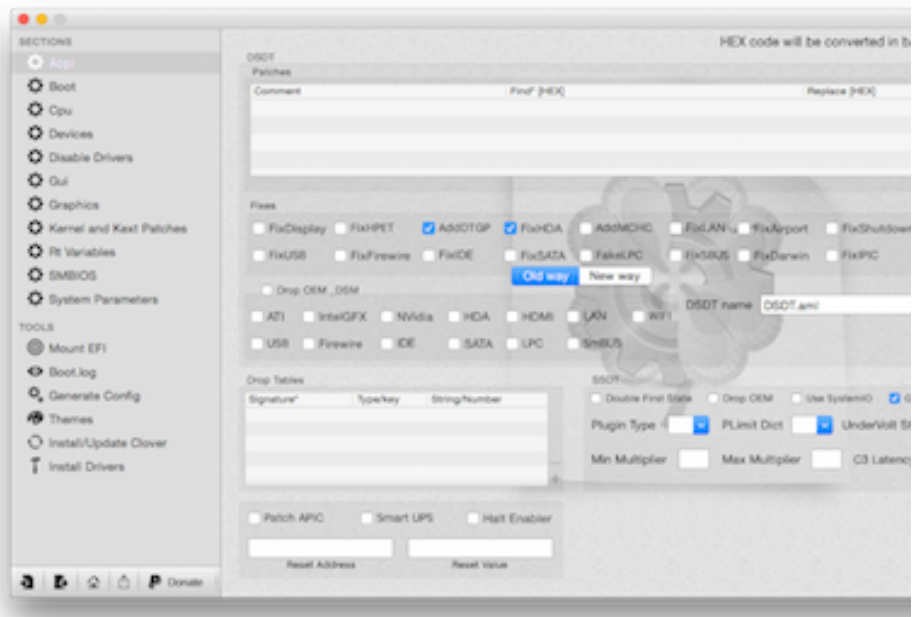
II. IOReg/Audio_ID verification

- A. Search: HDEF
- B. Locate: layout-id (right pane, scroll down)
- C. Verify layout-id:
 - <01 00 00 00> valid, all supported codecs

- <02 00 00 00> valid, except ALC885
- <03 00 00 00> valid, except ALC885 and ALC1150
- <00 00 00 00> not valid, see **IV. Set Audio ID**

III. Add dsdt/HDEF

- Edit config.plist (EFI/CLOVER/config.plist or EFI/CLOVER/OEM/Productname/config.plist)
 - Add config.plist/ACPI/DSDT/Fixes/
 - AddDTGP_0001/YES
 - FixHDA_8000/YES
 - Add config.plist/ACPI/DSDT/ Debug/YES (optional; use to verify and then remove)
 - Edited dsdt: EFI/CLOVER/ACPI/origin/
 - Native: DSDT-or.aml
 - Edited: DSDT-pa-.aml
- Save
 - Clover Configurator



- Xcode/config.plist

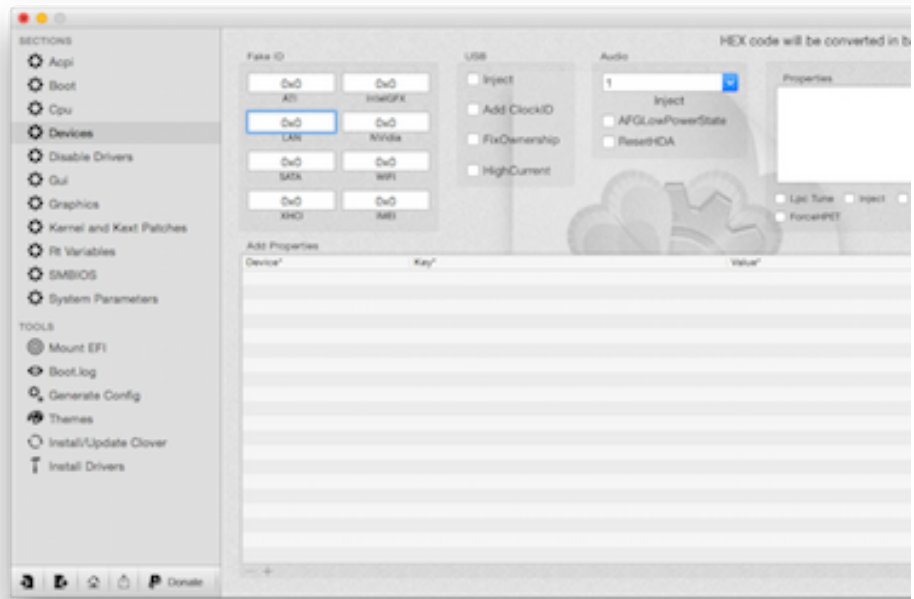
Key	Type	Value
▼ Root	Dictionary	(10 items)
▼ ACPI	Dictionary	(2 items)
▼ DSDT	Dictionary	(3 items)
Debug	Boolean	YES
▼ Fixes	Dictionary	(2 items)
AddDTGP_0001	Boolean	YES
FixHDA_8000	Boolean	YES
Name	String	DSDT.aml
▶ SSDT	Dictionary	(6 items)
▶ Boot	Dictionary	(7 items)
▶ CPU	Dictionary	(1 item)
▶ Devices	Dictionary	(3 items)
▶ DisableDrivers	Array	(1 item)
▶ GUI	Dictionary	(5 items)
▶ Graphics	Dictionary	(1 item)
▶ KernelAndKextPatches	Dictionary	(4 items)
▶ SMBIOS	Dictionary	(17 items)
▶ SystemParameters	Dictionary	(2 items)

c. TextEdit/config.plist

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE plist PUBLIC "-//Apple//DTD PLIST 1.0//EN" "http://www.apple.com/PropertyList-1.0.dtd"
<plist version="1.0">
<dict>
    <key>ACPI</key>
    <dict>
        <key>DSDT</key>
        <dict>
            <key>Debug</key>
            <true/>
            <key>Fixes</key>
            <dict>
                <key>AddDTGP_0001</key>
                <true/>
                <key>FixHDA_8000</key>
                <true/>
            </dict>
            <key>Name</key>
            <string>DSDT.aml</string>
        </dict>
        <key>SSDT</key>
        <dict>
            <key>Drop0em</key>
            <false/>
            <key>EnableC2</key>
            <true/>
            <key>EnableC4</key>
            <true/>
            <key>EnableC6</key>
```

IV. Set Audio ID

- A. Edit config.plist (EFI/CLOVER/config.plist or EFI/CLOVER/OEM/ProductName/config.plist)
 1. Determine Devices/Audio/Inject (from supported Audio_IDs above)
 - Audio_ID = 1, Audio/Inject=1
 - Audio_ID = 2, Audio/Inject=2
 - Audio_ID = 3, Audio/Inject=3
 2. Add config.plist/DevicesAudio/Inject/1, 2 or 3
 3. Save
 - a. Clover Configurator



- b. Xcode/config.plist

Key	Type	Value
▼ Root	Dictionary	(8 items)
▶ KernelAndKextPatches	Dictionary	(2 items)
▶ RtVariables	Dictionary	(2 items)
▶ Boot	Dictionary	(5 items)
▶ ACPI	Dictionary	(1 item)
▶ Graphics	Dictionary	(2 items)
▼ Devices	Dictionary	(2 items)
▼ Audio	Dictionary	(1 item)
Inject	String	1
▶ USB	Dictionary	(3 items)
▶ GUI	Dictionary	(5 items)
▶ SystemParameters	Dictionary	(2 items)

c. TextEdit/config.plist

```

<key>Graphics</key>
<dict>
  <key>loadVBios</key>
  <true/>
  <key>PatchVBios</key>
  <true/>
</dict>
<key>Devices</key>
<dict>
  <key>Audio</key>
  <dict>
    <key>Inject</key>
    <string>1</string>
  </dict>
  <key>USB</key>
  <dict>
    <key>Inject</key>
    <true/>
    <key>USBFixOwnership</key>
    <true/>
    <key>AddClockID</key>
    <true/>
  </dict>
</dict>
<key>GUI</key>
<dict>
  <key>Theme</key>
  <string>black_green</string>
  <key>Mouse</key>
  <dict>

```

V. Verification

1. Restart
2. IORegistryExplorer
 - a. Search: HDEF
 - b. Locate: layout-id (right pane, scroll down)
 - c. Verify:
 - <01 00 00 00> or
 - <02 00 00 00>

VI. Troubleshooting

1. See `audio_RealtekALC/DETAILS.md`