Subject: Maxxing a Magma

Posted by DJ on Sat, 08 Dec 2007 21:51:03 GMT

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I've got two Powercore cards and 4 x UAD-1 cards working in a single 13 slot Magma with the POCO's sharing IRQ 18 and the UAD-1's sharing IRQ 17. My 3 x RME cards are in a second Magma all sharing IRQ 19 so pending a serious torture test to test the PCI bandwidth, it appears that this may play nice.

I'm using an older gigabyte GA-K8NS Ultrra 939 (AGP based board) and the AGP is on IRQ 16 so since there is no IRQ sharing, unless my PCI bandwidth is all used up, I'm not expecting any problems.

I'm currently converting everything I'm working on to 88.2KHz. I don't know if this is going to end up being a waste of time or not, but I figure, since I made the decision to move to an 88.2 capable system, I need to start using it. I've spent quite a bit of time and effort getting all my hardware DSP processors to function at 88.2 and I wanted to try to offload as much CPU load to outboard hardware and DSP cards as possible. Since my UAD-1 resources will be cut in half, the extra POCO's will be there to pick up the slack. I've got a couple of 750GB SATA Barracudas to handle the recording/playback and backup so here goes.

Upsampling existing projects in Cubase is pretty easy to accomplish and perhaps the OD's and final DSP processing at 88.2 will add a bit of extra mojo to the mixes.....before they get hosed by the MP3 codec.

Just in case someone wants to go down this road, the compatibile slots in the Magma are as follows:

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If you are adding a second Magma, use 1, 5, 7 or 11 for any audio cards or DSP cards. They will all probably populate IRQ 19, or some other compatible IRQ that doesn't share with the AGP, or the devices in the other Magma. If you've got two PCI slots that don't share with the AGP or each other this should work.

OK....I'm off to give this thing a hard test drive. I'll let you know if anything catches on fire.

;0)

Subject: Re: Maxxing a Magma

Posted by DJ on Sat, 08 Dec 2007 23:05:50 GMT

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OK Neil.

Thanks for the pointers. these higher sample rates are something new to me. I read an article by a heavy hitter engineer a while back where he said that he upsamples everything to 88.2 for mixing, just to get some benefit from the plugin resolutions.

Both POCO's are behaving nicely with the UAD-1's. I'll bet I could even get another one working. Might be worth a try. The older MK1 cards are dirt cheap on EBay these days. The higher rates really do suck the resources on a UAD-1 card....big time. I would venture to say that 88.2 may take a bit more than twice the bandwidth of 44.1 on these cards. A single La-2A takes 7% or the resources across 4 x cards. that's a pretty hefty chunk 'O DSP.

```
"Neil" <OIUOI@OIU.com> wrote in message news:475b173b$1@linux...
> FWIW, I don't believe you'll get much benefit from
> upconverting a 44.1 song to 88.2 - the plugin's will
> process with the higher resolution, but there's
> not going to be anything better about the files that were
> originally tracked at 44.1, so unless you've got a lot of
> overdubs to do on each of those songs, you're probably better
> off staying at 44.1 for the rest of the tracking, but then when
> you mixdown, go ahead & render to an 88.2k/.24-bit stereo file
> for mastering purposes.
> Neil
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> "DJ" <animix at animas dot net> wrote:
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Subject: Re: Maxxing a Magma

Posted by Nei on Sat, 08 Dec 2007 23:14:19 GMT

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Subject: Re: Maxxing a Magma
Posted by DJ on Sun, 09 Dec 2007 01:13:02 GMT
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I just did a little PCI bandwidth torture test at 88.2KHz instantiating 33 DSP (and two of these were UAD-1 Neve 33609's which are the equivalent of about 5 other processors) based plugins on a 10 track project. UAD-1 resources were at 90% and the resources of the TC cards were at around 85%. No dropouts or other racket at all with the buffers set to 1024. CPU cruising along at about 20%, no disk streaming spikes (this is something I need to test with larger track counts though) and I've got a little bit of wriggle room on adding more DSP based plugins, depending on what they

are.....and I haven't used a single native plugin yet. I'd say that the system is robust enough to do pretty much any tracking/mixing job that I might be asked to do here..

I'm going to guit sweating the upgrade situation for another year or so. By

that time, hopefully there will be the possibility of exponentially better performance at lower latencies. Right now, this system is lookin' good with DSP horsepower to burn. Now......back to the lab. (0; "Neil" <OIUOI@OIU.com> wrote in message news:475b173b\$1@linux... > FWIW, I don't believe you'll get much benefit from > upconverting a 44.1 song to 88.2 - the plugin's will > process with the higher resolution, but there's > not going to be anything better about the files that were > originally tracked at 44.1, so unless you've got a lot of > overdubs to do on each of those songs, you're probably better > off staying at 44.1 for the rest of the tracking, but then when > you mixdown, go ahead & render to an 88.2k/.24-bit stereo file > for mastering purposes. > > Neil > "DJ" <animix _ at _ animas _ dot _ net> wrote: >> I've got two Powercore cards and 4 x UAD-1 cards working in a single 13 > >>slot Magma with the POCO's sharing IRQ 18 and the UAD-1's sharing IRQ 17. >>3 x RME cards are in a second Magma all sharing IRQ 19 so pending a >>serious >>torture test to test the PCI bandwidth, it appears that this may play >>nice. >> >>I'm using an older gigabyte GA-K8NS Ultrra 939 (AGP based board) and the > AGP >>is on IRQ 16 so since there is no IRQ sharing, unless my PCI bandwidth is > >>all used up, I'm not expecting any problems. >>I'm currently converting everything I'm working on to 88.2KHz. I don't >>know

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Subject: Re: Maxxing a Magma

Posted by Neil on Sun, 09 Dec 2007 16:53:31 GMT

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"DJ" <animix _ at _ animas _ dot _ net> wrote: >OK Neil.

>

- >Thanks for the pointers. these higher sample rates are something new to me.
- >I read an article by a heavy hitter engineer a while back where he said that
- >he upsamples everything to 88.2 for mixing, just to get some benefit from

>the plugin resolutions.

Really? I wonder why he just didn't record at that samplerate to begin with, then? Interesting - well maybe I'm wrong about the degree of benefit you'll get from upconverting - maybe it'll be more than I thought. I was just figuring that since all you'd be doing was converting each sample to two samples, as opposed to recording twice as many samples per second, you're certainly not improving the resolution of what's already been recorded; you're also not changing the high-end content, as dictated by Nyquist frequency, of what's already been recorded at 44.1; AND, if there's any FIR filter noise present on the original 44.1 tracks, you're not eliminating it by upconverting after they've been recorded. Based on those factors, I figured it wouldn't make much of a difference except for the plugin's.

Now, in Bob Katz's "Mastering Audio" book, he says that he upconverts 44.1 & 48k projects to higher samplerates for mastering for the same reason as your guy mentions - he wants all the processing, whether it's going through one of his digital outboard pieces or a simple dither plugin, to be done at the higher resolutions, so maybe upconverting like you're indicating gives the same benefits earier in the life cycle of the recording.

Neil

Subject: Re: Maxxing a Magma

Posted by DJ on Sun, 09 Dec 2007 18:51:59 GMT

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I'll see if I can find the article and post up what he said. "Neil" <OIU@OIU.com> wrote in message news:475c0f7b\$1@linux... > "DJ" <animix _ at _ animas _ dot _ net> wrote: >>OK Neil. >> >>Thanks for the pointers. these higher sample rates are something new to >>I read an article by a heavy hitter engineer a while back where he said > that >>he upsamples everything to 88.2 for mixing, just to get some benefit from >>the plugin resolutions. > Really? I wonder why he just didn't record at that samplerate > to begin with, then? Interesting - well maybe I'm wrong about > the degree of benefit you'll get from upconverting - maybe > it'll be more than I thought. I was just figuring that since > all you'd be doing was converting each sample to two samples, as > opposed to recording twice as many samples per second, you're > certainly not improving the resolution of what's already been > recorded; you're also not changing the high-end content, as > dictated by Nyquist frequency, of what's already been recorded > at 44.1; AND, if there's any FIR filter noise present on the > original 44.1 tracks, you're not eliminating it by upconverting > after they've been recorded. Based on those factors, I figured > it wouldn't make much of a difference except for the plugin's.

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> Neil

Subject: Re: Maxxing a Magma Posted by Chris Ludwig on Mon, 10 Dec 2007 15:17:30 GMT View Forum Message <> Reply to Message

Hi DJ,

Your insane.

So I take it the TC card I sent ya worked. Sure wish it worked on my

machine. Chris DJ wrote: > I've got two Powercore cards and 4 x UAD-1 cards working in a single 13 > slot Magma with the POCO's sharing IRQ 18 and the UAD-1's sharing IRQ 17. My > 3 x RME cards are in a second Magma all sharing IRQ 19 so pending a serious > torture test to test the PCI bandwidth, it appears that this may play nice. > I'm using an older gigabyte GA-K8NS Ultrra 939 (AGP based board) and the AGP > is on IRQ 16 so since there is no IRQ sharing, unless my PCI bandwidth is > all used up, I'm not expecting any problems. > I'm currently converting everything I'm working on to 88.2KHz. I don't know > if this is going to end up being a waste of time or not, but I figure, since > I made the decision to move to an 88.2 capable system, I need to start using > it. I've spent guite a bit of time and effort getting all my hardware DSP > processors to function at 88.2 and I wanted to try to offload as much CPU > load to outboard hardware and DSP cards as possible. Since my UAD-1 > resources will be cut in half, the extra POCO's will be there to pick up the > slack. I've got a couple of 750GB SATA Barracudas to handle the > recording/playback and backup so here goes. > Upsampling existing projects in Cubase is pretty easy to accomplish and > perhaps the OD's and final DSP processing at 88.2 will add a bit of extra > mojo to the mixes.....before they get hosed by the MP3 codec. > > Just in case someone wants to go down this road, the compatibile slots in > the Magma are as follows: > > 1, 5, 7 and 11 share IRQ 17 > 2 and 6 share IRQ 18 > If you are adding a second Magma, use 1, 5, 7 or 11 for any audio cards or

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>

Chris Ludwig

ADK Pro Audio (859) 635-5762 www.adkproaudio.com chrisl@adkproaudio.com

Subject: Re: Maxxing a Magma

Posted by DJ on Mon, 10 Dec 2007 16:06:19 GMT

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"Gary Flanigan" <gary_flanigan@ce9.uscourts.gov> wrote in message
news:475d5901$1@linux...
> Doesn't working at 88.2 preclude using the UA 33609?
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Subject: Re: Maxxing a Magma

Posted by Gary Flanigan on Mon, 10 Dec 2007 16:19:29 GMT

Doesn't working at 88.2 preclude using the UA 33609?

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Subject: Re: Maxxing a Magma
Posted by AlexPlasko on Mon, 10 Dec 2007 17:50:38 GMT
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thanks for the info DJ. I wonder if this scenario will work with a UAD-1 PCI-E on the MB also.Chris??
"Chris Ludwig" <chrisl@adkproaudio.com> wrote in message news:475d59fd@linux...

- > Hi DJ.
- > Your insane.
- > So I take it the TC card I sent ya worked. Sure wish it worked on my
- > machine.
- > Chris
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>
> Chris Ludwig
>
> ADK Pro Audio
> (859) 635-5762
> www.adkproaudio.com
> chrisl@adkproaudio.com
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Subject: Re: Maxxing a Magma
Posted by Gary Flanigan on Mon, 10 Dec 2007 18:19:12 GMT
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"DJ" <animix _ at _ animas _ dot _ net> wrote:
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>"Gary Flanigan" <gary_flanigan@ce9.uscourts.gov> wrote in message
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I must be losing it. I could swear that the 33609 only worked at 44.1.