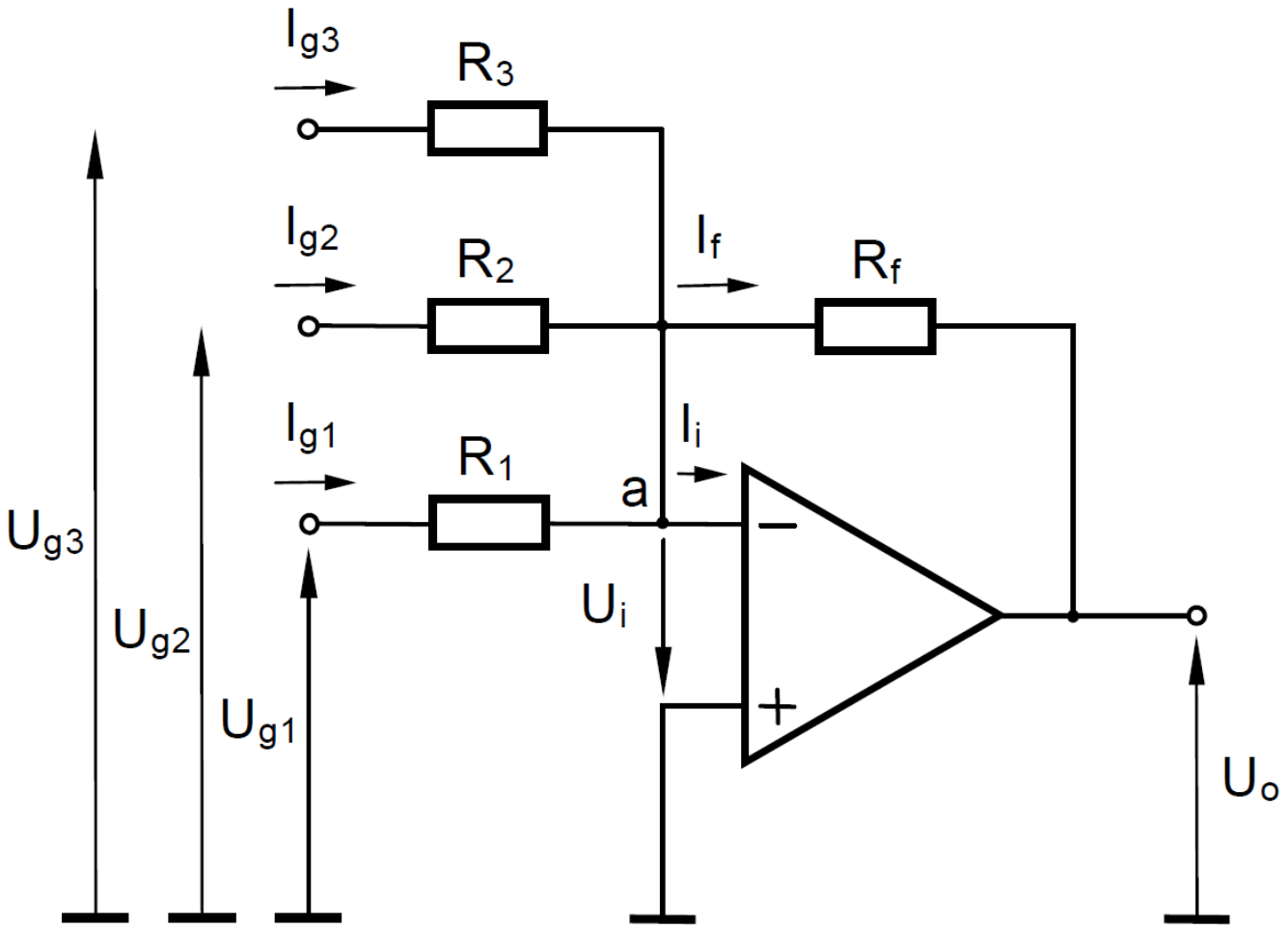
Elektronische signalen 2

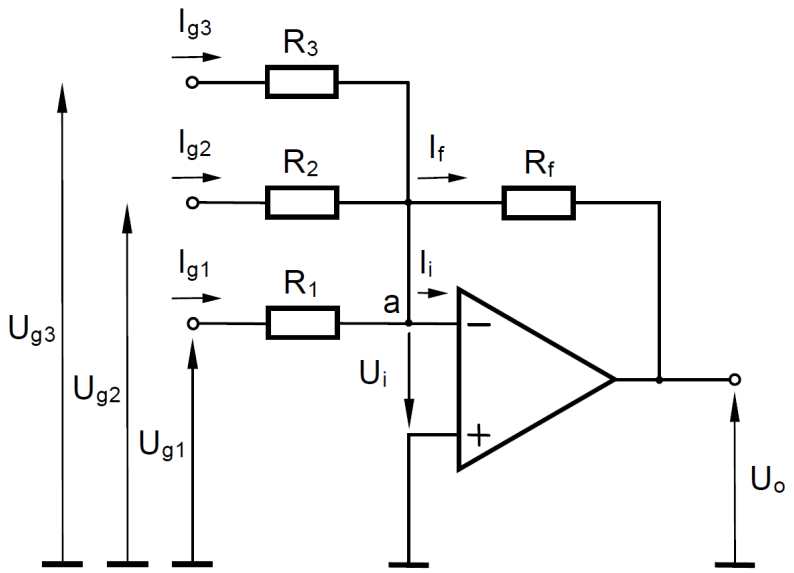
Inverterende sommator

P. Debbaut

Principeschema



Uitgangssignaal



knooppunt a $\sum I = 0$

$$I_{g1} + I_{g2} + I_{g3} = \cancel{I_i} + I_f$$

$$I_{g1} + I_{g2} + I_{g3} = I_f$$

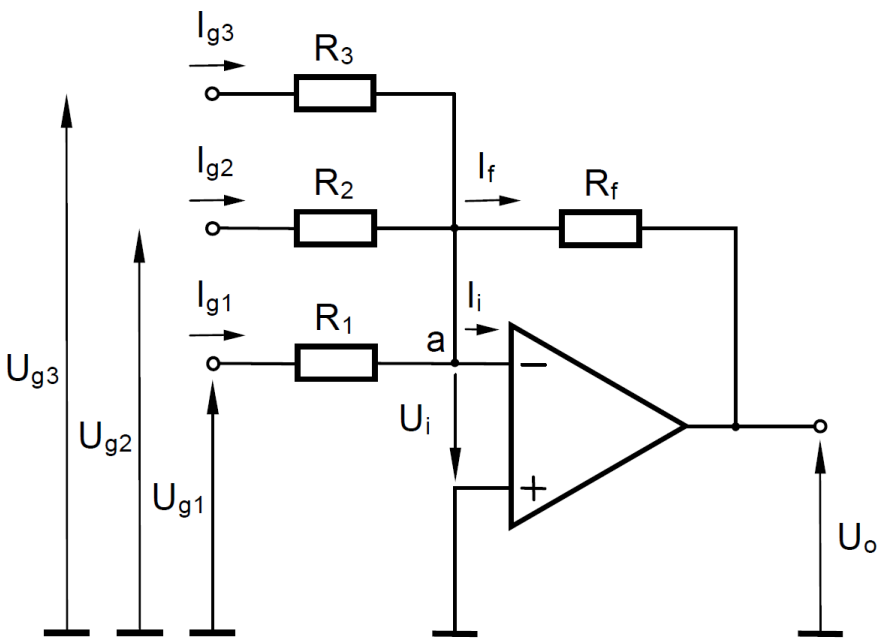
$$\frac{U_{g1}}{R_1} + \frac{U_{g2}}{R_2} + \frac{U_{g3}}{R_3} = -\frac{U_o}{R_f}$$

Opmerkingen

- gewogen som
- signaal wordt geïnverteerd
- ingangsweerstanden verschillend
- uitgangsweerstand 0Ω

$$U_o = -\left(\frac{R_f}{R_1}U_{g1} + \frac{R_f}{R_2}U_{g2} + \frac{R_f}{R_3}U_{g3}\right)$$

Speciale gevallen



Is $R_1 = R_2 = R_3$ dan bekomt men:

$$U_o = -\frac{R_f}{R_1}\left(U_{g1} + U_{g2} + U_{g3}\right)$$

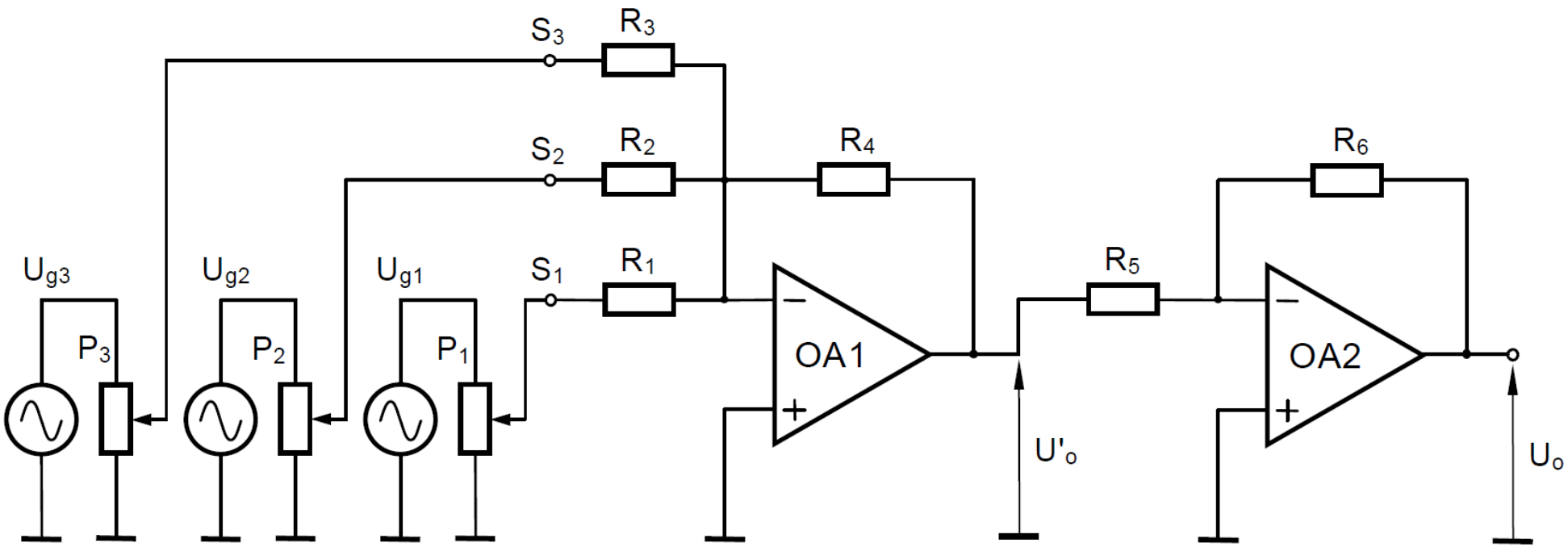
Is $R_1 = R_2 = R_3 = R_f$ dan wordt dit:

$$U_o = -\left(U_{g1} + U_{g2} + U_{g3}\right)$$

Audio-mengpaneel

audio-mixer Peavey S32

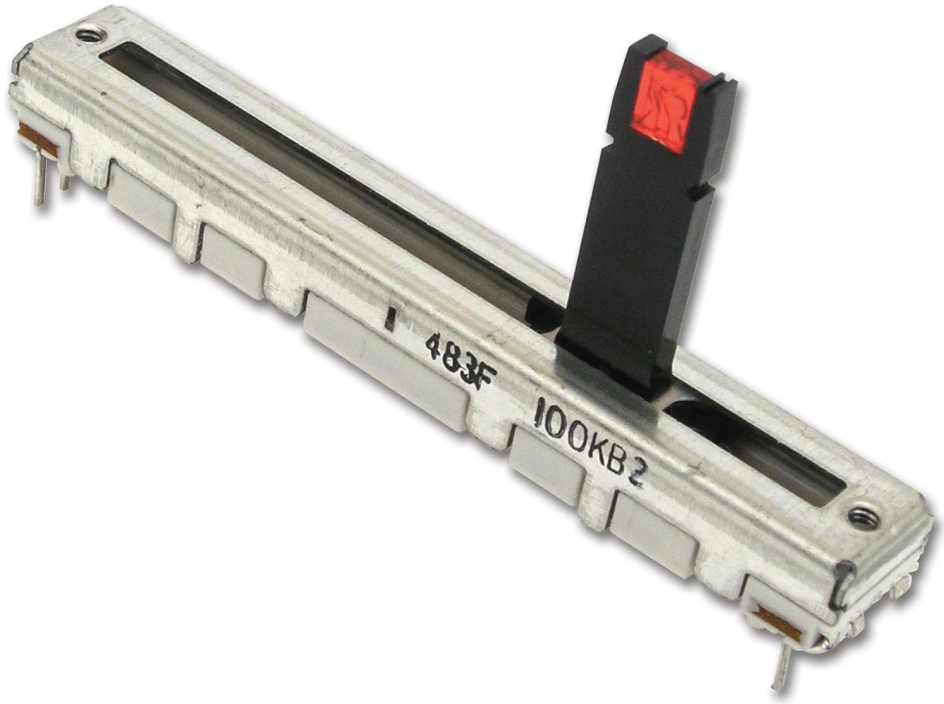
Audio-mengschakeling



Inverterende sommator

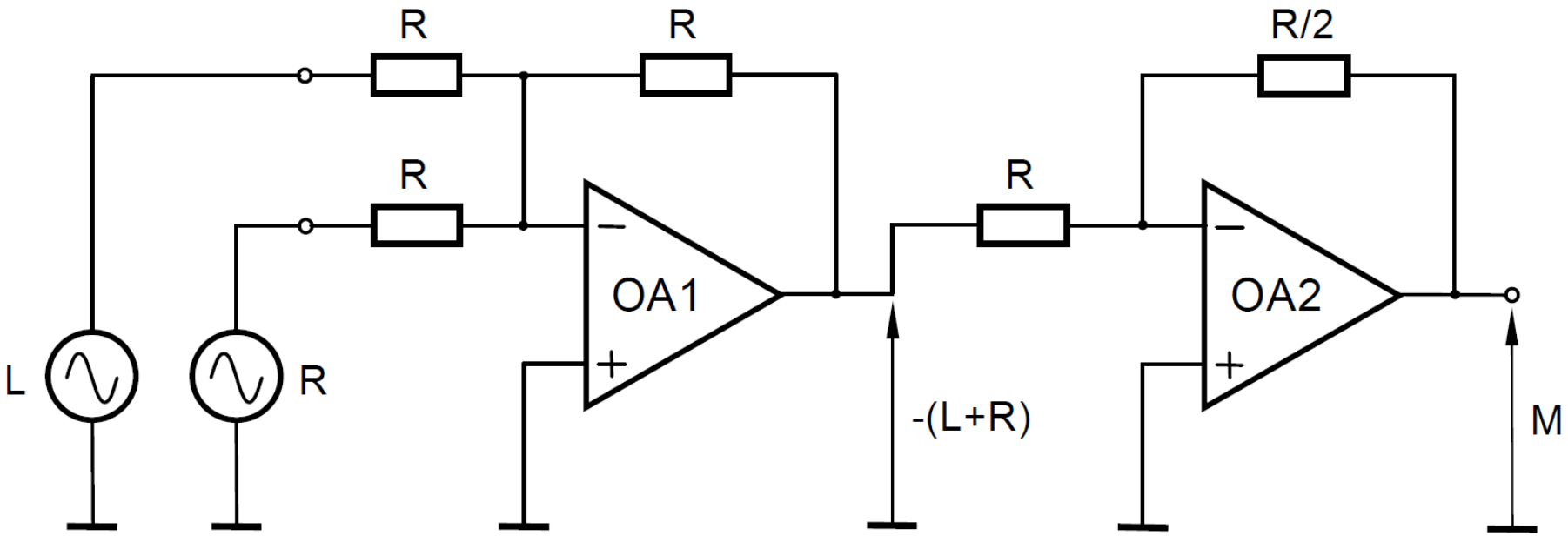
Inverter

Audio-mengschakeling



Bourns slide potmeter

Stereo naar mono omvormer



$$M = \frac{L + R}{2}$$