- Electronics Home
- Atmel ATmega16 Serial Port Example Schematic and C program
- Decoupling the power supply
- Manhattan style PCB board prototyping for high frequency RF and critical circuits
- Coil Calculator - Single-layer and mutil-layer coil calculation in javascript
- Active Bandpass Filter Javascript Tool
- Atmel AVR ATmega16 Programmer Linux
- Pic Programmer Linux
- PIC - MMC Flash Memory Extension
- PIC - 32k/64k RAM Extension

Active Filter Calculator - Bandpass with OpAmp Designer in Javascript

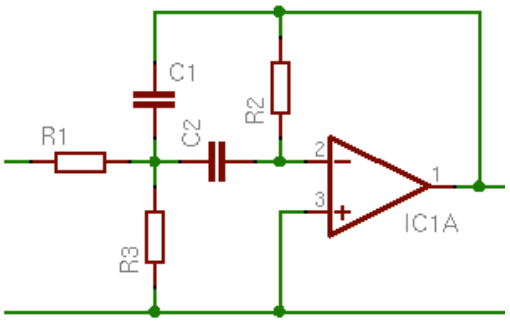
A simple tool for designing active filters using voltage-feedback opamps.

Type in the center frequency (f_c), bandwidth (B), gain (A) and choose a value for the capacitors (C1, C2 = C; 10nF is a good value to start) and click on "Calculate".

Light-grey fields are input fields - dark-grey fields are output fields for the calculated values.

f_c =	4000	Hz	Q =	12.58	
B =	318	Hz	R1 =	30333	Ω
A =	5		R2 =	303326	Ω
C =	3.3	nF	R3 =	487	Ω

Calculate



Reverse engineer the active filter:
Use the "Resistor Series lookup" tool below to get values for available resistors and calculate the actual center frequency, bandwidth, Q factor and gain.

C =	3.3	nF
R1 =	33000	Ω
R2 =	330000	Ω
R3 =	470	Ω

Calculate

Q =	13.34	
f_c =	3900.1	Hz
B =	292.3	Hz
A =	5	

Resistor Series lookup
Type in R in Ohm, select the series and click "Suggest"

R =		Ω

E6 E12 E24 E48

Suggest

R_{lower} =		Ω
R_{upper}		Ω

Worst case frequencies:
Type in your real values of the components, select the tolerance of the capacitors and resistors and click "Calculate". The calculation will reveal the worst case center frequencies.

C =	3.3	nF
Capacitors:	1% 2% 5%	
R1 =	33000	Ω
R2 =	330000	Ω
R3 =	470	Ω
Resistors:	1% 2% 5%	

Calculate

Values @ min. frequency:			Values @ max. frequency:		
Q =	13.34		Q =	13.34	
f_c =	3537.5	Hz	f_c =	4321.4	Hz
B =	265.1	Hz	B =	323.9	Hz
A =	5		A =	5	