

Why The Multitrack Goes Stale Overnight By Malcolm Chisholm

We've all seen it. The session sounded great, the rhythm section really cooked, and it was a pleasure to run off a set of rough mixes for the client to take back to the office.

Three days later you're in the same room busting your hump in remix, and no matter what you do, it ain't there. It's real good, and you can make it a little better, but the transparency and impact of the original session are gone and despite all your efforts they're not coming back.

The first fifty times that happens, you write it off to session exhilaration. OK, so maybe it wasn't quite as good as you thought.

That's reasonable. We all know that judgments made on session frequently look pretty silly after a few days when emotions have cooled and the tapes are just another bunch of stuff to be worked on.

Eventually, though, there arises the nagging sensation that something's wrong.

Something is, and the first time the client brings back the roughs for reference, you'll know it. You won't like it, but you'll know it.

As to the what, why, and how of this nasty phenomenon, at least half of the credit for the following belongs to the late Deane Jensen of Jensen Transformers and the well known 990 Op Amp.

Deane was a man of extraordinary accomplishments and generosity who freely shared his immense knowledge with anyone who asked. He probably gave away more good ideas than he kept for himself.

Deane never asked for credit for his ideas, he patented basic designs and published them for general use without royalties, and he developed things like time aligned recording heads as favors to friends.

We shall not soon see his like again, and he is sorely missed by a great number of people in and out of the business.

Deane's contribution to the case in point came up during a very long 'phone discussion of magnetic recording in general when the writer brought up the overnight deterioration of multitrack tapes.

Deane triggered a probable explanation by pointing out that strong magnetic domains attract weak ones. They tend to merge.

Ah. hah!!.

That accounts for the fact that a mediocre splice improves to near perfection as the editor plays it back a few times to check it.

It also explains why mono and two track tapes sound punchier, cleaner, and more open after they've aged in the box for a day or two.

Best of all, this process, which Deane labeled "Horizontal Printhrough", accounts for the losses involved in multitrack tapes over the eight hours or so during which print through in general rises to 90% of it's final level.

The way it works is like this.

As all editors know, musicians don't really play together. They're close, but not quite perfect. A given tutti (Editors note: Italian for all [together]) will be made up of several attacks from several musicians surrounding one pretty solid one from some others. It's not at all apparent at normal playing speeds, but in slow motion a tutti sounds fairly ragged.

Horizontal Printhrough causes those close spaced attacks to merge toward a single entity, and probably aligns the harmonic and phase structures as well.

Result; A considerable improvement in impact and clarity, if all the instruments are on the same tape.

That last describes normal two track tapes as well as monaural since the important stuff appears on both tracks of a "Stereo" (actually multiple panned mono) tape.

On the other hand, if all those attacks are on separate tracks, they petrify in place without synchronizing to each other.

Result; A tape whose attacks sound more ragged as printhrough develops, giving rise to the next day blues.

Of course it's reasonable to assume that the multitrack stagger will get corrected in the final mix tapes, as we all know they sound better in the morning.

So the final question is whether or not the final mixes sound as good as the roughs. My experience says no, but a quick comparison will tell you how well your equipment and techniques handle the problem.

THE ANSWER: Other than multitrack digital, there is no answer, and digital has problems of it's own.

However;

While there are no analog solutions to Horizontal Printhrough, there are a couple of techniques that reduce the effect.

The first and best is running at 30 IPS. Magnetic fields follow field laws so doubling the distance between domains quarters the attraction and therefore the Printhrough. 30 inch helps a lot with printhrough of all kinds, and sounds terrific to boot.

The second is a trick used by an old friend of mine who made a practice of recording groups of instruments by panning each section onto two tracks of the multitrack. In effect, he was recording in multiple two track, and the individual sections locked up as if they were on a final mix. Good idea, and if it suits the kind of work you're doing, it's worth a try.

Finally, while Horizontal Printhrough is no more curable than noise, it can be controlled to some extent, and at worst it may be comforting to at least know why that fantastic session sound is so disappointing the next day.