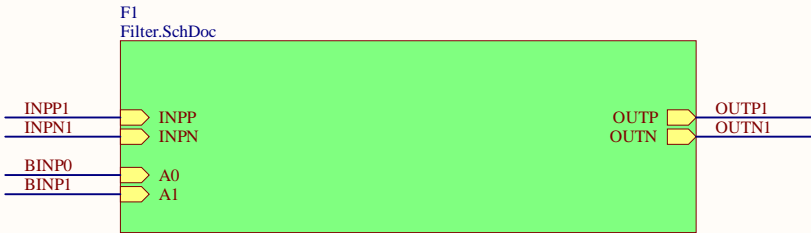
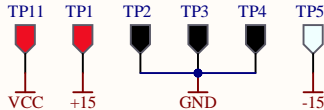
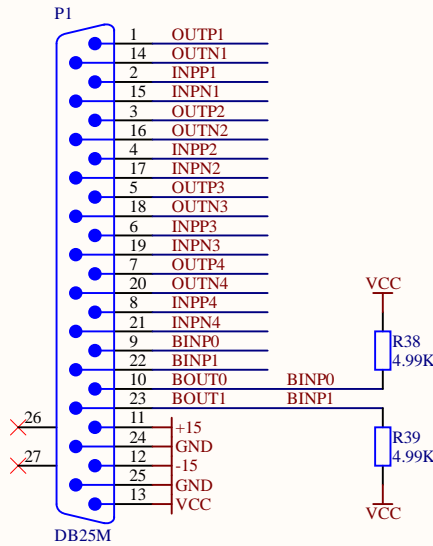


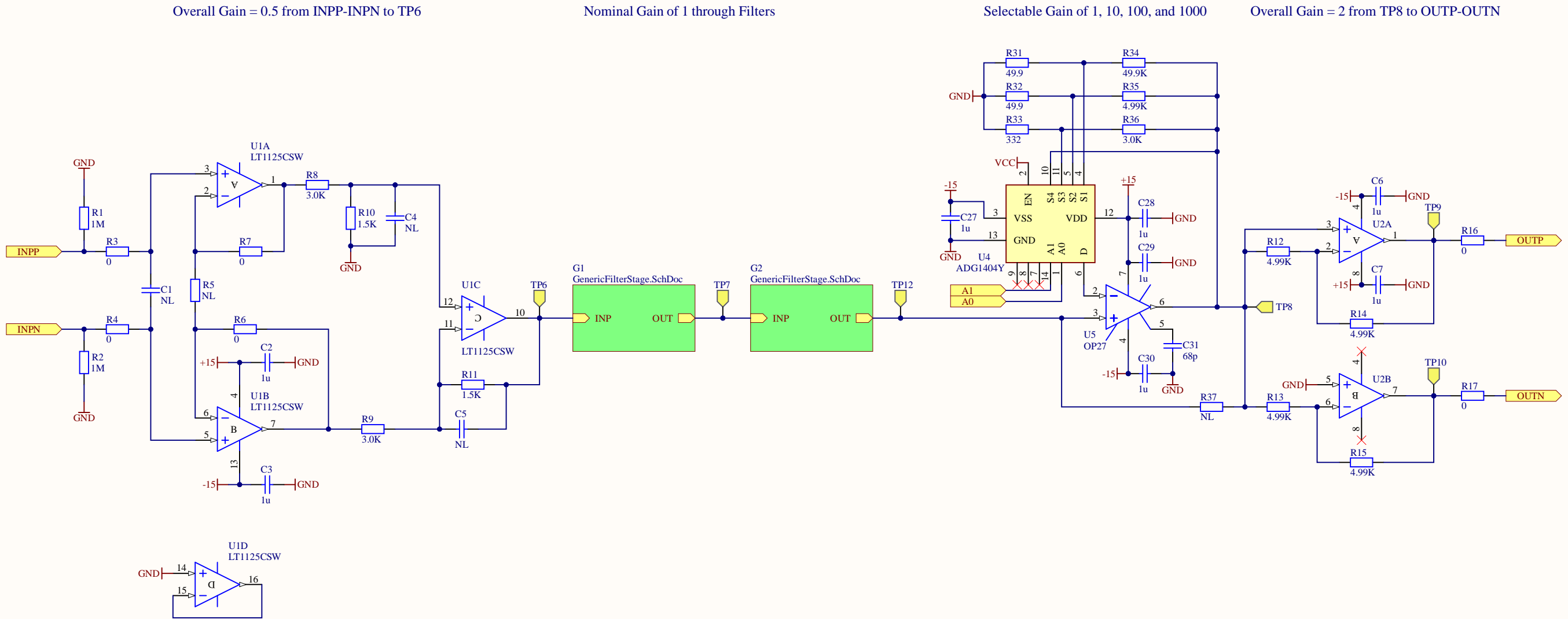


To/From Filter Interface



Variant: AC-coupling

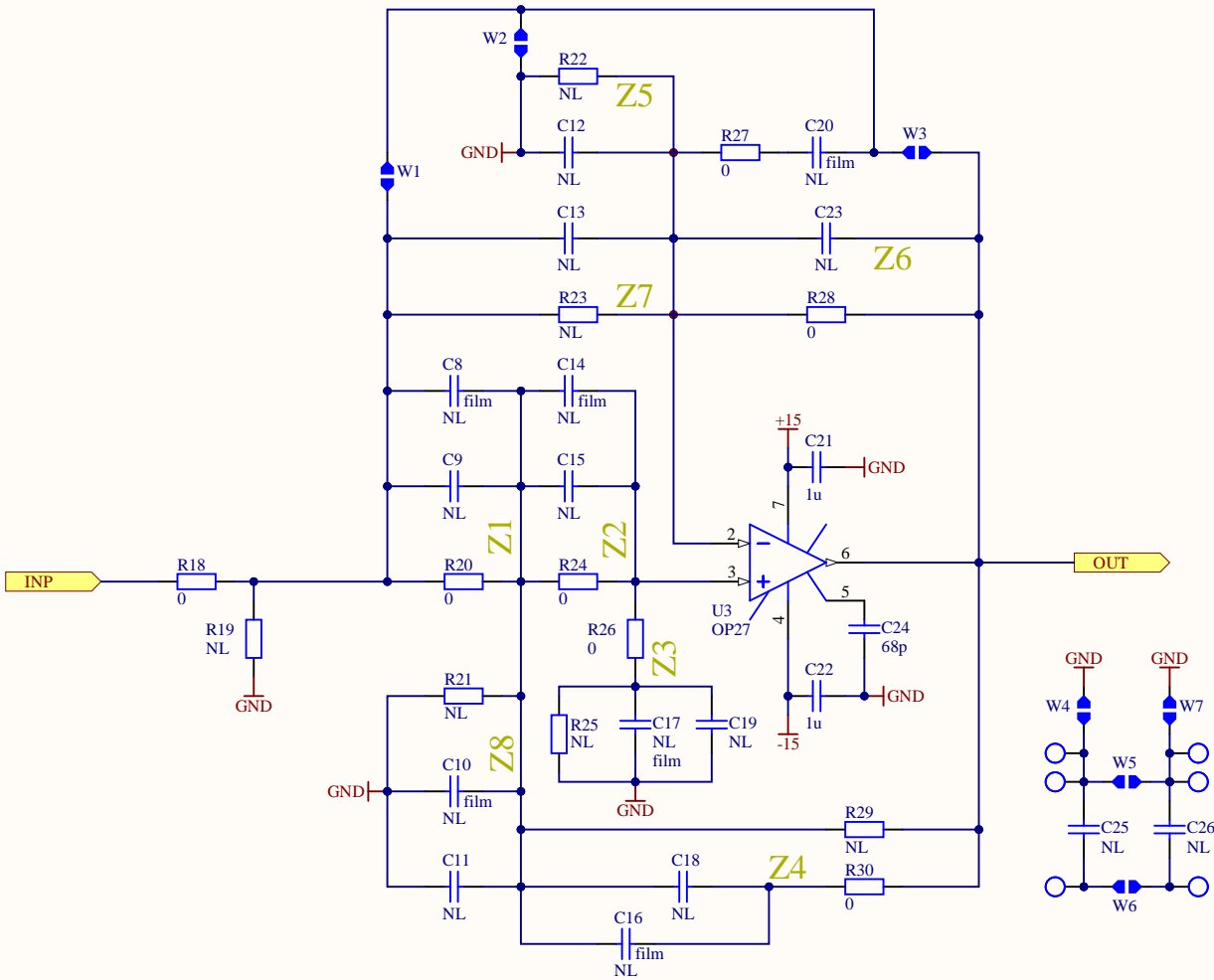
Title Filter Board Template: Top		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 1 of 3
File:	C:\Users\...\FilterBoardTemplate1.SchDoc	Drawn By: Daniel Sigg



Variant: AC-coupling

Title Filter Channel		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 2 of 3
File:	C:\Users\...\Filter.SchDoc	Drawn By: Daniel Sigg

generic filter stage



C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

AC coupling at 0.1Hz: $Z1 = 20\mu\text{F}$ & $Z8 = 78.7\text{k}\Omega$

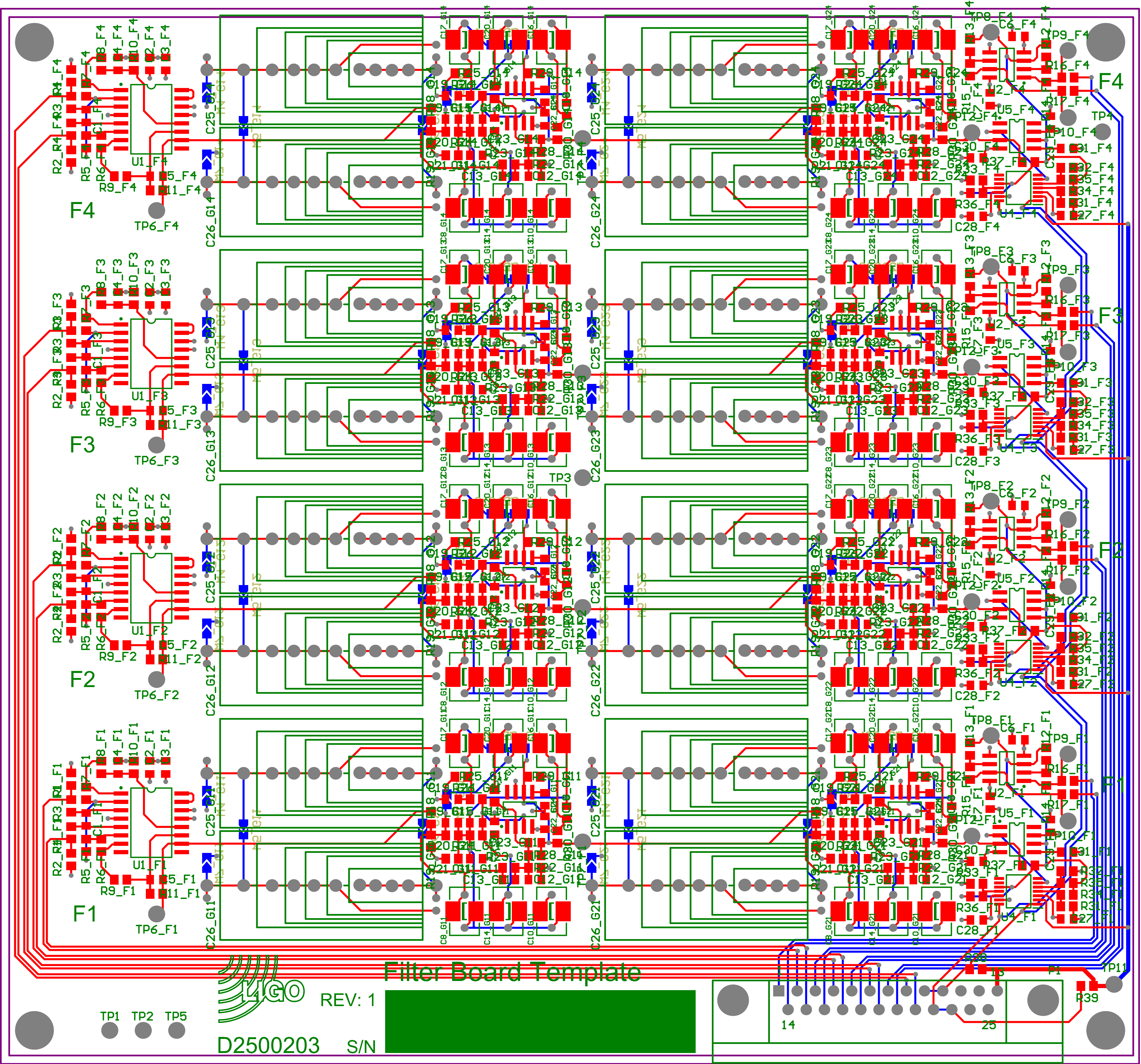
DC coupling at 0.1Hz: $Z1 = 78.7\text{k}\Omega$ & $Z8 = 20\mu\text{F}$

Low pass at 10Hz (4th order Butterworth):
stage 1: $Z1 = Z2 = 4.7\text{k}\Omega$, $Z3 = Z4 = 3.3\mu\text{F}$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 348\Omega$, $R18 = 348\Omega$ & $R19 = 2.37\text{k}\Omega$
stage 2: $Z1 = Z2 = 4.3\text{k}\Omega$, $Z3 = Z4 = 3.3\mu\text{F}$, $Z5 = 2.15\text{k}\Omega$,
 $Z6 = 2.37\text{k}\Omega$, $R18 = 2.37\text{k}\Omega$ & $R19 = 2.15\text{k}\Omega$

High pass at 1kHz (4th order Butterworth):
stage 1: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 4.7\text{k}\Omega$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 274\Omega$, $R18 = 274\Omega$ & $R19 = 2.37\text{k}\Omega$
stage 2: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 5.6\text{k}\Omega$, $Z5 = 2.8\text{k}\Omega$,
 $Z6 = 4.7\text{k}\Omega$, $R18 = 6.65\text{k}\Omega$ & $R19 = 2.8\text{k}\Omega$

Variant: AC-coupling

Title Filter Board Generic Filter		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 3 of 3
File:	C:\Users\...\GenericFilterStage.SchDoc	Drawn By: Daniel Sigg



Filter Board Template



REV: 1

D2500203

S/N

TP1 TP2 TP5

14

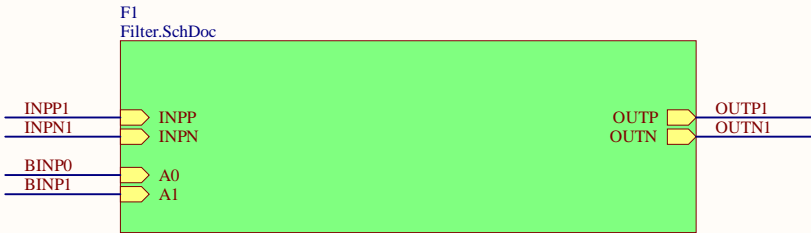
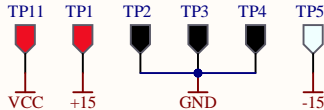
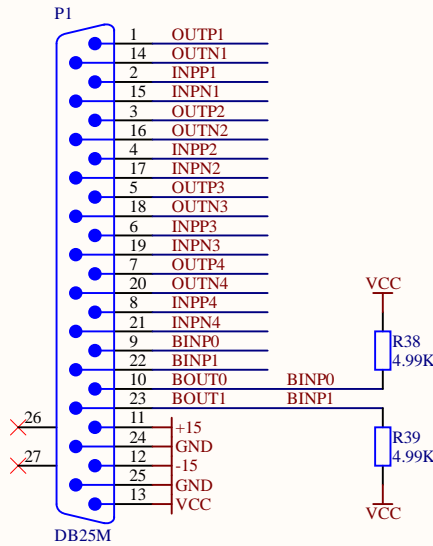
25

TP11

R39



To/From Filter Interface



Variant: Gain1

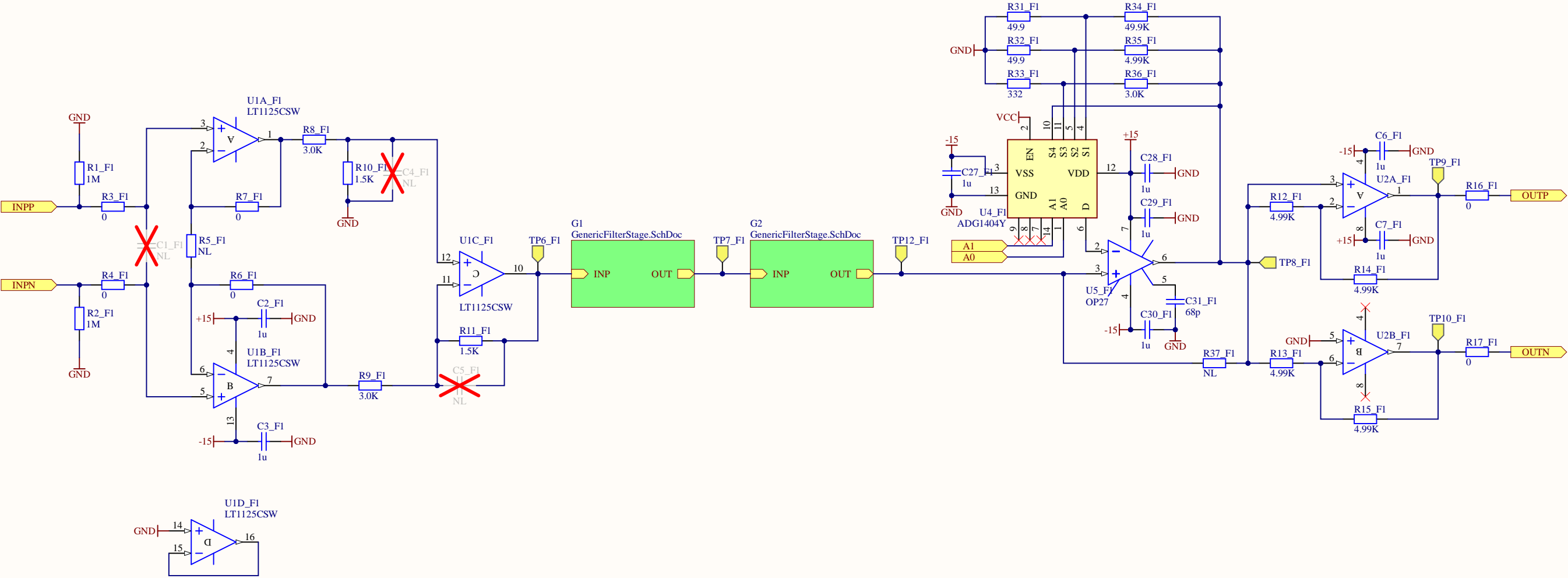
Title Filter Board Template: Top		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 1 of 3
File:	C:\Users\...\FilterBoardTemplate1.SchDoc Drawn By: Daniel Sigg	

Overall Gain = 0.5 from INPP-INPN to TP6

Nominal Gain of 1 through Filters

Selectable Gain of 1, 10, 100, and 1000

Overall Gain = 2 from TP8 to OUTP-OUTN



Variant: Gain1

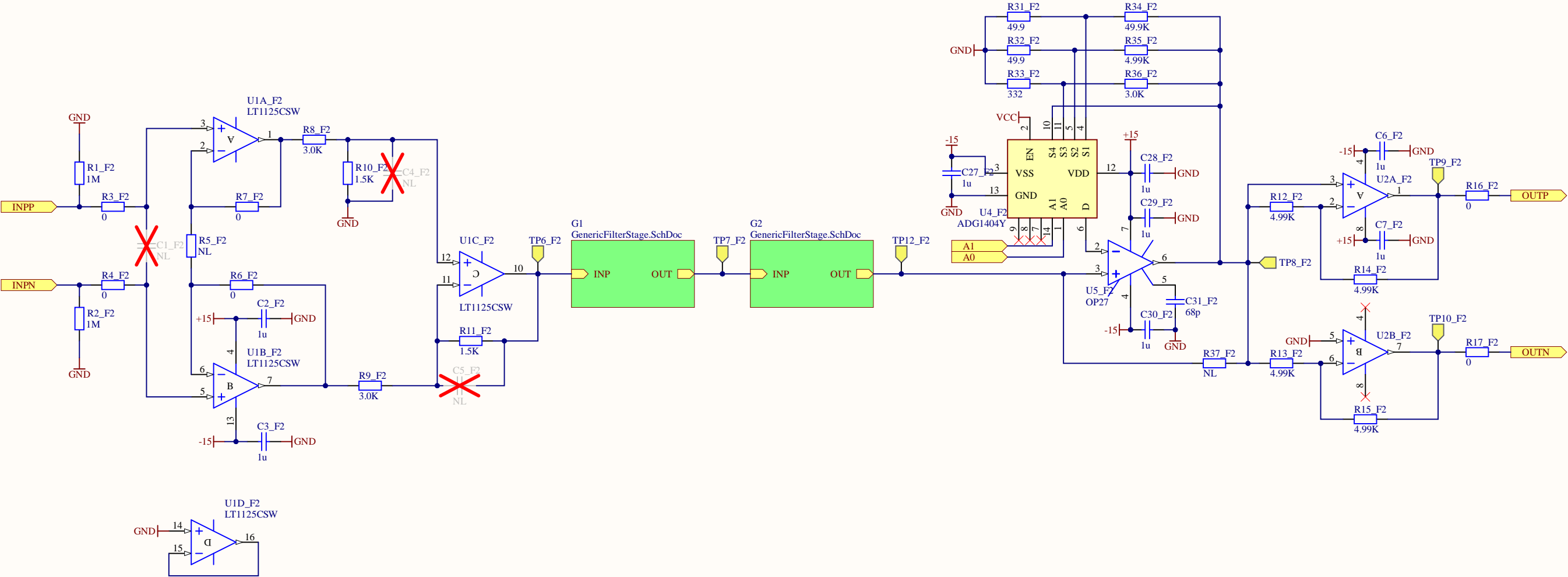
Title Filter Channel		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 2 of 3
File:	C:\Users\...\Filter.SchDoc	Drawn By: Daniel Sigg

Overall Gain = 0.5 from INPP-INPN to TP6

Nominal Gain of 1 through Filters

Selectable Gain of 1, 10, 100, and 1000

Overall Gain = 2 from TP8 to OUTP-OUTN



Variant: Gain1

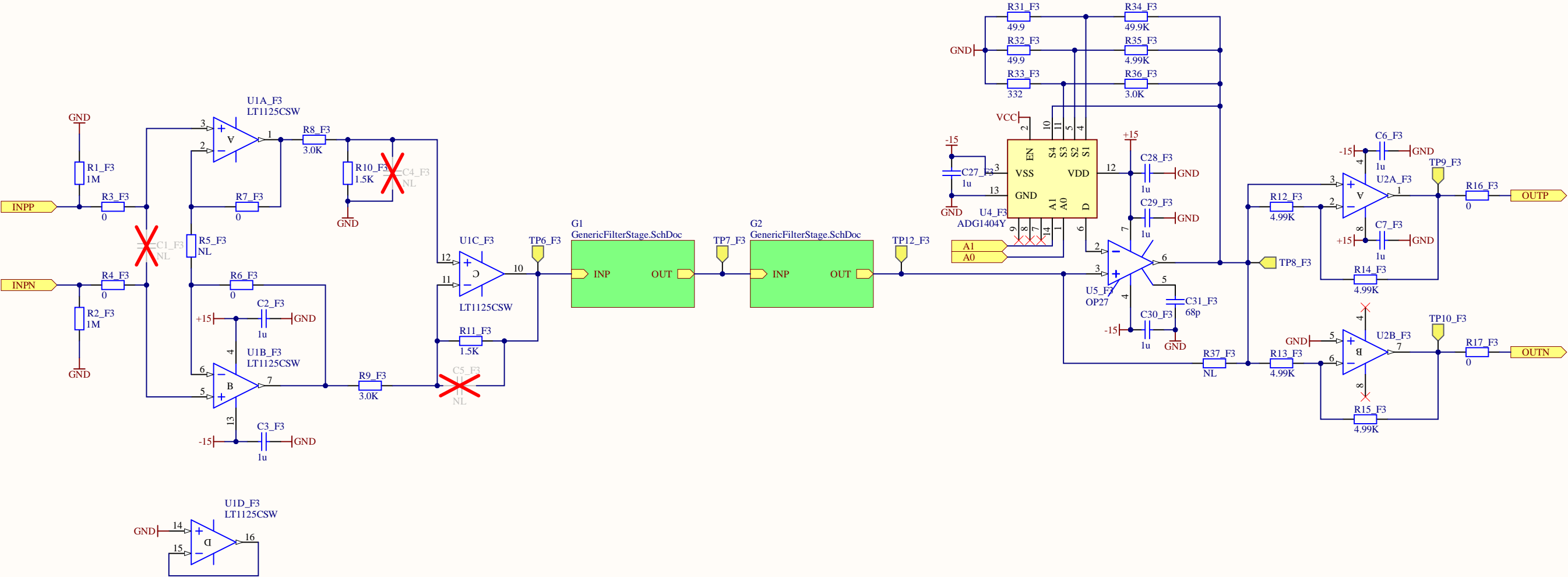
Title Filter Channel		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 2 of 3
File:	C:\Users\...\Filter.SchDoc	Drawn By: Daniel Sigg

Overall Gain = 0.5 from INPP-INPN to TP6

Nominal Gain of 1 through Filters

Selectable Gain of 1, 10, 100, and 1000

Overall Gain = 2 from TP8 to OUTP-OUTN



Variant: Gain1

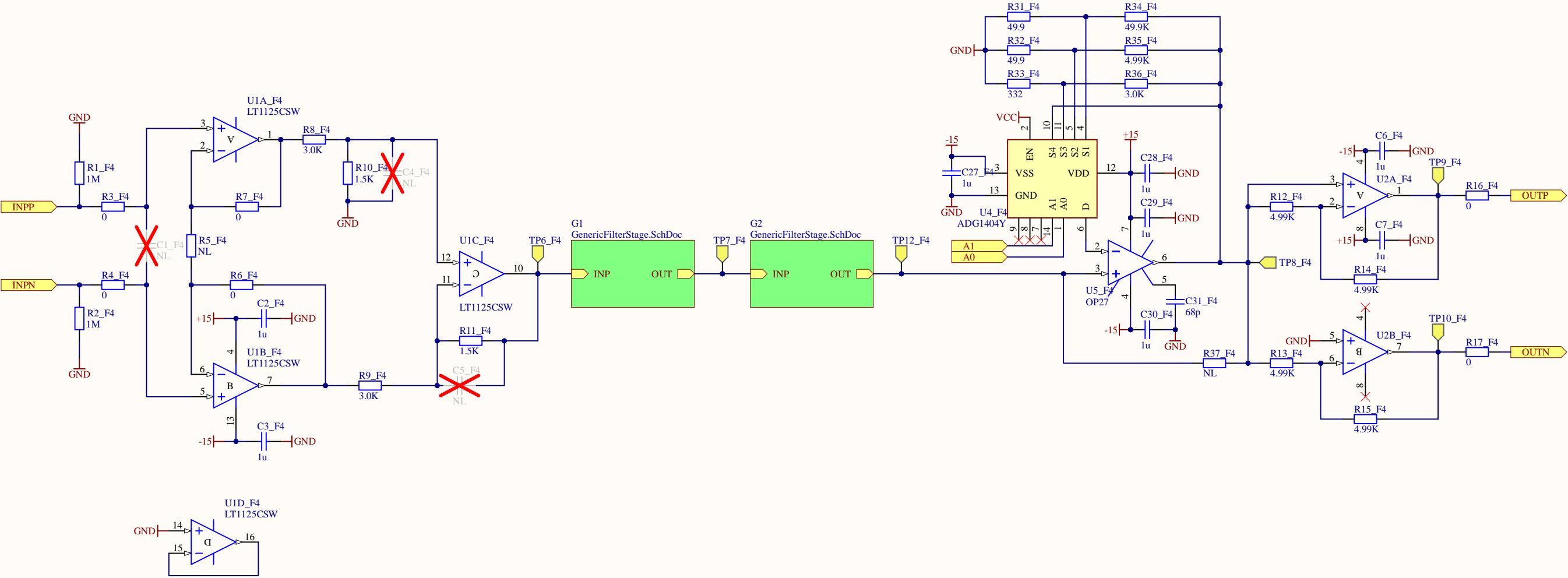
Title Filter Channel		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 2 of 3
File:	C:\Users\...\Filter.SchDoc	Drawn By: Daniel Sigg

Overall Gain = 0.5 from INPP-INPN to TP6

Nominal Gain of 1 through Filters

Selectable Gain of 1, 10, 100, and 1000

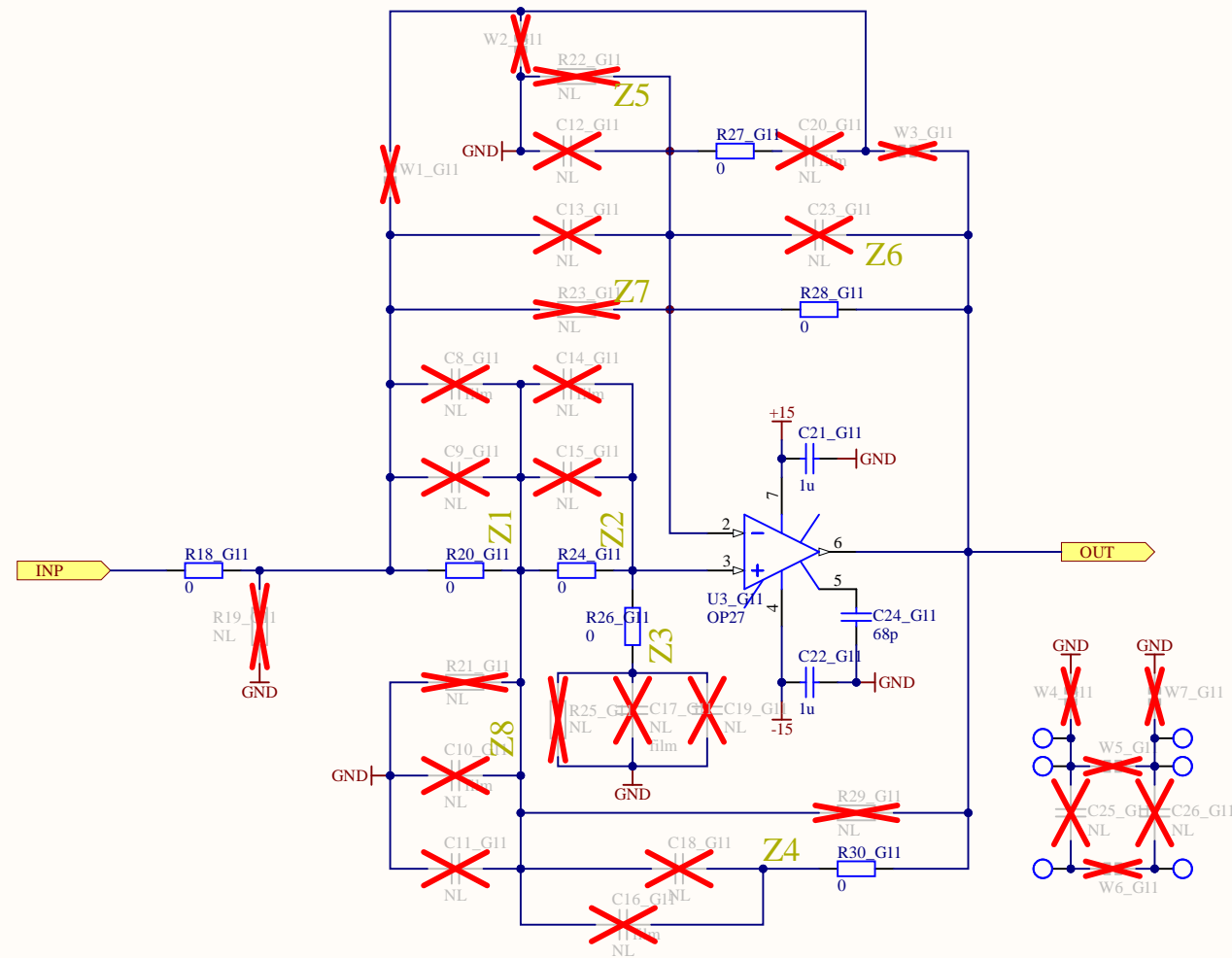
Overall Gain = 2 from TP8 to OUTP-OUTN



Variant: Gain1

Title Filter Channel		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 2 of 3
File:	C:\Users\...\Filter.SchDoc	Drawn By: Daniel Sigg

generic filter stage



C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

AC coupling at 0.1Hz: $Z1 = 20\mu\text{F}$ & $Z8 = 78.7\text{k}\Omega$

DC coupling at 0.1Hz: $Z1 = 78.7\text{k}\Omega$ & $Z8 = 20\mu\text{F}$

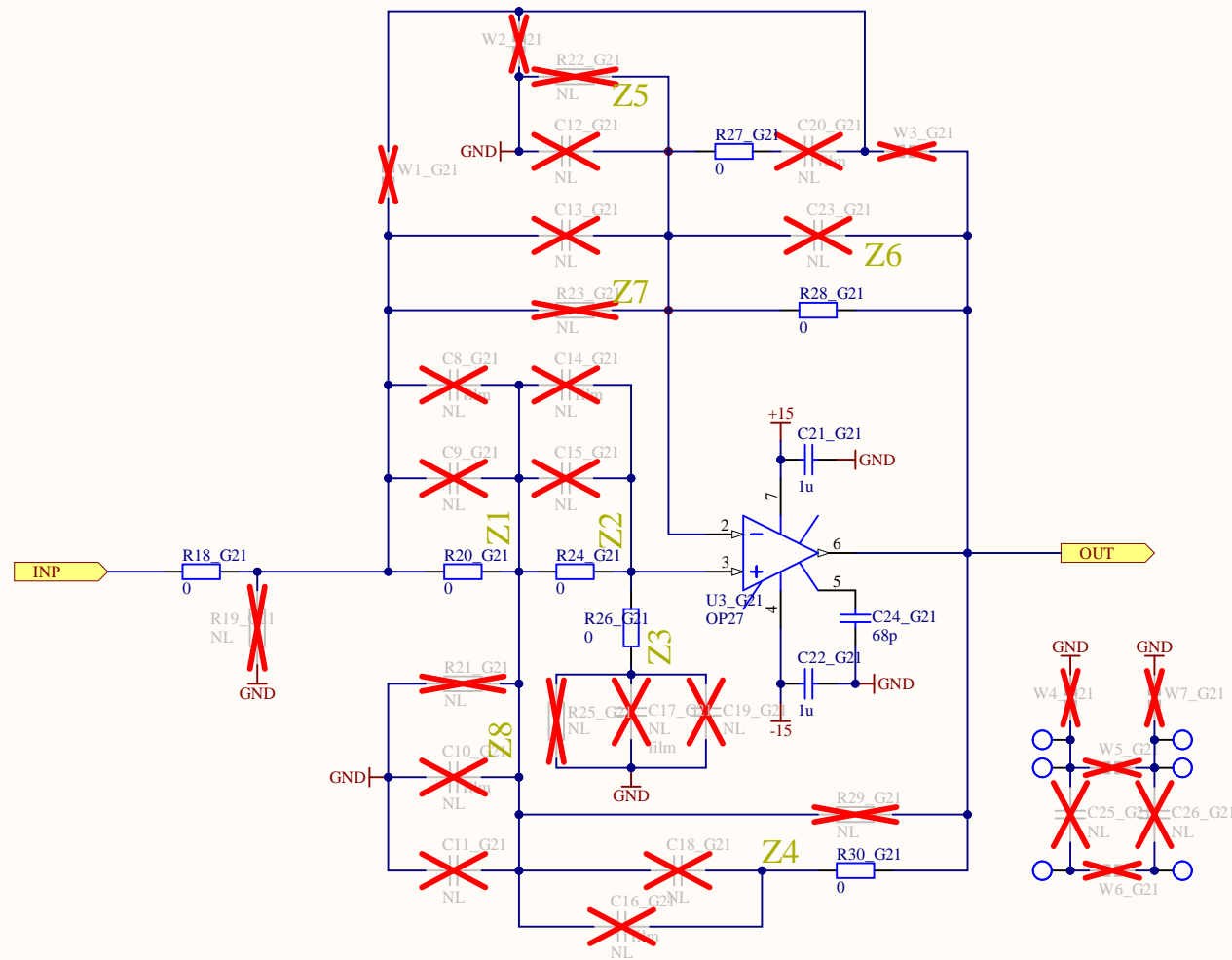
Low pass at 10Hz (4th order Butterworth):
stage 1: $Z1 = Z2 = 4.7\text{k}\Omega$, $Z3 = Z4 = 3.3\mu\text{F}$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 348\Omega$, $R18 = 348\Omega$ & $R19 = 2.37\text{k}\Omega$
stage 2: $Z1 = Z2 = 4.3\text{k}\Omega$, $Z3 = Z4 = 3.3\mu\text{F}$, $Z5 = 2.15\text{k}\Omega$,
 $Z6 = 2.37\text{k}\Omega$, $R18 = 2.37\text{k}\Omega$ & $R19 = 2.15\text{k}\Omega$

High pass at 1kHz (4th order Butterworth):
stage 1: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 4.7\text{k}\Omega$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 274\Omega$, $R18 = 274\Omega$ & $R19 = 2.37\text{k}\Omega$
stage 2: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 5.6\text{k}\Omega$, $Z5 = 2.8\text{k}\Omega$,
 $Z6 = 4.7\text{k}\Omega$, $R18 = 6.65\text{k}\Omega$ & $R19 = 2.8\text{k}\Omega$

Variant: Gain1

Title Filter Board Generic Filter		
Size B	Number D2500203	Revision 1
Date: 8/15/2025	Sheet 3 of 3	
File: C:\Users\...\GenericFilterStage.SchDoc	Drawn By: Daniel Sigg	

generic filter stage



C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

AC coupling at 0.1Hz: $Z1 = 20\mu\text{F}$ & $Z8 = 78.7\text{k}\Omega$

DC coupling at 0.1Hz: $Z1 = 78.7\text{k}\Omega$ & $Z8 = 20\mu\text{F}$

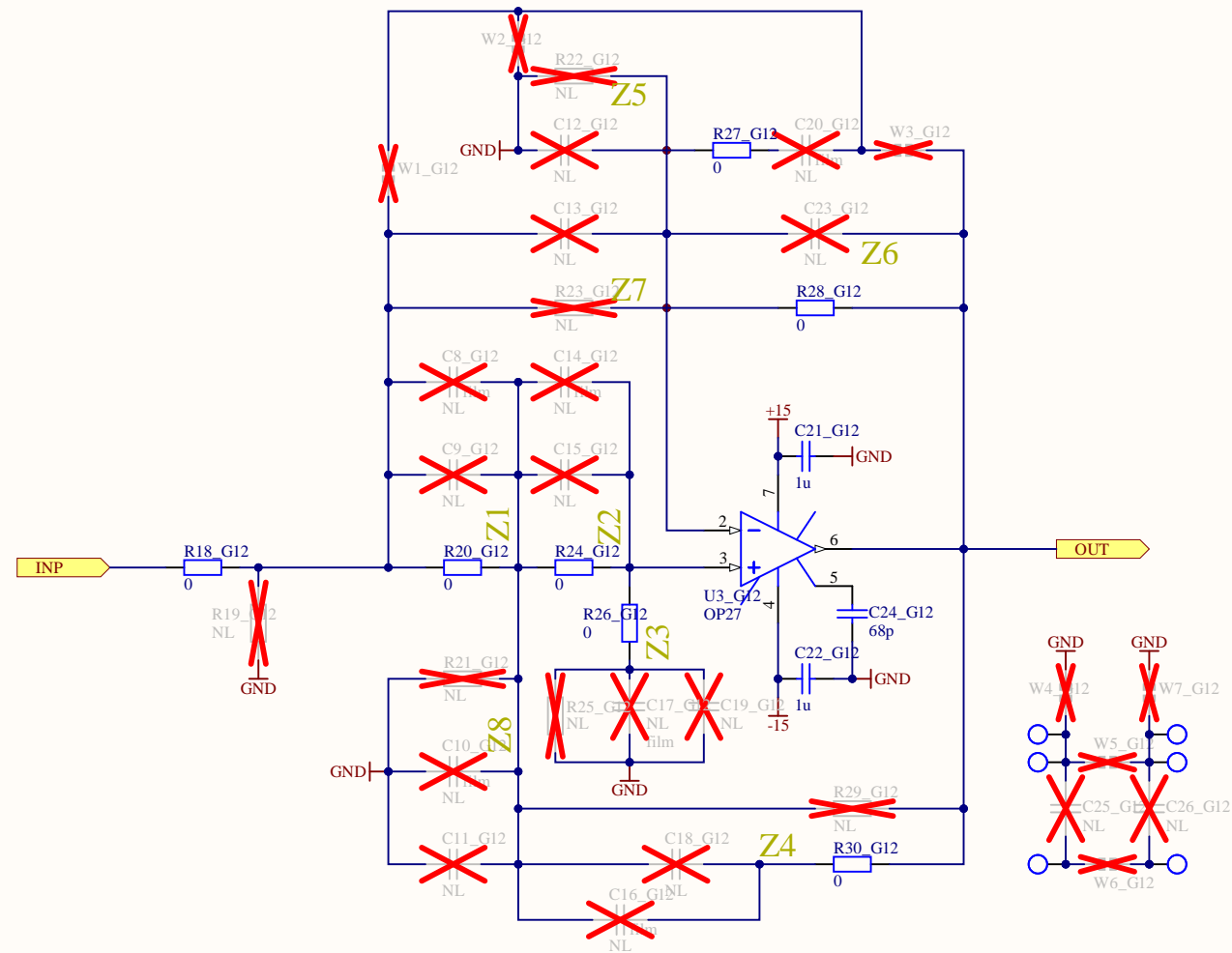
Low pass at 10Hz (4th order Butterworth):
stage 1: $Z1 = Z2 = 4.7\text{k}\Omega$, $Z3 = Z4 = 3.3\mu\text{F}$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 348\Omega$, $R18 = 348\Omega$ & $R19 = 2.37\text{k}\Omega$
stage 2: $Z1 = Z2 = 4.3\text{k}\Omega$, $Z3 = Z4 = 3.3\mu\text{F}$, $Z5 = 2.15\text{k}\Omega$,
 $Z6 = 2.37\text{k}\Omega$, $R18 = 2.37\text{k}\Omega$ & $R19 = 2.15\text{k}\Omega$

High pass at 1kHz (4th order Butterworth):
stage 1: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 4.7\text{k}\Omega$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 274\Omega$, $R18 = 274\Omega$ & $R19 = 2.37\text{k}\Omega$
stage 2: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 5.6\text{k}\Omega$, $Z5 = 2.8\text{k}\Omega$,
 $Z6 = 4.7\text{k}\Omega$, $R18 = 6.65\text{k}\Omega$ & $R19 = 2.8\text{k}\Omega$

Variant: Gain1

Title Filter Board Generic Filter		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 3 of 3
File:	C:\Users\...\GenericFilterStage.SchDoc	Drawn By: Daniel Sigg

generic filter stage



C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

AC coupling at 0.1Hz: $Z1 = 20\mu\text{F}$ & $Z8 = 78.7\text{k}\Omega$

DC coupling at 0.1Hz: $Z1 = 78.7\text{k}\Omega$ & $Z8 = 20\mu\text{F}$

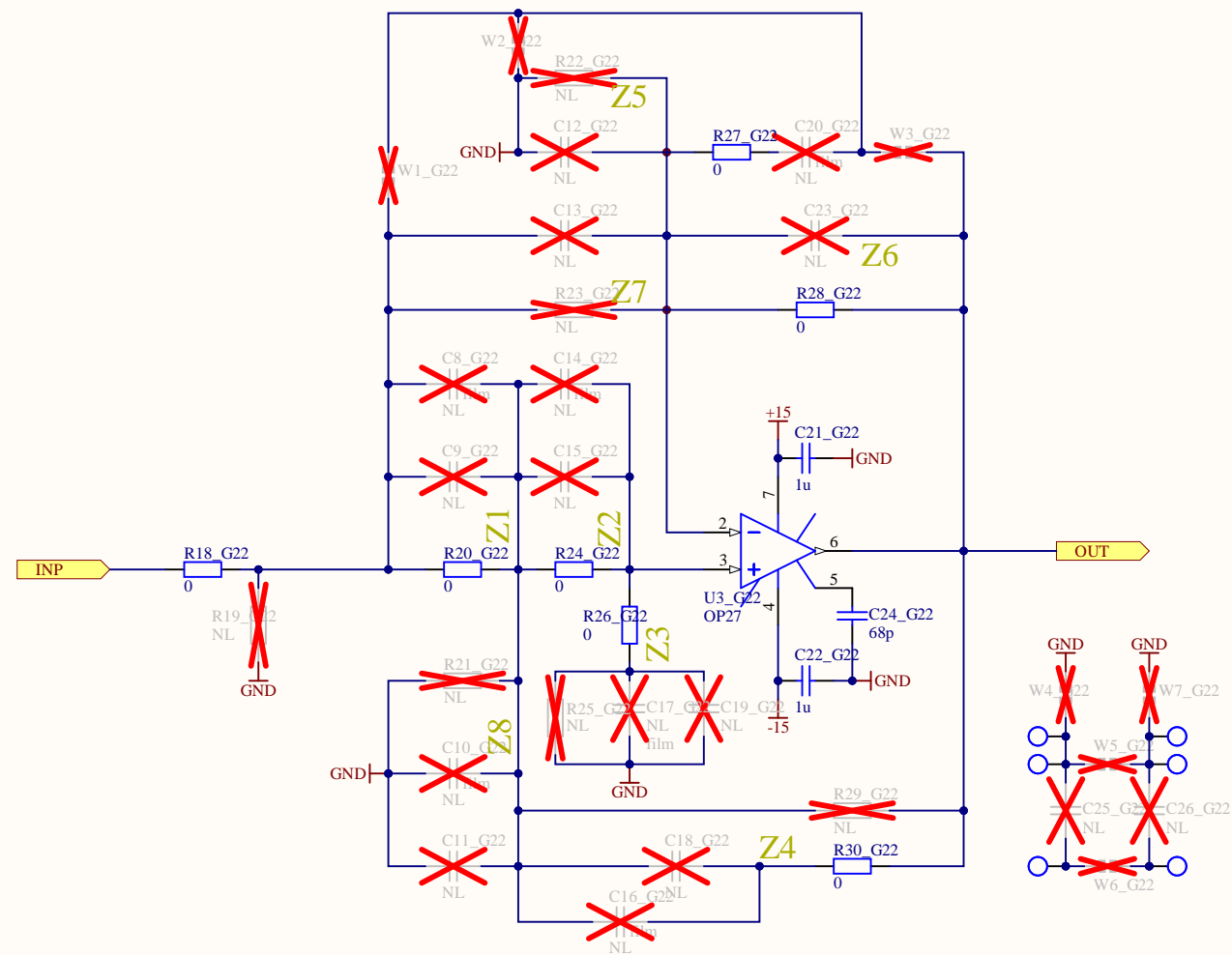
Low pass at 10Hz (4th order Butterworth):
stage 1: $Z1 = Z2 = 4.7\text{k}\Omega$, $Z3 = Z4 = 3.3\mu\text{F}$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 348\Omega$, $R18 = 348\Omega$ & $R19 = 2.37\text{k}\Omega$
stage 2: $Z1 = Z2 = 4.3\text{k}\Omega$, $Z3 = Z4 = 3.3\mu\text{F}$, $Z5 = 2.15\text{k}\Omega$,
 $Z6 = 2.37\text{k}\Omega$, $R18 = 2.37\text{k}\Omega$ & $R19 = 2.15\text{k}\Omega$

High pass at 1kHz (4th order Butterworth):
stage 1: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 4.7\text{k}\Omega$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 274\Omega$, $R18 = 274\Omega$ & $R19 = 2.37\text{k}\Omega$
stage 2: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 5.6\text{k}\Omega$, $Z5 = 2.8\text{k}\Omega$,
 $Z6 = 4.7\text{k}\Omega$, $R18 = 6.65\text{k}\Omega$ & $R19 = 2.8\text{k}\Omega$

Variant: Gain1

Title Filter Board Generic Filter		
Size B	Number D2500203	Revision 1
Date: 8/15/2025	Sheet 3 of 3	
File: C:\Users\...\GenericFilterStage.SchDoc	Drawn By: Daniel Sigg	

generic filter stage



AC coupling at 0.1Hz: $Z1 = 20\mu\text{F}$ & $Z8 = 78.7\text{k}\Omega$

DC coupling at 0.1Hz: $Z1 = 78.7\text{k}\Omega$ & $Z8 = 20\mu\text{F}$

Low pass at 10Hz (4th order Butterworth):

stage 1: $Z1 = Z2 = 4.7\text{k}\Omega$, $Z3 = Z4 = 3.3\mu\text{F}$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 348\Omega$, $R18 = 348\Omega$ & $R19 = 2.37\text{k}\Omega$

stage 2: $Z1 = Z2 = 4.3\text{k}\Omega$, $Z3 = Z4 = 3.3\mu\text{F}$, $Z5 = 2.15\text{k}\Omega$,
 $Z6 = 2.37\text{k}\Omega$, $R18 = 2.37\text{k}\Omega$ & $R19 = 2.15\text{k}\Omega$

High pass at 1kHz (4th order Butterworth):

stage 1: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 4.7\text{k}\Omega$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 274\Omega$, $R18 = 274\Omega$ & $R19 = 2.37\text{k}\Omega$

stage 2: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 5.6\text{k}\Omega$, $Z5 = 2.8\text{k}\Omega$,
 $Z6 = 4.7\text{k}\Omega$, $R18 = 6.65\text{k}\Omega$ & $R19 = 2.8\text{k}\Omega$

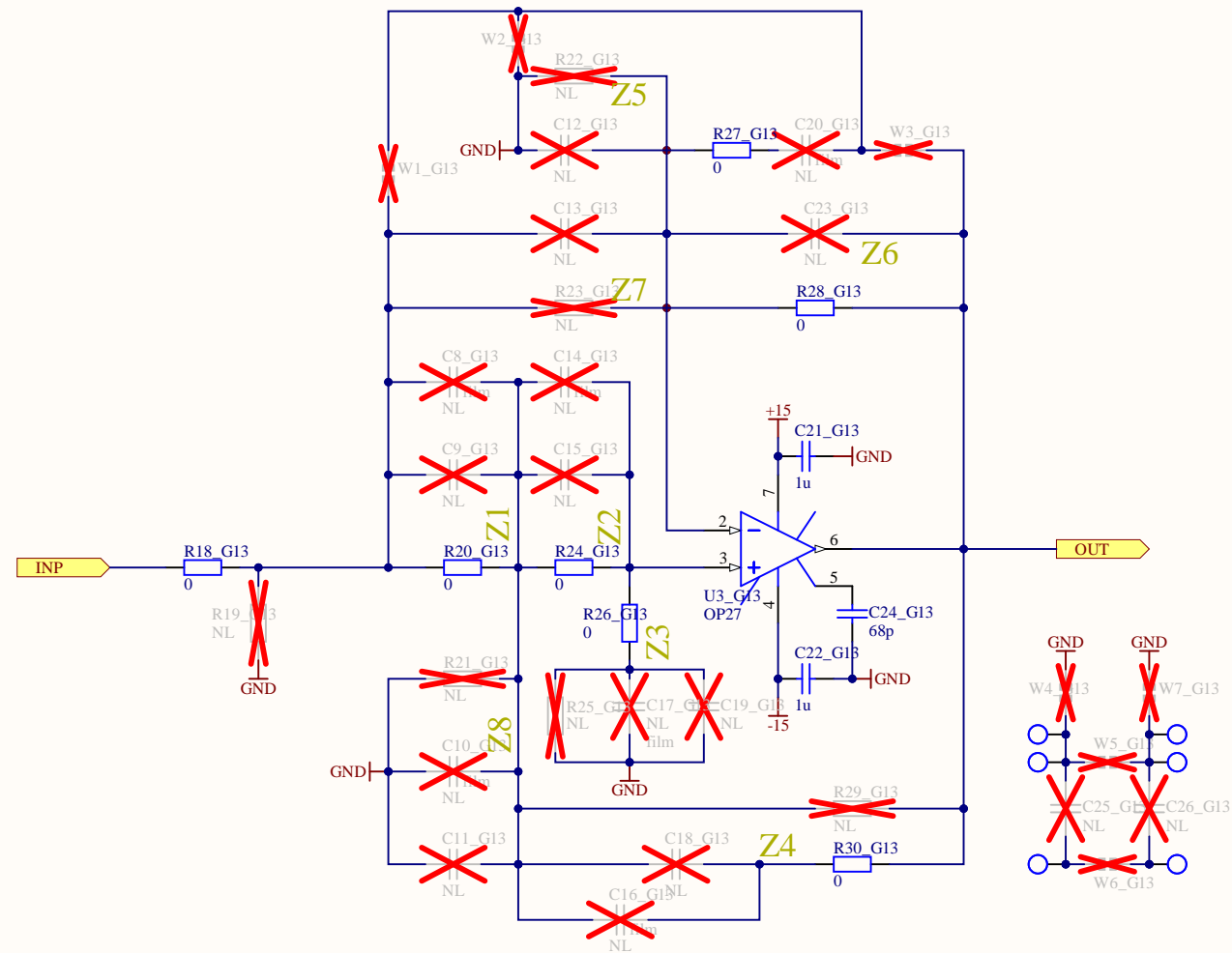
C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

Variant:

Gain1

Title Filter Board Generic Filter		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 3 of 3
File:	C:\Users\...\GenericFilterStage.SchDoc	Drawn By: Daniel Sigg

generic filter stage



C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

AC coupling at 0.1Hz: $Z1 = 20\mu\text{F}$ & $Z8 = 78.7\text{k}\Omega$

DC coupling at 0.1Hz: $Z1 = 78.7\text{k}\Omega$ & $Z8 = 20\mu\text{F}$

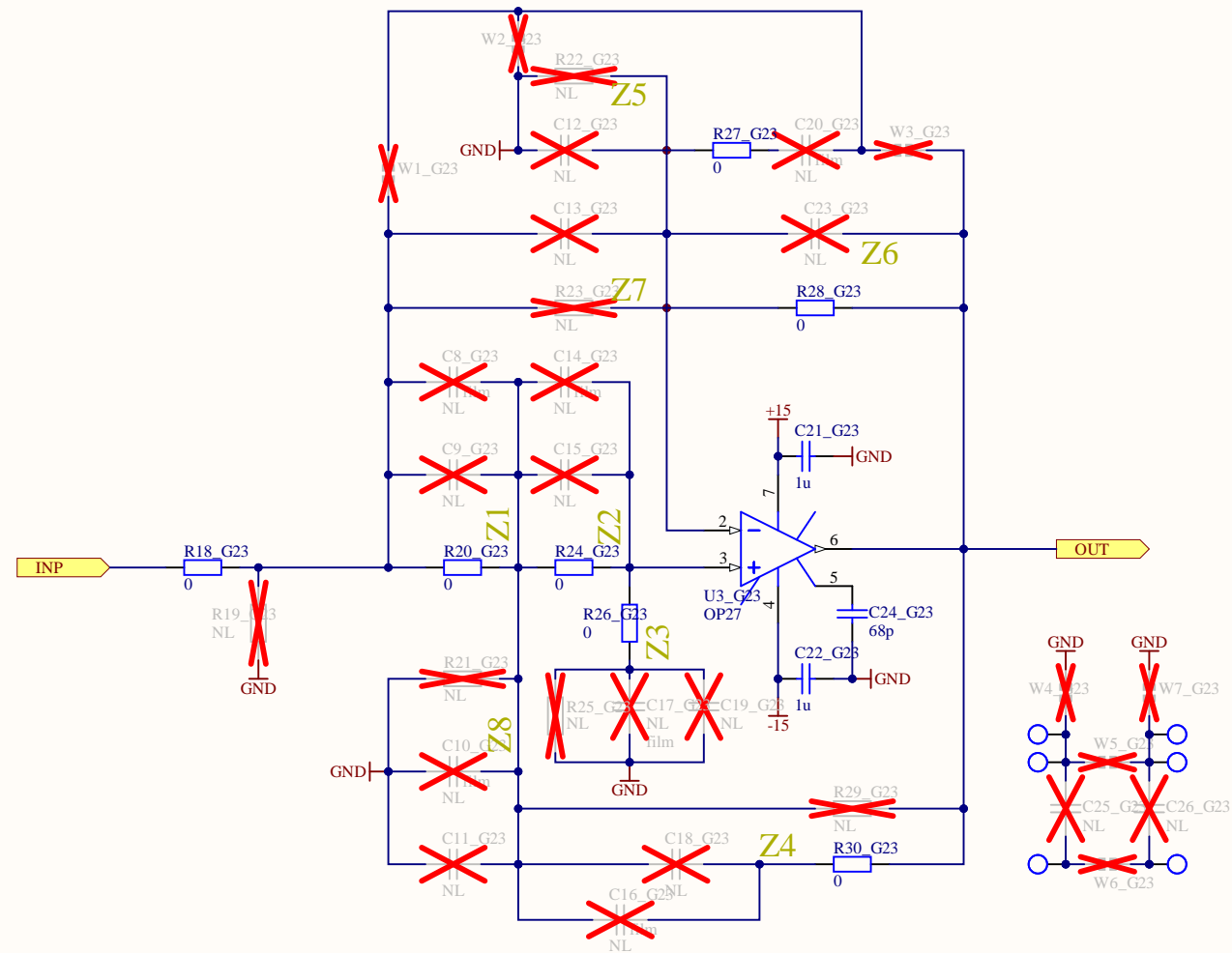
Low pass at 10Hz (4th order Butterworth):
stage 1: $Z1 = Z2 = 4.7\text{k}\Omega$, $Z3 = Z4 = 3.3\mu\text{F}$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 348\Omega$, $R18 = 348\Omega$ & $R19 = 2.37\text{k}\Omega$
stage 2: $Z1 = Z2 = 4.3\text{k}\Omega$, $Z3 = Z4 = 3.3\mu\text{F}$, $Z5 = 2.15\text{k}\Omega$,
 $Z6 = 2.37\text{k}\Omega$, $R18 = 2.37\text{k}\Omega$ & $R19 = 2.15\text{k}\Omega$

High pass at 1kHz (4th order Butterworth):
stage 1: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 4.7\text{k}\Omega$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 274\Omega$, $R18 = 274\Omega$ & $R19 = 2.37\text{k}\Omega$
stage 2: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 5.6\text{k}\Omega$, $Z5 = 2.8\text{k}\Omega$,
 $Z6 = 4.7\text{k}\Omega$, $R18 = 6.65\text{k}\Omega$ & $R19 = 2.8\text{k}\Omega$

Variant: Gain1

Title Filter Board Generic Filter		
Size B	Number D2500203	Revision 1
Date: 8/15/2025	Sheet 3 of 3	
File: C:\Users\...\GenericFilterStage.SchDoc	Drawn By: Daniel Sigg	

generic filter stage



C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

AC coupling at 0.1Hz: $Z1 = 20\mu\text{F}$ & $Z8 = 78.7\text{k}\Omega$

DC coupling at 0.1Hz: $Z1 = 78.7\text{k}\Omega$ & $Z8 = 20\mu\text{F}$

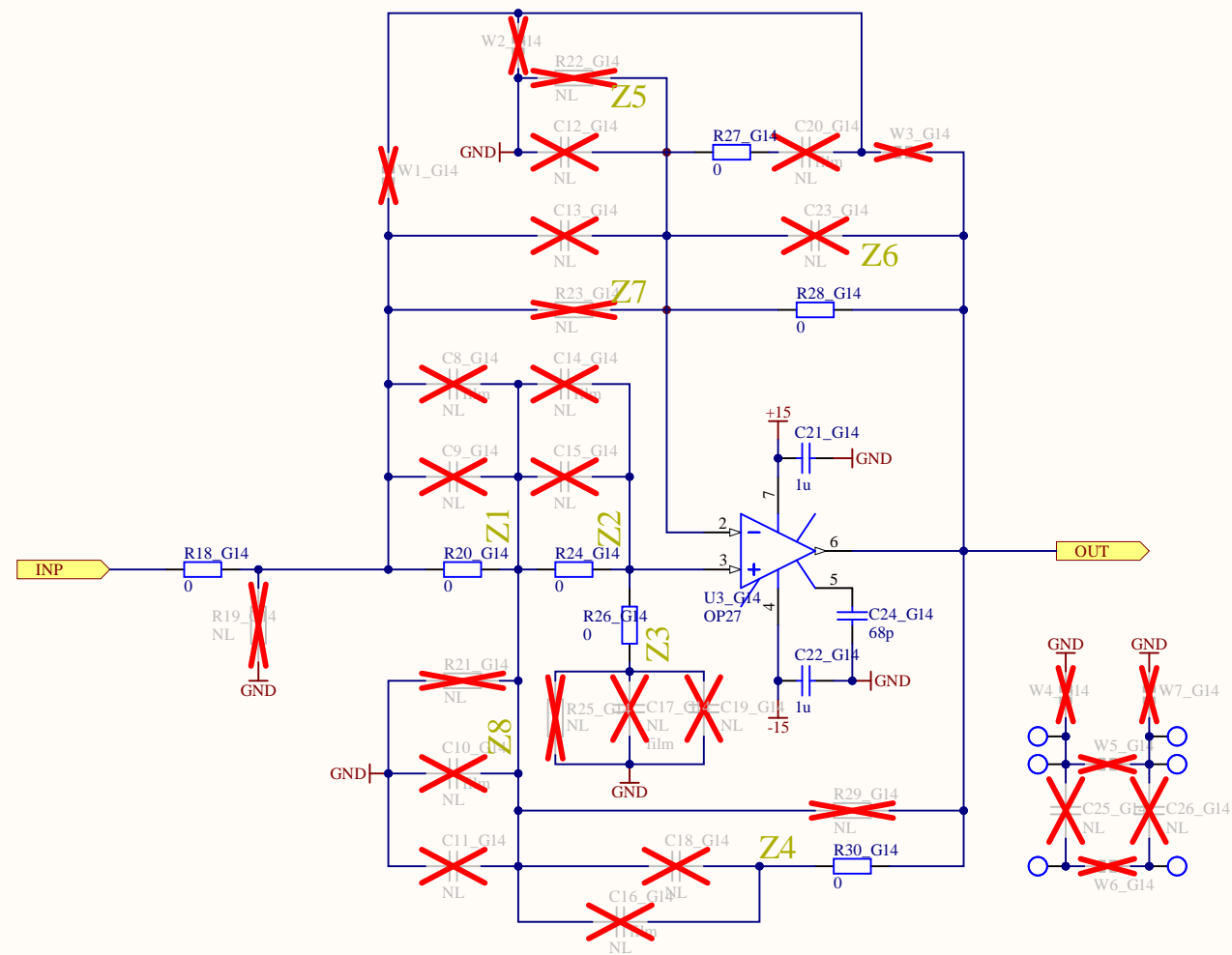
Low pass at 10Hz (4th order Butterworth):
stage 1: $Z1 = Z2 = 4.7\text{k}\Omega$, $Z3 = Z4 = 3.3\mu\text{F}$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 348\Omega$, $R18 = 348\Omega$ & $R19 = 2.37\text{k}\Omega$
stage 2: $Z1 = Z2 = 4.3\text{k}\Omega$, $Z3 = Z4 = 3.3\mu\text{F}$, $Z5 = 2.15\text{k}\Omega$,
 $Z6 = 2.37\text{k}\Omega$, $R18 = 2.37\text{k}\Omega$ & $R19 = 2.15\text{k}\Omega$

High pass at 1kHz (4th order Butterworth):
stage 1: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 4.7\text{k}\Omega$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 274\Omega$, $R18 = 274\Omega$ & $R19 = 2.37\text{k}\Omega$
stage 2: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 5.6\text{k}\Omega$, $Z5 = 2.8\text{k}\Omega$,
 $Z6 = 4.7\text{k}\Omega$, $R18 = 6.65\text{k}\Omega$ & $R19 = 2.8\text{k}\Omega$

Variant: Gain1

Title Filter Board Generic Filter		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 3 of 3
File:	C:\Users\...\GenericFilterStage.SchDoc	Drawn By: Daniel Sigg

generic filter stage



C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

AC coupling at 0.1Hz: $Z1 = 20\mu\text{F}$ & $Z8 = 78.7\text{k}\Omega$

DC coupling at 0.1Hz: $Z1 = 78.7\text{k}\Omega$ & $Z8 = 20\mu\text{F}$

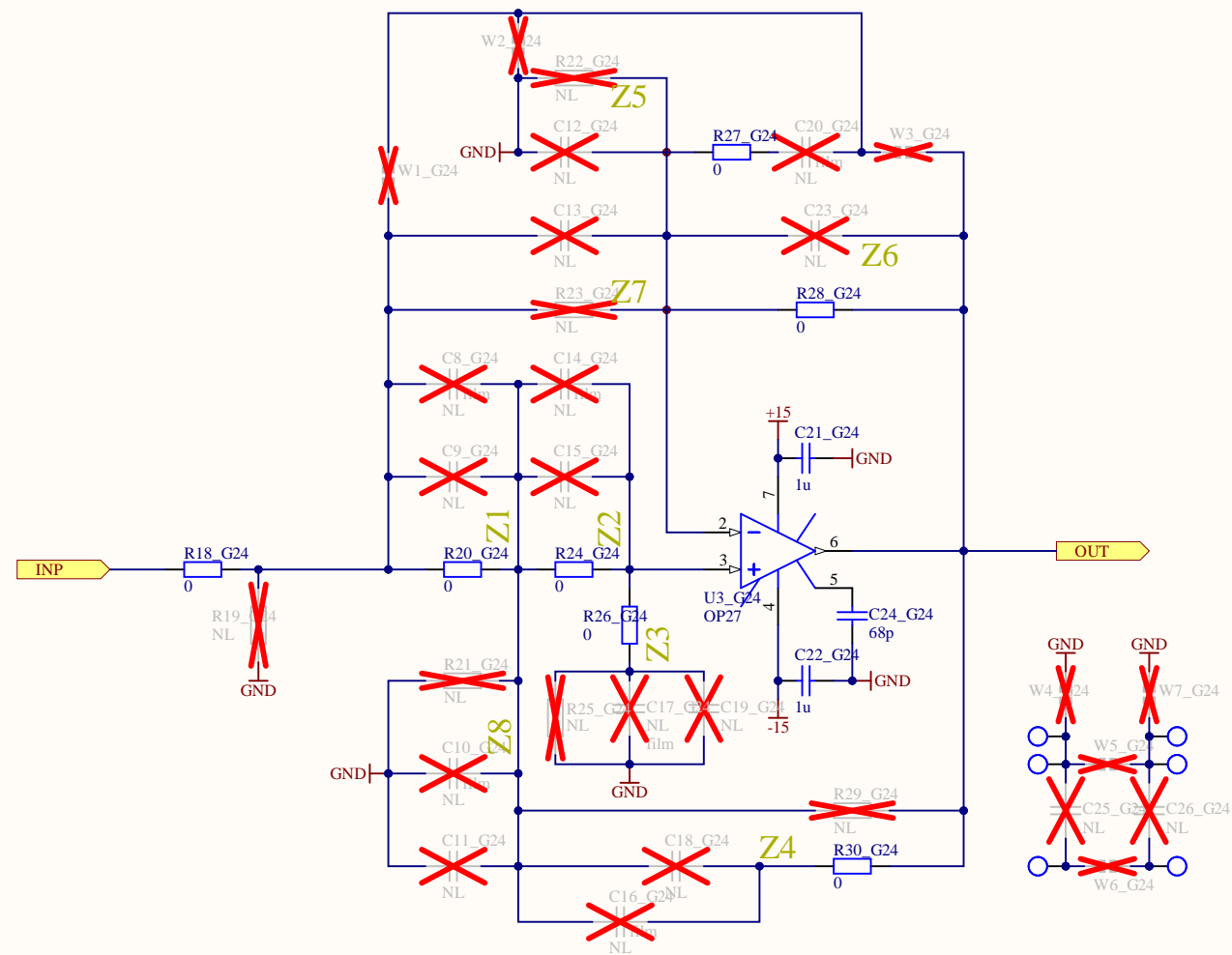
Low pass at 10Hz (4th order Butterworth):
stage 1: $Z1 = Z2 = 4.7\text{k}\Omega$, $Z3 = Z4 = 3.3\mu\text{F}$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 348\Omega$, $R18 = 348\Omega$ & $R19 = 2.37\text{k}\Omega$
stage 2: $Z1 = Z2 = 4.3\text{k}\Omega$, $Z3 = Z4 = 3.3\mu\text{F}$, $Z5 = 2.15\text{k}\Omega$,
 $Z6 = 2.37\text{k}\Omega$, $R18 = 2.37\text{k}\Omega$ & $R19 = 2.15\text{k}\Omega$

High pass at 1kHz (4th order Butterworth):
stage 1: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 4.7\text{k}\Omega$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 274\Omega$, $R18 = 274\Omega$ & $R19 = 2.37\text{k}\Omega$
stage 2: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 5.6\text{k}\Omega$, $Z5 = 2.8\text{k}\Omega$,
 $Z6 = 4.7\text{k}\Omega$, $R18 = 6.65\text{k}\Omega$ & $R19 = 2.8\text{k}\Omega$

Variant: Gain1

Title Filter Board Generic Filter		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 3 of 3
File:	C:\Users\...\GenericFilterStage.SchDoc	Drawn By: Daniel Sigg

generic filter stage



C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

AC coupling at 0.1Hz: $Z1 = 20\mu\text{F}$ & $Z8 = 78.7\text{k}\Omega$

DC coupling at 0.1Hz: $Z1 = 78.7\text{k}\Omega$ & $Z8 = 20\mu\text{F}$

Low pass at 10Hz (4th order Butterworth):
stage 1: $Z1 = Z2 = 4.7\text{k}\Omega$, $Z3 = Z4 = 3.3\mu\text{F}$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 348\Omega$, $R18 = 348\Omega$ & $R19 = 2.37\text{k}\Omega$
stage 2: $Z1 = Z2 = 4.3\text{k}\Omega$, $Z3 = Z4 = 3.3\mu\text{F}$, $Z5 = 2.15\text{k}\Omega$,
 $Z6 = 2.37\text{k}\Omega$, $R18 = 2.37\text{k}\Omega$ & $R19 = 2.15\text{k}\Omega$

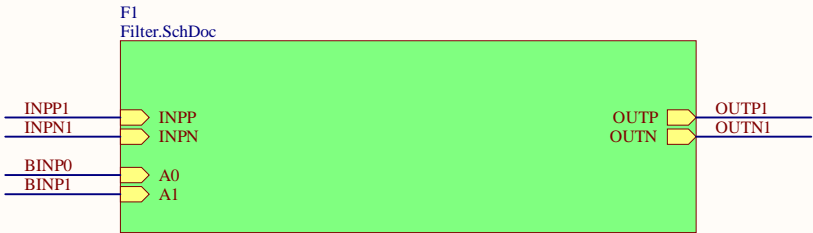
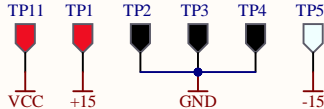
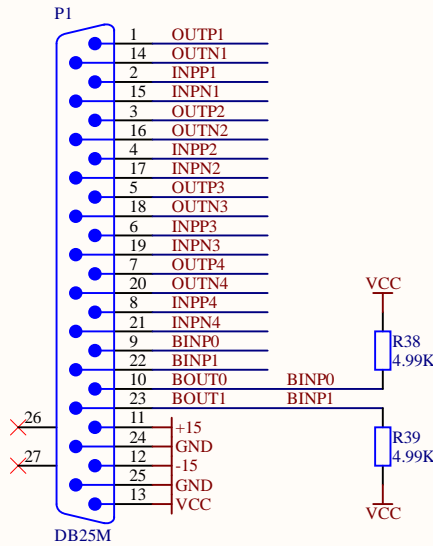
High pass at 1kHz (4th order Butterworth):
stage 1: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 4.7\text{k}\Omega$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 274\Omega$, $R18 = 274\Omega$ & $R19 = 2.37\text{k}\Omega$
stage 2: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 5.6\text{k}\Omega$, $Z5 = 2.8\text{k}\Omega$,
 $Z6 = 4.7\text{k}\Omega$, $R18 = 6.65\text{k}\Omega$ & $R19 = 2.8\text{k}\Omega$

Variant: Gain1

Title Filter Board Generic Filter		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 3 of 3
File:	C:\Users\...\GenericFilterStage.SchDoc	Drawn By: Daniel Sigg



To/From Filter Interface



Variant: AC-coupling

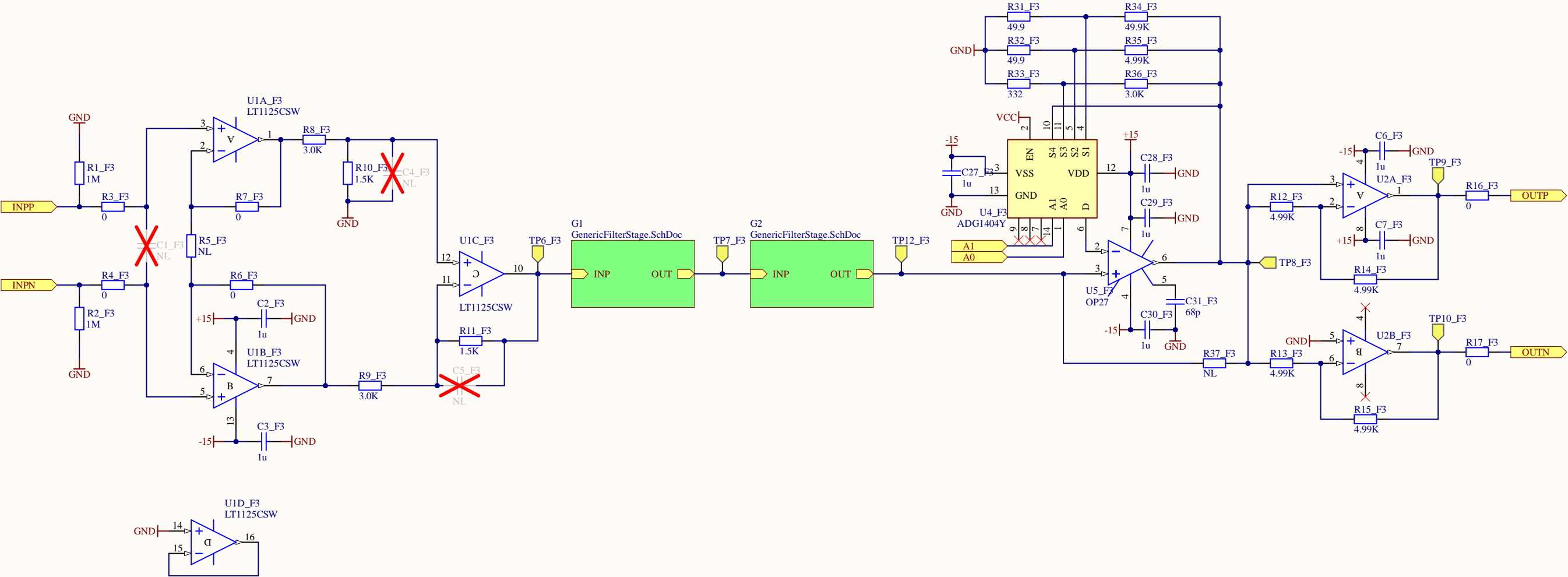
Title Filter Board Template: Top		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 1 of 3
File:	C:\Users\...\FilterBoardTemplate1.SchDoc	Drawn By: Daniel Sigg

Overall Gain = 0.5 from INPP-INPN to TP6

Nominal Gain of 1 through Filters

Selectable Gain of 1, 10, 100, and 1000

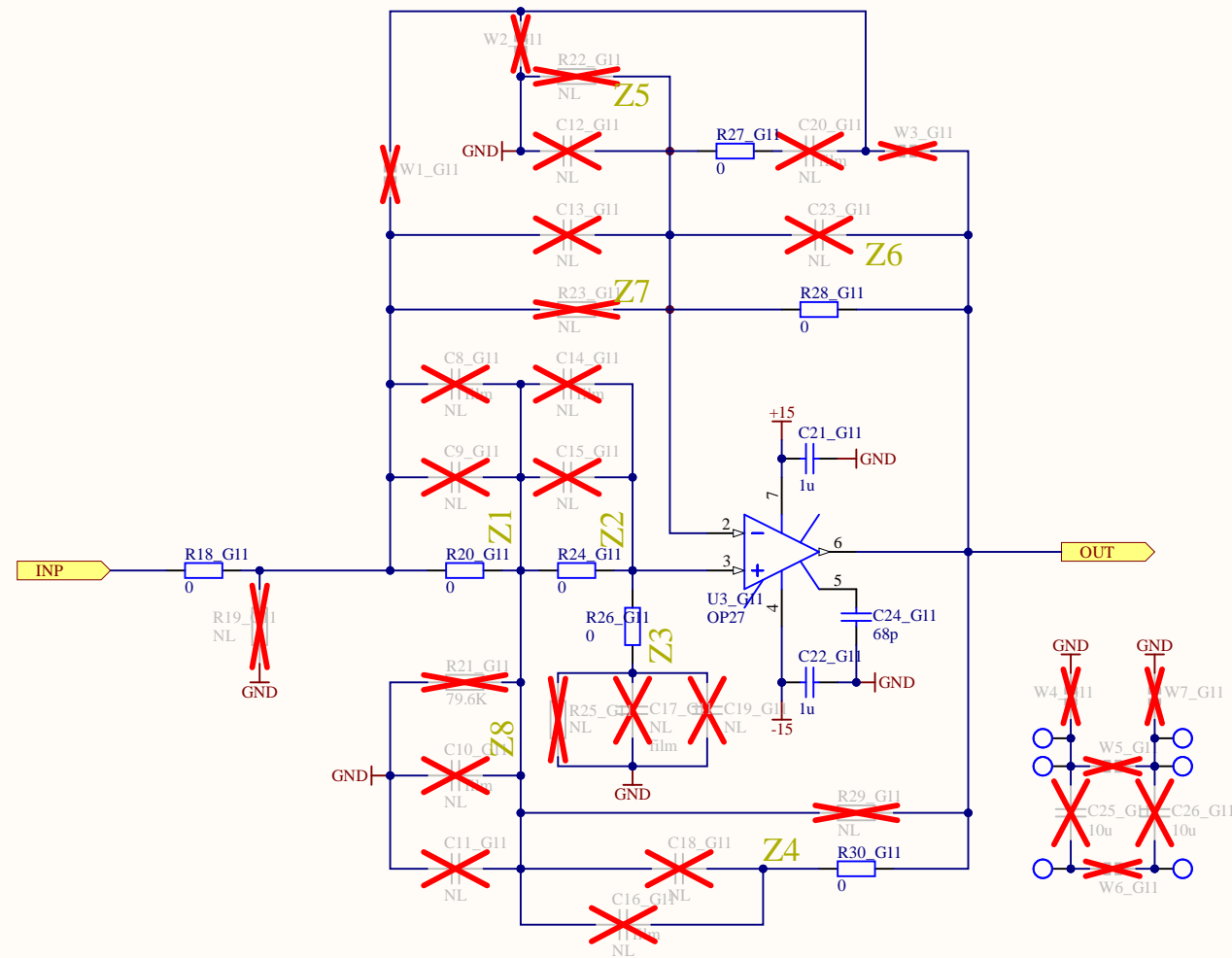
Overall Gain = 2 from TP8 to OUTP-OUTN



Variant: AC-coupling

Title Filter Channel		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 2 of 3
File:	C:\Users\...\Filter.SchDoc	Drawn By: Daniel Sigg

generic filter stage



AC coupling at 0.1Hz: $Z1 = 20\mu\text{F}$ & $Z8 = 78.7\text{k}\Omega$

DC coupling at 0.1Hz: $Z1 = 78.7\text{k}\Omega$ & $Z8 = 20\mu\text{F}$

Low pass at 10Hz (4th order Butterworth):

stage 1: $Z1 = Z2 = 4.7\text{k}\Omega$, $Z3 = Z4 = 3.3\mu\text{F}$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 348\Omega$, $R18 = 348\Omega$ & $R19 = 2.37\text{k}\Omega$

stage 2: $Z1 = Z2 = 4.3\text{k}\Omega$, $Z3 = Z4 = 3.3\mu\text{F}$, $Z5 = 2.15\text{k}\Omega$,
 $Z6 = 2.37\text{k}\Omega$, $R18 = 2.37\text{k}\Omega$ & $R19 = 2.15\text{k}\Omega$

High pass at 1kHz (4th order Butterworth):

stage 1: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 4.7\text{k}\Omega$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 274\Omega$, $R18 = 274\Omega$ & $R19 = 2.37\text{k}\Omega$

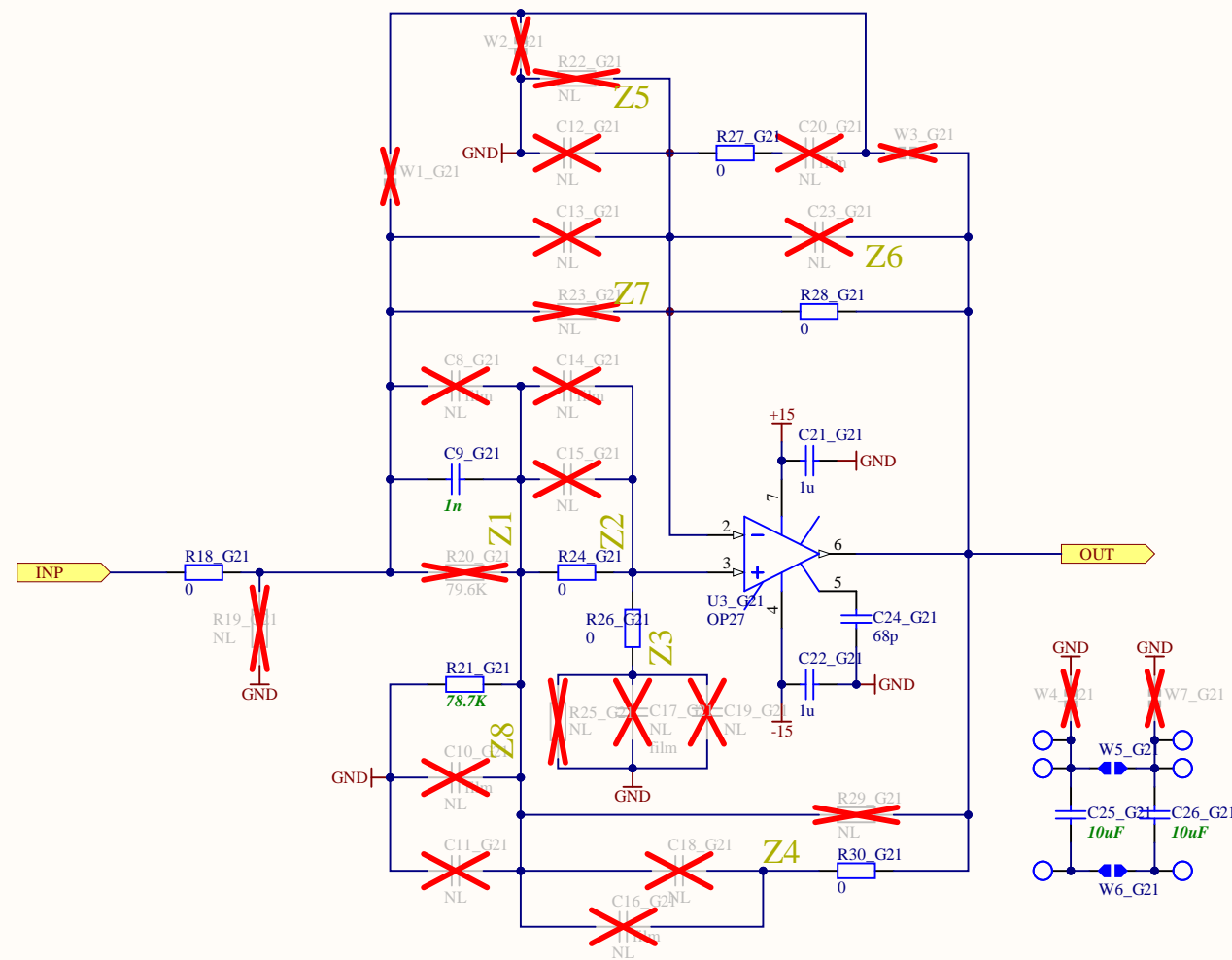
stage 2: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 5.6\text{k}\Omega$, $Z5 = 2.8\text{k}\Omega$,
 $Z6 = 4.7\text{k}\Omega$, $R18 = 6.65\text{k}\Omega$ & $R19 = 2.8\text{k}\Omega$

C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

Variant: AC-coupling

Title Filter Board Generic Filter		
Size B	Number D2500203	Revision 1
Date: 8/15/2025	Sheet 3 of 3	
File: C:\Users\...\GenericFilterStage.SchDoc	Drawn By: Daniel Sigg	

generic filter stage



C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

AC coupling at 0.1Hz: Z1 = 20uF & Z8 = 78.7kΩ

DC coupling at 0.1Hz: Z1 = 78.7kΩ & Z8 = 20uF

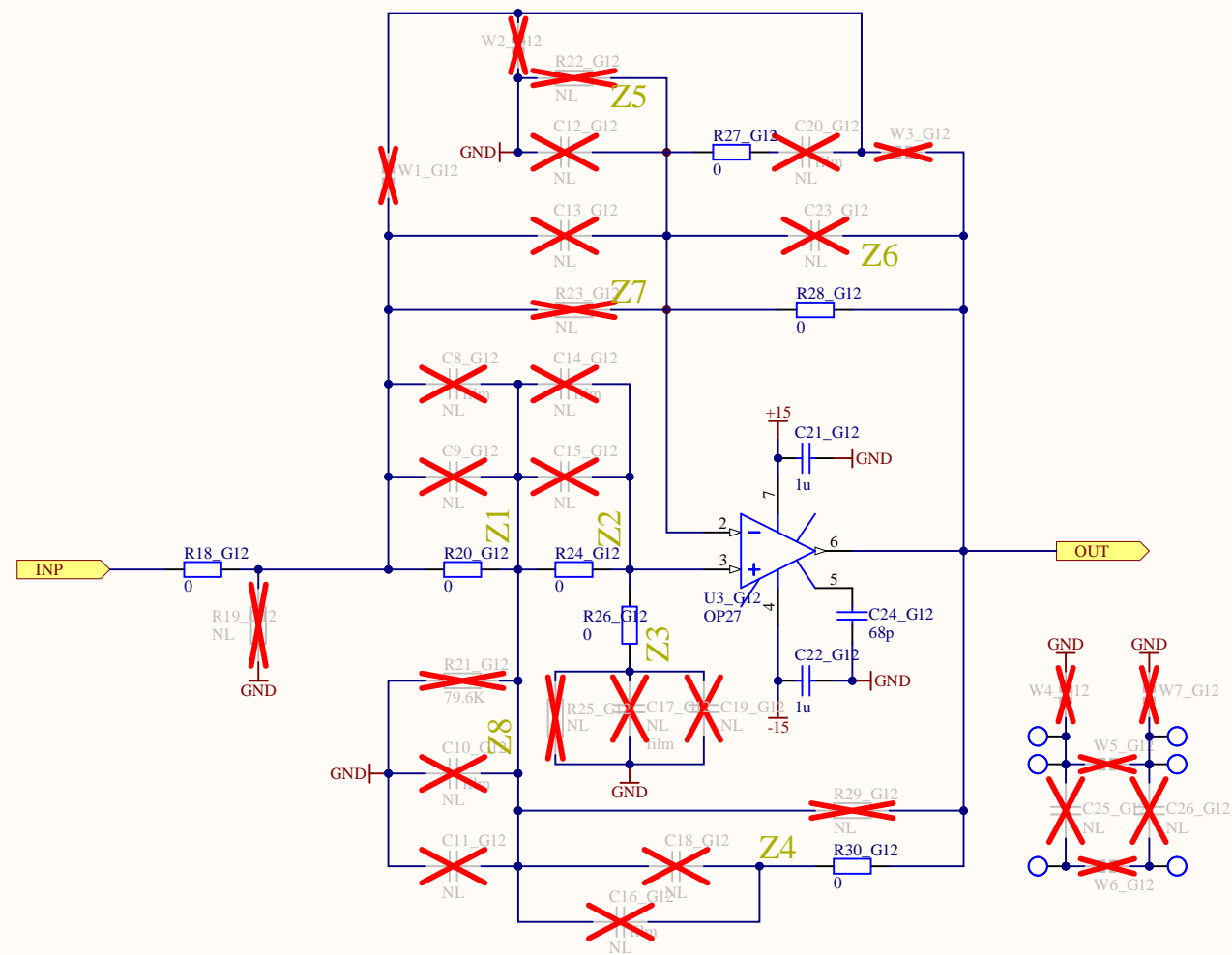
Low pass at 10Hz (4th order Butterworth):
stage 1: Z1 = Z2 = 4.7kΩ, Z3 = Z4 = 3.3uF, Z5 = 2.37kΩ,
Z6 = 348Ω, R18 = 348Ω & R19 = 2.37kΩ
stage 2: Z1 = Z2 = 4.3kΩ, Z3 = Z4 = 3.3uF, Z5 = 2.15kΩ,
Z6 = 2.37kΩ, R18 = 2.37kΩ & R19 = 2.15kΩ

High pass at 1kHz (4th order Butterworth):
stage 1: Z1 = Z2 = 33nF, Z3 = Z4 = 4.7kΩ, Z5 = 2.37kΩ,
Z6 = 274Ω, R18 = 274Ω & R19 = 2.37kΩ
stage 2: Z1 = Z2 = 33nF, Z3 = Z4 = 5.6kΩ, Z5 = 2.8kΩ,
Z6 = 4.7kΩ, R18 = 6.65kΩ & R19 = 2.8kΩ

Variant: AC-coupling

Title Filter Board Generic Filter		
Size B	Number D2500203	Revision 1
Date: 8/15/2025	Sheet 3 of 3	
File: C:\Users\...\GenericFilterStage.SchDoc	Drawn By: Daniel Sigg	

generic filter stage



C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

AC coupling at 0.1Hz: Z1 = 20uF & Z8 = 78.7kΩ

DC coupling at 0.1Hz: Z1 = 78.7kΩ & Z8 = 20uF

Low pass at 10Hz (4th order Butterworth):

stage 1: Z1 = Z2 = 4.7kΩ, Z3 = Z4 = 3.3uF, Z5 = 2.37kΩ,
Z6 = 348Ω, R18 = 348Ω & R19 = 2.37kΩ

stage 2: Z1 = Z2 = 4.3kΩ, Z3 = Z4 = 3.3uF, Z5 = 2.15kΩ,
Z6 = 2.37kΩ, R18 = 2.37kΩ & R19 = 2.15kΩ

High pass at 1kHz (4th order Butterworth):

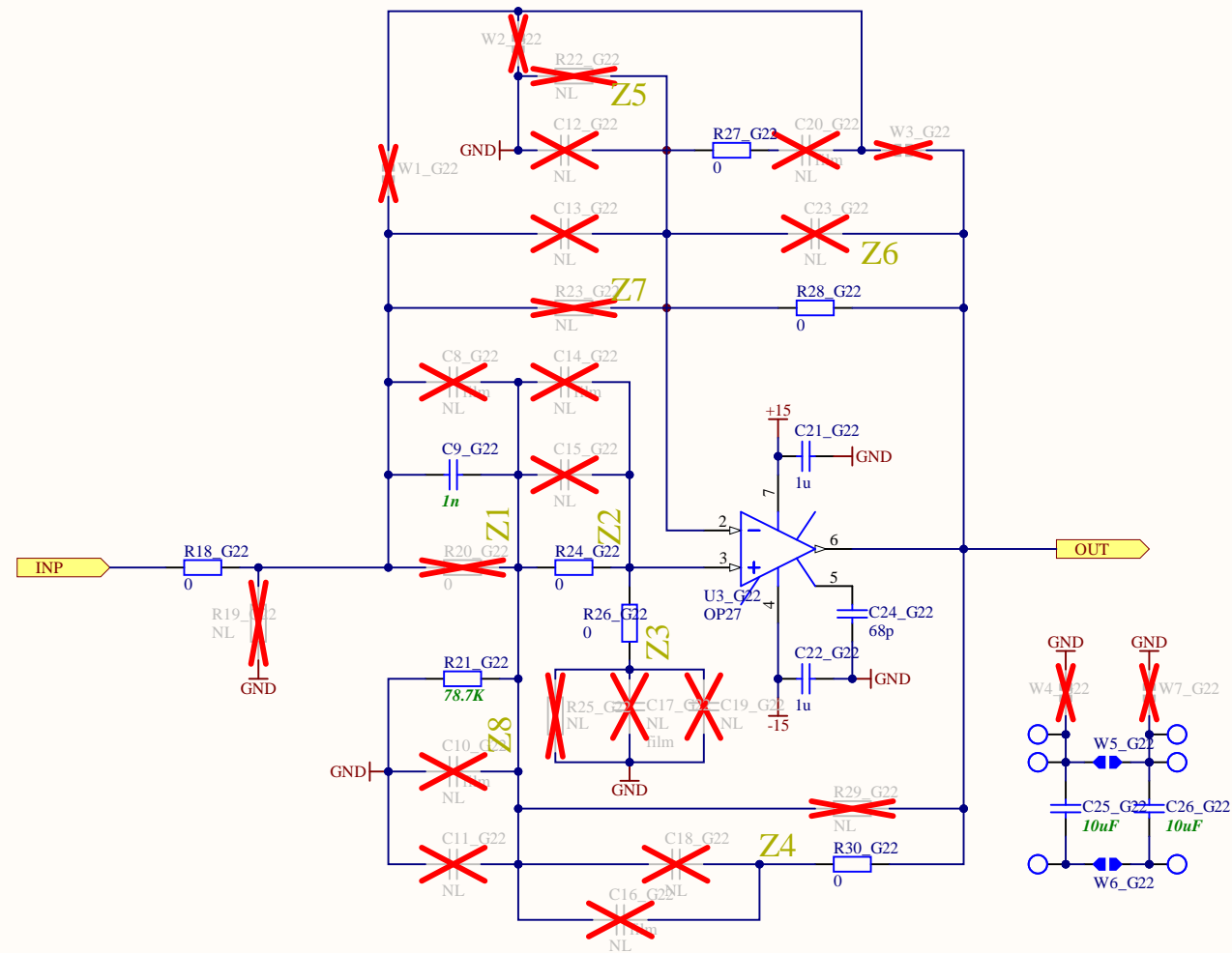
stage 1: Z1 = Z2 = 33nF, Z3 = Z4 = 4.7kΩ, Z5 = 2.37kΩ,
Z6 = 274Ω, R18 = 274Ω & R19 = 2.37kΩ

stage 2: Z1 = Z2 = 33nF, Z3 = Z4 = 5.6kΩ, Z5 = 2.8kΩ,
Z6 = 4.7kΩ, R18 = 6.65kΩ & R19 = 2.8kΩ

Variant: AC-coupling

Title Filter Board Generic Filter		
Size B	Number D2500203	Revision 1
Date: 8/15/2025	Sheet 3 of 3	
File: C:\Users\...\GenericFilterStage.SchDoc	Drawn By: Daniel Sigg	

generic filter stage



C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

AC coupling at 0.1Hz: Z1 = 20uF & Z8 = 78.7kΩ

DC coupling at 0.1Hz: Z1 = 78.7kΩ & Z8 = 20uF

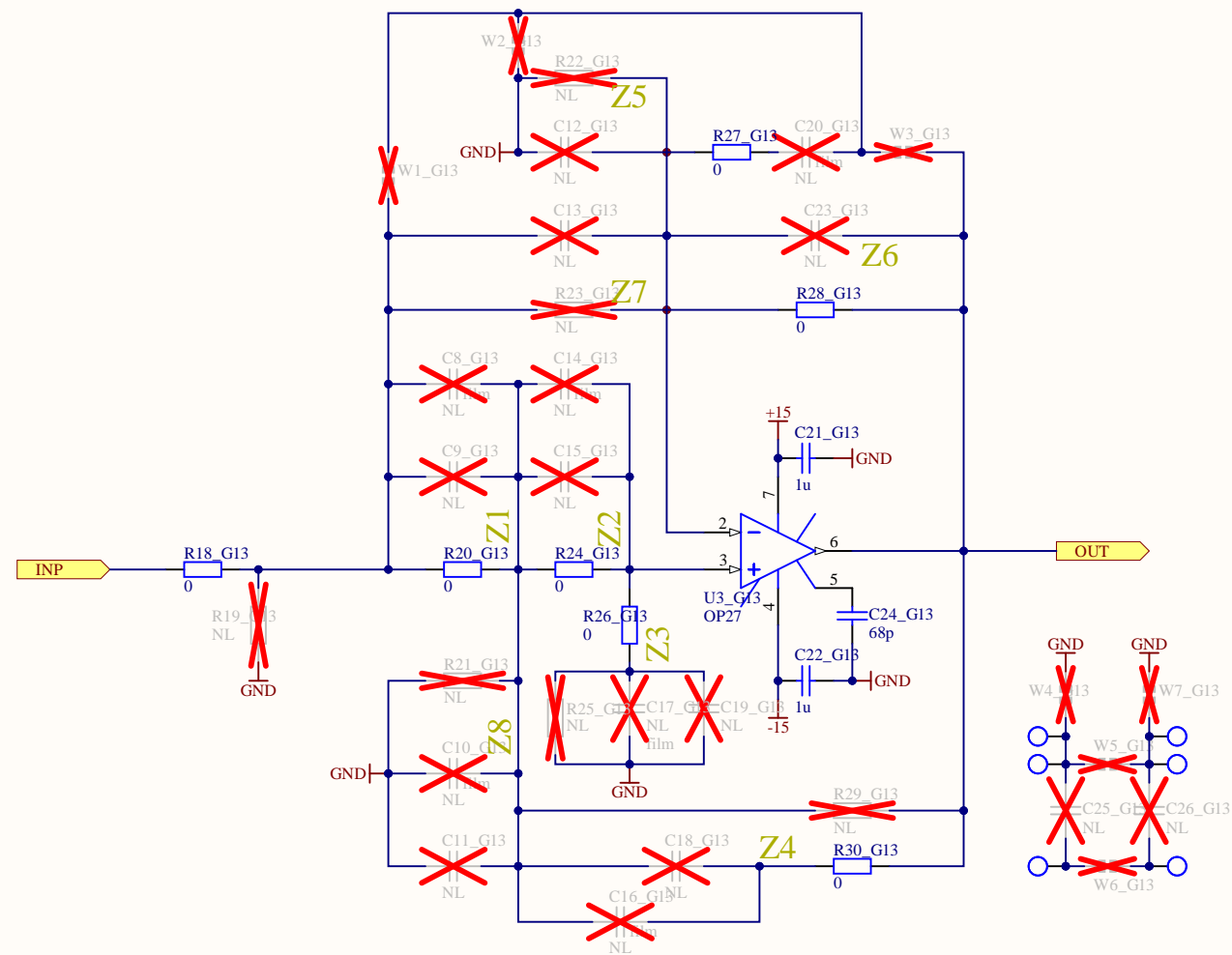
Low pass at 10Hz (4th order Butterworth):
stage 1: Z1 = Z2 = 4.7kΩ, Z3 = Z4 = 3.3uF, Z5 = 2.37kΩ,
Z6 = 348Ω, R18 = 348Ω & R19 = 2.37kΩ
stage 2: Z1 = Z2 = 4.3kΩ, Z3 = Z4 = 3.3uF, Z5 = 2.15kΩ,
Z6 = 2.37kΩ, R18 = 2.37kΩ & R19 = 2.15kΩ

High pass at 1kHz (4th order Butterworth):
stage 1: Z1 = Z2 = 33nF, Z3 = Z4 = 4.7kΩ, Z5 = 2.37kΩ,
Z6 = 274Ω, R18 = 274Ω & R19 = 2.37kΩ
stage 2: Z1 = Z2 = 33nF, Z3 = Z4 = 5.6kΩ, Z5 = 2.8kΩ,
Z6 = 4.7kΩ, R18 = 6.65kΩ & R19 = 2.8kΩ

Variant: AC-coupling

Title Filter Board Generic Filter		
Size B	Number D2500203	Revision 1
Date: 8/15/2025	Sheet 3 of 3	
File: C:\Users\...\GenericFilterStage.SchDoc	Drawn By: Daniel Sigg	

generic filter stage



AC coupling at 0.1Hz: $Z1 = 20\mu\text{F}$ & $Z8 = 78.7\text{k}\Omega$

DC coupling at 0.1Hz: $Z1 = 78.7\text{k}\Omega$ & $Z8 = 20\mu\text{F}$

Low pass at 10Hz (4th order Butterworth):
stage 1: $Z1 = Z2 = 4.7\text{k}\Omega$, $Z3 = Z4 = 3.3\mu\text{F}$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 348\Omega$, $R18 = 348\Omega$ & $R19 = 2.37\text{k}\Omega$
stage 2: $Z1 = Z2 = 4.3\text{k}\Omega$, $Z3 = Z4 = 3.3\mu\text{F}$, $Z5 = 2.15\text{k}\Omega$,
 $Z6 = 2.37\text{k}\Omega$, $R18 = 2.37\text{k}\Omega$ & $R19 = 2.15\text{k}\Omega$

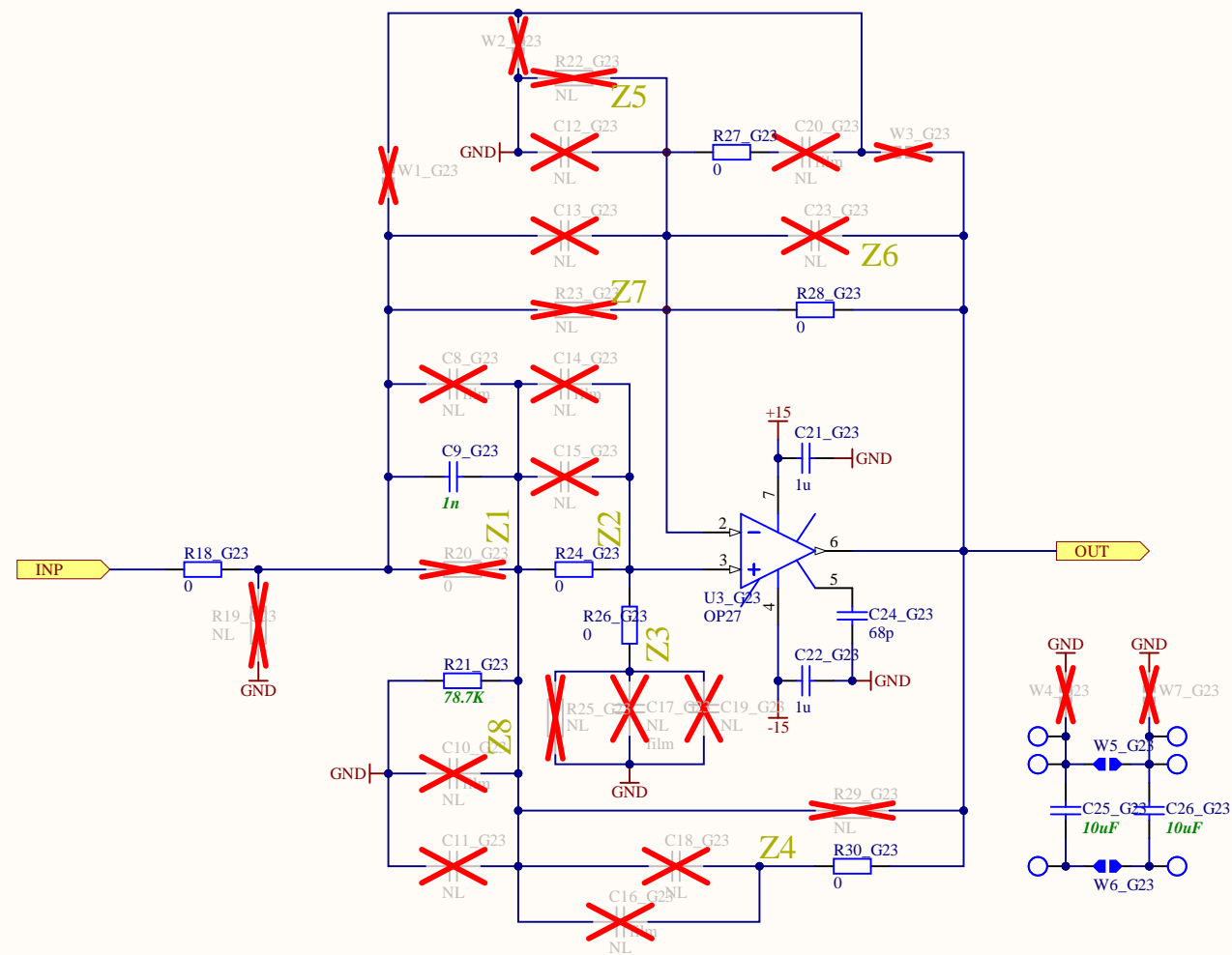
High pass at 1kHz (4th order Butterworth):
stage 1: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 4.7\text{k}\Omega$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 274\Omega$, $R18 = 274\Omega$ & $R19 = 2.37\text{k}\Omega$
stage 2: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 5.6\text{k}\Omega$, $Z5 = 2.8\text{k}\Omega$,
 $Z6 = 4.7\text{k}\Omega$, $R18 = 6.65\text{k}\Omega$ & $R19 = 2.8\text{k}\Omega$

C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

Variant: AC-coupling

Title Filter Board Generic Filter		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 3 of 3
File:	C:\Users\...\GenericFilterStage.SchDoc	Drawn By: Daniel Sigg

generic filter stage



C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

AC coupling at 0.1Hz: $Z1 = 20\mu\text{F}$ & $Z8 = 78.7\text{k}\Omega$

DC coupling at 0.1Hz: $Z1 = 78.7\text{k}\Omega$ & $Z8 = 20\mu\text{F}$

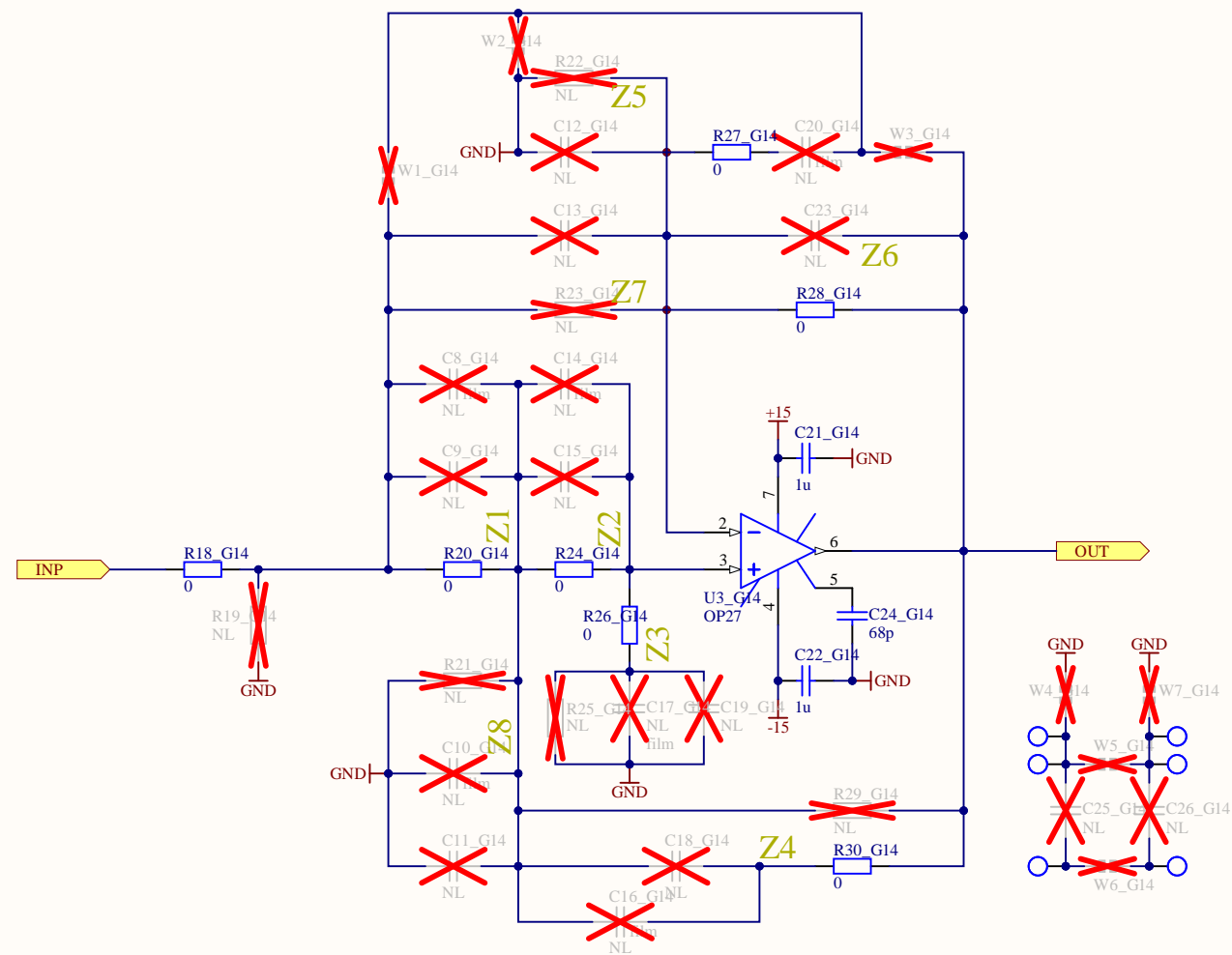
Low pass at 10Hz (4th order Butterworth):
stage 1: $Z1 = Z2 = 4.7\text{k}\Omega$, $Z3 = Z4 = 3.3\mu\text{F}$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 348\Omega$, $R18 = 348\Omega$ & $R19 = 2.37\text{k}\Omega$
stage 2: $Z1 = Z2 = 4.3\text{k}\Omega$, $Z3 = Z4 = 3.3\mu\text{F}$, $Z5 = 2.15\text{k}\Omega$,
 $Z6 = 2.37\text{k}\Omega$, $R18 = 2.37\text{k}\Omega$ & $R19 = 2.15\text{k}\Omega$

High pass at 1kHz (4th order Butterworth):
stage 1: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 4.7\text{k}\Omega$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 274\Omega$, $R18 = 274\Omega$ & $R19 = 2.37\text{k}\Omega$
stage 2: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 5.6\text{k}\Omega$, $Z5 = 2.8\text{k}\Omega$,
 $Z6 = 4.7\text{k}\Omega$, $R18 = 6.65\text{k}\Omega$ & $R19 = 2.8\text{k}\Omega$

Variant: AC-coupling

Title Filter Board Generic Filter		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 3 of 3
File:	C:\Users\...\GenericFilterStage.SchDoc	Drawn By: Daniel Sigg

generic filter stage



AC coupling at 0.1Hz: Z1 = 20uF & Z8 = 78.7kΩ

DC coupling at 0.1Hz: Z1 = 78.7kΩ & Z8 = 20uF

Low pass at 10Hz (4th order Butterworth):
stage 1: Z1 = Z2 = 4.7kΩ, Z3 = Z4 = 3.3uF, Z5 = 2.37kΩ,
Z6 = 348Ω, R18 = 348Ω & R19 = 2.37kΩ
stage 2: Z1 = Z2 = 4.3kΩ, Z3 = Z4 = 3.3uF, Z5 = 2.15kΩ,
Z6 = 2.37kΩ, R18 = 2.37kΩ & R19 = 2.15kΩ

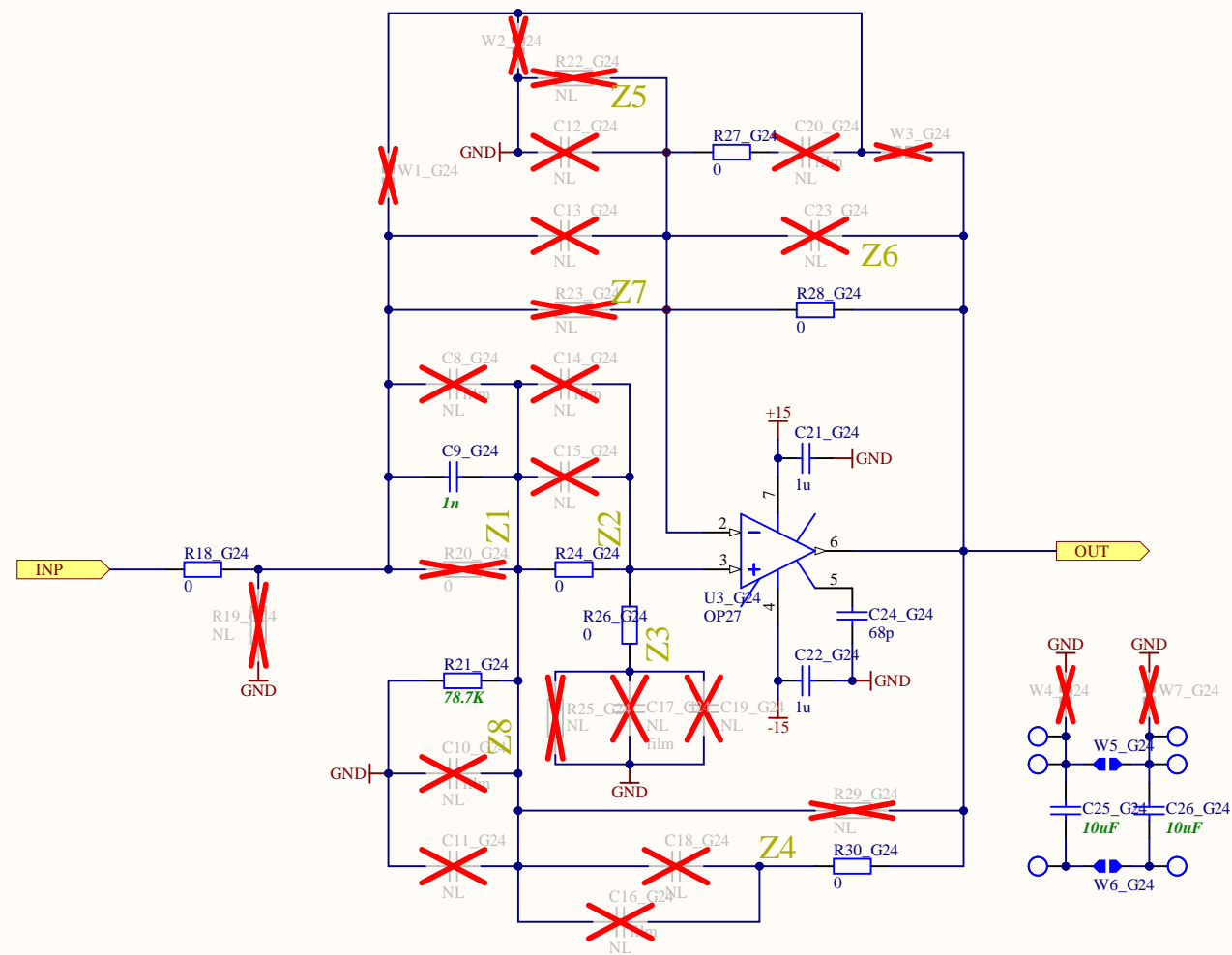
High pass at 1kHz (4th order Butterworth):
stage 1: Z1 = Z2 = 33nF, Z3 = Z4 = 4.7kΩ, Z5 = 2.37kΩ,
Z6 = 274Ω, R18 = 274Ω & R19 = 2.37kΩ
stage 2: Z1 = Z2 = 33nF, Z3 = Z4 = 5.6kΩ, Z5 = 2.8kΩ,
Z6 = 4.7kΩ, R18 = 6.65kΩ & R19 = 2.8kΩ

C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

Variant: AC-coupling

Title Filter Board Generic Filter		
Size B	Number D2500203	Revision 1
Date: 8/15/2025	Sheet 3 of 3	
File: C:\Users\...\GenericFilterStage.SchDoc	Drawn By: Daniel Sigg	

generic filter stage



C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

AC coupling at 0.1Hz: Z1 = 20uF & Z8 = 78.7kΩ

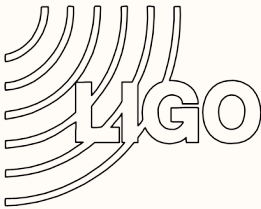
DC coupling at 0.1Hz: Z1 = 78.7kΩ & Z8 = 20uF

Low pass at 10Hz (4th order Butterworth):
stage 1: Z1 = Z2 = 4.7kΩ, Z3 = Z4 = 3.3uF, Z5 = 2.37kΩ,
Z6 = 348Ω, R18 = 348Ω & R19 = 2.37kΩ
stage 2: Z1 = Z2 = 4.3kΩ, Z3 = Z4 = 3.3uF, Z5 = 2.15kΩ,
Z6 = 2.37kΩ, R18 = 2.37kΩ & R19 = 2.15kΩ

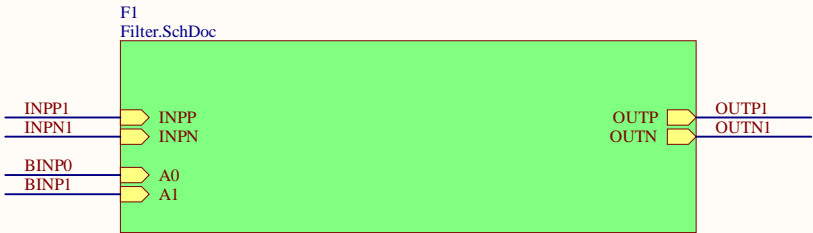
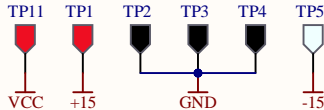
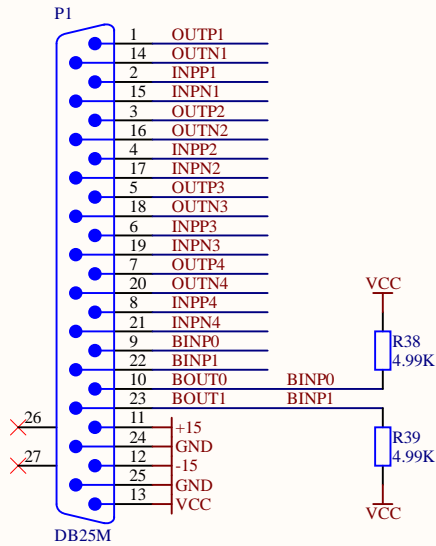
High pass at 1kHz (4th order Butterworth):
stage 1: Z1 = Z2 = 33nF, Z3 = Z4 = 4.7kΩ, Z5 = 2.37kΩ,
Z6 = 274Ω, R18 = 274Ω & R19 = 2.37kΩ
stage 2: Z1 = Z2 = 33nF, Z3 = Z4 = 5.6kΩ, Z5 = 2.8kΩ,
Z6 = 4.7kΩ, R18 = 6.65kΩ & R19 = 2.8kΩ

Variant: AC-coupling

Title Filter Board Generic Filter		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 3 of 3
File:	C:\Users\...\GenericFilterStage.SchDoc	Drawn By: Daniel Sigg



To/From Filter Interface



Variant: DC-coupling

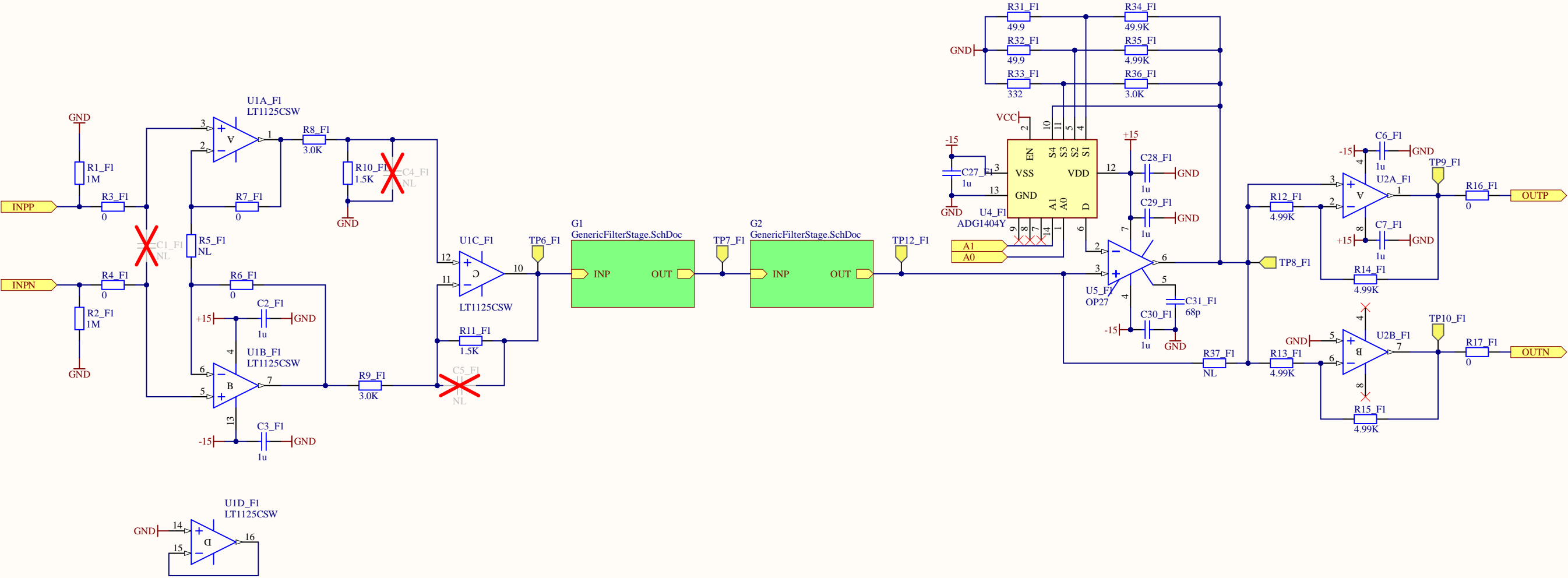
Title Filter Board Template: Top		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 1 of 3
File:	C:\Users\...\FilterBoardTemplate1.SchDoc Drawn By: Daniel Sigg	

Overall Gain = 0.5 from INPP-INPN to TP6

Nominal Gain of 1 through Filters

Selectable Gain of 1, 10, 100, and 1000

Overall Gain = 2 from TP8 to OUTP-OUTN



Variant: DC-coupling

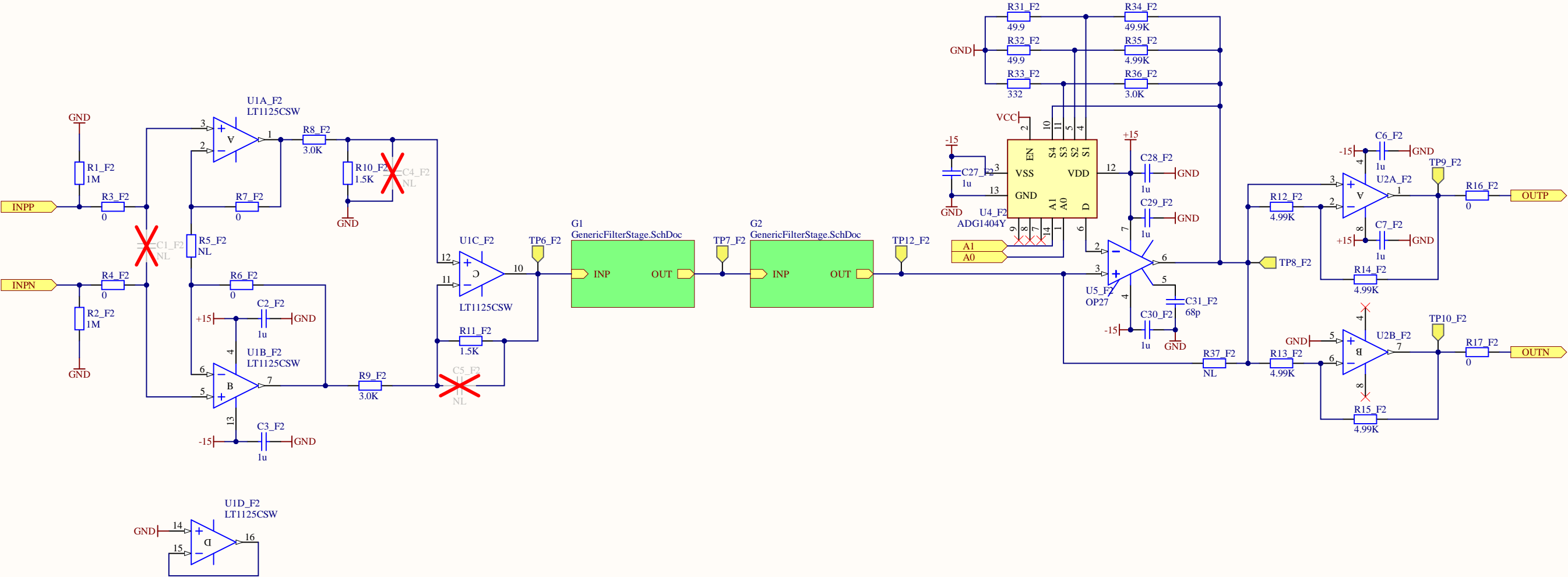
Title Filter Channel		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 2 of 3
File:	C:\Users\...\Filter.SchDoc	Drawn By: Daniel Sigg

Overall Gain = 0.5 from INPP-INPN to TP6

Nominal Gain of 1 through Filters

Selectable Gain of 1, 10, 100, and 1000

Overall Gain = 2 from TP8 to OUTP-OUTN



Variant: DC-coupling

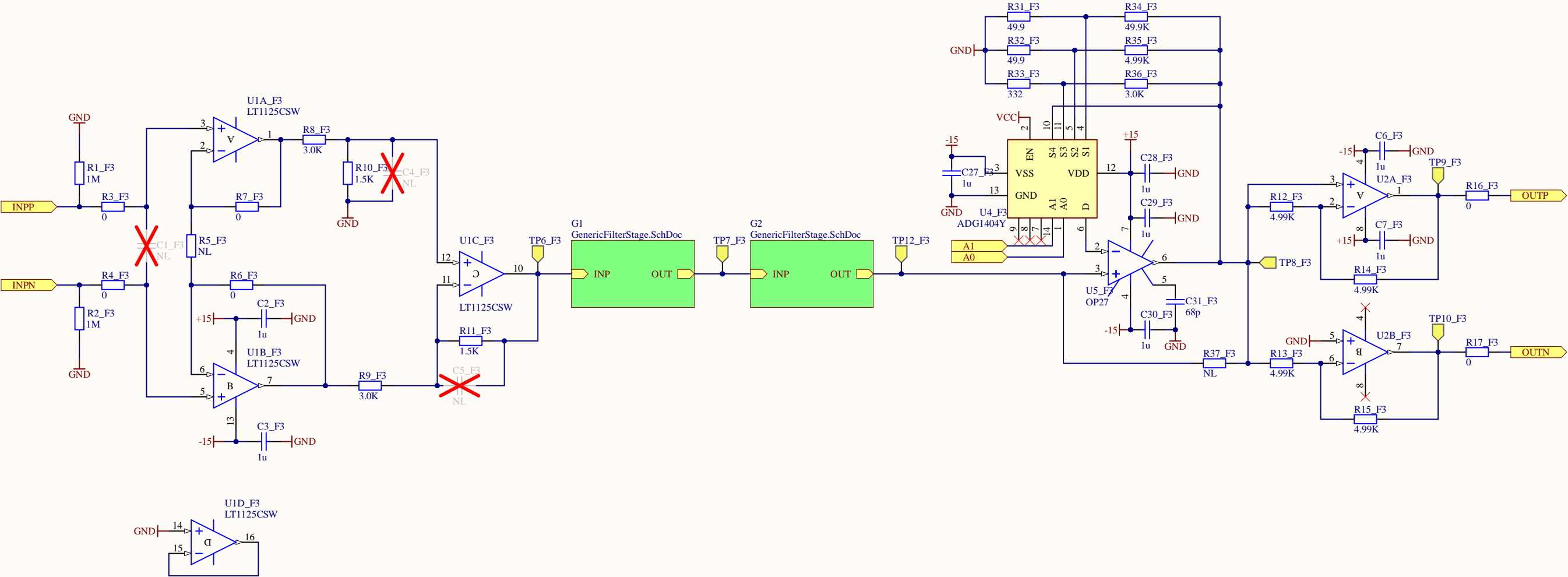
Title Filter Channel		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 2 of 3
File:	C:\Users\...\Filter.SchDoc	Drawn By: Daniel Sigg

Overall Gain = 0.5 from INPP-INPN to TP6

Nominal Gain of 1 through Filters

Selectable Gain of 1, 10, 100, and 1000

Overall Gain = 2 from TP8 to OUTP-OUTN



Variant: DC-coupling

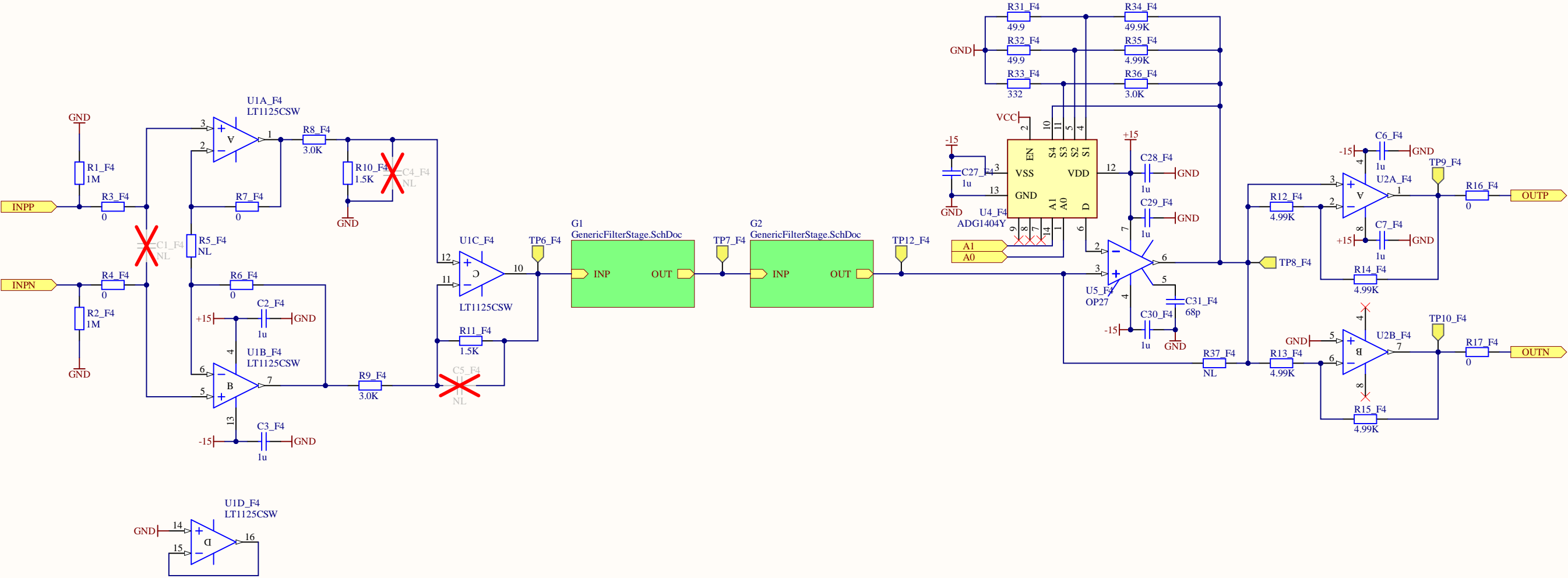
Title Filter Channel		
Size B	Number D2500203	Revision 1
Date: 8/15/2025	Sheet 2 of 3	
File: C:\Users\...\Filter.SchDoc	Drawn By: Daniel Sigg	

Overall Gain = 0.5 from INPP-INPN to TP6

Nominal Gain of 1 through Filters

Selectable Gain of 1, 10, 100, and 1000

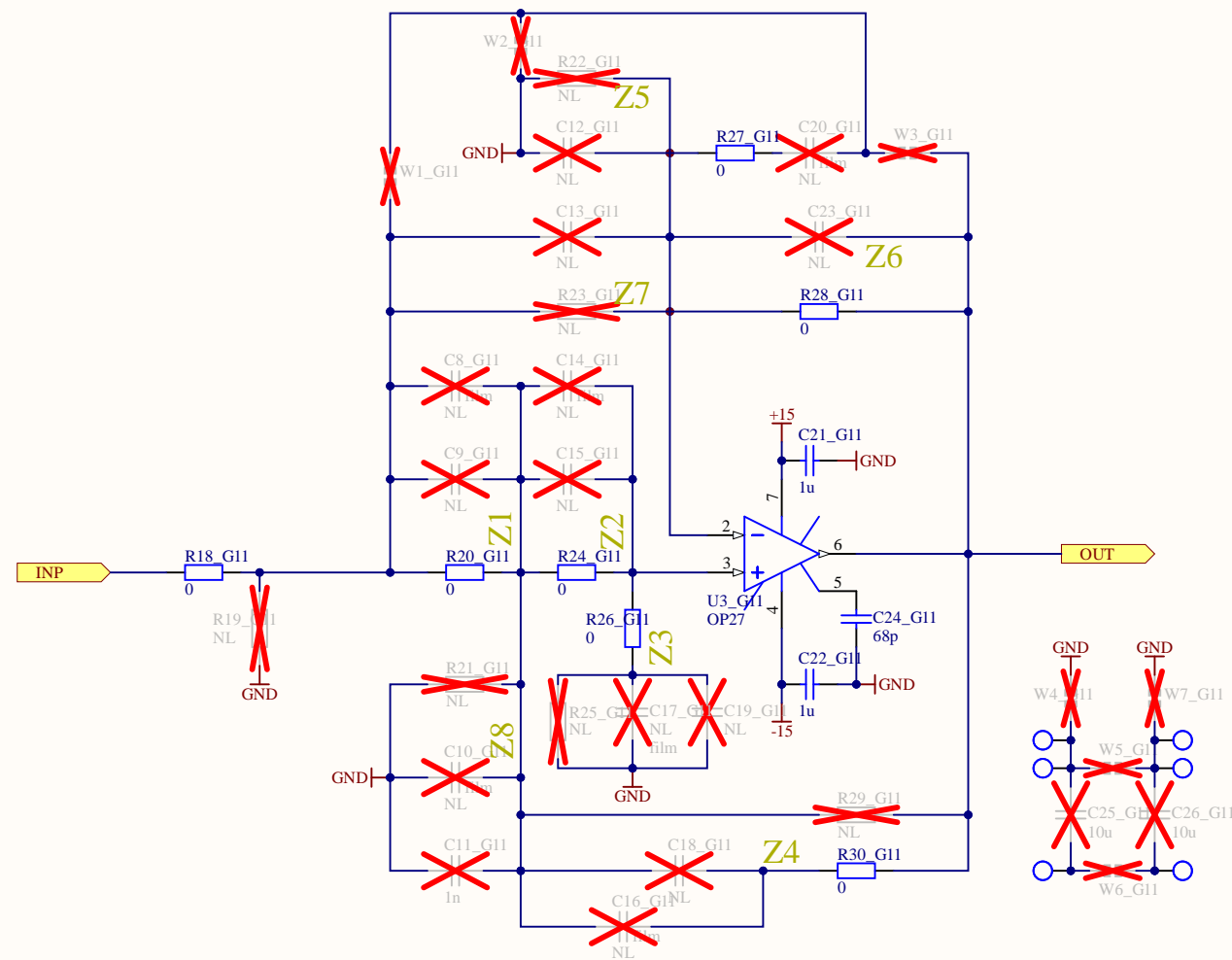
Overall Gain = 2 from TP8 to OUTP-OUTN



Variant: DC-coupling

Title Filter Channel		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 2 of 3
File:	C:\Users\...\Filter.SchDoc	Drawn By: Daniel Sigg

generic filter stage



C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

AC coupling at 0.1Hz: Z1 = 20uF & Z8 = 78.7kΩ

DC coupling at 0.1Hz: Z1 = 78.7kΩ & Z8 = 20uF

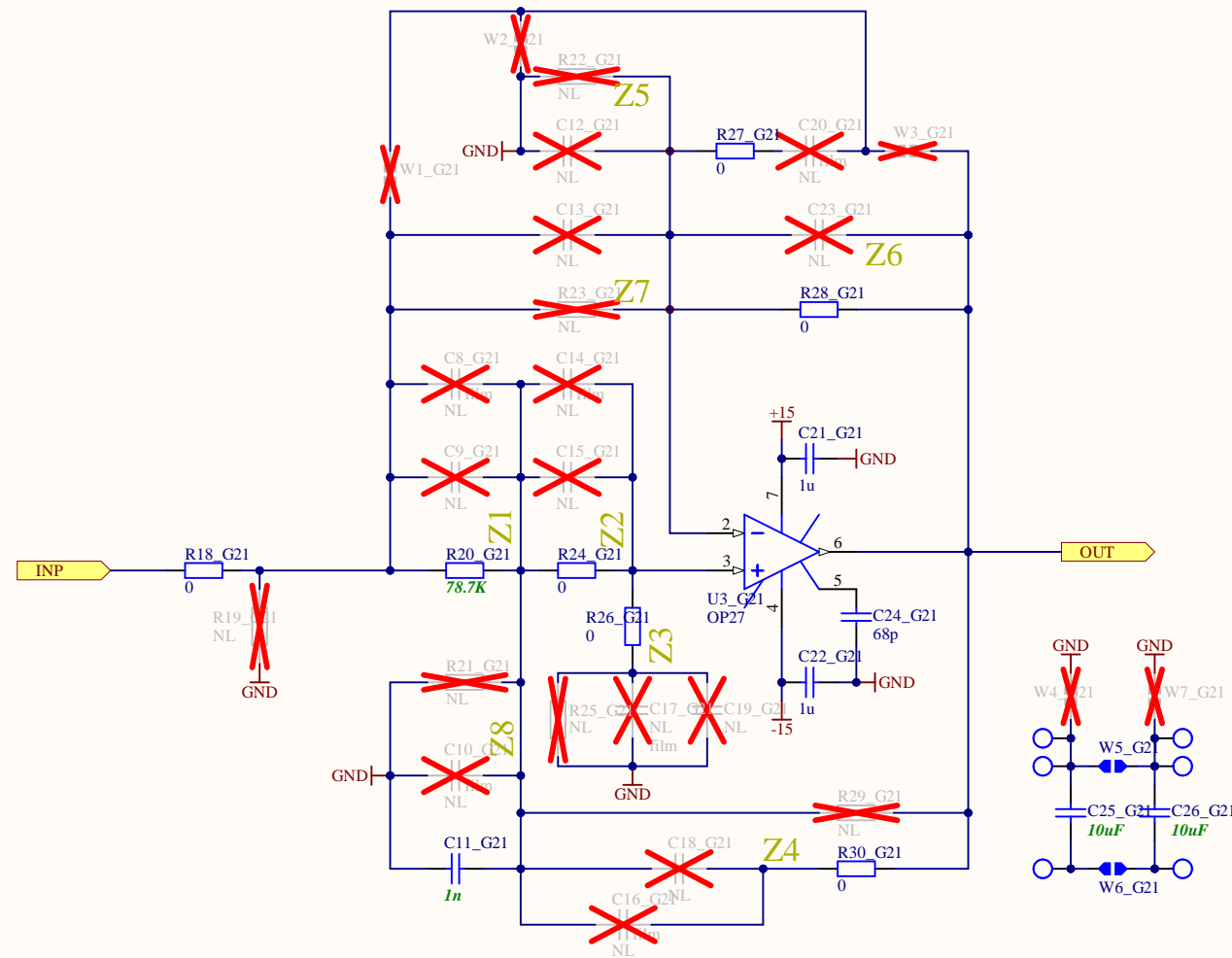
Low pass at 10Hz (4th order Butterworth):
stage 1: Z1 = Z2 = 4.7kΩ, Z3 = Z4 = 3.3uF, Z5 = 2.37kΩ,
Z6 = 348Ω, R18 = 348Ω & R19 = 2.37kΩ
stage 2: Z1 = Z2 = 4.3kΩ, Z3 = Z4 = 3.3uF, Z5 = 2.15kΩ,
Z6 = 2.37kΩ, R18 = 2.37kΩ & R19 = 2.15kΩ

High pass at 1kHz (4th order Butterworth):
stage 1: Z1 = Z2 = 33nF, Z3 = Z4 = 4.7kΩ, Z5 = 2.37kΩ,
Z6 = 274Ω, R18 = 274Ω & R19 = 2.37kΩ
stage 2: Z1 = Z2 = 33nF, Z3 = Z4 = 5.6kΩ, Z5 = 2.8kΩ,
Z6 = 4.7kΩ, R18 = 6.65kΩ & R19 = 2.8kΩ

Variant: DC-coupling

Title Filter Board Generic Filter		
Size B	Number D2500203	Revision 1
Date: 8/15/2025	Sheet 3 of 3	
File: C:\Users\...\GenericFilterStage.SchDoc	Drawn By: Daniel Sigg	

generic filter stage



C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

AC coupling at 0.1Hz: Z1 = 20uF & Z8 = 78.7kΩ

DC coupling at 0.1Hz: Z1 = 78.7kΩ & Z8 = 20uF

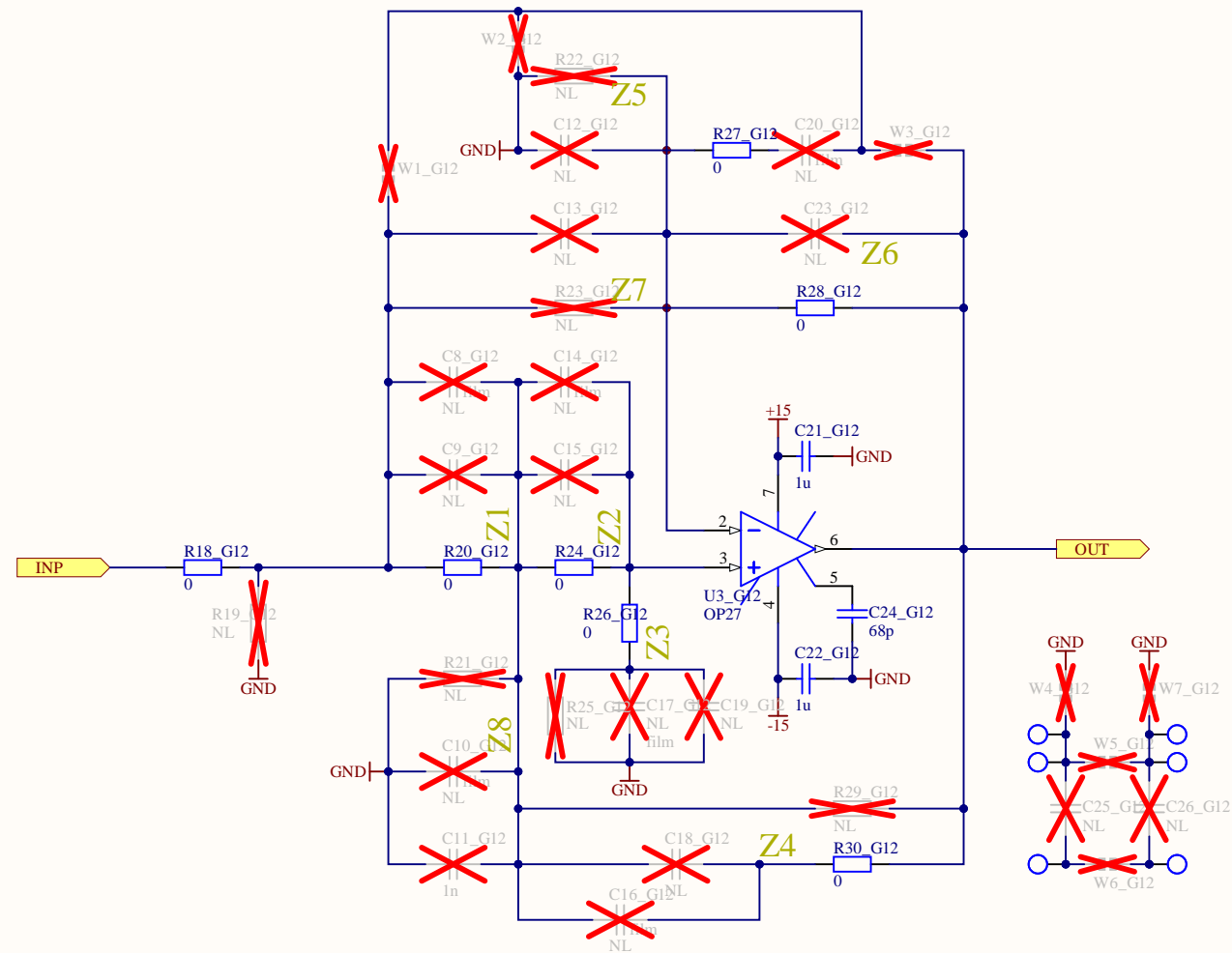
Low pass at 10Hz (4th order Butterworth):
stage 1: Z1 = Z2 = 4.7kΩ, Z3 = Z4 = 3.3uF, Z5 = 2.37kΩ,
Z6 = 348Ω, R18 = 348Ω & R19 = 2.37kΩ
stage 2: Z1 = Z2 = 4.3kΩ, Z3 = Z4 = 3.3uF, Z5 = 2.15kΩ,
Z6 = 2.37kΩ, R18 = 2.37kΩ & R19 = 2.15kΩ

High pass at 1kHz (4th order Butterworth):
stage 1: Z1 = Z2 = 33nF, Z3 = Z4 = 4.7kΩ, Z5 = 2.37kΩ,
Z6 = 274Ω, R18 = 274Ω & R19 = 2.37kΩ
stage 2: Z1 = Z2 = 33nF, Z3 = Z4 = 5.6kΩ, Z5 = 2.8kΩ,
Z6 = 4.7kΩ, R18 = 6.65kΩ & R19 = 2.8kΩ

Variant: DC-coupling

Title Filter Board Generic Filter		
Size B	Number D2500203	Revision 1
Date: 8/15/2025	Sheet 3 of 3	
File: C:\Users\...\GenericFilterStage.SchDoc	Drawn By: Daniel Sigg	

generic filter stage



C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

AC coupling at 0.1Hz: $Z1 = 20\mu\text{F}$ & $Z8 = 78.7\text{k}\Omega$

DC coupling at 0.1Hz: $Z1 = 78.7\text{k}\Omega$ & $Z8 = 20\mu\text{F}$

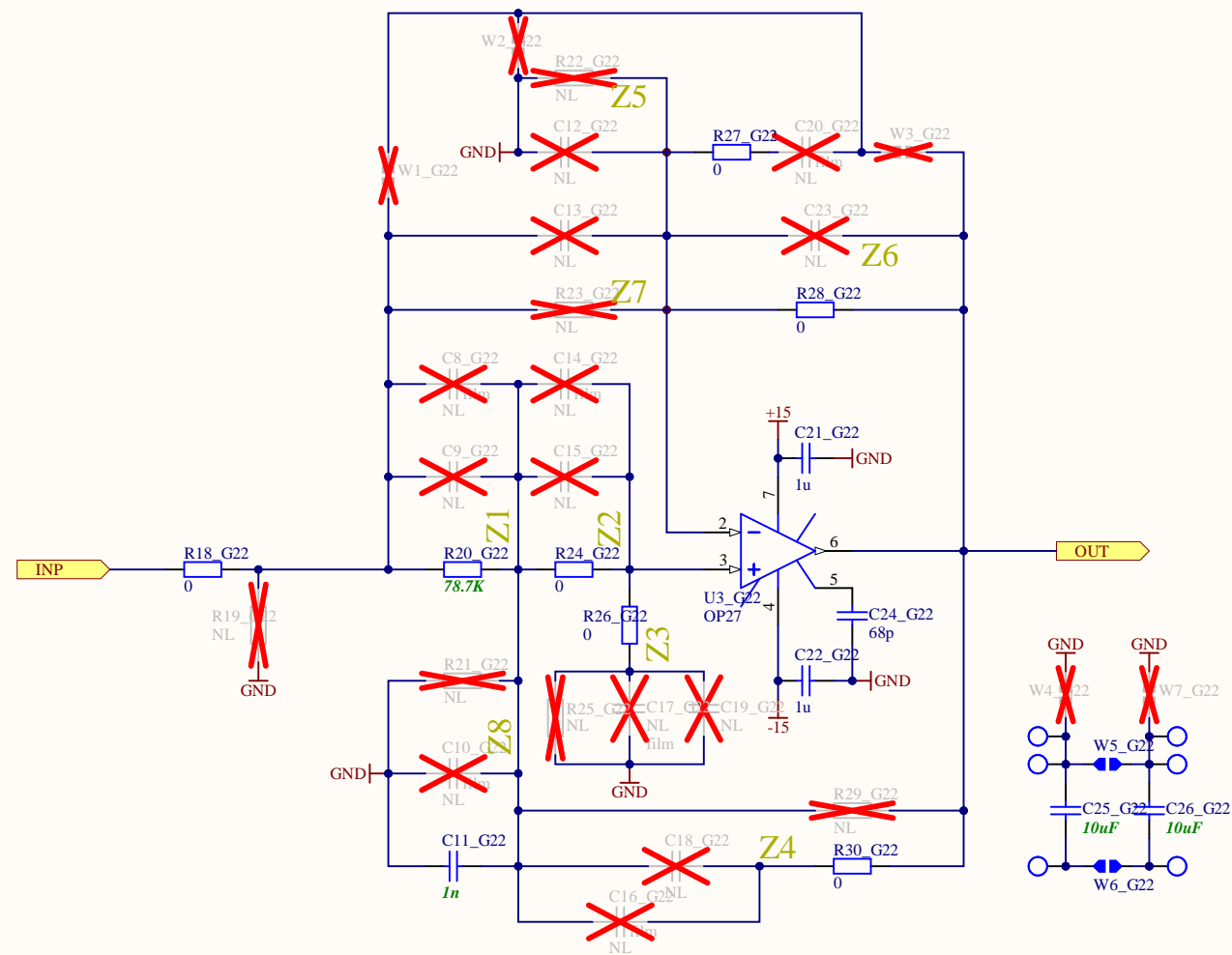
Low pass at 10Hz (4th order Butterworth):
stage 1: $Z1 = Z2 = 4.7\text{k}\Omega$, $Z3 = Z4 = 3.3\mu\text{F}$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 348\Omega$, $R18 = 348\Omega$ & $R19 = 2.37\text{k}\Omega$
stage 2: $Z1 = Z2 = 4.3\text{k}\Omega$, $Z3 = Z4 = 3.3\mu\text{F}$, $Z5 = 2.15\text{k}\Omega$,
 $Z6 = 2.37\text{k}\Omega$, $R18 = 2.37\text{k}\Omega$ & $R19 = 2.15\text{k}\Omega$

High pass at 1kHz (4th order Butterworth):
stage 1: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 4.7\text{k}\Omega$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 274\Omega$, $R18 = 274\Omega$ & $R19 = 2.37\text{k}\Omega$
stage 2: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 5.6\text{k}\Omega$, $Z5 = 2.8\text{k}\Omega$,
 $Z6 = 4.7\text{k}\Omega$, $R18 = 6.65\text{k}\Omega$ & $R19 = 2.8\text{k}\Omega$

Variant: DC-coupling

Title Filter Board Generic Filter		
Size B	Number D2500203	Revision 1
Date: 8/15/2025	Sheet 3 of 3	
File: C:\Users\...\GenericFilterStage.SchDoc	Drawn By: Daniel Sigg	

generic filter stage



C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

AC coupling at 0.1Hz: Z1 = 20uF & Z8 = 78.7kΩ

DC coupling at 0.1Hz: Z1 = 78.7kΩ & Z8 = 20uF

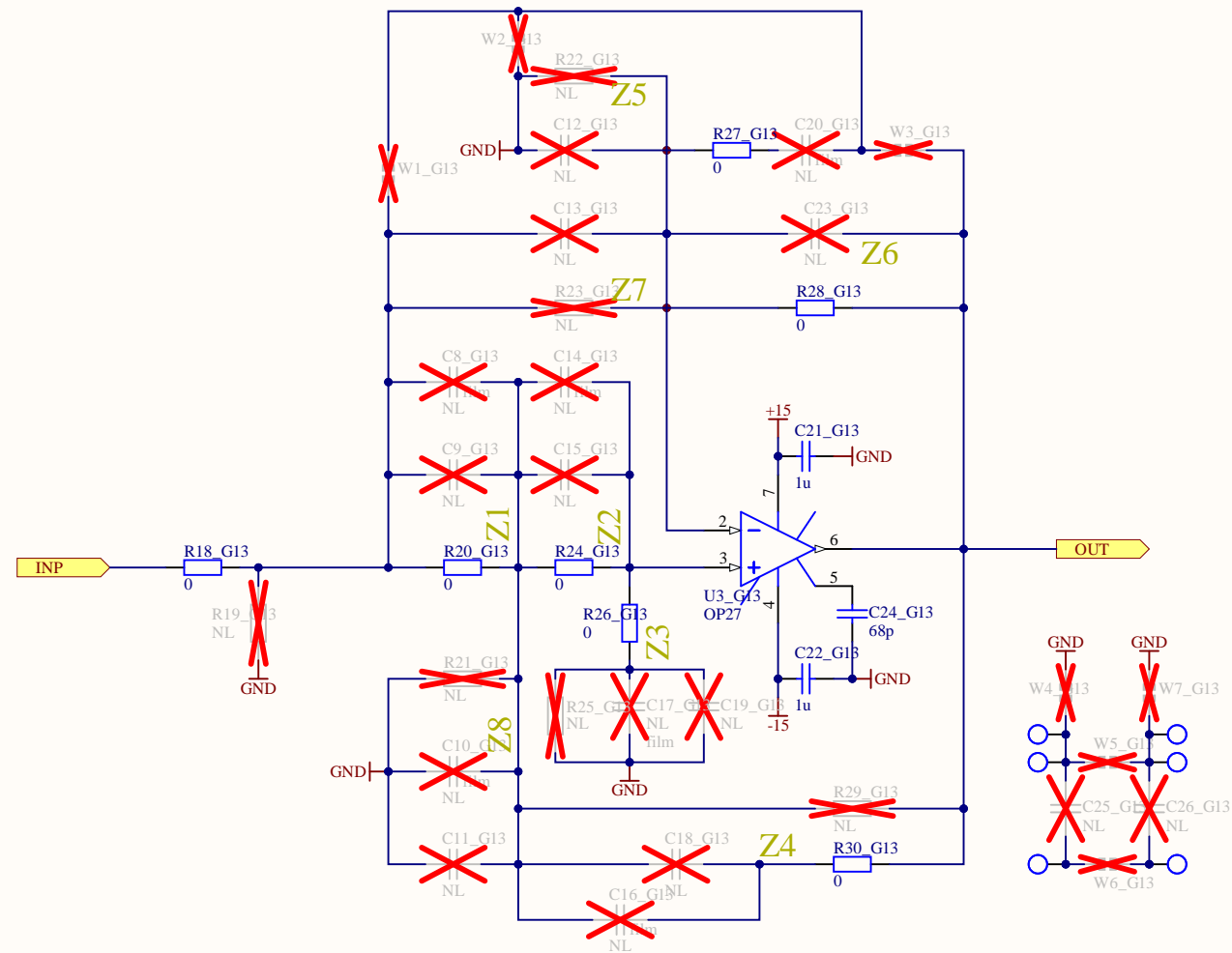
Low pass at 10Hz (4th order Butterworth):
stage 1: Z1 = Z2 = 4.7kΩ, Z3 = Z4 = 3.3uF, Z5 = 2.37kΩ,
Z6 = 348Ω, R18 = 348Ω & R19 = 2.37kΩ
stage 2: Z1 = Z2 = 4.3kΩ, Z3 = Z4 = 3.3uF, Z5 = 2.15kΩ,
Z6 = 2.37kΩ, R18 = 2.37kΩ & R19 = 2.15kΩ

High pass at 1kHz (4th order Butterworth):
stage 1: Z1 = Z2 = 33nF, Z3 = Z4 = 4.7kΩ, Z5 = 2.37kΩ,
Z6 = 274Ω, R18 = 274Ω & R19 = 2.37kΩ
stage 2: Z1 = Z2 = 33nF, Z3 = Z4 = 5.6kΩ, Z5 = 2.8kΩ,
Z6 = 4.7kΩ, R18 = 6.65kΩ & R19 = 2.8kΩ

Variant: DC-coupling

Title Filter Board Generic Filter		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 3 of 3
File:	C:\Users\...\GenericFilterStage.SchDoc	Drawn By: Daniel Sigg

generic filter stage



C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

AC coupling at 0.1Hz: $Z1 = 20\mu\text{F}$ & $Z8 = 78.7\text{k}\Omega$

DC coupling at 0.1Hz: $Z1 = 78.7\text{k}\Omega$ & $Z8 = 20\mu\text{F}$

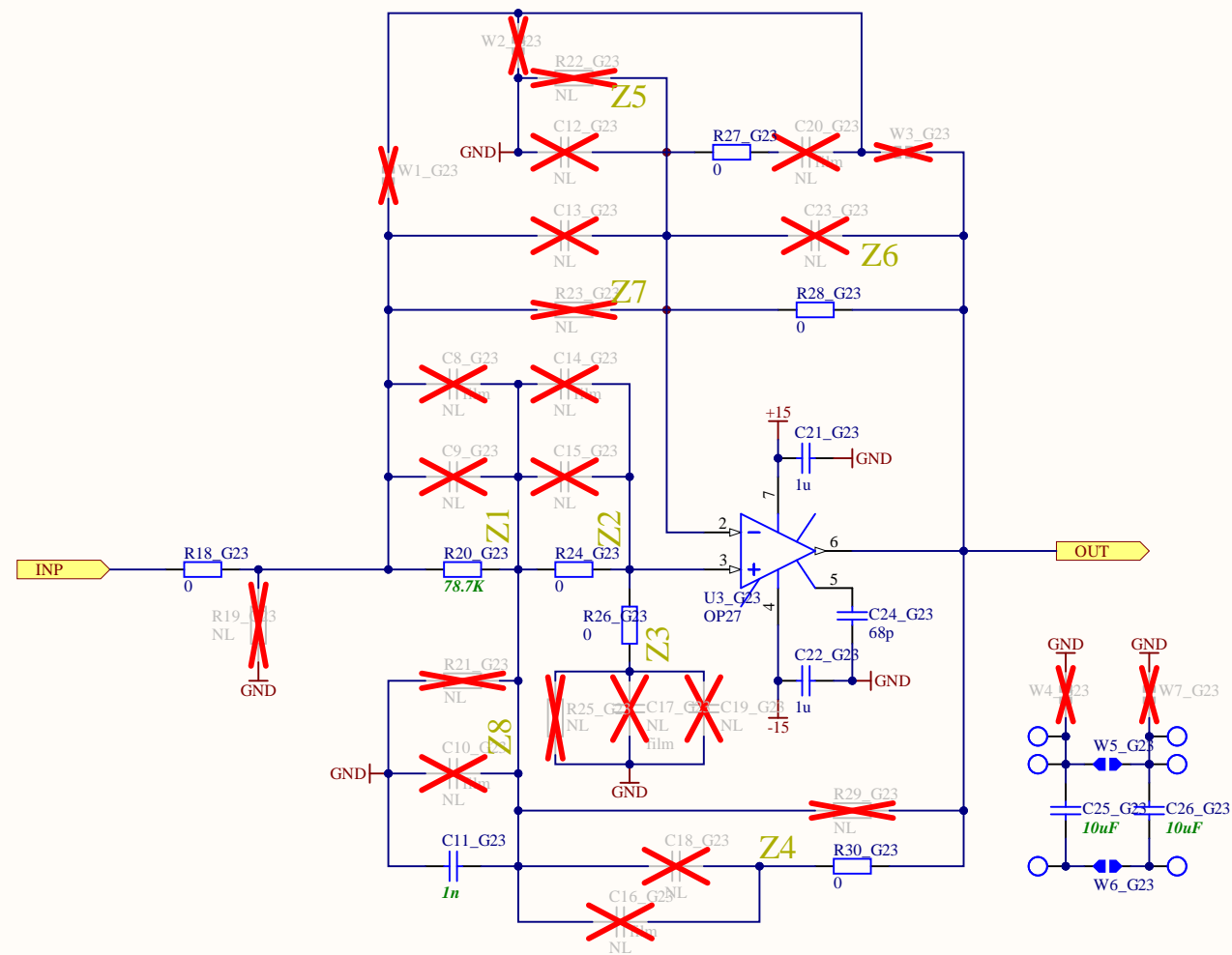
Low pass at 10Hz (4th order Butterworth):
stage 1: $Z1 = Z2 = 4.7\text{k}\Omega$, $Z3 = Z4 = 3.3\mu\text{F}$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 348\Omega$, $R18 = 348\Omega$ & $R19 = 2.37\text{k}\Omega$
stage 2: $Z1 = Z2 = 4.3\text{k}\Omega$, $Z3 = Z4 = 3.3\mu\text{F}$, $Z5 = 2.15\text{k}\Omega$,
 $Z6 = 2.37\text{k}\Omega$, $R18 = 2.37\text{k}\Omega$ & $R19 = 2.15\text{k}\Omega$

High pass at 1kHz (4th order Butterworth):
stage 1: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 4.7\text{k}\Omega$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 274\Omega$, $R18 = 274\Omega$ & $R19 = 2.37\text{k}\Omega$
stage 2: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 5.6\text{k}\Omega$, $Z5 = 2.8\text{k}\Omega$,
 $Z6 = 4.7\text{k}\Omega$, $R18 = 6.65\text{k}\Omega$ & $R19 = 2.8\text{k}\Omega$

Variant: DC-coupling

Title Filter Board Generic Filter		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 3 of 3
File:	C:\Users\...\GenericFilterStage.SchDoc	Drawn By: Daniel Sigg

generic filter stage



C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

AC coupling at 0.1Hz: $Z1 = 20\mu\text{F}$ & $Z8 = 78.7\text{k}\Omega$

DC coupling at 0.1Hz: $Z1 = 78.7\text{k}\Omega$ & $Z8 = 20\mu\text{F}$

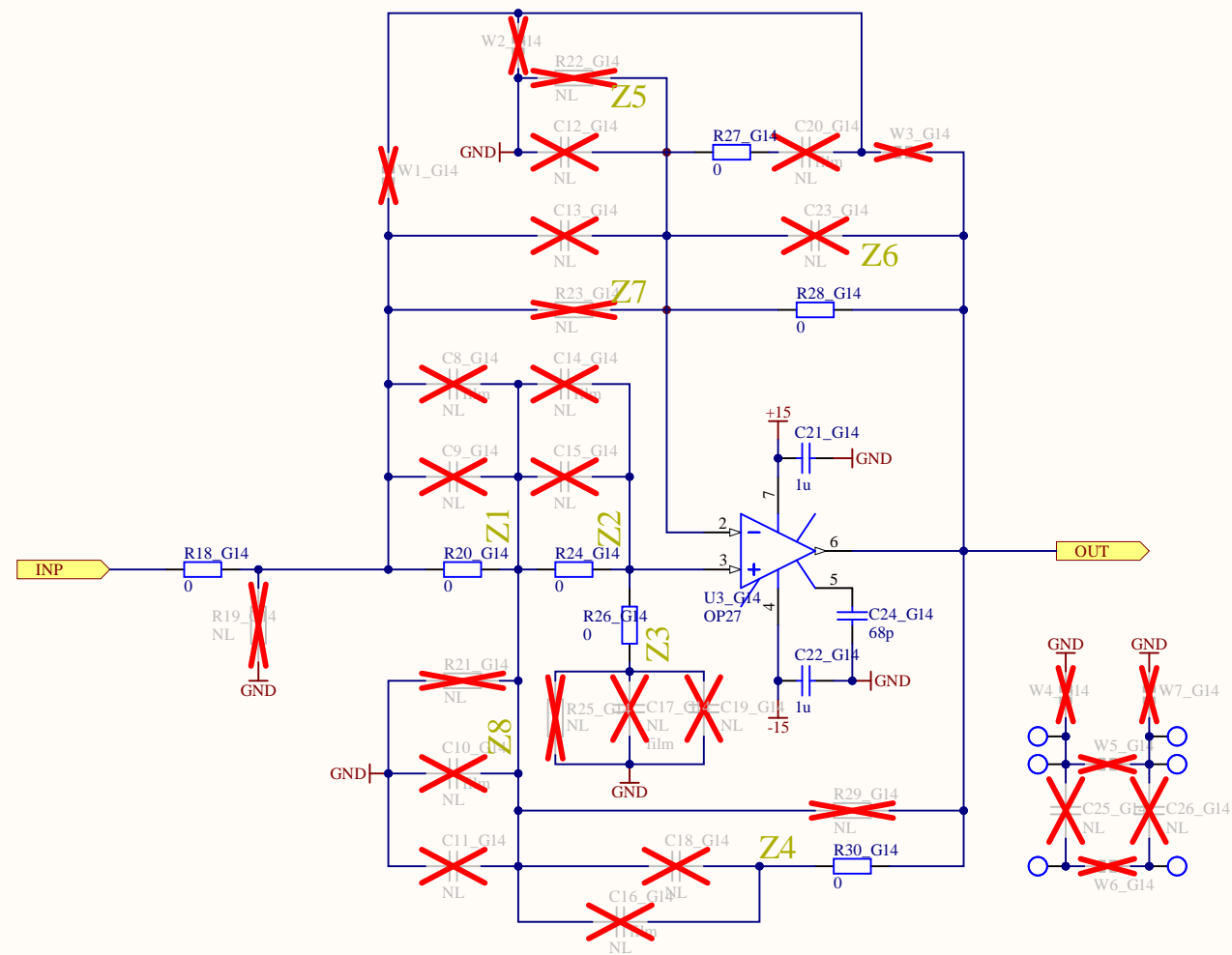
Low pass at 10Hz (4th order Butterworth):
stage 1: $Z1 = Z2 = 4.7\text{k}\Omega$, $Z3 = Z4 = 3.3\mu\text{F}$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 348\Omega$, $R18 = 348\Omega$ & $R19 = 2.37\text{k}\Omega$
stage 2: $Z1 = Z2 = 4.3\text{k}\Omega$, $Z3 = Z4 = 3.3\mu\text{F}$, $Z5 = 2.15\text{k}\Omega$,
 $Z6 = 2.37\text{k}\Omega$, $R18 = 2.37\text{k}\Omega$ & $R19 = 2.15\text{k}\Omega$

High pass at 1kHz (4th order Butterworth):
stage 1: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 4.7\text{k}\Omega$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 274\Omega$, $R18 = 274\Omega$ & $R19 = 2.37\text{k}\Omega$
stage 2: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 5.6\text{k}\Omega$, $Z5 = 2.8\text{k}\Omega$,
 $Z6 = 4.7\text{k}\Omega$, $R18 = 6.65\text{k}\Omega$ & $R19 = 2.8\text{k}\Omega$

Variant: DC-coupling

Title Filter Board Generic Filter		
Size B	Number D2500203	Revision 1
Date: 8/15/2025	Sheet 3 of 3	
File: C:\Users\...\GenericFilterStage.SchDoc	Drawn By: Daniel Sigg	

generic filter stage



AC coupling at 0.1Hz: $Z1 = 20\mu\text{F}$ & $Z8 = 78.7\text{k}\Omega$

DC coupling at 0.1Hz: $Z1 = 78.7\text{k}\Omega$ & $Z8 = 20\mu\text{F}$

Low pass at 10Hz (4th order Butterworth):
stage 1: $Z1 = Z2 = 4.7\text{k}\Omega$, $Z3 = Z4 = 3.3\mu\text{F}$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 348\Omega$, $R18 = 348\Omega$ & $R19 = 2.37\text{k}\Omega$
stage 2: $Z1 = Z2 = 4.3\text{k}\Omega$, $Z3 = Z4 = 3.3\mu\text{F}$, $Z5 = 2.15\text{k}\Omega$,
 $Z6 = 2.37\text{k}\Omega$, $R18 = 2.37\text{k}\Omega$ & $R19 = 2.15\text{k}\Omega$

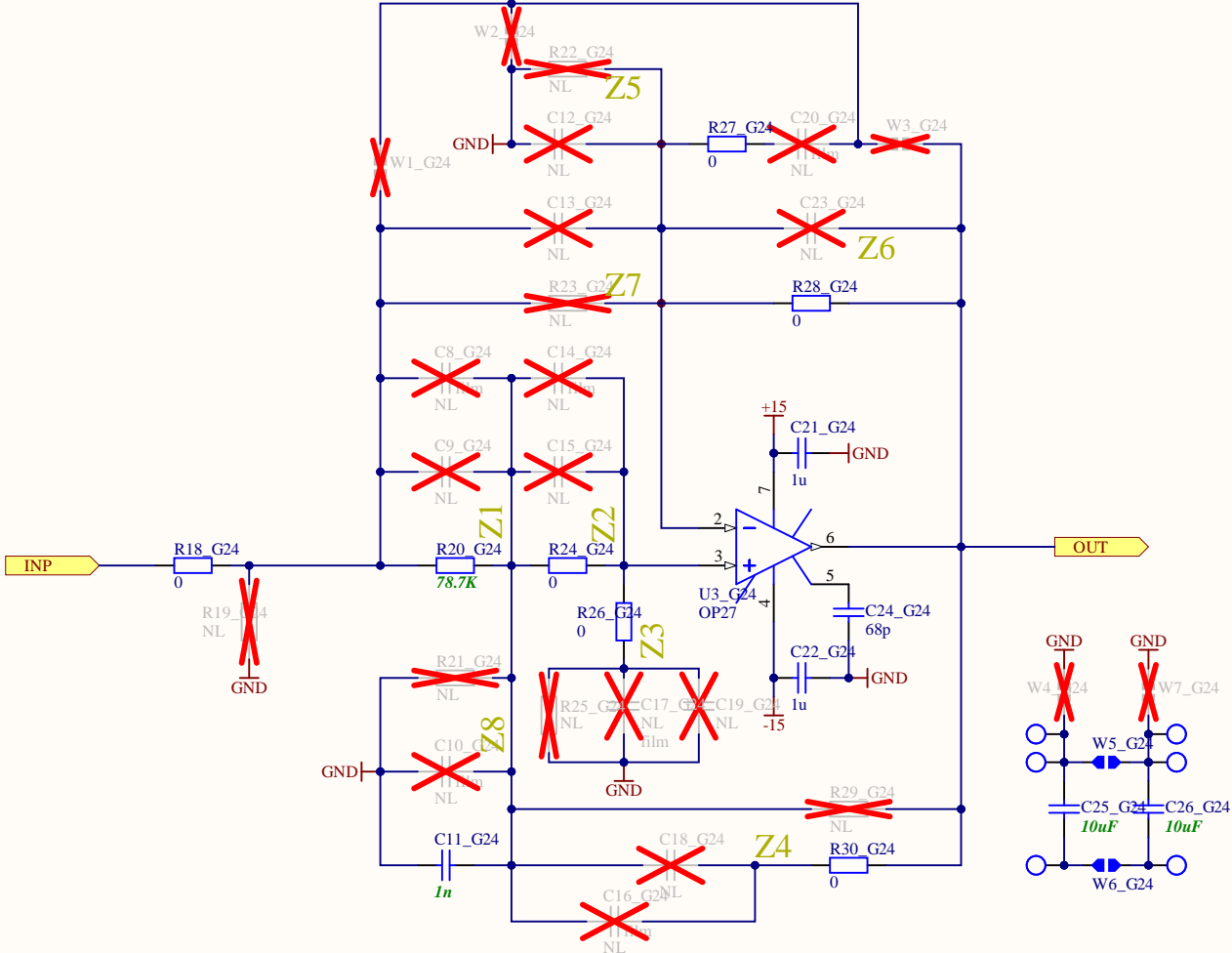
High pass at 1kHz (4th order Butterworth):
stage 1: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 4.7\text{k}\Omega$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 274\Omega$, $R18 = 274\Omega$ & $R19 = 2.37\text{k}\Omega$
stage 2: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 5.6\text{k}\Omega$, $Z5 = 2.8\text{k}\Omega$,
 $Z6 = 4.7\text{k}\Omega$, $R18 = 6.65\text{k}\Omega$ & $R19 = 2.8\text{k}\Omega$

C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

Variant: DC-coupling

Title Filter Board Generic Filter		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 3 of 3
File:	C:\Users\...\GenericFilterStage.SchDoc	Drawn By: Daniel Sigg

generic filter stage



AC coupling at 0.1Hz: $Z1 = 20\mu F$ & $Z8 = 78.7k\Omega$

DC coupling at 0.1Hz: $Z1 = 78.7k\Omega$ & $Z8 = 20\mu F$

Low pass at 10Hz (4th order Butterworth):
stage 1: $Z1 = Z2 = 4.7k\Omega$, $Z3 = Z4 = 3.3\mu F$, $Z5 = 2.37k\Omega$.

stage 1: $Z1 = Z2 = 4.7k\Omega$, $Z3 = Z4 = 3.3\mu F$, $Z5 = 2.37k\Omega$,
 $Z6 = 348\Omega$, $R18 = 348\Omega$ & $R19 = 2.37k\Omega$

stage 2: $Z1 = Z2 = 4.3k\Omega$, $Z3 = Z4 = 3.3\mu F$, $Z5 = 2.15k\Omega$,
 $Z6 = 2.37k\Omega$, $R18 = 2.37k\Omega$ & $R19 = 2.15k\Omega$

High pass at 1kHz (4th order Butterworth):
stage 1: $Z_1 = Z_2 = 33\text{nF}$ $Z_3 = Z_4 = 4.7\text{k}\Omega$ $Z_5 = 2.37\text{k}\Omega$

stage 1: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 4.7\text{k}\Omega$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 274\Omega$, $R18 = 274\Omega$ & $R19 = 2.37\text{k}\Omega$

stage 2: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 5.6\text{k}\Omega$, $Z5 = 2.8\text{k}\Omega$,
 $Z6 = 4.7\text{k}\Omega$, $R18 = 6.65\text{k}\Omega$ & $R19 = 2.8\text{k}\Omega$

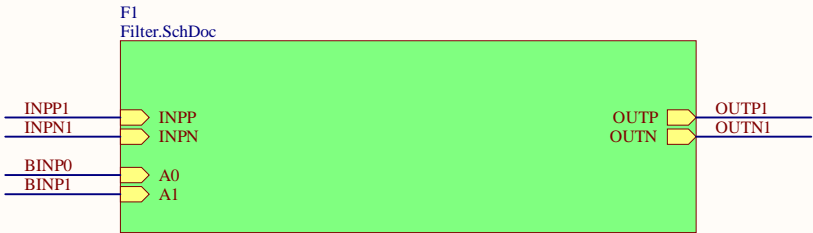
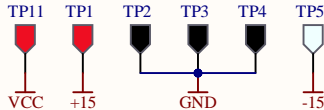
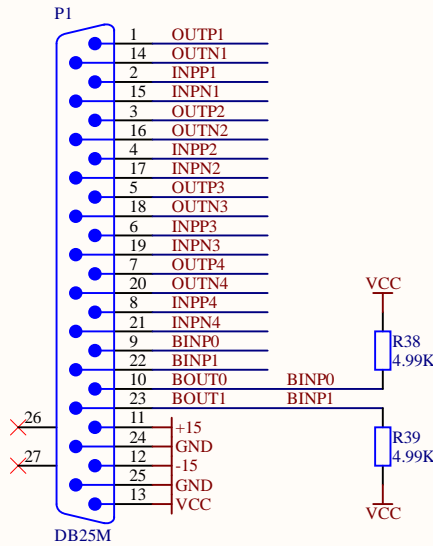
C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

Variant: DC-coupling

<div> <div>Title</div> <div>Filter Board Generic Filter</div> </div>			
Size B	Number D2500203		Revision 1
Date:	8/15/2025	Sheet 3of 3	
File:	C:\Users\...\GenericFilterStage.SchDoc	Drawn By:	Daniel Sigg



To/From Filter Interface



Variant: LP10Hz

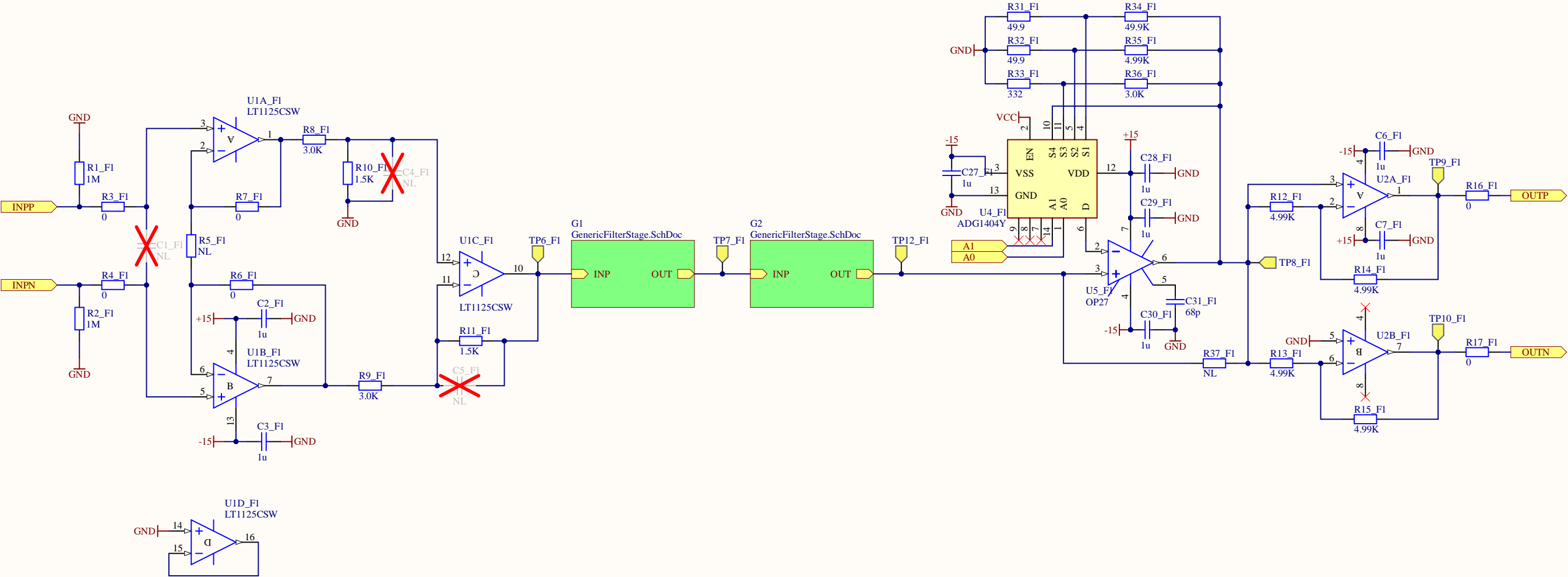
Title Filter Board Template: Top		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 1 of 3
File:	C:\Users\...\FilterBoardTemplate1.SchDoc Drawn By: Daniel Sigg	

Overall Gain = 0.5 from INPP-INPN to TP6

Nominal Gain of 1 through Filters

Selectable Gain of 1, 10, 100, and 1000

Overall Gain = 2 from TP8 to OUTP-OUTN



Variant: LP10Hz

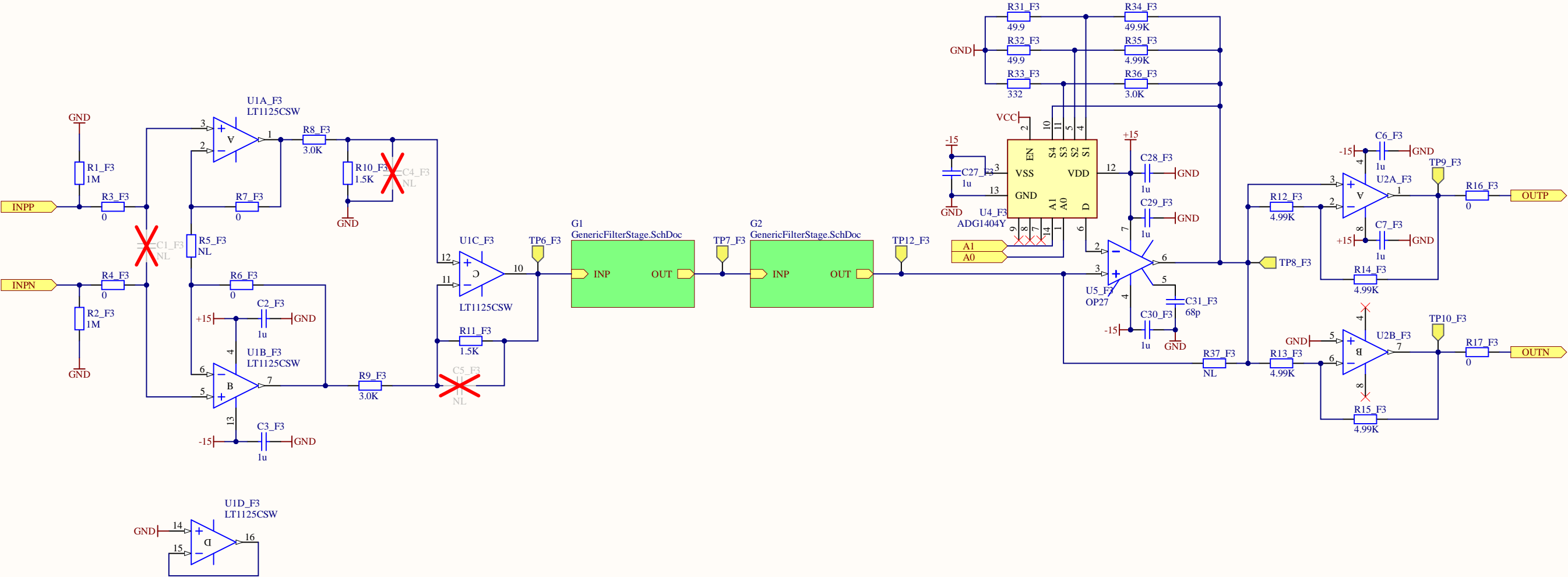
Title Filter Channel		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 2 of 3
File:	C:\Users\...\Filter.SchDoc	Drawn By: Daniel Sigg

Overall Gain = 0.5 from INPP-INPN to TP6

Nominal Gain of 1 through Filters

Selectable Gain of 1, 10, 100, and 1000

Overall Gain = 2 from TP8 to OUTP-OUTN



Variant: LP10Hz

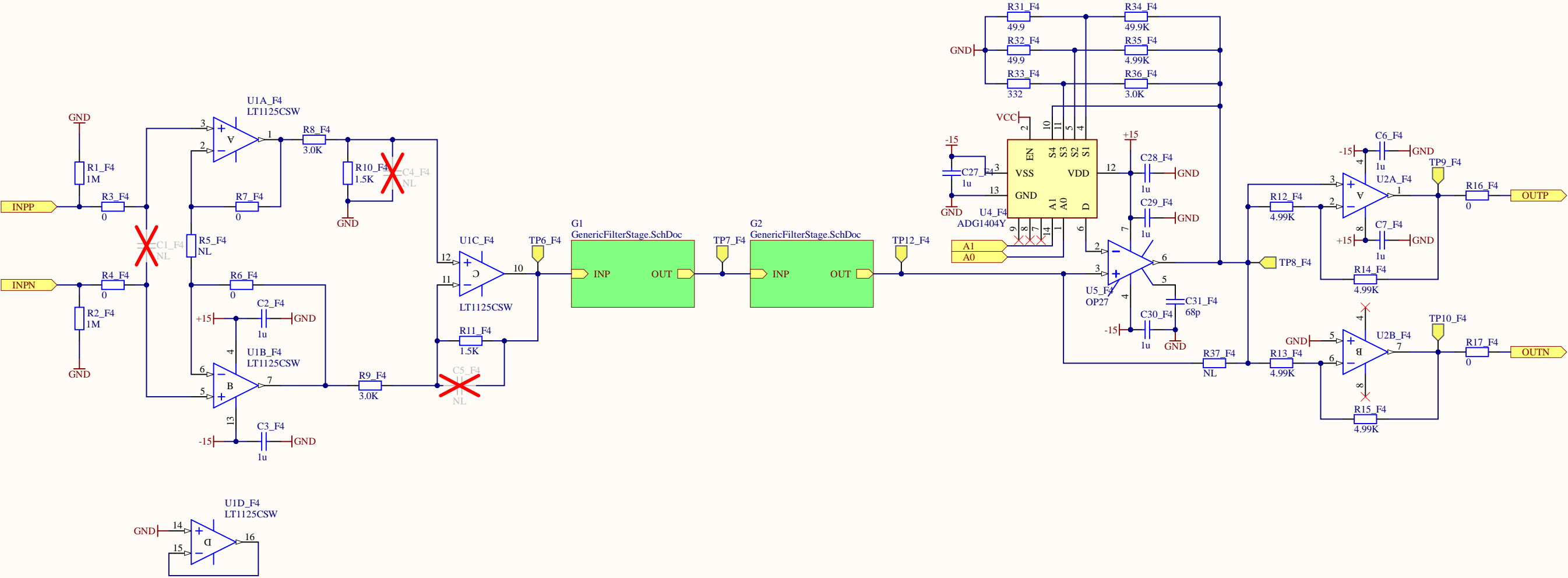
Title Filter Channel		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 2 of 3
File:	C:\Users\...\Filter.SchDoc	Drawn By: Daniel Sigg

Overall Gain = 0.5 from INPP-INPN to TP6

Nominal Gain of 1 through Filters

Selectable Gain of 1, 10, 100, and 1000

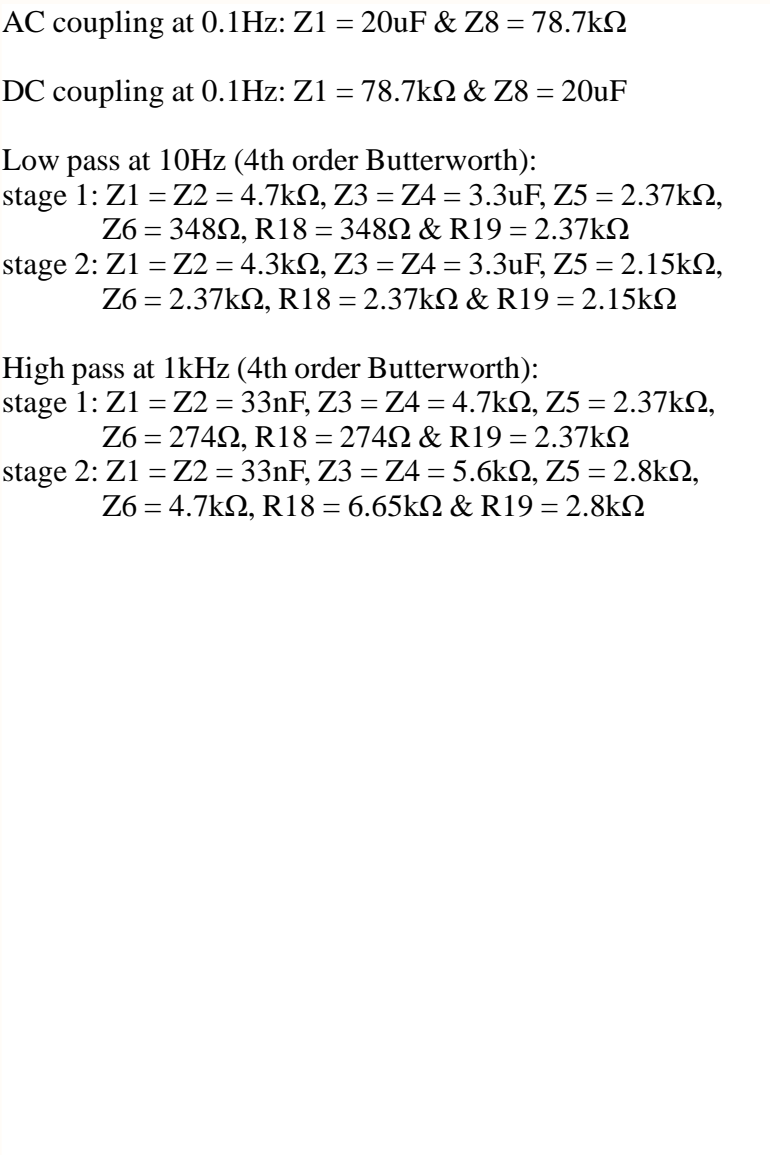
Overall Gain = 2 from TP8 to OUTP-OUTN



Variant: LP10Hz

Title Filter Channel		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 2 of 3
File:	C:\Users\...\Filter.SchDoc	Drawn By: Daniel Sigg

generic filter stage

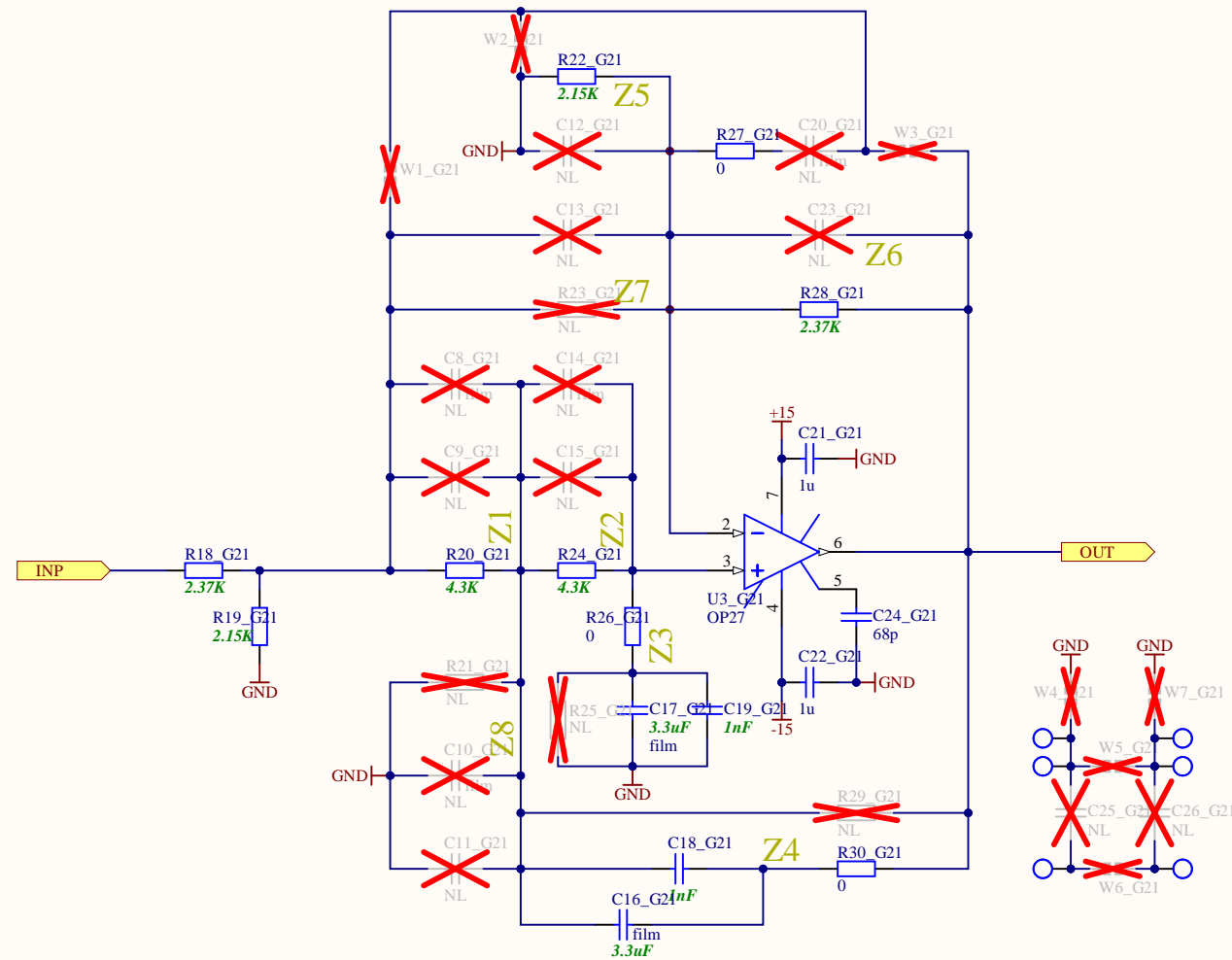


C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

Variant: LP10Hz

<div> <div>Title</div> <div>Filter Board Generic Filter</div> </div>			
<div> <div>Size B</div> <div>D2500203</div> </div>	<div> <div>Number</div> <div></div> </div>		<div> <div>Revision</div> <div>1</div> </div>
<div> <div>Date:</div> <div>8/15/2025</div> </div>	<div> <div>File:</div> <div>C:\Users\...\GenericFilterStage.SchDoc</div> </div>		<div> <div>Sheet 3 of 3</div> <div>Drawn By: Daniel Sigg</div> </div>

generic filter stage



C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

AC coupling at 0.1Hz: Z1 = 20uF & Z8 = 78.7kΩ

DC coupling at 0.1Hz: Z1 = 78.7kΩ & Z8 = 20uF

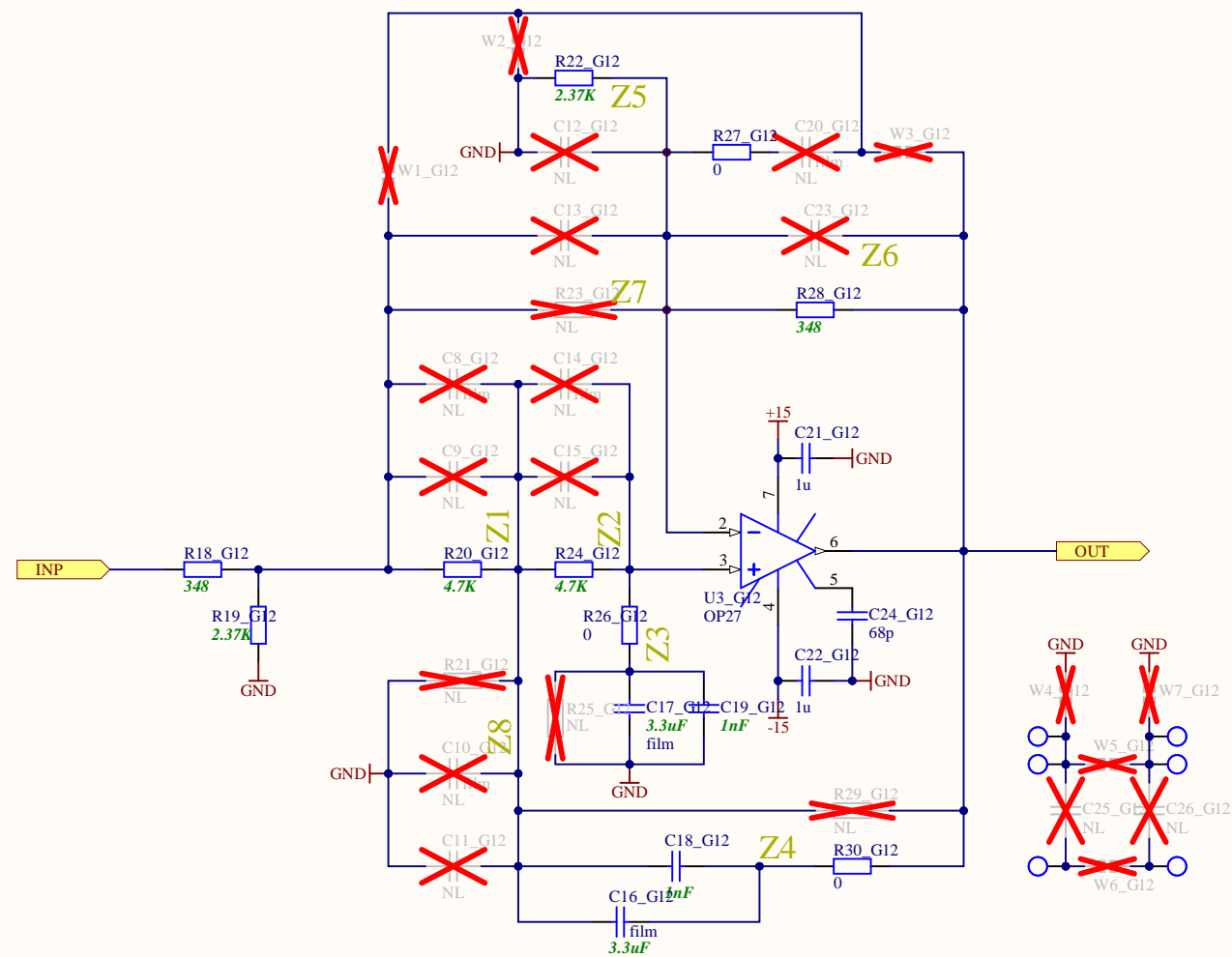
Low pass at 10Hz (4th order Butterworth):
stage 1: Z1 = Z2 = 4.7kΩ, Z3 = Z4 = 3.3uF, Z5 = 2.37kΩ,
Z6 = 348Ω, R18 = 348Ω & R19 = 2.37kΩ
stage 2: Z1 = Z2 = 4.3kΩ, Z3 = Z4 = 3.3uF, Z5 = 2.15kΩ,
Z6 = 2.37kΩ, R18 = 2.37kΩ & R19 = 2.15kΩ

High pass at 1kHz (4th order Butterworth):
stage 1: Z1 = Z2 = 33nF, Z3 = Z4 = 4.7kΩ, Z5 = 2.37kΩ,
Z6 = 274Ω, R18 = 274Ω & R19 = 2.37kΩ
stage 2: Z1 = Z2 = 33nF, Z3 = Z4 = 5.6kΩ, Z5 = 2.8kΩ,
Z6 = 4.7kΩ, R18 = 6.65kΩ & R19 = 2.8kΩ

Variant: LP10Hz

Title Filter Board Generic Filter		
Size B	Number D2500203	Revision 1
Date: 8/15/2025	Sheet 3 of 3	
File: C:\Users\...\GenericFilterStage.SchDoc	Drawn By: Daniel Sigg	

generic filter stage



C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

AC coupling at 0.1Hz: $Z1 = 20\mu\text{F}$ & $Z8 = 78.7\text{k}\Omega$

DC coupling at 0.1Hz: $Z1 = 78.7\text{k}\Omega$ & $Z8 = 20\mu\text{F}$

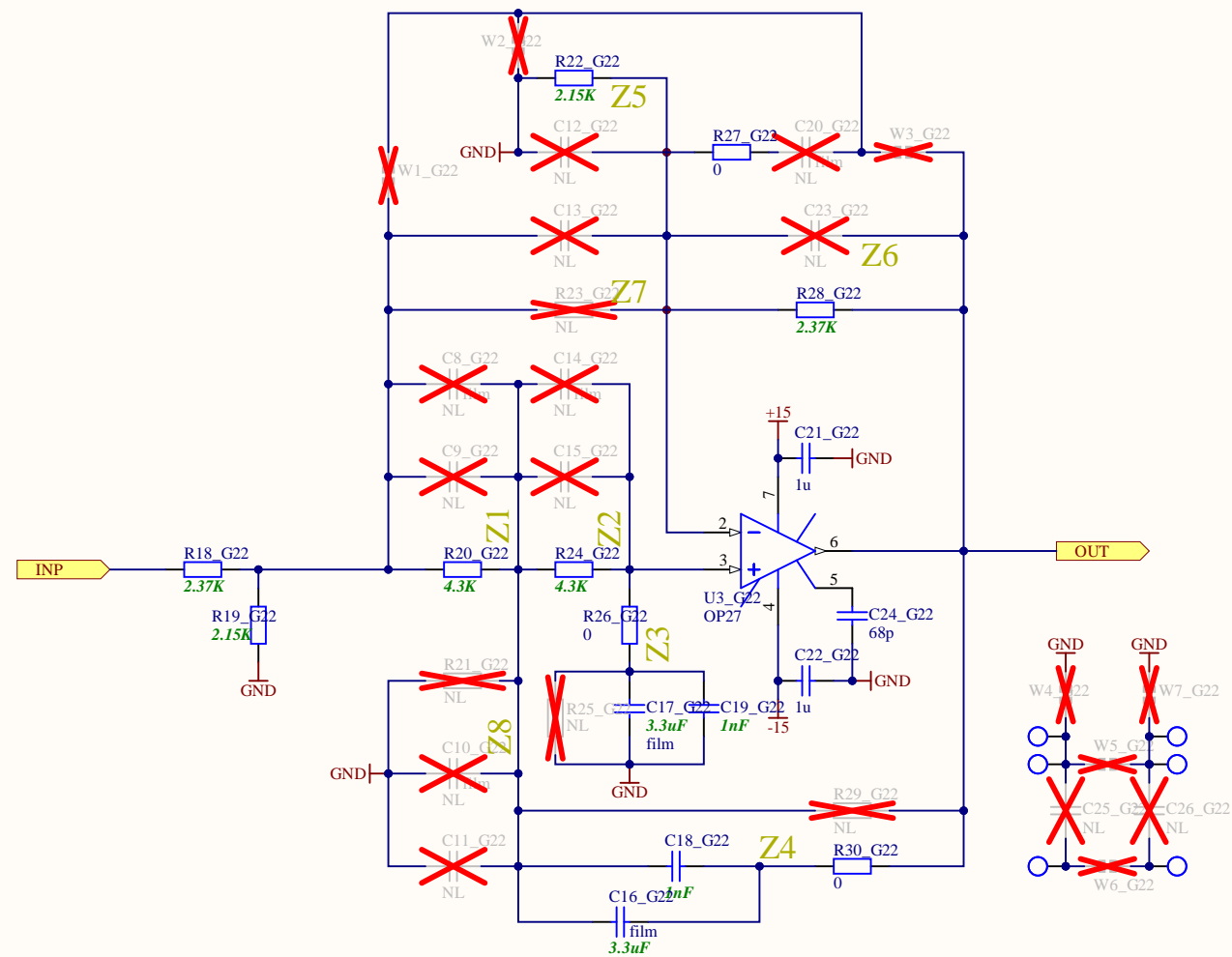
Low pass at 10Hz (4th order Butterworth):
stage 1: $Z1 = Z2 = 4.7\text{k}\Omega$, $Z3 = Z4 = 3.3\mu\text{F}$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 348\Omega$, $R18 = 348\Omega$ & $R19 = 2.37\text{k}\Omega$
stage 2: $Z1 = Z2 = 4.3\text{k}\Omega$, $Z3 = Z4 = 3.3\mu\text{F}$, $Z5 = 2.15\text{k}\Omega$,
 $Z6 = 2.37\text{k}\Omega$, $R18 = 2.37\text{k}\Omega$ & $R19 = 2.15\text{k}\Omega$

High pass at 1kHz (4th order Butterworth):
stage 1: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 4.7\text{k}\Omega$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 274\Omega$, $R18 = 274\Omega$ & $R19 = 2.37\text{k}\Omega$
stage 2: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 5.6\text{k}\Omega$, $Z5 = 2.8\text{k}\Omega$,
 $Z6 = 4.7\text{k}\Omega$, $R18 = 6.65\text{k}\Omega$ & $R19 = 2.8\text{k}\Omega$

Variant: LP10Hz

Title Filter Board Generic Filter		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 3 of 3
File:	C:\Users\...\GenericFilterStage.SchDoc	Drawn By: Daniel Sigg

generic filter stage



C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

AC coupling at 0.1Hz: Z1 = 20uF & Z8 = 78.7kΩ

DC coupling at 0.1Hz: Z1 = 78.7kΩ & Z8 = 20uF

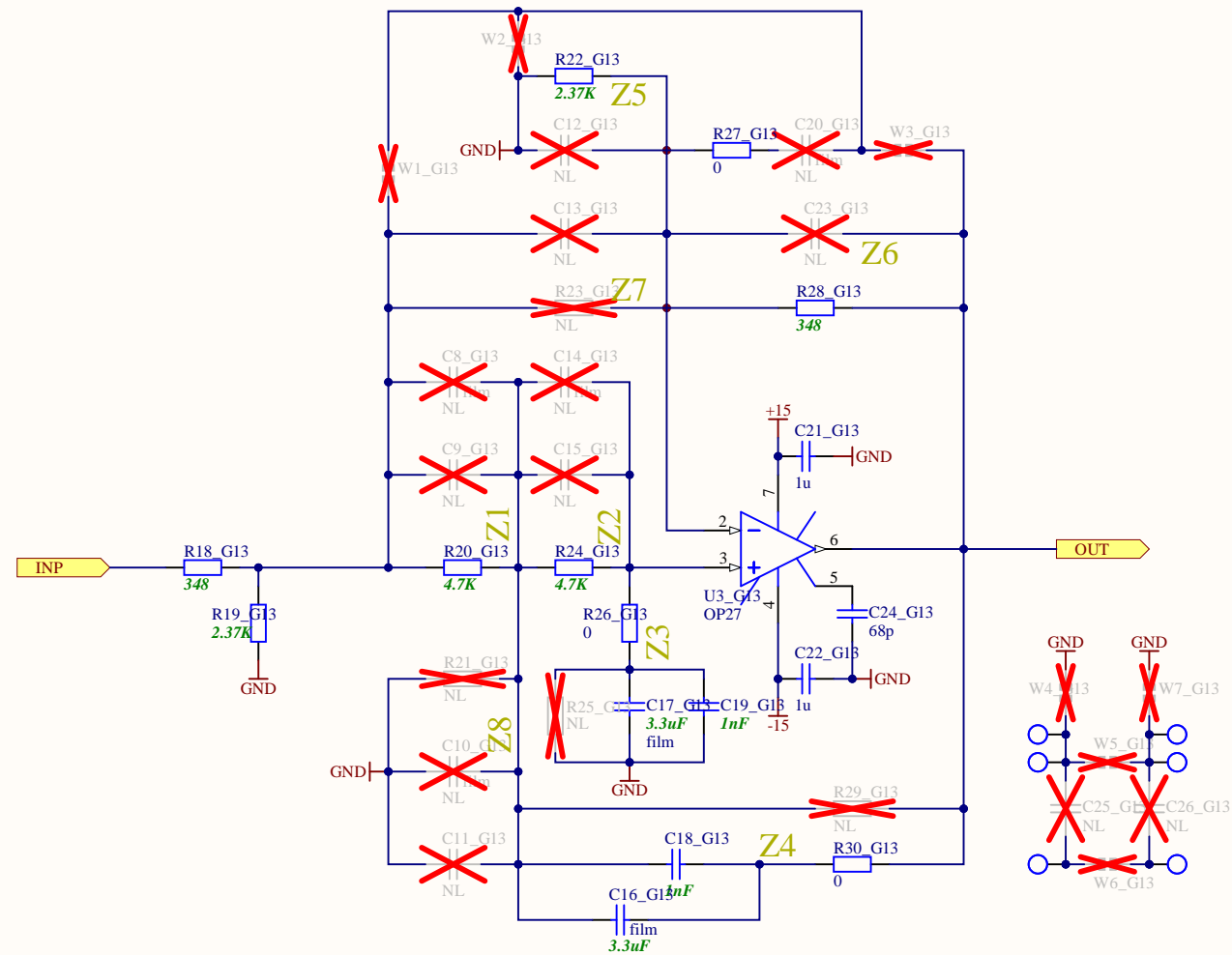
Low pass at 10Hz (4th order Butterworth):
stage 1: Z1 = Z2 = 4.7kΩ, Z3 = Z4 = 3.3uF, Z5 = 2.37kΩ,
Z6 = 348Ω, R18 = 348Ω & R19 = 2.37kΩ
stage 2: Z1 = Z2 = 4.3kΩ, Z3 = Z4 = 3.3uF, Z5 = 2.15kΩ,
Z6 = 2.37kΩ, R18 = 2.37kΩ & R19 = 2.15kΩ

High pass at 1kHz (4th order Butterworth):
stage 1: Z1 = Z2 = 33nF, Z3 = Z4 = 4.7kΩ, Z5 = 2.37kΩ,
Z6 = 274Ω, R18 = 274Ω & R19 = 2.37kΩ
stage 2: Z1 = Z2 = 33nF, Z3 = Z4 = 5.6kΩ, Z5 = 2.8kΩ,
Z6 = 4.7kΩ, R18 = 6.65kΩ & R19 = 2.8kΩ

Variant: LP10Hz

Title Filter Board Generic Filter		
Size B	Number D2500203	Revision 1
Date: 8/15/2025	Sheet 3 of 3	
File: C:\Users\...\GenericFilterStage.SchDoc	Drawn By: Daniel Sigg	

generic filter stage



C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

AC coupling at 0.1Hz: $Z1 = 20\mu\text{F}$ & $Z8 = 78.7\text{k}\Omega$

DC coupling at 0.1Hz: $Z1 = 78.7\text{k}\Omega$ & $Z8 = 20\mu\text{F}$

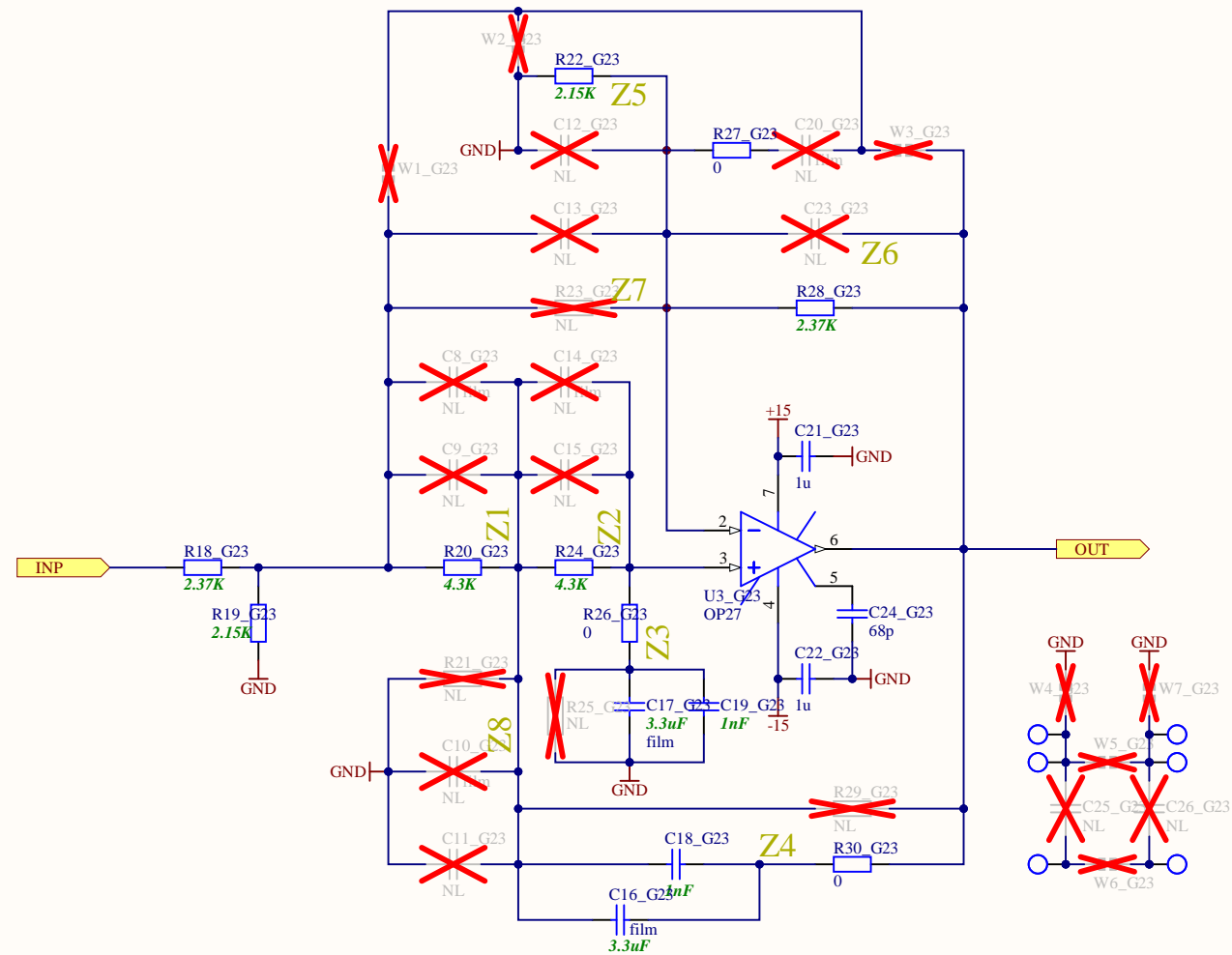
Low pass at 10Hz (4th order Butterworth):
stage 1: $Z1 = Z2 = 4.7\text{k}\Omega$, $Z3 = Z4 = 3.3\mu\text{F}$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 348\Omega$, $R18 = 348\Omega$ & $R19 = 2.37\text{k}\Omega$
stage 2: $Z1 = Z2 = 4.3\text{k}\Omega$, $Z3 = Z4 = 3.3\mu\text{F}$, $Z5 = 2.15\text{k}\Omega$,
 $Z6 = 2.37\text{k}\Omega$, $R18 = 2.37\text{k}\Omega$ & $R19 = 2.15\text{k}\Omega$

High pass at 1kHz (4th order Butterworth):
stage 1: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 4.7\text{k}\Omega$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 274\Omega$, $R18 = 274\Omega$ & $R19 = 2.37\text{k}\Omega$
stage 2: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 5.6\text{k}\Omega$, $Z5 = 2.8\text{k}\Omega$,
 $Z6 = 4.7\text{k}\Omega$, $R18 = 6.65\text{k}\Omega$ & $R19 = 2.8\text{k}\Omega$

Variant: LP10Hz

Title Filter Board Generic Filter		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 3 of 3
File:	C:\Users\...\GenericFilterStage.SchDoc	Drawn By: Daniel Sigg

generic filter stage



C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

AC coupling at 0.1Hz: Z1 = 20uF & Z8 = 78.7kΩ

DC coupling at 0.1Hz: Z1 = 78.7kΩ & Z8 = 20uF

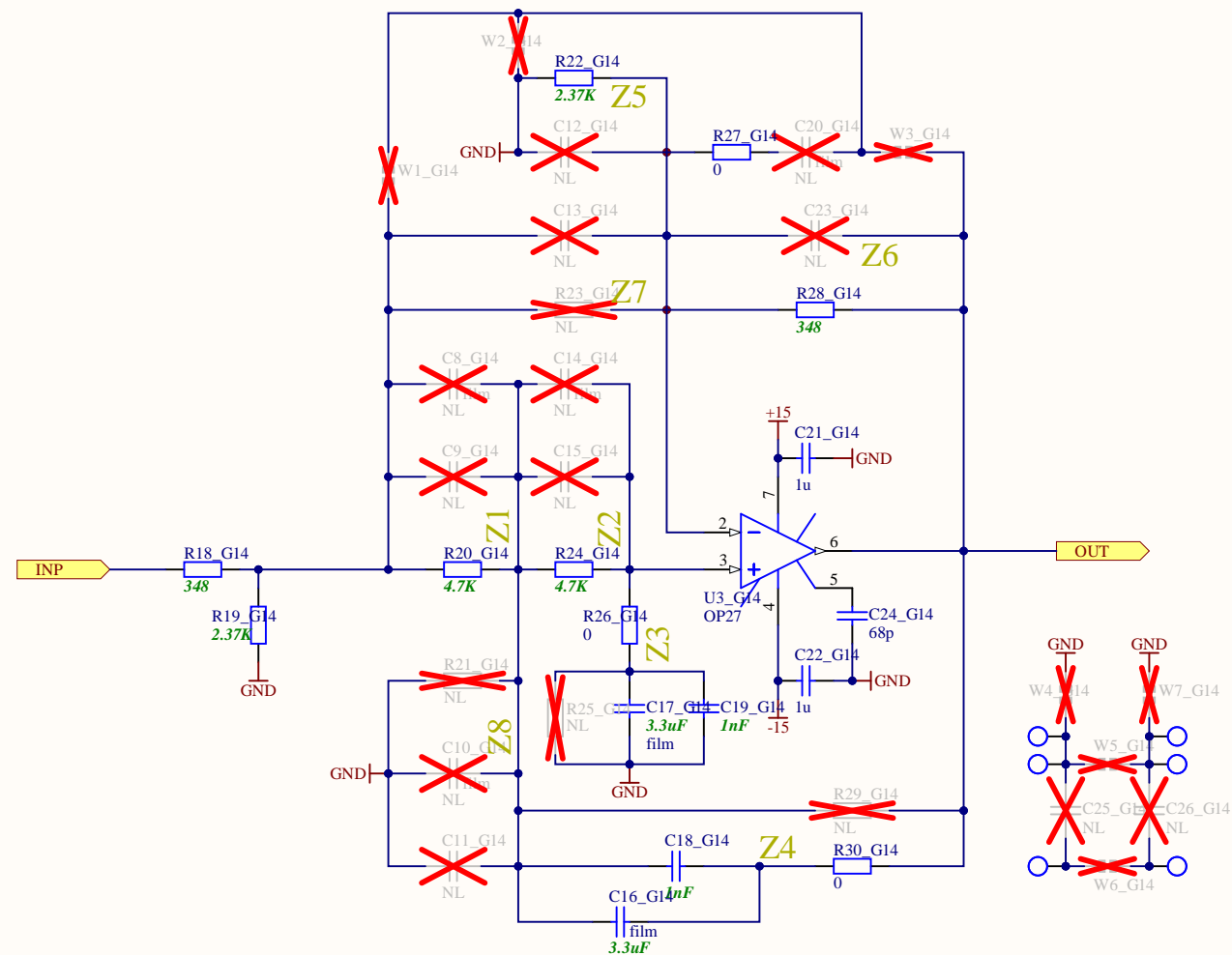
Low pass at 10Hz (4th order Butterworth):
stage 1: Z1 = Z2 = 4.7kΩ, Z3 = Z4 = 3.3uF, Z5 = 2.37kΩ,
Z6 = 348Ω, R18 = 348Ω & R19 = 2.37kΩ
stage 2: Z1 = Z2 = 4.3kΩ, Z3 = Z4 = 3.3uF, Z5 = 2.15kΩ,
Z6 = 2.37kΩ, R18 = 2.37kΩ & R19 = 2.15kΩ

High pass at 1kHz (4th order Butterworth):
stage 1: Z1 = Z2 = 33nF, Z3 = Z4 = 4.7kΩ, Z5 = 2.37kΩ,
Z6 = 274Ω, R18 = 274Ω & R19 = 2.37kΩ
stage 2: Z1 = Z2 = 33nF, Z3 = Z4 = 5.6kΩ, Z5 = 2.8kΩ,
Z6 = 4.7kΩ, R18 = 6.65kΩ & R19 = 2.8kΩ

Variant: LP10Hz

Title Filter Board Generic Filter		
Size B	Number D2500203	Revision 1
Date: 8/15/2025	Sheet 3 of 3	
File: C:\Users\...\GenericFilterStage.SchDoc	Drawn By: Daniel Sigg	

generic filter stage



AC coupling at 0.1Hz: Z1 = 20uF & Z8 = 78.7kΩ

DC coupling at 0.1Hz: Z1 = 78.7kΩ & Z8 = 20uF

Low pass at 10Hz (4th order Butterworth):
stage 1: Z1 = Z2 = 4.7kΩ, Z3 = Z4 = 3.3uF, Z5 = 2.37kΩ, Z6 = 348Ω, R18 = 348Ω & R19 = 2.37kΩ
stage 2: Z1 = Z2 = 4.3kΩ, Z3 = Z4 = 3.3uF, Z5 = 2.15kΩ, Z6 = 2.37kΩ, R18 = 2.37kΩ & R19 = 2.15kΩ

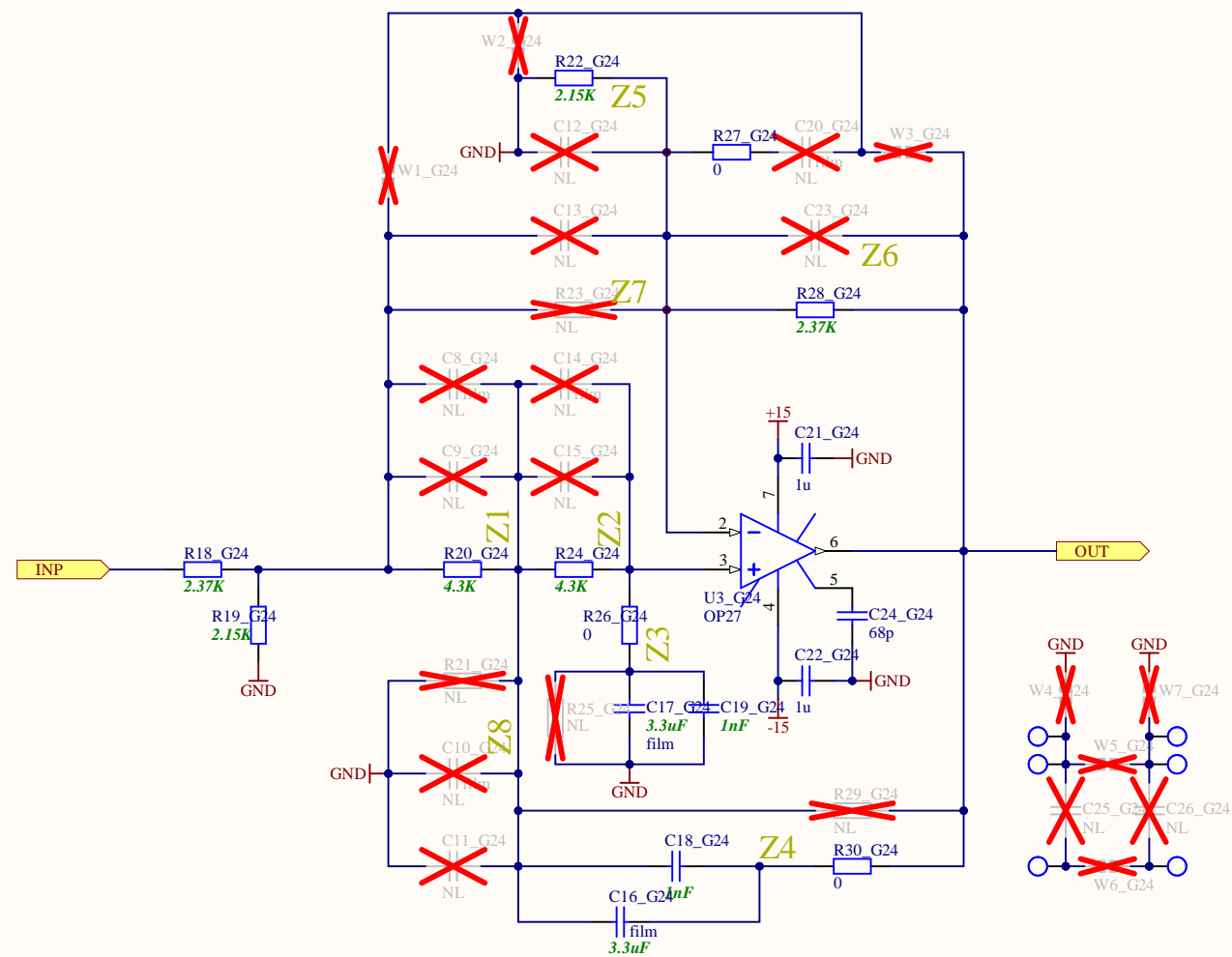
High pass at 1kHz (4th order Butterworth):
stage 1: Z1 = Z2 = 33nF, Z3 = Z4 = 4.7kΩ, Z5 = 2.37kΩ, Z6 = 274Ω, R18 = 274Ω & R19 = 2.37kΩ
stage 2: Z1 = Z2 = 33nF, Z3 = Z4 = 5.6kΩ, Z5 = 2.8kΩ, Z6 = 4.7kΩ, R18 = 6.65kΩ & R19 = 2.8kΩ

C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

Variant: LP10Hz

Title Filter Board Generic Filter		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 3 of 3
File:	C:\Users\...\GenericFilterStage.SchDoc	Drawn By: Daniel Sigg

generic filter stage



C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

AC coupling at 0.1Hz: Z1 = 20uF & Z8 = 78.7kΩ

DC coupling at 0.1Hz: Z1 = 78.7kΩ & Z8 = 20uF

Low pass at 10Hz (4th order Butterworth):
stage 1: Z1 = Z2 = 4.7kΩ, Z3 = Z4 = 3.3uF, Z5 = 2.37kΩ,
Z6 = 348Ω, R18 = 348Ω & R19 = 2.37kΩ
stage 2: Z1 = Z2 = 4.3kΩ, Z3 = Z4 = 3.3uF, Z5 = 2.15kΩ,
Z6 = 2.37kΩ, R18 = 2.37kΩ & R19 = 2.15kΩ

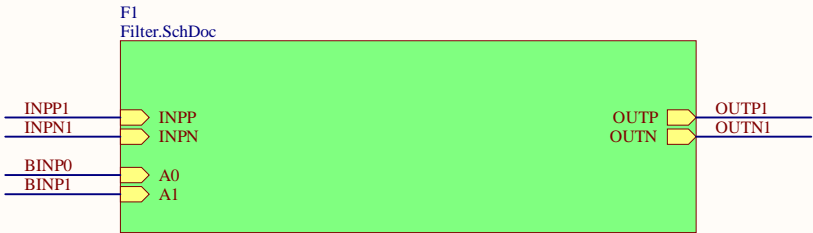
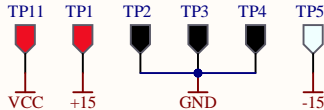
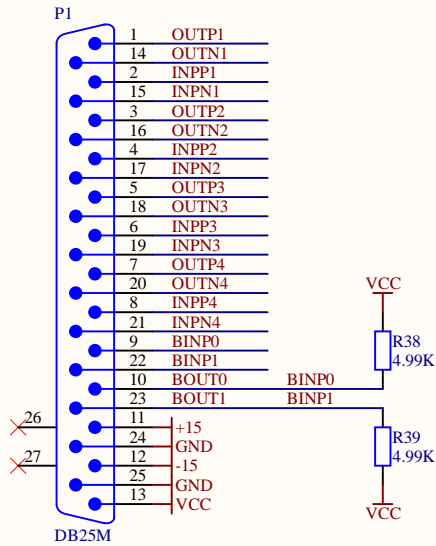
High pass at 1kHz (4th order Butterworth):
stage 1: Z1 = Z2 = 33nF, Z3 = Z4 = 4.7kΩ, Z5 = 2.37kΩ,
Z6 = 274Ω, R18 = 274Ω & R19 = 2.37kΩ
stage 2: Z1 = Z2 = 33nF, Z3 = Z4 = 5.6kΩ, Z5 = 2.8kΩ,
Z6 = 4.7kΩ, R18 = 6.65kΩ & R19 = 2.8kΩ

Variant: LP10Hz

Title Filter Board Generic Filter		
Size B	Number D2500203	Revision 1
Date: 8/15/2025	Sheet 3 of 3	
File: C:\Users\...\GenericFilterStage.SchDoc	Drawn By: Daniel Sigg	



To/From Filter Interface



Variant: HP1kHz

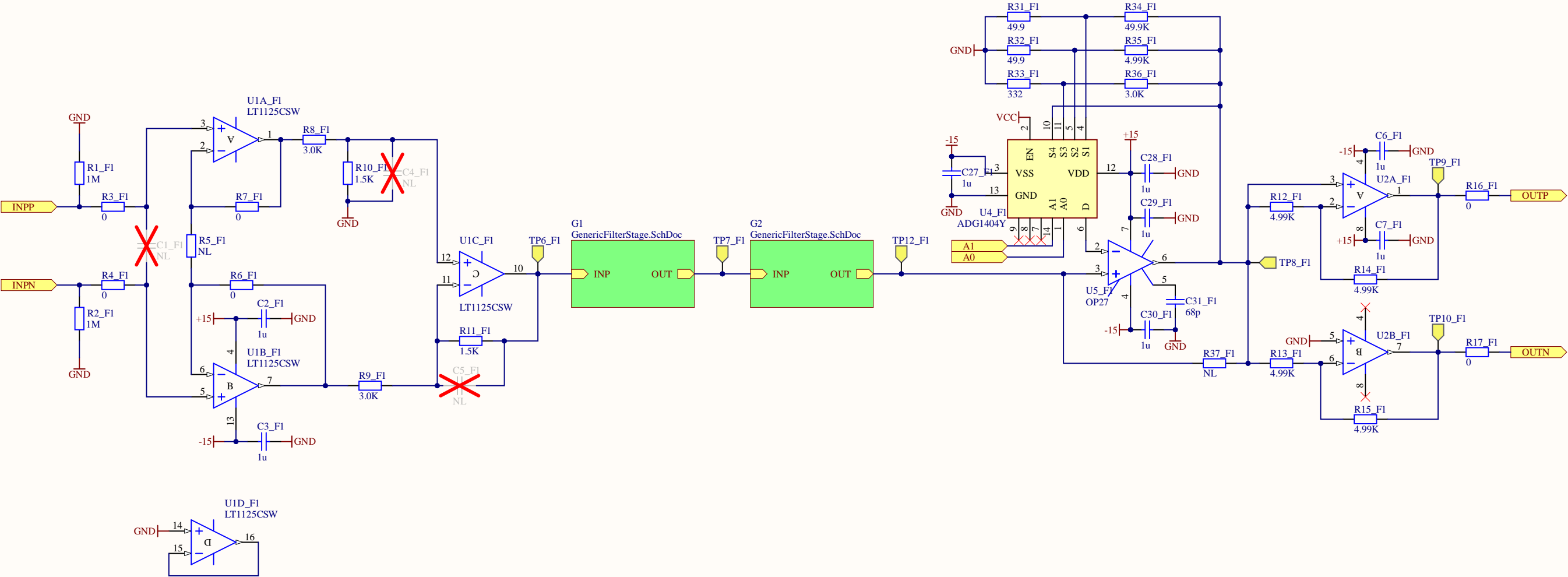
Title Filter Board Template: Top		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 1 of 3
File:	C:\Users\...\FilterBoardTemplate1.SchDoc Drawn By: Daniel Sigg	

Overall Gain = 0.5 from INPP-INPN to TP6

Nominal Gain of 1 through Filters

Selectable Gain of 1, 10, 100, and 1000

Overall Gain = 2 from TP8 to OUTP-OUTN



Variant: HP1kHz

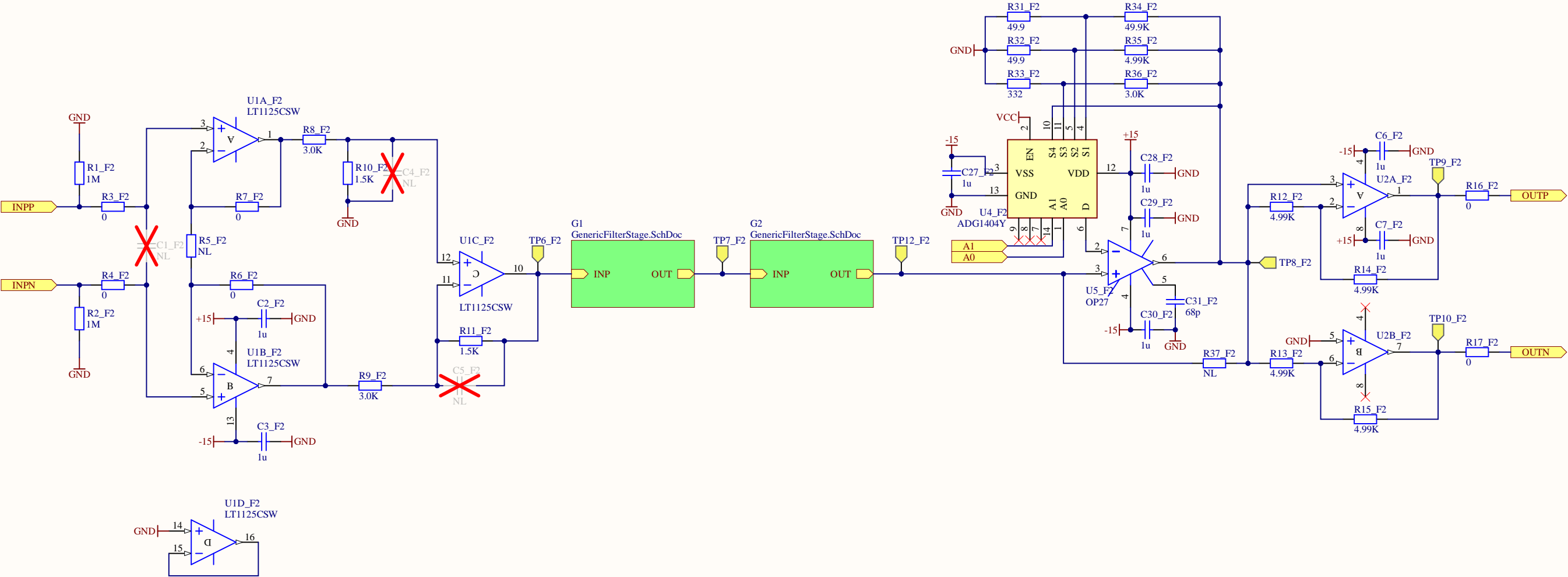
Title Filter Channel		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 2 of 3
File:	C:\Users\...\Filter.SchDoc	Drawn By: Daniel Sigg

Overall Gain = 0.5 from INPP-INPN to TP6

Nominal Gain of 1 through Filters

Selectable Gain of 1, 10, 100, and 1000

Overall Gain = 2 from TP8 to OUTP-OUTN



Variant: HP1kHz

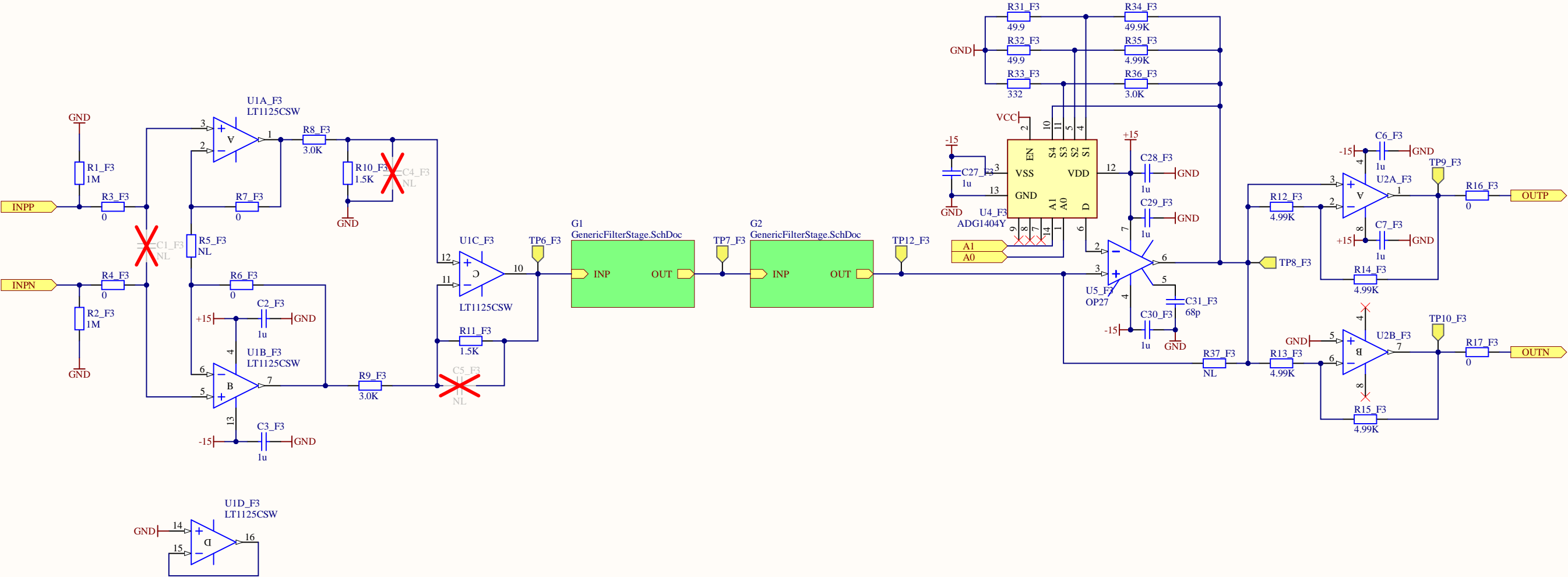
Title Filter Channel		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 2 of 3
File:	C:\Users\...\Filter.SchDoc	Drawn By: Daniel Sigg

Overall Gain = 0.5 from INPP-INPN to TP6

Nominal Gain of 1 through Filters

Selectable Gain of 1, 10, 100, and 1000

Overall Gain = 2 from TP8 to OUTP-OUTN



Variant: HP1kHz

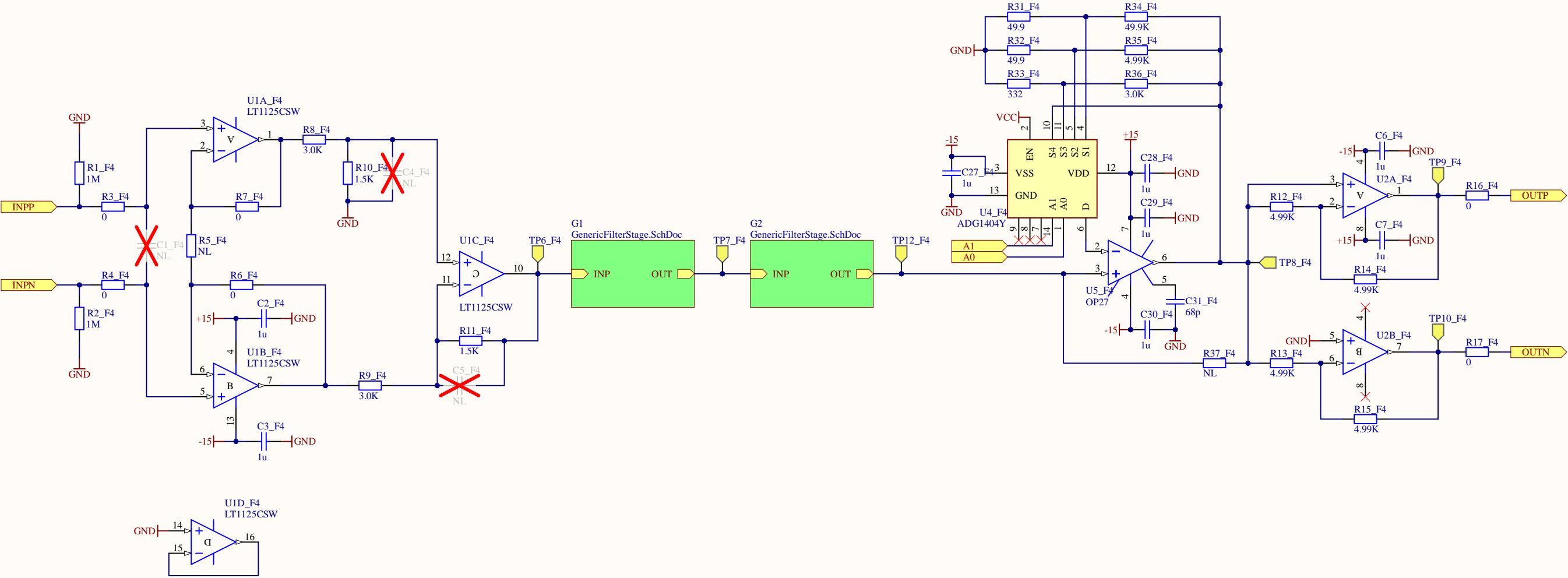
Title Filter Channel		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 2 of 3
File:	C:\Users\...\Filter.SchDoc	Drawn By: Daniel Sigg

Overall Gain = 0.5 from INPP-INPN to TP6

Nominal Gain of 1 through Filters

Selectable Gain of 1, 10, 100, and 1000

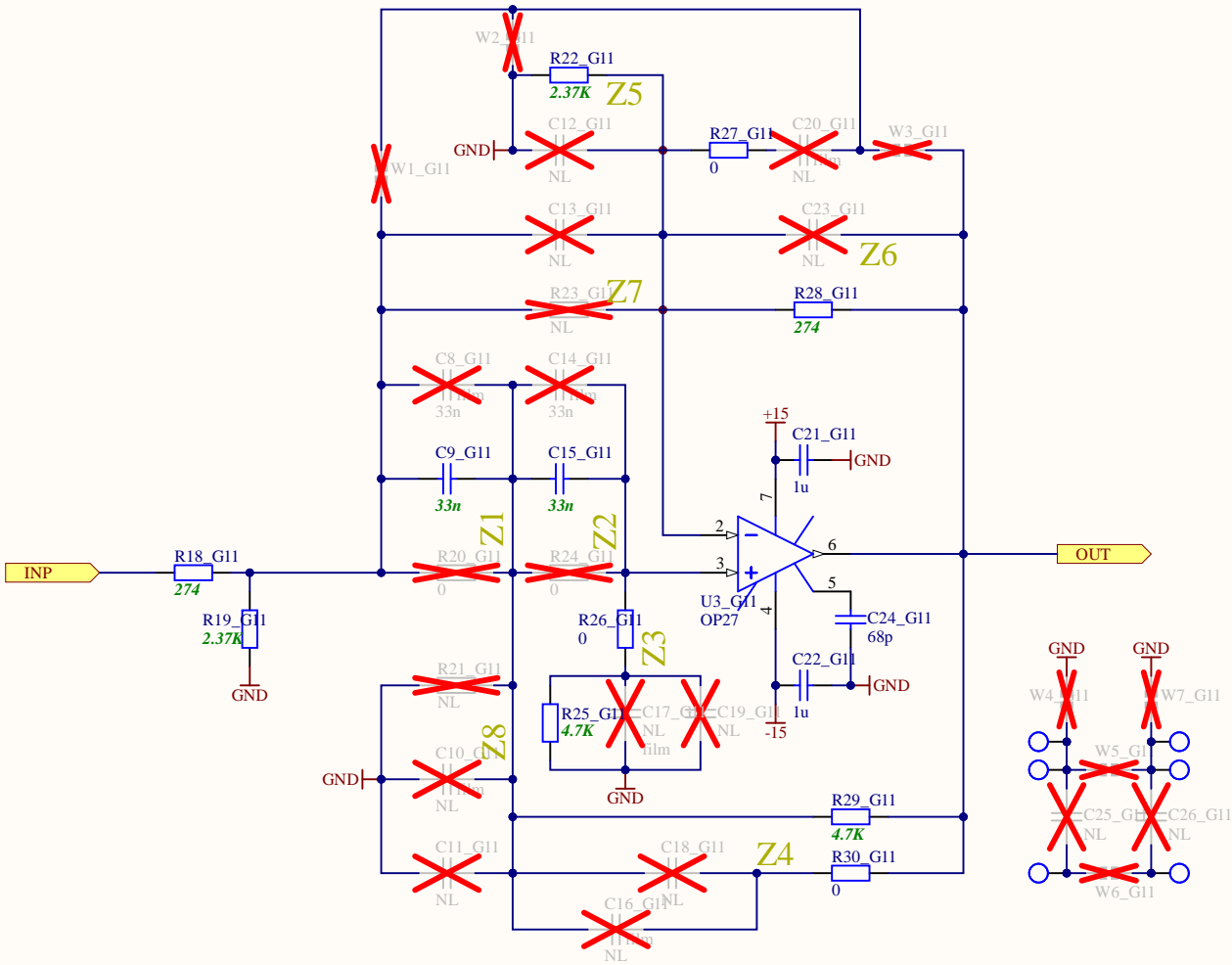
Overall Gain = 2 from TP8 to OUTP-OUTN



Variant: HP1kHz

Title Filter Channel		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 2 of 3
File:	C:\Users\...\Filter.SchDoc	Drawn By: Daniel Sigg

generic filter stage



AC coupling at 0.1Hz: $Z1 = 20\mu F$ & $Z8 = 78.7k\Omega$

DC coupling at 0.1Hz: $Z1 = 78.7k\Omega$ & $Z8 = 20\mu F$

Low pass at 10Hz (4th order Butterworth):
stage 1: $Z1 = Z2 = 4.7k\Omega$, $Z3 = Z4 = 3.3\mu F$, $Z5 = 2.37k\Omega$.

stage 1: $Z1 = Z2 = 4.7k\Omega$, $Z3 = Z4 = 3.3\mu F$, $Z5 = 2.37k\Omega$,
 $Z6 = 348\Omega$, $R18 = 348\Omega$ & $R19 = 2.37k\Omega$

stage 2: $Z1 = Z2 = 4.3k\Omega$, $Z3 = Z4 = 3.3\mu F$, $Z5 = 2.15k\Omega$,
 $Z6 = 2.37k\Omega$, $R18 = 2.37k\Omega$ & $R19 = 2.15k\Omega$

High pass at 1kHz (4th order Butterworth):
stage 1: $Z_1 = Z_2 = 33\text{nF}$ $Z_3 = Z_4 = 4.7\text{k}\Omega$ $Z_5 = 2.37\text{k}\Omega$

stage 1: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 4.7\text{k}\Omega$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 274\Omega$, $R18 = 274\Omega$ & $R19 = 2.37\text{k}\Omega$

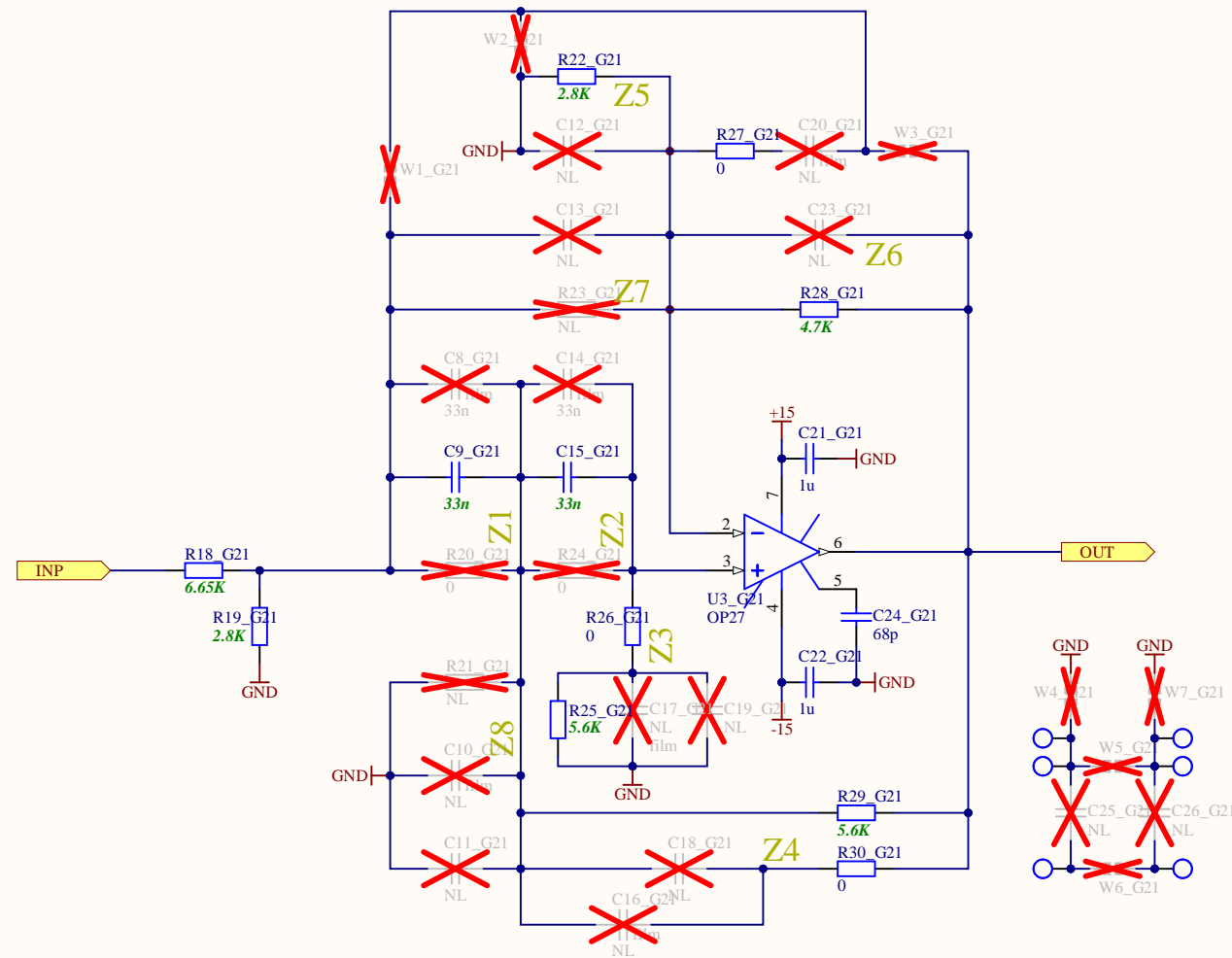
stage 2: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 5.6\text{k}\Omega$, $Z5 = 2.8\text{k}\Omega$,
 $Z6 = 4.7\text{k}\Omega$, $R18 = 6.65\text{k}\Omega$ & $R19 = 2.8\text{k}\Omega$

C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

Variant: HP1kHz

Title				Filter Board Generic Filter			
Size B		Number D2500203			Revision 1		
Date: File:		8/15/2025 C:\Users\...\GenericFilterStage.SchDoc			Sheet 3 of 3 Drawn By: <u>Daniel Sigg</u>		

generic filter stage



C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

AC coupling at 0.1Hz: Z1 = 20uF & Z8 = 78.7kΩ

DC coupling at 0.1Hz: Z1 = 78.7kΩ & Z8 = 20uF

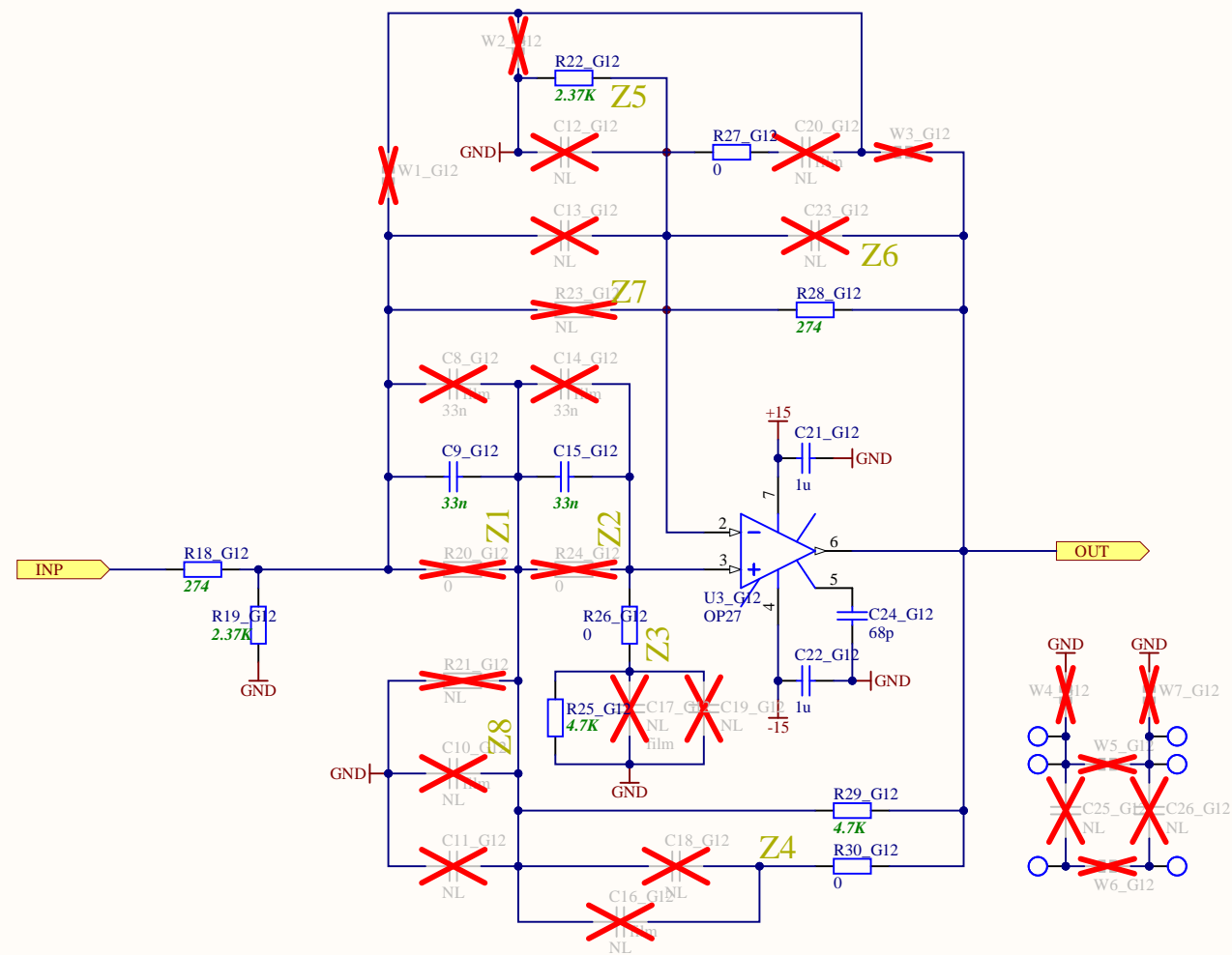
Low pass at 10Hz (4th order Butterworth):
stage 1: Z1 = Z2 = 4.7kΩ, Z3 = Z4 = 3.3uF, Z5 = 2.37kΩ,
Z6 = 348Ω, R18 = 348Ω & R19 = 2.37kΩ
stage 2: Z1 = Z2 = 4.3kΩ, Z3 = Z4 = 3.3uF, Z5 = 2.15kΩ,
Z6 = 2.37kΩ, R18 = 2.37kΩ & R19 = 2.15kΩ

High pass at 1kHz (4th order Butterworth):
stage 1: Z1 = Z2 = 33nF, Z3 = Z4 = 4.7kΩ, Z5 = 2.37kΩ,
Z6 = 274Ω, R18 = 274Ω & R19 = 2.37kΩ
stage 2: Z1 = Z2 = 33nF, Z3 = Z4 = 5.6kΩ, Z5 = 2.8kΩ,
Z6 = 4.7kΩ, R18 = 6.65kΩ & R19 = 2.8kΩ

Variant: HP1kHz

Title Filter Board Generic Filter		
Size B	Number D2500203	Revision 1
Date: 8/15/2025	Sheet 3 of 3	
File: C:\Users\...\GenericFilterStage.SchDoc	Drawn By: Daniel Sigg	

generic filter stage



C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

AC coupling at 0.1Hz: Z1 = 20uF & Z8 = 78.7kΩ

DC coupling at 0.1Hz: Z1 = 78.7kΩ & Z8 = 20uF

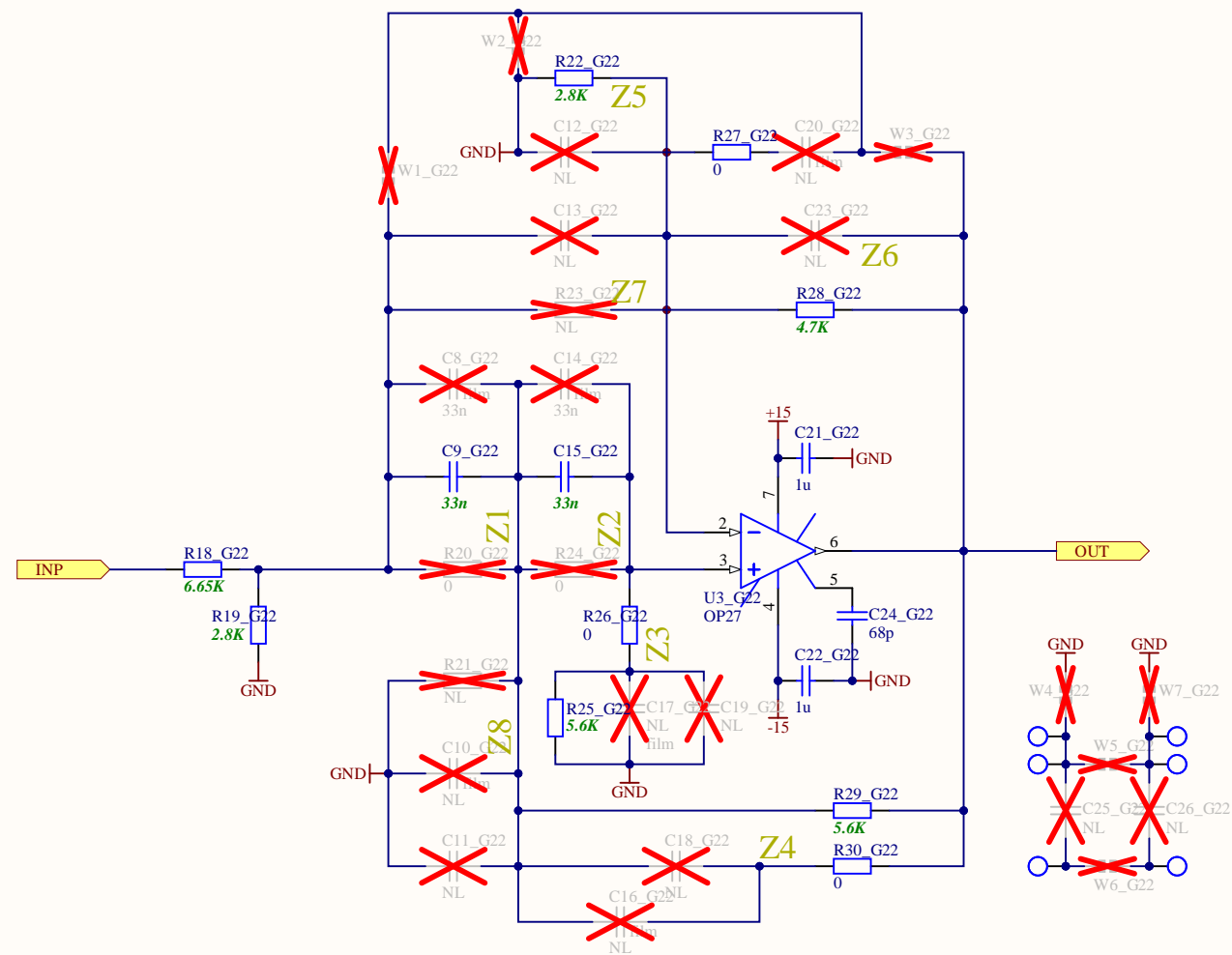
Low pass at 10Hz (4th order Butterworth):
stage 1: Z1 = Z2 = 4.7kΩ, Z3 = Z4 = 3.3uF, Z5 = 2.37kΩ,
Z6 = 348Ω, R18 = 348Ω & R19 = 2.37kΩ
stage 2: Z1 = Z2 = 4.3kΩ, Z3 = Z4 = 3.3uF, Z5 = 2.15kΩ,
Z6 = 2.37kΩ, R18 = 2.37kΩ & R19 = 2.15kΩ

High pass at 1kHz (4th order Butterworth):
stage 1: Z1 = Z2 = 33nF, Z3 = Z4 = 4.7kΩ, Z5 = 2.37kΩ,
Z6 = 274Ω, R18 = 274Ω & R19 = 2.37kΩ
stage 2: Z1 = Z2 = 33nF, Z3 = Z4 = 5.6kΩ, Z5 = 2.8kΩ,
Z6 = 4.7kΩ, R18 = 6.65kΩ & R19 = 2.8kΩ

Variant: HP1kHz

Title Filter Board Generic Filter		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 3 of 3
File:	C:\Users\...\GenericFilterStage.SchDoc	Drawn By: Daniel Sigg

generic filter stage



C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

AC coupling at 0.1Hz: Z1 = 20uF & Z8 = 78.7kΩ

DC coupling at 0.1Hz: Z1 = 78.7kΩ & Z8 = 20uF

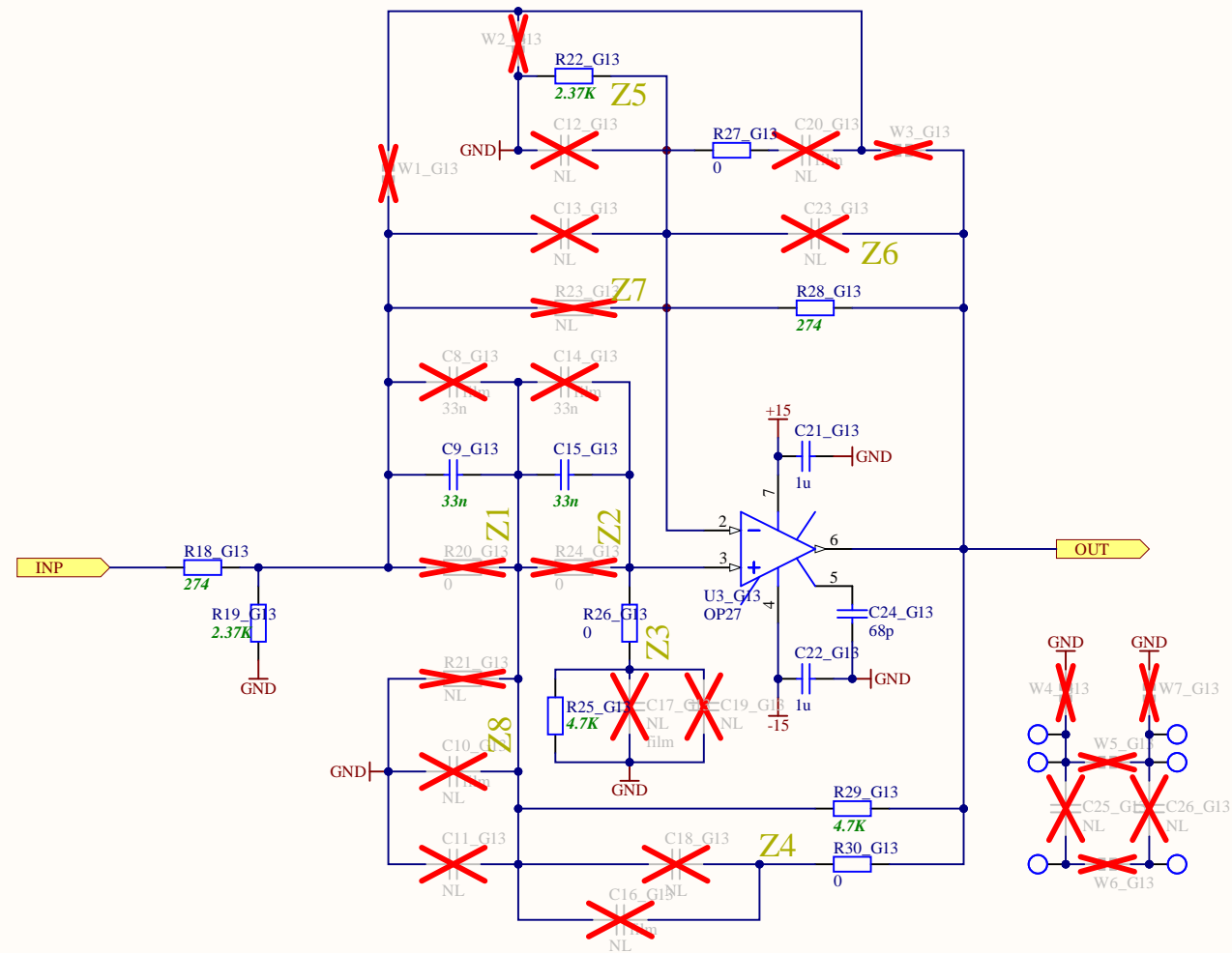
Low pass at 10Hz (4th order Butterworth):
stage 1: Z1 = Z2 = 4.7kΩ, Z3 = Z4 = 3.3uF, Z5 = 2.37kΩ,
Z6 = 348Ω, R18 = 348Ω & R19 = 2.37kΩ
stage 2: Z1 = Z2 = 4.3kΩ, Z3 = Z4 = 3.3uF, Z5 = 2.15kΩ,
Z6 = 2.37kΩ, R18 = 2.37kΩ & R19 = 2.15kΩ

High pass at 1kHz (4th order Butterworth):
stage 1: Z1 = Z2 = 33nF, Z3 = Z4 = 4.7kΩ, Z5 = 2.37kΩ,
Z6 = 274Ω, R18 = 274Ω & R19 = 2.37kΩ
stage 2: Z1 = Z2 = 33nF, Z3 = Z4 = 5.6kΩ, Z5 = 2.8kΩ,
Z6 = 4.7kΩ, R18 = 6.65kΩ & R19 = 2.8kΩ

Variant: HP1kHz

Title Filter Board Generic Filter		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 3 of 3
File:	C:\Users\...\GenericFilterStage.SchDoc	Drawn By: Daniel Sigg

generic filter stage



AC coupling at 0.1Hz: Z1 = 20uF & Z8 = 78.7kΩ

DC coupling at 0.1Hz: Z1 = 78.7kΩ & Z8 = 20uF

Low pass at 10Hz (4th order Butterworth):
stage 1: Z1 = Z2 = 4.7kΩ, Z3 = Z4 = 3.3uF, Z5 = 2.37kΩ,
Z6 = 348Ω, R18 = 348Ω & R19 = 2.37kΩ
stage 2: Z1 = Z2 = 4.3kΩ, Z3 = Z4 = 3.3uF, Z5 = 2.15kΩ,
Z6 = 2.37kΩ, R18 = 2.37kΩ & R19 = 2.15kΩ

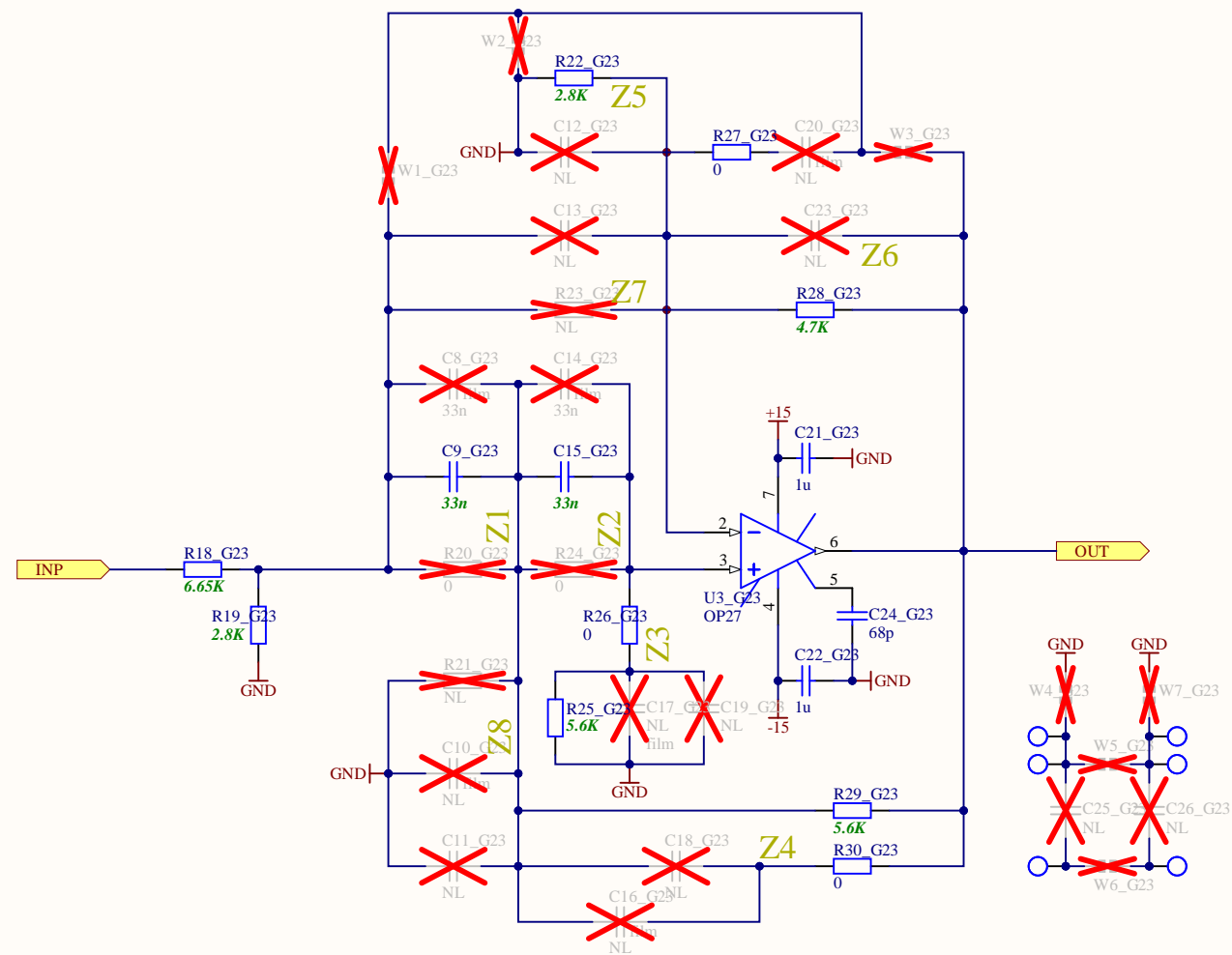
High pass at 1kHz (4th order Butterworth):
stage 1: Z1 = Z2 = 33nF, Z3 = Z4 = 4.7kΩ, Z5 = 2.37kΩ,
Z6 = 274Ω, R18 = 274Ω & R19 = 2.37kΩ
stage 2: Z1 = Z2 = 33nF, Z3 = Z4 = 5.6kΩ, Z5 = 2.8kΩ,
Z6 = 4.7kΩ, R18 = 6.65kΩ & R19 = 2.8kΩ

C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

Variant: HP1kHz

Title Filter Board Generic Filter		
Size B	Number D2500203	Revision 1
Date:	8/15/2025	Sheet 3 of 3
File:	C:\Users\...\GenericFilterStage.SchDoc	Drawn By: Daniel Sigg

generic filter stage



C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

AC coupling at 0.1Hz: Z1 = 20uF & Z8 = 78.7kΩ

DC coupling at 0.1Hz: Z1 = 78.7kΩ & Z8 = 20uF

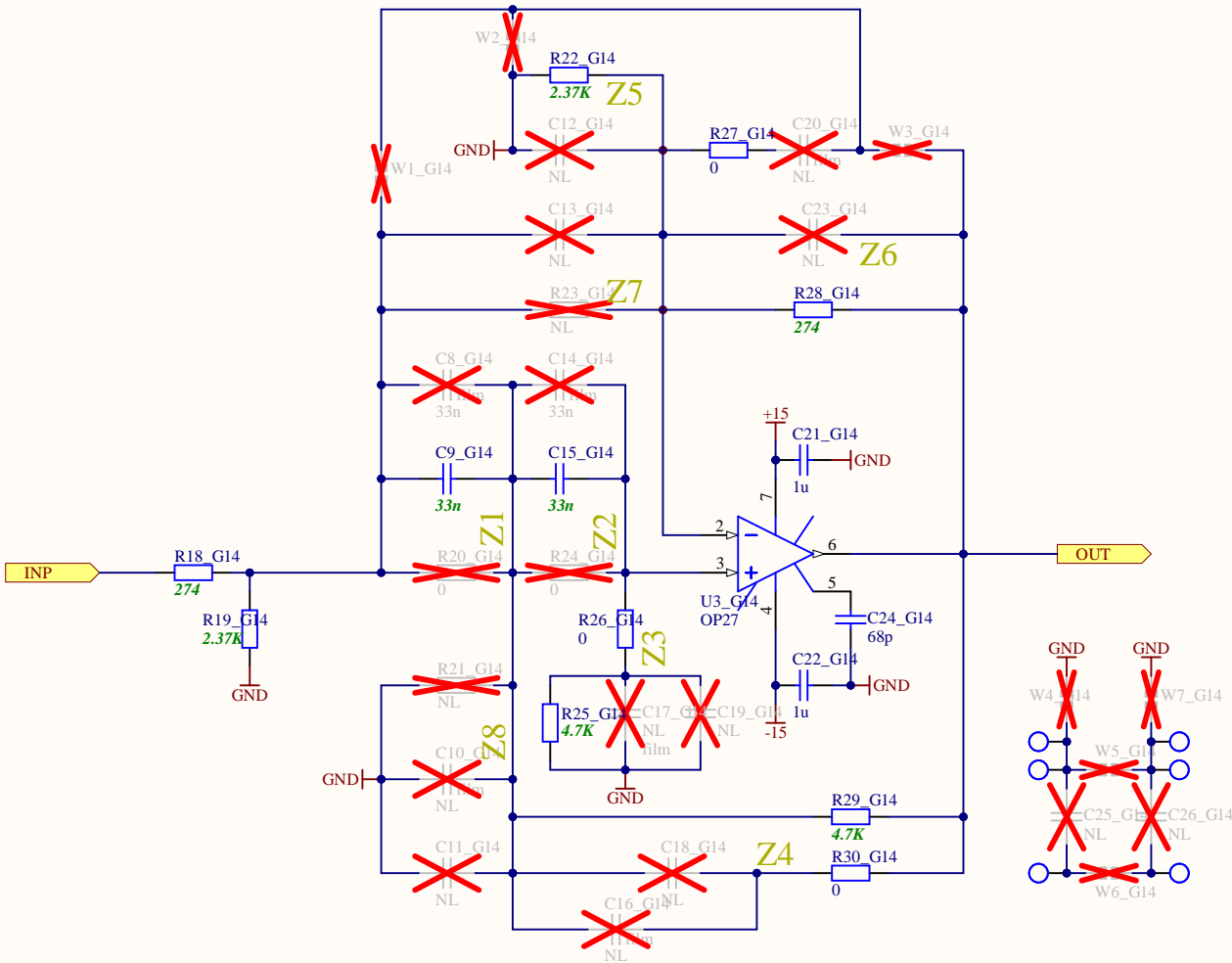
Low pass at 10Hz (4th order Butterworth):
stage 1: Z1 = Z2 = 4.7kΩ, Z3 = Z4 = 3.3uF, Z5 = 2.37kΩ,
Z6 = 348Ω, R18 = 348Ω & R19 = 2.37kΩ
stage 2: Z1 = Z2 = 4.3kΩ, Z3 = Z4 = 3.3uF, Z5 = 2.15kΩ,
Z6 = 2.37kΩ, R18 = 2.37kΩ & R19 = 2.15kΩ

High pass at 1kHz (4th order Butterworth):
stage 1: Z1 = Z2 = 33nF, Z3 = Z4 = 4.7kΩ, Z5 = 2.37kΩ,
Z6 = 274Ω, R18 = 274Ω & R19 = 2.37kΩ
stage 2: Z1 = Z2 = 33nF, Z3 = Z4 = 5.6kΩ, Z5 = 2.8kΩ,
Z6 = 4.7kΩ, R18 = 6.65kΩ & R19 = 2.8kΩ

Variant: HP1kHz

Title Filter Board Generic Filter		
Size B	Number D2500203	Revision 1
Date: 8/15/2025	Sheet 3 of 3	
File: C:\Users\...\GenericFilterStage.SchDoc	Drawn By: Daniel Sigg	

generic filter stage



AC coupling at 0.1Hz: $Z1 = 20\mu F$ & $Z8 = 78.7k\Omega$

DC coupling at 0.1Hz: Z1 = 78.7k Ω & Z8 = 20uF

Low pass at 10Hz (4th order Butterworth):
stage 1: $Z1 = Z2 = 4.7k\Omega$, $Z3 = Z4 = 3.3\mu F$, $Z5 = 2.37k\Omega$.

stage 1: $Z1 = Z2 = 4.7k\Omega$, $Z3 = Z4 = 3.3\mu F$, $Z5 = 2.37k\Omega$,
 $Z6 = 348\Omega$, $R18 = 348\Omega$ & $R19 = 2.37k\Omega$

stage 2: $Z1 = Z2 = 4.3k\Omega$, $Z3 = Z4 = 3.3\mu F$, $Z5 = 2.15k\Omega$,
 $Z6 = 2.37k\Omega$, $R18 = 2.37k\Omega$ & $R19 = 2.15k\Omega$

High pass at 1kHz (4th order Butterworth):
stage 1: $Z_1 = Z_2 = 33\text{nF}$ $Z_3 = Z_4 = 4.7\text{k}\Omega$ $Z_5 = 2.37\text{k}\Omega$

stage 1: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 4.7\text{k}\Omega$, $Z5 = 2.37\text{k}\Omega$,
 $Z6 = 274\Omega$, $R18 = 274\Omega$ & $R19 = 2.37\text{k}\Omega$

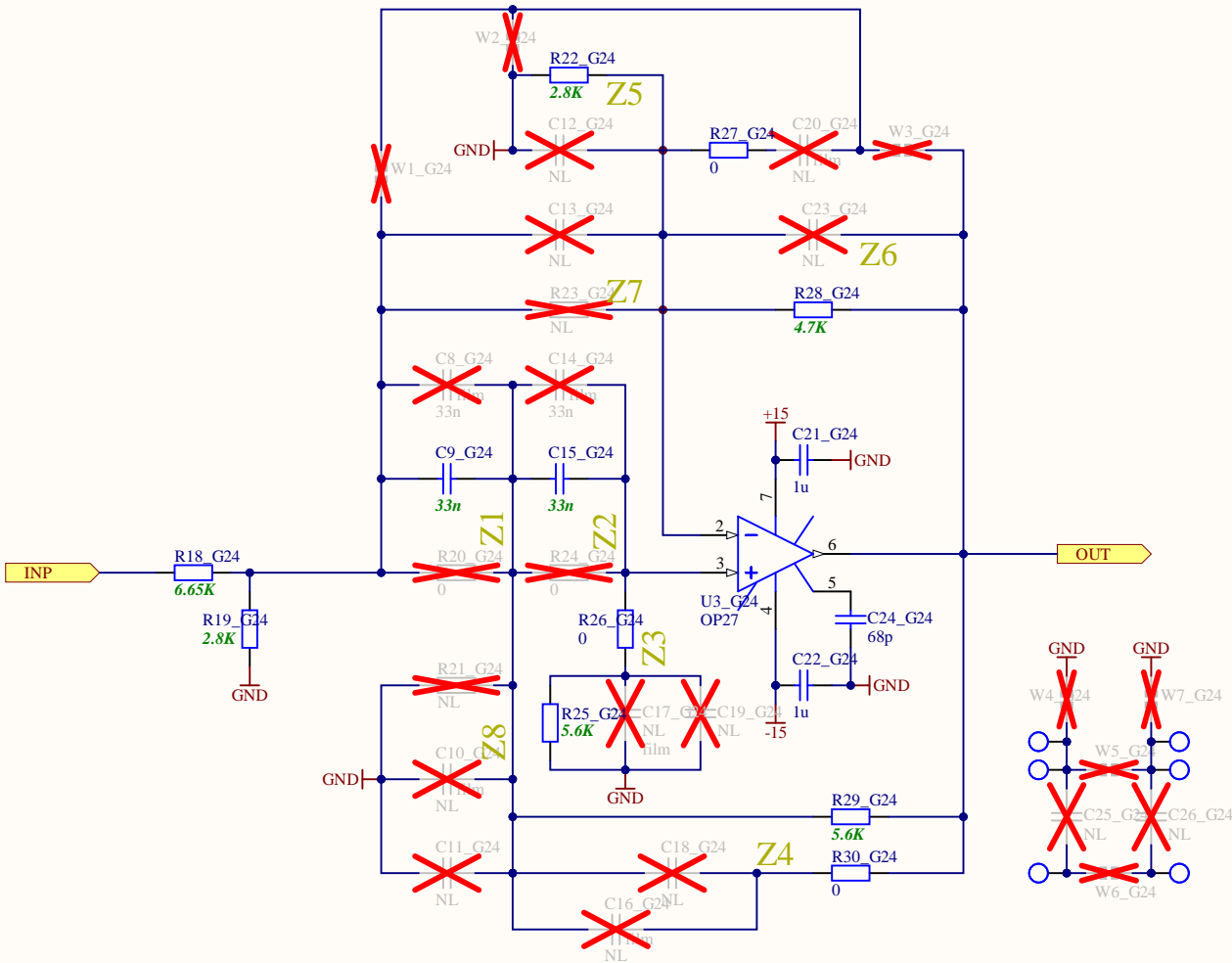
stage 2: $Z1 = Z2 = 33\text{nF}$, $Z3 = Z4 = 5.6\text{k}\Omega$, $Z5 = 2.8\text{k}\Omega$,
 $Z6 = 4.7\text{k}\Omega$, $R18 = 6.65\text{k}\Omega$ & $R19 = 2.8\text{k}\Omega$

C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

Variant: HP1kHz

Title				Filter Board Generic Filter			
Size B		Number D2500203			Revision 1		
Date: File:		8/15/2025 C:\Users\...\GenericFilterStage.SchDoc			Sheet 3 of 3 Drawn By: <u>Daniel Sigg</u>		

generic filter stage



C25 and C26 have large footprints for axial capacitors.
Use as needed instead of smaller footprint capacitors.

AC coupling at 0.1Hz: Z1 = 20uF & Z8 = 78.7kΩ

DC coupling at 0.1Hz: Z1 = 78.7kΩ & Z8 = 20uF

Low pass at 10Hz (4th order Butterworth):
stage 1: Z1 = Z2 = 4.7kΩ, Z3 = Z4 = 3.3uF, Z5 = 2.37kΩ,
Z6 = 348Ω, R18 = 348Ω & R19 = 2.37kΩ
stage 2: Z1 = Z2 = 4.3kΩ, Z3 = Z4 = 3.3uF, Z5 = 2.15kΩ,
Z6 = 2.37kΩ, R18 = 2.37kΩ & R19 = 2.15kΩ

High pass at 1kHz (4th order Butterworth):
stage 1: Z1 = Z2 = 33nF, Z3 = Z4 = 4.7kΩ, Z5 = 2.37kΩ,
Z6 = 274Ω, R18 = 274Ω & R19 = 2.37kΩ
stage 2: Z1 = Z2 = 33nF, Z3 = Z4 = 5.6kΩ, Z5 = 2.8kΩ,
Z6 = 4.7kΩ, R18 = 6.65kΩ & R19 = 2.8kΩ

Variant: HP1kHz

Title Filter Board Generic Filter		
Size B	Number D2500203	Revision 1
Date: 8/15/2025	Sheet 3 of 3	
File: C:\Users\...\GenericFilterStage.SchDoc	Drawn By: Daniel Sigg	