
Subject: Soundcard worries

Posted by [Ed Form](#) on Sun, 03 Feb 2008 11:47:38 GMT

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I'm having trouble with generating pure sinewaves from my EMU 1616M for audio measurement purposes and I'm unsure if I'm asking too much of the unit or if the unit is actually broken. I want to output sinewaves at higher sampling frequencies and bit depths than the normal 44.1 or 48KHz/16Bit that built in soundcards can typically manage and I need to do this in the Windows WAVE system because all of the audio measurement software I have access to runs in that system. I've tried a number of software generators, from the usual freeware applications, to the generators built into audio measurement software, including some pretty expensive products. In each case the output is fine at 44.1 and at 48KHz but when I switch to 96KHz or 192KHz the output effectively turns into a train of tonebursts which sound absolutely awful. I can send a Jpeg of a typical trace if anyone wants to see it. If I change to the ASIO system and run the little freeware application ASIOSigGen I get absolutely beautiful sinewaves - again there's a trace available if anyone would like to see it. Is what I'm seeing a fundamental limitation in the WAVE system or does it indicate that my 1616M is broken - has misbehaving drivers - or what other explanation might there be? Ed Form

Subject: Re: Soundcard worries

Posted by wayne@pis on Tue, 05 Feb 2008 17:59:49 GMT

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I haven't poked around inside the Windows OS or the Wave system to see how it deals with DSP. The sound card, of course, should only be limited by the DAC. But I kicked this around with a couple of guys and some have said that the Windows OS limits the stream internally, at least in some versions. I'm hoping some will chime in and confirm or deny this and possibly give technical details. I know that Vista is different than previous versions, because I did a little bit of reading on it when I installed WTPro/ST device drivers on Vista. But I didn't study it in depth.

Subject: Re: Soundcard worries

Posted by [Ed Form](#) on Thu, 07 Feb 2008 20:13:46 GMT

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Thanks for the reply Wayne, and for the private post of Keith Larson's thoughts. I had a message from Herr Widmer at HPW-Works.com, the writer of one of the packages I've been looking at, and he has solved the problem by using a thing called a WDM-Wave-wrapper driver: specifically the Waped Wave Wrapper, which would fit in with Keith's idea that internal resampling might be the culprit, but I haven't been able to get it to work myself. What I have found is one or two measurement packages that actually work completely in the ASIO system and I shall probably

settle on one of them. They tend to be at the higher end of the price scale, but I have to get something to use in pursuit of the daily crust, so I guess I'll have to swallow the premium. One strong candidate is WinAudioMLS from <http://www.dr-jordan-design.de/> So if I can't come up with a solution that makes the plethora of WMD based systems work properly I'll probably settle for that. Ed Form

Subject: Re: Soundcard worries
Posted by [Keith Larson](#) on Mon, 11 Feb 2008 09:27:57 GMT
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Hi Guys Thanks for keeping in mind that I'm not completely sure myself. It's just that the behaviour that I observed seemed to match with other comments. Then I found out that the audio system had been rearchitected Keith

Subject: Re: Soundcard worries
Posted by [Ed Form](#) on Wed, 30 Apr 2008 22:09:03 GMT
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Just a follow up to let you know the solution to this problem with my soundcard [E-Mu 1616M]. I mentioned in an earlier post that I had found a possible solution in a couple of measurement software systems that run under the ASIO driver regime and I had partially decided to go with one of them, but a little slice of fate stepped in when something irreparable went wrong with the beta of Internet Explorer 8 I rather stupidly decided to try on the laptop I use to run measurement software. This left me with no real choice but to reload the laptop from scratch and, I accidentally loaded the last but one versions of the soundcard drivers and mixer program, rather than the very latest versions that I used when I initially set the system up. You can imagine my surprise - and delight - when I discovered that these programs allow the soundcard to behave absolutely impeccably under the WAVE system: up to and including operation at 192KHz/24Bit with one of the measurement software suites. To check out the situation a little further I updated both drivers and mixer program to the latest versions and was immediately back to grotesque-sounding tonebursts instead of clean sinewaves from the generator modules of all of the trial measurement software to hand. I reloaded the correct versions of the drivers and mixer software and the system reverted to perfect behaviour!!! This breakthrough has allowed me to choose my preferred measurement software - Spectra Plus - which, as well as permitting operation at 192KHz/24Bit, seems to be the best suited to my particular field of study at the moment. I can't get over the ability to produce spectra with a clean, stable noise floor at -120dB. Back in my days in the loudspeaker industry, \$60,000 dollars could not have bought equipment with that sort of performance.
