

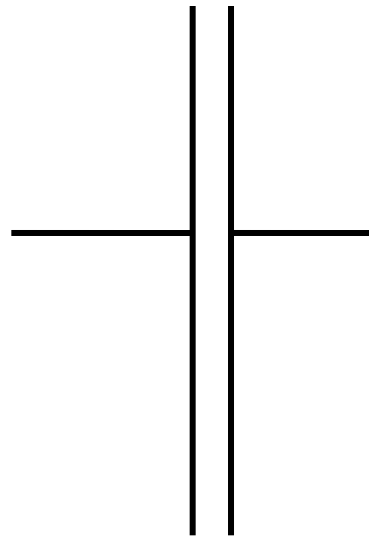
# HP OG LP filtre

- HP = Høj pas
- LP = Lav pas
- BP = Bånd pas

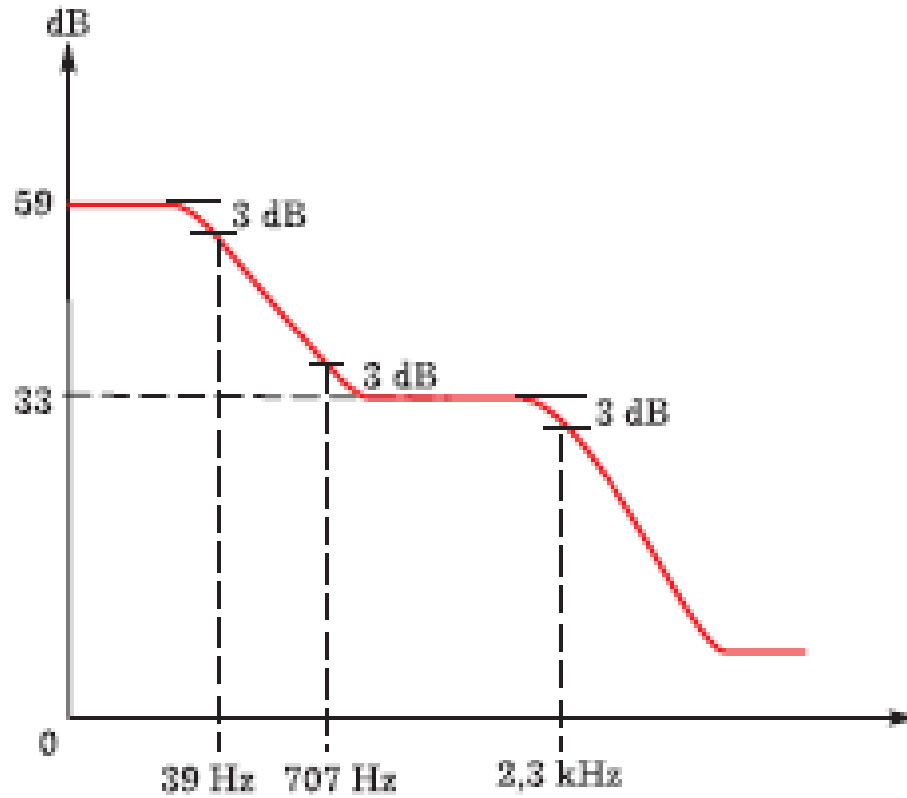


# Kondensatoren

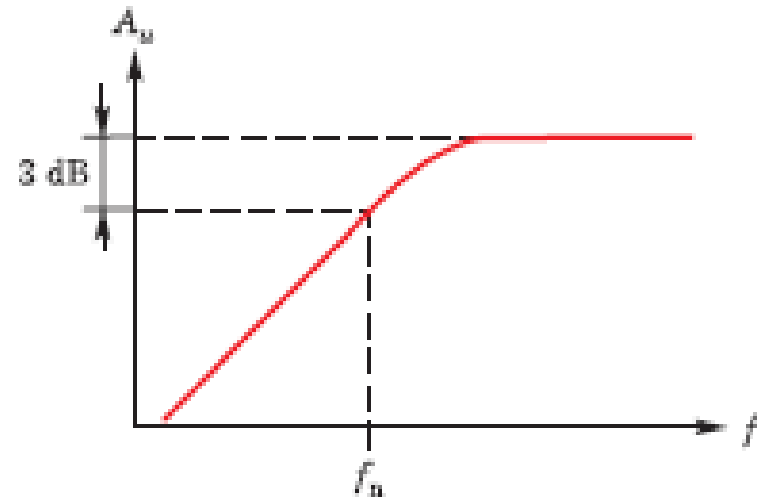
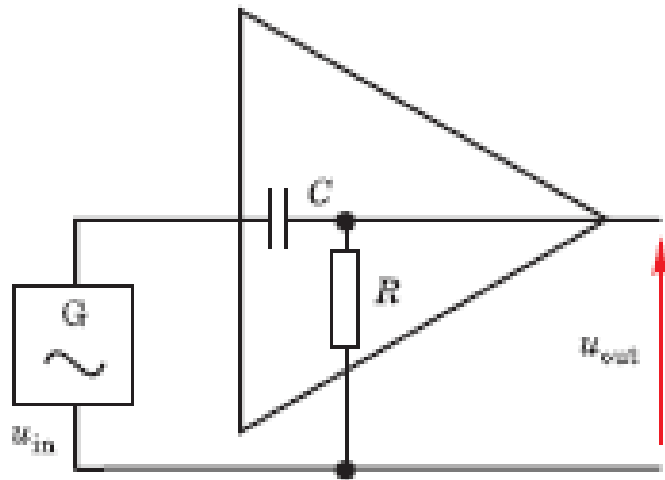
- $X_C = \frac{1}{2\pi f C}$



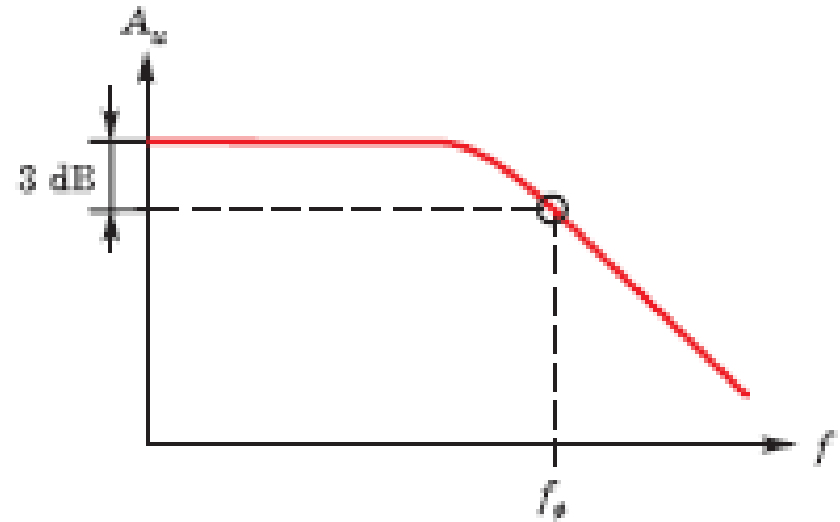
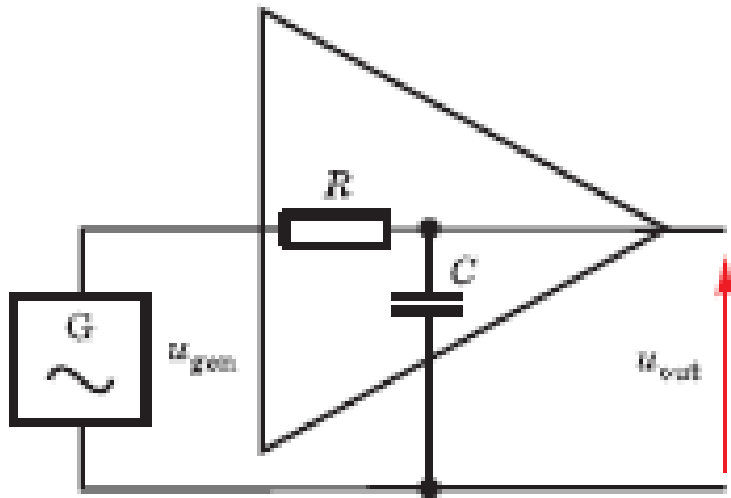
# Frekvensgang



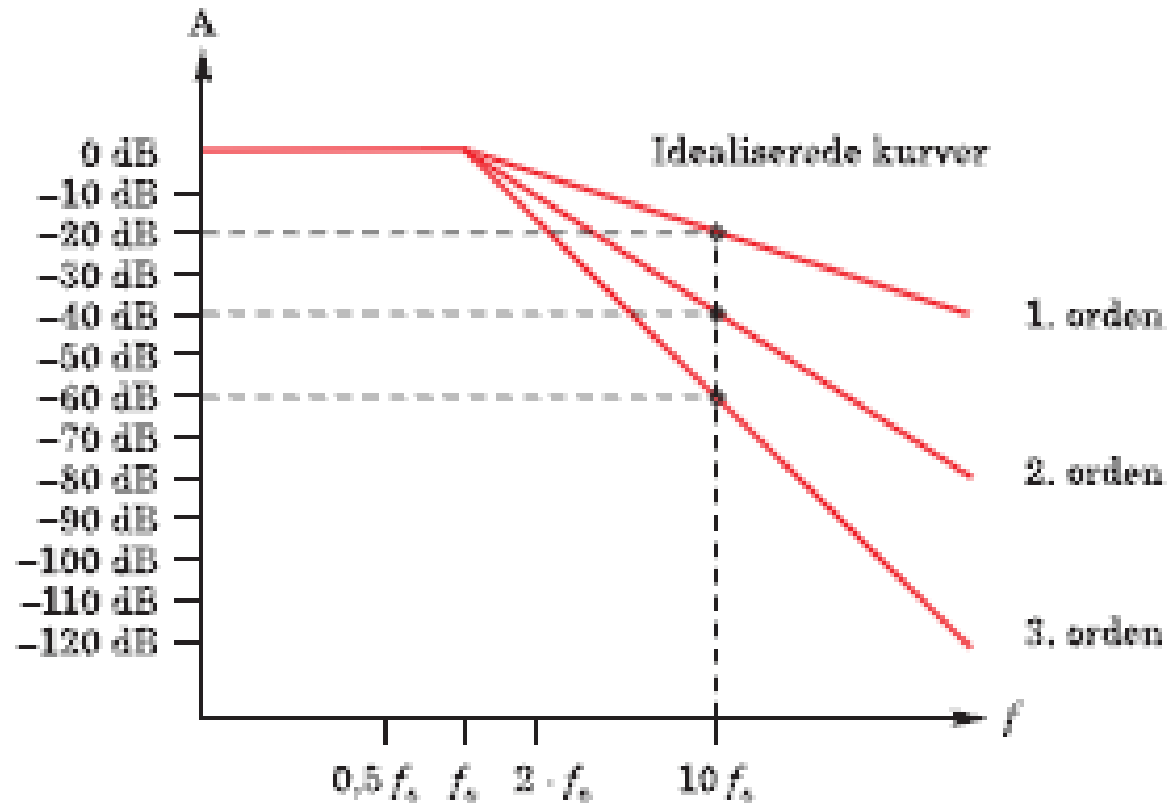
# HP eller LP?



# HP eller LP?



# Aktive filtre



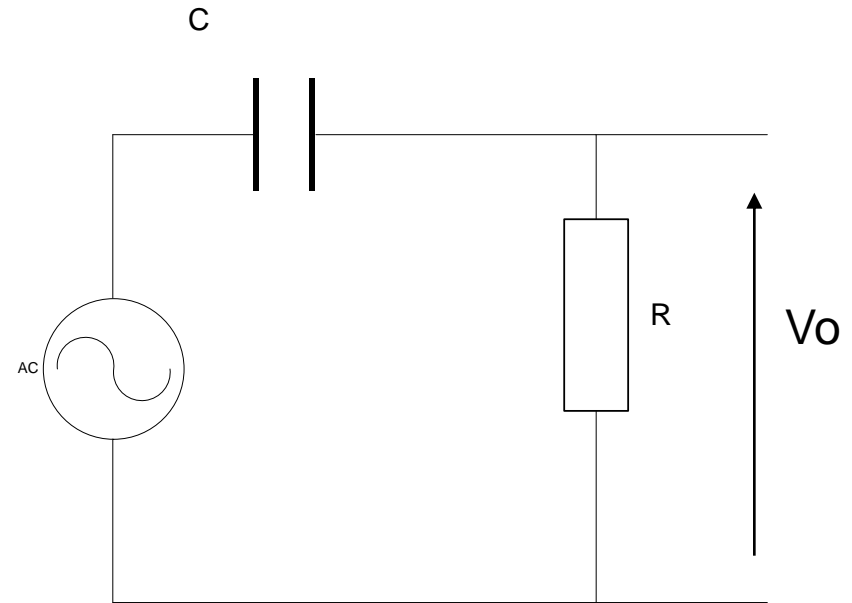
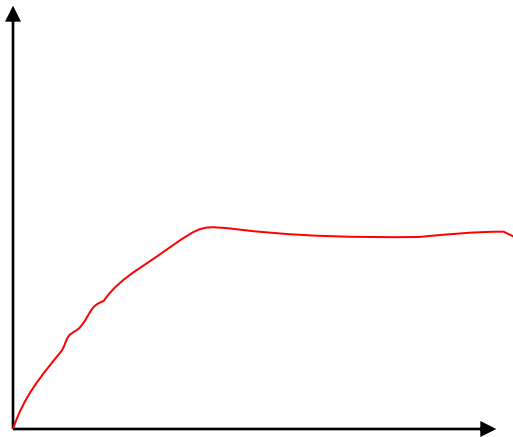
# Oktav eller dekade

- 1' orden:  $6 \text{ dB/oktav} = 20 \text{ dB/dekade}$
- 2' orden:  $12 \text{ dB/oktav} = 40 \text{ dB/dekade}$
- 3' orden:  $18 \text{ dB/oktav} = 60 \text{ dB/dekade}$
  
- Hvad er en oktav?



# HP

- De høje frekvenser passere!!!
- $X_C = 1/2 * \pi * f * C$
- $F \rightarrow 0 \Rightarrow$
- $X_C \rightarrow \infty \Rightarrow$
- $V_o \rightarrow 0$



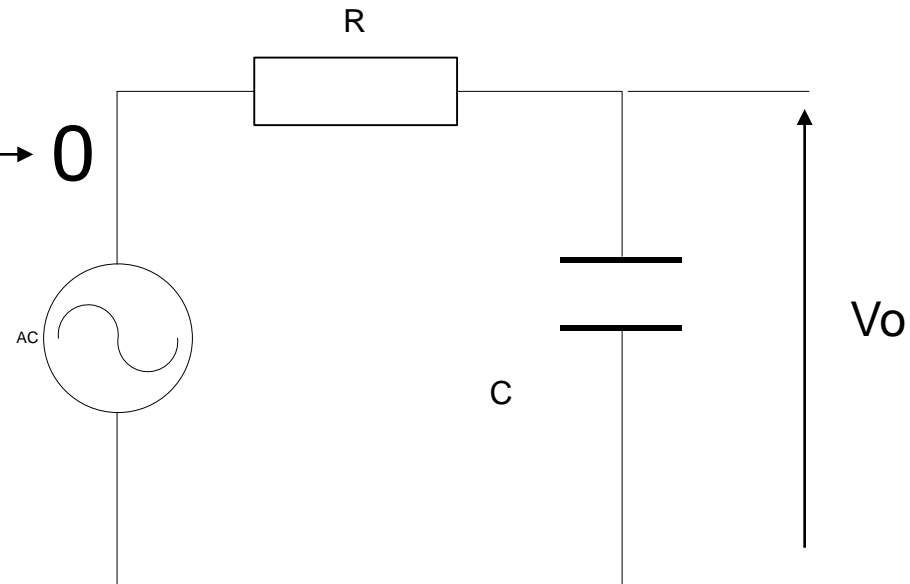


# LP

- De lave frekvenser passere!!

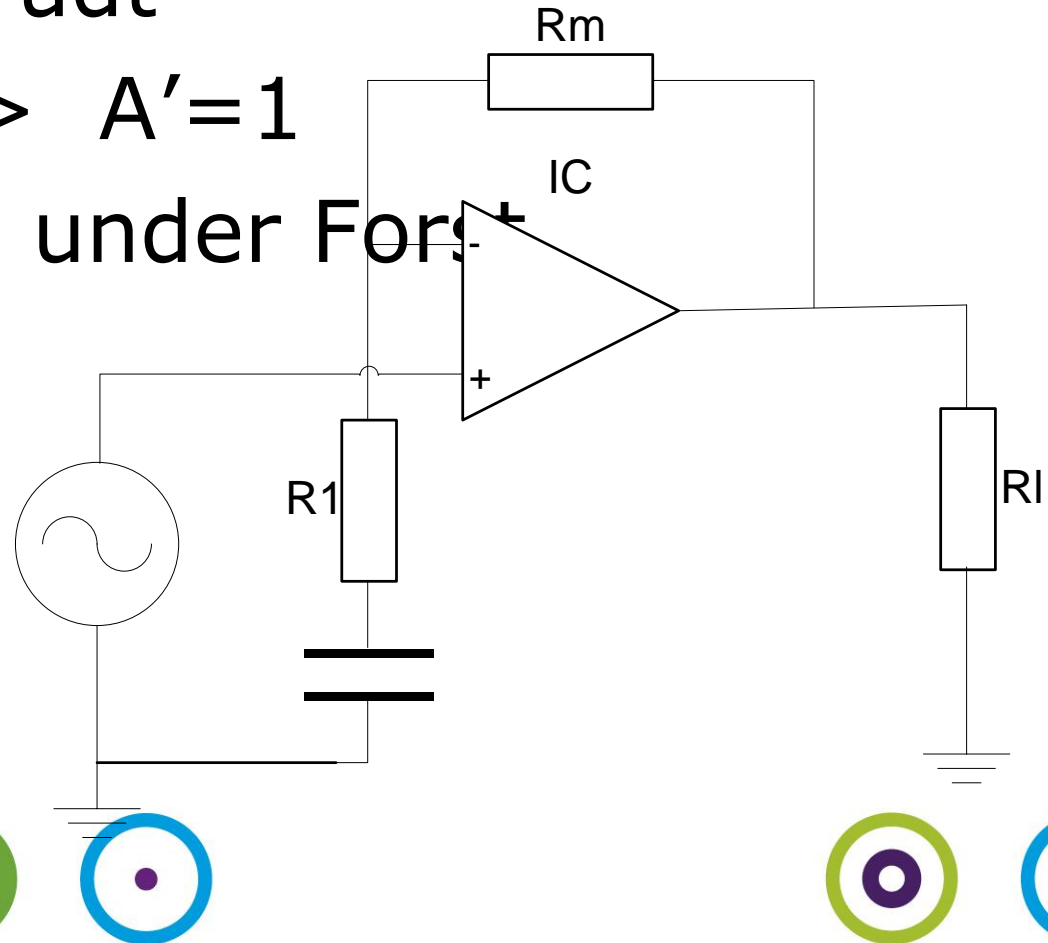
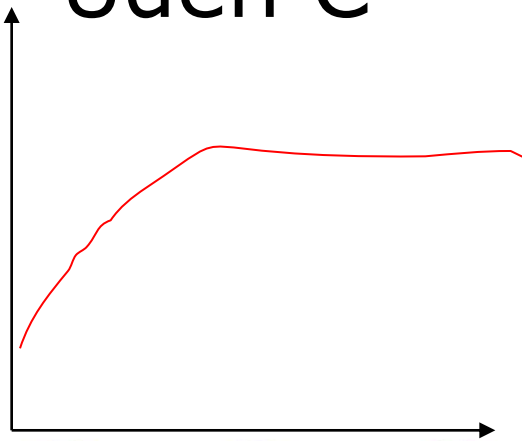
- $X_C = 1/2 * \pi * f * C$

- $F \rightarrow \infty \Rightarrow X_C \rightarrow 0 \Rightarrow V_o \rightarrow 0$



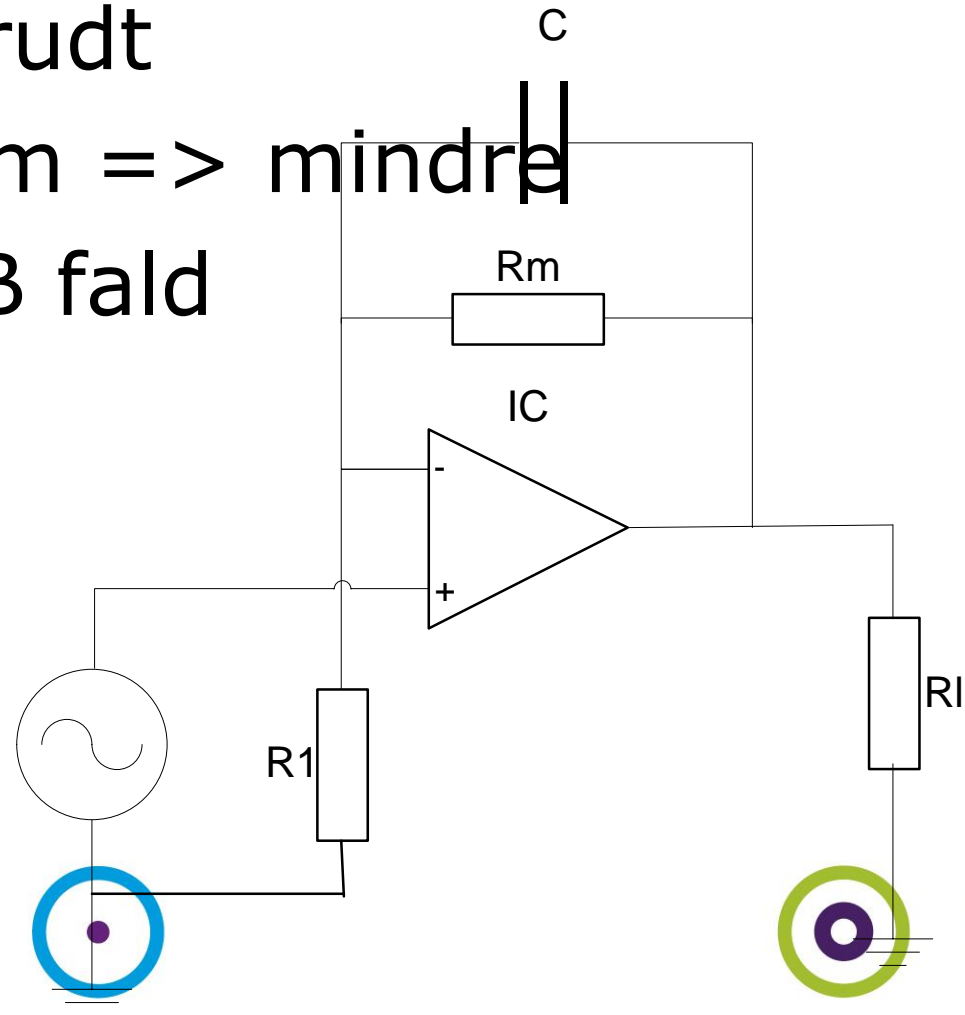
# Bassænkning

- 0 Hz => C afbrudt
- $R1 + C = Rm > A'=1$
- $R1=C => 3$  dB under Forst
- Uden C



# Diskantsænkning

- 0 Hz =>  $X_c$  afbrudt
- F forøges  $X_c // R_m$  => mindre
- $X_c = R_m$  => 3 dB fald



# Hjælpe værktøjer

- [www.ti.com/filterpro](http://www.ti.com/filterpro)
- [www.ti.com/switcherpro](http://www.ti.com/switcherpro)
- [www.ti.com/adcprou](http://www.ti.com/adcprou)
- [www.ti.com/utilities](http://www.ti.com/utilities)
- [www.ti.com/elabhowtobuy](http://www.ti.com/elabhowtobuy)



# Opgave

- Lav nogle grupper 6 stk.
- 2 gr. Laver lavpass (3 KHz & 10 KHz)
- 2 gr. Laver højpas (3 KHz & 10 KHz)
- 2 gr. Båndstop (centerf 2kHz/2KHz & 6 KHz/3KHz)
- Max 2 orden!!!
- Prøves af på audioanlægget!
- Udarbejd en måle rapport(portfolie)