Feedforward amplifier

THIS VOLTAGE amplifier drives a grounded load and uses feedforward to reduce distortion. Components R_a, C_a and C_b are used to balance any delays between the two amplifiers. If close tolerance components are used it is possible to obtain very low distortion levels for high output signals. If conventional op-amps such as 741s are used for A_1 and A_2, and $C_a = C_b = 0$,

$$V_{main} = +\frac{R_1 + R_1//R_2}{R_1//R_2}V_{in} + V_d$$

where V_d is composed of noise and hum

$$V_{aux} = -V_{main} + \frac{R_1 + R_1//R_2}{R_1//R_2}V_{in} - V_d$$

Therefore,

$$V_{out}/V_{in} = \frac{1}{2}\frac{R_1 + R_1//R_2}{R_1//R_2}$$

In the prototype $R_1 = 100k\Omega$, $R_2 = 10k\Omega$, and $R_9 = 1k\Omega$.

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