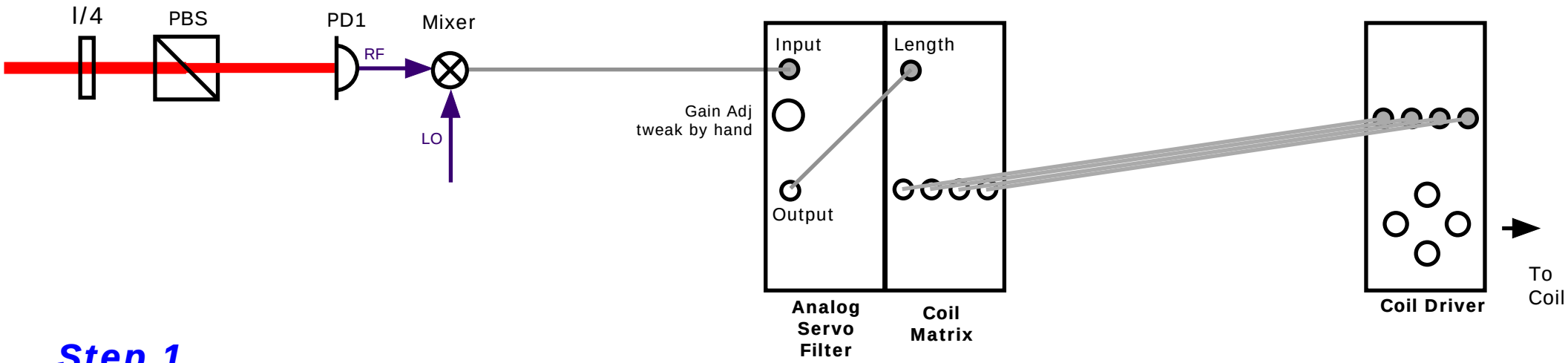
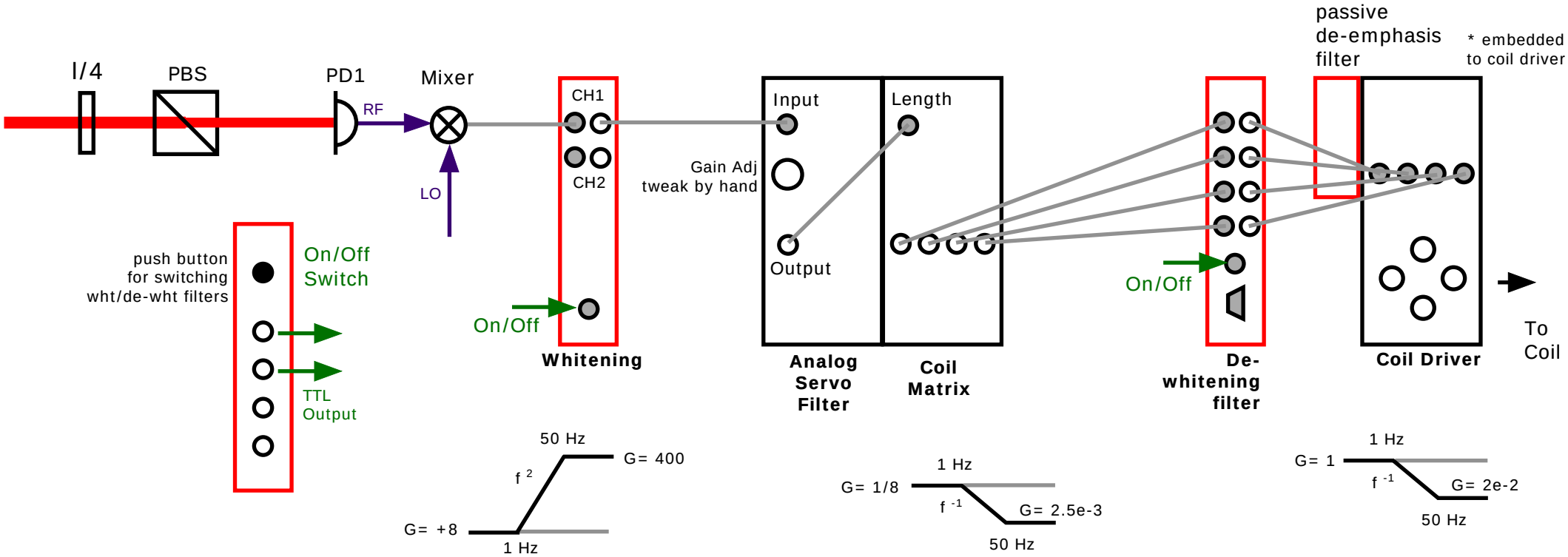
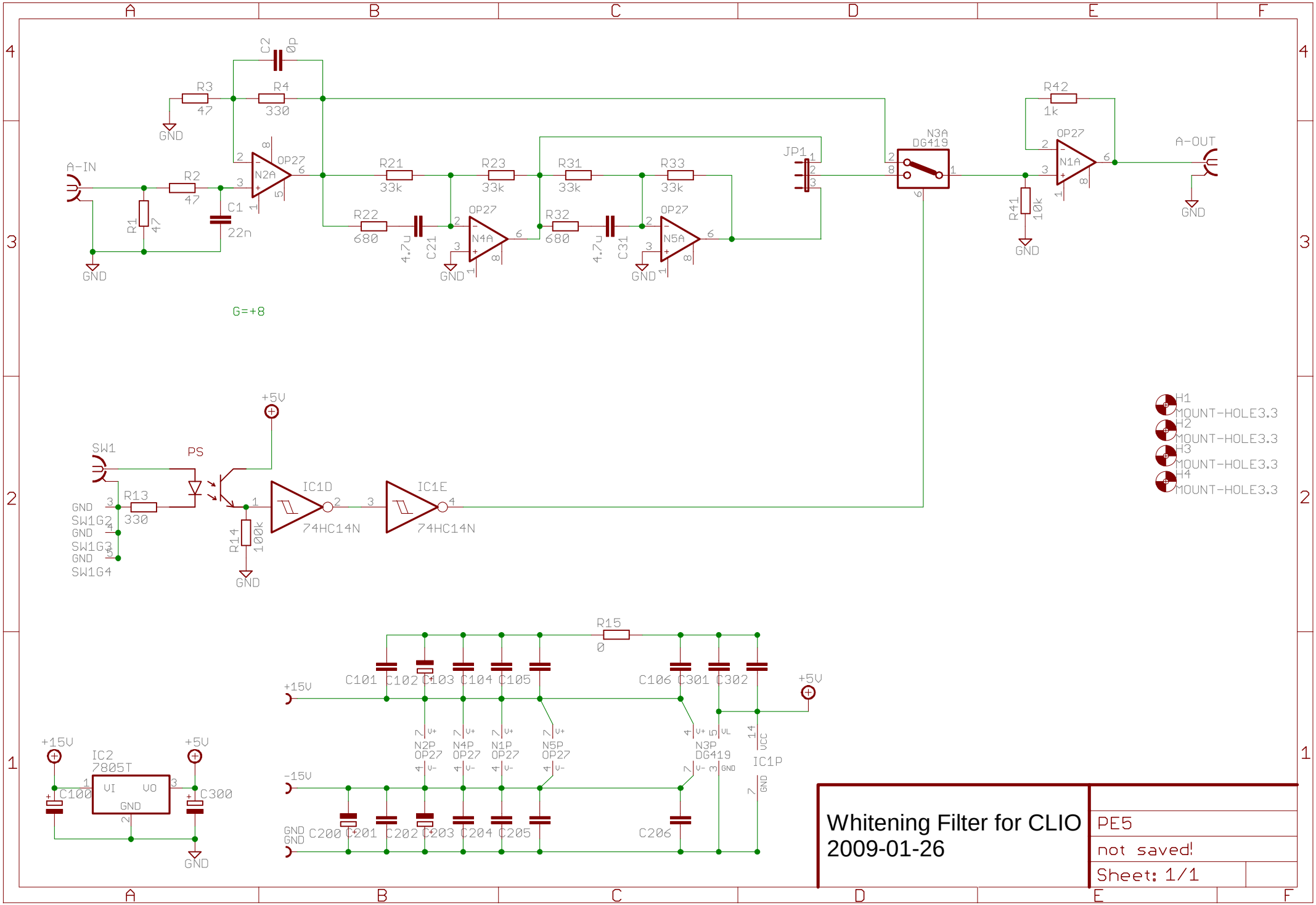
Perpendicular Arm Cavity Detection Port

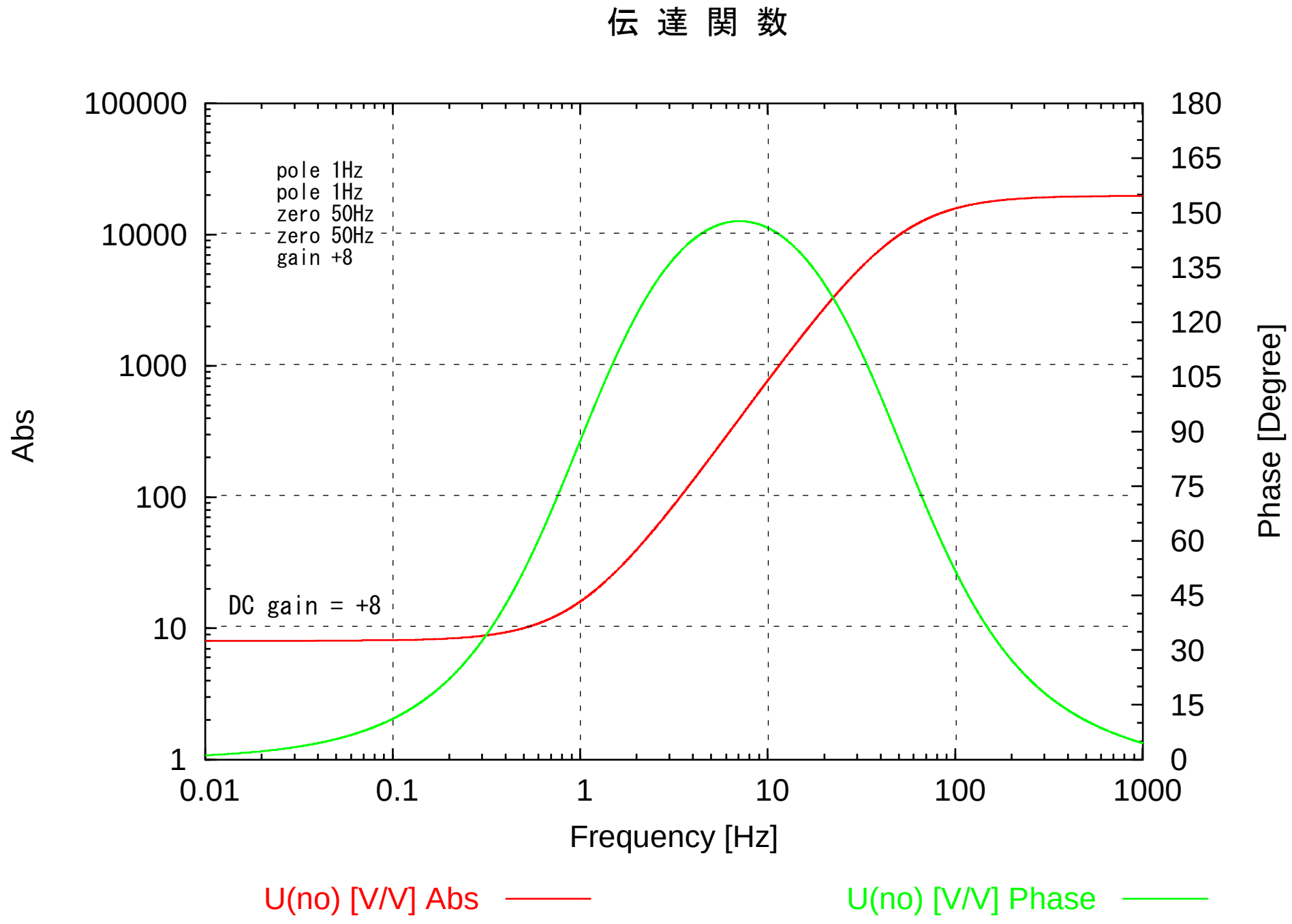


Step 1

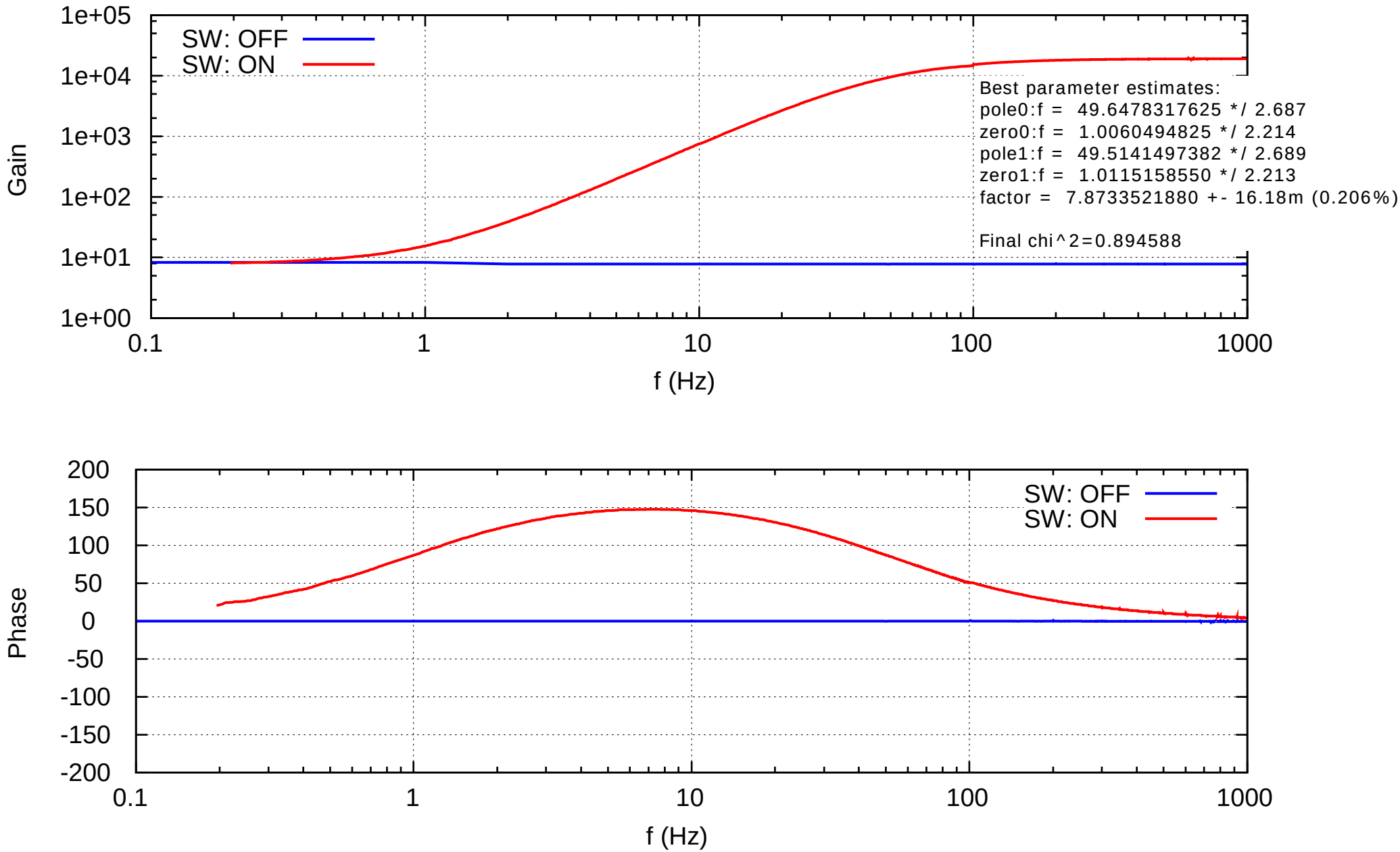



A-IN
R1 47
R2 47
C1 22n
R3 47
R4 330
C2 0p
N2A OP27
R21 33k
R22 680
C21 4.7u
N4A OP27
R23 33k
R31 33k
R32 680
C31 4.7u
N5A OP27
R33 33k
JP1
N3A DG419
R42 1k
N1A OP27
R41 10k
A-OUT
GND
G=+8
SW1
PS
R13 330
SW1G2
SW1G3
SW1G4
+5V
R14 100k
IC1D 74HC14N
IC1E 74HC14N
H1 MOUNT-HOLE3.3
H2 MOUNT-HOLE3.3
H3 MOUNT-HOLE3.3
H4 MOUNT-HOLE3.3
R15 0
C101 C102 C103 C104 C105
C106 C301 C302
+15V
-15V
N2P OP27
N4P OP27
N1P OP27
N5P OP27
N3P DG419
IC1P
C200 C201 C202 C203 C204 C205
C206
IC2 7805T
C100
C300
Whitening Filter for CLIO
2009-01-26
PE5
not saved!
Sheet: 1/1

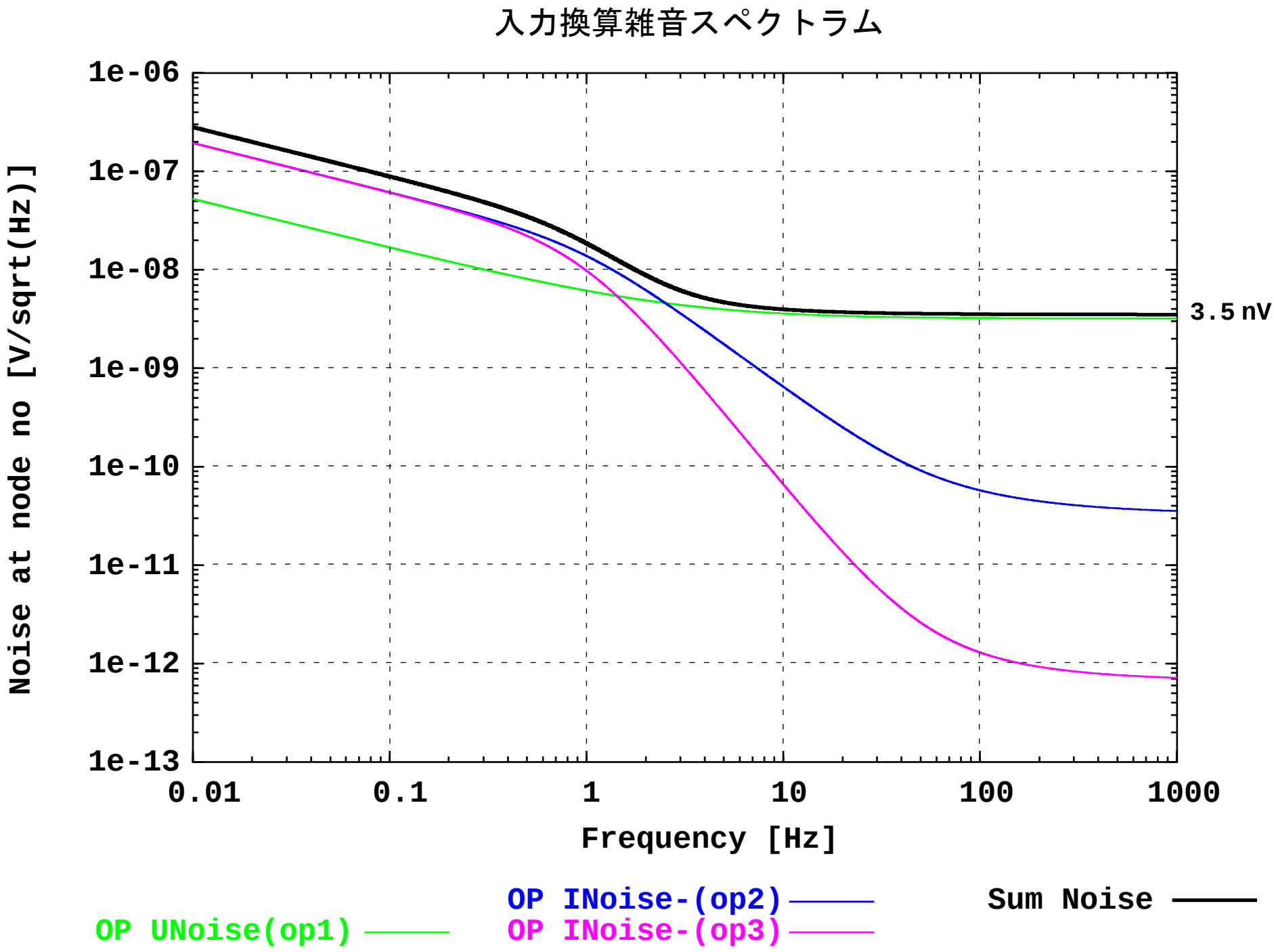
Whitening Filter for CLIO
2009-01-26

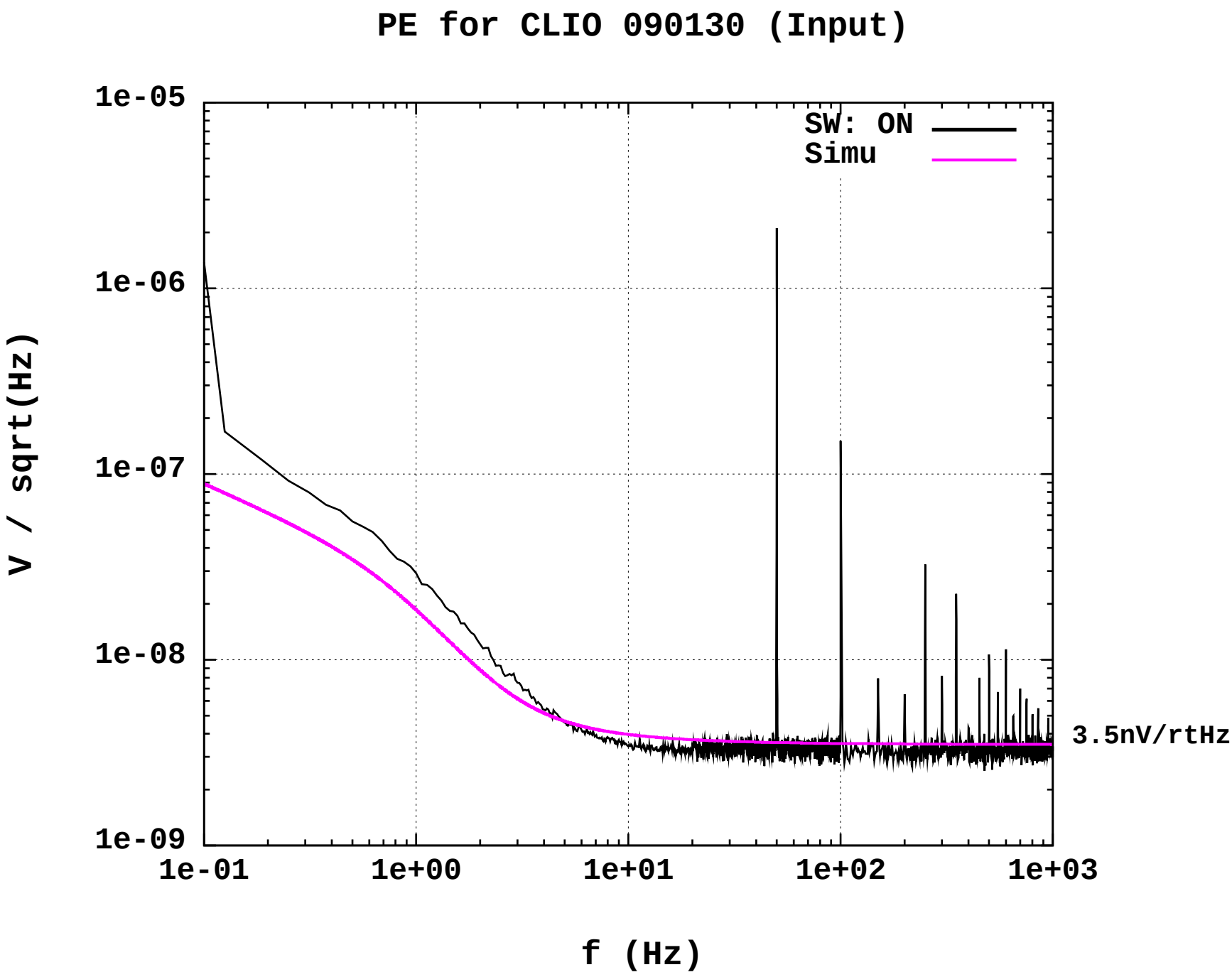


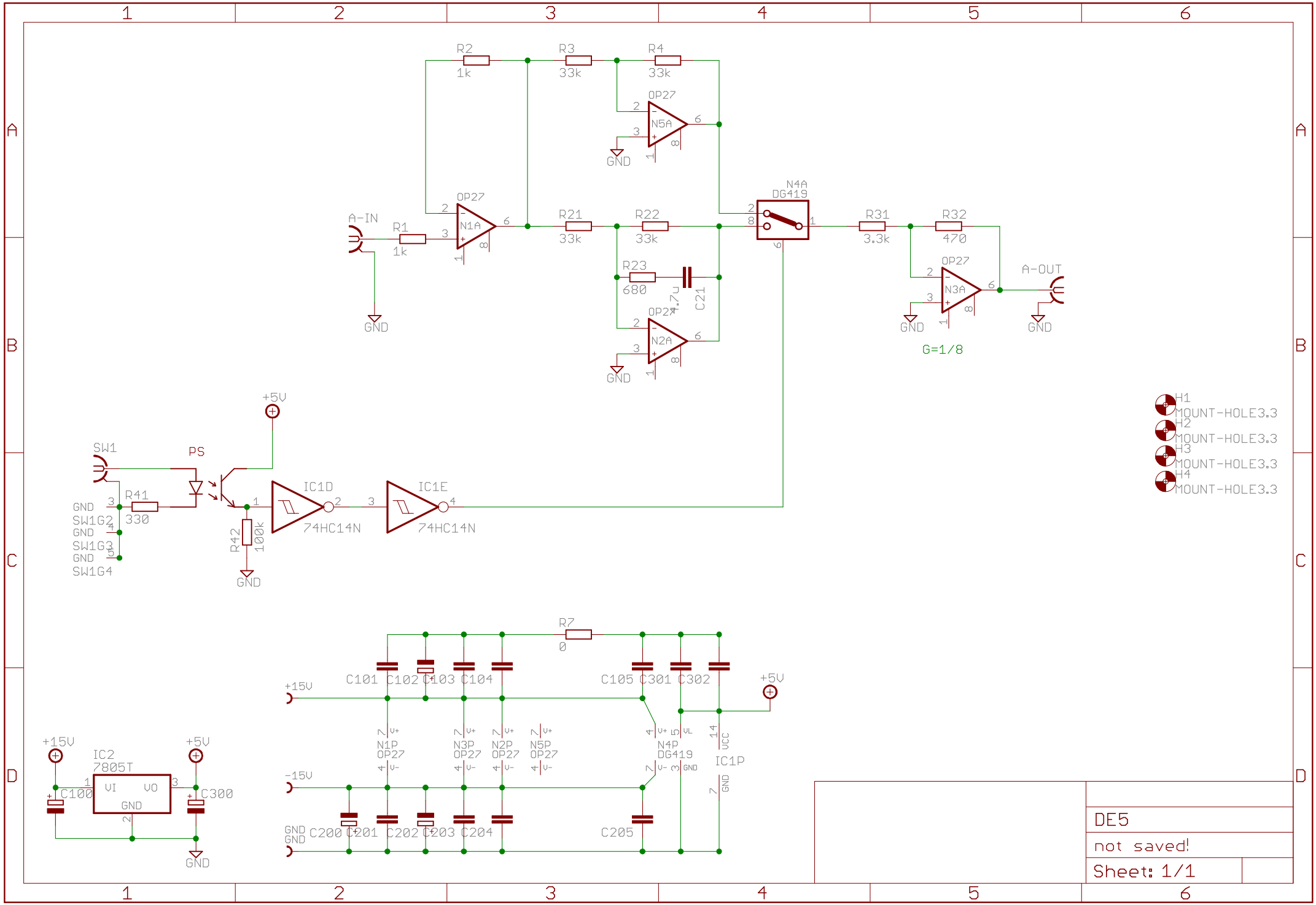
Transfer Function of PE



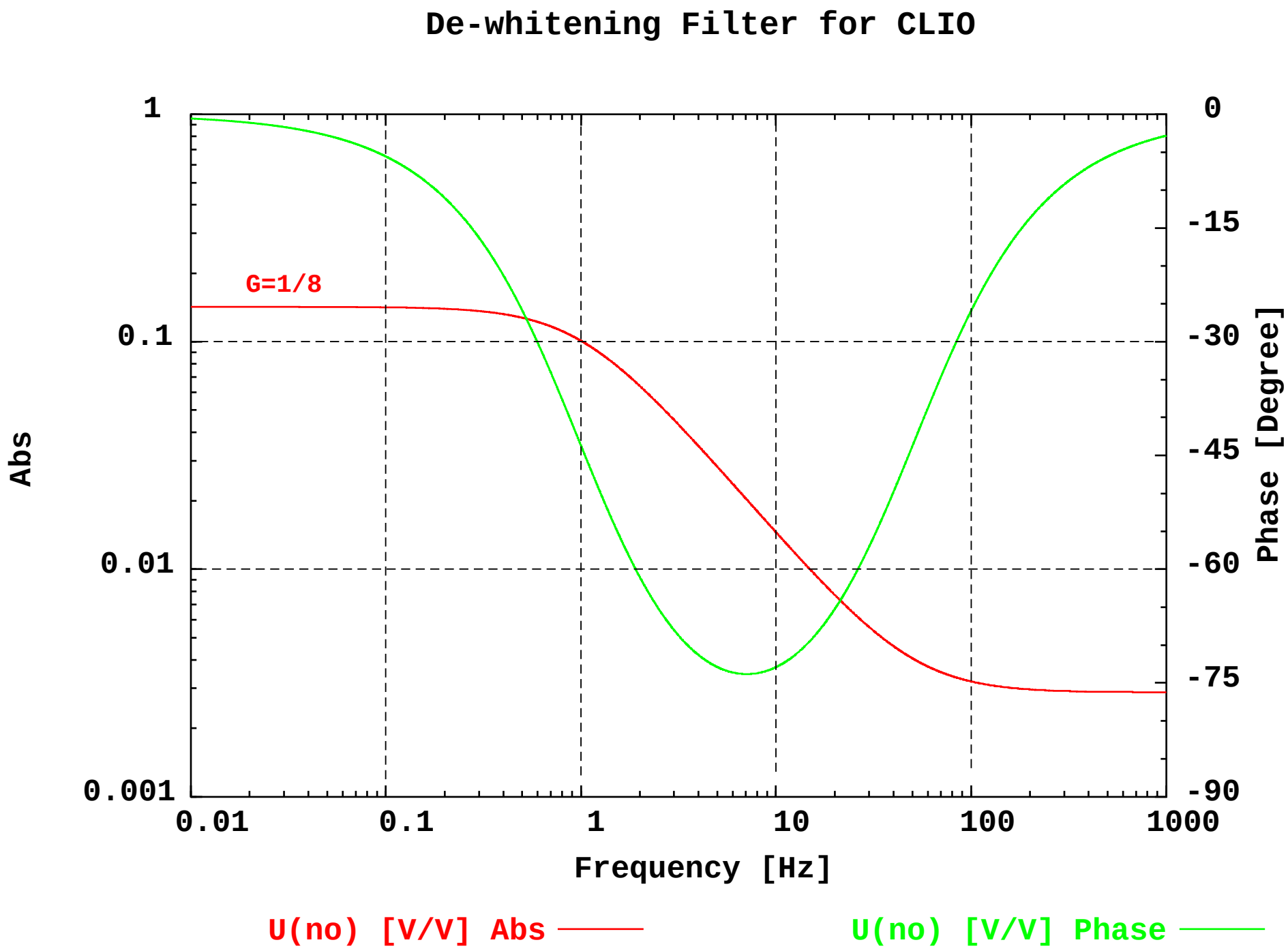
Whitening Filter for CLIO
2009-01-26

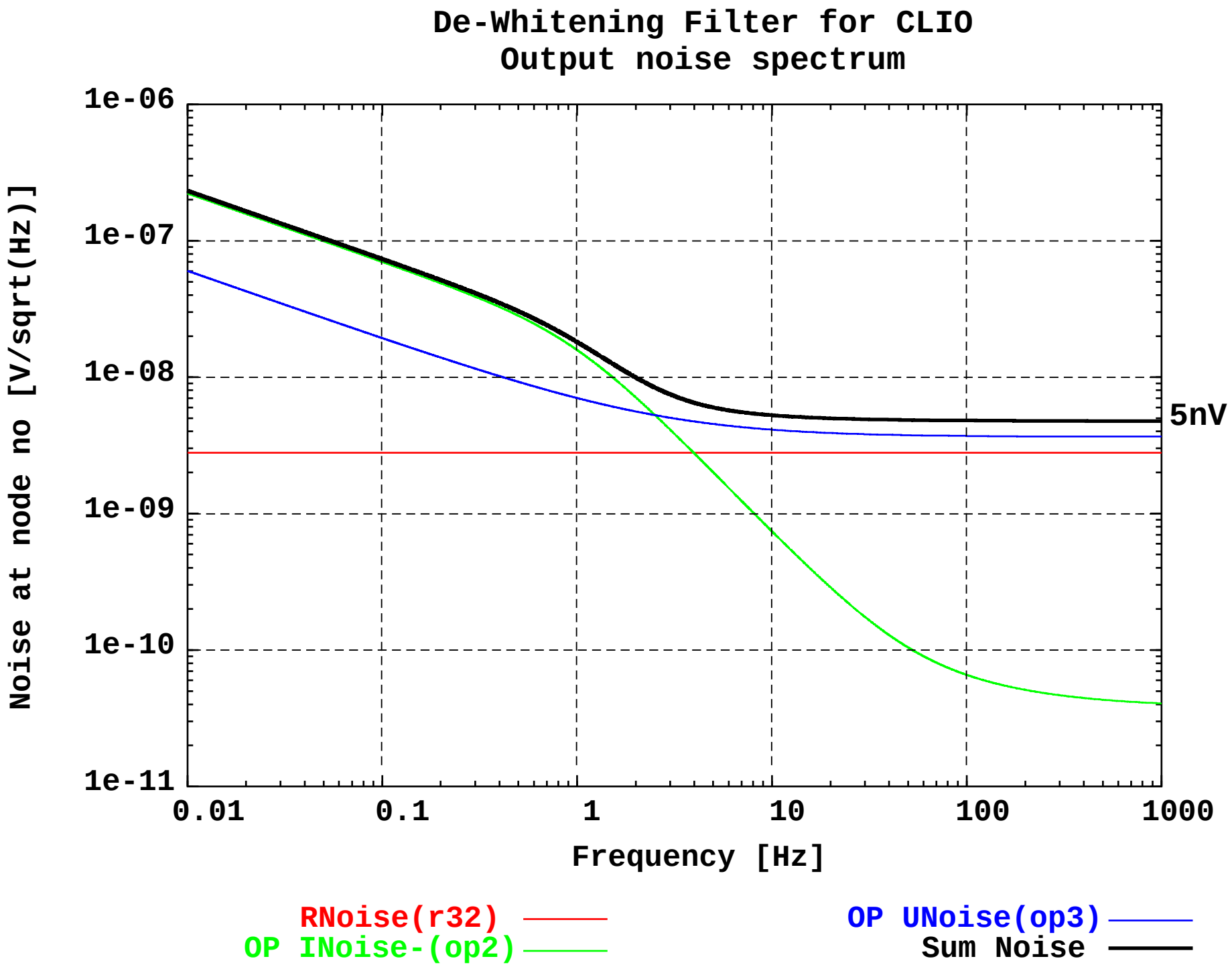


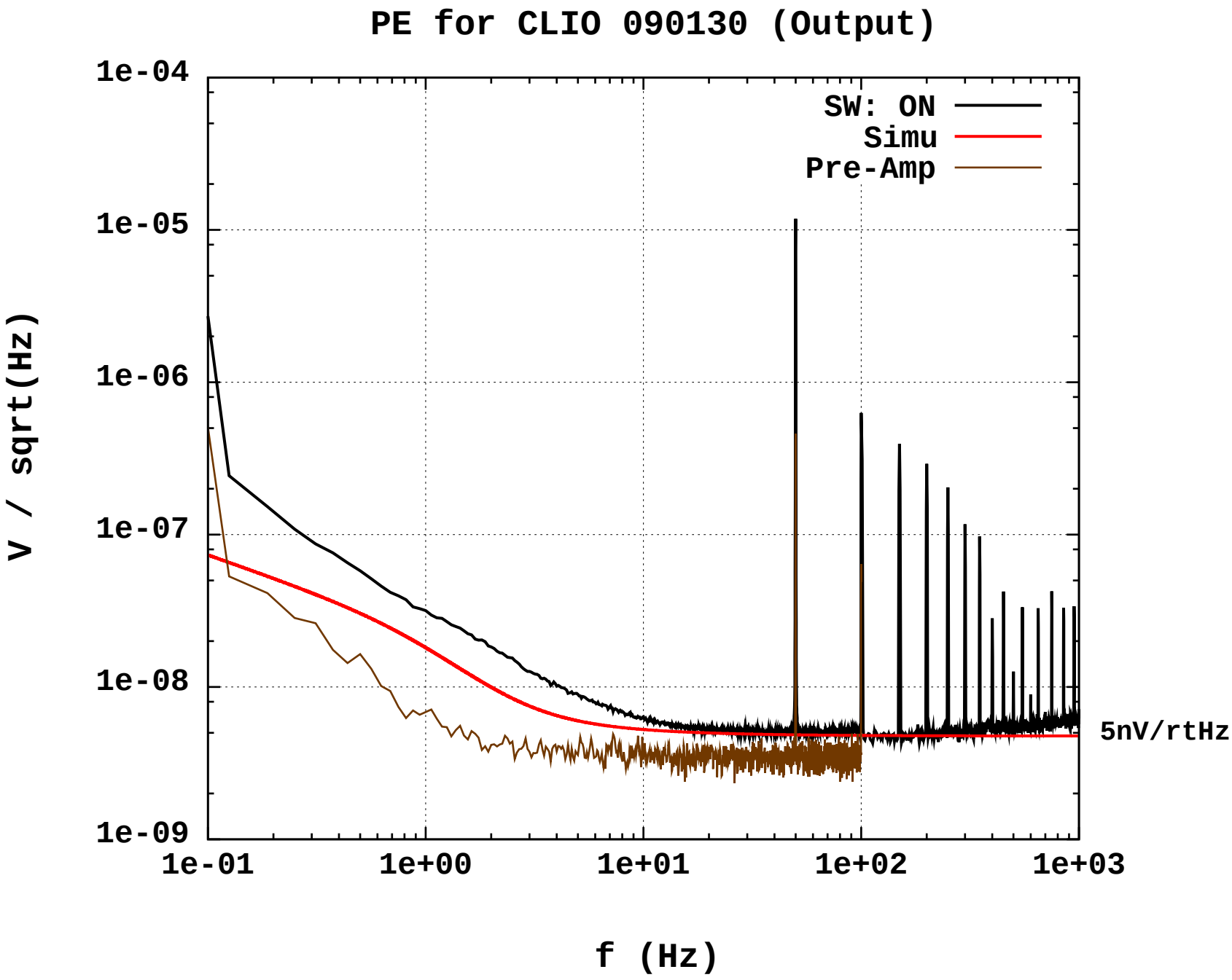

PE for CLIO 090130 (Input)
SW: ON
Simu
3.5nV/rtHz
V / sqrt(Hz)
f (Hz)
1e-05
1e-06
1e-07
1e-08
1e-09
1e-01
1e+00
1e+01
1e+02
1e+03

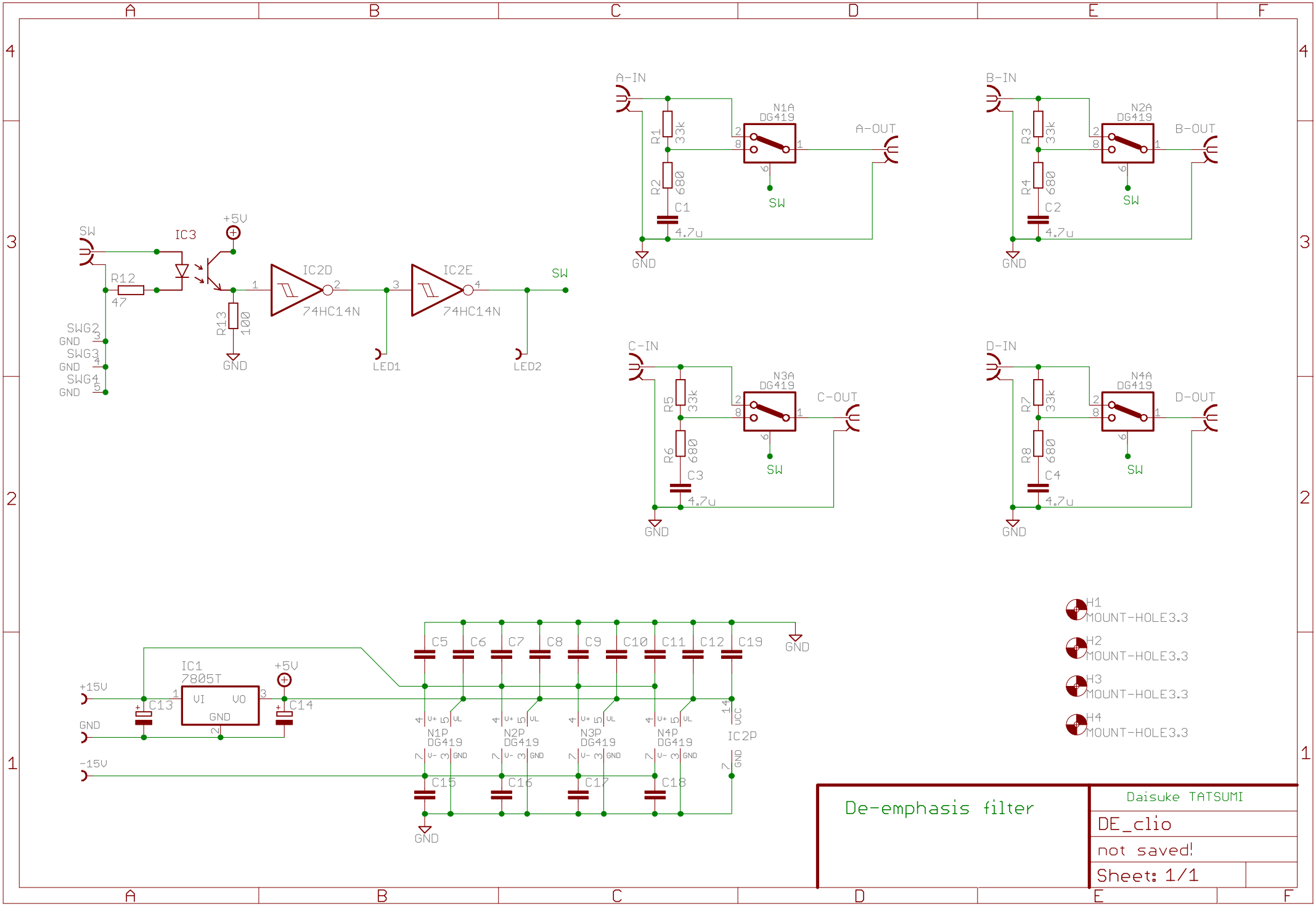


2009/02/01 13:30:35 f=1.08 C:\Documents and Settings\tatsu.WHITEHOLE\My Documents\eagle\tatsu\PE_DE\CLIO_DE\DE5.sch (Sheet: 1/1)

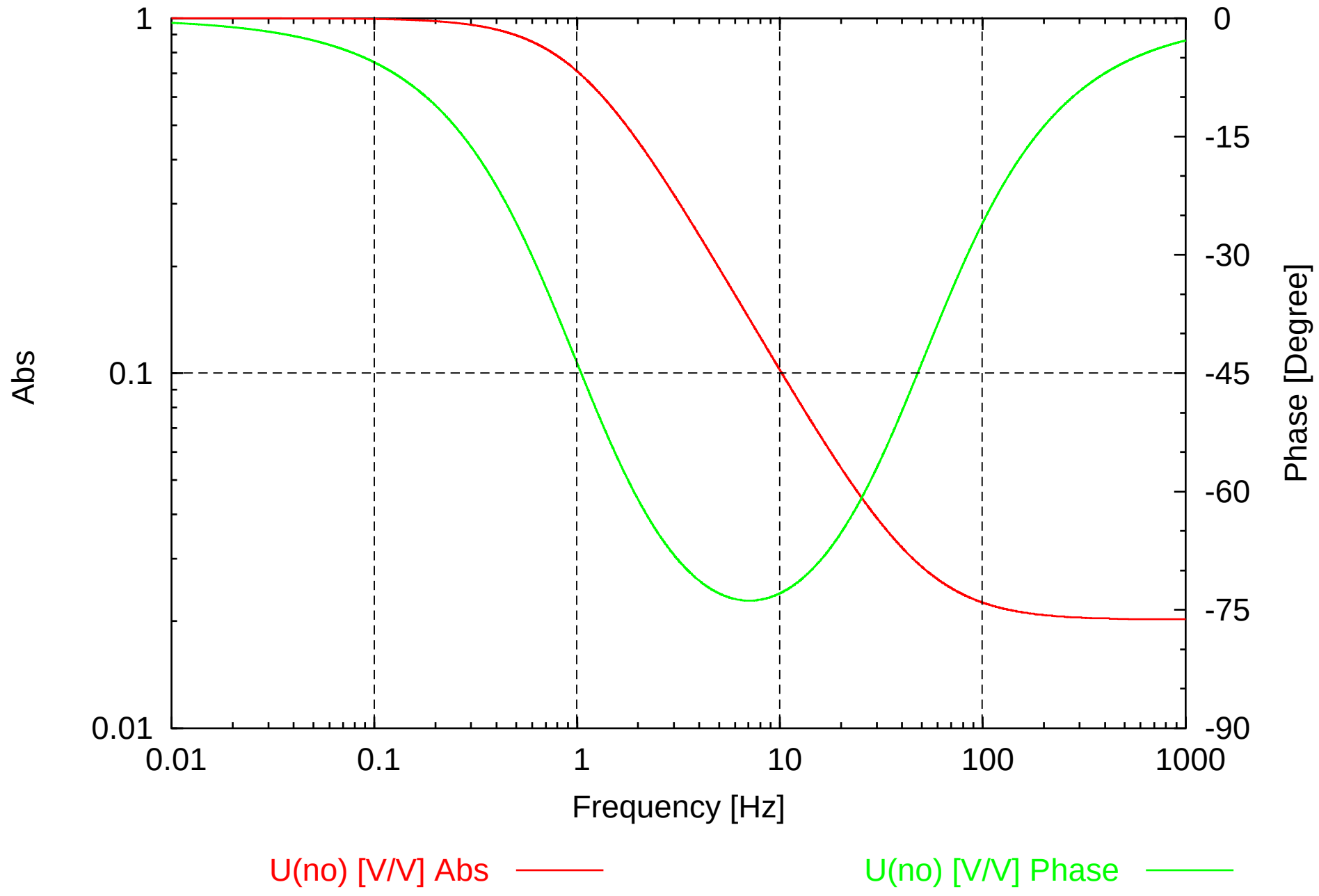

De-whitening Filter for CLIO
G=1/8
Abs
Phase [Degree]
Frequency [Hz]
1
0.1
0.01
0.001
0
-15
-30
-45
-60
-75
-90
0.01
0.1
1
10
100
1000
U(no) [V/V] Abs
U(no) [V/V] Phase


De-Whitening Filter for CLIO
Output noise spectrum
Noise at node no [V/sqrt(Hz)]
1e-06
1e-07
1e-08
1e-09
1e-10
1e-11
0.01
0.1
1
10
100
1000
Frequency [Hz]
5nV
RNoise(r32)
OP INoise-(op2)
OP UNoise(op3)
Sum Noise

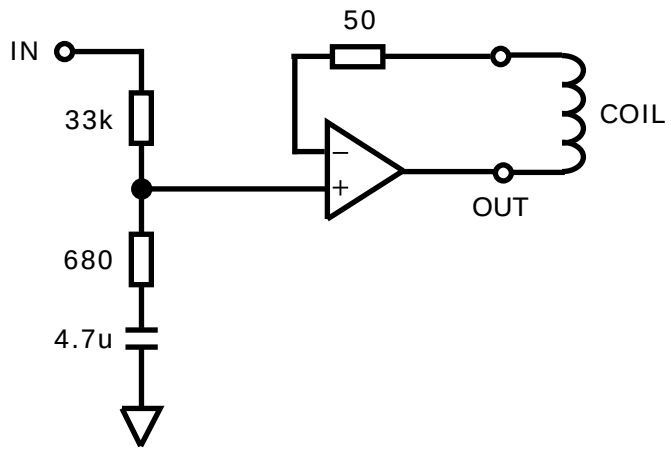

PE for CLIO 090130 (Output)
SW: ON
Simu
Pre-Amp
5nV/rtHz
V / sqrt(Hz)
f (Hz)
1e-04
1e-05
1e-06
1e-07
1e-08
1e-09
1e-01
1e+00
1e+01
1e+02
1e+03

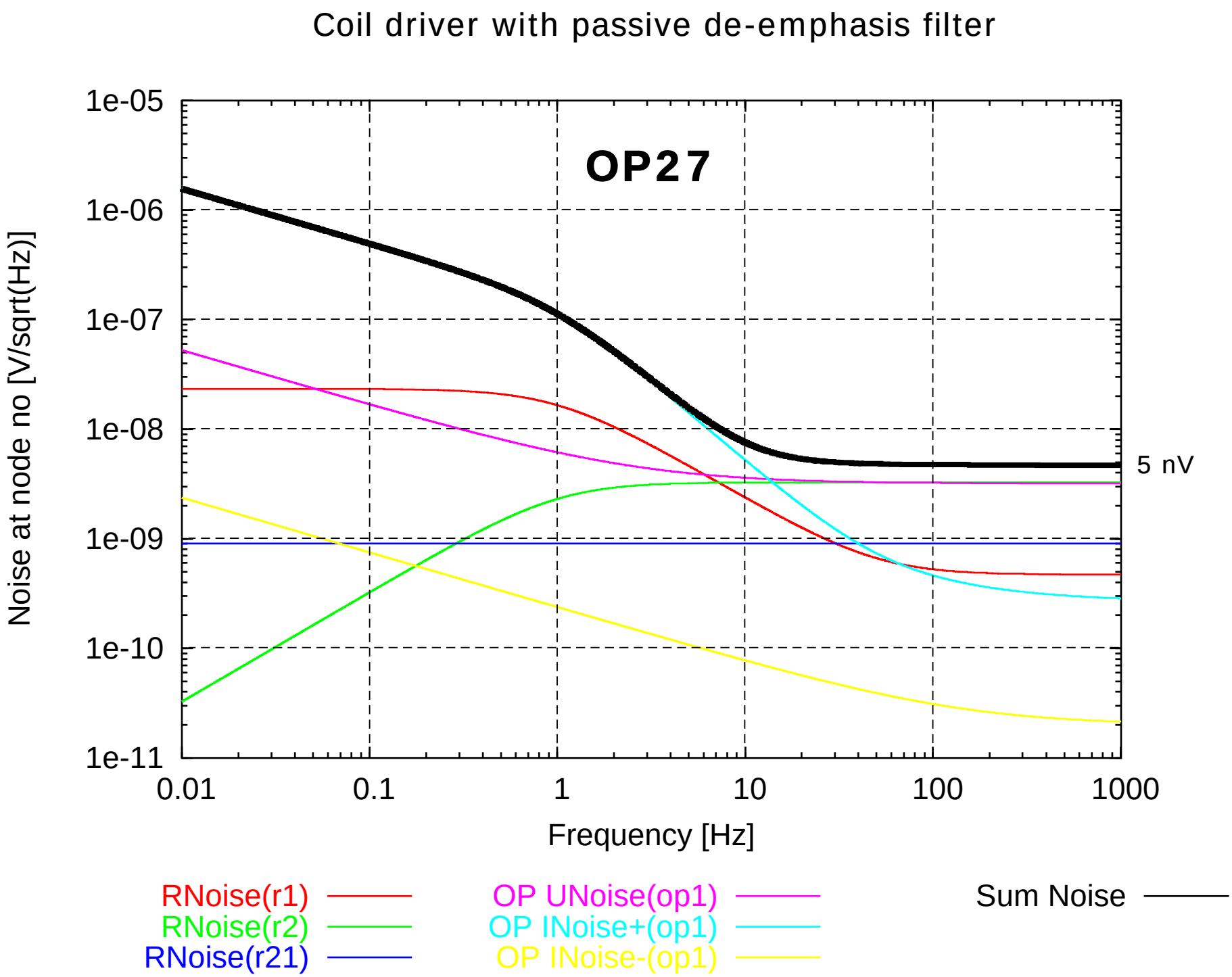


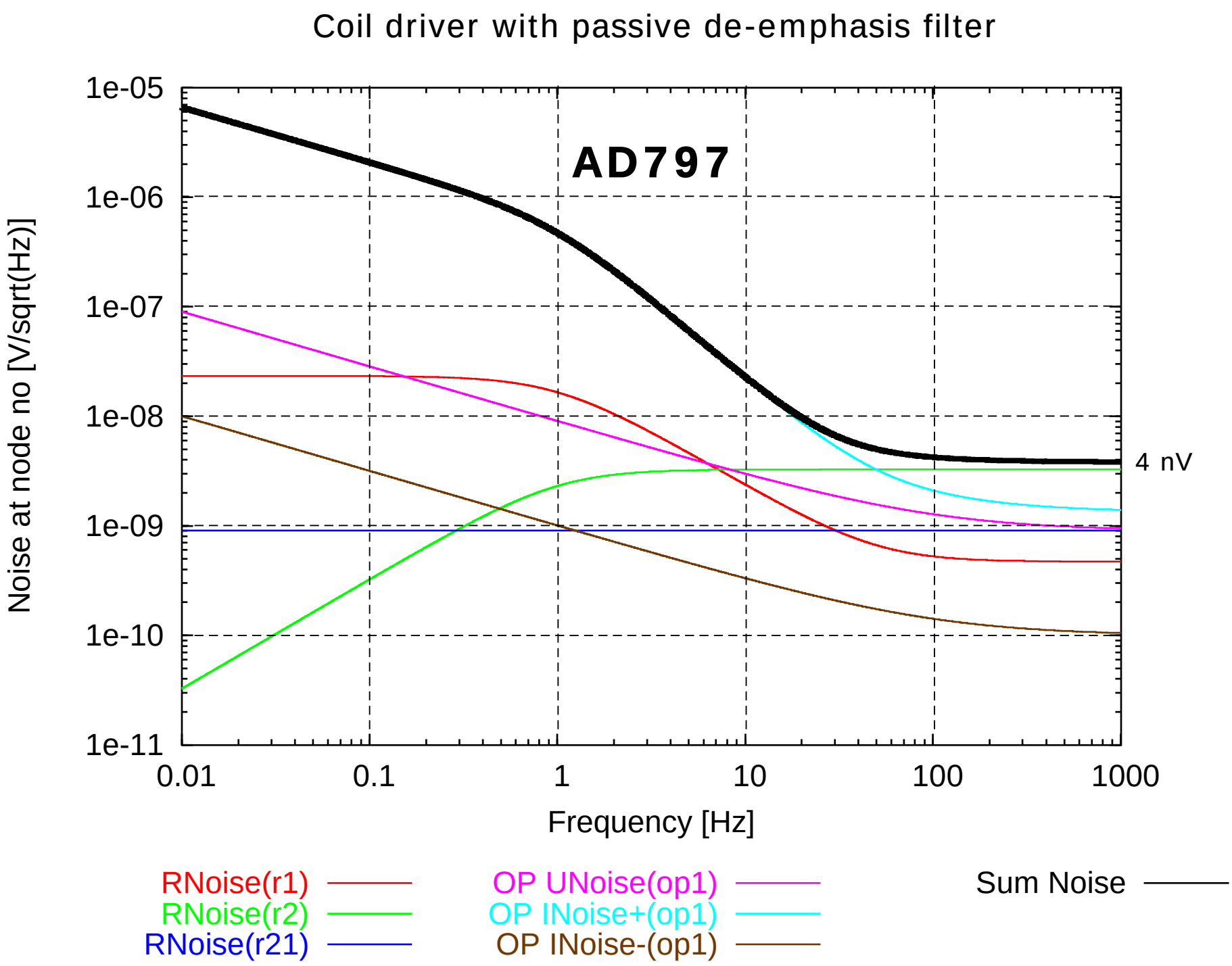
2009/01/27 9:43:02 f=1.08 C:\Documents and Settings\tatsu.WHITEHOLE\My Documents\eagle\tatsu\PE_DE\DE\DE_clio.sch (Sheet: 1/1)


1
0.1
0.01
Abs
0
-15
-30
-45
-60
-75
-90
Phase [Degree]
0.01
0.1
1
10
100
1000
Frequency [Hz]
U(no) [V/V] Abs
U(no) [V/V] Phase

Coil Driver with passive de-emphasis filter




Coil driver with passive de-emphasis filter
OP27
5 nV
Noise at node no [V/sqrt(Hz)]
1e-05
1e-06
1e-07
1e-08
1e-09
1e-10
1e-11
0.01
0.1
1
10
100
1000
Frequency [Hz]
RNoise(r1)
RNoise(r2)
RNoise(r21)
OP UNoise(op1)
OP INoise+(op1)
OP INoise-(op1)
Sum Noise


Coil driver with passive de-emphasis filter
AD797
4 nV
Noise at node no [V/sqrt(Hz)]
1e-05
1e-06
1e-07
1e-08
1e-09
1e-10
1e-11
0.01
0.1
1
10
100
1000
Frequency [Hz]
RNoise(r1)
RNoise(r2)
RNoise(r21)
OP UNoise(op1)
OP INoise+(op1)
OP INoise-(op1)
Sum Noise