

Re: USBAudio.sys source code

Source:

<http://www.tech-archive.net/Archive/Development/microsoft.public.development.device.drivers/2009-04/msg00375.1>

- *From:* pgruebele <pgruebele@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx>
 - *Date:* Thu, 23 Apr 2009 13:21:02 -0700
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Thanks for the info Tim.

I am not in detail familiar with the usbaudio filter architecture but since I need to support high speed USB with a USB transaction rate of more than 1 per ms (the USB audio driver requires bInterval to be 4, I would need it to be at least 3 in order to accomodate higher bit rates), I doubt that a lower or upper filter driver could accomodate this. It could only map a USB audio 2.0 structure to 1.0?

Working with MS to extend the current driver to support higher bandwidth devices would be a good option. I think that the USBAudio.sys would only require relatively minor changes in order to support higher bit rates. In fact it already works for the most part. Only the asynchronous feedback implementation causes system crashes at 192/24.

Can someone from MS chime in on this? I heard throught he grapevine that there is no work going on relative to USB Audio class 2.0 support. Is this correct? If not, I would be interested in some cooperative work...

The reason the USBAudio.sys driver is relatively complicated is because it needs to support a variety of devices and has an extensible architecture. My driver would be much simpler since it could be tailored specifically to my device. I would not even have to deal with the USB descriptors since I would know what the device capabilities are. So, I think writing my own driver should not be that complicated.

Thanks

Philip

"Tim Roberts" wrote:

pgruebele <pgruebele@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx> wrote:

I need to develop a USB audio class 2.0 driver and would like to base it on the USBAudio.sys audio class 1.0 driver. Is it possible to get the source

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code to USBAudio.sys in order to expedite this process?

You can get a Windows source license, but it is quite expensive, and you would be prohibited from distributing a product derived from it. So, in practical terms, the answer is no.

If this is not possible, does anyone have recommendations for how to go about this without having to write everything from scratch? For example, what would be the best way to write an audio device driver that is compatible with vista/7 or xp/vista/7?

I see two possible paths to success. One path would be for you to contact the Microsoft audio team and get involved in their process. I have no doubt that someone in Redmond is working on this. If you are producing a leading edge USB Audio Class 2.0 device, I'm sure they would be tickled to have an additional test platform, in exchange for giving you early access to the new driver.

If that doesn't work, the next best path (in my opinion) is to write filter drivers around the existing usbaudio.sys. There is an ENORMOUS amount of infrastructure in usbaudio.sys, and it took some very smart folks at Microsoft four tries in four years to get something that really did a good job. You do not want to recreate all of that.

I don't know whether a lower filter would be enough, or if you would need both a lower filter and an upper filter, but even writing two filters is much, MUCH less work than starting over from scratch.

This driver will work in XP, Vista, and 7.

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