

Technics service

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Feedback issues when using pioneer mixers

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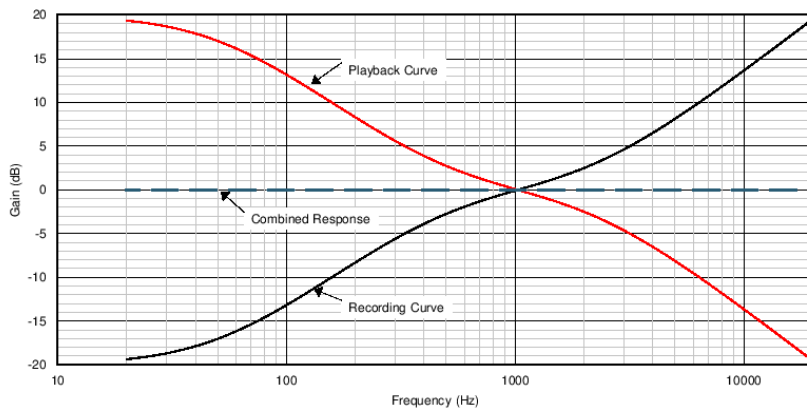
Intro:

It has been a common issue over the last couple of decades, where people have been experiencing turntable feedback when using a pioneer mixer. The reason for this is because the RIAA pre-amplifiers in all pioneer mixers (right up to the DJM-V10) do not run true. They have a wideband boost at around 70Hz, and a rolloff above 12kHz. This causes muddiness, loss of clarity and feedback when compared to other brands, e.g. Allen & Heath.

Reasons:

1) It is a common conclusion amongst many engineers that Pioneer actually did this on purpose when they tried taking over the DJ market with their brand around 2002/2003. By handing out free equipment to large nightclubs, and well known DJs (in return for brand endorsements) people began to find they were having issues with feedback when using turntables with the new pioneer equipment, so rather than investigate properly, they began switching to using CDJs to stop the feedback problems. Of course, unless you're an engineer and know how to carry out specific testing on this, you would be none the wiser and think the problem is down to the turntables. Well the truth is, the problem lies not with the turntables, rather its down to the poor quality RIAA phono pre-amplifiers not running true on pioneer mixers.

2) Take a look at the following diagram :-



This is called the RIAA curve, and is used when recording onto vinyl. The reason being, if it were normal flat frequency response then you would have very fat grooves for the lower bass frequencies, so this is reduced, and then re-booster inside the pre-amplifier (mixer).

The RIAA curve is altered somewhat in pioneer pre-amplifiers so that there's a boosted output around the same resonant frequency of the turntable chassis. You can easily tell this if you were to put a stylus on a record (without the turntable moving) and then tap the chassis, it gives much more of a boom through a pioneer mixer than it would most other brands. Especially when placed near to monitor speakers etc.

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Feedback issues when using pioneer mixers (continued).

3) 'It wasn't doing it before I had the turntables serviced' Surprisingly, this has happened a few times after people have had their turntables serviced, they set them back up and begin noticing some audio feedback. The reason for this is simple. Serviced turntables will have an improved (louder) audio output as this would have degraded over the years prior to servicing due to poor audio cables, bad tonearm contacts etc. As a result, any risk of turntables feeding back will increase because the audio signal coming from the turntable can be higher once these have been serviced.

This risk is increased even more so when using a pioneer mixer, as the bass from a nearby loudspeaker gets amplified more through the turntables due to the characteristics of pioneer mixers. The 12kHz rolloff on pioneer mixers means people tend to increase the gains more than would need to be done normally to try and get a decent audio level, whereas on other brands of mixer, the gains do not need to be increased as much as you have a brighter overall sound coming from the phono preamps.

4) Risk of hearing damage. Digital audio has many errors in terms of jitter, aliasing and non linearity errors (in simple terms, its one of the reasons higher frequencies can sound trashy regardless of bit rate, bit depth and sample rate). This is often made worse when using pioneer mixers as it causes listener fatigue even when using digital media as well as vinyl. This in turn is what causes DJs to always increase the volume in the headphones and monitors to 'try and hear the mix better' (as the sound quality is not very punchy), and is one of the leading causes of permanent hearing loss. If the sound quality was better in the first place, then the volume would not need to be increased as much.

5) Conclusion: If people are serious about using vinyl, then they would avoid using pioneer mixers at all costs. There are many better brands out there, with even budget brands outperforming pioneer mixers in terms of sound and build quality. This is why the 1990s decade was the best for DJs, as there were many different brands of mixers, with DJs happy to play on anything as they all had the basic functions required to DJ. You see some 1990s videos of DJs happily using a 2 channel battle mixer in front of thousands of people. This is because musicianship is what made the crowd dance. But when pioneer came along, it is commonly thought that they tried to capitalise by taking over, as they were already known amongst other audio aspects (car audio, home hifi etc). Knowing that nothing could match the quality Technics turntables, the only subtle plan would be to cause problems with the audio output from these turntables and make people change the media format which they use and increase sales in CDJs. There is absolutely no reason to use modified RIAA correction in a DJ mixer other than to cause problems with the turntables played through it. Plus this certainly wasn't about 'keeping with the times and going digital' – because the errors with digital audio, and latency far outweigh that of analogue.

Beware of social media influencers, and famous DJs who would say otherwise. These people are not engineers, and often use 'sales talk' to try and push their opinions across. I have tried numerous times in contacting these people to talk to them, but to no avail. I do wonder why that is...!

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Note that the information in this article is based on findings amongst independent engineers and not by any corporation mentioned.