

In the September issue of Sound on Sound Hugh Robjohns reviewed our Grimm Audio CC1 master clock. He comments that he did not notice an improved sound quality in his system. We would like to point out that the Prism converter used by Hugh Robjohns in his CC1 review has a narrow-bandwidth PLL. As explained at length in <http://www.grimmaudio.com/whitepapers/pll%20and%20clocking.pdf> and more succinctly in <http://www.grimmaudio.com/whitepapers/PLL%20and%20clock%20basics.pdf> the jitter performance of such converters neither degrades nor improves when connected to an external clock. The listening result Robjohns obtains indeed confirms this and -provided that the internal clock itself has low jitter- this is a highly desirable outcome. Unfortunately, since he sought to comment on the meaningfulness of using external clocking in general, it is important to stress that his observation makes no valid prediction of how converters with wide PLL bandwidths will respond. Popular devices like the Digidesign 192 have PLL bandwidths of up to 4kHz and the improvement in jitter performance when slaved to a stable external clock is clearly measurable. Grimm Audio distances itself from companies who claim that external clocking is always good. Instead, with documents like the cited white papers we hope to clarify when external clocking makes sense and when it does not. Thus informed, users can decide for themselves whether they should specify a low-jitter external clock or whether an ordinary one or none at all will do. We believe this is more informative than merely taking a stand for or against external clocking.

Bruno Putzeys, Grimm Audio, Eindhoven, The Netherlands, bruno@grimmaudio.com