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(54) **DYNAMIC RANGE BOOST FOR AMPLIFIERS**

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ABSTRACT

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Examples of amplifiers and associated control blocks control analog and digital gains of such an amplifier to maintain a ripple voltage at the input/virtual terminals of an internal integrator below an upper limit. Such an example amplifier comprises digital and analog processing blocks. The digital processing block receives a digital audio signal and also includes a digital gain component. The analog processing block includes an analog gain component and an output stage having a supply voltage terminal. A boost controller receives the digital audio signal, and has a digital output and a boost voltage output to output a boost voltage. A digital controller receives the digital audio signal, and has a first digital input coupled to the digital output of the boost controller and a second digital input to receive a measurement value indicative of the outputted boost voltage. Based on its inputs, the digital controller controls the digital and analog gain components.

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