

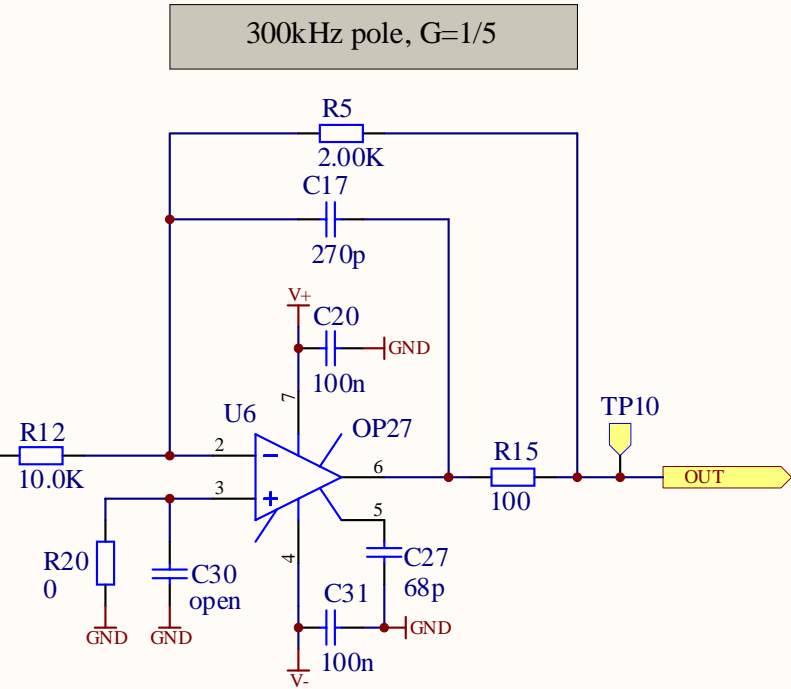
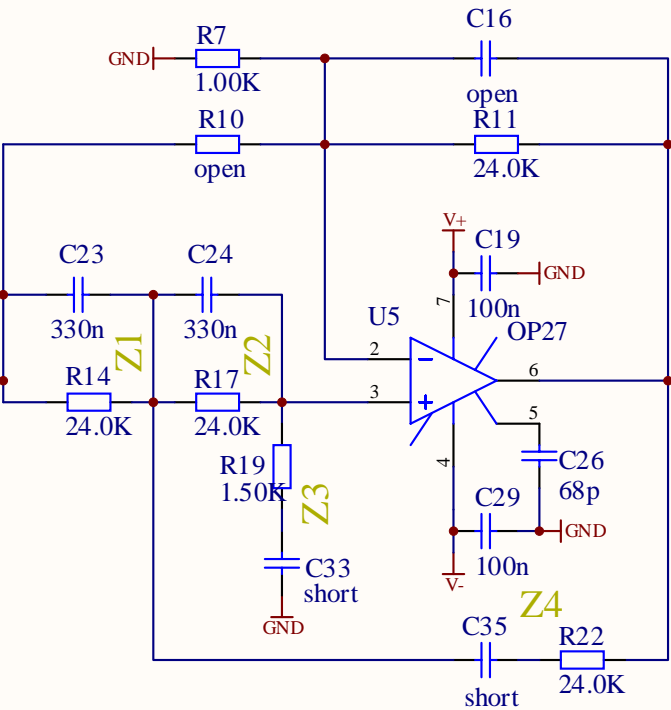
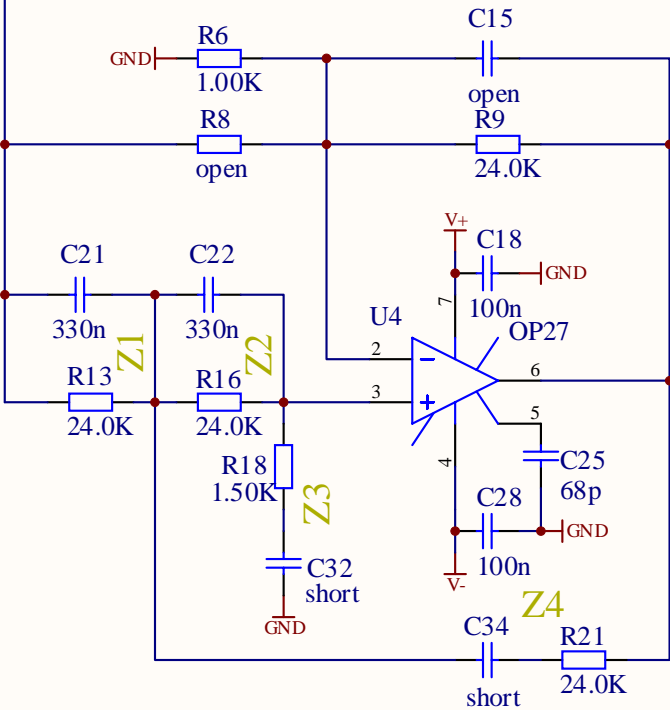
Filter Design Examples:

Butterworth high pass: $G = 1.586$, $Z1 = Z2 = 1/sC$, $Z3 = Z4 = R$
two zeros at 0Hz, two complex poles at $f = 1/(2 \pi R C)$

Butterworth low pass: $G = 1.586$, $Z1 = Z2 = R$, $Z3 = Z4 = 1/sC$
two complex poles at $f = 1/(2 \pi R C)$

Whitening: $G = 1$, $Z1 = Z2 = (1/sC) \parallel R2$, $Z3 = Z4 = R1$
two real zeros at $f = 1/(2 \pi R2 C)$, two real poles at $f = 1/(2 \pi (R1 \parallel R2) C)$

Dewhiteninig: $G = 1$, $Z1 = Z2 = R1$, $Z3 = Z4 = 1/sC + R2$
two real poles at $f = 1/(2 \pi (R1 + R2) C)$, two real zeros at $f = 1/(2 \pi R2 C)$



Title ICS130 Whitening Board		
Size B	Number D040425-A	Revision A
Date: 7/23/2004	Sheet 2 of 2	
File: C:\User\...\ICS130Whitening2.SchDoc	Drawn By: Daniel Sigg	