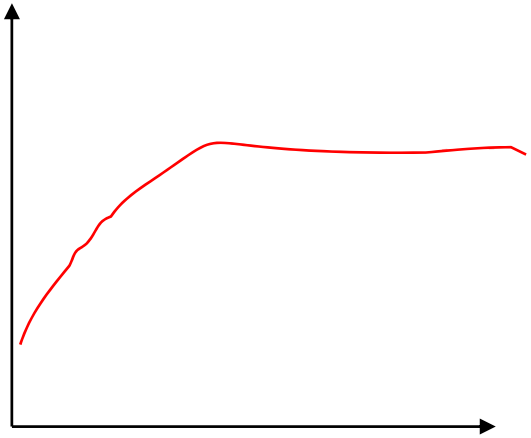
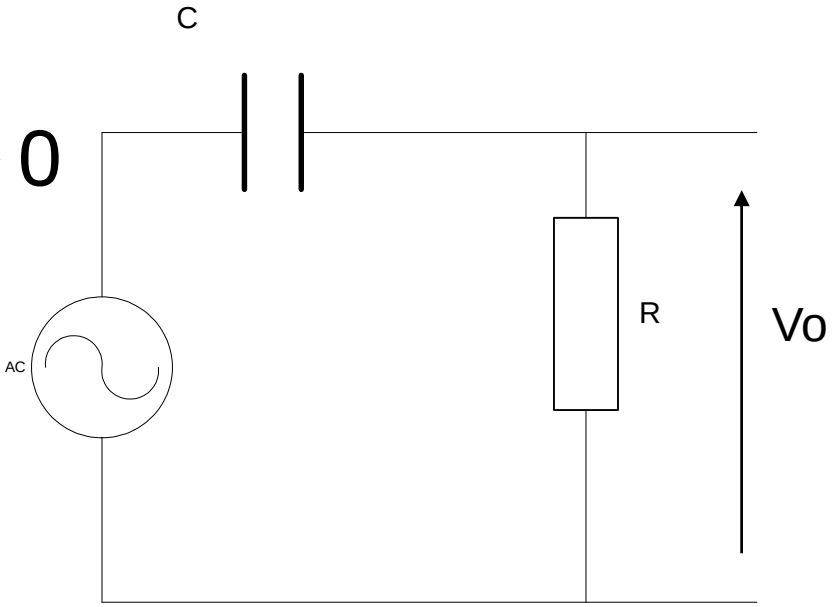
HP, LP og BP aktive filtre

- HP = Høj pas
- LP = Lav pas
- BP = Bånd pas
- Ingen LC komponenter

HP

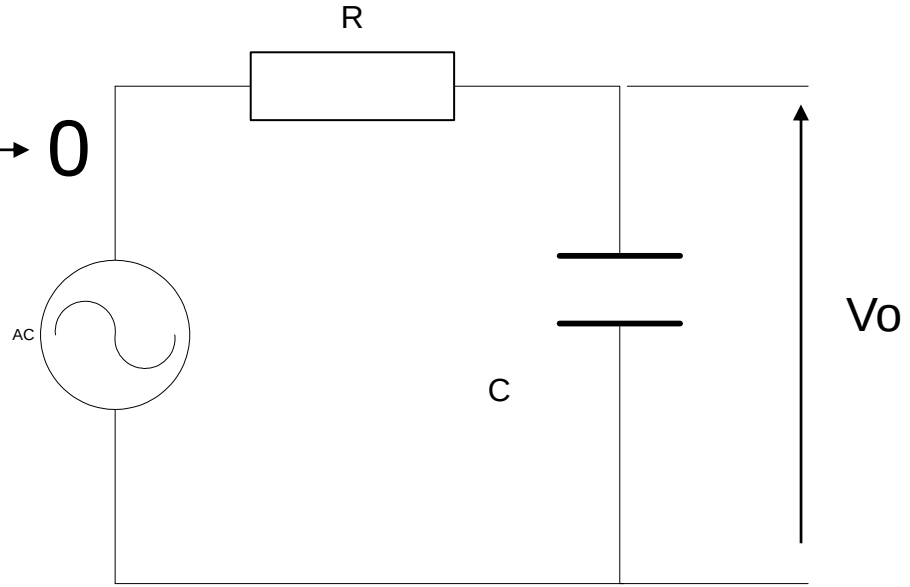
- De høje frekvenser passere!!!
- Xc=1/2*π*f*C
- F→0 => Xc →∞ =>V_o→0





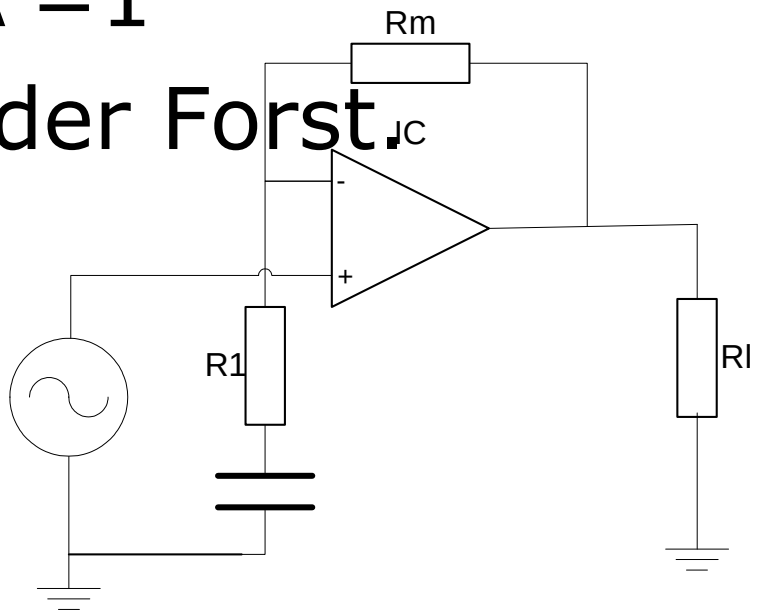
LP

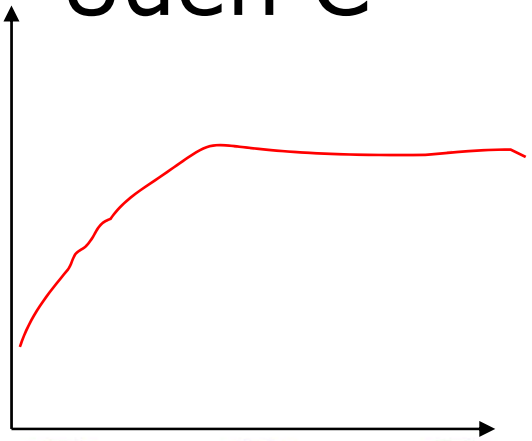
- De lave frekvenser passere!!
- Xc=1/2*π*f*C
- F→∞ => Xc→ 0 =>V_o→ 0



Bassænkning

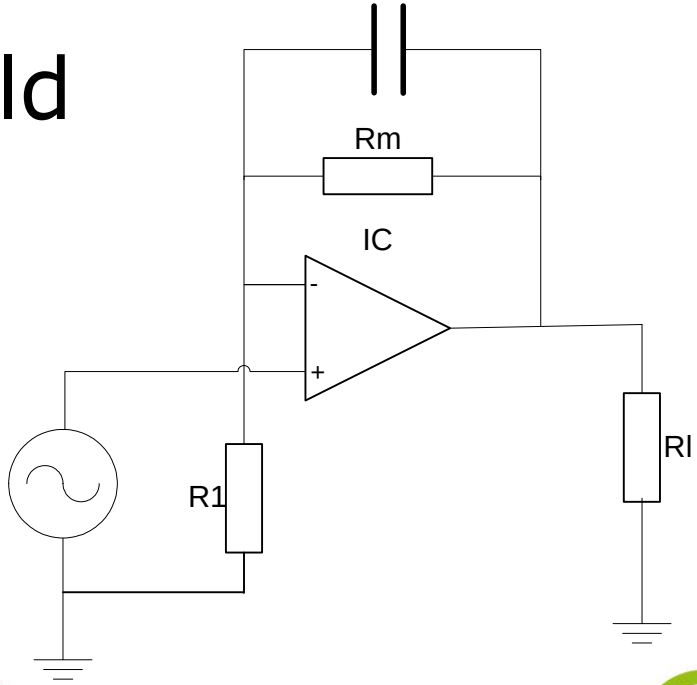
- 0 Hz => C afbrudt
- R1 + C = Rm > A'=1
- R1=C => 3 dB under Forst.
- Uden C



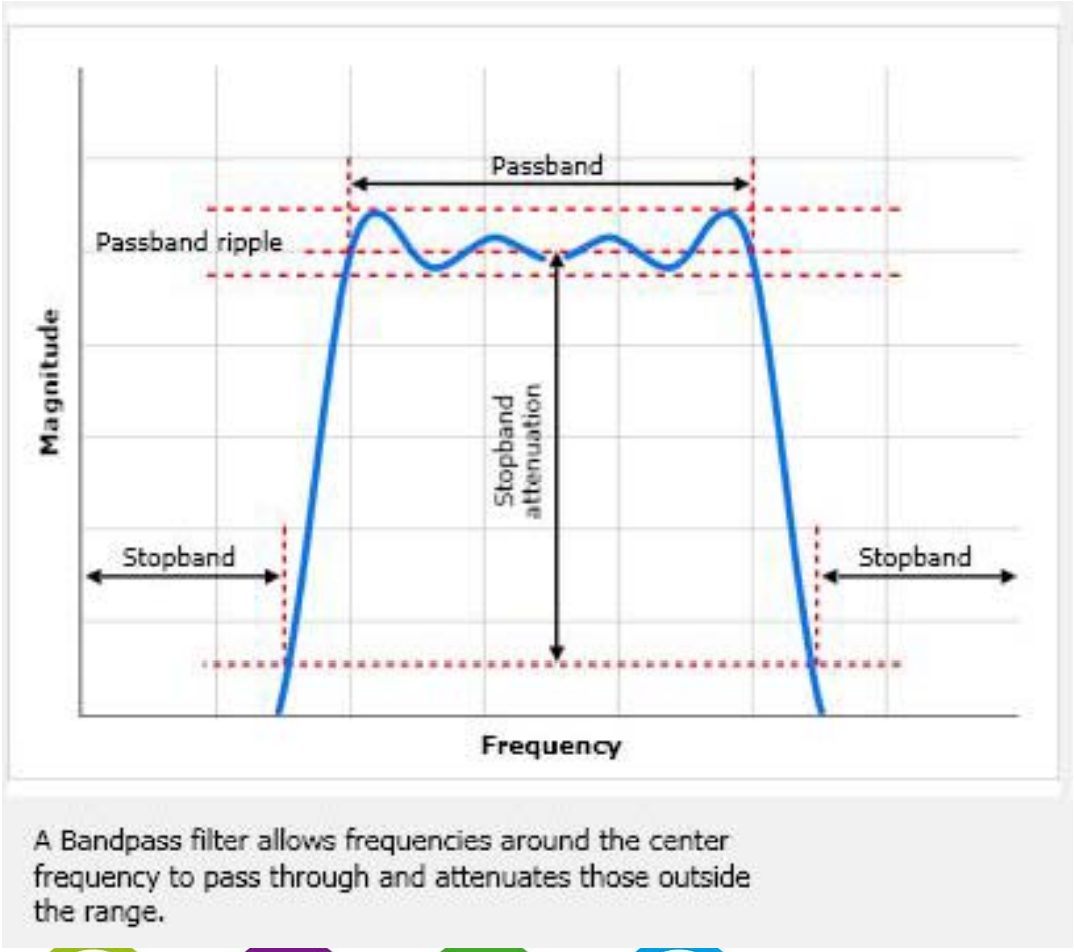


Diskantsænkning

- 0 Hz => Xc afbrudt
- F forøges Xc//Rm => mindre
- Xc=Rm => 3 dB fald

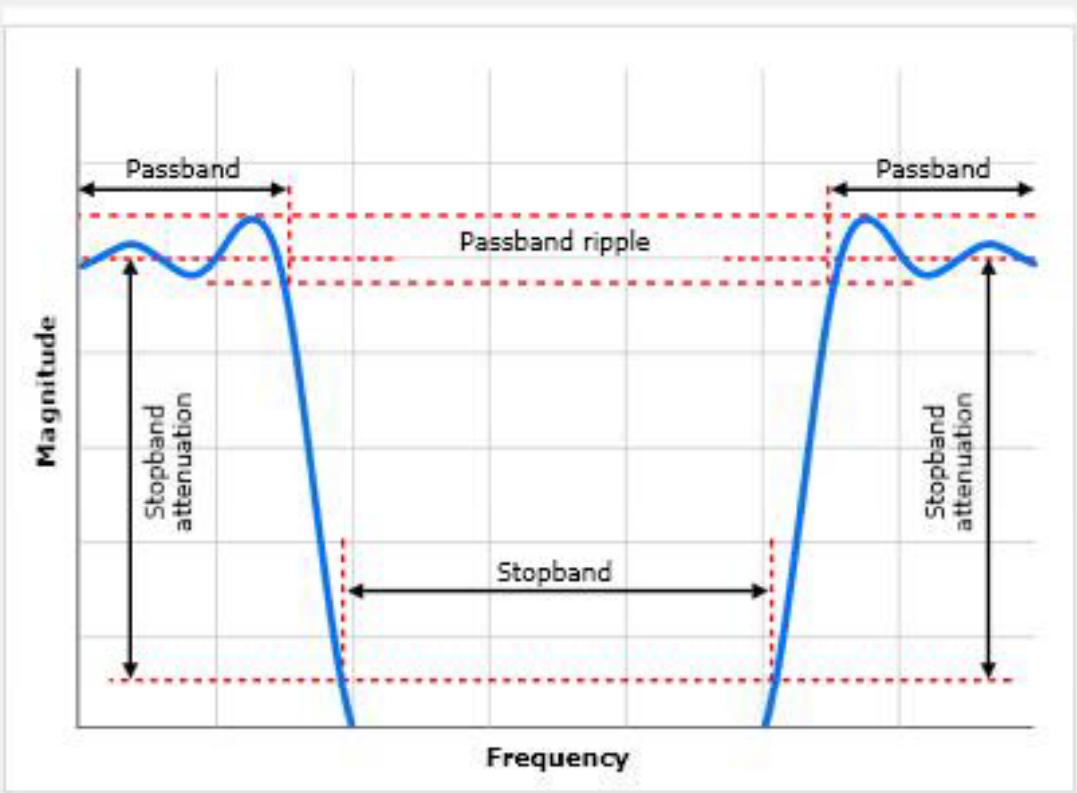


BP



A Bandpass filter allows frequencies around the center frequency to pass through and attenuates those outside the range.

BS= Båndstop

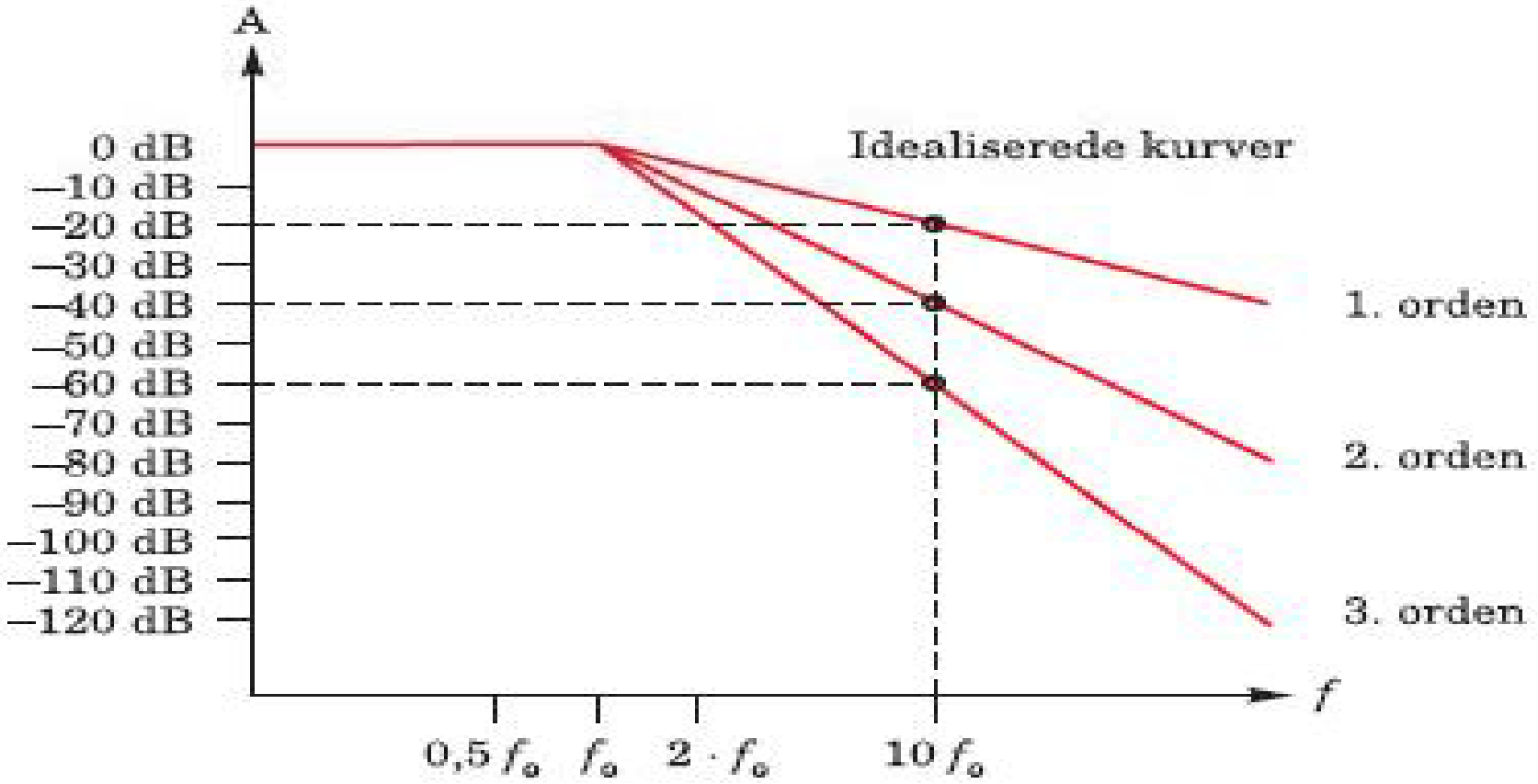


A Bandstop filter attenuates frequencies around the center frequency and allows those outside the range to pass.

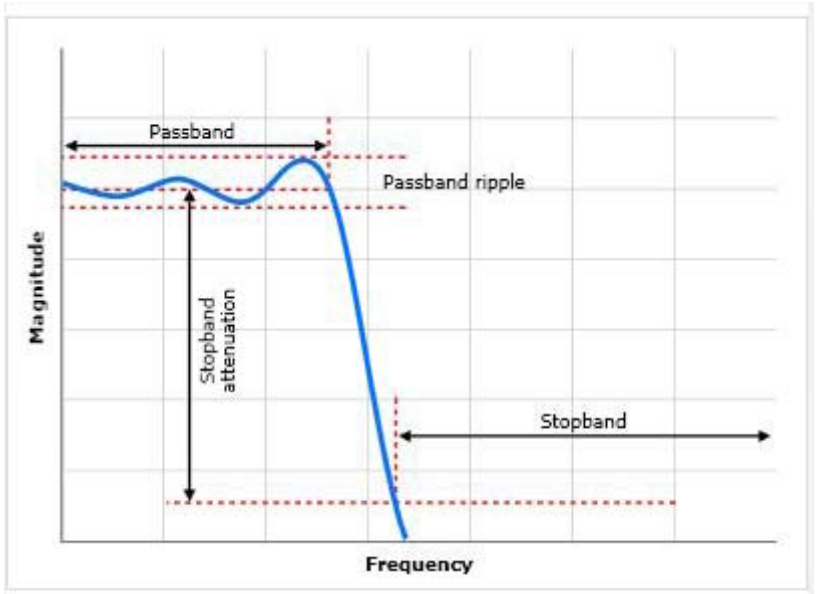
Filtre Orden

- 1 orden: 6dB/oktav(20dB/dekade)
- 2 orden: 12dB/oktav(40dB/dekade)
- 3 orden: 18dB/oktav(60dB/dekade)

Filter orden (Dekader)

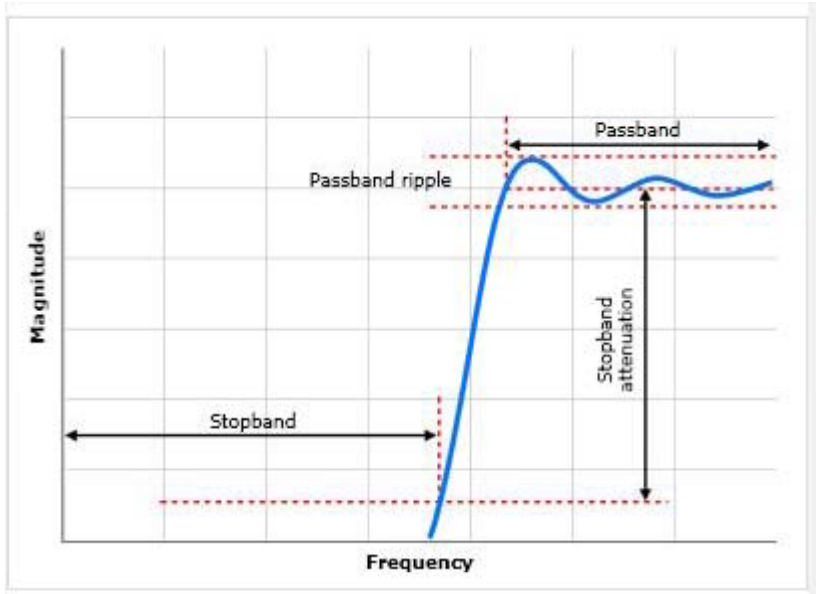


Texas FilterPro desktop



A Lowpass filter allows low frequency signals to pass through and attenuates those higher than the cutoff frequency.

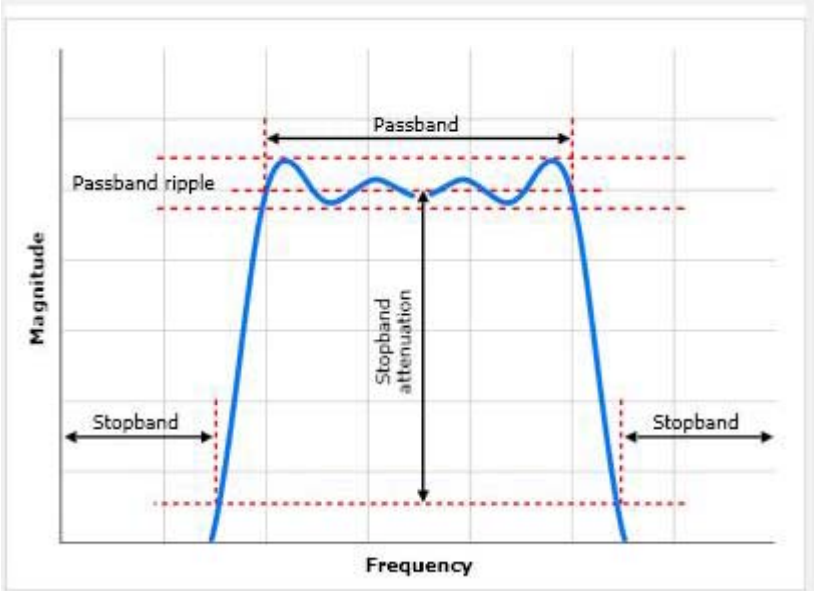
Lavpas



A Highpass filter allows high frequency signals to pass through and attenuates those lower than the cutoff frequency.

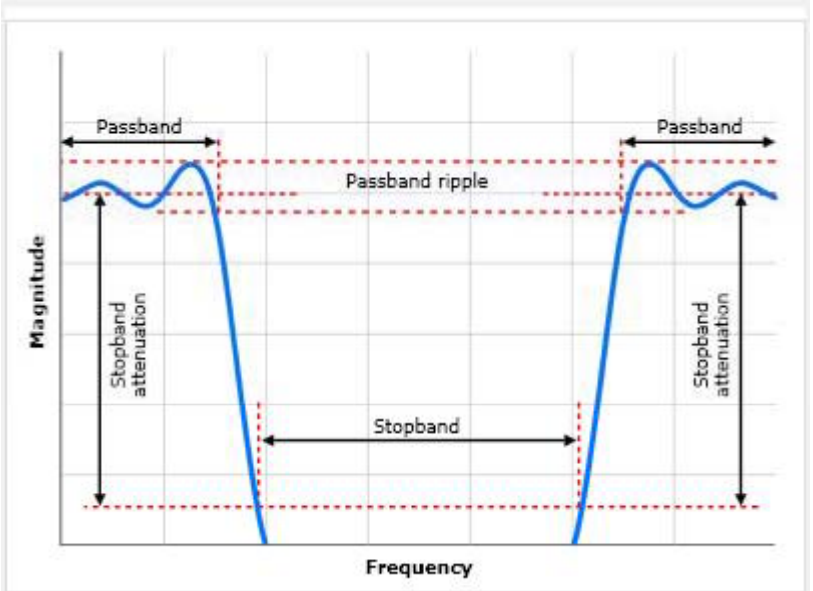
Højpas

Texas FilterPro desktop



A Bandpass filter allows frequencies around the center frequency to pass through and attenuates those outside the range.

Båndpas

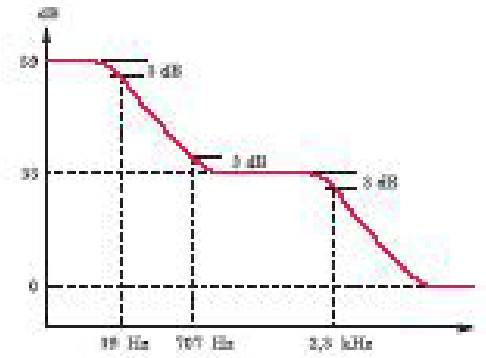


A Bandstop filter attenuates frequencies around the center frequency and allows those outside the range to pass.

Båndstop

RIAA forstærker

Freq - Hz	Gain - dB	Ideal - dB	Error - dB
20	62.25	N/A	N/A
50	59.16	58.42	0.74
500	43.87	44.42	-0.55
1000	41.42	Reference	
2100	38.88	38.42	0.46
21 k	22.17	21.42	0.75



Demo af FilterPro

- Lav et af hver filter:
  - LP (3 ordens Bessel filter)
  - HP (6 ordens Butterworth filter)
  - BP (6 ordens Guassian filter)
  - BS (6 ordens Bessel filter)
- Analyser dem i Pspice og se om det er det samme resultat i få som programet?