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## (54) DIGITAL AUDIO POWER AMPLIFIER AND POWER AMPLIFIER LOOP

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#### (57)ABSTRACT

Disclosed are a digital audio power amplifier and a power amplifier loop. The power amplifier loop comprises an operational amplifier U1, a capacitor C1, a power amplifier output stage, a resistor R1, a resistor R2 and a noise control unit, wherein an inverting input end of the operational amplifier U1 is respectively connected to one end of the capacitor C1, one end of the noise control unit and an output end of a preceding DAC current source; an output end of the operational amplifier U1 is respectively connected to a control end of the power amplifier output stage and the other end of the capacitor C1; an output end of the power amplifier output stage is successively grounded by means of the resistors R1, R2; the other end of the noise control unit is connected to a connection point between the resistors R1, R2; the resistance values of the resistors R1, R2 are set to satisfy R1/R2=(N-2)/2, where N>2; the reference voltage of the operational amplifier U1 is equal to PVDD/N, with PVDD being a power supply voltage of the power amplifier output stage; and the noise control unit is a resistor module. The present application ensures the normal operation of the digital audio power amplifier.

