Subject: Adat cards, lightpipe transfer & dither
Posted by Sound Dog on Wed, 21 Jun 2006 15:36:37 GMT
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Say, does anyone know whether you need to dither a 24bit signal to 20bit when sending audio back to PARIS via lightpipe (from Logic via and HDSP962 for example) ?

Thanks,
Stewart.

Subject: Re: Adat cards, lightpipe transfer & dither
Posted by Deej [1] on Wed, 21 Jun 2006 16:23:50 GMT
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After about a year of using a mix matrix that involves streaming audio that is being processed at 32 bit float in Cubase SX over a 20 bit lightpipe to be summed in Paris, here's my take on this:

I notice absolutely no sonic hit at all. I think this may be because there is some incredibly sophisticated stuff going on in the Paris DSP. It's really strange how this works. Paris can recieve a signal at the ADAT input that is being processed in Cubase SX at 32 bit float *above* 0dBfs (it's not clipping in Cubase SX as long as it stays floating and doesn't hit the mix bus) and though this signal is *techically* being truncated to 20 bit, there is something going on in the Paris DSP that is apparently allowing the entire bit depth of whatever audio is received over lightpipe to be retained while the actual loudness of the signal is attenuated by -24dB. Well, this gives you an extra +24 dB of headroom to boost the signal again in Paris. It may be truncated, but it's something inaudible to my ears and what comes out of the Paris mix bus sounds *HUGE* because it *sounds* like multiple 32 bit audio tracks being boosted by up to 24dB and then summed analog.....at least, that's my take on it. I certainly notice no distortion/graininess at all. I did try instantiating a dither plugin on each Cubase audio track a while back and the cumulative dither of 20+ tracks sounded hissy and awful.It sounds like voodoo, and I know that bist can't be restored after truncation, but the extra 24dB of headroom that Paris provides makes it sound like it's doing exactly this, and then some. I knew there was something like this happening due to the additional headroom available but I wasn't sure how much the audible input signal level was being reduced until I talked to someone (who must remain anonymous right now) who has actually measured this.

anyway.....whatever is happening, it sounds awesome.

Deej

"Sound Dog" <dogster@tpg.com.au> wrote in message news:44996537$1@linux...
> Say, does anyone know whether you need to dither a 24bit signal to 20bit
> when sending audio back to PARIS via lightpipe (from Logic via and
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> for example) ?
>
> Thanks,
> Stewart.
>
>

Subject: Re: Adat cards, lightpipe transfer & dither
Posted by Gary Flanigan on Wed, 21 Jun 2006 16:29:11 GMT
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I think the lightpipe just truncates it, so if you can dither before the transfer,it
might sound better.

"Sound Dog" <dogster@tpg.com.au> wrote:
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>when sending audio back to PARIS via lightpipe (from Logic via and HDSP962
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>Thanks,
>Stewart.
>
>

Subject: Re: Adat cards, lightpipe transfer & dither
Posted by Sound Dog on Sat, 24 Jun 2006 03:57:09 GMT
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Hi Deej.

That's seems totally bizarre - I must try that sometime. When you record
audio tracks, do you record directly into Cubase using some other interface
or do you go via PARIS ?

I tried a couple of tests - firstly I extracted a track from CD (Crowded
House "Pineapple Head") into Logic, then recorded that into PARIS via SPDIF
in two different ways:

HDSP9652 SPDIF -> PARIS SPDIF (Logic on Mac sync'd to ADAT signal from PARIS
on PC, using PARIS as master deck with Logic slaved via MTC)

then

HDSP9652 ADAT -> PARIS ADAT (Logic on Mac sync'd to ADAT signal from PARIS on PC, using PARIS as master deck with Logic slaved via MTC).

I can't hear a difference. There's no level loss or anything. 0dBFS in Logic = 0dBFS in PARIS.

I also recorded the track from a domestic CD player thru a preamp into PARIS via an 8-in card, firstly using internal sync in PARIS, then again locked to Word Clock from an HDSP9652 card installed on the same PC. I think I prefer the sound of PARIS' internal sync. Seems to be slightly more forward or something - what should I be listening for ? I recall you saying in one of your posts that the sound of your PARIS rig improved noticeably once you started clocking externally.

Hmmm...

Stewart.

DJ wrote in message <44997302$1@linux>...
>After about a year of using a mix matrix that involves streaming audio that
>is being processed at 32 bit float in Cubase SX over a 20 bit lightpipe to
>be summed in Paris, here's my take on this:
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>> Thanks,
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Subject: Re: Adat cards, lightpipe transfer & dither
Posted by Deej [1] on Sun, 25 Jun 2006 21:59:23 GMT
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"Sound Dog" <dogster@tpg.com.au> wrote in message news:449cb5b3$1@linux...
> Hi Deej.
>
> That's seems totally bizarre - I must try that sometime. When you record
> audio tracks, do you record directly into Cubase using some other
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I record straiught to Paris.
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> I tried a couple of tests - firstly I extracted a track from CD (Crowded
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> on PC, using PARIS as master deck with Logic slaved via MTC)

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> I can't hear a difference. There's no level loss or anything. 0dBFS in
> Logic = 0dBFS in PARIS.

I know.....it's bizarre. Everything seems to be the same. Now set Paris
to post fader, set the Paris fader to unity, process a track in Logic with a
VST plugin while sending it to Paris.....not start raising the Paris
fader and listen to what happens.
>
> I also recorded the track from a domestic CD player thru a preamp into
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> something - what should I be listening for ? I recall you saying in one
of
> your posts that the sound of your PARIS rig improved noticeably once you
> started clocking externally.
>
> Hmmm...
>
> Stewart.

I prefer the sound of Paris clocked externally. The Paris clock isn't nearly
as accurate as a GenX6. This results in some jitter in the D/A's. Jitter
also = distortion. Sometimes distortion sounds good.

Deej
>
>
> DJ wrote in message <44997302$1@linux>...
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> >is being processed at 32 bit float in Cubase SX over a 20 bit lightpipe
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Subject: Re: Adat cards, lightpipe transfer & dither
Posted by Sound Dog on Tue, 27 Jun 2006 15:44:51 GMT
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>> House "Pineapple Head") into Logic, then recorded that into PARIS via
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>to post fader, set the Paris fader to unity, process a track in Logic with
a
>VST plugin while sending it to Paris.....not start raising the
Paris
>fader and listen to what happens.

Sorry, you lost me here. Set PARIS to post fader ?

Also, I don't have any VST plugs - do you know if Logic's proprietry plugs
exhibit the same behaviour regarding bit depth ?

Cheers,
Stewart.
