Subject: Re: Digital Compromised
Posted by Wayne Parham on Wed, 09 Mar 2005 19:42:24 GMT
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I've always had an appreciation for systems that were setup so that full gain is reached just under the point where the system clipped. If each gain stage is configured properly, each will reach clipping at about the same point. That maximizes signal to noise ratio and provided the point of clipping is never exceeded, keeps the system in its best performance.Most systems provide much more gain control and allow you to reach clipping far before they run out of room on the volume knob. I always hated that. I suppose it's good to be able to turn up very soft sounds, but I'd rather have the increased power to match the increased gain than to just have the increased gain by itself.There is a standard for the preamp signal, and it's 0.775v peak. If the preamp level exceeds that, it is going past what is expected on the preamp input. Obviously some don't adhere to this standard, and I suppose if it works with everything attached, that's OK. And there's another standard for prosound that uses a 2.0v preamp level. All that's fine, but if things aren't matched, then the system will suffer. Go one way and there's too much noise, go the other and there's a tendency to overload and clip.So all that to say it isn't an analog/digital thing. It's a systemic thing. In this particular situation, the potental problem is the same. If you overdrive an analog system, you hit the limits of conduction or the power supply rails. If you overdrive a digital system, your data sample hits all ones. If you underdrive an analog system, your noise floor is above your signal level. If you underdrive digital, the bits are all zeros. Same deal.