

Multi lowpass filter

Multiple [RC lowpass filters](#) with different cutoff frequencies to switch between.

Application

1. Vibration sensitivity measurement
2. Errorsignal for Locks



Status



: tested and



working,
minor issue/not tested,

:



: defect

#	Status	Comment
1		

#	Status	Comment
2		

#	Status	Comment
3		

#	Status	Comment
4		

#	Status	Comment
5		

#	Status	Comment
6		

#	Status	Comment
7		

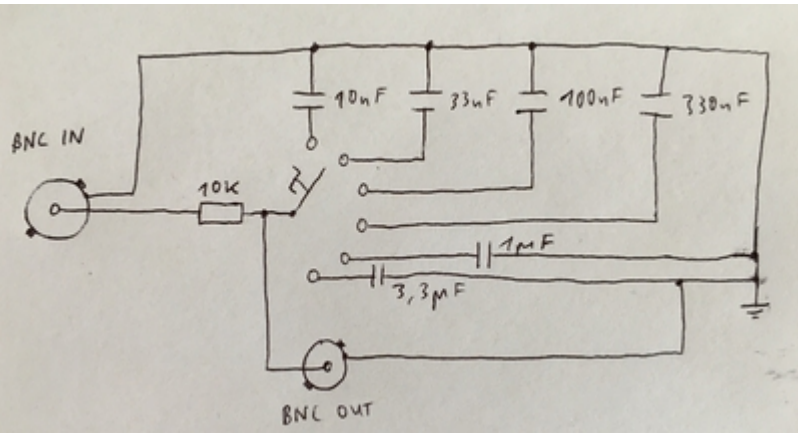
#	Status	Comment
8		

#	Status	Comment
9		

#	Status	Comment
10		

#	Status	Comment
11		

Setup



Switch: Elma 01-1104 (with gold inside), Farnell # 1876072

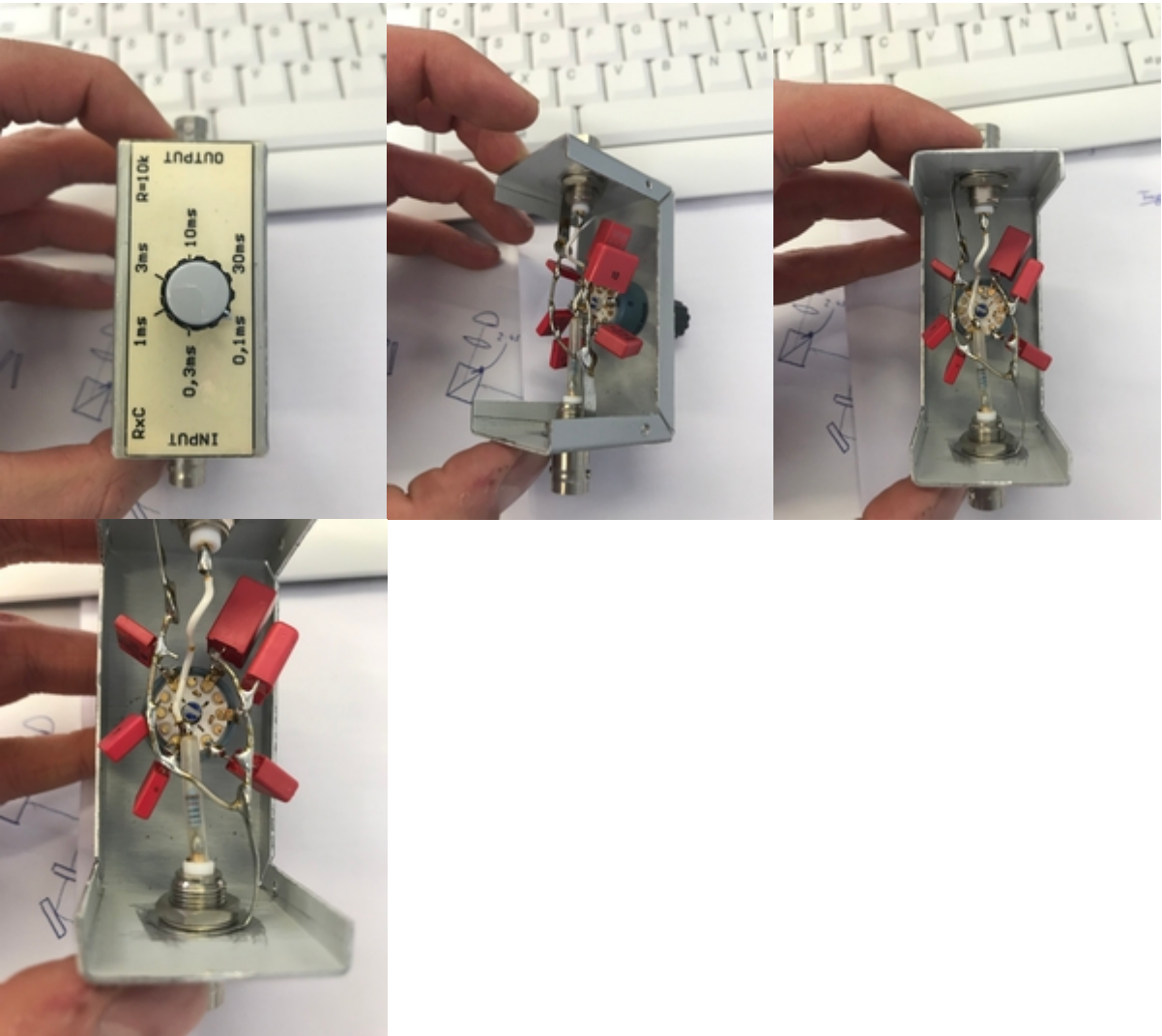
f_c : cutoff frequency, τ : time constant, R: resistance, C: capacitance

$f_c = \frac{1}{2 \pi \tau}$ with $\tau = RC$

Cutoff Frequency [Hz]	Time Constant [ms]	Capacitance [nF]	Capacitor
4.8	33	3300	WIMA 3,3µF 50- F6
16	10	1000	WIMA MKS4 1,0µF 100-
48	3.3	330	WIMA MKC4 0.33/100-
160	1	100	µ1K100
480	0.33	33	33nK100
1600	0.1	10	10nK100

Prototype

Multi RC lowpass filters by PTB



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