

**To clock or not to clock**

Self oscillating topologies excel in simplicity, size, loop gain and efficacy.

Why in efficacy? Because the decrease of the switching frequency at higher output levels is a remarkable advantage for the power stage.

In partially or fully digital studio application there is often the desire to have all devices synchronized from a master clock in order to avoid effects of aliasing and/or beating effects.

Furtheron selfoscillating topologies you cannot get benefit of BD mode in bridged applications and also run not synchronized with their SMPS.

Let's have a look to the beating between left chanel and right chanel in a stereo system.

Figure 1 shows two self oscillating amplifiers in the most simple arrangement of hysteretic oscilators. The second amp has a slightly lower oscillation frequency, because of +1% tolerance of C4.

Figure 1: Two hysteretic selfoscillating amps

