

AC97

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AC'97 is an audio codec standard developed by Intel Architecture Labs in 1997. It provides a standard specification that allows various audio device manufacturers to adhere to a single programming API, making it possible for various audio devices to be supported by a single audio driver.

Technical Details

All AC97 devices appear on the PCI bus with a specific VendorID and DeviceID. All HDAudio devices will have a Vendor ID of 8086, and a Device ID of 2415. The PCI device configuration space contains two I/O mapped base addresses: BAR0 and BAR1. BAR0 specifies the I/O address of the Mixer registers, responsible for controlling the volume and recording channels of the AC97 device. BAR1 specifies the I/O address of the status and control registers that are used to transfer audio data between system memory and the audio device.

Mixer Registers

Offset (Hex)	Name
00	Reset
02	Master Volume
04	Aux Out Volume
06	Mono Volume
08	Master Tone
0A	PC Beep Volume
0C	Phone Volume
0E	Mic Volume
10	Line In Volume
12	CD Volume
14	Video Volume
16	Aux In Volume
18	PCM Out Volume
1A	Record Select
1C	Record Gain
1E	Record Gain Mic
20	General Purpose
22	3D Control

References

- Reference Manual: Intel® High Definition Audio (<http://www.intel.com/content/www/us/en/io/io-controller-hub-7-hd-audio-ac97-manual.html>)
- Audio Codec '97 Specification (http://www-inst.eecs.berkeley.edu/~cs150/Documents/ac97_r23.pdf)

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