## Filter Summary Report: TIA,simple,Z3,Z4,ZL

## Generated by MacAnalog-Symbolix

## December 5, 2024

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$$\begin{array}{llll} 3.51 & \text{RP-51} \ Z(s) = \left(\infty, \, \infty, \, \frac{C_{24,3}^{1.2} + 1}{C_{24,3}^{1.2} + 1}, \, \frac{1}{C_{4}^{1.2}}, \, \infty, \, R_L\right) & 777 \\ 3.52 & \text{BP-52} \ Z(s) = \left(\infty, \, \infty, \, \frac{C_{24,3}^{1.2} + 1}{C_{24,3}^{1.2} + 1}, \, \frac{1}{C_{4}^{1.2}}, \, \infty, \, \frac{C_{B_B}}{C_{B_B}^{1.2} + 1}\right) & 77 \\ 3.53 & \text{BP-53} \ Z(s) = \left(\infty, \, \infty, \, \frac{C_{24,3}^{1.2} + 1}{C_{24,3}^{1.2} + 1}, \, \frac{C_{4}^{1.2}}{C_{4}^{1.2} + 1}, \, \infty, \, R_L\right) & 78 \\ 3.54 & \text{BP-54} \ Z(s) = \left(\infty, \, \infty, \, \frac{C_{24,3}^{1.2} + 1}{C_{24,3}^{1.2} + 1}, \, \frac{C_{B_B}}{C_{44,4}^{1.2} + 1}, \, \infty, \, R_L\right) & 78 \\ 3.55 & \text{BP-55} \ Z(s) = \left(\infty, \, \infty, \, \frac{C_{24,3}^{1.2} + 1}{C_{24,3}^{1.2} + 1}, \, \frac{C_{B_B}}{C_{B_B}^{1.2} + 1}, \, \infty, \, \frac{C_{B_B}}{C_{A_B}^{1.2} + 1}, \, \infty, \, \frac{C_{B_B}}{C_{A_B}^{1.2} + 1}, \, \frac{C_{B_B}^{1.2}}{C_{A_B}^{1.2} + 1}, \, \frac{C_{B_B}^{1.2}}{$$

$$\begin{array}{lll} 3.71 \; \mathrm{BP}\text{-}71 \; Z(s) = \left( \infty, \; \infty, \; \frac{1}{C_3 + 1} \frac{1}{R_1^2 + \frac{1}{L_2^2}}, \; R_1, \; \infty, \; \frac{1}{C_4 + \frac{1}{R_1^2 + \frac{1}{L_2^2}}} \right) & 87 \\ 3.72 \; \mathrm{BP}\text{-}72 \; Z(s) = \left( \infty, \; \infty, \; \frac{1}{C_3 + \frac{1}{R_3^2 + \frac{1}{L_2^2}}}, \; \frac{1}{C_4 *}, \; \infty, \; R_L \right) & 87 \\ 3.73 \; \mathrm{BP}\text{-}73 \; Z(s) = \left( \infty, \; \infty, \; \frac{1}{C_3 + \frac{1}{R_3^2 + \frac{1}{L_2^2}}}, \; \frac{1}{C_4 *}, \; \infty, \; \frac{1}{C_5 *} \right) & 88 \\ 3.74 \; \mathrm{BP}\text{-}74 \; Z(s) = \left( \infty, \; \infty, \; \frac{1}{C_3 + \frac{1}{R_3^2 + \frac{1}{L_2^2}}}, \; \frac{1}{C_4 *}, \; \infty, \; \frac{1}{C_5 R_5 + \frac{1}{L_3}} \right) & 88 \\ 3.75 \; \mathrm{BP}\text{-}75 \; Z(s) = \left( \infty, \; \infty, \; \frac{1}{C_3 + \frac{1}{R_3^2 + \frac{1}{L_2^2}}}, \; \frac{1}{C_4 *}, \; \infty, \; \frac{1}{C_5 L_5 L_5^{2+1}} \right) & 89 \\ 3.76 \; \mathrm{BP}\text{-}76 \; Z(s) = \left( \infty, \; \infty, \; \frac{1}{C_3 + \frac{1}{R_3^2 + \frac{1}{L_2^2}}}, \; \frac{1}{C_4 *}, \; \infty, \; \frac{1}{C_5 L_5 L_5^{2+1}} \right) & 89 \\ 3.77 \; \mathrm{BP}\text{-}77 \; Z(s) = \left( \infty, \; \infty, \; \frac{1}{C_3 + \frac{1}{R_3^2 + \frac{1}{L_2^2}}}, \; \frac{1}{C_4 *}, \; \infty, \; \frac{1}{C_5 L_5 L_5^{2+1}} \right) & 90 \\ 3.78 \; \mathrm{BP}\text{-}78 \; Z(s) = \left( \infty, \; \infty, \; \frac{1}{C_3 + \frac{1}{R_3^2 + \frac{1}{L_2^2}}}, \; \frac{R_{10}}{C_5 R_5 L_5^2}, \; \frac{R_{10}}{C_5 R_5^2 L_5^2} \right) & 91 \\ 3.80 \; \mathrm{BP}\text{-}80 \; Z(s) = \left( \infty, \; \infty, \; \frac{1}{C_3 + \frac{1}{R_3^2 + \frac{1}{L_2^2}}}, \; \frac{R_{10}}{C_5 R_5^2 L_5^2}, \; \frac{R_{10}}{C_5 R_5^2 L_5^2} \right) & 92 \\ 3.81 \; \mathrm{BP}\text{-}81 \; Z(s) = \left( \infty, \; \infty, \; \frac{1}{C_3 + \frac{1}{R_3^2 + \frac{1}{L_2^2}}}, \; \frac{R_{10}}{C_5 R_5^2 L_5^2}, \; \frac{R_{10}}{C_5 R_5^2 L_5^2} \right) & 92 \\ 3.82 \; \mathrm{BP}\text{-}82 \; Z(s) = \left( \infty, \; \infty, \; \frac{1}{C_3 + \frac{1}{R_3^2 + \frac{1}{L_2^2}}}, \; \frac{R_{10}}{C_5 R_5^2 L_5^2}, \; \frac{R_{10}}{C_5 R_5^2 L_5^2} \right) & 92 \\ 3.83 \; \mathrm{BP}\text{-}82 \; Z(s) = \left( \infty, \; \infty, \; \frac{1}{C_3 + \frac{1}{R_3^2 + \frac{1}{L_2^2}}, \; \frac{R_{10}}{C_5 R_5^2 L_5^2}, \; \frac{R_{10}}{C_5 R_5^2 L_5^2} \right) & 93 \\ 3.84 \; \mathrm{BP}\text{-}82 \; Z(s) = \left( \infty, \; \infty, \; \frac{1}{C_3 + \frac{1}{R_3^2 + \frac{1}{L_2^2}}, \; \frac{L_{10}}{C_5 R_5^2 + \frac{1}{10}}, \; \infty, \; \frac{R_{10}}{C_5 R_5^2 + \frac{1}{10}} \right) & 93 \\ 3.85 \; \mathrm{BP}\text{-}82 \; Z(s) = \left( \infty, \; \infty, \; \frac{1}{C_3 + \frac{1}{R_3^2 + \frac{1}{L_2^2}}, \; \frac{L_{10}^2 R_5^2 + \frac{1}{10}}, \; \infty, \; \frac{R_{10}^2 R_5^2 + \frac{1}{10}}, \; \infty, \; \frac{R_{10}^2 R_5^2 + \frac{1}{10}}, \; \frac{R_{10}^2 R_5^$$

	3.89 BP-89 $Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$		96
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	. '		
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	8.7 INVALID-NUMER-7 $Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, R_L\right)$	
	8.8 INVALID-NUMER-8 $Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$	. 107
	8.9 INVALID-NUMER-9 $Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, R_4, \infty, R_L + \frac{1}{C_L s}\right)$	
	8.10 INVALID-NUMER-10 $Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{1}{C_4 s}, \infty, R_L + \frac{1}{C_L s}\right)$	. 108
	8.11 INVALID-NUMER-11 $Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{R_4}{C_4 R_4 s + 1}, \infty, R_L + \frac{1}{C_L s}\right)$	. 109
	8.12 INVALID-NUMER-12 $Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, R_4 + \frac{1}{C_4 s}, \infty, R_L\right)$	. 109
	8.13 INVALID-NUMER-13 $Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, R_4 + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s}\right)$	. 110
	8.14 INVALID-NUMER-14 $Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, R_4 + \frac{1}{C_4 s}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$	. 110
	8.15 INVALID-NUMER-15 $Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, R_4, \infty, \frac{1}{C_L s}\right)$	. 111
	8.16 INVALID-NUMER-16 $Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, R_4, \infty, \frac{R_L}{C_L R_L s + 1}\right)$	
	8.17 INVALID-NUMER-17 $Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, R_L\right)$	
	8.18 INVALID-NUMER-18 $Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$	
	8.19 INVALID-NUMER-19 $Z(s) = \left(\infty, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ R_L\right)$	. 113
	8.20 INVALID-NUMER-20 $Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{1}{C_L s}\right)$	. 113
	8.21 INVALID-NUMER-21 $Z(s) = \left(\infty, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$	. 114
9	INVALID-WZ	114
	9.1 INVALID-WZ-1 $Z(s) = \left( \infty, \infty, R_3, R_4 + \frac{1}{C_4 s}, \infty, R_L + \frac{1}{C_L s} \right)$	
	9.2 INVALID-WZ-2 $Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, R_4, \infty, R_L + \frac{1}{C_L s}\right)$	
	9.3 INVALID-WZ-3 $Z(s) = (\infty, \infty, R_3 + \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, R_L)$	. 116

10 INVALID-ORDER
10.1 INVALID-ORDER-1 $Z(s) = (\infty, \infty, R_3, R_4, \infty, R_L)$
10.2 INVALID-ORDER-2 $Z(s) = \left(\infty, \infty, R_3, R_4, \infty, \frac{1}{C_L s}\right)$
10.3 INVALID-ORDER-3 $Z(s) = \left(\infty, \infty, R_3, R_4, \infty, \frac{R_L}{C_L R_L s + 1}\right)$
10.4 INVALID-ORDER-4 $Z(s) = \left(\infty, \infty, R_3, R_4, \infty, R_L + \frac{1}{C_L s}\right)$
10.5 INVALID-ORDER-5 $Z(s) = \left(\infty, \infty, R_3, \frac{1}{C_4 s}, \infty, R_L\right)$
10.6 INVALID-ORDER-6 $Z(s) = \left(\infty, \infty, R_3, \frac{1}{C_4 s}, \infty, \frac{1}{C_L s}\right)$
10.7 INVALID-ORDER-7 $Z(s) = \left(\infty, \infty, R_3, \frac{1}{C_4 s}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$
10.8 INVALID-ORDER-8 $Z(s) = \left(\infty, \infty, R_3, \frac{1}{C_4 s}, \infty, L_L s + \frac{1}{C_L s}\right)$
10.9 INVALID-ORDER-9 $Z(s) = \left(\infty, \infty, R_3, \frac{1}{C_4 s}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$
10.10INVALID-ORDER-10 $Z(s) = \left(\infty, \infty, R_3, \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$
10.11INVALID-ORDER-11 $Z(s) = \left(\infty, \ \infty, \ R_3, \ \frac{1}{C_4 s}, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$
$10.12 \text{INVALID-ORDER-} 12 \ Z(s) = \left(\infty, \ \infty, \ R_3, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ R_L\right)  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  $
10.13INVALID-ORDER-13 $Z(s) = \left(\infty, \infty, R_3, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{1}{C_L s}\right)$
10.14INVALID-ORDER-14 $Z(s) = \left(\infty, \infty, R_3, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$
10.15INVALID-ORDER-15 $Z(s) = \left(\infty, \infty, R_3, \frac{R_4}{C_4 R_4 s + 1}, \infty, L_L s + \frac{1}{C_L s}\right)$
10.16INVALID-ORDER-16 $Z(s) = \left(\infty, \infty, R_3, \frac{R_4}{C_4 R_4 s + 1}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$
10.17INVALID-ORDER-17 $Z(s) = \left(\infty, \ \infty, \ R_3, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$
10.18INVALID-ORDER-18 $Z(s) = \left(\infty, \ \infty, \ R_3, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$
10.19INVALID-ORDER-19 $Z(s) = \left(\infty, \infty, R_3, R_4 + \frac{1}{C_4 s}, \infty, R_L\right)$
10.20INVALID-ORDER-20 $Z(s) = \left(\infty, \infty, R_3, R_4 + \frac{1}{C_4 s}, \infty, L_L s + \frac{1}{C_L s}\right)$
10.21INVALID-ORDER-21 $Z(s) = \left(\infty, \ \infty, \ R_3, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right)$
10.22INVALID-ORDER-22 $Z(s) = \left(\infty, \infty, R_3, R_4 + \frac{1}{C_4 s}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$

10.23INVALID-ORDER-23 $Z(s) = ($	$\left(\infty, \ \infty, \ R_3, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$	120
10.24INVALID-ORDER-24 $Z(s) = ($	$\left(\infty, \infty, R_3, R_4 + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$	120
10.25INVALID-ORDER-25 $Z(s) = 1$	$\left(\infty, \ \infty, \ R_3, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right) \ \dots $	121
10.26INVALID-ORDER-26 $Z(s) = ($	$\left(\infty,\ \infty,\ R_3,\ L_4s+rac{1}{C_4s},\ \infty,\ rac{1}{C_Ls} ight)$	121
10.27INVALID-ORDER-27 $Z(s) = ($	$\left(\infty,\;\infty,\;R_3,\;L_4s+rac{1}{C_4s},\;\infty,\;rac{R_L}{C_LR_Ls+1} ight)\;\ldots\;\ldots\;\ldots\;$	121
10.28INVALID-ORDER-28 $Z(s) = ($	$\left(\infty, \ \infty, \ R_3, \ L_4s + \frac{1}{C_4s}, \ \infty, \ R_L + \frac{1}{C_Ls}\right)$	121
10.29INVALID-ORDER-29 $Z(s) = ($	$\left(\infty, \ \infty, \ R_3, \ L_4s + \frac{1}{C_4s}, \ \infty, \ L_Ls + \frac{1}{C_Ls}\right)$	121
10.30INVALID-ORDER-30 $Z(s) = ($	$\left(\infty,\ \infty,\ R_3,\ L_4s+rac{1}{C_4s},\ \infty,\ rac{L_Ls}{C_LL_Ls^2+1} ight)$	122
10.31 INVALID-ORDER-31 $Z(s)=\left(\right.$	$\left(\infty, \ \infty, \ R_3, \ L_4s + \frac{1}{C_4s}, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls}\right)$	122
10.32INVALID-ORDER-32 $Z(s) = 1$	$\left(\infty, \ \infty, \ R_3, \ L_4s + \frac{1}{C_4s}, \ \infty, \ \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$	122
10.33INVALID-ORDER-33 $Z(s) = ($	$\left(\infty, \ \infty, \ R_3, \ L_4s + \frac{1}{C_4s}, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$	122
10.34INVALID-ORDER-34 $Z(s) = ($	$\left(\infty, \ \infty, \ R_3, \ L_4s + \frac{1}{C_4s}, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$	122
	$\left(\infty, \ \infty, \ R_3, \ \frac{L_4s}{C_4L_4s^2+1}, \ \infty, \ R_L+\frac{1}{C_Ls}\right)$	123
10.36INVALID-ORDER-36 $Z(s) = ($	$(\infty, \infty, R_3, \frac{L_4s}{C_4L_4s^2+1}, \infty, L_Ls + \frac{1}{C_Ls})$	123
10.37INVALID-ORDER-37 $Z(s) = ($	$\left(\infty, \ \infty, \ R_3, \ \frac{L_4s}{C_4L_4s^2+1}, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls}\right)$	123
10.38INVALID-ORDER-38 $Z(s) = ($	$\left(\infty, \ \infty, \ R_3, \ \frac{L_4s}{C_4L_4s^2+1}, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$	123
10.39INVALID-ORDER-39 $Z(s) = 0$	$\left(\infty, \ \infty, \ R_3, \ \frac{L_4s}{C_4L_4s^2+1}, \ \infty, \ \frac{R_L\left(L_Ls+\frac{1}{C_Ls}\right)}{L_Ls+R_L+\frac{1}{C_Ls}}\right)$	123
	$(\infty, \infty, R_3, L_4s + R_4 + \frac{1}{C_4s}, \infty, \frac{1}{C_Ls})$	124
10.41INVALID-ORDER-41 $Z(s) = ($	$(\infty, \infty, R_3, L_4s + R_4 + \frac{1}{C_4s}, \infty, \frac{R_L}{C_LR_Ls + 1})$	124
10.42INVALID-ORDER-42 $Z(s) = ($	$\left(\infty, \ \infty, \ R_3, \ L_4s + R_4 + rac{1}{C_4s}, \ \infty, \ R_L + rac{1}{C_Ls} ight) \ \ldots \ $	124
10.43INVALID-ORDER-43 $Z(s) = ($	$\left(\infty, \infty, R_3, L_4s + R_4 + \frac{1}{C_4s}, \infty, L_Ls + \frac{1}{C_Ls}\right)$	124
10.44INVALID-ORDER-44 $Z(s) = ($	$(\infty, \infty, R_3, L_4s + R_4 + \frac{1}{C_4s}, \infty, \frac{L_Ls}{C_LL_Ls^2 + 1})$	124

10.45INVALID-ORDER-45 $Z(s) = ($	$\left(\infty, \infty, R_3, L_4s + R_4 + \frac{1}{C_4s}, \infty, L_Ls + R_L + \frac{1}{C_Ls}\right) \dots \dots$	124
10.46INVALID-ORDER-46 $Z(s) = ($	$\left(\infty, \ \infty, \ R_3, \ L_4s + R_4 + \frac{1}{C_4s}, \ \infty, \ \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right) \ \dots $	125
10.47INVALID-ORDER-47 $Z(s) = ($	$(\infty, \infty, R_3, L_4s + R_4 + \frac{1}{C_4s}, \infty, \frac{L_Ls}{C_LL_Ls^2 + 1} + R_L)$	125
10.48INVALID-ORDER-48 $Z(s) = 1$	$\left(\infty, \ \infty, \ R_3, \ L_4s + R_4 + \frac{1}{C_4s}, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right) $	125
	$\left(\infty, \ \infty, \ R_3, \ \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \ \infty, \ R_L + \frac{1}{C_L s}\right)$	125
10.50INVALID-ORDER-50 $Z(s) = ($	$\left(\infty, \ \infty, \ R_3, \ \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \ \infty, \ L_L s + \frac{1}{C_L s}\right) \ \dots $	125
10.51INVALID-ORDER-51 $Z(s) = ($	$\left(\infty, \ \infty, \ R_3, \ \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right) \ \dots \ $	126
	$\left(\begin{array}{cccccccccccccccccccccccccccccccccccc$	126
10.53INVALID-ORDER-53 $Z(s) = 1$	$\left(\infty, \infty, R_3, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$	126
10.54INVALID-ORDER-54 $Z(s) = ($	$\left(\infty, \ \infty, \ R_3, \ \frac{L_4s}{C_4L_4s^2+1} + R_4, \ \infty, \ \frac{1}{C_Ls}\right)$	126
10.55INVALID-ORDER-55 $Z(s) = ($	$(\infty, \infty, R_3, \frac{L_4s}{C_4L_4s^2+1} + R_4, \infty, \frac{R_L}{C_LR_Ls+1})$	126
10.56INVALID-ORDER-56 $Z(s) = ($	$\left(\infty, \ \infty, \ R_3, \ \frac{L_4s}{C_4L_4s^2+1} + R_4, \ \infty, \ R_L + \frac{1}{C_Ls}\right)$	127
10.57INVALID-ORDER-57 $Z(s) = ($	$\left(\infty, \ \infty, \ R_3, \ \frac{L_4s}{C_4L_4s^2+1} + R_4, \ \infty, \ L_Ls + \frac{1}{C_Ls}\right)$	127
10.58INVALID-ORDER-58 $Z(s) = ($	$\left(\infty, \ \infty, \ R_3, \ \frac{L_4s}{C_4L_4s^2+1} + R_4, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1}\right)$	127
10.59INVALID-ORDER-59 $Z(s) = ($	$\left(\infty, \ \infty, \ R_3, \ \frac{L_4s}{C_4L_4s^2+1} + R_4, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls}\right) \ \dots $	127
10.60INVALID-ORDER-60 $Z(s) = 1$	$\left(\infty, \infty, R_3, \frac{L_4s}{C_4L_4s^2+1} + R_4, \infty, \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$	127
10.61 INVALID-ORDER-61 $Z(s)=\left(\right.$	$\left(\infty, \ \infty, \ R_3, \ \frac{L_4s}{C_4L_4s^2+1} + R_4, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$	128
10.62INVALID-ORDER-62 $Z(s) = 1$	$\left(\infty, \ \infty, \ R_3, \ \frac{L_4s}{C_4L_4s^2+1} + R_4, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right) \ \dots $	128
	$\left(\infty, \infty, R_3, \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}, \infty, \frac{1}{C_Ls}\right) \dots \dots$	128
10.64INVALID-ORDER-64 $Z(s) = 0$	$\left(\infty,  \infty,  R_3,  \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}},  \infty,  \frac{R_L}{C_L R_L s + 1}\right)  \dots $	128

10.65INVALID-ORDER-65 $Z(s) =$	$\left(\infty, \infty, \infty\right)$	$R_3, \frac{R_3}{L}$	$\frac{\frac{1}{4}\left(L_4s + \frac{1}{C_4s}\right)}{4s + R_4 + \frac{1}{C_4s}}$	$\left(\frac{1}{4^s}\right) \over \frac{1}{C_4 s}$ , $\infty$ ,	$R_L +$	$\frac{1}{C_L s}$		 	 	 	 	 	 . 128
10.66INVALID-ORDER-66 $Z(s) =$	(		_	248		/		 	 	 	 	 	 . 129
10.67INVALID-ORDER-67 $Z(s) =$	$\left(\infty, \infty, \right)$	$R_3, \frac{R_3}{L}$	$\frac{4\left(L_4s + \frac{1}{C_4}\right)}{4s + R_4 + \frac{1}{C_4}}$	$\left(\frac{\frac{1}{4^s}}{\frac{1}{C_4 s}}\right),  \infty,$	$\frac{L_L}{C_L L_L s}$	$\left(\frac{s}{s^2+1}\right)$		 	 	 	 	 	 . 129
10.68INVALID-ORDER-68 $Z(s) =$	\		_	-40			,		 	 	 	 	 . 129
10.69INVALID-ORDER-69 $Z(s) =$	\						,	 	 	 	 	 	 . 129
10.70INVALID-ORDER-70 $Z(s) =$	$\left(\infty, \ \infty, \right)$	$R_3, \frac{R_3}{L}$	$\frac{4\left(L_4s + \frac{1}{C_4}\right)}{4s + R_4 + \frac{1}{C_4}}$	$\left(\frac{\frac{1}{4^s}}{\frac{1}{C_4 s}}\right),  \infty,$	$\frac{L_L}{C_L L_L s}$	$\frac{s}{s^2+1}$ +	$R_L$	 	 	 	 	 	 . 129
10.71INVALID-ORDER-71 $Z(s) =$	$\left(\infty, \infty, \right)$	$R_3, \frac{R_3}{L}$	$\frac{4\left(L_4s + \frac{1}{C_2}\right)}{4s + R_4 + \frac{1}{C_2}}$	$\left(\frac{\frac{1}{4^s}}{\frac{1}{C_4 s}}\right),  \infty,$	$R_L \left( L_L s + \frac{1}{L_L s + \frac{1}{L_L s}} \right)$	$\frac{Ls + \frac{1}{C_Ls}}{R_L + \frac{1}{C_Ls}}$	$\left(\frac{1}{s}\right)$	 	 	 	 	 	 . 130
10.72INVALID-ORDER-72 $Z(s) =$	$(\infty, \infty, \gamma)$	$\frac{1}{C_3s}$ , $R$	$2_4, \infty, 1$	$R_L$ ) .				 	 	 	 	 	 . 130
10.73INVALID-ORDER-73 $Z(s) =$	$(\infty, \infty, \gamma)$	$\frac{1}{C_3s}$ , R	$2_4, \infty, 7$	$\frac{1}{C_L s}$ ).				 	 	 	 	 	 . 130
10.74INVALID-ORDER- $74$ $Z(s) =$	$(\infty, \infty, \gamma)$	$\frac{1}{C_3s}$ , $R$	$2_4, \infty, \frac{1}{6}$	$\frac{\stackrel{'}{R_L}}{C_L R_L s + 1}$	$\bar{1}$ )			 	 	 	 	 	 . 130
10.75INVALID-ORDER-75 $Z(s) =$	>				/ \			 	 	 	 	 	 . 130
10.76INVALID-ORDER-76 $Z(s) =$	>				/								
10.77INVALID-ORDER-77 $Z(s) =$	>					\'							
10.78INVALID-ORDER-78 $Z(s) =$	`			,	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	/		 	 	 	 	 	 . 131
10.79INVALID-ORDER-79 $Z(s) =$	>				- /			 	 	 	 	 	 . 131
10.80INVALID-ORDER-80 $Z(s) =$	`			,									
10.81INVALID-ORDER-81 $Z(s) =$	>			/				 	 	 	 	 	 . 131
10.82INVALID-ORDER-82 $Z(s) =$	>				· \								
10.83INVALID-ORDER-83 $Z(s) =$	>				/、								
10.84INVALID-ORDER-84 $Z(s) =$	>				` '								
10.85INVALID-ORDER-85 $Z(s) =$	>				,	\							

10.86INVALID-ORDER-86 $Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$	132
10.87INVALID-ORDER-87 $Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right) \dots \dots$	132
10.88INVALID-ORDER-88 $Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, R_L\right)$	132
10.89INVALID-ORDER-89 $Z(s) = (\infty, \infty, \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{1}{C_L s})$	133
10.90INVALID-ORDER-90 $Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$	133
10.91INVALID-ORDER-91 $Z(s) = \left(\infty, \ \infty, \ \frac{1}{C_3 s}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$	133
10.92INVALID-ORDER-92 $Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$	133
	133
10.94INVALID-ORDER-94 $Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$	133
	134
10.96INVALID-ORDER-96 $Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, R_L + \frac{1}{C_L s}\right)$	134
10.97INVALID-ORDER-97 $Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, L_L s + \frac{1}{C_L s}\right) \dots \dots$	134
10.98INVALID-ORDER-98 $Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$	134
10.99INVALID-ORDER-99 $Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$	134
10.10 <b>0</b> NVALID-ORDER-100 $Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$	134
10.10INVALID-ORDER-101 $Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$	135
10.102NVALID-ORDER-102 $Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$	135
10.10 <b>\$</b> NVALID-ORDER-103 $Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, R_L\right)$	135
10.104NVALID-ORDER-104 $Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s}\right)$	135
10.10 INVALID-ORDER-105 $Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$	135
10.10 <b>6</b> NVALID-ORDER-106 $Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, R_L + \frac{1}{C_L s}\right)$	136
10.10 INVALID-ORDER-107 $Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, L_L s + \frac{1}{C_L s}\right)$	136

10.10&NVALID-ORDER-108 $Z(s) =$	$\left(\infty, \infty, \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$	. 136
10.10 <b>9</b> NVALID-ORDER-109 $Z(s) =$	$\left(\infty, \ \infty, \ \frac{1}{C_3 s}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$	. 136
10.11 ONVALID-ORDER-110 $Z(s) =$	$\left(\infty, \ \infty, \ \frac{1}{C_{3s}}, \ L_{4s} + \frac{1}{C_{4s}}, \ \infty, \ \frac{1}{C_{Ls} + \frac{1}{L_{Ls}}}\right) \ldots \ldots$	. 136
10.11INVALID-ORDER-111 $Z(s) =$	$(\infty, \infty, \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L)$	. 137
10.11 <b>2</b> NVALID-ORDER-112 $Z(s) =$	$\left(\infty, \ \infty, \ \frac{1}{C_{3}s}, \ L_{4}s + \frac{1}{C_{4}s}, \ \infty, \ \frac{R_{L}\left(L_{L}s + \frac{1}{C_{L}s}\right)}{L_{L}s + R_{L} + \frac{1}{C_{L}s}}\right) $	. 137
10.11 <b>B</b> NVALID-ORDER-113 $Z(s) =$	$\left(\infty, \infty, \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, \frac{1}{C_L s}\right)$	. 137
10.114NVALID-ORDER-114 $Z(s) =$	$\left(\infty, \ \infty, \ \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ R_L + \frac{1}{C_L s}\right)$	. 137
10.115NVALID-ORDER-115 $Z(s) =$	$\left(\infty, \ \infty, \ \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$	. 137
10.116NVALID-ORDER-116 $Z(s) =$	$\left(\infty, \ \infty, \ \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right)$	. 137
10.11 <b>T</b> NVALID-ORDER-117 $Z(s) =$	$\left(\infty,  \infty,  \frac{1}{C_3 s},  \frac{L_4 s}{C_4 L_4 s^2 + 1},  \infty,  L_L s + R_L + \frac{1}{C_L s}\right)  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  $	. 138
10.11&NVALID-ORDER-118 $Z(s) =$	$\left(\infty,  \infty,  \frac{1}{C_3 s},  \frac{L_4 s}{C_4 L_4 s^2 + 1},  \infty,  \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$	. 138
10.11 <b>9</b> NVALID-ORDER-119 $Z(s) =$	$\left(\infty, \ \infty, \ \frac{1}{C_{3s}}, \ \frac{L_{4s}}{C_{4}L_{4}s^{2}+1}, \ \infty, \ \frac{R_{L}\left(L_{L}s+\frac{1}{C_{L}s}\right)}{L_{L}s+R_{L}+\frac{1}{C_{L}s}}\right) \ \dots $	. 138
10.12 ONVALID-ORDER- $120 Z(s) = 10.12$	$\left(\infty, \infty, \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, R_L\right)$	. 138
10.12INVALID-ORDER-121 $Z(s) =$	$\left(\infty, \infty, \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s}\right)$	. 138
10.12 <b>2</b> NVALID-ORDER-122 $Z(s) =$	$\left(\infty, \infty, \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$	. 139
10.12\SNVALID-ORDER-123 $Z(s) =$	$(\infty, \infty, \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, R_L + \frac{1}{C_L s})$	. 139
10.12#NVALID-ORDER-124 $Z(s) = 1$	$\left(\infty, \infty, \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, L_L s + \frac{1}{C_L s}\right)$	. 139
10.125NVALID-ORDER-125 $Z(s) = 1$	$(\infty, \infty, \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1})$	. 139
	$\left(\infty, \infty, \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, L_L s + R_L + \frac{1}{C_L s}\right) \ldots \ldots$	. 139
10.12TNVALID-ORDER- $127 Z(s) =$	$(\infty, \infty, \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}})$	. 140
10.12\( \) NVALID-ORDER-128 $Z(s) = 0$	$(\infty, \infty, \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L)$	. 140
10.12 <b>9</b> NVALID-ORDER-129 $Z(s) =$	$\left(\infty,  \infty,  \frac{1}{C_{3}s},  L_{4}s + R_{4} + \frac{1}{C_{4}s},  \infty,  \frac{R_{L}\left(L_{L}s + \frac{1}{C_{L}s}\right)}{L_{L}s + R_{L} + \frac{1}{C_{L}s}}\right) \right)  \dots $	. 140

10.13 <b>0</b> NVALID-ORDER-130 $Z(s) =$	$\left(\infty, \ \infty, \ \frac{1}{C_3 s}, \right)$	$\frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \ \infty,$	$R_L + \frac{1}{C_L s}$		 	 	 140
10.13INVALID-ORDER-131 $Z(s) =$	$\left(\infty, \ \infty, \ \frac{1}{C_3 s}, \right)$	$\frac{1}{C_4s + \frac{1}{R_4} + \frac{1}{L_4s}}, \ \infty,$	$L_L s + \frac{1}{C_L s}$	)	 	 	 140
10.13 <b>2</b> NVALID-ORDER-132 $Z(s) =$	$\left(\infty, \ \infty, \ \frac{1}{C_3 s}, \right)$	$\frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \ \infty,$	$L_L s + R_L$	$+\frac{1}{C_L s}$	 	 	 141
10.13 <b>B</b> NVALID-ORDER-133 $Z(s) =$	`			,	 	 	 141
10.134NVALID-ORDER-134 $Z(s) =$	$\left(\infty, \ \infty, \ \frac{1}{C_3 s}, \right)$	$\frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \ \infty,$	$\frac{R_L \left( L_L s + \frac{1}{C_L} \right)}{L_L s + R_L + \frac{1}{C_L}}$	$\left(\frac{\overline{L^s}}{L^s}\right)$ .	 	 	 141
10.13 <b>5</b> NVALID-ORDER-135 $Z(s) = 0$					 	 	 141
10.136NVALID-ORDER-136 $Z(s) = 0$	$(\infty, \infty, \frac{1}{C_3 s},$	$\frac{L_4s}{C_4L_4s^2+1} + R_4$ , c	$o$ , $\frac{1}{C_L s}$ )		 	 	 141
10.13 <b>T</b> NVALID-ORDER-137 $Z(s) = 0$	$\left(\infty, \ \infty, \ \frac{1}{C_3 s}, \right)$	$\frac{L_4s}{C_4L_4s^2+1} + R_4$ , c	$C$ , $\frac{R_L}{C_L R_L s + 1}$	)	 	 	 142
10.13\( \text{NVALID-ORDER-138} \) $Z(s) = 0$	$\left(\infty, \ \infty, \ \frac{1}{C_3 s}, \right)$	$\frac{L_4s}{C_4L_4s^2+1} + R_4$ , c	$\infty$ , $R_L + \frac{1}{C_{LS}}$	$\left(\frac{1}{8}\right)$	 	 	 142
10.139NVALID-ORDER-139 $Z(s) = 0$	$(\infty, \infty, \frac{1}{C_3 s},$	$\frac{L_4s}{C_4L_4s^2+1} + R_4$ , c	$o, L_L s + \frac{1}{C_L}$	$\left(\frac{1}{2s}\right)$	 	 	 142
10.14 ONVALID-ORDER-140 $Z(s) = 1$	$\left(\infty, \ \infty, \ \frac{1}{C_3 s}, \right)$	$\frac{L_4s}{C_4L_4s^2+1} + R_4$ , c	$0, \ \frac{L_L s}{C_L L_L s^2 + 1}$	$\left( \begin{array}{ccc} 1 & 1 & 1 \end{array} \right)$	 	 	 142
10.14INVALID-ORDER-141 $Z(s) = 1$	$(\infty, \infty, \frac{1}{C_3 s},$	$\frac{L_4s}{C_4L_4s^2+1} + R_4$ , c	$\infty$ , $L_L s + R_L$	$L + \frac{1}{C_L s}$	 	 	 142
10.142NVALID-ORDER-142 $Z(s) =$	$\left(\infty, \ \infty, \ \frac{1}{C_3 s}, \right)$	$\frac{L_4s}{C_4L_4s^2+1} + R_4, \ \epsilon$	$\infty, \frac{1}{C_L s + \frac{1}{R_L}}$	$\left(\frac{1}{L_L s}\right)$	 	 	 143
10.14BNVALID-ORDER- $143 Z(s) = 0$	$(\infty, \infty, \frac{1}{C_3 s},$	$\frac{L_4s}{C_4L_4s^2+1} + R_4$ , c	$0, \ \frac{L_L s}{C_L L_L s^2 + 1}$	$\left(1 + R_L\right)$	 	 	 143
10.14 INVALID-ORDER-144 $Z(s) =$	$\left(\infty, \ \infty, \ \frac{1}{C_3 s}, \right)$	$\frac{L_4s}{C_4L_4s^2+1} + R_4$ , or	$\infty$ , $R_L(L_L s + L_L s + R_L + L_L s + R_L +$	$\left(\frac{\frac{1}{C_L s}}{\frac{1}{C_L s}}\right)$	 	 	 143
10.145NVALID-ORDER-145 $Z(s) = 1$	$\left(\infty, \ \infty, \ \frac{1}{C_3 s}, \right)$	$\frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \ \infty$	$, R_L$ )		 	 	 143
10.146NVALID-ORDER- $146 Z(s) = 1$	$(\infty, \infty, \frac{1}{C_3 s},$	$\frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}, \ \infty$	$, \frac{1}{C_L s}$		 	 	 143
10.14 <b>T</b> NVALID-ORDER-147 $Z(s) = 1$	$\left(\infty, \ \infty, \ \frac{1}{C_3 s}, \right)$	$\frac{R_4 \left( L_4 s + \frac{1}{C_4 s} \right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \ \infty$	$\left(\frac{R_L}{C_L R_L s + 1}\right)$		 	 	 144
10.14\nstantantantantantantantantantantantantant	$(\infty, \infty, \frac{1}{C_3 s},$	$\frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}, \ \infty$	$R_L + \frac{1}{C_L s}$	)	 	 	 144

10.14 <b>9</b> NVALID-ORDER-149 $Z(s) = \left( \begin{array}{c} \\ \end{array} \right)$	$\left(\infty, \ \infty, \ \frac{1}{C_3 s}, \ \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$
10.15@NVALID-ORDER-150 $Z(s) = \left( \right.$	$\left(\infty, \ \infty, \ \frac{1}{C_3 s}, \ \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right) $
	$\left(\infty, \ \infty, \ \frac{1}{C_3 s}, \ \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right) $
10.15 <b>2</b> NVALID-ORDER-152 $Z(s) = \left( \right.$	$\left(\infty, \ \infty, \ \frac{1}{C_3 s}, \ \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \ \infty, \ \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  $
10.15 <b>%</b> NVALID-ORDER-153 $Z(s) = \left( \frac{1}{2} \right)$	$\left(\infty, \ \infty, \ \frac{1}{C_3 s}, \ \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right) \ \dots $
10.154NVALID-ORDER-154 $Z(s) = ($	$\left(\infty, \ \infty, \ \frac{1}{C_3 s}, \ \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right) \ \dots \ $
10.15 INVALID-ORDER-155 $Z(s) = ($	$\left(\infty, \infty, \frac{R_3}{C_3 R_3 s+1}, R_4, \infty, R_L\right)$
10.156NVALID-ORDER-156 $Z(s) = ($	$(\infty, \infty, \frac{R_3}{C_3R_3s+1}, R_4, \infty, \frac{1}{C_Ls})$
10.15 <b>T</b> NVALID-ORDER-157 $Z(s) = \left(\begin{array}{c} \\ \end{array}\right)$	$\stackrel{\searrow}{\sim}$ , $\infty$ , $\frac{R_3}{C_3R_3s+1}$ , $R_4$ , $\infty$ , $\frac{\stackrel{\frown}{R_L}}{C_LR_Ls+1}$ )
	$(\infty, \infty, \frac{R_3}{C_3R_3s+1}, R_4, \infty, L_Ls + \frac{1}{C_Ls})$
`	$(\infty, \infty, \frac{R_3}{C_3R_{3s+1}}, R_4, \infty, L_L s + R_L + \frac{1}{C_L s})$
	$(\infty, \infty, \frac{R_3}{C_3R_3s+1}, R_4, \infty, \frac{L_Ls}{C_LL_Ls^2+1} + R_L)$
	$\left(\infty,  \infty,  \frac{R_3}{C_3 R_3 s+1},  R_4,  \infty,  \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  $
	$\stackrel{\searrow}{\sim}$ , $\infty$ , $\frac{R_3}{C_3R_3s+1}$ , $\frac{1}{C_4s}$ , $\infty$ , $R_L$ )
	$\infty$ , $\infty$ , $\frac{R_3}{C_3R_3s+1}$ , $\frac{1}{C_4s}$ , $\infty$ , $\frac{1}{C_Ls}$ )
	$\left\langle \infty, \infty, \frac{R_3}{C_3R_3s+1}, \frac{1}{C_4s}, \infty, \frac{R_L}{C_LR_Ls+1} \right\rangle \dots $
	$(\infty, \infty, \frac{R_3}{C_3R_3s+1}, \frac{1}{C_4s}, \infty, L_Ls + \frac{1}{C_Ls})$
	$(\infty, \infty, \frac{R_3}{C_3R_3s+1}, \frac{1}{C_4s}, \infty, L_Ls + R_L + \frac{1}{C_Ls})$
	$(\infty, \infty, \frac{R_3}{C_3R_3s+1}, \frac{1}{C_4s}, \infty, \frac{L_Ls}{C_LL_Ls^2+1} + R_L)$
	$\left(\infty,  \infty,  \frac{R_3}{C_3 R_3 s + 1},  \frac{1}{C_4 s},  \infty,  \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  $
	$\langle \infty, \infty, \frac{R_3}{C_3R_3s+1}, \frac{R_4}{C_4R_4s+1}, \infty, R_L \rangle$

10.17 <b>(</b>	NVALID-	ORDER-17	0 Z(s) = 0	$\Big(\infty,$	$\infty$ ,	$\tfrac{R_3}{C_3R_3s+1},$	$\frac{R_4}{C_4R_4s+1}$	$, \infty,$	$\frac{1}{C_L}$	$\left(\frac{1}{\sqrt{s}}\right) \cdot \cdot \cdot$				 	 	 	 	 	 148
10.17 <b>1</b>	NVALID-	ORDER-17	1 Z(s) = 0	$(\infty,$	$\infty$ ,	$\frac{R_3}{C_3R_3s+1},$	$\frac{R_4}{C_4R_4s+1}$	$, \infty,$	$\overline{C_L}$	$\left(\frac{R_L}{R_L s+1}\right)$				 	 	 	 	 	 148
10.17 <b>1</b>	NVALID-	ORDER-17	2 Z(s) = 0	$(\infty,$	$\infty$ ,	$\frac{R_3}{C_3R_3s+1},$	$\frac{R_4}{C_4R_4s+1}$	$, \infty,$	$L_L$	$\left(s + \frac{1}{C_L s}\right)$	) .			 	 	 	 	 	 148
		ORDER-17		/		_	_					\					 	 	 148
10.174	NVALID-	ORDER-17	4 Z(s) = 0	$\left(\infty,\right.$	$\infty$ ,	$\tfrac{R_3}{C_3R_3s+1},$	$\frac{R_4}{C_4R_4s+1}$	$, \infty,$	$\overline{C_L}$	$\frac{L_L s}{L_L s^2 + 1}$ +	$\vdash R_L$			 	 	 	 	 	 149
10.17 <b>I</b>	NVALID-	ORDER-17	5 Z(s) =	$\left(\infty,\right.$	$\infty$ ,	$\frac{R_3}{C_3R_3s+1},$	$\frac{R_4}{C_4R_4s+1}$	$, \infty,$	$\frac{R_1}{L_1}$	$\frac{L\left(L_L s + \frac{1}{C_L}\right)}{L_L s + R_L + \frac{1}{C_L}}$	$\left(\frac{1}{L^s}\right)$			 	 	 	 	 	 149
		ORDER-17		/						,	\			 	 	 	 	 	 149
10.17 <b>T</b>	NVALID-	ORDER-17	7 Z(s) = 0	$(\infty,$	$\infty$ ,	$\tfrac{R_3}{C_3R_3s+1},$	$R_4 + \frac{1}{C_4}$	$\frac{1}{s}$ , $\infty$	L	$c_L s + \frac{1}{C_L s}$	$\bar{s}$			 	 	 	 	 	 149
10.17 <b>§</b>	NVALID-	ORDER-17	$8 \ Z(s) = 0$	$\left(\infty,\right.$	$\infty$ ,	$\tfrac{R_3}{C_3R_3s+1},$	$R_4 + \frac{1}{C_4}$	$\frac{1}{s}$ , $\infty$	$\overline{C}$	$\frac{L_L s}{L_L L_L s^2 + 1}$	) .			 	 	 	 	 	 149
10.17¶	NVALID-	ORDER-17	9 Z(s) =	$\Big(\infty,$	$\infty$ ,	$\tfrac{R_3}{C_3R_3s+1},$	$R_4 + \frac{1}{C_4}$	$\frac{1}{s}$ , $\infty$	L	$Ls + R_L$	$+\frac{1}{C_{i}}$	$\left(\frac{1}{L^s}\right)$		 	 	 	 	 	 150
10.18 <b>[</b>	NVALID-	ORDER-18	0 Z(s) =	$\bigg(\infty,$	$\infty$ ,	$\frac{R_3}{C_3R_3s+1},$	$R_4 + \frac{1}{C_4}$	$\frac{1}{s}$ , $\propto$	), <u>7</u>	$\frac{1}{C_L s + \frac{1}{R_L} + \cdots}$	$\left(\frac{1}{L_L s}\right)$			 	 	 	 	 	 150
10.18 <b>1</b>	NVALID-	ORDER-18	1 Z(s) = 0	$(\infty,$	$\infty$ ,	$\tfrac{R_3}{C_3R_3s+1},$	$R_4 + \frac{1}{C_4}$	$\frac{1}{s}$ , $\infty$	$\overline{C}$	$\frac{L_L s}{L_L L_L s^2 + 1}$	$+R_{I}$	L		 	 	 	 	 	 150
10.18 <b>I</b>	NVALID-	ORDER-18	2 Z(s) =	$\left(\infty,\right.$	$\infty$ ,	$\frac{R_3}{C_3R_3s+1},$	$R_4 + \frac{1}{C_4}$	$\frac{1}{s}$ , $\propto$	$\frac{F}{I}$	$\frac{R_L \left( L_L s + \frac{1}{C} L_L s + \frac{1}{C} \right)}{L_L s + R_L + \frac{1}{C}}$	$\frac{1}{\frac{1}{C_L s}}$	)		 	 	 	 	 	 150
10.18	NVALID-	ORDER-18	3 Z(s) = 0	$(\infty,$	$\infty$ ,	$\tfrac{R_3}{C_3R_3s+1},$	$L_4s + \frac{1}{C}$	$\frac{1}{4s}$ , $\propto$	0, 1	$R_L$ )				 	 	 	 	 	 150
10.184	NVALID-	ORDER-18	4 Z(s) = 0	$(\infty,$	$\infty$ ,	$\tfrac{R_3}{C_3R_3s+1},$	$L_4s + \frac{1}{C}$	$\frac{1}{4s}$ , $\propto$	0, 7	$\left(\frac{1}{C_L s}\right)$				 	 	 	 	 	 15
10.18 <b>I</b>	NVALID-	ORDER-18	5 Z(s) = (	$\left(\infty,\right.$	$\infty$ ,	$\tfrac{R_3}{C_3R_3s+1},$	$L_4s + \frac{1}{C}$	$\frac{1}{4s}$ , $\propto$	0, 7	$\frac{R_L}{C_L R_L s + 1}$	) .			 	 	 	 	 	 15
10.18	NVALID-	ORDER-18	6 Z(s) =	$\Big(\infty,$	$\infty$ ,	$\tfrac{R_3}{C_3R_3s{+}1},$	$L_4s + \frac{1}{C}$	$\frac{1}{4s}$ , $\propto$	0, 1	$R_L + \frac{1}{C_L s}$	$\bar{s}$			 	 	 	 	 	 15
10.181	NVALID-	ORDER-18	7 Z(s) =	$\Big(\infty,$	$\infty$ ,	$\tfrac{R_3}{C_3R_3s+1},$	$L_4s + \frac{1}{C}$	$\frac{1}{4s}$ , $\propto$	0, 1	$L_L s + \frac{1}{C_L}$	$\left(\frac{1}{s}\right)$			 	 	 	 	 	 15
10.18	NVALID-	ORDER-18	8 Z(s) = 0	$\Big(\infty,$	$\infty$ ,	$\tfrac{R_3}{C_3R_3s+1},$	$L_4s + \frac{1}{C}$	$\frac{1}{4s}$ , $\propto$	0, 7	$\frac{L_L s}{C_L L_L s^2 + 1}$	_)			 	 	 	 	 	 15
10.18¶	NVALID-	ORDER-18	9 Z(s) = 0	$\left(\infty,\right.$	$\infty$ ,	$\tfrac{R_3}{C_3R_3s+1},$	$L_4s + \frac{1}{C}$	$\frac{1}{4s}$ , $\propto$	0, 1	$L_L s + R_I$	$c + \overline{c}$	$\frac{1}{C_L s}$	) .	 	 	 	 	 	 15
10.19 <b>[</b>	NVALID-	ORDER-19	0 Z(s) =	$\left(\infty,\right.$	$\infty$ ,	$\frac{R_3}{C_3R_3s+1},$	$L_4s + \overline{c}$	$\frac{1}{24s}$ , c	$\infty$ ,	$\frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{R_L}}$	$-\frac{1}{L_L s}$			 	 	 	 	 	 155
10.19 <b>I</b>	NVALID-	ORDER-19	1 Z(s) = 0	$(\infty,$	$\infty$ ,	$\frac{R_3}{C_3R_3s+1}$ ,	$L_4s + \frac{1}{C}$	$\frac{1}{4s}$ , $\propto$	0, 7	$\frac{L_L s}{C_L L_L s^2 + 1}$	+R	(2L)		 	 	 	 	 	 155

10.192NVALID-ORDER-192 $Z(s) = 1$	$\left(\infty, \ \infty, \right.$	$\frac{R_3}{C_3R_3s+1},$	$L_4s + \frac{1}{C_4s},$	$\infty, \frac{R_I}{L_I}$	$\frac{L\left(L_L s + \frac{1}{C_L s}\right)}{L s + R_L + \frac{1}{C_L s}}$	$\left(\frac{1}{2}\right)$		 	 	 	152
10.19 <b>B</b> NVALID-ORDER-193 $Z(s)=\langle$								 	 	 	152
10.194NVALID-ORDER-194 $Z(s)=\langle$	$(\infty, \infty,$	$\tfrac{R_3}{C_3R_3s{+}1},$	$\frac{L_4s}{C_4L_4s^2+1},$	$\infty$ , $L_L s$	$s + \frac{1}{C_L s}$			 	 	 	152
10.19 <b>5</b> NVALID-ORDER-195 $Z(s) = 0$	$\left(\infty, \ \infty, \right.$	$\tfrac{R_3}{C_3R_3s+1},$	$\frac{L_4s}{C_4L_4s^2+1},$	$\infty$ , $L_L s$	$s + R_L + \overline{c}$	$\left(\frac{1}{C_L s}\right)$ .		 	 	 	153
10.19 <b>6</b> NVALID-ORDER-196 $Z(s) = 0$	$\left(\infty, \ \infty, \right.$	$\tfrac{R_3}{C_3R_3s+1},$	$\frac{L_4s}{C_4L_4s^2+1},$	$\infty$ , $\frac{1}{C_L I}$	$\frac{L_L s}{L_L s^2 + 1} + R$	$\mathcal{C}_L\Big)$		 	 	 	153
10.19 <b>T</b> NVALID-ORDER-197 $Z(s) = 0$	$\left(\infty, \ \infty, \right.$	$\frac{R_3}{C_3R_3s+1},$	$\frac{L_4s}{C_4L_4s^2+1},$	$\infty, \frac{R_L}{L_L}$	$\frac{\left(L_L s + \frac{1}{C_L s}\right)}{s + R_L + \frac{1}{C_L s}}$	)		 	 	 	153
10.19&NVALID-ORDER-198 $Z(s)=\langle$	$\left(\infty, \ \infty, \right.$	$\tfrac{R_3}{C_3R_3s+1},$	$L_4s + R_4 +$	$\frac{1}{C_4s}$ , o	$\circ, R_L$ ) .			 	 	 	153
10.19 <b>9</b> NVALID-ORDER-199 $Z(s) = 0$	$\left(\infty, \ \infty, \right.$	$\tfrac{R_3}{C_3R_3s+1},$	$L_4s + R_4 +$	$\frac{1}{C_4s}$ , o	$\circ, \frac{1}{C_L s}$			 	 	 	153
10.20 <b>©</b> NVALID-ORDER-200 $Z(s)=\langle$	$\left(\infty, \ \infty, \right.$	$\tfrac{R_3}{C_3R_3s+1},$	$L_4s + R_4 +$	$\frac{1}{C_4s}$ , o	O, $\frac{R_L}{C_L R_L s}$	$_{\overline{-1}}\Big)$		 	 	 	154
10.20INVALID-ORDER-201 $Z(s)=\langle$	$\left(\infty, \ \infty, \right.$	$\tfrac{R_3}{C_3R_3s+1},$	$L_4s + R_4 +$	$\frac{1}{C_4s}$ , o	$\circ$ , $R_L + \overline{\epsilon}$	$\left(\frac{1}{C_L s}\right)$ .		 	 	 	154
10.20 <b>2</b> NVALID-ORDER-202 $Z(s) = 0$	$\left(\infty, \ \infty, \right.$	$\tfrac{R_3}{C_3R_3s+1},$	$L_4s + R_4 +$	$\frac{1}{C_4s}$ , o	$o, L_L s +$	$\frac{1}{C_L s}$ ).		 	 	 	154
10.20 <b>2</b> NVALID-ORDER-203 $Z(s) = 0$	$\left(\infty, \ \infty, \right.$	$\frac{R_3}{C_3R_3s+1},$	$L_4s + R_4 +$	$\frac{1}{C_4s}$ , o	$O, \ \frac{L_L s}{C_L L_L s^2}$	$\overline{+1}$ ) .		 	 	 	154
10.204NVALID-ORDER-204 $Z(s)=\langle$	$\left(\infty, \infty, \right.$	$\tfrac{R_3}{C_3R_3s+1},$	$L_4s + R_4 +$	$\frac{1}{C_4s}$ , o	$o, L_L s + 1$	$R_L + \overline{C}$	$\left(\frac{1}{L^s}\right)$ .	 	 	 	154
10.20 $\mathbf{J}$ NVALID-ORDER-205 $Z(s)=1$	$\left(\infty, \ \infty, \right.$	$\frac{R_3}{C_3R_3s+1},$	$L_4s + R_4 +$	$-\frac{1}{C_4s}$ , c	$\infty, \frac{1}{C_L s + \frac{1}{R}}$	$\frac{1}{L} + \frac{1}{L} L^s$	)	 	 	 	155
10.20 <b>6</b> NVALID-ORDER-206 $Z(s) = 0$	$\left(\infty, \ \infty, \right.$	$\tfrac{R_3}{C_3R_3s+1},$	$L_4s + R_4 +$	$\frac{1}{C_4s}$ , o	$0, \ \frac{L_L s}{C_L L_L s^2}$	$\frac{1}{1} + R$	$_{L}\Big)$	 	 	 	155
10.20 <b>T</b> NVALID-ORDER-207 $Z(s) = 0$	$\left(\infty, \ \infty, \right.$	$\frac{R_3}{C_3R_3s+1},$	$L_4s + R_4 +$	$-\frac{1}{C_4s}$ , c	$\infty, \frac{R_L(L_L s)}{L_L s + R}$	$\frac{s + \frac{1}{C_L s}}{L + \frac{1}{C_L s}}$	)	 	 	 	155
10.20\&NVALID-ORDER-208 $Z(s) = 1$	$\left(\infty, \ \infty, \right)$	$\frac{R_3}{C_3R_3s+1},$	$\frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4}}$	$\frac{1}{s}$ , $\infty$ ,	$R_L + \frac{1}{C_L s}$	$\Big)$		 	 	 	155
10.20 <b>9</b> NVALID-ORDER-209 $Z(s) = 1$	$\left(\infty, \ \infty, \right)$	$\frac{R_3}{C_3R_3s+1},$	$\frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4}}$	$\frac{1}{s}$ , $\infty$ ,	$L_L s + \frac{1}{C_L s}$	$\left(\frac{1}{2}\right)$		 	 	 	155
10.21 <b>0</b> NVALID-ORDER-210 $Z(s) = 1$	$\left(\infty, \ \infty, \right)$	$\frac{R_3}{C_3R_3s+1},$	$\frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4}}$	$\frac{1}{s}$ , $\infty$ ,	$L_L s + R_L$	$+\frac{1}{C_L s}$	)	 	 	 	156
10.21INVALID-ORDER-211 $Z(s) = 1$	>				,	\ . '		 	 	 	156
10.212NVALID-ORDER-212 $Z(s) = 1$	$\left(\infty, \ \infty, \right.$	$\frac{R_3}{C_3R_3s+1},$	$\frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4}}$	$\frac{1}{s}$ , $\infty$ ,	$\frac{R_L \left(L_L s + \frac{1}{C}\right)}{L_L s + R_L + \frac{1}{C}}$	$\left(\frac{\frac{1}{L^s}}{\frac{1}{C_{L^s}}}\right)$		 	 	 	156

10.21 <b>B</b> NVALID-ORDER-213 $Z(s)$	$=\left( \infty, \ \circ \right)$	$\infty, \ \frac{R_3}{C_3 R_3 s + 1},$	$\frac{L_4s}{C_4L_4s^2+1} + R$	$c_4, \infty,$	$R_L$ )		 	 	 		. 156
10.21 <b>4</b> NVALID-ORDER-214 $Z(s)$	$=\left( \infty, \ \circ \right)$	$\infty, \ \frac{R_3}{C_3 R_3 s + 1},$	$\frac{L_4s}{C_4L_4s^2+1} + R$	$\mathcal{C}_4,  \infty,$	$\frac{1}{C_L s}$ )		 	 	 		. 156
10.21 <b>5</b> NVALID-ORDER-215 $Z(s)$	$=\left(\infty, \circ\right)$	$\infty, \ \frac{R_3}{C_3 R_3 s + 1},$	$\frac{L_4s}{C_4L_4s^2+1} + R$	$c_4, \infty,$	$\frac{R_L}{C_L R_L s + 1}$		 	 	 		. 157
10.21 <b>6</b> NVALID-ORDER-216 $Z(s)$	$=\left( \infty, \circ \right)$	$\infty, \ \frac{R_3}{C_3 R_3 s + 1},$	$\frac{L_4s}{C_4L_4s^2+1} + R$	$2_4, \infty,$	$R_L + \frac{1}{C_L s}$	)	 	 	 		. 157
10.21 <b>T</b> NVALID-ORDER-217 $Z(s)$	$=\left(\infty, c\right)$	$\infty, \ \frac{R_3}{C_3 R_3 s + 1},$	$\frac{L_4s}{C_4L_4s^2+1} + R$	$\mathcal{C}_4,  \infty,$	$L_L s + \frac{1}{C_L s}$	<u>,</u>	 	 	 		. 157
10.21 NVALID-ORDER-218 $Z(s)$	$=\left(\infty, \circ\right)$	$\infty, \ \frac{R_3}{C_3 R_3 s + 1},$	$\frac{L_4s}{C_4L_4s^2+1} + R$	$c_4, \infty,$	$\frac{L_L s}{C_L L_L s^2 + 1}$	)	 	 	 		. 157
10.21 <b>9</b> NVALID-ORDER-219 $Z(s)$	$=\left(\infty, \circ\right)$	$\infty, \ \frac{R_3}{C_3 R_3 s + 1},$	$\frac{L_4s}{C_4L_4s^2+1} + R$	$c_4, \infty,$	$L_L s + R_L$	$+\frac{1}{C_L s}$	 	 	 		. 157
10.22 <b>0</b> NVALID-ORDER-220 $Z(s)$	$=\left( \infty,  \circ \right)$	$\infty, \ \frac{R_3}{C_3 R_3 s + 1},$	$\frac{L_4 s}{C_4 L_4 s^2 + 1} + I$	$R_4, \infty,$	$\frac{1}{C_L s + \frac{1}{R_L} + }$	$\frac{1}{L_L s}$	 	 	 		. 158
10.22 <b>I</b> NVALID-ORDER-221 $Z(s)$	$=$ $(\infty, \circ$	$\infty, \ \frac{R_3}{C_3 R_3 s + 1},$	$\frac{L_4s}{C_4L_4s^2+1} + R$	$2_4, \infty,$	$\frac{L_L s}{C_L L_L s^2 + 1}$	$+R_L$	 	 	 		. 158
10.22 <b>2</b> NVALID-ORDER-222 $Z(s)$	$=\left(\infty,  \circ\right)$	$\infty, \ \frac{R_3}{C_3 R_3 s + 1},$	$\frac{L_4 s}{C_4 L_4 s^2 + 1} + F$	$R_4, \infty,$	$\frac{R_L \left(L_L s + \frac{1}{C}\right)}{L_L s + R_L + \frac{1}{C}}$	$\left(\frac{\frac{1}{C_L s}}{\frac{1}{C_L s}}\right)$	 	 	 		. 158
10.22 <b>3</b> NVALID-ORDER-223 $Z(s)$	$=\left(\infty,  c\right)$	$\infty, \ \frac{R_3}{C_3 R_3 s + 1},$	$\frac{R_4 \left( L_4 s + \frac{1}{C_4 s} \right)}{L_4 s + R_4 + \frac{1}{C_4 s}}$	$, \infty, I$	$R_L$ )		 	 	 	• • • • • •	. 158
10.22 <b>4</b> NVALID-ORDER-224 $Z(s)$			/				 	 	 		. 158
10.22 INVALID-ORDER-225 $Z(s)$	$=\left(\infty,  \circ\right)$	$\infty, \ \frac{R_3}{C_3 R_3 s + 1},$	$\frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}$	$, \infty, \frac{1}{6}$	$\frac{R_L}{C_L R_L s + 1}$		 	 	 		. 159
10.22 <b>6</b> NVALID-ORDER-226 $Z(s)$	$=\left(\infty,  \circ\right)$	$\infty, \ \frac{R_3}{C_3 R_3 s + 1},$	$\frac{R_4 \left( L_4 s + \frac{1}{C_4 s} \right)}{L_4 s + R_4 + \frac{1}{C_4 s}}$	$, \infty, 1$	$R_L + \frac{1}{C_L s}$		 	 	 		. 159
10.22 <b>T</b> NVALID-ORDER-227 $Z(s)$	$=\left(\infty,  \circ\right)$	$\infty, \ \frac{R_3}{C_3 R_3 s + 1},$	$\frac{R_4 \left( L_4 s + \frac{1}{C_4 s} \right)}{L_4 s + R_4 + \frac{1}{C_4 s}}$	$, \infty, I$	$L_L s + \frac{1}{C_L s}$	)	 	 	 		. 159
10.22\&NVALID-ORDER-228 $Z(s)$	$=\left(\infty,  \circ\right)$	$\infty, \ \frac{R_3}{C_3 R_3 s + 1},$	$\frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}$	$, \infty, \frac{1}{6}$	$\frac{L_L s}{C_L L_L s^2 + 1} $		 	 	 		. 159
10.22 <b>9</b> NVALID-ORDER-229 $Z(s)$	\		040			/	 	 	 		. 159
10.23 <b>0</b> NVALID-ORDER-230 $Z(s)$	$=\left( \infty,  \circ \right)$	$\infty, \ \frac{R_3}{C_3 R_3 s + 1},$	$\frac{R_4 \left( L_4 s + \frac{1}{C_4 s} \right)}{L_4 s + R_4 + \frac{1}{C_4 s}}$	$, \infty, \frac{1}{6}$	$\frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_R}}$	$\left(\frac{1}{\sqrt{s}}\right)$ .	 	 	 		. 160
10.23INVALID-ORDER-231 $Z(s)$	$=\left(\infty,\right)$	$\infty, \ \frac{R_3}{C_3 R_3 s + 1},$	$\frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}$	$, \infty, \frac{1}{6}$	$\frac{L_L s}{C_L L_L s^2 + 1} +$	$-R_L$	 	 	 		. 160

10.23 <b>2</b> NVALID-ORDER-232 $Z(s) = 1$	$\left(\infty, \ \infty, \right.$	$\tfrac{R_3}{C_3R_3s+1},$	$\frac{R_4\left(L_4s + \frac{1}{C}\right)}{L_4s + R_4 + \frac{1}{C}}$	$\frac{\frac{1}{C_4 s}}{\frac{1}{C_4 s}}, \ \infty$	$, \frac{R_L \left(L_L}{L_L s + I}\right)$	$\frac{s + \frac{1}{C_L s}}{R_L + \frac{1}{C_L s}}$	$\left(\frac{1}{2}\right)$	 	 	 	 	. 160
10.23\( \text{SNVALID-ORDER-233} \) $Z(s) = ($	$(\infty, \infty,$	$R_3 + \frac{1}{C_3 s},$	$R_4, \infty,$	$R_L$ ) .				 	 	 	 	. 160
10.23#NVALID-ORDER-234 $Z(s) = 0$	$(\infty, \infty,$	$R_3 + \frac{1}{C_3 s},$	$R_4, \infty,$	$L_L s + \frac{1}{6}$	$\frac{1}{C_L s}$ ) .			 	 	 	 	. 160
10.23 INVALID-ORDER-235 $Z(s) = 0$	$(\infty, \infty,$	$R_3 + \frac{1}{C_3 s},$	$R_4, \infty,$	$\frac{L_L s}{C_L L_L s^2}$	$\frac{1}{+1}$ )			 	 	 	 	. 161
10.23 <b>6</b> NVALID-ORDER-236 $Z(s) = 0$	$(\infty, \infty,$	$R_3 + \frac{1}{C_3 s},$	$R_4, \infty,$	$L_L s + I$	$R_L + \frac{1}{C_L}$	$\overline{s}$ ) .		 	 	 	 	. 161
10.23 <b>T</b> NVALID-ORDER-237 $Z(s) = 1$	$\left(\infty, \ \infty, \right.$	$R_3 + \frac{1}{C_3 s},$	$R_4, \infty,$	$\frac{1}{C_L s + \frac{1}{R_I}}$	$\left(\frac{1}{L_L^s}\right)$			 	 	 	 	. 161
10.23\NVALID-ORDER-238 $Z(s) = 0$	`					)		 	 	 	 	. 161
10.23 <b>9</b> NVALID-ORDER-239 $Z(s) = 0$	$\left(\infty, \ \infty, \right.$	$R_3 + \frac{1}{C_3 s},$	$R_4, \infty,$	$\frac{R_L \left( L_L s + R_L \right)}{L_L s + R_L}$	$\left(\frac{s+\frac{1}{C_L s}}{L+\frac{1}{C_L s}}\right)$			 	 	 	 	. 161
10.24 ONVALID-ORDER-240 $Z(s) = 0$								 	 	 	 	. 162
10.24 <b>I</b> NVALID-ORDER-241 $Z(s) = 0$	$(\infty, \infty,$	$R_3 + \frac{1}{C_3 s},$	$\frac{1}{C_4 s}$ , $\infty$ ,	$R_L + \epsilon$	$\left(\frac{1}{C_L s}\right)$ .			 	 	 	 	. 162
10.24 <b>E</b> NVALID-ORDER-242 $Z(s) = 0$	$(\infty, \infty,$	$R_3 + \frac{1}{C_3 s},$	$\frac{1}{C_4 s}$ , $\infty$ ,	$L_L s +$	$\frac{1}{C_L s}$ ) .			 	 	 	 	. 162
10.24\$NVALID-ORDER-243 $Z(s) = 0$	$(\infty, \infty,$	$R_3 + \frac{1}{C_3 s},$	$\frac{1}{C_4 s}$ , $\infty$ ,	$\frac{L_L s}{C_L L_L s^2}$	(2+1) .			 	 	 	 	. 162
10.24#NVALID-ORDER-244 $Z(s) = 0$	$(\infty, \infty,$	$R_3 + \frac{1}{C_3 s},$	$\frac{1}{C_4 s}$ , $\infty$ ,	$L_L s +$	$R_L + \frac{1}{C_L}$	$\left(\frac{1}{L^s}\right)$ .		 	 	 	 	. 162
10.24 Invalid-order-245 $Z(s) = 1$	$\left(\infty, \ \infty, \right.$	$R_3 + \frac{1}{C_3 s},$	$\frac{1}{C_4 s}$ , $\infty$ ,	$\overline{C_L s} + \overline{R}$	$\left(\frac{1}{a_L} + \frac{1}{L_L s}\right)$			 	 	 	 	. 162
10.24 <b>6</b> NVALID-ORDER-246 $Z(s) = 0$	$(\infty, \infty,$	$R_3 + \frac{1}{C_3 s},$	$\frac{1}{C_4 s}$ , $\infty$ ,	$\frac{L_L s}{C_L L_L s^2}$	$\frac{1}{2+1} + R_1$	L) .		 	 	 	 	. 163
10.24 TNVALID-ORDER-247 $Z(s) = 1$	$\left(\infty, \infty, \right.$	$R_3 + \frac{1}{C_3 s},$	$\frac{1}{C_4 s}$ , $\infty$ ,	$\frac{R_L \left(L_L\right)}{L_L s + R}$	$\frac{s + \frac{1}{C_L s}}{R_L + \frac{1}{C_L s}}$	)		 	 	 	 	. 163
10.24\( \mathbb{E}\) NVALID-ORDER-248 $Z(s) = 0$	$(\infty, \infty,$	$R_3 + \frac{1}{C_3 s},$	$\frac{R_4}{C_4R_4s+1}$	$, \infty, R$	$L + \frac{1}{C_L s}$	)		 	 	 	 	. 163
10.24 <b>9</b> NVALID-ORDER-249 $Z(s) = 0$	$(\infty, \infty,$	$R_3 + \frac{1}{C_3 s},$	$\frac{R_4}{C_4R_4s+1}$	$, \infty, L_{I}$	$Ls + \frac{1}{C_L s}$	$\left(\frac{1}{3}\right)$ .		 	 	 	 	. 163
10.25 ONVALID-ORDER- $250~Z(s)=0$	$(\infty, \infty,$	$R_3 + \frac{1}{C_3 s},$	$\frac{R_4}{C_4R_4s+1}$	$, \infty, \overline{C}_{i}$	$\frac{L_L s}{L_L L_L s^2 + 1}$	)		 	 	 	 	. 163
10.25INVALID-ORDER- $251$ $Z(s) = ($	$(\infty, \infty,$	$R_3 + \frac{1}{C_3 s},$	$\frac{R_4}{C_4R_4s+1}$	$, \infty, L_{i}$	$Ls + R_L$	$+\frac{1}{C_L s}$	) .	 	 	 	 	. 164
10.25 <b>2</b> NVALID-ORDER-252 $Z(s) = 1$	$(\infty, \infty,$	$R_3 + \frac{1}{C_3 s},$	$\frac{R_4}{C_4R_4s+1}$	$, \infty, \overline{C}$	$\frac{1}{L s + \frac{1}{R_L} + \cdots}$	$\frac{1}{L_L s}$		 	 	 	 	. 164
10.25 NVALID-ORDER-253 $Z(s) = 0$	$(\infty, \infty,$	$R_3 + \frac{1}{C_3 s},$	$\frac{R_4}{C_4R_4s+1}$	$, \infty, \overline{C}_{i}$	$\frac{L_L s}{L L_L s^2 + 1}$	$+\stackrel{\checkmark}{R_L}$		 	 	 	 	. 164

	/				_ (_ 1 )	\				
10.25 <b>4</b> NVALID-ORDER-254 $Z(s) =$	$\left(\infty, \ \infty, \right.$	$R_3 + \frac{1}{C_3 s},$	$\frac{R_4}{C_4R_4s+1},$	$\infty$ , $\frac{1}{2}$	$\frac{R_L\left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}$	) .	 	 	 	 164
10.25 <b>5</b> NVALID-ORDER-255 $Z(s) = 1$	$(\infty, \infty,$	$R_3 + \frac{1}{C_3 s},$	$R_4 + \frac{1}{C_4 s},$	$\infty$ ,	$\frac{1}{C_L s}$ )		 	 	 	 164
10.256NVALID-ORDER- $256$ $Z(s) = 1$	$(\infty, \infty,$	$R_3 + \frac{1}{C_3 s},$	$R_4 + \frac{1}{C_4 s},$	$\infty$ ,	$\frac{R_L}{C_L R_L s + 1}$ .		 	 	 	 165
10.25 <b>T</b> NVALID-ORDER-257 $Z(s) = 0$	$\left(\infty, \ \infty, \right.$	$R_3 + \frac{1}{C_3 s},$	$R_4 + \frac{1}{C_4 s},$	$\infty$ ,	$R_L + \frac{1}{C_L s}$		 	 	 	 165
10.25\( \text{NVALID-ORDER-258} \) $Z(s) = 0$	$\left(\infty, \ \infty, \right.$	$R_3 + \frac{1}{C_3 s},$	$R_4 + \frac{1}{C_4 s},$	$\infty$ ,	$L_L s + \frac{1}{C_L s}$		 	 	 	 165
10.25 <b>9</b> NVALID-ORDER-259 $Z(s) = 1$	$\left(\infty, \ \infty, \right)$	$R_3 + \frac{1}{C_3 s},$	$R_4 + \frac{1}{C_4 s},$	$\infty$ ,	$\frac{L_L s}{C_L L_L s^2 + 1} \bigg)$		 	 	 	 165
10.26 ONVALID-ORDER- $260 Z(s) = 10.26$	$\left(\infty, \ \infty, \right)$	$R_3 + \frac{1}{C_3 s},$	$R_4 + \frac{1}{C_4 s},$	$\infty$ ,	$L_L s + R_L +$	$\frac{1}{C_L s}$	 	 	 	 165
10.26INVALID-ORDER-261 $Z(s) =$	$\left(\infty, \ \infty, \right)$	$R_3 + \frac{1}{C_3 s},$	$R_4 + \frac{1}{C_4 s},$	$\infty$ ,	$\frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}$	$\frac{1}{2}$ .	 	 	 	 165
10.26 <b>2</b> NVALID-ORDER-262 $Z(s) = 1$	$(\infty, \infty,$	$R_3 + \frac{1}{C_3 s},$	$R_4 + \frac{1}{C_4 s},$	$\infty$ ,	$\frac{L_L s}{C_L L_L s^2 + 1} + 1$	$(\hat{R_L})$	 	 	 	 166
10.26\%NVALID-ORDER-263 $Z(s) = 1$	$\left(\infty, \ \infty, \right.$	$R_3 + \frac{1}{C_3 s},$	$R_4 + \frac{1}{C_4 s},$	$\infty$ ,	$\frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}$	$\left(\frac{1}{2}\right)$ .	 	 	 	 166
10.264NVALID-ORDER-264 $Z(s) = 1$	/				`		 	 	 	 166
10.26INVALID-ORDER- $265 Z(s) = 0$	$\left(\infty, \ \infty, \right.$	$R_3 + \frac{1}{C_3 s},$	$L_4s + \frac{1}{C_4s},$	$\infty$	$\frac{1}{C_L s}$ )		 	 	 	 166
10.26 CNVALID-ORDER-266 $Z(s) = 0$	$\left(\infty, \ \infty, \right.$	$R_3 + \frac{1}{C_3 s},$	$L_4s + \frac{1}{C_4s},$	$\infty$	$\frac{R_L}{C_L R_L s + 1}$		 	 	 	 166
10.26 <b>T</b> NVALID-ORDER-267 $Z(s) = 0$	$\left(\infty, \ \infty, \right.$	$R_3 + \frac{1}{C_3 s},$	$L_4s + \frac{1}{C_4s},$	$\infty$ ,	$R_L + \frac{1}{C_L s}$		 	 	 	 167
10.26\notannotannotannotannotannotannotannota	$\left(\infty, \ \infty, \right.$	$R_3 + \frac{1}{C_3 s},$	$L_4s + \frac{1}{C_4s},$	$\infty$ ,	$L_L s + \frac{1}{C_L s}$		 	 	 	 167
10.26 <b>9</b> NVALID-ORDER-269 $Z(s) = 1$	$\left(\infty, \ \infty, \right)$	$R_3 + \frac{1}{C_3 s},$	$L_4s + \frac{1}{C_4s},$	$\infty$ ,	$\frac{L_L s}{C_L L_L s^2 + 1}$		 	 	 	 167
10.27 <b>0</b> NVALID-ORDER-270 $Z(s) = 0$	$\left(\infty, \infty, \right)$	$R_3 + \frac{1}{C_3 s},$	$L_4s + \frac{1}{C_4s},$	$\infty$	$L_L s + R_L +$	$\left(\frac{1}{C_L s}\right)$	 	 	 	 167
10.27INVALID-ORDER-271 $Z(s) =$	$\left(\infty, \ \infty, \right.$	$R_3 + \frac{1}{C_3 s},$	$L_4s + \frac{1}{C_4s}$	$, \infty,$	$\frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L}}$	$\frac{1}{\overline{s}}$	 	 	 	 167
10.27 <b>2</b> NVALID-ORDER-272 $Z(s) =$	$(\infty, \infty,$	$R_3 + \frac{1}{C_3 s},$	$L_4s + \frac{1}{C_4s},$	$\infty$ ,	$\frac{L_L s}{C_L L_L s^2 + 1}$ +	$(R_L)$	 	 	 	 168
10.27 <b>B</b> NVALID-ORDER-273 $Z(s) =$	$\left(\infty, \ \infty, \right.$	$R_3 + \frac{1}{C_3 s},$	$L_4s + \frac{1}{C_4s}$	$, \infty,$	$\frac{R_L \left(L_L s + \frac{1}{C_L} s $	$\left(\frac{\overline{s}}{\overline{s}}\right)$	 	 	 	 168
10.27INVALID-ORDER-274 $Z(s) = 0$	$(\infty, \infty,$	$R_3 + \frac{1}{C_3 s},$	$\frac{L_4s}{C_4L_4s^2+1},$	$\infty$ ,	$R_L$ )		 	 	 	 168
10.275NVALID-ORDER-275 $Z(s) = 1$	$(\infty, \infty,$	$R_3 + \frac{1}{C_3 s},$	$\frac{L_4s}{C_4L_4s^2+1},$	$\infty$ ,	$\frac{1}{C_L s}$ )		 	 	 	 168

10.27 <b>6</b> NVALID-ORDER-276 $Z(s) = ($	$(\infty, \infty,$	$R_3 + \frac{1}{C_3 s},$	$\frac{L_4s}{C_4L_4s^2+1},$	$\infty$ ,	$\frac{R_L}{C_L R_L s}$	$\overline{+1}$ ) .			 	 	 	 	 . 168
10.27 NVALID-ORDER-277 $Z(s) = ($	$(\infty, \infty,$	$R_3 + \frac{1}{C_3 s},$	$\frac{L_4s}{C_4L_4s^2+1},$	$\infty$ ,	$R_L + \frac{1}{6}$	$\left(\frac{1}{C_L s}\right)$			 	 	 	 	 . 168
10.27\NVALID-ORDER-278 $Z(s) = ($	$(\infty, \infty,$	$R_3 + \frac{1}{C_3 s},$	$\frac{L_4s}{C_4L_4s^2+1},$	$\infty$ ,	$L_L s +$	$\frac{1}{C_L s}$			 	 	 	 	 . 169
10.27 <b>9</b> NVALID-ORDER-279 $Z(s) = ($	$(\infty, \infty,$	$R_3 + \frac{1}{C_3 s},$	$\frac{L_4s}{C_4L_4s^2+1},$	$\infty$ ,	$\frac{L_L s}{C_L L_L s^2}$	+1			 	 	 	 	 . 169
10.28 <b>0</b> NVALID-ORDER-280 $Z(s) = ($	$(\infty, \infty,$	$R_3 + \frac{1}{C_3 s},$	$\frac{L_4s}{C_4L_4s^2+1},$	$\infty$ ,	$L_L s +$	$R_L + \overline{\epsilon}$	$\left(\frac{1}{C_L s}\right)$		 	 	 	 	 . 169
10.28INVALID-ORDER-281 $Z(s) = ($	$\left(\infty, \ \infty, \right.$	$R_3 + \frac{1}{C_3 s},$	$\frac{L_4s}{C_4L_4s^2+1},$	$\infty$ ,	$\overline{C_L s + \overline{R}}$	$\frac{1}{\frac{1}{L_L} + \frac{1}{L_L s}}$	) .		 	 	 	 	 . 169
10.28 <b>2</b> NVALID-ORDER-282 $Z(s) = ($	$(\infty, \infty,$	$R_3 + \frac{1}{C_3 s},$	$\frac{L_4s}{C_4L_4s^2+1},$	$\infty$ ,	$\frac{L_L s}{C_L L_L s^2}$	$\frac{1}{R+1} + R$	$\mathcal{C}_L$		 	 	 	 	 . 169
10.28\textbf{E}\text{NVALID-ORDER-283} $Z(s) = \left( \frac{1}{2} \right)$	$\left(\infty, \ \infty, \right.$	$R_3 + \frac{1}{C_3 s},$	$\frac{L_4s}{C_4L_4s^2+1},$	$\infty$ ,	$\frac{R_L \left(L_L + \frac{L_L}{L_L}\right)}{L_L s + R}$	$\frac{s + \frac{1}{C_L s}}{R_L + \frac{1}{C_L s}}$	) .		 	 	 	 	 . 170
10.28 <b>4</b> NVALID-ORDER-284 $Z(s) = ($									 	 	 	 	 . 170
10.28 INVALID-ORDER-285 $Z(s) = ($	$(\infty, \infty,$	$R_3 + \frac{1}{C_3 s},$	$L_4s + R_4$	$+\frac{1}{C_4}$	$\frac{1}{s}$ , $\infty$ ,	$\frac{1}{C_L s}$			 	 	 	 	 . 170
10.286NVALID-ORDER-286 $Z(s) = ($	$(\infty, \infty,$	$R_3 + \frac{1}{C_3 s},$	$L_4s + R_4$	$+\frac{1}{C_4}$	$\frac{1}{s}$ , $\infty$ ,	$\frac{R_L}{C_L R_L s +}$	$\overline{-1}$		 	 	 	 	 . 170
10.28 NVALID-ORDER-287 $Z(s) = ($	$(\infty, \infty,$	$R_3 + \frac{1}{C_3 s},$	$L_4s + R_4$	$+\frac{1}{C_4}$	$\frac{1}{s}$ , $\infty$ ,	$R_L + \overline{c}$	$\left(\frac{1}{T_L s}\right)$		 	 	 	 	 . 170
10.28\NVALID-ORDER-288 $Z(s) = ($	$(\infty, \infty,$	$R_3 + \frac{1}{C_3 s},$	$L_4s + R_4$	$+\frac{1}{C_4}$	$\frac{1}{s}$ , $\infty$ ,	$L_L s + \frac{1}{2}$	$\frac{1}{C_L s}$		 	 	 	 	 . 171
10.289NVALID-ORDER-289 $Z(s) = ($	$(\infty, \infty,$	$R_3 + \frac{1}{C_3 s},$	$L_4s + R_4$	$+ \frac{1}{C_4}$	$\frac{1}{8}$ , $\infty$ ,	$\frac{L_L s}{C_L L_L s^2}$	$\frac{1}{+1}$		 	 	 	 	 . 171
10.29 <b>0</b> NVALID-ORDER-290 $Z(s) = ($	$(\infty, \infty,$	$R_3 + \frac{1}{C_3 s},$	$L_4s + R_4$	$+ \frac{1}{C_4 s}$	$\frac{1}{8}$ , $\infty$ ,	$L_L s + L_L s$	$R_L +$	$\frac{1}{C_L s}$	 	 	 	 	 . 171
10.29INVALID-ORDER-291 $Z(s) = ($	$\left(\infty, \ \infty, \right.$	$R_3 + \frac{1}{C_3 s},$	$L_4s + R_4$	$+\frac{1}{C_4}$	$\overline{s}$ , $\infty$ ,	$\frac{1}{C_L s + \frac{1}{R_L}}$	$\frac{1}{L} + \frac{1}{LL}$	$\frac{1}{\overline{s}}$	 	 	 	 	 . 171
10.29 <b>2</b> NVALID-ORDER-292 $Z(s) = ($	$(\infty, \infty,$	$R_3 + \frac{1}{C_3 s},$	$L_4s + R_4$	$+ \frac{1}{C_4 s}$	$\frac{1}{8}$ , $\infty$ ,	$\frac{L_L s}{C_L L_L s^2}$	+1 +	$R_L$	 	 	 	 	 . 171
10.29\$NVALID-ORDER-293 $Z(s) = ($	$\infty, \infty,$	$R_3 + \frac{1}{C_3 s},$	$L_4s + R_4$	$+\frac{1}{C_4}$	$\frac{1}{s}$ , $\infty$ ,	$\frac{R_L \left(L_L s + R \right)}{L_L s + R}$	$\frac{s + \frac{1}{C_L s}}{L + \frac{1}{C_L}}$	$\left(\frac{\overline{s}}{\overline{s}}\right)$	 	 	 	 	 . 172
10.294NVALID-ORDER-294 $Z(s) = ($	$(\infty, \infty,$	$R_3 + \frac{1}{C_3 s},$	$\frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{R_4}}$	$\frac{1}{\mathbb{L}_{4^s}}$ , (	$\infty$ , $R_L$	)			 	 	 	 	 . 172
10.29 NVALID-ORDER-295 $Z(s) = ($	$\left(\infty, \ \infty, \right.$	$R_3 + \frac{1}{C_3 s},$	$\frac{1}{C_4s + \frac{1}{R_4} + \frac{1}{R_4}}$	$\frac{1}{L_4 s}$ , (	$\infty, \frac{1}{C_L}$	$\overline{s}$ .			 	 	 	 	 . 172
10.296NVALID-ORDER-296 $Z(s) = ($	$\left(\infty, \ \infty, \right.$	$R_3 + \frac{1}{C_3 s},$	$\frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{R_4}}$	$\frac{1}{L_4s}$ , (	$\infty$ , $\overline{C_L}$	$\frac{R_L}{R_L s+1}$			 	 	 	 	 . 172

10.29 <b>T</b> NVALID-ORDER-297 $Z(s) = ($	$\left(\infty, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \ \infty, \ R_L + \frac{1}{C_L s}\right)$
10.29 NVALID-ORDER-298 $Z(s) = ($	$\left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, L_L s + \frac{1}{C_L s}\right)$
10.29 <b>9</b> NVALID-ORDER-299 $Z(s) = ($	$\left(\infty, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right)$
10.30 <b>0</b> NVALID-ORDER-300 $Z(s) = ($	$\left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$
10.30INVALID-ORDER-301 $Z(s) = ($	$\left(\infty, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \ \infty, \ \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  $
10.30 <b>2</b> NVALID-ORDER-302 $Z(s) = ($	$\left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$
10.30 <b>&amp;</b> NVALID-ORDER-303 $Z(s) = ($	$\left(\infty, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right) \ \dots \ $
10.304NVALID-ORDER-304 $Z(s) = ($	$\left(\infty, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ R_L\right)$
10.30 INVALID-ORDER-305 $Z(s) = ($	$(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, \frac{1}{C_L s})$
	$(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, \frac{R_L}{C_L R_L s + 1})$
	$\left(\infty, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ R_L + \frac{1}{C_L s}\right)  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  $
	$\left(\infty,  \infty,  R_3 + \frac{1}{C_3 s},  \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4,  \infty,  L_L s + \frac{1}{C_L s}\right)  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  $
	$\left(\infty, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right)$
	$\left(\infty, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right) $
10.31INVALID-ORDER-311 $Z(s) = ($	$\left(\infty,  \infty,  R_3 + \frac{1}{C_3 s},  \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4,  \infty,  \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$
10.31 <b>2</b> NVALID-ORDER-312 $Z(s) = ($	$\left(\infty,  \infty,  R_3 + \frac{1}{C_3 s},  \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4,  \infty,  \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$
10.31 <b>B</b> NVALID-ORDER-313 $Z(s) = ($	$\left(\infty, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right) \right) \ \dots \ $
	$\left(\infty, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \ \infty, \ R_L\right)$
	$\left(\infty,  \infty,  R_3 + \frac{1}{C_3 s},  \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}},  \infty,  \frac{1}{C_L s}\right) $
	$\left(\infty,  \infty,  R_3 + \frac{1}{C_3 s},  \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}},  \infty,  \frac{R_L}{C_L R_L s + 1}\right)  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  $

10.31 <b>T</b> NVALID-ORDER-317 $Z(s) =$	$\left(\infty, \infty, \right.$	$R_3 + \frac{1}{C_3 s},$	$\frac{R_4\left(L_4s + \frac{1}{C}\right)}{L_4s + R_4 + \frac{1}{C}}$	$\left(\frac{1}{C_4 s}\right)$ , $\infty$ ,	$R_L + \frac{1}{C_L}$	$\bar{s}$		 	 	 176
10.31 NVALID-ORDER-318 $Z(s) =$	$\left(\infty, \ \infty, \right.$	$R_3 + \frac{1}{C_3 s},$	$\frac{R_4\left(L_4s + \frac{1}{C}\right)}{L_4s + R_4 + \frac{1}{C}}$	$\frac{1}{\left(\frac{1}{4s}\right)}$ , $\infty$ ,	$L_L s + \frac{1}{C_I}$	$\left(\frac{1}{\sqrt{s}}\right)$ .		 	 	 177
10.31 <b>9</b> NVALID-ORDER-319 $Z(s) =$	$\left(\infty, \infty, \right.$	$R_3 + \frac{1}{C_3 s},$	$\frac{R_4\left(L_4s + \frac{1}{C}\right)}{L_4s + R_4 + \frac{1}{C}}$	$\frac{1}{\left(\frac{1}{4}s\right)}$ , $\infty$ ,	$\frac{L_L s}{C_L L_L s^2 + 1}$	$\left( \frac{1}{2} \right)$		 	 	 177
10.32 <b>0</b> NVALID-ORDER-320 $Z(s) =$	$\left(\infty, \ \infty, \right.$	$R_3 + \frac{1}{C_3 s},$	$\frac{R_4\left(L_4s + \frac{1}{C}\right)}{L_4s + R_4 + \frac{1}{C}}$	$\left(\frac{1}{2}\right)$ $\left(\frac{1}{2}\right)$ $\left(\frac{1}{C_4 s}\right)$ $\infty$	$L_L s + R_s$	$L + \frac{1}{C_L s}$		 	 	 177
10.32INVALID-ORDER-321 $Z(s) =$	$\left(\infty, \ \infty, \right.$	$R_3 + \frac{1}{C_3 s},$	$\frac{R_4\left(L_4s + \frac{1}{C}\right)}{L_4s + R_4 + \frac{1}{C}}$	$\left(\frac{1}{4^s}\right)$ $\left(\frac{1}{C_4 s}\right)$ , $\infty$ ,	$\frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{R_L}}$	$\overline{-\frac{1}{L_L s}}$		 	 	 177
10.322NVALID-ORDER-322 $Z(s) =$	$\left(\infty, \ \infty, \right.$	$R_3 + \frac{1}{C_3 s},$	$\frac{R_4\left(L_4s + \frac{1}{C}\right)}{L_4s + R_4 + \frac{1}{C}}$	$\left(\frac{1}{4^s}\right)$ $\frac{1}{C_4 s}$ , $\infty$ ,	$\frac{L_L s}{C_L L_L s^2 + 1}$	$\left(1 + R_L\right)$	)	 	 	 177
10.32 <b>B</b> NVALID-ORDER-323 $Z(s) =$	$\left(\infty, \ \infty, \right.$	$R_3 + \frac{1}{C_3 s},$	$\frac{R_4\left(L_4s + \frac{1}{C}\right)}{L_4s + R_4 + \frac{1}{C}}$	$\frac{\frac{1}{C_4s}}{\frac{1}{C_4s}}, \infty,$	$R_L \left(L_L s + L_L s + R_L s $	$\left(\frac{\frac{1}{C_L s}}{\frac{1}{C_L s}}\right)$		 	 	 178
10.324NVALID-ORDER-324 $Z(s) =$	$(\infty, \infty,$	$L_3s + \frac{1}{C_3s},$	$R_4, \infty,$	$\frac{1}{C_L s}$ )				 	 	 178
10.325NVALID-ORDER-325 $Z(s) =$	$(\infty, \infty,$	$L_3s + \frac{1}{C_3s},$	$R_4, \infty,$	$\frac{R_L}{C_L R_L s + 1}$	)			 	 	 178
10.326NVALID-ORDER-326 $Z(s) =$	$(\infty, \infty,$	$L_3s + \frac{1}{C_3s},$	$R_4, \infty,$	$R_L + \frac{1}{C_{LS}}$	· ;			 	 	 178
10.32 <b>T</b> NVALID-ORDER-327 $Z(s) =$	>				/\			 	 	 178
10.32\&NVALID-ORDER-328 $Z(s) =$	>				\'			 	 	 179
10.32 <b>9</b> NVALID-ORDER-329 $Z(s) =$	>				/			 	 	 179
10.33©NVALID-ORDER-330 $Z(s) =$	7				\ \					
10.33 <b>I</b> NVALID-ORDER-331 $Z(s) =$	$(\infty, \infty,$	$L_3s + \frac{1}{C_3s},$	$R_4, \infty,$	$\frac{L_L s}{C_L L_L s^2 + 1}$	$\left( +R_{L}\right)$			 	 	 179
10.332NVALID-ORDER-332 $Z(s) =$	`			,	` '			 	 	 179
10.33 <b>3</b> NVALID-ORDER-333 $Z(s) =$	,			\				 	 	 180
10.33#NVALID-ORDER-334 $Z(s) =$	$(\infty, \infty,$	$L_3s + \frac{1}{C_3s},$	$\frac{1}{C_4 s}$ , $\infty$ ,	$\frac{1}{C_L s}$ ).				 		
10.33 INVALID-ORDER-335 $Z(s) =$	>				-)			 	 	 180
10.336NVALID-ORDER-336 $Z(s) =$	>				<b>'</b> \			 	 	 180

10.33 <b>T</b> NVALID-ORDER-337 $Z(s) = (\infty, \infty)$	$c, L_3s + \frac{1}{C_3s}, \frac{1}{C_4s}, \infty,$	$L_L s + \frac{1}{C_L s}$ \tag{180}
10.33\( \text{NVALID-ORDER-338} \( Z(s) = \left( \infty, \ \infty \)	$c, L_3s + \frac{1}{C_3s}, \frac{1}{C_4s}, \infty,$	$\frac{L_L s}{C_L L_L s^2 + 1} $ \tag{180}
10.33 <b>9</b> NVALID-ORDER-339 $Z(s) = (\infty, \infty)$	$c, L_3s + \frac{1}{C_{3s}}, \frac{1}{C_{4s}}, \infty,$	$L_L s + R_L + \frac{1}{C_L s}$
10.34 <b>0</b> NVALID-ORDER-340 $Z(s) = \left(\infty, \infty, \infty\right)$	$0, L_3s + \frac{1}{C_3s}, \frac{1}{C_4s}, \infty,$	$\frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}} \right)  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  $
10.34INVALID-ORDER-341 $Z(s) = (\infty, \infty)$	$c, L_3s + \frac{1}{C_3s}, \frac{1}{C_4s}, \infty,$	$\frac{L_L s}{C_L L_L s^2 + 1} + R_L $
10.342NVALID-ORDER-342 $Z(s) = \left(\infty, \infty, \infty\right)$	$0, L_3s + \frac{1}{C_3s}, \frac{1}{C_4s}, \infty,$	$ \frac{R_L\left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}} \qquad \dots \qquad$
10.342NVALID-ORDER-343 $Z(s) = (\infty, \infty)$	$C_{3}$ , $L_{3}s + \frac{1}{C_{3}s}$ , $\frac{R_{4}}{C_{4}R_{4}s + 1}$ ,	$(1, \infty, R_L)$
10.344NVALID-ORDER-344 $Z(s) = (\infty, \infty)$	$c, L_3s + \frac{1}{C_3s}, \frac{R_4}{C_4R_4s+1},$	$(1, \infty, \frac{1}{C_L s})$
10.34 INVALID-ORDER-345 $Z(s) = (\infty, \infty)$	$C_{3}$ , $L_{3}s + \frac{1}{C_{3}s}$ , $\frac{R_{4}}{C_{4}R_{4}s + 1}$ ,	$, \infty, \frac{R_L}{C_L R_L s + 1}$
10.346NVALID-ORDER-346 $Z(s) = (\infty, \infty)$	$C_{0}, L_{3}s + \frac{1}{C_{3}s}, \frac{R_{4}}{C_{4}R_{4}s + 1},$	$(1, \infty, R_L + \frac{1}{C_L s})$
10.34 INVALID-ORDER-347 $Z(s) = (\infty, \infty)$	$C_{3}$ , $L_{3}s + \frac{1}{C_{3}s}$ , $\frac{R_{4}}{C_{4}R_{4}s + 1}$ ,	$, \infty, L_L s + \frac{1}{C_L s}$
10.34\( \) NVALID-ORDER-348 $Z(s) = (\infty, \infty)$	$C_{0}, L_{3}s + \frac{1}{C_{3}s}, \frac{R_{4}}{C_{4}R_{4}s + 1},$	$(1, \infty, \frac{L_L s}{C_L L_L s^2 + 1})$
10.34 <b>9</b> NVALID-ORDER-349 $Z(s) = (\infty, \infty)$	$c, L_3s + \frac{1}{C_3s}, \frac{R_4}{C_4R_4s+1},$	$, \infty, L_L s + R_L + \frac{1}{C_L s}$
10.35 <b>0</b> NVALID-ORDER-350 $Z(s) = (\infty, \infty)$	$c, L_3s + \frac{1}{C_3s}, \frac{R_4}{C_4R_4s+1},$	$, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}$
10.35INVALID-ORDER-351 $Z(s) = (\infty, \infty)$	$\Sigma, L_3s + \frac{1}{C_3s}, \frac{R_4}{C_4R_4s+1},$	$, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L $
10.352NVALID-ORDER-352 $Z(s) = (\infty, \infty)$	$\circ$ , $L_3s + \frac{1}{C_3s}$ , $\frac{R_4}{C_4R_4s+1}$ ,	$, \infty, \frac{R_L\left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right) \dots \dots$
10.352NVALID-ORDER-353 $Z(s) = (\infty, \infty)$		
10.354NVALID-ORDER-354 $Z(s) = (\infty, \infty)$	$c, L_3s + \frac{1}{C_3s}, R_4 + \frac{1}{C_4s}$	$\frac{1}{s}$ , $\infty$ , $\frac{1}{C_L s}$
10.35 INVALID-ORDER-355 $Z(s) = (\infty, \infty)$	$c, L_3s + \frac{1}{C_3s}, R_4 + \frac{1}{C_4s}$	$\frac{1}{S}$ , $\infty$ , $\frac{R_L}{C_L R_L s + 1}$ $\cdots \cdots \cdots$
10.35 NVALID-ORDER-356 $Z(s) = (\infty, \infty)$	$c, L_3s + \frac{1}{C_3s}, R_4 + \frac{1}{C_4s}$	$\frac{1}{S}$ , $\infty$ , $R_L + \frac{1}{C_L s}$
10.35 <b>T</b> NVALID-ORDER-357 $Z(s) = (\infty, \infty)$	$c, L_3s + \frac{1}{C_3s}, R_4 + \frac{1}{C_4s}$	$\frac{1}{S}$ , $\infty$ , $L_L s + \frac{1}{C_L s}$ $(184)$
10.35\( \text{NVALID-ORDER-358} \( Z(s) = \inc \infty \), \( \infty \)	$c, L_3s + \frac{1}{C_3s}, R_4 + \frac{1}{C_4s}$	$\frac{L_L s}{S}$ , $\infty$ , $\frac{L_L s}{C_L L_L s^2 + 1}$

10.35 <b>9</b> NVALID-ORDER-359 $Z(s) = ($	$\left(\infty, \ \infty, \right)$	$L_3s + \frac{1}{C_3s},$	$R_4 + \frac{1}{C_4 s},$	$\infty$ ,	$L_L s + R_L + \overline{c}$	$\left(\frac{1}{Ls}\right)$ .	 	 	 	 184
10.36 <b>0</b> NVALID-ORDER-360 $Z(s) = ($	$\left(\infty, \ \infty, \right.$	$L_3s + \frac{1}{C_3s},$	$R_4 + \frac{1}{C_4 s},$	$\infty$ ,	$\frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}$	)	 	 	 	 185
10.36INVALID-ORDER-361 $Z(s) = ($	$(\infty, \infty,$	$L_3s + \frac{1}{C_3s},$	$R_4 + \frac{1}{C_4 s},$	$\infty$ ,	$\frac{L_L s}{C_L L_L s^2 + 1} + R$	$_{L}\Big)$	 	 	 	 185
10.362NVALID-ORDER-362 $Z(s) = 1$	$\left(\infty, \ \infty, \right.$	$L_3s + \frac{1}{C_3s},$	$R_4 + \frac{1}{C_4 s},$	$\infty$ ,	$\frac{R_L\left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}$	)	 	 	 	 185
10.36 <b>B</b> NVALID-ORDER-363 $Z(s) = ($	<i>`</i>				`		 	 	 	 185
10.364NVALID-ORDER-364 $Z(s) = ($	$(\infty, \infty,$	$L_3s + \frac{1}{C_3s},$	$L_4s + \frac{1}{C_4s},$	$\infty$ ,	$\frac{1}{C_L s}$ )		 	 	 	 185
10.36 INVALID-ORDER-365 $Z(s) = ($	$(\infty, \infty,$	$L_3s + \frac{1}{C_3s},$	$L_4s + \frac{1}{C_4s},$	$\infty$ ,	$\frac{R_L}{C_L R_L s + 1}$ .		 	 	 	 186
10.36 ENVALID-ORDER-366 $Z(s) = ($	$(\infty, \infty,$	$L_3s + \frac{1}{C_3s},$	$L_4s + \frac{1}{C_4s},$	$\infty$ ,	$R_L + \frac{1}{C_L s}$		 	 	 	 186
10.36 <b>T</b> NVALID-ORDER-367 $Z(s) = ($	$(\infty, \infty,$	$L_3s + \frac{1}{C_3s},$	$L_4s + \frac{1}{C_4s},$	$\infty$ ,	$L_L s + \frac{1}{C_L s}$		 	 	 	 186
10.36\notannotannotannotannotannotannotannota	$(\infty, \infty,$	$L_3s + \frac{1}{C_3s},$	$L_4s + \frac{1}{C_4s},$	$\infty$ ,	$\frac{L_L s}{C_L L_L s^2 + 1}$		 	 	 	 186
10.36 <b>9</b> NVALID-ORDER-369 $Z(s) = ($	>				,	$\frac{1}{C_L s}$	 	 	 	 186
10.37©NVALID-ORDER-370 $Z(s) = \langle$	$(\infty, \infty,$	$L_3s + \frac{1}{C_3s},$	$L_4s + \frac{1}{C_4s},$	$, \infty,$	$\frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}$	)	 	 	 	 187
10.37INVALID-ORDER-371 $Z(s) = ($	$(\infty, \infty,$	$L_3s + \frac{1}{C_3s},$	$L_4s + \frac{1}{C_4s},$	$\infty$ ,	$\frac{L_L s}{C_L L_L s^2 + 1} + I$	$\stackrel{'}{R}_L \Big)$ .	 	 	 	 187
10.372NVALID-ORDER-372 $Z(s) = 0$	$\left(\infty, \ \infty, \right.$	$L_3s + \frac{1}{C_3s},$	$L_4s + \frac{1}{C_4s},$	$, \infty,$	$\frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}$	-)	 	 	 	 187
10.37 <b>3</b> NVALID-ORDER-373 $Z(s) = ($	<i>`</i>				`		 	 	 	 187
10.37 <b>4</b> NVALID-ORDER-374 $Z(s) = ($	$(\infty, \infty,$	$L_3s + \frac{1}{C_3s},$	$\frac{L_4s}{C_4L_4s^2+1},$	$\infty$ ,	$\frac{1}{C_L s}$ )		 	 	 	 187
10.375NVALID-ORDER-375 $Z(s) = ($	$(\infty, \infty,$	$L_3s + \frac{1}{C_3s},$	$\frac{L_4s}{C_4L_4s^2+1},$	$\infty$ ,	$\frac{R_L}{C_L R_L s + 1}$ .		 	 	 	 188
10.376NVALID-ORDER-376 $Z(s) = ($	$(\infty, \infty,$	$L_3s + \frac{1}{C_3s},$	$\frac{L_4s}{C_4L_4s^2+1},$	$\infty$ ,	$R_L + \frac{1}{C_L s}$ ).		 	 	 	 188
10.37 NVALID-ORDER-377 $Z(s) = ($	$(\infty, \infty,$	$L_3s + \frac{1}{C_3s},$	$\frac{L_4s}{C_4L_4s^2+1},$	$\infty$ ,	$L_L s + \frac{1}{C_L s}$		 	 	 	 188
10.37\NVALID-ORDER-378 $Z(s) = ($	$(\infty, \infty,$	$L_3s + \frac{1}{C_3s},$	$\frac{L_4s}{C_4L_4s^2+1},$	$\infty$ ,	$\frac{L_L s}{C_L L_L s^2 + 1}$ ).		 	 	 	 188
10.37 <b>9</b> NVALID-ORDER-379 $Z(s) = ($	$(\infty, \infty,$	$L_3s + \frac{1}{C_3s},$	$\frac{L_4s}{C_4L_4s^2+1},$	$\infty$ ,	$L_L s + R_L + \overline{C}$	$\left(\frac{1}{L^s}\right)$ .	 	 	 	 188
10.38©NVALID-ORDER-380 $Z(s) = ($	$\left(\infty, \ \infty, \right.$	$L_3s + \frac{1}{C_3s},$	$\frac{L_4s}{C_4L_4s^2+1},$	$\infty$ ,	$\frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}} $		 	 	 	 189

$$\begin{aligned} & 10.38\text{INVALID-ORDER-381} \ Z(s) = \left(\infty, \, \infty, \, L_{3}s + \frac{1}{C_{3}s}, \, \frac{1}{C_{4}Ls^{2}+1}, \, \infty, \, \frac{1}{C_{4}Ls^{2}+1} + R_{L}\right) & 189 \\ & 10.38\text{INVALID-ORDER-382} \ Z(s) = \left(\infty, \, \infty, \, L_{3}s + \frac{1}{C_{3}s}, \, \frac{1}{C_{4}Ls^{2}+1}, \, \infty, \, \frac{R_{L}(L_{4}s^{2}+1)}{R_{L}} \right) & 189 \\ & 10.38\text{INVALID-ORDER-383} \ Z(s) = \left(\infty, \, \infty, \, L_{3}s + \frac{1}{C_{3}s}, \, L_{4}s + R_{4} + \frac{1}{C_{4}s}, \, \infty, \, R_{L}\right) & 189 \\ & 10.38\text{INVALID-ORDER-384} \ Z(s) = \left(\infty, \, \infty, \, L_{3}s + \frac{1}{C_{3}s}, \, L_{4}s + R_{4} + \frac{1}{C_{4}s}, \, \infty, \, \frac{1}{C_{4}s^{2}}\right) & 189 \\ & 10.38\text{INVALID-ORDER-385} \ Z(s) = \left(\infty, \, \infty, \, L_{3}s + \frac{1}{C_{3}s}, \, L_{4}s + R_{4} + \frac{1}{C_{4}s}, \, \infty, \, \frac{1}{C_{4}s^{2}+1}\right) & 190 \\ & 10.38\text{INVALID-ORDER-386} \ Z(s) = \left(\infty, \, \infty, \, L_{3}s + \frac{1}{C_{3}s}, \, L_{4}s + R_{4} + \frac{1}{C_{4}s}, \, \infty, \, \frac{1}{C_{4}s^{2}+1}\right) & 190 \\ & 10.38\text{INVALID-ORDER-387} \ Z(s) = \left(\infty, \, \infty, \, L_{3}s + \frac{1}{C_{3}s}, \, L_{4}s + R_{4} + \frac{1}{C_{4}s}, \, \infty, \, \frac{1}{C_{4}s^{2}+1}\right) & 190 \\ & 10.38\text{INVALID-ORDER-388} \ Z(s) = \left(\infty, \, \infty, \, L_{3}s + \frac{1}{C_{3}s}, \, L_{4}s + R_{4} + \frac{1}{C_{4}s}, \, \infty, \, \frac{1}{C_{4}s^{2}+1}\right) & 190 \\ & 10.38\text{INVALID-ORDER-389} \ Z(s) = \left(\infty, \, \infty, \, L_{3}s + \frac{1}{C_{3}s}, \, L_{4}s + R_{4} + \frac{1}{C_{4}s}, \, \infty, \, \frac{1}{C_{4}s^{2}+1}\right) & 190 \\ & 10.38\text{INVALID-ORDER-389} \ Z(s) = \left(\infty, \, \infty, \, L_{3}s + \frac{1}{C_{3}s}, \, L_{4}s + R_{4} + \frac{1}{C_{4}s}, \, \infty, \, \frac{1}{C_{4}s^{2}+1}\right) & 190 \\ & 10.39\text{INVALID-ORDER-389} \ Z(s) = \left(\infty, \, \infty, \, L_{3}s + \frac{1}{C_{3}s}, \, L_{4}s + R_{4} + \frac{1}{C_{4}s}, \, \infty, \, \frac{1}{C_{4}s^{2}+1}\right) & 191 \\ & 10.39\text{INVALID-ORDER-391} \ Z(s) = \left(\infty, \, \infty, \, L_{3}s + \frac{1}{C_{3}s}, \, L_{4}s + R_{4} + \frac{1}{C_{4}s}, \, \infty, \, \frac{1}{C_{4}s^{2}+1}\right) & 191 \\ & 10.39\text{INVALID-ORDER-392} \ Z(s) = \left(\infty, \, \infty, \, L_{3}s + \frac{1}{C_{3}s}, \, \frac{1}{C_{4}s^{2}+1} \frac{1}{C_{4}s}, \, \infty, \, \frac{1}{C_{4}s^{2}+1} \frac{1}{C_{4}s^{2}+1}}\right) & 191 \\ & 10.39\text{INVALID-ORDER-393} \ Z(s) = \left(\infty, \, \infty, \, L_{3}s + \frac{1}{C_{3}s}, \, \frac{1}{C_{4}s^{2}+1} \frac{1}{C_{4}s^{2}+1}, \, \infty, \, \frac{1}{C_{4}s^{2}+1} \frac{1}{C_{4}s^{2}+1}}\right) & 192 \\ & 10.39\text{INVALID-ORDER-397} \ Z($$

10.40INVALID-ORDER-401 $Z(s) = 1$	$\left(\infty,\;\infty,\;I ight.$	$L_3s + \frac{1}{C_3s},$	$\frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}$	$, \infty, \overline{c}$	$\frac{L_L s}{C_L L_L s^2 + 1} +$	$R_L$ ) .	 	 	 193
10.40 <b>2</b> NVALID-ORDER-402 $Z(s) = 1$	$\left(\infty, \infty, A\right)$	$L_3s + \frac{1}{C_3s},$	$\frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}$	$, \infty, \frac{R}{R}$	$R_L \left( L_L s + \frac{1}{C_L s} \right)$ $L_L s + R_L + \frac{1}{C_L s}$	$\left(\frac{s}{s}\right)$	 	 	 193
10.40 <b>3</b> NVALID-ORDER-403 $Z(s) = ($	<i>ì</i>				\		 	 	 193
10.40 <b>4</b> NVALID-ORDER-404 $Z(s) = 0$	$(\infty, \infty, 1$	$L_3s + \frac{1}{C_3s},$	$\frac{L_4s}{C_4L_4s^2+1} + I$	$R_4, \infty,$	$\frac{1}{C_L s}$ )		 	 	 193
10.40 <b>5</b> NVALID-ORDER-405 $Z(s) = ($	$\left(\infty, \ \infty, \ I\right)$	$L_3s + \frac{1}{C_3s},$	$\frac{L_4s}{C_4L_4s^2+1} + I$	$R_4, \infty,$	$\frac{R_L}{C_L R_L s + 1}$		 	 	 194
10.40 <b>6</b> NVALID-ORDER-406 $Z(s) = ($	$\left(\infty, \ \infty, \ I\right)$	$L_3s + \frac{1}{C_3s},$	$\frac{L_4s}{C_4L_4s^2+1} + I$	$R_4, \infty,$	$R_L + \frac{1}{C_L s}$	)	 	 	 194
10.40 <b>T</b> NVALID-ORDER-407 $Z(s) = ($	$\left(\infty, \ \infty, \ I\right)$	$L_3s + \frac{1}{C_3s},$	$\frac{L_4s}{C_4L_4s^2+1} + I$	$R_4, \infty,$	$L_L s + \frac{1}{C_L s}$	$\left(\frac{1}{5}\right)$	 	 	 194
10.40\( \mathbb{E}\)NVALID-ORDER-408 $Z(s) = ($	$\left(\infty, \ \infty, \ I\right)$	$L_3s + \frac{1}{C_3s}$	$\frac{L_4s}{C_4L_4s^2+1} + I$	$R_4, \infty,$	$\frac{L_L s}{C_L L_L s^2 + 1}$	)	 	 	 194
10.40 <b>9</b> NVALID-ORDER-409 $Z(s) = ($	$\left(\infty, \ \infty, \ I\right)$	$L_3s + \frac{1}{C_3s}$	$\frac{L_4s}{C_4L_4s^2+1} + I$	$R_4, \infty,$	$L_L s + R_L$	$+\frac{1}{C_L s}$	 	 	 194
10.41 <b>0</b> NVALID-ORDER-410 $Z(s) = 1$	$\left(\infty,\;\infty,\;I\right)$	$L_3s + \frac{1}{C_3s},$	$\frac{L_4s}{C_4L_4s^2+1} + 1$	$R_4,  \infty,$	$\frac{1}{C_L s + \frac{1}{R_L} + \cdots}$	$\left(\frac{1}{L_L s}\right)$ .	 	 	 195
10.41 <b>I</b> NVALID-ORDER-411 $Z(s) = ($	$(\infty, \infty, I$	$L_3s + \frac{1}{C_3s},$	$\frac{L_4s}{C_4L_4s^2+1} + I$	$R_4, \infty,$	$\frac{L_L s}{C_L L_L s^2 + 1}$	$+R_L$ ).	 	 	 195
10.412NVALID-ORDER-412 $Z(s) = 1$	$\left(\infty, \ \infty, \ I\right)$	$L_3s + \frac{1}{C_3s},$	$\frac{L_4s}{C_4L_4s^2+1} + 1$	$R_4,  \infty,$	$\frac{R_L \left(L_L s + \frac{1}{C}\right)}{L_L s + R_L + \frac{1}{C}}$	$\left(\frac{\frac{1}{C_L s}}{\frac{1}{C_L s}}\right)$	 	 	 195
10.41 <b>B</b> NVALID-ORDER-413 $Z(s) = 0$			/				 	 	 195
10.414NVALID-ORDER-414 $Z(s) = 1$	$\left(\infty,\ \infty,\ I\right)$	$L_3s + \frac{1}{C_3s},$	$\frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}$	$-$ , $\infty$ , $\overline{\alpha}$	$\left(\frac{1}{C_L s}\right) \cdot \cdot \cdot$		 	 	 195
10.41 SNVALID-ORDER-415 $Z(s) = 1$	$\left(\infty,\ \infty,\ I\right)$	$L_3s + \frac{1}{C_3s},$	$\frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}$	$-$ , $\infty$ , $\overline{\epsilon}$	$\frac{R_L}{C_L R_L s + 1}$		 	 	 196
10.41 <b>6</b> NVALID-ORDER-416 $Z(s) = 1$	$\left(\infty,\;\infty,\;I\right)$	$L_3s + \frac{1}{C_3s},$	$\frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}$	$-$ , $\infty$ , $I$	$R_L + \frac{1}{C_L s}$		 	 	 196
10.41 <b>T</b> NVALID-ORDER-417 $Z(s) = 1$	$\left(\infty,\ \infty,\ I\right)$	$L_3s + \frac{1}{C_3s},$	$\frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}$	-, ∞, <i>1</i>	$L_L s + \frac{1}{C_L s}$	)	 	 	 196
10.41&NVALID-ORDER-418 $Z(s) = 1$	\		- 4		/		 	 	 196
10.41 <b>9</b> NVALID-ORDER-419 $Z(s) = ($	$\left(\infty,\ \infty,\ I\right)$	$L_3s + \frac{1}{C_3s},$	$\frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}$	$-$ , $\infty$ , $I$	$L_L s + R_L +$	$-\frac{1}{C_L s}$ .	 	 	 196

10.42 <b>0</b> NVALID-ORDER-420 $Z(s) = \left(\infty, \right)$	$\infty, L_3s + \frac{1}{C_3s}, \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}, \infty, \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right) \dots \dots$	. 197
10.42 INVALID-ORDER-42 1 $Z(s) = \bigg(\infty,$	$\infty$ , $L_3s + \frac{1}{C_3s}$ , $\frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}$ , $\infty$ , $\frac{L_Ls}{C_LL_Ls^2 + 1} + R_L$	. 197
10.42 <b>P</b> NVALID-ORDER-422 $Z(s) = (\infty,$	$\infty$ , $L_3s + \frac{1}{C_3s}$ , $\frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}$ , $\infty$ , $\frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}$	. 197
10.428NVALID-ORDER-423 $Z(s) = (\infty,$	$\infty$ , $\frac{L_3s}{C_3L_3s^2+1}$ , $R_4$ , $\infty$ , $R_L + \frac{1}{C_Ls}$ )	. 197
10.42 <b>4</b> NVALID-ORDER-424 $Z(s) = (\infty,$	$\infty, \ \frac{L_3s}{C_3L_3s^2+1}, \ R_4, \ \infty, \ L_Ls + \frac{1}{C_Ls} $	. 197
10.42 INVALID-ORDER-425 $Z(s) = (\infty,$	$\infty$ , $\frac{L_3s}{C_3L_3s^2+1}$ , $R_4$ , $\infty$ , $L_Ls+R_L+\frac{1}{C_Ls}$ )	. 198
10.426NVALID-ORDER-426 $Z(s) = (\infty,$	$\infty, \ \frac{L_3s}{C_3L_3s^2+1}, \ R_4, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1} + R_L \Big) \ \dots $	. 198
10.42¶NVALID-ORDER-427 $Z(s) = \left(\infty,\right.$	$\infty, \frac{L_{3s}}{C_3L_3s^2+1}, R_4, \infty, \frac{R_L\left(L_Ls+\frac{1}{C_Ls}\right)}{L_Ls+R_L+\frac{1}{C_Ls}}\right)$	. 198
10.42\&NVALID-ORDER-428 $Z(s) = (\infty,$		. 198
10.42 <b>9</b> NVALID-ORDER-429 $Z(s) = (\infty,$	$\infty, \ \frac{L_3s}{C_3L_3s^2+1}, \ \frac{1}{C_4s}, \ \infty, \ R_L + \frac{1}{C_Ls} $	. 198
10.43 <b>0</b> NVALID-ORDER-430 $Z(s) = (\infty,$	$\infty, \ \frac{L_3s}{C_3L_3s^2+1}, \ \frac{1}{C_4s}, \ \infty, \ L_Ls+\frac{1}{C_Ls}$	. 199
10.43INVALID-ORDER-431 $Z(s) = (\infty,$	$\infty, \ \frac{L_3s}{C_3L_3s^2+1}, \ \frac{1}{C_4s}, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1}$	. 199
10.432NVALID-ORDER-432 $Z(s) = (\infty,$	$\infty, \ \frac{L_3s}{C_3L_3s^2+1}, \ \frac{1}{C_4s}, \ \infty, \ L_Ls+R_L+\frac{1}{C_Ls}$	. 199
10.43 <b>E</b> NVALID-ORDER-433 $Z(s) = (\infty,$	$\infty, \ \frac{L_3s}{C_3L_3s^2+1}, \ \frac{1}{C_4s}, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1} + R_L$	. 199
10.43 <b>4</b> NVALID-ORDER-434 $Z(s) = (\infty,$	$\infty, \ \frac{L_3s}{C_3L_3s^2+1}, \ \frac{1}{C_4s}, \ \infty, \ \frac{R_L\left(L_Ls+\frac{1}{C_Ls}\right)}{L_Ls+R_L+\frac{1}{C_Ls}}\right)$	. 199
10.43 INVALID-ORDER-435 $Z(s) = (\infty,$		. 200
10.436NVALID-ORDER-436 $Z(s) = (\infty,$	$\infty, \frac{L_3s}{C_3L_3s^2+1}, \frac{R_4}{C_4R_4s+1}, \infty, L_Ls + \frac{1}{C_Ls}$	. 200
10.43 <b>T</b> NVALID-ORDER-437 $Z(s) = (\infty,$	$\infty$ , $\frac{L_3s}{C_3L_3s^2+1}$ , $\frac{R_4}{C_4R_4s+1}$ , $\infty$ , $L_Ls+R_L+\frac{1}{C_Ls}$ )	. 200
10.43&NVALID-ORDER-438 $Z(s) = (\infty,$	$\infty$ , $\frac{L_3s}{C_3L_3s^2+1}$ , $\frac{R_4}{C_4R_4s+1}$ , $\infty$ , $\frac{L_Ls}{C_LL_Ls^2+1} + R_L$	. 200
1.	$\infty, \ \frac{L_3s}{C_3L_3s^2+1}, \ \frac{R_4}{C_4R_4s+1}, \ \infty, \ \frac{R_L\left(L_Ls+\frac{1}{C_Ls}\right)}{L_Ls+R_L+\frac{1}{C_Ls}}\right)$	. 200
10.44 <b>0</b> NVALID-ORDER-440 $Z(s) = (\infty,$	$\infty$ , $\frac{L_3s}{C_3L_3s^2+1}$ , $R_4+\frac{1}{C_4s}$ , $\infty$ , $R_L$ )	. 201

10.44 <b>I</b> NVALID-ORDER-441	$Z(s) = \left( \right.$	$\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1},$	$R_4 + \frac{1}{C_4 s},$	$\infty$ ,	$\frac{1}{C_L s}$ )			 	 	 	 	201
10.44 <b>2</b> NVALID-ORDER-442	Z(s) = (	$\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1},$	$R_4 + \frac{1}{C_4 s},$	$\infty$ ,	$\frac{R_L}{C_L R_L s + 1}$			 	 	 	 	201
10.44 <b>3</b> NVALID-ORDER-443	Z(s) = 0	$\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1},$	$R_4 + \frac{1}{C_4 s},$	$\infty$ ,	$R_L + \frac{1}{C_L s}$	)		 	 	 	 	201
10.44 <b>4</b> NVALID-ORDER-444	Z(s) = 0	$\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1},$	$R_4 + \frac{1}{C_4 s},$	$\infty$ ,	$L_L s + \frac{1}{C_L s}$	<u>;</u> )		 	 	 	 	201
10.44 <b>5</b> NVALID-ORDER-445	Z(s) = 0	$\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1},$	$R_4 + \frac{1}{C_4 s},$	$\infty$ ,	$\frac{L_L s}{C_L L_L s^2 + 1}$	)		 	 	 	 	201
10.44 <b>6</b> NVALID-ORDER-446	$Z(s) = \left( \begin{array}{c} 1 & 1 \\ 1 & 1 \end{array} \right)$	$\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1},$	$R_4 + \frac{1}{C_4 s},$	$\infty$ ,	$L_L s + R_L$	$+\frac{1}{C_L s}$	)	 	 	 	 	202
10.44 <b>7</b> NVALID-ORDER-447	$Z(s) = \left( \begin{array}{c} X(s) & X(s) \end{array} \right)$	$\stackrel{'}{\infty}, \infty$	$\frac{L_3s}{C_3L_3s^2+1}$ ,	$R_4 + \frac{1}{C_4 s},$	$\infty$ ,	$\frac{1}{C_L s + \frac{1}{R_L} + \cdots}$	$\frac{1}{L_L s}$		 	 	 	 	202
10.448NVALID-ORDER-448	$Z(s) = \left( \right.$	$\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1},$	$R_4 + \frac{1}{C_4 s},$	$\infty$ ,	$\frac{L_L s}{C_L L_L s^2 + 1}$	$+R_L$		 	 	 	 	202
10.44 <b>9</b> NVALID-ORDER-449	$Z(s) = \left(\right.$	$\infty, \infty$	$\frac{L_3s}{C_3L_3s^2+1}$ ,	$R_4 + \frac{1}{C_4 s},$	$\infty$ ,	$\frac{R_L \left( L_L s + \frac{1}{C} \right)}{L_L s + R_L + \frac{1}{C}}$	$\left(\frac{\frac{1}{C_L s}}{\frac{1}{C_L s}}\right)$		 	 	 	 	202
10.45 <b>0</b> NVALID-ORDER-450									 	 	 	 	202
10.45 <b>I</b> NVALID-ORDER-451	Z(s) = (	$\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1},$	$L_4 s + \frac{1}{C_4 s}$	$, \infty,$	$\frac{1}{C_L s}$ ) .			 	 	 	 	203
10.45 <b>2</b> NVALID-ORDER-452	Z(s) = 0	$\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1},$	$L_4s + \frac{1}{C_4s}$	$, \infty,$	$\frac{R_L}{C_L R_L s + 1}$	)		 	 	 	 	203
10.45 <b>3</b> NVALID-ORDER-453	Z(s) = 0	$\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1},$	$L_4s + \frac{1}{C_4s}$	$, \infty,$	$R_L + \frac{1}{C_L s}$	$\left(\frac{1}{3}\right)$		 	 	 	 	203
10.45 <b>4</b> NVALID-ORDER-454	$Z(s) = \left( \right.$	$\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1},$	$L_4s + \frac{1}{C_4s}$	$, \infty,$	$L_L s + \frac{1}{C_L}$	$\left( \frac{1}{\sqrt{s}} \right)$ .		 	 	 	 	203
10.45 <b>5</b> NVALID-ORDER-455	Z(s) = (	$\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1},$	$L_4s + \frac{1}{C_4s}$	$, \infty,$	$\frac{L_L s}{C_L L_L s^2 + 1}$			 	 	 	 	203
10.45 <b>6</b> NVALID-ORDER-456	$Z(s) = \left( \begin{array}{c} 1 & 1 \\ 1 & 1 \end{array} \right)$	$\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1},$	$L_4 s + \frac{1}{C_4 s}$	$, \infty,$	$L_L s + R_I$	$L + \frac{1}{C_L s}$	$\overline{s}$ .	 	 	 	 	203
10.45 <b>T</b> NVALID-ORDER-457	$Z(s) = \left( \begin{array}{c} X(s) & X(s) \end{array} \right)$	$\infty, \infty$	$\frac{L_3s}{C_3L_3s^2+1}$ ,	$L_4s + \frac{1}{C_4s}$	$\infty$	$\frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{R_L}}$	$-\frac{1}{L_L s}$		 	 	 	 	204
10.458NVALID-ORDER-458	$Z(s) = \left( \right.$	$\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1},$	$L_4s + \frac{1}{C_4s}$	$, \infty,$	$\frac{L_L s}{C_L L_L s^2 + 1}$	$+R_L$	)	 	 	 	 	204
10.45 <b>9</b> NVALID-ORDER-459	$Z(s) = \left(\right.$	$\infty, \infty$	$, \frac{L_3s}{C_3L_3s^2+1},$	$L_4s + \frac{1}{C_4s}$	$\infty$	$R_L \left(L_L s + L_L s + R_L $	$\left(\frac{\frac{1}{C_L s}}{\frac{1}{C_L s}}\right)$		 	 	 	 	204
10.46 <b>0</b> NVALID-ORDER-460	Z(s) = (	$\infty, \infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1},$	$\frac{L_4s}{C_4L_4s^2+1},$	$\infty$ ,	$\frac{1}{C_L s}$ )			 	 	 	 	204
10.46INVALID-ORDER-461	,	;				·	)		 	 	 	 	204
10.46 <b>2</b> NVALID-ORDER-462	Z(s) = (	$\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1},$	$\frac{L_4s}{C_4L_4s^2+1},$	$\infty$ ,	$L_L s + \frac{1}{C_L s}$	( )		 	 	 	 	205

10.46 <b>&amp;</b> NVALID-ORDER-463 $Z(s)=0$	$\left(\infty, \ \infty, \right.$	$\frac{L_3s}{C_3L_3s^2+1},$	$\frac{L_4s}{C_4L_4s^2+1}$ , $\infty$ , $\frac{L_Ls}{C_LL_Ls^2+1}$ )	205
10.464NVALID-ORDER-464 $Z(s)=0$	$(\infty, \infty,$	$\tfrac{L_3s}{C_3L_3s^2+1},$	$\frac{L_4s}{C_4L_4s^2+1}$ , $\infty$ , $L_Ls+R_L+\frac{1}{C_Ls}$ )	205
10.46 <b>Б</b> NVALID-ORDER-465 $Z(s) = 0$	$(\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1},$	$\frac{L_4s}{C_4L_4s^2+1}$ , $\infty$ , $\frac{L_Ls}{C_LL_Ls^2+1} + R_L$	205
10.46 (INVALID-ORDER-466 $Z(s) = 1$	$\left(\infty, \ \infty, \right.$	$\frac{L_3s}{C_3L_3s^2+1},$	$\frac{L_{4s}}{C_{4}L_{4}s^{2}+1}, \infty, \frac{R_{L}\left(L_{L}s+\frac{1}{C_{L}s}\right)}{L_{L}s+R_{L}+\frac{1}{C_{L}s}}$	205
10.46 <b>T</b> NVALID-ORDER-467 $Z(s) = 0$	$(\infty, \infty,$	$\tfrac{L_3s}{C_3L_3s^2+1},$	$L_4s + R_4 + \frac{1}{C_4s}, \infty, R_L$	206
10.46&NVALID-ORDER-468 $Z(s) = 0$	$\left(\infty, \ \infty, \right.$	$\tfrac{L_3s}{C_3L_3s^2+1},$	$L_4s + R_4 + \frac{1}{C_4s}, \infty, \frac{1}{C_Ls}$	206
10.46 <b>9</b> NVALID-ORDER-469 $Z(s) = 0$	$\left(\infty, \ \infty, \right.$	$\tfrac{L_3s}{C_3L_3s^2+1},$	$L_4s + R_4 + \frac{1}{C_4s}$ , $\infty$ , $\frac{R_L}{C_LR_Ls+1}$ )	206
10.47 <b>0</b> NVALID-ORDER-470 $Z(s) = 0$	$\left(\infty, \ \infty, \right.$	$\tfrac{L_3s}{C_3L_3s^2+1},$	$L_4s + R_4 + \frac{1}{C_4s}, \ \infty, \ R_L + \frac{1}{C_Ls}$	206
10.47INVALID-ORDER-471 $\boldsymbol{Z}(s) = (s)^{-1}$	$\left(\infty, \ \infty, \right.$	$\tfrac{L_3s}{C_3L_3s^2+1},$	$L_4s + R_4 + \frac{1}{C_4s}, \ \infty, \ L_Ls + \frac{1}{C_Ls}$	206
10.472NVALID-ORDER-472 $Z(s) = 0$	$\left(\infty, \ \infty, \right.$	$\tfrac{L_3s}{C_3L_3s^2+1},$	$L_4s + R_4 + \frac{1}{C_4s}, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1}$	206
10.47 <b>\$</b> NVALID-ORDER-473 $Z(s) = 0$	$\left(\infty, \ \infty, \right.$	$\tfrac{L_3s}{C_3L_3s^2+1},$	$L_4s + R_4 + \frac{1}{C_4s}, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls}$	207
10.47#NVALID-ORDER-474 $Z(s) = 1$	$\left(\infty, \ \infty, \right.$	$\frac{L_3s}{C_3L_3s^2+1},$	$L_4s + R_4 + \frac{1}{C_4s}, \ \infty, \ \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}$	207
10.47 INVALID-ORDER-475 $Z(s) = 0$	$\left(\infty, \ \infty, \right.$	$\tfrac{L_3s}{C_3L_3s^2+1},$	$L_4s + R_4 + \frac{1}{C_4s}, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2 + 1} + R_L$	207
10.476NVALID-ORDER-476 $Z(s) = 0$	$\left(\infty, \ \infty, \right.$	$\frac{L_3s}{C_3L_3s^2+1},$	$L_4s + R_4 + \frac{1}{C_4s}, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}$	207
10.47 INVALID-ORDER-477 $Z(s) = 1$	,			207
10.47&NVALID-ORDER-478 $Z(s) = 1$	$\left(\infty, \ \infty, \right.$	$\frac{L_3s}{C_3L_3s^2+1},$	$\frac{1}{C_4s + \frac{1}{R_4} + \frac{1}{L_4s}}, \ \infty, \ L_Ls + \frac{1}{C_Ls}$	208
10.479NVALID-ORDER-479 $Z(s) = 1$	$\left(\infty, \ \infty, \right.$	$\frac{L_3s}{C_3L_3s^2+1},$	$\frac{1}{C_4s + \frac{1}{R_4} + \frac{1}{L_4s}}, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls}$	208
10.48 <b>0</b> NVALID-ORDER-480 $Z(s) = 1$	\			208
10.48INVALID-ORDER-481 $Z(s) = 1$	$\left(\infty, \ \infty, \right.$	$\tfrac{L_3s}{C_3L_3s^2+1},$	$\frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}},  \infty,  \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  $	208
10.48 <b>2</b> NVALID-ORDER-482 $Z(s) = 0$	$(\infty, \infty,$	$\tfrac{L_3s}{C_3L_3s^2+1},$	$\frac{L_4s}{C_4L_4s^2+1}+R_4, \ \infty, \ R_L $	208
10.48 <b>B</b> NVALID-ORDER-483 $Z(s)=0$	$(\infty, \infty,$	$\tfrac{L_3s}{C_3L_3s^2+1},$	$\frac{L_4s}{C_4L_4s^2+1}+R_4, \ \infty, \ \frac{1}{C_Ls}$ )	209

10.48 <b>4</b> NVALID-ORDER-484 $Z(s) =$	$\left(\infty, \ \infty, \right.$	$\frac{L_3s}{C_3L_3s^2+1},$	$\frac{L_4s}{C_4L_4s^2+1} + R_4$	$_4,  \infty,$	$\left(\frac{R_L}{C_L R_L s+1}\right)$		 	 	 	 . 209
10.48 Invalid-order-485 $Z(s) =$	$(\infty, \infty,$	$\tfrac{L_3s}{C_3L_3s^2+1},$	$\frac{L_4s}{C_4L_4s^2+1} + R_4$	$_4,  \infty,$	$R_L + \frac{1}{C_L s}$	)	 	 	 	 . 209
10.486NVALID-ORDER-486 $Z(s) =$	$(\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1},$	$\frac{L_4s}{C_4L_4s^2+1} + R_4$	$_4,  \infty,$	$L_L s + \frac{1}{C_L}$	$\left(\frac{1}{5}\right)$	 	 	 	 . 209
10.48 <b>T</b> NVALID-ORDER-487 $Z(s) =$	$\left(\infty, \ \infty, \right.$	$\tfrac{L_3s}{C_3L_3s^2+1},$	$\frac{L_4s}{C_4L_4s^2+1} + R_4$	$_4,  \infty,$	$\frac{L_L s}{C_L L_L s^2 + 1}$	)	 	 	 	 . 209
10.48&NVALID-ORDER-488 $Z(s) =$	$\left(\infty, \infty, \right.$	$\frac{L_3s}{C_3L_3s^2+1},$	$\frac{L_4s}{C_4L_4s^2+1} + R_4$	$_4,  \infty,$	$L_L s + R_L$	$+\frac{1}{C_L s}$	 	 	 	 . 209
10.48¶NVALID-ORDER-489 $Z(s) =$	$\left(\infty, \ \infty, \right.$	$\frac{L_3s}{C_3L_3s^2+1},$	$\frac{L_4s}{C_4L_4s^2+1} + R$	$\mathcal{C}_4, \ \infty$	$,  \frac{1}{C_L s + \frac{1}{R_L} +}$	$\frac{1}{L_L s}$	 	 	 	 . 210
10.49 <b>0</b> NVALID-ORDER-490 $Z(s) =$	$(\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1},$	$\frac{L_4s}{C_4L_4s^2+1} + R_4$	$_4,  \infty,$	$\frac{L_L s}{C_L L_L s^2 + 1}$	$+R_L$	 	 	 	 . 210
10.49INVALID-ORDER-491 $Z(s) =$	$\left(\infty, \ \infty, \right.$	$\frac{L_3s}{C_3L_3s^2+1},$	$\frac{L_4 s}{C_4 L_4 s^2 + 1} + R$	$c_4, \infty$	$, \frac{R_L \left(L_L s + \frac{1}{C} L_L s + \frac{1}{C} + \frac{1}{C} L_L s + \frac{1}{C} + \frac{1}{C} L_L s + \frac{1}{C$	$\left(\frac{\frac{1}{C_L s}}{\frac{1}{C_L s}}\right)$	 	 	 	 . 210
10.49 <b>2</b> NVALID-ORDER-492 $Z(s) =$	$(\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1},$	$\frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}},$	$\infty$ ,	$R_L$ )		 	 	 	 . 210
10.49 <b>B</b> NVALID-ORDER-493 $Z(s) =$	$(\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1},$	$\frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}},$	$\infty$ ,	$\frac{1}{C_L s}$ )		 	 	 	 . 210
10.494NVALID-ORDER-494 $Z(s) =$	$(\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1},$	$\frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}},$	$\infty$ ,	$\frac{R_L}{C_L R_L s + 1}$		 	 	 	 . 211
10.49 Invalid-order-495 $Z(s) =$	$(\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1},$	$\frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}},$	$\infty$ ,	$R_L + \frac{1}{C_L s}$		 	 	 	 . 211
10.49 <b>6</b> NVALID-ORDER-496 $Z(s) =$	$(\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1},$	$\frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}},$	$\infty$ ,	$L_L s + \frac{1}{C_L s}$		 	 	 	 . 211
10.49 TNVALID-ORDER-497 $Z(s) =$	$(\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1},$	$\frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}},$	$\infty$ ,	$\frac{L_L s}{C_L L_L s^2 + 1}$		 	 	 	 . 211
10.49&NVALID-ORDER-498 $Z(s) =$	$(\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1},$	$\frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}},$	$\infty$ ,	$L_L s + R_L$ -	$-\frac{1}{C_L s}$	 	 	 	 . 211
10.49 <b>9</b> NVALID-ORDER-499 $Z(s) =$	$(\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1},$	$\frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}},$	$\infty$ ,	$\frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_R}}$	$\left(\frac{1}{\sqrt{s}}\right)$ .	 	 	 	 . 212
10.500NVALID-ORDER-500 $Z(s) =$	$(\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1},$	$\frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}},$	$\infty$ ,	$\frac{L_L s}{C_L L_L s^2 + 1} +$	$-R_L$	 	 	 	 . 212
10.50INVALID-ORDER-501 $Z(s) =$	1		/		,	\ . '	 	 	 	 . 212
10.502NVALID-ORDER-502 $Z(s) =$	$(\infty, \infty,$	$L_3s + R_3$	$+\frac{1}{C_3s}$ , $R_4$ , $\infty$ .	$, \frac{1}{C_L s}$	)		 	 	 	 . 212

10.50 <b>B</b> NVALID-ORDER-503 $Z(s) =$	$\left(\infty, \infty, \right.$	$L_3s + R$	$C_3 + \frac{1}{C_3 s},$	$R_4, \infty,$	$\frac{R_L}{C_L R_L s + 1}$			 	 	 212
10.504NVALID-ORDER-504 $Z(s) =$	$(\infty, \infty,$	$L_3s + R$	$C_3 + \frac{1}{C_3 s}$	$R_4, \infty,$	$R_L + \frac{1}{C_L s}$	)		 	 	 213
10.505NVALID-ORDER-505 $Z(s) =$	$(\infty, \infty,$	$L_3s + R$	$C_3 + \frac{1}{C_3 s}$	$R_4, \infty,$	$L_L s + \frac{1}{C_L}$	$\left(\frac{1}{s}\right)$		 	 	 213
10.50 <b>6</b> NVALID-ORDER-506 $Z(s) =$	$(\infty, \infty,$	$L_3s + R$	$C_3 + \frac{1}{C_3 s}$	$R_4, \infty,$	$\tfrac{L_L s}{C_L L_L s^2 + 1}$	)		 	 	 213
10.50 <b>T</b> NVALID-ORDER- $507$ $Z(s) =$	$(\infty, \infty,$	$L_3s + R$	$C_3+\frac{1}{C_3s}$	$R_4, \infty,$	$L_L s + R_L$	$\left( + \frac{1}{C_L s} \right)$		 	 	 213
10.50 NVALID-ORDER-508 $Z(s) =$	$\left(\infty, \infty, \right.$	$L_3s + R$	$R_3 + \frac{1}{C_3 s},$	$R_4, \infty,$	$\frac{1}{C_L s + \frac{1}{R_L} +}$	$\frac{1}{L_L s}$		 	 	 213
10.50 <b>9</b> NVALID-ORDER-509 $Z(s) =$	$(\infty, \infty,$	$L_3s + R$	$C_3 + \frac{1}{C_3 s},$	$R_4, \infty,$	$\frac{L_L s}{C_L L_L s^2 + 1}$	$+R_L$		 	 	 214
10.51 <b>©</b> NVALID-ORDER-510 $Z(s) =$	$\left(\infty, \infty, \right.$	$L_3s + R$	$R_3 + \frac{1}{C_3 s},$	$R_4, \infty,$	$\frac{R_L \left(L_L s + \frac{1}{6}\right)}{L_L s + R_L + \frac{1}{6}}$	$\left(\frac{\frac{1}{C_L s}}{\frac{1}{C_L s}}\right)$		 	 	 214
10.51 <b>I</b> NVALID-ORDER-511 $Z(s) =$	$(\infty, \infty,$	$L_3s + R$	$C_3 + \frac{1}{C_3 s}$	$\frac{1}{C_4 s}$ , $\infty$ ,	$R_L$ )			 	 	 214
10.51 <b>2</b> NVALID-ORDER- $512$ $Z(s) =$	$(\infty, \infty,$	$L_3s + R$	$C_3 + \frac{1}{C_3 s}$	$\frac{1}{C_4 s}$ , $\infty$ ,	$\frac{1}{C_L s}$ ) .			 	 	 214
10.518NVALID-ORDER- $513$ $Z(s) =$	$(\infty, \infty,$	$L_3s + R$	$C_3 + \frac{1}{C_3 s},$	$\frac{1}{C_4 s}$ , $\infty$ ,	$\frac{R_L}{C_L R_L s + 1}$	)		 	 	 214
10.51 INVALID-ORDER- $514$ $Z(s) =$	$(\infty, \infty,$	$L_3s + R$	$C_3 + \frac{1}{C_3 s}$	$\frac{1}{C_4 s}$ , $\infty$ ,	$R_L + \frac{1}{C_L}$	$\left(\frac{1}{s}\right)$		 	 	 215
10.515NVALID-ORDER-515 $Z(s) =$	$(\infty, \infty,$	$L_3s + R$	$C_3 + \frac{1}{C_3 s},$	$\frac{1}{C_4 s}$ , $\infty$ ,	$L_L s + \frac{1}{C_L}$	$\left(\frac{1}{L^s}\right)$ .		 	 	 215
10.516NVALID-ORDER- $516$ $Z(s) =$	$(\infty, \infty,$	$L_3s + R$	$C_3 + \frac{1}{C_3 s}$	$\frac{1}{C_4 s}$ , $\infty$ ,	$\frac{L_L s}{C_L L_L s^2 + 1}$	$_{\overline{1}}$ )		 	 	 215
10.51 <b>T</b> NVALID-ORDER- $517$ $Z(s) =$	$\left(\infty, \infty, \right.$	$L_3s + R$	$C_3+\frac{1}{C_3s}$	$\frac{1}{C_4 s}$ , $\infty$ ,	$L_L s + R_s$	$L + \frac{1}{C_L s}$	)	 	 	 215
10.51 NVALID-ORDER-518 $Z(s) =$	$\left(\infty, \infty, \right.$	$L_3s + R$	$R_3 + \frac{1}{C_3 s},$	$\frac{1}{C_4s}$ , $\infty$	$\frac{1}{C_L s + \frac{1}{R_L}}$	$\frac{1}{+\frac{1}{L_L s}}$		 	 	 215
10.51 <b>9</b> NVALID-ORDER-519 $Z(s) =$	$(\infty, \infty,$	$L_3s + R$	$C_3 + \frac{1}{C_3 s}$	$\frac{1}{C_4 s}$ , $\infty$ ,	$\frac{L_L s}{C_L L_L s^2 + 1}$	$_{\overline{1}}+\overset{'}{R_{L}}$		 	 	 216
10.52 ONVALID-ORDER- $520$ $Z(s) =$	$\left(\infty, \infty, \right.$	$L_3s + R$	$R_3 + \frac{1}{C_3 s},$	$\frac{1}{C_4 s}$ , $\infty$	$R_L \left(L_L s + \frac{L_L s + R_L - L_L s + R_L - L_L s + R_L - L_L s + R_L - \frac{L_L s + R_L - L_L s + R_L s $	$\left(\frac{1}{C_L^s}\right)$		 	 	 216
10.52INVALID-ORDER-521 $Z(s) =$	į.				\	,		 	 	 216
10.52 <b>2</b> NVALID-ORDER- $522 Z(s) =$	$(\infty, \infty,$	$L_3s + R$	$C_3 + \frac{1}{C_3 s},$	$\frac{R_4}{C_4R_4s+1}$	$,  \infty,  \frac{1}{C_L s}$	)		 	 	 216
10.52 Invalid-order- $523$ $Z(s) =$	$(\infty, \infty,$	$L_3s + R$	$C_3 + \frac{1}{C_3 s}$	$\frac{R_4}{C_4R_4s+1}$	$, \infty, \frac{R}{C_L R}$	$\left(\frac{R_L}{Ls+1}\right)$		 	 	 216
10.524NVALID-ORDER-524 $Z(s) =$	$(\infty, \infty,$	$L_3s + R$	$C_3 + \frac{1}{C_3 s}$	$\frac{R_4}{C_4 R_4 s + 1}$	$, \infty, R_L$	$+\frac{1}{C_L s}$		 	 	 217

10.525NVALID-ORDER- $525$ $Z(s) =$	$\left(\infty, \infty, \right.$	$L_3s + R_3 + \frac{1}{C_5}$	$\frac{R_4}{Gs}$ , $\frac{R_4}{C_4R_4s+1}$ , (	$\infty$ , $L_L s + \frac{1}{C_L s}$	)	 	 217
10.526NVALID-ORDER- $526$ $Z(s) =$	$(\infty, \infty,$	$L_3s + R_3 + \frac{1}{C_3}$	$\frac{R_4}{C_4R_4s+1}$ ,	$\infty, \frac{L_L s}{C_L L_L s^2 + 1}$		 	 217
10.52TNVALID-ORDER- $527$ $Z(s) =$	$(\infty, \infty,$	$L_3s + R_3 + \frac{1}{C_3}$	$\frac{R_4}{G_4}$ , $\frac{R_4}{C_4R_4s+1}$ , (	$\infty$ , $L_L s + R_L$	$+\frac{1}{C_L s}$ )	 	 217
10.52\%NVALID-ORDER-528 $Z(s) =$	$\left(\infty, \infty, \right.$	$L_3s + R_3 + \frac{1}{C}$	$\frac{1}{3s}$ , $\frac{R_4}{C_4R_4s+1}$ ,	$\infty$ , $\frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L}}$	$\left(\frac{1}{L^s}\right)$	 	 217
10.529NVALID-ORDER- $529$ $Z(s) =$	$(\infty, \infty,$	$L_3s + R_3 + \frac{1}{C_3}$	$\frac{R_4}{C_4R_4s+1}$ ,	$\infty$ , $\frac{L_L s}{C_L L_L s^2 + 1}$	$+R_L$ )	 	 218
10.53 ONVALID-ORDER- $530$ $Z(s) =$	$\left(\infty, \ \infty, \right.$	$L_3s + R_3 + \frac{1}{C}$	$\frac{1}{3s}, \frac{R_4}{C_4R_4s+1},$	$ \infty, \frac{R_L \left(L_L s + \frac{1}{C_L} + \frac{1}{C_L$	$\left(\frac{\frac{1}{L^s}}{\frac{1}{L^s}}\right)$	 	 218
10.53INVALID-ORDER-531 $Z(s) =$	$(\infty, \infty,$	$L_3s + R_3 + \frac{1}{C_3}$	$\frac{1}{6s}$ , $R_4 + \frac{1}{C_4s}$ ,	$\infty$ , $R_L$ )		 	 218
10.53 <b>2</b> NVALID-ORDER- $532$ $Z(s) =$	$(\infty, \infty,$	$L_3s + R_3 + \frac{1}{C_3}$	$\frac{1}{6s}$ , $R_4 + \frac{1}{C_4s}$ ,	$\infty, \frac{1}{C_L s}$ )		 	 218
10.53\( \text{NVALID-ORDER-533} \( Z(s) = \)	$(\infty, \infty,$	$L_3s + R_3 + \frac{1}{C_3}$	$\frac{1}{6s}$ , $R_4 + \frac{1}{C_4s}$ ,	$\infty, \frac{R_L}{C_L R_L s + 1}$		 	 218
10.534NVALID-ORDER-534 $Z(s) =$	$(\infty, \infty,$	$L_3s + R_3 + \frac{1}{C_3}$	$\frac{1}{6s}$ , $R_4 + \frac{1}{C_4s}$ ,	$\infty$ , $R_L + \frac{1}{C_L s}$	)	 	 219
10.53 <b>5</b> NVALID-ORDER-535 $Z(s) =$	$(\infty, \infty,$	$L_3s + R_3 + \frac{1}{C_3}$	$\frac{1}{6s}$ , $R_4 + \frac{1}{C_4s}$ ,	$\infty$ , $L_L s + \frac{1}{C_L s}$	$\left(\frac{r}{s}\right)$	 	 219
10.53 CNVALID-ORDER- $536$ $Z(s) =$	$(\infty, \infty,$	$L_3s + R_3 + \frac{1}{C_3}$	$\frac{1}{6s}$ , $R_4 + \frac{1}{C_4s}$ ,	$\infty, \frac{L_L s}{C_L L_L s^2 + 1}$	) · · · · · ·	 	 219
10.53 TNVALID-ORDER- $537$ $Z(s) =$	$(\infty, \infty,$	$L_3s + R_3 + \frac{1}{C_3}$	$\frac{1}{3s}$ , $R_4 + \frac{1}{C_4 s}$ ,	$\infty$ , $L_L s + R_L$	$+\frac{1}{C_L s}$ )	 	 219
10.53\NVALID-ORDER-538 $Z(s) =$	$(\infty, \infty,$	$L_3s + R_3 + \frac{1}{C}$	$\frac{1}{3s}$ , $R_4 + \frac{1}{C_4s}$ ,	$\infty$ , $\frac{1}{C_L s + \frac{1}{R_L} + }$	$\frac{1}{L_L s}$	 	 219
10.539NVALID-ORDER-539 $Z(s) =$	$(\infty, \infty,$	$L_3s + R_3 + \frac{1}{C_3}$	$\frac{1}{6s}$ , $R_4 + \frac{1}{C_4s}$ ,	$\infty$ , $\frac{L_L s}{C_L L_L s^2 + 1}$	$+R_L$ )	 	 220
10.54 <b>0</b> NVALID-ORDER- $540$ $Z(s) =$	$(\infty, \infty,$	$L_3s + R_3 + \frac{1}{C}$	$\frac{1}{3s}$ , $R_4 + \frac{1}{C_4s}$ ,	$\infty$ , $\frac{R_L(L_L s + 7)}{L_L s + R_L + 7}$	$\left(\frac{1}{C_L s}\right)$ $\left(\frac{1}{C_L s}\right)$	 	 220
10.54INVALID-ORDER- $541$ $Z(s) =$	$(\infty, \infty,$	$L_3s + R_3 + \frac{1}{C_3}$	$\frac{1}{6s}$ , $L_4s + \frac{1}{C_4s}$ ,	$\infty$ , $R_L$ )		 	 220
10.54 <b>2</b> NVALID-ORDER- $542$ $Z(s) =$	$(\infty, \infty,$	$L_3s + R_3 + \frac{1}{C_3}$	$\frac{1}{6s}$ , $L_4s + \frac{1}{C_4s}$ ,	$\infty, \frac{1}{C_L s}$ .		 	 220
10.54BNVALID-ORDER- $543$ $Z(s) =$	$(\infty, \infty,$	$L_3s + R_3 + \frac{1}{C_3}$	$\frac{1}{6s}$ , $L_4s + \frac{1}{C_4s}$ ,	$\infty, \frac{R_L}{C_L R_L s + 1}$	)	 	 220
10.54INVALID-ORDER- $544$ $Z(s) =$	$(\infty, \infty,$	$L_3s + R_3 + \frac{1}{C_3}$	$\frac{1}{6s}$ , $L_4s + \frac{1}{C_4s}$ ,	$\infty$ , $R_L + \frac{1}{C_L s}$	$\left(\frac{1}{s}\right)$	 	 221
10.545NVALID-ORDER- $545$ $Z(s) =$	$(\infty, \infty,$	$L_3s + R_3 + \frac{1}{C_3}$	$\frac{1}{6s}$ , $L_4s + \frac{1}{C_4s}$ ,	$\infty$ , $L_L s + \frac{1}{C_L}$	$\left(\frac{1}{\sqrt{s}}\right)$	 	 221
10.546NVALID-ORDER- $546$ $Z(s) =$	$(\infty, \infty,$	$L_3s + R_3 + \frac{1}{C_5}$	$\frac{1}{6s}$ , $L_4s + \frac{1}{C_4s}$ ,	$\infty$ , $\frac{L_L s}{C_L L_L s^2 + 1}$	<u>.</u> )	 	 221

10.54 <b>T</b> NVALID-ORDER- $547$ $Z(s) = ($	$\Big(\infty,\;\infty,\;$	$L_3s + R_3 -$	$+\frac{1}{C_3s},$	$L_4s + \frac{1}{C_4s},$	$\infty$ , $L_L s$	$+R_L+$	$\frac{1}{C_L s}$ .		 	 	221
10.54\( \text{NVALID-ORDER-548} \( Z(s) = 1 \)	$\left(\infty, \ \infty, \right.$	$L_3s + R_3$	$+\frac{1}{C_3s}$ ,	$L_4s + \frac{1}{C_4s},$	$\infty$ , $\frac{1}{C_L s}$	$\frac{1}{+\frac{1}{R_L} + \frac{1}{L_L s}}$	$\left(\frac{1}{2}\right) \dots$		 	 	221
10.54 <b>9</b> NVALID-ORDER- $549$ $Z(s) = ($	$(\infty, \infty, \infty)$	$L_3s + R_3$	$+\frac{1}{C_3s}$ ,	$L_4s + \frac{1}{C_4s},$	$\infty$ , $\frac{1}{C_L L}$	$\frac{L_L s}{L s^2 + 1} + I$	$(R_L)$		 	 	222
10.55 ONVALID-ORDER- $550 Z(s) = 10.55$	$\left(\infty, \ \infty, \right)$	$L_3s + R_3$	$+\frac{1}{C_3s}$ ,	$L_4s + \frac{1}{C_4s},$	$\infty, \frac{R_L}{L_L}$	$\frac{\left(L_L s + \frac{1}{C_L s}\right)}{s + R_L + \frac{1}{C_L s}}$	$\left(\frac{1}{2}\right)$		 	 	222
10.55INVALID-ORDER-551 $Z(s) = 1$	$(\infty, \infty, \infty)$	$L_3s + R_3$	$+\frac{1}{C_3s},$	$\frac{L_4s}{C_4L_4s^2+1}, \ \bigcirc$	$\circ$ , $R_L$				 	 	222
10.55 <b>2</b> NVALID-ORDER-552 $Z(s) = 0$	$\Big(\infty,\;\infty,\;$	$L_3s + R_3$ -	$+\frac{1}{C_3s}$ ,	$\frac{L_4s}{C_4L_4s^2+1}, \ \bigcirc$	$\circ, \frac{1}{C_L s}$				 	 	222
10.55\(\mathbf{B}\)NVALID-ORDER-553\(Z(s) = 1)	$(\infty, \infty, \infty)$	$L_3s + R_3$ -	$+\frac{1}{C_3s},$	$\frac{L_4s}{C_4L_4s^2+1}, \ \bigcirc$	$0, \ \frac{R_{I}}{C_{L}R_{L}}$	$\left(\frac{L}{s+1}\right)$ .			 	 	222
10.554NVALID-ORDER- $554$ $Z(s) = ($	$(\infty, \infty, \infty)$	$L_3s + R_3$	$+\frac{1}{C_3s}$ ,	$\frac{L_4s}{C_4L_4s^2+1}, \ \bigcirc$	o, $R_L$ +	$-\frac{1}{C_L s}$ ).			 	 	223
10.55 Invalid-order- $555 Z(s) = 0$	$(\infty,  \infty,  1$	$L_3s + R_3$ -	$+\frac{1}{C_3s},$	$\frac{L_4s}{C_4L_4s^2+1}, \ \bigcirc$	o, $L_L s$	$+\frac{1}{C_L s}$			 	 	223
10.55 CNVALID-ORDER- $556$ $Z(s) = ($	$(\infty,  \infty,  1$	$L_3s + R_3$ -	$+\frac{1}{C_3s},$	$\frac{L_4s}{C_4L_4s^2+1}, \ \bigcirc$	$C, \frac{L_I}{C_L L_L}$	$\left(\frac{s}{s^2+1}\right)$ .			 	 	223
10.55TNVALID-ORDER- $557 Z(s) = ($	$(\infty,  \infty,  1$	$L_3s + R_3$ -	$+\frac{1}{C_3s},$	$\frac{L_4s}{C_4L_4s^2+1}, \ \bigcirc$	o, $L_L s$	$+R_L + \overline{C}$	$\left(\frac{1}{C_L s}\right)$		 	 	223
10.55\NVALID-ORDER-558 $Z(s) = 1$	$(\infty, \infty,$	$L_3s + R_3$	$+\frac{1}{C_3s}$ ,	$\frac{L_4s}{C_4L_4s^2+1}, \ \ \Box$	$\infty$ , $\overline{C_L s}$ +	$\frac{1}{\frac{1}{R_L} + \frac{1}{L_L s}}$	)		 	 	223
10.559NVALID-ORDER- $559 Z(s) = 0$	$(\infty, \infty, \infty)$	$L_3s + R_3$ -	$+\frac{1}{C_3s}$ ,	$\frac{L_4s}{C_4L_4s^2+1}, \ \circ$	o, $\frac{L_1}{C_L L_L}$	$\frac{Ls}{s^2+1} + R$	$(L_L)$		 	 	224
10.56 ONVALID-ORDER- $560 Z(s) = 10.56$	$\left(\infty, \ \infty, \right.$	$L_3s + R_3$	$+\frac{1}{C_3s}$ ,	$\frac{L_4s}{C_4L_4s^2+1}, \ \ \Box$	$\infty, \frac{R_L(I)}{L_L s}$	$\frac{C_L s + \frac{1}{C_L s}}{+R_L + \frac{1}{C_L s}}$	)		 	 	224
10.56INVALID-ORDER- $561$ $Z(s) = ($	$(\infty, \infty, \infty)$	$L_3s + R_3 -$	$+\frac{1}{C_3s}$ ,	$L_4s + R_4 +$	$\frac{1}{C_4 s}$ , $\infty$	$, R_L$ ) .	´		 	 	224
10.56 <b>2</b> NVALID-ORDER- $562 Z(s) = ($	$(\infty,  \infty,  1$	$L_3s + R_3 -$	$+\frac{1}{C_3s}$ ,	$L_4s + R_4 +$	$\frac{1}{C_4 s}$ , $\infty$	$, \frac{1}{C_L s}$			 	 	224
10.56BNVALID-ORDER- $563$ $Z(s) = ($	$(\infty,  \infty,  1)$	$L_3s + R_3$ -	$+\frac{1}{C_3s}$ ,	$L_4s + R_4 +$	$\frac{1}{C_4 s}$ , $\infty$	$, \frac{\overset{'}{R_L}}{C_L R_L s +}$	$\overline{1}$		 	 	224
10.564NVALID-ORDER- $564 Z(s) = ($	$(\infty,  \infty,  1$	$L_3s + R_3 -$	$+\frac{1}{C_3s}$ ,	$L_4s + R_4 +$	$\frac{1}{C_4 s}$ , $\infty$	$R_L + \overline{C}$	$\left(\frac{1}{Ls}\right)$		 	 	225
10.565NVALID-ORDER- $565$ $Z(s) = ($	$(\infty,  \infty,  1)$	$L_3s + R_3$ -	$+\frac{1}{C_3s}$ ,	$L_4s + R_4 +$	$\frac{1}{C_4 s}$ , $\infty$	$L_Ls + \overline{c}$	$\frac{1}{C_L s}$ ) .		 	 	225
10.56 <b>6</b> NVALID-ORDER- $566$ $Z(s) = ($	$(\infty,  \infty,  1$	$L_3s + R_3 -$	$+\frac{1}{C_3s}$ ,	$L_4s + R_4 +$	$\frac{1}{C_4 s}$ , $\infty$	$, \frac{L_L s}{C_L L_L s^2}$	$\frac{1}{+1}$ )		 	 	225
10.56 <b>T</b> NVALID-ORDER- $567$ $Z(s) = ($	>						,	$\bar{s}$	 	 	225
10.56\nbeloeknvalid-order-568 $Z(s) = 1$	$(\infty, \infty,$	$L_3s + R_3$	$+\frac{1}{C_3s}$ ,	$L_4s + R_4 +$	$\frac{1}{C_4 s}$ , $\infty$	$, \frac{1}{C_L s + \frac{1}{R_I}}$	$\left(\frac{1}{L_L s}\right)$		 	 	225

10.56 <b>9</b> NVALID-ORDER-569 $Z(s) = ($	$\Big(\infty,\;\infty,\;1$	$L_3s + R_3 +$	$\frac{1}{C_3 s}$ ,	$L_4s + R_4 + \frac{1}{C_4}$	$\frac{1}{s}$ , $\infty$	$), \frac{L_L s}{C_L L_L s^2 + 1}$	$+R_L$	 	 	 	226
10.57 <b>0</b> NVALID-ORDER-570 $Z(s) = 1$	$\left(\infty, \ \infty, \ \right)$	$L_3s + R_3 +$	$-\frac{1}{C_3s}$ ,	$L_4s + R_4 + \frac{1}{C_4}$	$\frac{1}{s}$ , $\propto$	$\sum_{L_L s + R_L + 1} \frac{R_L \left( L_L s + \frac{1}{6} \right)}{L_L s + R_L + \frac{1}{6}}$	$\left(\frac{1}{C_L s}\right)$ $\left(\frac{1}{C_L s}\right)$	 	 	 	226
10.57INVALID-ORDER-571 $Z(s) = 1$	/							 	 	 	226
10.572NVALID-ORDER-572 $Z(s) = 1$	$\bigg(\infty,\;\infty,\;$ .	$L_3s + R_3 +$	$-\frac{1}{C_3s}$ ,	$\frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}},$	$\infty$ , $\overline{c}$	$\left(\frac{1}{C_L s}\right)  \dots $		 	 	 	226
10.57 <b>B</b> NVALID-ORDER-573 $Z(s) = 1$	$igg(\infty, \ \infty, \ $	$L_3s + R_3 +$	$\frac{1}{C_3s}$ ,	$\frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}},$	$\infty$ , $\overline{c}$	$\frac{R_L}{C_L R_L s + 1}$		 	 	 	226
10.57#NVALID-ORDER-574 $Z(s) = 1$	$\left(\infty,\;\infty,\;$	$L_3s + R_3 +$	$\frac{1}{C_3s}$ ,	$\frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}},$	$\infty$ , $I$	$R_L + \frac{1}{C_L s}$		 	 	 	227
10.57 NVALID-ORDER-575 $Z(s) = 1$	$\left(\infty,\;\infty,\;$	$L_3s + R_3 +$	$-\frac{1}{C_3s}$ ,	$\frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}},$	$\infty$ , $I$	$L_L s + \frac{1}{C_L s}$		 	 	 	227
10.576NVALID-ORDER-576 $Z(s) = 1$	$\left(\infty,\;\infty,\;$	$L_3s + R_3 +$	$\frac{1}{C_3s}$ ,	$\frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}},$	$\infty$ , $\bar{c}$	$\frac{L_L s}{C_L L_L s^2 + 1}$		 	 	 	227
10.57 <b>T</b> NVALID-ORDER-577 $Z(s) = 1$	$\left(\infty,\;\infty,\;$	$L_3s + R_3 +$	$\frac{1}{C_3s}$ ,	$\frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}},$	$\infty$ , I	$L_L s + R_L +$	$\frac{1}{C_L s}$	 	 	 	227
10.57&NVALID-ORDER-578 $Z(s) = 1$	$\left(\infty,\;\infty,\;$	$L_3s + R_3 +$	$\frac{1}{C_3s}$ ,	$\frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}},$	$\infty$ , $\bar{\epsilon}$	$\frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}$	<u></u>	 	 	 	227
10.57 <b>9</b> NVALID-ORDER-579 $Z(s) = 1$	$igg(\infty, \ \infty, \ $	$L_3s + R_3 +$	$-\frac{1}{C_3s}$ ,	$\frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}},$	$\infty$ , $\bar{c}$	$\frac{L_L s}{C_L L_L s^2 + 1} + \frac{1}{2}$	$R_L$	 	 	 	228
10.58 <b>0</b> NVALID-ORDER-580 $Z(s) = 1$	$igg(\infty,\;\infty,\;$ .	$L_3s + R_3 +$	$\frac{1}{C_3s}$ ,	$\frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}},$	$\infty, \frac{1}{2}$	$\frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}$	$\left(\frac{1}{s}\right)$ .	 	 	 	228
10.58INVALID-ORDER-581 $Z(s) = ($	$\Big(\infty,\;\infty,\;I$	$L_3s + R_3 +$	$\frac{1}{C_3s}$ ,	$\frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4$	$, \infty,$	$R_L$ )		 	 	 	228
10.58 <b>2</b> NVALID-ORDER-582 $Z(s) = ($	$\Big(\infty, \ \infty, \ I$	$L_3s + R_3 +$	$\frac{1}{C_3 s}$ ,	$\frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4$	$, \infty,$	$\frac{1}{C_L s}$ )		 	 	 	228
10.58 <b>3</b> NVALID-ORDER-583 $Z(s) = ($	$(\infty, \infty, 1)$	$L_3s + R_3 +$	$\frac{1}{C_3s}$ ,	$\frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4$	$, \infty,$	$\frac{R_L}{C_L R_L s + 1}$		 	 	 	228
10.584NVALID-ORDER-584 $Z(s) = ($	$(\infty,  \infty,  1$	$L_3s + R_3 +$	$\frac{1}{C_3 s}$ ,	$\frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4$	$, \infty,$	$R_L + \frac{1}{C_L s}$		 	 	 	229
10.58 INVALID-ORDER-585 $Z(s) = ($	$(\infty,  \infty,  I$	$L_3s + R_3 +$	$\frac{1}{C_3s}$ ,	$\frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4$	$, \infty,$	$L_L s + \frac{1}{C_L s}$	)	 	 	 	229
10.58 <b>6</b> NVALID-ORDER-586 $Z(s) = ($	$(\infty,  \infty,  1$	$L_3s + R_3 +$	$\frac{1}{C_3s}$ ,	$\frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4$	$, \infty,$	$\frac{L_L s}{C_L L_L s^2 + 1}$		 	 	 	229
10.58 <b>T</b> NVALID-ORDER- $587$ $Z(s) = ($	$(\infty, \infty, 1)$	$L_3s + R_3 +$	$\frac{1}{C_3 s}$ ,	$\frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4$	$, \infty,$	$L_L s + R_L$	$+\frac{1}{C_L s}$	 	 	 	229
10.58\NVALID-ORDER-588 $Z(s) = 1$	$\bigg(\infty, \ \infty, \ .$	$L_3s + R_3 +$	$\frac{1}{C_3s}$ ,	$\frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4$	$_{!}, \infty,$	$\frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L}}$	$\frac{1}{L_s}$	 	 	 	229

10.58 <b>9</b> NVALID-ORDER-589 $Z(s) = ($	$(\infty, \infty, L_3)$	$s + R_3 + \frac{1}{C_3 s},$	$\frac{L_4s}{C_4L_4s^2+1} + R_4, \propto$	$o, \frac{L_L s}{C_L L_L s^2 + 1} + R_L $	)	 	230
10.59©NVALID-ORDER-590 $Z(s) = ($	$\left(\infty,\ \infty,\ L_3 ight)$	$_{3}s+R_{3}+\frac{1}{C_{3}s},$	$\frac{L_4s}{C_4L_4s^2+1} + R_4, \ \infty$	$\bigcirc, \frac{R_L\left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$		 	230
10.59INVALID-ORDER-591 $Z(s) = 1$	`			,		 	230
10.592NVALID-ORDER-592 $Z(s) = 1$	$\left(\infty,\ \infty,\ L_3\right)$	$_{3}s+R_{3}+\frac{1}{C_{3}s},$	$\frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}, \ \infty,$	$\left(\frac{1}{C_L s}\right) \cdot \cdot \cdot \cdot \cdot \cdot$		 	230
10.59 <b>B</b> NVALID-ORDER-593 $Z(s) = 1$	$\infty, \infty, L_3$	$_{3}s+R_{3}+\frac{1}{C_{3}s},$	$\frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}, \ \infty,$	$\frac{R_L}{C_L R_L s + 1}$ $\cdots$		 	230
10.594NVALID-ORDER-594 $Z(s) = 1$	$(\infty, \ \infty, \ L_3)$	$_{3}s + R_{3} + \frac{1}{C_{3}s},$	$\frac{R_4 \left( L_4 s + \frac{1}{C_4 s} \right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \ \infty,$	$R_L + \frac{1}{C_L s}$		 	231
10.595NVALID-ORDER-595 $Z(s) = 1$	$(\infty, \infty, L_3)$	$_{3}s+R_{3}+\frac{1}{C_{3}s},$	$\frac{R_4 \left( L_4 s + \frac{1}{C_4 s} \right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \ \infty,$	$L_L s + \frac{1}{C_L s}$		 	231
10.596NVALID-ORDER-596 $Z(s) = 1$	$(\infty, \infty, L_3)$	$_{3}s+R_{3}+\frac{1}{C_{3}s},$	$\frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}, \ \infty,$	$\frac{L_L s}{C_L L_L s^2 + 1}$		 	231
10.59 <b>T</b> NVALID-ORDER-597 $Z(s) = 1$	$\infty, \infty, L_3$	$_{3}s+R_{3}+\frac{1}{C_{3}s},$	$\frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}, \ \infty,$	$L_L s + R_L + \frac{1}{C_L s}$	)	 	231
10.59\NVALID-ORDER-598 $Z(s) = 1$	$\infty, \infty, L_3$	$_{3}s+R_{3}+\frac{1}{C_{3}s},$	$\frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \ \infty,$	$\frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$		 	231
10.59 <b>9</b> NVALID-ORDER-599 $Z(s) = 1$	$(\infty, \infty, L_3)$	$_{3}s+R_{3}+\frac{1}{C_{3}s},$	$\frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}, \ \infty,$	$\frac{L_L s}{C_L L_L s^2 + 1} + R_L \bigg)$		 	232
10.60 <b>©</b> NVALID-ORDER-600 $Z(s) = ($	$(\infty, \ \infty, \ L_3)$	$_{3}s + R_{3} + \frac{1}{C_{3}s},$	$\frac{R_4 \left( L_4 s + \frac{1}{C_4 s} \right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \ \infty,$	$\frac{R_L\left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}$		 	232
10.60INVALID-ORDER-601 $Z(s) = 1$	$(\infty, \ \infty, \ \overline{C_3})$	$\frac{1}{3s + \frac{1}{R_3} + \frac{1}{L_3s}}, R_4,$	$, \infty, R_L + \frac{1}{C_L s}$			 	232
10.602NVALID-ORDER-602 $Z(s) = 1$	$\left(\infty,\;\infty,\;rac{1}{C_3} ight)$	$\frac{1}{3s + \frac{1}{R_3} + \frac{1}{L_3s}}, R_4,$	$, \infty, L_L s + \frac{1}{C_L s}$			 	232
10.60 <b>&amp;</b> NVALID-ORDER-603 $Z(s) = 1$	$\left(\infty,\;\infty,\;rac{}{C_3} ight.$	$\frac{1}{3s + \frac{1}{R_3} + \frac{1}{L_3s}}, R_4,$	$, \infty, L_L s + R_L +$	$\frac{1}{C_L s}$		 	232
10.604NVALID-ORDER-604 $Z(s) = 1$	$\left(\infty,\;\infty,\;rac{}{C_3} ight.$	$\frac{1}{3s + \frac{1}{R_3} + \frac{1}{L_3s}}, R_4,$	$,  \infty,  \frac{L_L s}{C_L L_L s^2 + 1} +$	$R_L$ )		 	233
10.60 Invalid-order-605 $Z(s) = 1$	$\left(\infty,\ \infty,\ _{\overline{C_3}} ight)$	$\frac{1}{3s + \frac{1}{R_3} + \frac{1}{L_3s}}, R_4,$	$,  \infty,  \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}$	$\left(\frac{1}{s}\right)$		 	233
10.60 GNVALID-ORDER-606 $Z(s) = 1$	/		\			 	233

10.60 <b>T</b> NVALID-ORDER-607 $Z(s) = 1$	$\left(\infty, \ \infty, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \frac{1}{C_4 s}, \ \infty, \ L_L s + \frac{1}{C_L s}\right)  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  $
10.60\&NVALID-ORDER-608 $Z(s) = 1$	$\left(\infty, \ \infty, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right) \qquad \dots \qquad $
10.60 <b>9</b> NVALID-ORDER-609 $Z(s) = 1$	$\left(\infty,  \infty,  \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}},  \frac{1}{C_4 s},  \infty,  \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$
10.61 <b>0</b> NVALID-ORDER-610 $Z(s) = 1$	$\left(\infty, \ \infty, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \frac{1}{C_4 s}, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right) \ \dots $
10.61 INVALID-ORDER-611 $\boldsymbol{Z}(s) = \boldsymbol{I}$	$\left(\infty,  \infty,  \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}},  \frac{R_4}{C_4 R_4 s + 1},  \infty,  R_L + \frac{1}{C_L s}\right)$
10.612NVALID-ORDER-612 $Z(s) = 1$	$\left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{R_4}{C_4 R_4 s + 1}, \infty, L_L s + \frac{1}{C_L s}\right)$
10.61 <b>B</b> NVALID-ORDER-613 $Z(s) = 1$	$\left(\infty,  \infty,  \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}},  \frac{R_4}{C_4 R_4 s + 1},  \infty,  L_L s + R_L + \frac{1}{C_L s}\right)  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  $
10.614NVALID-ORDER-614 $Z(s) = 1$	$\begin{pmatrix} & & & & & & & & & & & & & & & & & & &$
10.61 NVALID-ORDER-615 $Z(s) = 1$	$\left(\infty, \ \infty, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)  \dots $
10.616NVALID-ORDER-616 $Z(s) = 1$	$\left(\infty, \ \infty, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L\right)$
10.61 INVALID-ORDER-617 $Z(s) = 1$	$\left(\infty,  \infty,  \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}},  R_4 + \frac{1}{C_4 s},  \infty,  \frac{1}{C_L s}\right)$
10.61&NVALID-ORDER-618 $Z(s) = 1$	$\left(\infty,  \infty,  \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}},  R_4 + \frac{1}{C_4 s},  \infty,  \frac{R_L}{C_L R_L s + 1}\right) $
10.61 <b>9</b> NVALID-ORDER-619 $Z(s) = 1$	$\left(\infty,  \infty,  \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}},  R_4 + \frac{1}{C_4 s},  \infty,  R_L + \frac{1}{C_L s}\right)$
10.620NVALID-ORDER-620 $Z(s) = 1$	$\left(\infty,  \infty,  \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}},  R_4 + \frac{1}{C_4 s},  \infty,  L_L s + \frac{1}{C_L s}\right) \dots \dots$
10.62INVALID-ORDER-621 $Z(s) = 1$	$\left(\infty,  \infty,  \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}},  R_4 + \frac{1}{C_4 s},  \infty,  \frac{L_L s}{C_L L_L s^2 + 1}\right)  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  $
10.622NVALID-ORDER-622 $Z(s) = 1$	$\left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, R_4 + \frac{1}{C_4 s}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$
10.62 <b>B</b> NVALID-ORDER-623 $Z(s) = 1$	$\left(\infty,  \infty,  \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}},  R_4 + \frac{1}{C_4 s},  \infty,  \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right) \right)  \dots $
10.62#NVALID-ORDER-624 $Z(s) = 1$	$\left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, R_4 + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$

$$\begin{aligned} & 10.62 \text{ENVALID-ORDER-} & 2 (s) = \left( \infty, \infty, \frac{1}{C_3 s^2 + \frac{1}{R_3} + \frac{1}{L_2 s}}, R_4 + \frac{1}{C_4 s}, \infty, \frac{R_L \left( 1_{L_3 s} + \frac{1}{C_2 s} \right)}{C_4 s^2 + \frac{1}{R_2} + \frac{1}{L_2 s}}, 2 \right) \\ & 237 \\ & 10.62 \text{ENVALID-ORDER-} & 27 (s) = \left( \infty, \infty, \frac{1}{C_3 s^2 + \frac{1}{R_3} + \frac{1}{L_2 s}}, L_4 s + \frac{1}{C_4 s}, \infty, \frac{1}{C_5 s} \right) \\ & 237 \\ & 10.62 \text{ENVALID-ORDER-} & 27 (s) = \left( \infty, \infty, \frac{1}{C_3 s^2 + \frac{1}{R_3} + \frac{1}{L_2 s}}, L_4 s + \frac{1}{C_4 s}, \infty, \frac{1}{C_5 s} \right) \\ & 237 \\ & 10.62 \text{ENVALID-ORDER-} & 28 (s) = \left( \infty, \infty, \frac{1}{C_3 s^2 + \frac{1}{R_3} + \frac{1}{L_2 s}}, L_4 s + \frac{1}{C_4 s}, \infty, \frac{R_L}{C_5 R^2 + s^2} \right) \\ & 237 \\ & 10.62 \text{ENVALID-ORDER-} & 28 (s) = \left( \infty, \infty, \frac{1}{C_3 s^2 + \frac{1}{R_3} + \frac{1}{C_4 s}}, L_4 s + \frac{1}{C_4 s}, \infty, R_L + \frac{1}{C_5 s} \right) \\ & 238 \\ & 10.63 \text{ENVALID-ORDER-} & 20 (s) = \left( \infty, \infty, \frac{1}{C_3 s^2 + \frac{1}{R_3} + \frac{1}{C_4 s}}, L_4 s + \frac{1}{C_4 s}, \infty, L_5 s + \frac{1}{C_5 s} \right) \\ & 238 \\ & 10.63 \text{ENVALID-ORDER-} & 23 (s) = \left( \infty, \infty, \frac{1}{C_3 s^2 + \frac{1}{R_3} + \frac{1}{C_4 s}}, L_4 s + \frac{1}{C_4 s}, \infty, L_5 s + \frac{1}{C_5 s} \right) \\ & 238 \\ & 10.63 \text{ENVALID-ORDER-} & 20 (s) = \left( \infty, \infty, \frac{1}{C_3 s^2 + \frac{1}{R_3} + \frac{1}{C_4 s}}, L_4 s + \frac{1}{C_4 s}}, \infty, \frac{L_5 s + R_L}{C_6 s^2 s} \right) \\ & 20 (s) & 20 (s) & 20 (s) \\ & 20 (s) & 20 (s) & 20 (s) \\ & 20 (s) & 20 (s) & 20 (s) \\ & 20 (s) & 20 (s) & 20 (s) \\ & 20 (s) & 20 (s) & 20 (s) \\ & 20 (s) & 20 (s) & 20 (s) \\ & 20 (s) & 20 (s) \\ & 20 (s) & 20 (s) \\ & 20 (s) & 20 (s) & 20 (s) \\ & 20 (s) &$$

10.64\( \mathbb{B}\) NVALID-ORDER-643 $Z(s) = 1$	$\left(\infty, \ \infty, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$
10.64\(\text{INVALID-ORDER-644}\) $Z(s) = 1$	$\left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, R_L + \frac{1}{C_L s}\right)$
10.64 NVALID-ORDER-645 $Z(s) = 1$	$\left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, L_L s + \frac{1}{C_L s}\right)$
10.64 <b>6</b> NVALID-ORDER-646 $Z(s) = 1$	$\left(\infty, \ \infty, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right)  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  $
10.64 <b>T</b> NVALID-ORDER-647 $Z(s) = 1$	$\left(\infty,  \infty,  \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}},  L_4 s + R_4 + \frac{1}{C_4 s},  \infty,  L_L s + R_L + \frac{1}{C_L s}\right)  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  $
10.64\&NVALID-ORDER-648 $Z(s) = 1$	$\left(\infty,  \infty,  \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}},  L_4 s + R_4 + \frac{1}{C_4 s},  \infty,  \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)\right) \dots \dots$
10.64 <b>9</b> NVALID-ORDER-649 $Z(s) = 1$	$\left(\infty,  \infty,  \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}},  L_4 s + R_4 + \frac{1}{C_4 s},  \infty,  \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)  \dots $
10.65 ONVALID-ORDER- $650$ $Z(s) = 1$	$\left(\infty, \ \infty, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  $
10.65INVALID-ORDER-651 $Z(s) = 1$	$\left(\infty,  \infty,  \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}},  \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}},  \infty,  R_L + \frac{1}{C_L s}\right)  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  $
10.65 <b>2</b> NVALID-ORDER-652 $Z(s) = 1$	$\left(\infty,  \infty,  \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}},  \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}},  \infty,  L_L s + \frac{1}{C_L s}\right)  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  $
10.65 <b>&amp;</b> NVALID-ORDER-653 $Z(s) = 1$	$\left(\infty,  \infty,  \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}},  \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}},  \infty,  L_L s + R_L + \frac{1}{C_L s}\right)  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  $
10.654NVALID-ORDER-654 $Z(s) = 1$	$\left(\infty,  \infty,  \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}},  \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}},  \infty,  \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  $
10.65 NVALID-ORDER-655 $Z(s) = 1$	$\left(\infty,  \infty,  \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}},  \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}},  \infty,  \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)  \dots $
10.65 <b>6</b> NVALID-ORDER-656 $Z(s) = 1$	$\left(\infty, \ \infty, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ R_L\right) \ \dots $
10.65 <b>T</b> NVALID-ORDER-657 $Z(s) = 1$	$\left(\infty,  \infty,  \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}},  \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4,  \infty,  \frac{1}{C_L s}\right)$
10.65 NVALID-ORDER-658 $Z(s) = 1$	$\left(\infty,  \infty,  \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}},  \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4,  \infty,  \frac{R_L}{C_L R_L s + 1}\right)$
10.65 <b>9</b> NVALID-ORDER-659 $Z(s) = 1$	$\left(\infty, \ \infty, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ R_L + \frac{1}{C_L s}\right)  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  $
10.66 <b>0</b> NVALID-ORDER-660 $Z(s) = 1$	$\left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, L_L s + \frac{1}{C_L s}\right) \dots \dots$

10.66INVALID-ORDER-661 $Z(s) =$	$\left(\infty, \ \infty, \right.$	$\frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}},$	$\frac{L_4s}{C_4L_4s^2+1} + R_4$	$, \infty, \frac{I}{C_L L}$	$\left(\frac{L_L s}{L s^2 + 1}\right)$		 	 244
10.66 <b>2</b> NVALID-ORDER-662 $Z(s) =$	$\left(\infty, \ \infty, \right.$	$\frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}},$	$\frac{L_{4}s}{C_{4}L_{4}s^{2}+1} + R_{4}$	$, \infty, L_L s$	$+R_L+\overline{c}$	$\left(\frac{1}{C_L s}\right)$	 	 244
10.66RNVALID-ORDER- $663$ $Z(s) =$	$\left(\infty, \ \infty, \right.$	$\frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}},$	$\frac{L_{4s}}{C_4L_4s^2+1} + R_4$	$, \infty, \overline{C_L s}$	$\frac{1}{+\frac{1}{R_L}+\frac{1}{L_L s}}$	)	 	 244
10.664NVALID-ORDER-664 $Z(s) =$	$\left(\infty, \ \infty, \right.$	$\frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}},$	$\frac{L_4s}{C_4L_4s^2+1} + R_4$	$, \infty, \frac{I}{C_L L}$	$\frac{L_L s}{L s^2 + 1} + R$	2L	 	 245
10.66 NVALID-ORDER- $665$ $Z(s) =$	$\left(\infty, \ \infty, \right.$	$\frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}},$	$\frac{L_{4s}}{C_4L_4s^2+1} + R_4$	$, \infty, \frac{R_L(}{L_L s}$	$\frac{L_L s + \frac{1}{C_L s}}{+R_L + \frac{1}{C_L s}}$	)	 	 245
10.66 CNVALID-ORDER-666 $Z(s) =$	$\left(\infty, \ \infty, \right.$	$\frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}},$	$\frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}},$	$\infty$ , $R_L$			 	 245
10.66TNVALID-ORDER- $667$ $Z(s) =$							 	 245
10.66 NVALID-ORDER-668 $Z(s) =$							 	 245
10.669NVALID-ORDER-669 $Z(s) =$	$(\infty, \infty,$	$\frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}},$	$\frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}},$	$\infty$ , $R_L$ +	$\frac{1}{C_L s}$ .		 	 246
10.67 ONVALID-ORDER-670 $Z(s) =$	$(\infty, \infty,$	$\frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}},$	$\frac{R_4 \left( L_4 s + \frac{1}{C_4 s} \right)}{L_4 s + R_4 + \frac{1}{C_4 s}},$	$\infty$ , $L_L s$ +	$-\frac{1}{C_L s}$ .		 	 246
10.67INVALID-ORDER-671 $Z(s) =$	$(\infty, \infty,$	$\frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}},$	$\frac{R_4 \left( L_4 s + \frac{1}{C_4 s} \right)}{L_4 s + R_4 + \frac{1}{C_4 s}},$	$\infty$ , $\frac{L_L}{C_L L_L c}$	$\left(\frac{s}{s^2+1}\right)$ .		 	 246
10.672NVALID-ORDER-672 $Z(s) =$						$\left(\frac{1}{s}\right)$	 	 246
10.67 <b>B</b> NVALID-ORDER-673 $Z(s) =$						<i>.</i>	 	 246
10.674NVALID-ORDER-674 $Z(s) =$						)	 	 247
10.67 INVALID-ORDER-675 $Z(s) =$							 	 247
10.67 (NVALID-ORDER-676 $Z(s) =$							 	 247
10.67INVALID-ORDER- $677$ $Z(s) =$	,			· \			 	 247
10.678NVALID-ORDER- $678$ $Z(s) =$	,			· \			 	 247

10.67 <b>9</b> NVALID-ORDER-679 $Z(s) =$	$(\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$R_4, \infty,$	$L_L s + \frac{1}{C_L s}$		 	 	248
10.68 ONVALID-ORDER-680 $Z(s) =$	$(\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$R_4, \infty,$	$\frac{L_L s}{C_L L_L s^2 + 1}$ .		 	 	248
10.68INVALID-ORDER-681 $Z(s) =$	$(\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$R_4, \infty,$	$L_L s + R_L + \overline{C}$	$\left(\frac{1}{Ls}\right)$	 	 	248
10.682NVALID-ORDER-682 $Z(s) =$	$\left(\infty, \ \infty, \right.$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$R_4, \infty,$	$\frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}$	)	 	 	248
10.68 INVALID-ORDER-683 $Z(s) =$	$(\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$R_4, \infty,$	$\frac{L_L s}{C_L L_L s^2 + 1} + R$	$_{L}$ )	 	 	248
10.684NVALID-ORDER-684 $Z(s) =$	$\left(\infty, \ \infty, \right.$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$R_4, \infty,$	$\frac{R_L\left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}$	)	 	 	249
10.685NVALID-ORDER-685 $Z(s) =$	$(\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$\frac{1}{C_4 s}$ , $\infty$ ,	$R_L$ )		 	 	249
10.68 <b>6</b> NVALID-ORDER-686 $Z(s) =$	$(\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$\frac{1}{C_4 s}$ , $\infty$ ,	$\frac{1}{C_L s}$ )		 	 	249
10.68TNVALID-ORDER- $687$ $Z(s) =$	$(\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$\frac{1}{C_4 s}$ , $\infty$ ,	$\frac{R_L}{C_L R_L s + 1}$ .		 	 	249
10.68\NVALID-ORDER-688 $Z(s) =$	$(\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$\frac{1}{C_4 s}$ , $\infty$ ,	$R_L + \frac{1}{C_L s}$		 	 	249
10.689NVALID-ORDER-689 $Z(s) =$	$(\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$\frac{1}{C_4 s}$ , $\infty$ ,	$L_L s + \frac{1}{C_L s}$		 	 	250
10.69 ONVALID-ORDER-690 $Z(s) =$	$(\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$\frac{1}{C_4 s}$ , $\infty$ ,	$\frac{L_L s}{C_L L_L s^2 + 1}$		 	 	250
10.69INVALID-ORDER-691 $Z(s) =$	$(\infty, \infty,$	$\frac{L_{3}s}{C_{3}L_{3}s^{2}+1}+R_{3},$	$\frac{1}{C_4 s}$ , $\infty$ ,	$L_L s + R_L + \overline{\epsilon}$	$\left(\frac{1}{C_L s}\right) \cdot \cdot \cdot$	 	 	250
10.692NVALID-ORDER-692 $Z(s) =$	$(\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$\frac{1}{C_4 s}$ , $\infty$ ,	$\frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}$	)	 	 	250
10.698NVALID-ORDER-693 $Z(s) =$	$(\infty, \infty,$	$\frac{L_{3s}}{C_3L_3s^2+1} + R_3,$	$\frac{1}{C_4 s}$ , $\infty$ ,	$\frac{L_L s}{C_L L_L s^2 + 1} + I$	$\hat{R}_L \Big)  .  .  .$	 	 	250
10.694NVALID-ORDER-694 $Z(s) =$	$(\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$\frac{1}{C_4 s}$ , $\infty$ ,	$\frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}$	·	 	 	251
10.695NVALID-ORDER-695 $Z(s) =$	$(\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$\frac{R_4}{C_4R_4s+1},$	$\infty$ , $R_L$ )	·	 	 	251
10.69 <b>6</b> NVALID-ORDER-696 $Z(s) =$	$(\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$\frac{R_4}{C_4R_4s+1},$	$\infty, \frac{1}{C_L s}$ ).		 	 	251
10.69 <b>T</b> NVALID-ORDER-697 $Z(s) =$	$(\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$\frac{R_4}{C_4R_4s+1},$	$\infty$ , $\frac{R_L}{C_L R_L s + 1}$	)	 	 	251
10.698NVALID-ORDER-698 $Z(s) =$	$(\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$\frac{R_4}{C_4R_4s+1},$	$\infty$ , $R_L + \frac{1}{C_L}$	$\left(\frac{1}{s}\right)$	 	 	251
10.699NVALID-ORDER-699 $Z(s) =$	$(\infty, \infty,$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$\frac{R_4}{C_4R_4s+1},$	$\infty$ , $L_L s + \frac{1}{C_L}$	$\left(\frac{L^{'}}{L^{s}}\right)$	 	 	252
10.70 ONVALID-ORDER-700 $Z(s) =$	<i>`</i>	_	_	_	\'	 	 	252

10.70INVALID-ORDER- $701 Z(s) =$	$\left(\infty, \ \infty, \ \right)$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$\frac{R_4}{C_4R_4s+1}$ , $\infty$ ,	$L_L s + R_L + \bar{\epsilon}$	$\left(\frac{1}{C_L s}\right)  \dots  \dots$	 	 252
10.70 <b>2</b> NVALID-ORDER- $702 Z(s) =$	$\left(\infty, \ \infty, \right.$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$\frac{R_4}{C_4R_4s+1}, \ \infty,$	$\frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}$	)	 	 252
10.70BNVALID-ORDER- $703$ $Z(s) =$	$(\infty, \infty, \gamma)$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$\frac{R_4}{C_4R_4s+1}$ , $\infty$ ,	$\frac{L_L s}{C_L L_L s^2 + 1} + I$	$R_L$ )	 	 252
10.704NVALID-ORDER-704 $Z(s) =$	$\left(\infty, \ \infty, \right.$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$\frac{R_4}{C_4R_4s+1}, \ \infty,$	$\frac{R_L\left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}$	-)	 	 253
10.70 Invalid-order-705 $Z(s) =$	,			`	·	 	 253
10.70 CONVALID-ORDER-706 $Z(s) =$	$\Big(\infty,\;\infty,\;$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$R_4 + \frac{1}{C_4 s}$ , $\infty$	$, \frac{1}{C_L s}$ ) $\dots$		 	 253
10.70 <b>T</b> NVALID-ORDER-707 $Z(s) =$	$\Big(\infty,\;\infty,\;$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$R_4 + \frac{1}{C_4 s}$ , $\infty$	$, \frac{R_L}{C_L R_L s + 1}$ .		 	 253
10.70 NVALID-ORDER-708 $Z(s) =$	$\Big(\infty, \ \infty, \ \Big)$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$R_4 + \frac{1}{C_4 s}$ , $\infty$	$R_L + \frac{1}{C_L s}$		 	 253
10.709NVALID-ORDER-709 $Z(s) =$	$\Big(\infty,\;\infty,\;$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$R_4 + \frac{1}{C_4 s}$ , $\infty$	$L_L s + \frac{1}{C_L s}$		 	 254
10.71 ONVALID-ORDER-710 $Z(s) =$	$\left(\infty, \ \infty, \ \right)$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$R_4 + \frac{1}{C_4 s}$ , $\infty$	$, \frac{L_L s}{C_L L_L s^2 + 1}$		 	 254
10.71 <b>I</b> NVALID-ORDER-711 $Z(s) =$	$\Big(\infty, \ \infty, \ \Big)$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$R_4 + \frac{1}{C_4 s}$ , $\infty$	, $L_L s + R_L +$	$\frac{1}{C_L s}$ )	 	 254
10.712NVALID-ORDER-712 $Z(s) =$	$\left(\infty, \ \infty, \right.$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$R_4 + \frac{1}{C_4 s}, \ \infty$	$, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L}}$	$\left(\frac{1}{2}\right)$	 	 254
10.71 INVALID-ORDER-713 $Z(s) =$	`			,	` '	 	 254
10.714NVALID-ORDER-714 $Z(s) =$	$\left(\infty, \ \infty, \right.$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$R_4 + \frac{1}{C_4 s}, \ \infty$	$, \frac{R_L \left(L_L s + \frac{1}{C_L s} + \frac{1}{C_L s$	$\left(\frac{1}{\overline{s}}\right)$	 	 255
10.71 INVALID-ORDER-715 $Z(s) =$	/			\		 	 255
10.71 CONVALID-ORDER-716 $Z(s) =$	$\Big(\infty, \ \infty, \ \Big)$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$L_4s + \frac{1}{C_4s}, \propto$	$(0, \frac{1}{C_L s})$		 	 255
10.71 <b>T</b> NVALID-ORDER-717 $Z(s) =$	$\Big(\infty,\;\infty,\;$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$L_4s + \frac{1}{C_4s}, \propto$	$\left(\frac{R_L}{C_L R_L s + 1}\right)$		 	 255
10.71&NVALID-ORDER-718 $Z(s) =$	$\Big(\infty, \ \infty, \ \Big)$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$L_4s + \frac{1}{C_4s}, \propto$	$(R_L + \frac{1}{C_L s})$		 	 255
10.719NVALID-ORDER-719 $Z(s) =$	$\Big(\infty, \ \infty, \ \Big)$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$L_4s + \frac{1}{C_4s}, \propto$	$(L_L s + \frac{1}{C_L s})$		 	 256
10.72 ONVALID-ORDER-720 $Z(s) =$	$\left(\infty, \ \infty, \ \right)$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$L_4s + \frac{1}{C_4s}, \propto$	$\left(\frac{L_L s}{C_L L_L s^2 + 1}\right)$		 	 256
10.72INVALID-ORDER-721 $Z(s) =$	$\left(\infty, \infty, \right)$	$\frac{L_{3s}}{C_{3}L_{3}s^{2}+1}+R_{3},$	$L_4s + \frac{1}{C_4s}, \propto$	$, L_L s + R_L +$	$-\frac{1}{C_L s}$ )	 	 256
10.72 <b>2</b> NVALID-ORDER-722 $Z(s) =$	$\left(\infty, \ \infty, \right.$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$L_4s + \frac{1}{C_4s}$ , $\circ$	$C, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_I}}$	$\left(\frac{1}{2^{s}}\right)$	 	 256

10.72\$NVALID-ORDER-723 $Z(s) = 0$	$\left(\infty, \ \infty, \ \frac{L_3s}{C_3L_3s^2+1} + R_3\right)$	$L_4s + \frac{1}{C_4s}, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1} + R_L$	
10.724NVALID-ORDER-724 $Z(s) = 1$	$\left(\infty, \ \infty, \ \frac{L_3s}{C_3L_3s^2+1} + R_3\right)$	$L_4s + \frac{1}{C_4s}, \ \infty, \ \frac{R_L(L_Ls + \frac{1}{C_Ls})}{L_Ls + R_L + \frac{1}{C_Ls}}$	
10.725NVALID-ORDER-725 $Z(s) = 1$	$(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3)$	$\frac{L_4s}{C_4L_4s^2+1}$ , $\infty$ , $R_L$ )	
10.726NVALID-ORDER-726 $Z(s) = 1$	$(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3)$	$\frac{L_4s}{C_4L_4s^2+1}$ , $\infty$ , $\frac{1}{C_Ls}$	
10.72 TNVALID-ORDER-727 $Z(s) = 0$	$(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3)$	$\frac{L_4s}{C_4L_4s^2+1}$ , $\infty$ , $\frac{R_L}{C_LR_Ls+1}$	
10.72\nstructure NVALID-ORDER-728 $Z(s)=0$	$(\infty, \ \infty, \ \frac{L_3s}{C_3L_3s^2+1} + R_3)$	$\frac{L_4s}{C_4L_4s^2+1}$ , $\infty$ , $R_L + \frac{1}{C_Ls}$ )	
10.72 <b>9</b> NVALID-ORDER-729 $Z(s) = 0$	$(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3)$	$\frac{L_4s}{C_4L_4s^2+1}$ , $\infty$ , $L_Ls + \frac{1}{C_Ls}$ )	
10.73 <b>0</b> NVALID-ORDER-730 $Z(s) = 0$	$\left(\infty, \ \infty, \ \frac{L_3s}{C_3L_3s^2+1} + R_3\right)$	$\frac{L_4s}{C_4L_4s^2+1}$ , $\infty$ , $\frac{L_Ls}{C_LL_Ls^2+1}$	
10.73INVALID-ORDER-731 $Z(s) =$	$(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3)$	$\frac{L_4s}{C_4L_4s^2+1}$ , $\infty$ , $L_Ls + R_L + \frac{1}{C_Ls}$	
10.732NVALID-ORDER-732 $Z(s) =$	$\left(\infty, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3 \right)$	$, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}} \right) .$	
10.73 <b>B</b> NVALID-ORDER-733 $Z(s) = 0$	$\left(\infty, \ \infty, \ \frac{L_{3}s}{C_{3}L_{3}s^{2}+1} + R_{3}\right)$	$\frac{L_4s}{C_4L_4s^2+1}$ , $\infty$ , $\frac{L_Ls}{C_LL_Ls^2+1} + R_L$	
10.73#NVALID-ORDER-734 $Z(s) =$	$\left(\infty, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3 \right)$	$, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}} $ .	
10.735NVALID-ORDER-735 $Z(s) = 0$	$\left(\infty, \ \infty, \ \frac{L_3s}{C_3L_3s^2+1} + R_3\right)$	$L_4s + R_4 + \frac{1}{C_4s}, \infty, R_L$	
10.73 <b>6</b> NVALID-ORDER-736 $Z(s) = 0$	$\left(\infty, \ \infty, \ \frac{L_3s}{C_3L_3s^2+1} + R_3\right)$	$L_4s + R_4 + \frac{1}{C_4s}, \ \infty, \ \frac{1}{C_Ls}$	
10.73 <b>T</b> NVALID-ORDER-737 $Z(s) = 0$	$\left(\infty, \ \infty, \ \frac{L_3s}{C_3L_3s^2+1} + R_3\right)$	$L_4s + R_4 + \frac{1}{C_4s}$ , $\infty$ , $\frac{R_L}{C_LR_Ls+1}$	
10.73\nbelownermal{8}\nbelownermal{NVALID-ORDER-738} Z(s) = 0.0000000000000000000000000000000000	$\left(\infty, \ \infty, \ \frac{L_3s}{C_3L_3s^2+1} + R_3\right)$	$L_4s + R_4 + \frac{1}{C_4s}, \ \infty, \ R_L + \frac{1}{C_Ls}$	
10.73 <b>9</b> NVALID-ORDER-739 $Z(s) = 0$	$\left(\infty, \ \infty, \ \frac{L_3s}{C_3L_3s^2+1} + R_3\right)$	$L_4s + R_4 + \frac{1}{C_4s}, \ \infty, \ L_Ls + \frac{1}{C_Ls}$	
10.740NVALID-ORDER-740 $Z(s) = 0$	$\left(\infty, \ \infty, \ \frac{L_3s}{C_3L_3s^2+1} + R_3\right)$	$L_4s + R_4 + \frac{1}{C_4s}, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2 + 1}$	
10.74INVALID-ORDER-741 $Z(s) = 0$	$\left(\infty, \ \infty, \ \frac{L_3s}{C_3L_3s^2+1} + R_3\right)$	$L_4s + R_4 + \frac{1}{C_4s}, \ \infty, \ L_Ls + R_L +$	$\left(-\frac{1}{C_L s}\right)  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  $
10.742NVALID-ORDER-742 $Z(s) =$	$\left(\infty, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3\right)$	$L_4s + R_4 + \frac{1}{C_4s}, \ \infty, \ \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_L}}$	$\left(\frac{1}{s}\right)$
10.74 <b>B</b> NVALID-ORDER-743 $Z(s) = 0$	$\left(\infty, \ \infty, \ \frac{L_{3s}}{C_3L_3s^2+1} + R_3\right)$	$L_4s + R_4 + \frac{1}{C_4s}, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2 + 1} +$	$R_L$ )
10.744NVALID-ORDER-744 $Z(s) =$	$\left(\infty, \ \infty, \ \frac{L_{3}s}{C_{3}L_{3}s^{2}+1} + R_{3}\right)$	$L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L}\right)}{L_L s + R_L + \frac{1}{C_I}}$	$\left(\frac{\overline{s}}{s}\right)$

$=\left(\infty,\ \infty,\ \frac{L_3s}{C_3L_3s^2+1}+R_3,\ \frac{1}{C_4s+\frac{1}{R_4}+\frac{1}{L_4s}},\ \infty,\ R_L\right)$	. 261
$= \left( \infty, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \ \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \ \infty, \ \frac{1}{C_L s} \right)  \dots $	. 261
$= \left( \infty, \ \infty, \ \frac{L_3s}{C_3L_3s^2+1} + R_3, \ \frac{1}{C_4s + \frac{1}{R_4} + \frac{1}{L_4s}}, \ \infty, \ \frac{R_L}{C_LR_Ls+1} \right) \ \dots $	. 261
$=\left(\infty,\ \infty,\ \frac{L_{3}s}{C_{3}L_{3}s^{2}+1}+R_{3},\ \frac{1}{C_{4}s+\frac{1}{R_{4}}+\frac{1}{L_{4}s}},\ \infty,\ R_{L}+\frac{1}{C_{L}s}\right)$	. 261
$= \left( \infty, \ \infty, \ \frac{L_3s}{C_3L_3s^2+1} + R_3, \ \frac{1}{C_4s + \frac{1}{R_4} + \frac{1}{L_4s}}, \ \infty, \ L_Ls + \frac{1}{C_Ls} \right) \ \dots $	. 262
$=\left(\infty,\ \infty,\ \frac{L_{3}s}{C_{3}L_{3}s^{2}+1}+R_{3},\ \frac{1}{C_{4}s+\frac{1}{R_{4}}+\frac{1}{L_{4}s}},\ \infty,\ \frac{L_{L}s}{C_{L}L_{L}s^{2}+1}\right)$	. 262
$= \left( \infty, \ \infty, \ \frac{L_3s}{C_3L_3s^2+1} + R_3, \ \frac{1}{C_4s + \frac{1}{R_4} + \frac{1}{L_4s}}, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls} \right)  \dots $	. 262
$= \left( \infty, \ \infty, \ \frac{L_3s}{C_3L_3s^2+1} + R_3, \ \frac{1}{C_4s + \frac{1}{R_4} + \frac{1}{L_4s}}, \ \infty, \ \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}} \right)  \dots $	. 262
$= \left( \infty, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \ \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)  \dots $	. 262
$= \left( \infty, \ \infty, \ \frac{L_3s}{C_3L_3s^2+1} + R_3, \ \frac{1}{C_4s + \frac{1}{R_4} + \frac{1}{L_4s}}, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}} \right) \ \dots $	. 263
$=\left(\infty, \ \infty, \ \frac{L_{3}s}{C_{3}L_{3}s^{2}+1}+R_{3}, \ \frac{L_{4}s}{C_{4}L_{4}s^{2}+1}+R_{4}, \ \infty, \ R_{L}\right)$	. 263
$=\left(\infty, \ \infty, \ \frac{L_3s}{C_3L_3s^2+1}+R_3, \ \frac{L_4s}{C_4L_4s^2+1}+R_4, \ \infty, \ \frac{1}{C_Ls}\right)$	. 263
$= \left( \infty, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)  \dots $	. 263
$=\left(\infty,\ \infty,\ \frac{L_{3}s}{C_{3}L_{3}s^{2}+1}+R_{3},\ \frac{L_{4}s}{C_{4}L_{4}s^{2}+1}+R_{4},\ \infty,\ R_{L}+\frac{1}{C_{L}s}\right)$	. 263
$= \left( \infty, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ L_L s + \frac{1}{C_L s} \right) \ \dots $	. 264
$=\left(\infty, \ \infty, \ \frac{L_{3}s}{C_{3}L_{3}s^{2}+1}+R_{3}, \ \frac{L_{4}s}{C_{4}L_{4}s^{2}+1}+R_{4}, \ \infty, \ \frac{L_{L}s}{C_{L}L_{L}s^{2}+1}\right)'$	. 264
$= \left( \infty, \ \infty, \ \frac{L_3s}{C_3L_3s^2+1} + R_3, \ \frac{L_4s}{C_4L_4s^2+1} + R_4, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls} \right)$	. 264
$= \left( \infty, \ \infty, \ \frac{L_{3}s}{C_{3}L_{3}s^{2}+1} + R_{3}, \ \frac{L_{4}s}{C_{4}L_{4}s^{2}+1} + R_{4}, \ \infty, \ \frac{1}{C_{L}s + \frac{1}{R_{L}} + \frac{1}{L_{L}s}} \right) \right) \ . \ . \ . \ . \ . \ . \ . \ . \ . \ $	. 264
$=\left(\infty, \ \infty, \ \frac{L_{3}s}{C_{3}L_{3}s^{2}+1}+R_{3}, \ \frac{L_{4}s}{C_{4}L_{4}s^{2}+1}+R_{4}, \ \infty, \ \frac{L_{L}s}{C_{L}L_{L}s^{2}+1}+R_{L}\right)$	. 264
$= \left( \infty, \ \infty, \ \frac{L_{3}s}{C_{3}L_{3}s^{2}+1} + R_{3}, \ \frac{L_{4}s}{C_{4}L_{4}s^{2}+1} + R_{4}, \ \infty, \ \frac{R_{L}\left(L_{L}s + \frac{1}{C_{L}s}\right)}{L_{L}s + R_{L} + \frac{1}{C_{L}s}} \right) \right) \dots \dots$	. 265
	$ \begin{pmatrix} \infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{1}{C_4s^4 + \frac{1}{R_4} + \frac{1}{L_4s}}, \infty, \frac{1}{C_Ls} \end{pmatrix} $ $ \langle \infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{1}{C_4s^4 + \frac{1}{R_4} + \frac{1}{L_4s}}, \infty, \frac{R_L}{C_LR_1s+1} \end{pmatrix} $ $ \langle \infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{1}{C_4s^4 + \frac{1}{R_4} + \frac{1}{L_4s}}, \infty, R_L + \frac{1}{C_Ls} \end{pmatrix} $ $ \langle \infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{1}{C_4s^4 + \frac{1}{R_4} + \frac{1}{L_4s}}, \infty, L_Ls + \frac{1}{C_Ls} \end{pmatrix} $ $ \langle \infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{1}{C_4s^4 + \frac{1}{R_4} + \frac{1}{L_4s}}, \infty, \frac{L_Ls}{C_LL_2s^2+1} \end{pmatrix} $ $ \langle \infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{1}{C_4s^4 + \frac{1}{R_4} + \frac{1}{L_4s}}, \infty, \frac{L_Ls}{C_LL_2s^2+1} \end{pmatrix} $ $ \langle \infty, \infty, \frac{L_3s}{C_3L_3s^3+1} + R_3, \frac{1}{C_4s^4 + \frac{1}{R_4} + \frac{1}{L_4s}}, \infty, \frac{1}{C_Ls^4 + \frac{1}{R_4} + \frac{1}{L_4s}} \end{pmatrix} $ $ \langle \infty, \infty, \frac{L_3s}{C_3L_3s^3+1} + R_3, \frac{1}{C_4s^4 + \frac{1}{R_4} + \frac{1}{L_4s}}, \infty, \frac{1}{C_LL_1s^2+1} + R_L \end{pmatrix} $ $ \langle \infty, \infty, \frac{L_3s}{C_3L_3s^3+1} + R_3, \frac{1}{C_4s^4 + \frac{1}{R_4} + \frac{1}{L_4s}}, \infty, \frac{R_L(L_Ls + \frac{1}{C_Ls})}{L_Ls^2+1} \end{pmatrix} $ $ \langle \infty, \infty, \frac{L_3s}{C_3L_3s^3+1} + R_3, \frac{1}{C_4s^4 + \frac{1}{R_4} + \frac{1}{L_4s}}, \infty, \frac{R_L(L_1s + \frac{1}{C_Ls})}{L_Ls^2+1} \end{pmatrix} $ $ \langle \infty, \infty, \frac{L_3s}{C_3L_3s^3+1} + R_3, \frac{1}{C_4L_4s^3+1} + R_4, \infty, R_L \rangle $ $ \langle \infty, \infty, \frac{L_3s}{C_3L_3s^3+1} + R_3, \frac{L_4s}{C_4L_4s^3+1} + R_4, \infty, \frac{R_L}{C_Ls} \rangle $ $ \langle \infty, \infty, \frac{L_3s}{C_3L_3s^3+1} + R_3, \frac{L_4s}{C_4L_4s^3+1} + R_4, \infty, \frac{R_L}{C_Ls} \rangle $ $ \langle \infty, \infty, \frac{L_3s}{C_3L_3s^3+1} + R_3, \frac{L_4s}{C_4L_4s^3+1} + R_4, \infty, \frac{R_L}{C_Ls} \rangle $ $ \langle \infty, \infty, \frac{L_3s}{C_3L_3s^3+1} + R_3, \frac{L_4s}{C_4L_4s^3+1} + R_4, \infty, \frac{L_Ls}{C_Ls} \rangle $ $ \langle \infty, \infty, \frac{L_3s}{C_3L_3s^3+1} + R_3, \frac{L_4s}{C_4L_4s^3+1} + R_4, \infty, \frac{L_Ls}{C_Ls} \rangle $ $ \langle \infty, \infty, \frac{L_3s}{C_3L_3s^3+1} + R_3, \frac{L_4s}{C_4L_4s^3+1} + R_4, \infty, \frac{L_Ls}{C_4L_4s^3+1} \rangle $ $ \langle \infty, \infty, \frac{L_3s}{C_3L_3s^3+1} + R_3, \frac{L_4s}{C_4L_4s^3+1} + R_4, \infty, \frac{L_Ls}{C_4L_4s^3+1} \rangle $ $ \langle \infty, \infty, \frac{L_3s}{C_3L_3s^3+1} + R_3, \frac{L_4s}{C_4L_4s^3+1} + R_4, \infty, \frac{L_Ls}{C_4L_4s^3+1} \rangle $ $ \langle \infty, \infty, \frac{L_3s}{C_3L_3s^3+1} + R_3, \frac{L_4s}{C_4L_4s^3+1} + R_4, \infty, \frac{L_Ls}{C_4L_4s^3+1} \rangle $ $ \langle \infty, \infty, \frac{L_3s}{C_3L_3s^3+1} + R_3, \frac{L_4s}{C_4L_4s^3+1} + R_4, \infty, \frac{L_4s}{C_4L_4$

10.76 NVALID-ORDER-765 $Z(s) = 1$	$\left(\infty, \ \infty, \right.$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$\frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}},$	$\infty$ ,	$R_L$ )			 	 	 	. 265
10.76 NVALID-ORDER-766 $Z(s) = 1$	$\left(\infty, \ \infty, \right.$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$\frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}},$	$\infty$ ,	$\frac{1}{C_L s}$ .			 	 	 	. 265
10.76 <b>T</b> NVALID-ORDER-767 $Z(s) =$	$\left(\infty, \ \infty, \right.$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$\frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}},$	$\infty$ ,	$\frac{R_L}{C_L R_L s + 1}$	)		 	 	 	. 265
10.76\nbelownermal{8}NVALID-ORDER-768 $Z(s)=$	$\left(\infty, \ \infty, \right.$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$\frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}},$	$\infty$ ,	$R_L + \frac{1}{C_L}$	$\bar{s}$		 	 	 	. 265
10.76 <b>9</b> NVALID-ORDER-769 $Z(s) = 1$	$\left(\infty, \ \infty, \right.$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$\frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}},$	$\infty$ ,	$L_L s + \frac{1}{C_L}$	$\left(\frac{1}{\sqrt{s}}\right)$ .		 	 	 	. 266
10.77 <b>0</b> NVALID-ORDER-770 $Z(s) =$	$\left(\infty, \ \infty, \right.$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$\frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}},$	$\infty$ ,	$\frac{L_L s}{C_L L_L s^2 + 1}$	<u>(</u>		 	 	 	. 266
10.77INVALID-ORDER-771 $Z(s) =$	$\left(\infty, \ \infty, \right.$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$\frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}},$	$\infty$ ,	$L_L s + R_s$	$L + \frac{1}{C_L s}$	)	 	 	 	. 266
10.77 <b>2</b> NVALID-ORDER-772 $Z(s) =$	$\left(\infty, \ \infty, \right.$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$\frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}},$	$\infty$ ,	$\frac{1}{C_L s + \frac{1}{R_L}} +$	$-\frac{1}{L_L s}$		 	 	 	. 266
10.77 <b>&amp;</b> NVALID-ORDER-773 $Z(s) =$	$\left(\infty, \ \infty, \right.$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$\frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}},$	$\infty$ ,	$\frac{L_L s}{C_L L_L s^2 + 1}$	$\left(1 + R_L\right)$		 	 	 	. 266
10.77 <b>4</b> NVALID-ORDER-774 $Z(s) =$	$\left(\infty, \ \infty, \right.$	$\frac{L_3s}{C_3L_3s^2+1} + R_3,$	$\frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}},$	$\infty$ ,	$R_L \left(L_L s + L_L s + R_L s + $	$\left(\frac{\frac{1}{C_L s}}{\frac{1}{C_L s}}\right)$		 	 	 	. 267
10.77 $\mathbf{N}$ NVALID-ORDER-775 $Z(s)=1$	$\left(\infty, \ \infty, \right.$	$\frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, F$	$R_4, \ \infty, \ \frac{1}{C_L s}$					 	 	 	. 267
10.776NVALID-ORDER-776 $Z(s) = 1$	$\left(\infty, \ \infty, \right.$	$\frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, F$	$R_4,  \infty,  \frac{R_L}{C_L R_L s}$	$\overline{+1}$				 	 	 	. 267
10.77 <b>T</b> NVALID-ORDER-777 $Z(s) =$	$\left(\infty, \ \infty, \right.$	$\frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, F$	$R_4, \ \infty, \ R_L + \overline{c}$	$\frac{1}{C_L s}$				 	 	 	. 267
10.77&NVALID-ORDER-778 $Z(s) =$	$\left(\infty, \ \infty, \right.$	$\frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, F$	$R_4, \infty, L_L s +$	$\frac{1}{C_L s}$				 	 	 	. 267
10.77 <b>9</b> NVALID-ORDER-779 $Z(s) =$								 	 	 	. 268
10.78 <b>0</b> NVALID-ORDER-780 $Z(s) = 1$	$\left(\infty, \ \infty, \right.$	$\frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, F$	$R_4,  \infty,  L_L s + 1$	$R_L +$	$\left(\frac{1}{C_L s}\right)$ .			 	 	 	. 268
10.78INVALID-ORDER-781 $Z(s) =$	$\left(\infty, \ \infty, \right.$	$\frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ F$	$R_4,  \infty,  \frac{1}{C_L s + \frac{1}{R_I}}$	$\frac{1}{L} + \frac{1}{L_L}$	$\frac{1}{\overline{s}}$ )			 	 	 	. 268

10.78 <b>2</b> NVALID-ORDER-782 $Z(s) =$	\		9				/	 	 	 	 		 268
10.78 INVALID-ORDER-783 $Z(s) =$							$\frac{1}{2}$ .	 	 	 	 		 268
10.784NVALID-ORDER-784 $Z(s) =$								 	 	 	 		 269
10.78 INVALID-ORDER-785 $Z(s) =$	$\left(\infty,\right.$	$, \infty,$	$\frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}},$	$\frac{1}{C_4 s}$ , $\infty$ ,	$\left(\frac{1}{C_L s}\right)$			 	 	 	 		 269
10.78 CNVALID-ORDER-786 $Z(s) =$								 	 	 	 		 269
10.78 TNVALID-ORDER-787 $Z(s) =$								 	 	 	 		 269
10.78\PNVALID-ORDER-788 $Z(s) =$								 	 	 	 		 269
10.78 <b>9</b> NVALID-ORDER-789 $Z(s) =$	\		3			,		 	 	 	 		 270
10.79 <b>0</b> NVALID-ORDER-790 $Z(s) =$								 	 	 	 		 270
10.79INVALID-ORDER-791 $Z(s) =$								 	 	 	 		 270
10.792NVALID-ORDER-792 $Z(s) =$	$\left(\infty,\right.$	$, \infty,$	$\frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}},$	$\frac{1}{C_4 s}$ , $\infty$ ,	$\frac{L_L}{C_L L_L}$	$\frac{1}{s^2+1} + \frac{1}{s^2+1} + $	$R_L$	 	 	 	 		 270
10.79 <b>B</b> NVALID-ORDER-793 $Z(s) =$							$\left(\frac{1}{\overline{s}}\right)$ .	 	 	 	 	• • • •	 270
10.794NVALID-ORDER-794 $Z(s) =$	$\left(\infty,\right.$	$, \infty,$	$\frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}},$	$\frac{R_4}{C_4R_4s+1},$	$\infty$ , I	$R_L$		 	 	 	 	• • • •	 271
10.79 INVALID-ORDER-795 $Z(s) =$								 	 	 	 		 271
10.79 <b>C</b> NVALID-ORDER-796 $Z(s) =$	$\left(\infty,\right.$	$, \infty,$	$\frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}},$	$\frac{R_4}{C_4R_4s+1},$	$\infty$ , $\bar{\epsilon}$	$\frac{R_L}{C_L R_L s +}$	$\overline{1}$ .	 	 	 	 		 271
10.79¶NVALID-ORDER-797 $Z(s) =$								 	 	 	 		 271
10.79\( \text{NVALID-ORDER-798} \) $Z(s) =$	$\left(\infty,\right.$	$, \infty,$	$\frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}},$	$\frac{R_4}{C_4R_4s+1},$	$\infty$ , I	$L_L s + \frac{1}{6}$	$\left(\frac{1}{C_L s}\right)$	 	 	 	 		 271

10.79 <b>9</b> NVALID-ORDER-799 $Z(s) =$							 	 	 272
10.80 <b>0</b> NVALID-ORDER-800 $Z(s) =$	$\left(\infty, \ \infty\right)$	$, \frac{R_3 \left(L_3 s + \frac{C}{C}\right)}{L_3 s + R_3 + \frac{C}{C}}$	$\frac{\frac{1}{3s}}{\frac{1}{C_3s}}$ , $\frac{R_4}{C_4R_4s+1}$	$, \infty,$	$L_L s + R_L +$	$-\frac{1}{C_L s}$	 	 	 272
10.80INVALID-ORDER-801 $Z(s) =$	$\left(\infty, \ \infty\right)$	$\sum_{r=0}^{\infty} \frac{R_3 \left(L_3 s + \frac{r}{C}\right)}{L_3 s + R_3 + \frac{r}{C}}$	$\frac{\frac{1}{3^s}}{\frac{1}{C_3 s}}, \frac{R_4}{C_4 R_4 s + 1}$	$, \infty,$	$\frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L}}$	$\left(\frac{1}{\sqrt{s}}\right)$ .	 	 	 272
10.802NVALID-ORDER-802 $Z(s) =$	$\left(\infty, \ \infty\right)$	$\sum_{s} \frac{R_3 \left( L_3 s + \frac{C}{C} \right)}{L_3 s + R_3 + \frac{C}{C}}$	$\frac{\frac{1}{3^s}}{\frac{1}{C_3 s}}, \frac{R_4}{C_4 R_4 s + 1}$	$, \infty,$	$\frac{L_L s}{C_L L_L s^2 + 1} +$	$R_L$	 	 	 272
10.80 <b>2</b> NVALID-ORDER-803 $Z(s) =$	$\left(\infty, \ \infty\right)$	$\sum_{s} \frac{R_3 \left( L_3 s + \frac{C}{C} \right)}{L_3 s + R_3 + \frac{C}{C}}$	$\frac{\frac{L}{3^s}}{\frac{1}{C_3 s}}, \frac{R_4}{C_4 R_4 s + 1}$	$, \infty,$	$\frac{R_L \left(L_L s + \frac{1}{C_L s} $	$\left(\frac{\overline{s}}{\sqrt{s}}\right)$ .	 	 	 272
10.804NVALID-ORDER-804 $Z(s) =$	\		3		/		 	 	 273
10.80 $\mathbf{NVALID}$ -ORDER-805 $Z(s) =$	$\left(\infty, \ \infty\right)$	$\sum_{s} \frac{R_3 \left( L_3 s + \frac{C}{C} \right)}{L_3 s + R_3 + \frac{C}{C}}$	$\frac{\frac{1}{3^s}}{\frac{1}{C_3s}}$ , $R_4 + \frac{1}{C_4}$	$\frac{1}{s}$ , $\infty$	$, \frac{1}{C_L s} $		 	 	 273
10.80 GNVALID-ORDER-806 $Z(s) =$							 	 	 273
10.80¶NVALID-ORDER-807 $Z(s) =$							 	 	 273
10.80 NVALID-ORDER-808 $Z(s) =$	$\left(\infty, \ \infty\right)$	$\sum_{s} \frac{R_3 \left( L_3 s + \frac{C}{C} \right)}{L_3 s + R_3 + \frac{C}{C}}$	$\frac{\frac{1}{3^s}}{\frac{1}{C_3s}}$ , $R_4 + \frac{1}{C_4}$	$\frac{1}{s}$ , $\infty$	$, L_L s + \frac{1}{C_L s}$	)	 	 	 273
10.80 <b>9</b> NVALID-ORDER-809 $Z(s) =$	\		0		,		 	 	 274
10.81 <b>0</b> NVALID-ORDER-810 $Z(s) =$	$\left(\infty,  \infty\right)$	$\sum_{s} \frac{R_3 \left( L_3 s + \frac{C}{C} \right)}{L_3 s + R_3 + \frac{C}{C}}$	$\left(\frac{\frac{1}{3^s}}{\frac{1}{C_3}}\right)$ , $R_4 + \frac{1}{C_4}$	$\frac{1}{s}$ , $\infty$	$L_L s + R_L$	$+\frac{1}{C_L s}$	 	 	 274
10.81INVALID-ORDER-811 $Z(s) =$	$\left(\infty, \ \infty\right)$	$\sum_{s} \frac{R_3 \left( L_3 s + \frac{C}{C} \right)}{L_3 s + R_3 + \frac{C}{C}}$	$\left(\frac{\frac{1}{3^s}}{\frac{1}{C_3}}\right)$ , $R_4 + \frac{1}{C_4}$	$\frac{1}{s}$ , $\infty$	$, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L}}$	$\frac{1}{L^s}$	 	 	 274
10.812NVALID-ORDER-812 $Z(s) =$	$\left(\infty,  \infty\right)$	$\sum_{r=0}^{\infty} \frac{R_3 \left( L_3 s + \frac{r}{C} \right)}{L_3 s + R_3 + \frac{r}{C}}$	$\left(\frac{\frac{1}{3s}}{\frac{1}{C_3s}}\right)$ , $R_4 + \frac{1}{C_4}$	$\frac{1}{s}$ , $\infty$	$, \frac{L_L s}{C_L L_L s^2 + 1} -$	$+R_L$	 	 	 274
10.81 <b>2</b> NVALID-ORDER-813 $Z(s) =$	\		3			$\left(\frac{\frac{1}{Ls}}{\frac{1}{Ls}}\right)$ .	 	 	 274
10.814NVALID-ORDER-814 $Z(s) =$	$\left(\infty,   \infty\right)$	$\sum_{s} \frac{R_3 \left( L_3 s + \frac{C}{C} \right)}{L_3 s + R_3 + \frac{C}{C}}$	$\left(\frac{\frac{1}{3^s}}{\frac{1}{23^s}}\right), \ L_4s + \frac{1}{C}$	$\frac{1}{4s}$ , $\propto$	$(R_L)$		 	 	 275
10.81 NVALID-ORDER-815 $Z(s) =$	$\left(\infty,   \infty\right)$	$\sum_{i=1}^{R_3 \left(L_3 s + \frac{C}{C}\right)} \frac{R_3 \left(L_3 s + \frac{C}{C}\right)}{L_3 s + R_3 + \frac{C}{C}}$	$\frac{(\frac{1}{3^s})}{(\frac{1}{73^s})}, \ L_4s + \frac{1}{73^s}$	$\frac{1}{4s}$ , $\propto$	$\left( \frac{1}{C_L s} \right) \cdot .$		 	 	 275

	\	$, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, L_4s + \frac{1}{C_4s}, \infty, \frac{R_L}{C_LR_Ls + 1}$
	\	$, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, L_4s + \frac{1}{C_4s}, \infty, R_L + \frac{1}{C_Ls}\right) \qquad \dots \qquad $
	\	$, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, L_4s + \frac{1}{C_4s}, \infty, L_Ls + \frac{1}{C_Ls}\right) \dots \dots$
10.81 <b>9</b> NVALID-ORDER-819 $Z(s) = 0$	$\left(\infty, \ \infty, \right.$	$, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, L_4s + \frac{1}{C_4s}, \infty, \frac{L_Ls}{C_LL_Ls^2 + 1} $
	(	$, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, L_4s + \frac{1}{C_4s}, \infty, L_Ls + R_L + \frac{1}{C_Ls}\right) \dots \dots$
10.82INVALID-ORDER-821 $Z(s) =$	$\left(\infty, \ \infty, \right.$	$, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, L_4s + \frac{1}{C_4s}, \infty, \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right) \qquad \dots \qquad $
10.822NVALID-ORDER-822 $Z(s) = 1$	$\left(\infty, \ \infty, \right.$	$, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, L_4s + \frac{1}{C_4s}, \infty, \frac{L_Ls}{C_LL_Ls^2 + 1} + R_L\right) \qquad \dots \qquad $
	\	$, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, L_4s + \frac{1}{C_4s}, \infty, \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right) \qquad \dots $
		$, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{L_4s}{C_4L_4s^2 + 1}, \infty, R_L$
10.825NVALID-ORDER-825 $Z(s) = 1$		
		$, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{L_4s}{C_4L_4s^2 + 1}, \infty, \frac{R_L}{C_LR_Ls + 1}\right) \dots \dots$
	\	$, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{L_4s}{C_4L_4s^2 + 1}, \infty, R_L + \frac{1}{C_Ls}\right) \dots \dots$
10.82\NVALID-ORDER-828 $Z(s) = 1$	$\left(\infty, \ \infty, \right.$	$, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{L_4s}{C_4L_4s^2 + 1}, \infty, L_Ls + \frac{1}{C_Ls}\right) \qquad \dots \qquad $
		$, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{L_4s}{C_4L_4s^2 + 1}, \infty, \frac{L_Ls}{C_LL_Ls^2 + 1} $
		$, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{L_4s}{C_4L_4s^2 + 1}, \infty, L_Ls + R_L + \frac{1}{C_Ls}\right)  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  $
		$, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{L_4s}{C_4L_4s^2 + 1}, \infty, \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right) \qquad . \dots \dots$
10.832NVALID-ORDER-832 $Z(s) = 1$	$\left(\infty, \ \infty, \right.$	$, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{L_4s}{C_4L_4s^2 + 1}, \infty, \frac{L_Ls}{C_LL_Ls^2 + 1} + R_L\right)  \dots \qquad 278$

$$\begin{array}{lll} 10.83 \text{RNVALID-ORDER-833} \ Z(s) = \left( \infty, & \frac{R_3 \left( L_3 + V_{\text{cir}}^2 \right)}{L_2 + R_3 + V_{\text{cir}}^2}, & \frac{L_4 s}{L_4 + R_4 + V_{\text{cir}}^2} \right) & 278 \\ 10.83 \text{INVALID-ORDER-834} \ Z(s) = \left( \infty, & \frac{R_3 \left( L_3 + V_{\text{cir}}^2 \right)}{L_2 + R_3 + V_{\text{cir}}^2}, & L_4 s + R_4 + \frac{1}{C_4 s}, & R_L \right) & 279 \\ 10.83 \text{INVALID-ORDER-835} \ Z(s) = \left( \infty, & \frac{R_3 \left( L_3 + V_{\text{cir}}^2 \right)}{L_2 + R_3 + V_{\text{cir}}^2}, & L_4 s + R_4 + \frac{1}{C_4 s}, & 0, \frac{1}{L_5} \right) & 279 \\ 10.83 \text{INVALID-ORDER-836} \ Z(s) = \left( \infty, & \frac{R_3 \left( L_3 + V_{\text{cir}}^2 \right)}{L_2 + R_3 + V_{\text{cir}}^2}, & L_4 s + R_4 + \frac{1}{C_4 s}, & 0, \frac{1}{C_5 R_5 + 1} \right) & 279 \\ 10.83 \text{INVALID-ORDER-837} \ Z(s) = \left( \infty, & \frac{R_3 \left( L_3 + V_{\text{cir}}^2 \right)}{L_2 + R_3 + V_{\text{cir}}^2}, & L_4 s + R_4 + \frac{1}{C_4 s}, & 0, \frac{1}{C_5 R_5 + 1} \right) & 279 \\ 10.83 \text{INVALID-ORDER-838} \ Z(s) = \left( \infty, & \frac{R_3 \left( L_3 + V_{\text{cir}}^2 \right)}{L_2 + R_3 + V_{\text{cir}}^2}, & L_4 s + R_4 + \frac{1}{C_4 s}, & 0, \frac{1}{L_5 R_5 + 1} \right) & 280 \\ 10.83 \text{INVALID-ORDER-839} \ Z(s) = \left( \infty, & \frac{R_3 \left( L_3 + V_{\text{cir}}^2 \right)}{L_2 + R_3 + V_{\text{cir}}^2}, & L_4 s + R_4 + \frac{1}{C_4 s}, & 0, \frac{1}{L_5 L_5 s^2 + 1} \right) & 280 \\ 10.84 \text{INVALID-ORDER-840} \ Z(s) = \left( \infty, & \frac{R_3 \left( L_3 + V_{\text{cir}}^2 \right)}{L_2 + R_3 + V_{\text{cir}}^2}, & L_4 s + R_4 + \frac{1}{C_4 s}, & 0, \frac{1}{L_5 L_5 s^2 + 1} \right) & 280 \\ 10.84 \text{INVALID-ORDER-842} \ Z(s) = \left( \infty, & \frac{R_3 \left( L_3 + V_{\text{cir}}^2 \right)}{L_2 + R_3 + V_{\text{cir}}^2}, & L_4 s + R_4 + \frac{1}{C_4 s}, & 0, \frac{1}{L_5 L_5 s^2 + 1} + R_L \right) & 280 \\ 10.84 \text{INVALID-ORDER-843} \ Z(s) = \left( \infty, & \frac{R_3 \left( L_3 + V_{\text{cir}}^2 \right)}{L_2 + R_3 + V_{\text{cir}}^2}, & L_4 s + R_4 + \frac{1}{C_4 s}, & 0, \frac{1}{L_5 L_5 s^2 + 1} + R_L \right) & 280 \\ 10.84 \text{INVALID-ORDER-846} \ Z(s) = \left( \infty, & \frac{R_3 \left( L_3 + V_{\text{cir}}^2 \right)}{L_2 + R_3 + V_{\text{cir}}^2}, & \frac{1}{L_5 + V_{\text{cir}}^2}, & \frac{1}{L_5 + V_{\text{cir}}^2}, & 0, \frac{1}{L_5 L_5 s^2 + 1} + R_L \right) & 281 \\ 10.84 \text{INVALID-ORDER-847} \ Z(s) = \left( \infty, & \frac{R_3 \left( L_3 + V_{\text{cir}}^2 \right)}{L_2 + R_3 + V_{\text{cir}}^2}, & \frac{1}{L_5 + V_{\text{cir}}^2}, & \frac{1}{L_5 L_5 s^2 + V_{\text{cir}}^2}, & 0, \frac{1}{L_5 L_5 s$$

_		$\frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}},  \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}},  \infty,  R_L + \frac{1}{C_Ls}\right)  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  $	
		$\frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}},  \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}},  \infty,  L_Ls + \frac{1}{C_Ls}\right) \qquad \dots \qquad 2c$	
10.86 <b>9</b> NVALID-ORDER-869 $Z(s) = \left( c \right)$	$\infty,  \infty,$	$\frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}},  \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}},  \infty,  \frac{L_Ls}{C_LL_Ls^2 + 1}\right) \qquad \dots \qquad 28$	86
10.87 <b>0</b> NVALID-ORDER-870 $Z(s) = \left( c \right)$	$\infty, \infty,$	$\frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_7s}},  \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}},  \infty,  L_Ls + R_L + \frac{1}{C_Ls}\right)  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  $	86
10.87INVALID-ORDER-871 $Z(s) = (c)$	$\infty,  \infty,$	$\frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}},  \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}},  \infty,  \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$	86
10.872NVALID-ORDER-872 $Z(s) = \left( c \right)$	$\infty,  \infty,$	$\frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_{cs}}},  \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_{cs}}},  \infty,  \frac{L_Ls}{C_LL_Ls^2 + 1} + R_L\right)  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  \dots  $	86
10.878NVALID-ORDER-873 $Z(s) = (c)$	$\infty,  \infty,$	$\frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}},  \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}},  \infty,  \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)'$	86

1 Examined 
$$H(z)$$
 for TIA simple Z3 Z4 ZL:  $\frac{Z_3Z_4Z_Lg_m}{Z_3Z_4g_m+2Z_3Z_Lg_m+Z_4Z_Lg_m}$ 

$$H(z) = \frac{Z_3 Z_4 Z_L g_m}{Z_3 Z_4 g_m + 2 Z_3 Z_L g_m + Z_4 Z_L g_m}$$

- 2 HP
- 3 BP

**3.1** BP-1 
$$Z(s) = \left(\infty, \infty, R_3, R_4, \infty, \frac{L_{Ls}}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L R_3 R_4 s}{C_L L_L R_3 R_4 s^2 + 2L_L R_3 s + L_L R_4 s + R_3 R_4}$$

Q: 
$$\frac{C_L R_3 R_4 \sqrt{\frac{1}{C_L L_L}}}{2R_3 + R_4}$$
 wo: 
$$\sqrt{\frac{1}{C_L L_L}}$$
 bandwidth: 
$$\frac{2R_3 + R_4}{C_L R_3 R_4}$$
 K-LP: 0 K-HP: 0 K-BP: 
$$\frac{R_3 R_4}{2R_3 + R_4}$$

Qz: 0 Wz: None

3.2 BP-2 
$$Z(s) = \left(\infty, \infty, R_3, R_4, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_L R_3 R_4 R_L s}{C_L L_L R_3 R_4 R_L s^2 + L_L R_3 R_4 s + 2L_L R_3 R_L s + L_L R_4 R_L s + R_3 R_4 R_L s}$$

Q: 
$$\frac{C_L R_3 R_4 R_L \sqrt{\frac{1}{C_L L_L}}}{R_3 R_4 + 2 R_3 R_L + R_4 R_L}$$
 wo: 
$$\sqrt{\frac{1}{C_L L_L}}$$
 bandwidth: 
$$\frac{R_3 R_4 + 2 R_3 R_L + R_4 R_L}{C_L R_3 R_4 R_L}$$
 K-LP: 0 K-HP: 0 K-BP: 
$$\frac{R_3 R_4 R_L}{R_3 R_4 + 2 R_3 R_L + R_4 R_L}$$
 Qz: 0 Wz: None

**3.3 BP-3** 
$$Z(s) = \left(\infty, \infty, R_3, \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L R_3 s}{2C_4 L_L R_3 s^2 + C_L L_L R_3 s^2 + L_L s + R_3}$$

Q: 
$$R_3\sqrt{\frac{1}{L_L(2C_4+C_L)}}$$
  $(2C_4+C_L)$   
wo:  $\sqrt{\frac{1}{L_L(2C_4+C_L)}}$   
bandwidth:  $\frac{1}{R_3(2C_4+C_L)}$   
K-LP: 0  
K-HP: 0  
K-BP:  $R_3$   
Qz: 0  
Wz: None

3.4 BP-4 
$$Z(s) = \left(\infty, \infty, R_3, \frac{1}{C_4 s}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_L R_3 R_L s}{2C_4 L_L R_3 R_L s^2 + C_L L_L R_3 R_L s^2 + L_L R_3 s + L_L R_L s + R_3 R_L}$$

Q: 
$$\frac{R_3 R_L \sqrt{\frac{1}{L_L(2C_4 + C_L)}} (2C_4 + C_L)}{R_3 + R_L}$$

wo: 
$$\sqrt{\frac{1}{L_L(2C_4+C_L)}}$$
  
bandwidth:  $\frac{R_3+R_L}{R_3R_L(2C_4+C_L)}$   
K-LP: 0  
K-HP: 0  
K-BP:  $\frac{R_3R_L}{R_3+R_L}$   
Qz: 0  
Wz: None

**3.5 BP-5** 
$$Z(s) = \left(\infty, \infty, R_3, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L R_3 R_4 s}{2C_4 L_L R_3 R_4 s^2 + C_L L_L R_3 R_4 s^2 + 2L_L R_3 s + L_L R_4 s + R_3 R_4}$$

$$\begin{array}{l} \text{Q:} & \frac{R_3R_4\sqrt{\frac{1}{L_L(2C_4+C_L)}}(2C_4+C_L)}{2R_3+R_4}\\ \text{wo:} & \sqrt{\frac{1}{L_L(2C_4+C_L)}}\\ \text{bandwidth:} & \frac{2R_3+R_4}{R_3R_4(2C_4+C_L)}\\ \text{K-LP:} & 0\\ \text{K-HP:} & 0\\ \text{K-BP:} & \frac{R_3R_4}{2R_3+R_4}\\ \text{Qz:} & 0\\ \text{Wz:} & \text{None} \end{array}$$

3.6 BP-6 
$$Z(s) = \left(\infty, \infty, R_3, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_L R_3 R_4 R_L s}{2C_4 L_L R_3 R_4 R_L s^2 + C_L L_L R_3 R_4 R_L s^2 + L_L R_3 R_4 s + 2L_L R_3 R_L s + L_L R_4 R_L s + R_3 R_4 R_L s}$$

Q: 
$$\frac{R_3 R_4 R_L \sqrt{\frac{1}{L_L (2C_4 + C_L)}} (2C_4 + C_L)}{R_3 R_4 + 2R_3 R_L + R_4 R_L}$$

WO: 
$$\sqrt{\frac{1}{L_L(2C_4+C_L)}}$$

bandwidth:  $\frac{R_3R_4 + 2R_3R_L + R_4R_L}{R_3R_4R_L(2C_4 + C_L)}$ 

K-LP: 0 K-HP: 0

K-BP:  $\frac{R_3R_4R_L}{R_3R_4+2R_3R_L+R_4R_L}$ Qz: 0

Wz: None

# **3.7** BP-7 $Z(s) = \left(\infty, \infty, R_3, \frac{L_4s}{C_4L_4s^2+1}, \infty, R_L\right)$

$$H(s) = \frac{L_4 R_3 R_L s}{2C_4 L_4 R_3 R_L s^2 + L_4 R_3 s + L_4 R_L s + 2R_3 R_L}$$

## Parameters:

Q: 
$$\frac{2C_4R_3R_L\sqrt{\frac{1}{C_4L_4}}}{R_3+R_L}$$
  
wo:  $\sqrt{\frac{1}{C_4L_4}}$ 

bandwidth:  $\frac{R_3 + R_L}{2C_4 R_3 R_L}$ K-LP: 0

K-HP: 0 K-BP:  $\frac{R_3R_L}{R_3+R_L}$ Qz: 0

Wz: None

**3.8** BP-8  $Z(s) = \left(\infty, \infty, R_3, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, \frac{1}{C_L s}\right)$ 

$$H(s) = \frac{L_4 R_3 s}{2C_4 L_4 R_3 s^2 + C_L L_4 R_3 s^2 + L_4 s + 2R_3}$$

Q: 
$$\sqrt{2}R_3\sqrt{\frac{1}{L_4(2C_4+C_L)}}\left(2C_4+C_L\right)$$
  
wo:  $\sqrt{2}\sqrt{\frac{1}{L_4(2C_4+C_L)}}$ 

bandwidth: 
$$\frac{1}{R_3(2C_4+C_L)}$$
  
K-LP: 0  
K-HP: 0  
K-BP:  $R_3$   
Qz: 0  
Wz: None

**3.9** BP-9 
$$Z(s) = \left(\infty, \infty, R_3, \frac{L_{4s}}{C_4L_4s^2+1}, \infty, \frac{R_L}{C_LR_Ls+1}\right)$$

$$H(s) = \frac{L_4 R_3 R_L s}{2C_4 L_4 R_3 R_L s^2 + C_L L_4 R_3 R_L s^2 + L_4 R_3 s + L_4 R_L s + 2R_3 R_L}$$

$$\begin{array}{l} \text{Q:} \ \frac{\sqrt{2}R_{3}R_{L}\sqrt{\frac{1}{L_{4}(2C_{4}+C_{L})}}(2C_{4}+C_{L})}{R_{3}+R_{L}} \\ \text{wo:} \ \sqrt{2}\sqrt{\frac{1}{L_{4}(2C_{4}+C_{L})}} \\ \text{bandwidth:} \ \frac{R_{3}+R_{L}}{R_{3}R_{L}(2C_{4}+C_{L})} \\ \text{K-LP:} \ 0 \\ \text{K-HP:} \ 0 \\ \text{K-BP:} \ \frac{R_{3}R_{L}}{R_{3}+R_{L}} \\ \text{Qz:} \ 0 \\ \text{Wz:} \ \text{None} \end{array}$$

**3.10** BP-10 
$$Z(s) = \left(\infty, \infty, R_3, \frac{L_4s}{C_4L_4s^2+1}, \infty, \frac{L_Ls}{C_LL_Ls^2+1}\right)$$

$$H(s) = \frac{L_4 L_L R_3 s}{2C_4 L_4 L_L R_3 s^2 + C_L L_4 L_L R_3 s^2 + L_4 L_L s + L_4 R_3 + 2L_L R_3}$$

Q: 
$$R_3 \sqrt{\frac{L_4 + 2L_L}{L_4 L_L (2C_4 + C_L)}} \left( 2C_4 + C_L \right)$$
  
wo:  $\sqrt{\frac{L_4 + 2L_L}{L_4 L_L (2C_4 + C_L)}}$   
bandwidth:  $\frac{1}{R_3 (2C_4 + C_L)}$ 

K-LP: 0 K-HP: 0 K-BP:  $R_3$ Qz: 0 Wz: None

3.11 BP-11 
$$Z(s) = \left(\infty, \infty, R_3, \frac{L_4s}{C_4L_4s^2+1}, \infty, \frac{1}{C_Ls+\frac{1}{R_L}+\frac{1}{L_Ls}}\right)$$

$$H(s) = \frac{L_4L_LR_3R_Ls}{2C_4L_4L_LR_3R_Ls^2 + C_LL_4L_LR_3R_Ls^2 + L_4L_LR_3s + L_4L_LR_3s + L_4R_3R_L + 2L_LR_3R_L}$$

## Parameters:

$$\begin{array}{l} \text{Q:} \ \frac{R_3R_L\sqrt{\frac{L_4+2L_L}{L_4L_L(2C_4+C_L)}}}{R_3+R_L} (2C_4+C_L)} \\ \text{Wo:} \ \sqrt{\frac{L_4+2L_L}{L_4L_L(2C_4+C_L)}} \\ \text{bandwidth:} \ \frac{R_3+R_L}{R_3R_L(2C_4+C_L)} \\ \text{K-LP:} \ 0 \\ \text{K-HP:} \ 0 \\ \text{K-BP:} \ \frac{R_3R_L}{R_3+R_L} \\ \text{Qz:} \ 0 \\ \text{Wz:} \ \text{None} \end{array}$$

3.12 BP-12 
$$Z(s) = \left(\infty, \infty, R_3, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, R_L\right)$$

$$H(s) = \frac{L_4 R_3 R_4 R_L s}{2C_4 L_4 R_3 R_4 R_L s^2 + L_4 R_3 R_4 s + 2L_4 R_3 R_L s + L_4 R_4 R_L s + 2R_3 R_4 R_L}$$

Q: 
$$\frac{2C_4R_3R_4R_L\sqrt{\frac{1}{C_4L_4}}}{R_3R_4+2R_3R_L+R_4R_L}$$
 wo: 
$$\sqrt{\frac{1}{C_4L_4}}$$
 bandwidth: 
$$\frac{R_3R_4+2R_3R_L+R_4R_L}{2C_4R_3R_4R_L}$$

K-LP: 0 K-HP: 0

K-BP:  $\frac{R_3R_4R_L}{R_3R_4+2R_3R_L+R_4R_L}$ Qz: 0

Qz: 0 Wz: None

3.13 BP-13 
$$Z(s) = \left(\infty, \infty, R_3, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_4 R_3 R_4 s}{2C_4 L_4 R_3 R_4 s^2 + C_L L_4 R_3 R_4 s^2 + 2L_4 R_3 s + L_4 R_4 s + 2R_3 R_4}$$

# Parameters:

$$\begin{array}{l} \text{Q:} \ \frac{\sqrt{2}R_3R_4\sqrt{\frac{1}{L_4(2C_4+C_L)}}(2C_4+C_L)}{2R_3+R_4}\\ \text{wo:} \ \sqrt{2}\sqrt{\frac{1}{L_4(2C_4+C_L)}}\\ \text{bandwidth:} \ \frac{2R_3+R_4}{R_3R_4(2C_4+C_L)}\\ \text{K-LP:} \ 0\\ \text{K-HP:} \ 0\\ \text{K-BP:} \ \frac{R_3R_4}{2R_3+R_4}\\ \text{Qz:} \ 0\\ \text{Wz:} \ \text{None} \end{array}$$

3.14 BP-14 
$$Z(s) = \left(\infty, \infty, R_3, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{L_4 R_3 R_4 R_L s}{2C_4 L_4 R_3 R_4 R_L s^2 + C_L L_4 R_3 R_4 R_L s^2 + L_4 R_3 R_4 s + 2L_4 R_3 R_L s + L_4 R_4 R_L s + 2R_3 R_4 R_L}$$

$$\begin{aligned} &\text{Q: } \frac{\sqrt{2}R_{3}R_{4}R_{L}\sqrt{\frac{1}{L_{4}(2C_{4}+C_{L})}}(2C_{4}+C_{L})}{R_{3}R_{4}+2R_{3}R_{L}+R_{4}R_{L}} \\ &\text{wo: } \sqrt{2}\sqrt{\frac{1}{L_{4}(2C_{4}+C_{L})}} \\ &\text{bandwidth: } \frac{R_{3}R_{4}+2R_{3}R_{L}+R_{4}R_{L}}{R_{3}R_{4}R_{L}(2C_{4}+C_{L})} \end{aligned}$$

K-LP: 0 K-HP: 0

K-BP:  $\frac{R_3R_4R_L}{R_3R_4+2R_3R_L+R_4R_L}$ Qz: 0

Qz: 0 Wz: None

3.15 BP-15 
$$Z(s) = \left(\infty, \infty, R_3, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_4 L_L R_3 R_4 s}{2C_4 L_4 L_L R_3 R_4 s^2 + C_L L_4 L_L R_3 R_4 s^2 + 2L_4 L_L R_3 s + L_4 L_L R_4 s + L_4 R_3 R_4 + 2L_L R_3 R_4 s}$$

## Parameters:

$$\begin{array}{l} \text{Q:} \ \frac{R_3R_4\sqrt{\frac{L_4+2L_L}{L_4L_L(2C_4+C_L)}}}{2R_3+R_4}(2C_4+C_L)}\\ \text{Wo:} \ \sqrt{\frac{L_4+2L_L}{L_4L_L(2C_4+C_L)}}\\ \text{bandwidth:} \ \frac{2R_3+R_4}{R_3R_4(2C_4+C_L)}\\ \text{K-LP:} \ 0\\ \text{K-HP:} \ 0\\ \text{K-BP:} \ \frac{R_3R_4}{2R_3+R_4}\\ \text{Qz:} \ 0\\ \text{Wz:} \ \text{None} \end{array}$$

3.16 BP-16 
$$Z(s) = \left(\infty, \infty, R_3, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_4 L_L R_3 R_4 R_L s}{2C_4 L_4 L_L R_3 R_4 R_L s^2 + C_L L_4 L_L R_3 R_4 R_L s^2 + L_4 L_L R_3 R_4 s + 2L_4 L_L R_3 R_L s + L_4 L_L R_3 R_4 R_L s + L_4 L_R R_3 R_4 R_L$$

Q: 
$$\frac{R_3 R_4 R_L \sqrt{\frac{L_4 + 2L_L}{L_4 L_L (2C_4 + C_L)}}}{R_3 R_4 + 2R_3 R_L + R_4 R_L}} (2C_4 + C_L)}{\text{wo: } \sqrt{\frac{L_4 + 2L_L}{L_4 L_L (2C_4 + C_L)}}}$$
bandwidth: 
$$\frac{R_3 R_4 + 2R_3 R_L + R_4 R_L}{R_3 R_4 R_L (2C_4 + C_L)}$$

K-LP: 0 K-HP: 0

K-BP:  $\frac{R_3R_4R_L}{R_3R_4+2R_3R_L+R_4R_L}$ Qz: 0

Wz: None

**3.17** BP-17 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, R_4, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L R_4 s}{C_3 L_L R_4 s^2 + C_L L_L R_4 s^2 + 2L_L s + R_4}$$

# Parameters:

Q: 
$$\frac{R_4\sqrt{\frac{1}{L_L(C_3+C_L)}}(C_3+C_L)}{2}$$
 wo: 
$$\sqrt{\frac{1}{L_L(C_3+C_L)}}$$
 bandwidth: 
$$\frac{2}{R_4(C_3+C_L)}$$
 K-LP: 0 K-HP: 0 K-BP: 
$$\frac{R_4}{2}$$
 Qz: 0 Wz: None

3.18 BP-18 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, R_4, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_L R_4 R_L s}{C_3 L_L R_4 R_L s^2 + C_L L_L R_4 R_L s^2 + L_L R_4 s + 2L_L R_L s + R_4 R_L s}$$

$$\begin{array}{l} \text{Q:} \ \frac{R_4 R_L \sqrt{\frac{1}{L_L (C_3 + C_L)}} (C_3 + C_L)}{R_4 + 2 R_L} \\ \text{wo:} \ \sqrt{\frac{1}{L_L (C_3 + C_L)}} \\ \text{bandwidth:} \ \frac{R_4 + 2 R_L}{R_4 R_L (C_3 + C_L)} \\ \text{K-LP:} \ 0 \end{array}$$

K-HP: 0 K-BP:  $\frac{R_4R_L}{R_4+2R_L}$ Qz: 0

Wz: None

**3.19 BP-19** 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_L R_L s}{C_3 L_L R_L s^2 + 2C_4 L_L R_L s^2 + C_L L_L R_L s^2 + L_L s + R_L}$$

# Parameters:

Q: 
$$R_L \sqrt{\frac{1}{L_L(C_3 + 2C_4 + C_L)}} (C_3 + 2C_4 + C_L)$$
  
wo:  $\sqrt{\frac{1}{L_L(C_3 + 2C_4 + C_L)}}$ 

bandwidth:  $\frac{1}{R_L(C_3+2C_4+C_L)}$ 

K-LP: 0

K-HP: 0

K-BP:  $R_L$ 

Qz: 0

Wz: None

**3.20** BP-20 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L R_4 s}{C_3 L_L R_4 s^2 + 2 C_4 L_L R_4 s^2 + C_L L_L R_4 s^2 + 2 L_L s + R_4}$$

# Parameters:

Q: 
$$\frac{R_4\sqrt{\frac{1}{L_L(C_3+2C_4+C_L)}}(C_3+2C_4+C_L)}{2}$$
 wo: 
$$\sqrt{\frac{1}{L_L(C_3+2C_4+C_L)}}$$

bandwidth:  $\frac{2}{R_4(C_3+2C_4+C_L)}$ 

K-LP: 0 K-HP: 0

K-BP: 
$$\frac{R_4}{2}$$
 Qz: 0 Wz: None

3.21 BP-21 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_L R_4 R_L s}{C_3 L_L R_4 R_L s^2 + 2 C_4 L_L R_4 R_L s^2 + C_L L_L R_4 R_L s^2 + L_L R_4 s + 2 L_L R_L s + R_4 R_L}$$

$$\begin{array}{l} \text{Q:} \ \frac{R_4R_L\sqrt{\frac{1}{L_L(C_3+2C_4+C_L)}}(C_3+2C_4+C_L)}{R_4+2R_L} \\ \text{wo:} \ \sqrt{\frac{1}{L_L(C_3+2C_4+C_L)}} \\ \text{bandwidth:} \ \frac{R_4+2R_L}{R_4R_L(C_3+2C_4+C_L)} \\ \text{K-LP:} \ 0 \\ \text{K-HP:} \ 0 \\ \text{K-BP:} \ \frac{R_4R_L}{R_4+2R_L} \\ \text{Qz:} \ 0 \\ \text{Wz:} \ \text{None} \end{array}$$

**3.22** BP-22 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, R_L\right)$$

$$H(s) = \frac{L_4 R_L s}{C_3 L_4 R_L s^2 + 2C_4 L_4 R_L s^2 + L_4 s + 2R_L}$$

$$\begin{array}{l} \text{Q: } \sqrt{2}R_L\sqrt{\frac{1}{L_4(C_3+2C_4)}}\left(C_3+2C_4\right)\\ \text{wo: } \sqrt{2}\sqrt{\frac{1}{L_4(C_3+2C_4)}}\\ \text{bandwidth: } \frac{1}{R_L(C_3+2C_4)}\\ \text{K-LP: 0}\\ \text{K-HP: 0}\\ \text{K-BP: } R_L \end{array}$$

Qz: 0 Wz: None

**3.23 BP-23** 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{L_4 R_L s}{C_3 L_4 R_L s^2 + 2C_4 L_4 R_L s^2 + C_L L_4 R_L s^2 + L_4 s + 2R_L}$$

## Parameters:

Q: 
$$\sqrt{2}R_L\sqrt{\frac{1}{L_4(C_3+2C_4+C_L)}}$$
 ( $C_3+2C_4+C_L$ ) wo:  $\sqrt{2}\sqrt{\frac{1}{L_4(C_3+2C_4+C_L)}}$  bandwidth:  $\frac{1}{R_L(C_3+2C_4+C_L)}$  K-LP: 0 K-HP: 0 K-BP:  $R_L$  Qz: 0 Wz: None

3.24 BP-24 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_4 L_L R_L s}{C_3 L_4 L_L R_L s^2 + 2 C_4 L_4 L_L R_L s^2 + C_L L_4 L_L R_L s^2 + L_4 L_L s + L_4 R_L + 2 L_L R_L}$$

$$\begin{array}{l} {\rm Q:}\; R_L \sqrt{\frac{L_4 + 2L_L}{L_4 L_L (C_3 + 2C_4 + C_L)}} \left(C_3 + 2C_4 + C_L\right) \\ {\rm wo:}\; \sqrt{\frac{L_4 + 2L_L}{L_4 L_L (C_3 + 2C_4 + C_L)}} \\ {\rm bandwidth:}\; \frac{1}{R_L (C_3 + 2C_4 + C_L)} \\ {\rm K-LP:}\; 0 \\ {\rm K-HP:}\; 0 \\ {\rm K-BP:}\; R_L \\ {\rm Qz:}\; 0 \end{array}$$

3.25 BP-25 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, R_L\right)$$

$$H(s) = \frac{L_4 R_4 R_L s}{C_3 L_4 R_4 R_L s^2 + 2 C_4 L_4 R_4 R_L s^2 + L_4 R_4 s + 2 L_4 R_L s + 2 R_4 R_L}$$

## Parameters:

$$\begin{array}{l} \text{Q:} \ \frac{\sqrt{2}R_{4}R_{L}\sqrt{\frac{1}{L_{4}(C_{3}+2C_{4})}}(C_{3}+2C_{4})}{R_{4}+2R_{L}}\\ \text{wo:} \ \sqrt{2}\sqrt{\frac{1}{L_{4}(C_{3}+2C_{4})}}\\ \text{bandwidth:} \ \frac{R_{4}+2R_{L}}{R_{4}R_{L}(C_{3}+2C_{4})}\\ \text{K-LP:} \ 0\\ \text{K-HP:} \ 0\\ \text{K-BP:} \ \frac{R_{4}R_{L}}{R_{4}+2R_{L}}\\ \text{Qz:} \ 0\\ \text{Wz:} \ \text{None} \end{array}$$

3.26 BP-26 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_4 R_4 s}{C_3 L_4 R_4 s^2 + 2C_4 L_4 R_4 s^2 + C_L L_4 R_4 s^2 + 2L_4 s + 2R_4}$$

$$\begin{array}{l} \text{Q:} \ \frac{\sqrt{2}R_4\sqrt{\frac{1}{L_4(C_3+2C_4+C_L)}}(C_3+2C_4+C_L)}{2} \\ \text{wo:} \ \sqrt{2}\sqrt{\frac{1}{L_4(C_3+2C_4+C_L)}} \\ \text{bandwidth:} \ \frac{2}{R_4(C_3+2C_4+C_L)} \\ \text{K-LP:} \ 0 \\ \text{K-HP:} \ 0 \\ \text{K-BP:} \ \frac{R_4}{2} \\ \text{Qz:} \ 0 \end{array}$$

3.27 BP-27 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{L_4 R_4 R_L s}{C_3 L_4 R_4 R_L s^2 + 2C_4 L_4 R_4 R_L s^2 + C_L L_4 R_4 R_L s^2 + L_4 R_4 s + 2L_4 R_L s + 2R_4 R_L}$$

## Parameters:

Q: 
$$\frac{\sqrt{2}R_{4}R_{L}\sqrt{\frac{1}{L_{4}(C_{3}+2C_{4}+C_{L})}}(C_{3}+2C_{4}+C_{L})}{R_{4}+2R_{L}}$$
 wo: 
$$\sqrt{2}\sqrt{\frac{1}{L_{4}(C_{3}+2C_{4}+C_{L})}}$$
 bandwidth: 
$$\frac{R_{4}+2R_{L}}{R_{4}R_{L}(C_{3}+2C_{4}+C_{L})}$$
 K-LP: 0 K-HP: 0 K-BP: 
$$\frac{R_{4}R_{L}}{R_{4}+2R_{L}}$$
 Qz: 0 Wz: None

3.28 BP-28 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_4 L_L R_4 s}{C_3 L_4 L_L R_4 s^2 + 2C_4 L_4 L_L R_4 s^2 + C_L L_4 L_L R_4 s^2 + 2L_4 L_L s + L_4 R_4 + 2L_L R_4}$$

$$Q\colon \frac{R_4\sqrt{\frac{L_4+2L_L}{L_4L_L(C_3+2C_4+C_L)}}}{2}(C_3+2C_4+C_L)}$$
 wo: 
$$\sqrt{\frac{L_4+2L_L}{L_4L_L(C_3+2C_4+C_L)}}$$
 bandwidth: 
$$\frac{2}{R_4(C_3+2C_4+C_L)}$$
 K-LP: 0 K-HP: 0 K-BP: 
$$\frac{R_4}{2}$$
 Qz: 0

3.29 BP-29 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_4 L_L R_4 R_L s}{C_3 L_4 L_L R_4 R_L s^2 + 2 C_4 L_4 L_L R_4 R_L s^2 + C_L L_4 L_L R_4 R_L s^2 + L_4 L_L R_4 s + 2 L_4 L_L R_4 R_L + 2 L_L R_4 R_L}$$

#### Parameters:

$$\begin{array}{l} \text{Q:} \ \frac{R_4R_L\sqrt{\frac{L_4+2L_L}{L_4L_L(C_3+2C_4+C_L)}}}{R_4+2R_L}(C_3+2C_4+C_L)} \\ \text{Wo:} \ \sqrt{\frac{L_4+2L_L}{L_4L_L(C_3+2C_4+C_L)}} \\ \text{bandwidth:} \ \frac{R_4+2R_L}{R_4R_L(C_3+2C_4+C_L)} \\ \text{K-LP:} \ 0 \\ \text{K-HP:} \ 0 \\ \text{K-BP:} \ \frac{R_4R_L}{R_4+2R_L} \\ \text{Qz:} \ 0 \\ \text{Wz:} \ \text{None} \end{array}$$

**3.30** BP-30 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, R_4, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L R_3 R_4 s}{C_3 L_L R_3 R_4 s^2 + C_L L_L R_3 R_4 s^2 + 2 L_L R_3 s + L_L R_4 s + R_3 R_4}$$

$$\begin{array}{l} \text{Q:} \ \frac{R_3R_4\sqrt{\frac{1}{L_L(C_3+C_L)}}(C_3+C_L)}{2R_3+R_4}\\ \text{wo:} \ \sqrt{\frac{1}{L_L(C_3+C_L)}}\\ \text{bandwidth:} \ \frac{2R_3+R_4}{R_3R_4(C_3+C_L)}\\ \text{K-LP:} \ 0\\ \text{K-HP:} \ 0\\ \text{K-BP:} \ \frac{R_3R_4}{2R_3+R_4}\\ \text{Qz:} \ 0 \end{array}$$

3.31 BP-31 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, R_4, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_L R_3 R_4 R_L s}{C_3 L_L R_3 R_4 R_L s^2 + C_L L_L R_3 R_4 R_L s^2 + L_L R_3 R_4 s + 2L_L R_3 R_L s + L_L R_4 R_L s + R_3 R_4 R_L}$$

## Parameters:

$$\begin{array}{l} \text{Q:} \ \frac{R_3R_4R_L\sqrt{\frac{1}{L_L(C_3+C_L)}}(C_3+C_L)}{R_3R_4+2R_3R_L+R_4R_L} \\ \text{wo:} \ \sqrt{\frac{1}{L_L(C_3+C_L)}} \\ \text{bandwidth:} \ \frac{R_3R_4+2R_3R_L+R_4R_L}{R_3R_4R_L(C_3+C_L)} \\ \text{K-LP:} \ 0 \\ \text{K-HP:} \ 0 \\ \text{K-BP:} \ \frac{R_3R_4R_L}{R_3R_4+2R_3R_L+R_4R_L} \\ \text{Qz:} \ 0 \\ \text{Wz:} \ \text{None} \end{array}$$

**3.32** BP-32 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L R_3 s}{C_3 L_L R_3 s^2 + 2C_4 L_L R_3 s^2 + C_L L_L R_3 s^2 + L_L s + R_3}$$

Q: 
$$R_3\sqrt{\frac{1}{L_L(C_3+2C_4+C_L)}}$$
 ( $C_3+2C_4+C_L$ )  
wo:  $\sqrt{\frac{1}{L_L(C_3+2C_4+C_L)}}$   
bandwidth:  $\frac{1}{R_3(C_3+2C_4+C_L)}$   
K-LP: 0  
K-HP: 0  
K-BP:  $R_3$   
Qz: 0  
Wz: None

3.33 BP-33 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{1}{C_4 s}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_L R_3 R_L s}{C_3 L_L R_3 R_L s^2 + 2 C_4 L_L R_3 R_L s^2 + C_L L_L R_3 R_L s^2 + L_L R_3 s + L_L R_L s + R_3 R_L s}$$

$$\begin{array}{l} \text{Q:} \ \frac{R_3R_L\sqrt{\frac{1}{L_L(C_3+2C_4+C_L)}}(C_3+2C_4+C_L)}{R_3+R_L} \\ \text{wo:} \ \sqrt{\frac{1}{L_L(C_3+2C_4+C_L)}} \\ \text{bandwidth:} \ \frac{R_3+R_L}{R_3R_L(C_3+2C_4+C_L)} \\ \text{K-LP:} \ 0 \\ \text{K-HP:} \ 0 \\ \text{K-BP:} \ \frac{R_3R_L}{R_3+R_L} \\ \text{Qz:} \ 0 \\ \text{Wz:} \ \text{None} \end{array}$$

**3.34** BP-34 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L R_3 R_4 s}{C_3 L_L R_3 R_4 s^2 + 2 C_4 L_L R_3 R_4 s^2 + C_L L_L R_3 R_4 s^2 + 2 L_L R_3 s + L_L R_4 s + R_3 R_4}$$

$$\begin{array}{l} \text{Q:} \ \frac{R_3R_4\sqrt{\frac{1}{L_L(C_3+2C_4+C_L)}}(C_3+2C_4+C_L)}{2R_3+R_4}\\ \text{wo:} \ \sqrt{\frac{1}{L_L(C_3+2C_4+C_L)}}\\ \text{bandwidth:} \ \frac{2R_3+R_4}{R_3R_4(C_3+2C_4+C_L)}\\ \text{K-LP:} \ 0\\ \text{K-HP:} \ 0\\ \text{K-BP:} \ \frac{R_3R_4}{2R_3+R_4}\\ \text{Qz:} \ 0\\ \text{Wz:} \ \text{None} \end{array}$$

$$\textbf{3.35} \quad \textbf{BP-35} \ Z(s) = \left( \infty, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}} \right)$$
 
$$H(s) = \frac{L_L R_3 R_4 R_L s}{C_3 L_L R_3 R_4 R_L s^2 + 2 C_4 L_L R_3 R_4 R_L s^2 + L_L R_3 R_4 s + 2 L_L R_3 R_4 s + L_L R_4 R_L s + R_3 R_4 R_L s}$$

**3.36** BP-36 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, R_L\right)$$

$$H(s) = \frac{L_4 R_3 R_L s}{C_3 L_4 R_3 R_L s^2 + 2 C_4 L_4 R_3 R_L s^2 + L_4 R_3 s + L_4 R_L s + 2 R_3 R_L}$$

$$Q: \frac{\sqrt{2}R_{3}R_{L}\sqrt{\frac{1}{L_{4}(C_{3}+2C_{4})}}(C_{3}+2C_{4})}{R_{3}+R_{L}}$$
 wo:  $\sqrt{2}\sqrt{\frac{1}{L_{4}(C_{3}+2C_{4})}}$  bandwidth:  $\frac{R_{3}+R_{L}}{R_{3}R_{L}(C_{3}+2C_{4})}$  K-LP: 0 K-HP: 0 K-BP:  $\frac{R_{3}R_{L}}{R_{3}+R_{L}}$  Qz: 0 Wz: None

**3.37** BP-37 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_4 R_3 s}{C_3 L_4 R_3 s^2 + 2C_4 L_4 R_3 s^2 + C_L L_4 R_3 s^2 + L_4 s + 2R_3}$$

Q: 
$$\sqrt{2}R_3\sqrt{\frac{1}{L_4(C_3+2C_4+C_L)}}$$
 ( $C_3+2C_4+C_L$ ) wo:  $\sqrt{2}\sqrt{\frac{1}{L_4(C_3+2C_4+C_L)}}$  bandwidth:  $\frac{1}{R_3(C_3+2C_4+C_L)}$  K-LP: 0 K-HP: 0 K-BP:  $R_3$  Qz: 0 Wz: None

**3.38** BP-38 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{L_4 R_3 R_L s}{C_3 L_4 R_3 R_L s^2 + 2 C_4 L_4 R_3 R_L s^2 + C_L L_4 R_3 R_L s^2 + L_4 R_3 s + L_4 R_L s + 2 R_3 R_L}$$

Q: 
$$\frac{\sqrt{2}R_{3}R_{L}\sqrt{\frac{1}{L_{4}(C_{3}+2C_{4}+C_{L})}}(C_{3}+2C_{4}+C_{L})}{R_{3}+R_{L}}$$
 wo: 
$$\sqrt{2}\sqrt{\frac{1}{L_{4}(C_{3}+2C_{4}+C_{L})}}$$
 bandwidth: 
$$\frac{R_{3}+R_{L}}{R_{3}R_{L}(C_{3}+2C_{4}+C_{L})}$$
 K-LP: 0 K-HP: 0 K-BP: 
$$\frac{R_{3}R_{L}}{R_{3}+R_{L}}$$
 Qz: 0 Wz: None

3.39 BP-39 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_4 L_L R_3 s}{C_3 L_4 L_L R_3 s^2 + 2C_4 L_4 L_L R_3 s^2 + C_L L_4 L_L R_3 s^2 + L_4 L_L s + L_4 R_3 + 2L_L R_3}$$

Q: 
$$R_3\sqrt{\frac{L_4+2L_L}{L_4L_L(C_3+2C_4+C_L)}}$$
 ( $C_3+2C_4+C_L$ ) wo:  $\sqrt{\frac{L_4+2L_L}{L_4L_L(C_3+2C_4+C_L)}}$  bandwidth:  $\frac{1}{R_3(C_3+2C_4+C_L)}$  K-LP: 0 K-HP: 0 K-BP:  $R_3$  Qz: 0 Wz: None

3.40 BP-40 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3R_3s+1}, \frac{L_4s}{C_4L_4s^2+1}, \infty, \frac{1}{C_Ls+\frac{1}{R_L}+\frac{1}{L_Ls}}\right)$$

$$H(s) = \frac{L_4L_LR_3R_Ls}{C_3L_4L_LR_3R_Ls^2 + 2C_4L_4L_LR_3R_Ls^2 + C_LL_4L_LR_3R_Ls^2 + L_4L_LR_3s + L_4L_RL_s + L_4R_3R_L + 2L_LR_3R_L}$$

$$\begin{array}{l} \text{Q:} \ \frac{R_3R_L\sqrt{\frac{L_4+2L_L}{L_4L_L(C_3+2C_4+C_L)}}}{R_3+R_L}(C_3+2C_4+C_L)} \\ \text{wo:} \ \sqrt{\frac{L_4+2L_L}{L_4L_L(C_3+2C_4+C_L)}} \\ \text{bandwidth:} \ \frac{R_3+R_L}{R_3R_L(C_3+2C_4+C_L)} \\ \text{K-LP:} \ 0 \\ \text{K-HP:} \ 0 \\ \text{K-BP:} \ \frac{R_3R_L}{R_3+R_L} \\ \text{Qz:} \ 0 \\ \text{Wz:} \ \text{None} \end{array}$$

3.41 BP-41 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, R_L\right)$$

$$H(s) = \frac{L_4 R_3 R_4 R_L s}{C_3 L_4 R_3 R_4 R_L s^2 + 2 C_4 L_4 R_3 R_4 R_L s^2 + L_4 R_3 R_4 s + 2 L_4 R_3 R_L s + L_4 R_4 R_L s + 2 R_3 R_4 R_L}$$

$$\begin{array}{l} \text{Q:} \ \frac{\sqrt{2}R_3R_4R_L\sqrt{\frac{1}{L_4(C_3+2C_4)}}(C_3+2C_4)}{R_3R_4+2R_3R_L+R_4R_L}\\ \text{wo:} \ \sqrt{2}\sqrt{\frac{1}{L_4(C_3+2C_4)}}\\ \text{bandwidth:} \ \frac{R_3R_4+2R_3R_L+R_4R_L}{R_3R_4R_L(C_3+2C_4)}\\ \text{K-LP:} \ 0\\ \text{K-HP:} \ 0\\ \text{K-BP:} \ \frac{R_3R_4R_L}{R_3R_4+2R_3R_L+R_4R_L}\\ \text{Qz:} \ 0\\ \text{Wz:} \ \text{None} \end{array}$$

3.42 BP-42 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_4 R_3 R_4 s}{C_3 L_4 R_3 R_4 s^2 + 2 C_4 L_4 R_3 R_4 s^2 + C_L L_4 R_3 R_4 s^2 + 2 L_4 R_3 s + L_4 R_4 s + 2 R_3 R_4}$$

Q: 
$$\frac{\sqrt{2}R_{3}R_{4}\sqrt{\frac{1}{L_{4}(C_{3}+2C_{4}+C_{L})}}(C_{3}+2C_{4}+C_{L})}{2R_{3}+R_{4}}$$
 wo: 
$$\sqrt{2}\sqrt{\frac{1}{L_{4}(C_{3}+2C_{4}+C_{L})}}$$
 bandwidth: 
$$\frac{2R_{3}+R_{4}}{R_{3}R_{4}(C_{3}+2C_{4}+C_{L})}$$
 K-LP: 0 K-HP: 0 K-BP: 
$$\frac{R_{3}R_{4}}{2R_{3}+R_{4}}$$
 Qz: 0 Wz: None

3.43 BP-43 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{L_4 R_3 R_4 R_L s}{C_3 L_4 R_3 R_4 R_L s^2 + 2 C_4 L_4 R_3 R_4 R_L s^2 + C_L L_4 R_3 R_4 R_L s^2 + L_4 R_3 R_4 s + 2 L_4 R_3 R_L s + L_4 R_4 R_L s + 2 R_3 R_4 R_L s}$$

Q: 
$$\frac{\sqrt{2}R_{3}R_{4}R_{L}\sqrt{\frac{1}{L_{4}(C_{3}+2C_{4}+C_{L})}}(C_{3}+2C_{4}+C_{L})}{R_{3}R_{4}+2R_{3}R_{L}+R_{4}R_{L}}$$
 wo: 
$$\sqrt{2}\sqrt{\frac{1}{L_{4}(C_{3}+2C_{4}+C_{L})}}$$
 bandwidth: 
$$\frac{R_{3}R_{4}+2R_{3}R_{L}+R_{4}R_{L}}{R_{3}R_{4}R_{L}(C_{3}+2C_{4}+C_{L})}$$
 K-LP: 0 K-HP: 0 K-BP: 
$$\frac{R_{3}R_{4}R_{L}}{R_{3}R_{4}+2R_{3}R_{L}+R_{4}R_{L}}$$
 Qz: 0 Wz: None

$$\begin{array}{l} \text{Q:} & \frac{R_3R_4\sqrt{\frac{L_4+2L_L}{L_4L_L(C_3+2C_4+C_L)}}(C_3+2C_4+C_L)}{2R_3+R_4}\\ \text{wo:} & \sqrt{\frac{L_4+2L_L}{L_4L_L(C_3+2C_4+C_L)}}\\ \text{bandwidth:} & \frac{2R_3+R_4}{R_3R_4(C_3+2C_4+C_L)}\\ \text{K-LP:} & 0\\ \text{K-HP:} & 0\\ \text{K-BP:} & \frac{R_3R_4}{2R_3+R_4}\\ \text{Qz:} & 0\\ \end{array}$$

$$\begin{aligned} \textbf{3.45} \quad \mathbf{BP-45} \ \ Z(s) &= \left( \infty, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \ \infty, \ \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}} \right) \\ H(s) &= \frac{L_4 L_L R_3 R_4 R_L s}{C_3 L_4 L_L R_3 R_4 R_L s^2 + 2 C_4 L_4 L_L R_3 R_4 R_L s^2 + L_4 L_L R_3 R_4 s + 2 L_4 L_L R_3 R_L s + L_4 L_L R_4 R_L s + L_4 R_3 R_4 R_L + 2 L_L R_3 R_4 R_L s} \end{aligned}$$

$$\begin{array}{l} \text{Q:} \ \frac{R_3R_4R_L\sqrt{\frac{L_4+2L_L}{L_4L_L(C_3+2C_4+C_L)}}(C_3+2C_4+C_L)}{R_3R_4+2R_3R_L+R_4R_L} \\ \text{Wo:} \ \sqrt{\frac{L_4+2L_L}{L_4L_L(C_3+2C_4+C_L)}} \\ \text{bandwidth:} \ \frac{R_3R_4+2R_3R_L+R_4R_L}{R_3R_4R_L(C_3+2C_4+C_L)} \\ \text{K-LP:} \ 0 \\ \text{K-HP:} \ 0 \\ \text{K-BP:} \ \frac{R_3R_4R_L}{R_3R_4+2R_3R_L+R_4R_L} \\ \text{Qz:} \ 0 \\ \text{Wz:} \ \text{None} \end{array}$$

**3.46** BP-46 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1}, R_4, \infty, R_L\right)$$

$$H(s) = \frac{L_3 R_4 R_L s}{C_3 L_3 R_4 R_L s^2 + L_3 R_4 s + 2L_3 R_L s + R_4 R_L}$$

Q: 
$$\frac{C_3R_4R_L\sqrt{\frac{1}{C_3L_3}}}{R_4+2R_L}$$
  
wo:  $\sqrt{\frac{1}{C_3L_3}}$   
bandwidth:  $\frac{R_4+2R_L}{C_3R_4R_L}$   
K-LP: 0  
K-HP: 0  
K-BP:  $\frac{R_4R_L}{R_4+2R_L}$   
Qz: 0  
Wz: None

**3.47** BP-47 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3 L_3 s^2 + 1}, R_4, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 R_4 s}{C_3 L_3 R_4 s^2 + C_L L_3 R_4 s^2 + 2L_3 s + R_4}$$

$$\begin{array}{l} \text{Q:} \ \frac{R_4\sqrt{\frac{1}{L_3(C_3+C_L)}}(C_3+C_L)}{2} \\ \text{wo:} \ \sqrt{\frac{1}{L_3(C_3+C_L)}} \\ \text{bandwidth:} \ \frac{2}{R_4(C_3+C_L)} \\ \text{K-LP:} \ 0 \\ \text{K-HP:} \ 0 \\ \text{K-BP:} \ \frac{R_4}{2} \\ \text{Qz:} \ 0 \\ \text{Wz:} \ \text{None} \end{array}$$

**3.48** BP-48 
$$Z(s) = \left(\infty, \infty, \frac{L_3 s}{C_3 L_3 s^2 + 1}, R_4, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{L_3 R_4 R_L s}{C_3 L_3 R_4 R_L s^2 + C_L L_3 R_4 R_L s^2 + L_3 R_4 s + 2L_3 R_L s + R_4 R_L}$$

Q: 
$$\frac{R_4R_L\sqrt{\frac{1}{L_3(C_3+C_L)}}(C_3+C_L)}{R_4+2R_L}$$
 wo: 
$$\sqrt{\frac{1}{L_3(C_3+C_L)}}$$
 bandwidth: 
$$\frac{R_4+2R_L}{R_4R_L(C_3+C_L)}$$
 K-LP: 0 K-HP: 0 K-BP: 
$$\frac{R_4R_L}{R_4+2R_L}$$
 Qz: 0 Wz: None

**3.49** BP-49 
$$Z(s) = \left(\infty, \infty, \frac{L_3 s}{C_3 L_3 s^2 + 1}, R_4, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_3 L_L R_4 s}{C_3 L_3 L_L R_4 s^2 + C_L L_3 L_L R_4 s^2 + 2L_3 L_L s + L_3 R_4 + L_L R_4}$$

$$Q: \frac{\frac{R_4\sqrt{\frac{L_3+L_L}{L_3L_L(C_3+C_L)}}(C_3+C_L)}{2}}{\text{wo: } \sqrt{\frac{L_3+L_L}{L_3L_L(C_3+C_L)}}}$$
 bandwidth:  $\frac{2}{R_4(C_3+C_L)}$  K-LP: 0  
K-HP: 0  
K-BP:  $\frac{R_4}{2}$  Qz: 0  
Wz: None

3.50 BP-50 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1}, R_4, \infty, \frac{1}{C_Ls+\frac{1}{R_L}+\frac{1}{L_Ls}}\right)$$

$$H(s) = \frac{L_3L_LR_4R_Ls}{C_3L_3L_LR_4R_Ls^2 + C_LL_3L_LR_4R_Ls^2 + L_3L_LR_4s + 2L_3L_LR_4s + L_3R_4R_L + L_LR_4R_L}$$

$$\begin{array}{l} \text{Q:} \ \frac{R_4R_L\sqrt{\frac{L_3+L_L}{L_3L_L(C_3+C_L)}}(C_3+C_L)}{R_4+2R_L} \\ \text{wo:} \ \sqrt{\frac{L_3+L_L}{L_3L_L(C_3+C_L)}} \\ \text{bandwidth:} \ \frac{R_4+2R_L}{R_4R_L(C_3+C_L)} \\ \text{K-LP:} \ 0 \\ \text{K-HP:} \ 0 \\ \text{K-BP:} \ \frac{R_4R_L}{R_4+2R_L} \\ \text{Qz:} \ 0 \\ \text{Wz:} \ \text{None} \end{array}$$

**3.51** BP-51 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1}, \frac{1}{C_4s}, \infty, R_L\right)$$

$$H(s) = \frac{L_3 R_L s}{C_3 L_3 R_L s^2 + 2C_4 L_3 R_L s^2 + L_3 s + R_L}$$

Q: 
$$R_L \sqrt{\frac{1}{L_3(C_3+2C_4)}} (C_3 + 2C_4)$$
  
wo:  $\sqrt{\frac{1}{L_3(C_3+2C_4)}}$   
bandwidth:  $\frac{1}{R_L(C_3+2C_4)}$   
K-LP: 0  
K-HP: 0  
K-BP:  $R_L$   
Qz: 0  
Wz: None

**3.52 BP-52** 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1}, \frac{1}{C_4s}, \infty, \frac{R_L}{C_LR_Ls+1}\right)$$

$$H(s) = \frac{L_3 R_L s}{C_3 L_3 R_L s^2 + 2C_4 L_3 R_L s^2 + C_L L_3 R_L s^2 + L_3 s + R_L}$$

Q: 
$$R_L \sqrt{\frac{1}{L_3(C_3+2C_4+C_L)}}$$
  $(C_3+2C_4+C_L)$  wo:  $\sqrt{\frac{1}{L_3(C_3+2C_4+C_L)}}$  bandwidth:  $\frac{1}{R_L(C_3+2C_4+C_L)}$  K-LP: 0 K-HP: 0 K-BP:  $R_L$  Qz: 0 Wz: None

3.53 BP-53 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1}, \frac{1}{C_4s}, \infty, \frac{1}{C_Ls+\frac{1}{R_L}+\frac{1}{L_Ls}}\right)$$

$$H(s) = \frac{L_3L_LR_Ls}{C_3L_3L_LR_Ls^2 + 2C_4L_3L_LR_Ls^2 + C_LL_3L_LR_Ls^2 + L_3L_Ls + L_3R_L + L_LR_L}$$

Q: 
$$R_L\sqrt{\frac{L_3+L_L}{L_3L_L(C_3+2C_4+C_L)}}$$
  $(C_3+2C_4+C_L)$  wo:  $\sqrt{\frac{L_3+L_L}{L_3L_L(C_3+2C_4+C_L)}}$  bandwidth:  $\frac{1}{R_L(C_3+2C_4+C_L)}$  K-LP: 0 K-HP: 0 K-BP:  $R_L$  Qz: 0 Wz: None

**3.54** BP-54 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1}, \frac{R_4}{C_4R_4s+1}, \infty, R_L\right)$$

$$H(s) = \frac{L_3 R_4 R_L s}{C_3 L_3 R_4 R_L s^2 + 2C_4 L_3 R_4 R_L s^2 + L_3 R_4 s + 2L_3 R_L s + R_4 R_L}$$

Q: 
$$\frac{R_4R_L\sqrt{\frac{1}{L_3(C_3+2C_4)}}(C_3+2C_4)}{R_4+2R_L}$$
 wo: 
$$\sqrt{\frac{1}{L_3(C_3+2C_4)}}$$
 bandwidth: 
$$\frac{R_4+2R_L}{R_4R_L(C_3+2C_4)}$$
 K-LP: 0 K-HP: 0 K-BP: 
$$\frac{R_4R_L}{R_4+2R_L}$$
 Qz: 0 Wz: None

**3.55** BP-55 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1}, \frac{R_4}{C_4R_4s+1}, \infty, \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{L_3 R_4 s}{C_3 L_3 R_4 s^2 + 2C_4 L_3 R_4 s^2 + C_L L_3 R_4 s^2 + 2L_3 s + R_4}$$

$$\begin{array}{l} \text{Q:} \ \frac{R_4\sqrt{\frac{1}{L_3(C_3+2C_4+C_L)}}(C_3+2C_4+C_L)}{2} \\ \text{wo:} \ \sqrt{\frac{1}{L_3(C_3+2C_4+C_L)}} \\ \text{bandwidth:} \ \frac{2}{R_4(C_3+2C_4+C_L)} \\ \text{K-LP:} \ 0 \\ \text{K-HP:} \ 0 \\ \text{K-BP:} \ \frac{R_4}{2} \\ \text{Qz:} \ 0 \\ \text{Wz:} \ \text{None} \end{array}$$

**3.56** BP-56 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1}, \frac{R_4}{C_4R_4s+1}, \infty, \frac{R_L}{C_LR_Ls+1}\right)$$

$$H(s) = \frac{L_3 R_4 R_L s}{C_3 L_3 R_4 R_L s^2 + 2 C_4 L_3 R_4 R_L s^2 + C_L L_3 R_4 R_L s^2 + L_3 R_4 s + 2 L_3 R_L s + R_4 R_L}$$

$$\begin{array}{l} \text{Q:} \ \frac{R_4R_L\sqrt{\frac{1}{L_3(C_3+2C_4+C_L)}}(C_3+2C_4+C_L)}{R_4+2R_L} \\ \text{wo:} \ \sqrt{\frac{1}{L_3(C_3+2C_4+C_L)}} \\ \text{bandwidth:} \ \frac{R_4+2R_L}{R_4R_L(C_3+2C_4+C_L)} \\ \text{K-LP:} \ 0 \\ \text{K-HP:} \ 0 \\ \text{K-BP:} \ \frac{R_4R_L}{R_4+2R_L} \\ \text{Qz:} \ 0 \\ \text{Wz:} \ \text{None} \end{array}$$

3.57 BP-57 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1}, \frac{R_4}{C_4R_4s+1}, \infty, \frac{L_Ls}{C_LL_Ls^2+1}\right)$$

$$H(s) = \frac{L_3L_LR_4s}{C_3L_3L_LR_4s^2 + 2C_4L_3L_LR_4s^2 + C_LL_3L_LR_4s^2 + 2L_3L_Ls + L_3R_4 + L_LR_4}$$

$$Q\colon \frac{R_4\sqrt{\frac{L_3+L_L}{L_3L_L(C_3+2C_4+C_L)}}(C_3+2C_4+C_L)}{2}$$
 wo:  $\sqrt{\frac{L_3+L_L}{L_3L_L(C_3+2C_4+C_L)}}$  bandwidth:  $\frac{2}{R_4(C_3+2C_4+C_L)}$  K-LP: 0 K-HP: 0 K-BP:  $\frac{R_4}{2}$  Qz: 0 Wz: None

3.58 BP-58 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1}, \frac{R_4}{C_4R_4s+1}, \infty, \frac{1}{C_Ls+\frac{1}{R_L}+\frac{1}{L_Ls}}\right)$$

$$H(s) = \frac{L_3L_LR_4R_Ls}{C_3L_3L_LR_4R_Ls^2 + 2C_4L_3L_LR_4R_Ls^2 + C_LL_3L_LR_4R_Ls^2 + L_3L_LR_4s + 2L_3L_LR_4s + L_3R_4R_L + L_LR_4R_Ls}$$

$$\begin{array}{l} \text{Q:} \ \frac{R_4R_L\sqrt{\frac{L_3+L_L}{L_3L_L(C_3+2C_4+C_L)}}(C_3+2C_4+C_L)}{R_4+2R_L} \\ \text{wo:} \ \sqrt{\frac{L_3+L_L}{L_3L_L(C_3+2C_4+C_L)}} \\ \text{bandwidth:} \ \frac{R_4+2R_L}{R_4R_L(C_3+2C_4+C_L)} \\ \text{K-LP:} \ 0 \\ \text{K-HP:} \ 0 \\ \text{K-BP:} \ \frac{R_4R_L}{R_4+2R_L} \\ \text{Qz:} \ 0 \\ \text{Wz:} \ \text{None} \end{array}$$

**3.59 BP-59** 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1}, \frac{L_4s}{C_4L_4s^2+1}, \infty, R_L\right)$$

$$H(s) = \frac{L_3 L_4 R_L s}{C_3 L_3 L_4 R_L s^2 + 2C_4 L_3 L_4 R_L s^2 + L_3 L_4 s + 2L_3 R_L + L_4 R_L}$$

Q: 
$$R_L \sqrt{\frac{2L_3 + L_4}{L_3L_4(C_3 + 2C_4)}}$$
 ( $C_3 + 2C_4$ )  
wo:  $\sqrt{\frac{2L_3 + L_4}{L_3L_4(C_3 + 2C_4)}}$   
bandwidth:  $\frac{1}{R_L(C_3 + 2C_4)}$   
K-LP: 0  
K-HP: 0  
K-BP:  $R_L$   
Qz: 0  
Wz: None

**3.60** BP-60 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_{3}L_{3}s^{2}+1}, \frac{L_{4s}}{C_{4}L_{4}s^{2}+1}, \infty, \frac{R_{L}}{C_{L}R_{L}s+1}\right)$$

$$H(s) = \frac{L_3 L_4 R_L s}{C_3 L_3 L_4 R_L s^2 + 2 C_4 L_3 L_4 R_L s^2 + C_L L_3 L_4 R_L s^2 + L_3 L_4 s + 2 L_3 R_L + L_4 R_L}$$

Q: 
$$R_L\sqrt{\frac{2L_3+L_4}{L_3L_4(C_3+2C_4+C_L)}}$$
  $(C_3+2C_4+C_L)$  wo:  $\sqrt{\frac{2L_3+L_4}{L_3L_4(C_3+2C_4+C_L)}}$  bandwidth:  $\frac{1}{R_L(C_3+2C_4+C_L)}$  K-LP: 0 K-HP: 0 K-BP:  $R_L$  Qz: 0 Wz: None

$$\textbf{3.61} \quad \textbf{BP-61} \ \ Z(s) = \left( \infty, \ \infty, \ \frac{L_3s}{C_3L_3s^2+1}, \ \frac{L_4s}{C_4L_4s^2+1}, \ \infty, \ \frac{1}{C_Ls+\frac{1}{R_L}+\frac{1}{L_Ls}} \right)$$
 
$$H(s) = \frac{L_3L_4L_LR_Ls}{C_3L_3L_4L_LR_Ls^2 + 2C_4L_3L_4L_LR_Ls^2 + C_LL_3L_4L_LR_Ls^2 + L_3L_4L_Ls + L_3L_4R_L + 2L_3L_LR_L + L_4L_LR_L}$$

Q: 
$$R_L\sqrt{\frac{L_3L_4+2L_3L_L+L_4L_L}{L_3L_4L_C(3+2C_4+C_L)}}$$
 ( $C_3+2C_4+C_L$ ) wo:  $\sqrt{\frac{L_3L_4+2L_3L_L+L_4L_L}{L_3L_4L_C(3+2C_4+C_L)}}$  bandwidth:  $\frac{1}{R_L(C_3+2C_4+C_L)}$  K-LP: 0 K-HP: 0 K-BP:  $R_L$  Qz: 0 Wz: None

3.62 BP-62 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1}, \frac{1}{C_4s+\frac{1}{R_4}+\frac{1}{L_4s}}, \infty, R_L\right)$$

$$H(s) = \frac{L_3L_4R_4R_Ls}{C_3L_3L_4R_4R_Ls^2 + 2C_4L_3L_4R_4R_Ls^2 + L_3L_4R_4s + 2L_3L_4R_Ls + 2L_3R_4R_L + L_4R_4R_L}$$

$$\begin{array}{l} \text{Q:} \ \frac{R_4R_L\sqrt{\frac{2L_3+L_4}{L_3L_4(C_3+2C_4)}}(C_3+2C_4)}{R_4+2R_L}\\ \text{wo:} \ \sqrt{\frac{2L_3+L_4}{L_3L_4(C_3+2C_4)}}\\ \text{bandwidth:} \ \frac{R_4+2R_L}{R_4R_L(C_3+2C_4)}\\ \text{K-LP:} \ 0\\ \text{K-HP:} \ 0\\ \text{K-BP:} \ \frac{R_4R_L}{R_4+2R_L}\\ \text{Qz:} \ 0\\ \text{Wz:} \ \text{None} \end{array}$$

3.63 BP-63 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1}, \frac{1}{C_4s+\frac{1}{R_4}+\frac{1}{L_4s}}, \infty, \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{L_3L_4R_4s}{C_3L_3L_4R_4s^2 + 2C_4L_3L_4R_4s^2 + C_LL_3L_4R_4s^2 + 2L_3L_4s + 2L_3R_4 + L_4R_4s^2}$$

$$\begin{array}{l} \text{Q:} \ \frac{R_4\sqrt{\frac{2L_3+L_4}{L_3L_4(C_3+2C_4+C_L)}}}{2}(C_3+2C_4+C_L)} \\ \text{Wo:} \ \sqrt{\frac{2L_3+L_4}{L_3L_4(C_3+2C_4+C_L)}} \\ \text{bandwidth:} \ \frac{2}{R_4(C_3+2C_4+C_L)} \\ \text{K-LP:} \ 0 \\ \text{K-HP:} \ 0 \\ \text{K-BP:} \ \frac{R_4}{2} \\ \text{Qz:} \ 0 \\ \text{Wz:} \ \text{None} \end{array}$$

3.64 BP-64 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1}, \frac{1}{C_4s+\frac{1}{R_4}+\frac{1}{L_4s}}, \infty, \frac{R_L}{C_LR_Ls+1}\right)$$

$$H(s) = \frac{L_3L_4R_4R_Ls}{C_3L_3L_4R_4R_Ls^2 + 2C_4L_3L_4R_4R_Ls^2 + C_LL_3L_4R_4R_Ls^2 + L_3L_4R_4s + 2L_3L_4R_Ls + 2L_3R_4R_L + L_4R_4R_Ls}$$

Q: 
$$\frac{R_4R_L\sqrt{\frac{2L_3+L_4}{L_3L_4(C_3+2C_4+C_L)}}(C_3+2C_4+C_L)}{R_4+2R_L}$$
 wo: 
$$\sqrt{\frac{2L_3+L_4}{L_3L_4(C_3+2C_4+C_L)}}$$
 bandwidth: 
$$\frac{R_4+2R_L}{R_4R_L(C_3+2C_4+C_L)}$$
 K-LP: 0 K-HP: 0 K-BP: 
$$\frac{R_4R_L}{R_4+2R_L}$$
 Qz: 0 Wz: None

3.65 BP-65 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1}, \frac{1}{C_4s+\frac{1}{R_4}+\frac{1}{L_4s}}, \infty, \frac{L_Ls}{C_LL_Ls^2+1}\right)$$

$$H(s) = \frac{L_3L_4L_LR_4s}{C_3L_3L_4L_LR_4s^2+2C_4L_3L_4L_LR_4s^2+C_LL_3L_4L_LR_4s^2+2L_3L_4L_Ls+L_3L_4R_4+2L_3L_LR_4+L_4L_RA_4}$$

$$\begin{array}{l} \text{Q:} \ \, \frac{R_4\sqrt{\frac{L_3L_4+2L_3L_L+L_4L_L}{L_3L_4L_C(C_3+2C_4+C_L)}}}(C_3+2C_4+C_L)}{2}\\ \text{wo:} \ \, \sqrt{\frac{L_3L_4+2L_3L_L+L_4L_L}{L_3L_4L_C(C_3+2C_4+C_L)}}\\ \text{bandwidth:} \ \, \frac{2}{R_4(C_3+2C_4+C_L)}\\ \text{K-LP:} \ \, 0\\ \text{K-HP:} \ \, 0\\ \text{K-BP:} \ \, \frac{R_4}{2}\\ \text{Qz:} \ \, 0\\ \text{Wz:} \ \, \text{None} \end{array}$$

$$\textbf{3.66} \quad \textbf{BP-66} \ \ Z(s) = \left( \infty, \ \infty, \ \frac{L_3s}{C_3L_3s^2+1}, \ \frac{1}{C_4s+\frac{1}{R_4}+\frac{1}{L_4s}}, \ \infty, \ \frac{1}{C_Ls+\frac{1}{R_L}+\frac{1}{L_Ls}} \right)$$
 
$$H(s) = \frac{L_3L_4L_LR_4R_Ls}{C_3L_3L_4L_LR_4R_Ls^2 + 2C_4L_3L_4L_LR_4R_Ls^2 + C_LL_3L_4L_LR_4R_Ls^2 + L_3L_4L_LR_4s + 2L_3L_4R_4R_L + 2L_3L_LR_4R_L + L_4L_LR_4R_Ls}$$

$$\begin{array}{l} \text{Q:} & \frac{R_4R_L\sqrt{\frac{L_3L_4+2L_3L_L+L_4L_L}{L_3L_4L_C(C_3+2C_4+C_L)}}}{R_4+2R_L} (C_3+2C_4+C_L) \\ \text{Q:} & \frac{R_4+2R_L}{R_4+2R_L} \\ \text{wo:} & \sqrt{\frac{L_3L_4+2L_3L_L+L_4L_L}{L_3L_4+C_L)}} \\ \text{bandwidth:} & \frac{R_4+2R_L}{R_4R_L(C_3+2C_4+C_L)} \\ \text{K-LP:} & 0 \\ \text{K-HP:} & 0 \\ \text{K-BP:} & \frac{R_4R_L}{R_4+2R_L} \\ \text{Qz:} & 0 \\ \text{Wz:} & \text{None} \end{array}$$

3.67 BP-67 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, R_4, \infty, R_L\right)$$

$$H(s) = \frac{L_3 R_3 R_4 R_L s}{C_3 L_3 R_3 R_4 R_L s^2 + L_3 R_3 R_4 s + 2L_3 R_3 R_L s + L_3 R_4 R_L s + R_3 R_4 R_L}$$

Q: 
$$\frac{C_3R_3R_4R_L\sqrt{\frac{1}{C_3L_3}}}{R_3R_4+2R_3R_L+R_4R_L}$$
 wo: 
$$\sqrt{\frac{1}{C_3L_3}}$$
 bandwidth: 
$$\frac{R_3R_4+2R_3R_L+R_4R_L}{C_3R_3R_4R_L}$$
 K-LP: 0 K-HP: 0 K-BP: 
$$\frac{R_3R_4R_L}{R_3R_4+2R_3R_L+R_4R_L}$$
 Qz: 0 Wz: None

3.68 BP-68 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, R_4, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 R_3 R_4 s}{C_3 L_3 R_3 R_4 s^2 + C_L L_3 R_3 R_4 s^2 + 2L_3 R_3 s + L_3 R_4 s + R_3 R_4}$$

$$\begin{array}{l} \text{Q:} \ \frac{R_3R_4\sqrt{\frac{1}{L_3(C_3+C_L)}}(C_3+C_L)}{2R_3+R_4}\\ \text{wo:} \ \sqrt{\frac{1}{L_3(C_3+C_L)}}\\ \text{bandwidth:} \ \frac{2R_3+R_4}{R_3R_4(C_3+C_L)}\\ \text{K-LP:} \ 0\\ \text{K-HP:} \ 0\\ \text{K-BP:} \ \frac{R_3R_4}{2R_3+R_4}\\ \text{Qz:} \ 0\\ \text{Wz:} \ \text{None} \end{array}$$

3.69 BP-69 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, R_4, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{L_3 R_3 R_4 R_L s}{C_3 L_3 R_3 R_4 R_L s^2 + C_L L_3 R_3 R_4 R_L s^2 + L_3 R_3 R_4 s + 2L_3 R_3 R_L s + L_3 R_4 R_L s + R_3 R_4 R_L}$$

$$\begin{array}{l} \text{Q:} \ \frac{R_3R_4R_L\sqrt{\frac{1}{L_3(C_3+C_L)}}(C_3+C_L)}{R_3R_4+2R_3R_L+R_4R_L} \\ \text{wo:} \ \sqrt{\frac{1}{L_3(C_3+C_L)}} \\ \text{bandwidth:} \ \frac{R_3R_4+2R_3R_L+R_4R_L}{R_3R_4R_L(C_3+C_L)} \\ \text{K-LP:} \ 0 \\ \text{K-HP:} \ 0 \\ \text{K-BP:} \ \frac{R_3R_4R_L}{R_3R_4+2R_3R_L+R_4R_L} \\ \text{Qz:} \ 0 \\ \text{Wz:} \ \text{None} \end{array}$$

3.70 BP-70 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, R_4, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_3 L_L R_3 R_4 s}{C_3 L_3 L_L R_3 R_4 s^2 + C_L L_3 L_L R_3 R_4 s^2 + 2L_3 L_L R_3 s + L_3 L_L R_4 s + L_3 R_3 R_4 + L_L R_3 R_4}$$

$$Q \colon \frac{R_3 R_4 \sqrt{\frac{L_3 + L_L}{L_3 L_L (C_3 + C_L)}} (C_3 + C_L)}{2R_3 + R_4}$$
 wo: 
$$\sqrt{\frac{L_3 + L_L}{L_3 L_L (C_3 + C_L)}}$$
 bandwidth: 
$$\frac{2R_3 + R_4}{R_3 R_4 (C_3 + C_L)}$$
 K-LP: 0 K-HP: 0 K-BP: 
$$\frac{R_3 R_4}{2R_3 + R_4}$$
 Qz: 0 Wz: None

3.71 BP-71 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, R_4, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_3 L_L R_3 R_4 R_L s}{C_3 L_3 L_L R_3 R_4 R_L s^2 + C_L L_3 L_L R_3 R_4 R_L s^2 + L_3 L_L R_3 R_4 s + 2L_3 L_L R_3 R_L s + L_3 L_L R_4 R_L s + L_3 R_3 R_4 R_L + L_L R_3 R_4 R_L s}$$

$$\begin{array}{l} \text{Q:} \ \frac{R_3R_4R_L\sqrt{\frac{L_3+L_L}{L_3L_L(C_3+C_L)}}}{R_3R_4+2R_3R_L+R_4R_L} (C_3+C_L)} \\ \text{Wo:} \ \sqrt{\frac{L_3+L_L}{L_3L_L(C_3+C_L)}} \\ \text{bandwidth:} \ \frac{R_3R_4+2R_3R_L+R_4R_L}{R_3R_4R_L(C_3+C_L)} \\ \text{K-LP:} \ 0 \\ \text{K-HP:} \ 0 \\ \text{K-BP:} \ \frac{R_3R_4R_L}{R_3R_4+2R_3R_L+R_4R_L} \\ \text{Qz:} \ 0 \\ \text{Wz:} \ \text{None} \end{array}$$

3.72 BP-72 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{1}{C_4 s}, \infty, R_L\right)$$

$$H(s) = \frac{L_3 R_3 R_L s}{C_3 L_3 R_3 R_L s^2 + 2 C_4 L_3 R_3 R_L s^2 + L_3 R_3 s + L_3 R_L s + R_3 R_L}$$

3.73 BP-73 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{1}{C_4 s}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + 2 C_4 L_3 R_3 s^2 + C_L L_3 R_3 s^2 + L_3 s + R_3}$$

Q: 
$$R_3\sqrt{\frac{1}{L_3(C_3+2C_4+C_L)}}$$
 ( $C_3+2C_4+C_L$ )  
wo:  $\sqrt{\frac{1}{L_3(C_3+2C_4+C_L)}}$   
bandwidth:  $\frac{1}{R_3(C_3+2C_4+C_L)}$   
K-LP: 0  
K-HP: 0  
K-BP:  $R_3$   
Qz: 0  
Wz: None

3.74 BP-74 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{1}{C_4 s}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{L_3 R_3 R_L s}{C_3 L_3 R_3 R_L s^2 + 2 C_4 L_3 R_3 R_L s^2 + C_L L_3 R_3 R_L s^2 + L_3 R_3 s + L_3 R_L s + R_3 R_L}$$

$$\begin{array}{l} \text{Q:} \ \frac{R_3R_L\sqrt{\frac{1}{L_3(C_3+2C_4+C_L)}}(C_3+2C_4+C_L)}{R_3+R_L} \\ \text{wo:} \ \sqrt{\frac{1}{L_3(C_3+2C_4+C_L)}} \\ \text{bandwidth:} \ \frac{R_3+R_L}{R_3R_L(C_3+2C_4+C_L)} \\ \text{K-LP:} \ 0 \\ \text{K-HP:} \ 0 \\ \text{K-BP:} \ \frac{R_3R_L}{R_3+R_L} \\ \text{Qz:} \ 0 \\ \text{Wz:} \ \text{None} \end{array}$$

3.75 BP-75 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_3 L_L R_3 s}{C_3 L_3 L_L R_3 s^2 + 2C_4 L_3 L_L R_3 s^2 + C_L L_3 L_L R_3 s^2 + L_3 L_L s + L_3 R_3 + L_L R_3}$$

Q: 
$$R_3\sqrt{\frac{L_3+L_L}{L_3L_L(C_3+2C_4+C_L)}}$$
  $(C_3+2C_4+C_L)$  wo:  $\sqrt{\frac{L_3+L_L}{L_3L_L(C_3+2C_4+C_L)}}$  bandwidth:  $\frac{1}{R_3(C_3+2C_4+C_L)}$  K-LP: 0 K-HP: 0 K-BP:  $R_3$  Qz: 0 Wz: None

3.76 BP-76 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{1}{C_4 s}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_3 L_L R_3 R_L s}{C_3 L_3 L_L R_3 R_L s^2 + 2 C_4 L_3 L_L R_3 R_L s^2 + C_L L_3 L_L R_3 R_L s^2 + L_3 L_L R_3 s + L_3 L_L R_3 R_L s + L_3 R_3 R_L s + L_4 R_3 R_L s^2 + L_5 R_5 R_L s^2$$

$$\begin{array}{l} \text{Q:} \ \frac{R_3R_L\sqrt{\frac{L_3+L_L}{L_3L_L(C_3+2C_4+C_L)}}}{R_3+R_L}(C_3+2C_4+C_L)} \\ \text{wo:} \ \sqrt{\frac{L_3+L_L}{L_3L_L(C_3+2C_4+C_L)}} \\ \text{bandwidth:} \ \frac{R_3+R_L}{R_3R_L(C_3+2C_4+C_L)} \\ \text{K-LP:} \ 0 \\ \text{K-HP:} \ 0 \\ \text{K-BP:} \ \frac{R_3R_L}{R_3+R_L} \\ \text{Qz:} \ 0 \\ \text{Wz:} \ \text{None} \end{array}$$

3.77 BP-77 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{R_4}{C_4 R_4 s + 1}, \infty, R_L\right)$$

$$H(s) = \frac{L_3 R_3 R_4 R_L s}{C_3 L_3 R_3 R_4 R_L s^2 + 2 C_4 L_3 R_3 R_4 R_L s^2 + L_3 R_3 R_4 s + 2 L_3 R_3 R_L s + L_3 R_4 R_L s + R_3 R_4 R_L}$$

$$\begin{array}{l} \text{Q:} \ \frac{R_3R_4R_L\sqrt{\frac{1}{L_3(C_3+2C_4)}}(C_3+2C_4)}{R_3R_4+2R_3R_L+R_4R_L} \\ \text{wo:} \ \sqrt{\frac{1}{L_3(C_3+2C_4)}} \\ \text{bandwidth:} \ \frac{R_3R_4+2R_3R_L+R_4R_L}{R_3R_4R_L(C_3+2C_4)} \\ \text{K-LP:} \ 0 \\ \text{K-HP:} \ 0 \\ \text{K-BP:} \ \frac{R_3R_4R_L}{R_3R_4+2R_3R_L+R_4R_L} \\ \text{Qz:} \ 0 \\ \text{Wz:} \ \text{None} \end{array}$$

3.78 BP-78 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 R_3 R_4 s}{C_3 L_3 R_3 R_4 s^2 + 2 C_4 L_3 R_3 R_4 s^2 + C_L L_3 R_3 R_4 s^2 + 2 L_3 R_3 s + L_3 R_4 s + R_3 R_4}$$

Q: 
$$\frac{R_3R_4\sqrt{\frac{1}{L_3(C_3+2C_4+C_L)}}(C_3+2C_4+C_L)}{2R_3+R_4}$$
 wo: 
$$\sqrt{\frac{1}{L_3(C_3+2C_4+C_L)}}$$
 bandwidth: 
$$\frac{2R_3+R_4}{R_3R_4(C_3+2C_4+C_L)}$$
 K-LP: 0 K-HP: 0 K-BP: 
$$\frac{R_3R_4}{2R_3+R_4}$$
 Qz: 0 Wz: None

$$\begin{array}{l} \text{Q:} \ \frac{R_3R_4R_L\sqrt{\frac{1}{L_3(C_3+2C_4+C_L)}}(C_3+2C_4+C_L)}{R_3R_4+2R_3R_L+R_4R_L} \\ \text{wo:} \ \sqrt{\frac{1}{L_3(C_3+2C_4+C_L)}} \\ \text{bandwidth:} \ \frac{R_3R_4+2R_3R_L+R_4R_L}{R_3R_4R_L(C_3+2C_4+C_L)} \\ \text{K-LP:} \ 0 \\ \text{K-HP:} \ 0 \\ \text{K-BP:} \ \frac{R_3R_4R_L}{R_3R_4+2R_3R_L+R_4R_L} \\ \text{Qz:} \ 0 \\ \text{Wz:} \ \text{None} \end{array}$$

3.80 BP-80 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_3 L_L R_3 R_4 s}{C_3 L_3 L_L R_3 R_4 s^2 + 2 C_4 L_3 L_L R_3 R_4 s^2 + C_L L_3 L_L R_3 R_4 s^2 + 2 L_3 L_L R_3 s + L_3 L_L R_4 s + L_3 R_3 R_4 + L_L R_3 R_4}$$

$$\begin{array}{l} \text{Q:} & \frac{R_3R_4\sqrt{\frac{L_3+L_L}{L_3L_L(C_3+2C_4+C_L)}}(C_3+2C_4+C_L)}{2R_3+R_4}\\ \text{Wo:} & \sqrt{\frac{L_3+L_L}{L_3L_L(C_3+2C_4+C_L)}}\\ \text{bandwidth:} & \frac{2R_3+R_4}{R_3R_4(C_3+2C_4+C_L)}\\ \text{K-LP:} & 0\\ \text{K-HP:} & 0\\ \text{K-BP:} & \frac{R_3R_4}{2R_3+R_4}\\ \text{Qz:} & 0\\ \end{array}$$

$$\begin{aligned} \textbf{3.81} \quad \mathbf{BP\text{-}81} \ \ Z(s) &= \left( \infty, \ \infty, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}} \right) \\ H(s) &= \frac{L_3 L_L R_3 R_4 R_L s}{C_3 L_3 L_L R_3 R_4 R_L s^2 + 2 C_4 L_3 L_L R_3 R_4 R_L s^2 + L_3 L_L R_3 R_4 s + 2 L_3 L_L R_3 R_L s + L_3 L_L R_4 R_L s + L_3 R_3 R_4 R_L + L_L R_3 R_4 R_L s} \end{aligned}$$

$$\begin{array}{l} \text{Q:} \ \frac{R_3R_4R_L\sqrt{\frac{L_3+L_L}{L_3L_L(C_3+2C_4+C_L)}}(C_3+2C_4+C_L)}{R_3R_4+2R_3R_L+R_4R_L} \\ \text{Wo:} \ \sqrt{\frac{L_3+L_L}{L_3L_L(C_3+2C_4+C_L)}} \\ \text{bandwidth:} \ \frac{R_3R_4+2R_3R_L+R_4R_L}{R_3R_4R_L(C_3+2C_4+C_L)} \\ \text{K-LP:} \ 0 \\ \text{K-HP:} \ 0 \\ \text{K-BP:} \ \frac{R_3R_4R_L}{R_3R_4+2R_3R_L+R_4R_L} \\ \text{Qz:} \ 0 \\ \text{Wz:} \ \text{None} \end{array}$$

3.82 BP-82 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, R_L\right)$$

$$H(s) = \frac{L_3 L_4 R_3 R_L s}{C_3 L_3 L_4 R_3 R_L s^2 + 2 C_4 L_3 L_4 R_3 R_L s^2 + L_3 L_4 R_3 s + L_3 L_4 R_L s + 2 L_3 R_3 R_L + L_4 R_3 R_L}$$

Q: 
$$\frac{R_3R_L\sqrt{\frac{2L_3+L_4}{L_3L_4(C_3+2C_4)}}(C_3+2C_4)}{R_3+R_L}$$
 wo: 
$$\sqrt{\frac{2L_3+L_4}{L_3L_4(C_3+2C_4)}}$$
 bandwidth: 
$$\frac{R_3+R_L}{R_3R_L(C_3+2C_4)}$$
 K-LP: 0 K-HP: 0 K-BP: 
$$\frac{R_3R_L}{R_3+R_L}$$
 Qz: 0 Wz: None

3.83 BP-83 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 L_4 R_3 s}{C_3 L_3 L_4 R_3 s^2 + 2 C_4 L_3 L_4 R_3 s^2 + C_L L_3 L_4 R_3 s^2 + L_3 L_4 s + 2 L_3 R_3 + L_4 R_3}$$

Q: 
$$R_3\sqrt{\frac{2L_3+L_4}{L_3L_4(C_3+2C_4+C_L)}}$$
  $(C_3+2C_4+C_L)$  wo:  $\sqrt{\frac{2L_3+L_4}{L_3L_4(C_3+2C_4+C_L)}}$  bandwidth:  $\frac{1}{R_3(C_3+2C_4+C_L)}$  K-LP: 0 K-HP: 0 K-BP:  $R_3$  Qz: 0 Wz: None

3.84 BP-84 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{L_3 L_4 R_3 R_L s}{C_3 L_3 L_4 R_3 R_L s^2 + 2 C_4 L_3 L_4 R_3 R_L s^2 + C_L L_3 L_4 R_3 R_L s^2 + L_3 L_4 R_3 s + L_3 L_4 R_L s + 2 L_3 R_3 R_L + L_4 R_3 R_L s^2 + C_4 L_3 L_4 R_3 R_L s^2 + L_3 L_4 R_3 R_L s^2 + L_3 L_4 R_3 R_L s^2 + L_4 R_3 R_L s^2 + L_4 R_3 R_L s^2 + L_5 L_5 R_3 R_L s^2 + L_5 R_5 R_L s^2 + L_5 R_L s^2 + L_5 R_5 R_L s^2 + L_5 R$$

$$\begin{array}{l} \text{Q:} & \frac{R_3R_L\sqrt{\frac{2L_3+L_4}{L_3L_4(C_3+2C_4+C_L)}}(C_3+2C_4+C_L)}{R_3+R_L}\\ \text{wo:} & \sqrt{\frac{2L_3+L_4}{L_3L_4(C_3+2C_4+C_L)}}\\ \text{bandwidth:} & \frac{R_3+R_L}{R_3R_L(C_3+2C_4+C_L)}\\ \text{K-LP:} & 0\\ \text{K-HP:} & 0\\ \text{K-BP:} & \frac{R_3R_L}{R_3+R_L}\\ \text{Qz:} & 0\\ \text{Wz:} & \text{None} \end{array}$$

3.85 BP-85 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_3 L_4 L_L R_3 s}{C_3 L_3 L_4 L_L R_3 s^2 + 2 C_4 L_3 L_4 L_L R_3 s^2 + C_L L_3 L_4 L_L R_3 s^2 + L_3 L_4 L_L s + L_3 L_4 R_3 + 2 L_3 L_L R_3 + L_4 L_L R_3}$$

$$\begin{array}{l} \text{Q: } R_3\sqrt{\frac{L_3L_4+2L_3L_L+L_4L_L}{L_3L_4L_L(C_3+2C_4+C_L)}} \left(C_3+2C_4+C_L\right) \\ \text{wo: } \sqrt{\frac{L_3L_4+2L_3L_L+L_4L_L}{L_3L_4L_L(C_3+2C_4+C_L)}} \\ \text{bandwidth: } \frac{1}{R_3(C_3+2C_4+C_L)} \\ \text{K-LP: 0} \\ \text{K-HP: 0} \\ \text{K-BP: } R_3 \\ \text{Qz: 0} \\ \text{Wz: None} \end{array}$$

$$\textbf{3.86} \quad \textbf{BP-86} \ \ Z(s) = \left( \infty, \ \infty, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}} \right)$$
 
$$H(s) = \frac{L_3 L_4 L_L R_3 R_L s}{C_3 L_3 L_4 L_L R_3 R_L s^2 + 2 C_4 L_3 L_4 L_L R_3 R_L s^2 + C_L L_3 L_4 L_L R_3 R_L s^2 + L_3 L_4 L_L R_3 s + L_3 L_4 L_L R_3 R_L + L_4 L_L R_3 R_L }$$

$$\begin{array}{l} \text{Q:} \ \frac{R_3R_L\sqrt{\frac{L_3L_4+2L_3L_L+L_4L_L}{L_3L_4L_L(C_3+2C_4+C_L)}}(C_3+2C_4+C_L)}{R_3+R_L} \\ \text{wo:} \ \sqrt{\frac{L_3L_4+2L_3L_L+L_4L_L}{L_3L_4L_C(C_3+2C_4+C_L)}} \\ \text{bandwidth:} \ \frac{R_3+R_L}{R_3R_L(C_3+2C_4+C_L)} \\ \text{K-LP:} \ 0 \\ \text{K-HP:} \ 0 \\ \text{K-BP:} \ \frac{R_3R_L}{R_3+R_L} \\ \text{Qz:} \ 0 \\ \text{Wz:} \ \text{None} \end{array}$$

3.87 BP-87 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, R_L\right)$$

$$H(s) = \frac{L_3 L_4 R_3 R_4 R_L s}{C_3 L_3 L_4 R_3 R_4 R_L s^2 + 2 C_4 L_3 L_4 R_3 R_4 R_L s^2 + L_3 L_4 R_3 R_4 s + 2 L_3 L_4 R_3 R_L s + L_3 L_4 R_4 R_L s + 2 L_3 R_3 R_4 R_L + L_4 R_3 R_4 R_L}$$

$$\begin{array}{l} \text{Q:} \ \frac{R_3R_4R_L\sqrt{\frac{2L_3+L_4}{L_3L_4(C_3+2C_4)}}(C_3+2C_4)}{R_3R_4+2R_3R_L+R_4R_L} \\ \text{wo:} \ \sqrt{\frac{2L_3+L_4}{L_3L_4(C_3+2C_4)}} \\ \text{bandwidth:} \ \frac{R_3R_4+2R_3R_L+R_4R_L}{R_3R_4R_L(C_3+2C_4)} \\ \text{K-LP:} \ 0 \\ \text{K-HP:} \ 0 \\ \text{K-BP:} \ \frac{R_3R_4R_L}{R_3R_4+2R_3R_L+R_4R_L} \\ \text{Qz:} \ 0 \\ \text{Wz:} \ \text{None} \end{array}$$

3.88 BP-88 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 L_4 R_3 R_4 s}{C_3 L_3 L_4 R_3 R_4 s^2 + 2 C_4 L_3 L_4 R_3 R_4 s^2 + C_L L_3 L_4 R_3 R_4 s^2 + 2 L_3 L_4 R_3 s + L_3 L_4 R_4 s + 2 L_3 R_3 R_4 + L_4 R_3 R_4 s^2}$$

$$\begin{array}{c} \text{Q:} \ \frac{R_3R_4\sqrt{\frac{2L_3+L_4}{L_3L_4(C_3+2C_4+C_L)}}(C_3+2C_4+C_L)}{2R_3+R_4}\\ \text{Wo:} \ \sqrt{\frac{2L_3+L_4}{L_3L_4(C_3+2C_4+C_L)}}\\ \text{bandwidth:} \ \frac{2R_3+R_4}{R_3R_4(C_3+2C_4+C_L)}\\ \text{K-LP:} \ 0\\ \text{K-HP:} \ 0\\ \text{K-BP:} \ \frac{R_3R_4}{2R_3+R_4}\\ \text{Qz:} \ 0\\ \text{Wz:} \ \text{None} \end{array}$$

$$\textbf{3.89} \quad \textbf{BP-89} \ Z(s) = \left( \infty, \ \infty, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$$
 
$$H(s) = \frac{L_3 L_4 R_3 R_4 R_L s}{C_3 L_3 L_4 R_3 R_4 R_L s^2 + 2 C_4 L_3 L_4 R_3 R_4 R_L s^2 + C_L L_3 L_4 R_3 R_4 R_L s^2 + L_3 L_4 R_3 R_4 s + 2 L_3 L_4 R_3 R_L s + L_3 L_4 R_4 R_L s + 2 L_3 R_3 R_4 R_L + L_4 R_3 R_4 R_L s}$$

$$\begin{array}{l} \text{Q:} & \frac{R_3R_4R_L\sqrt{\frac{2L_3+L_4}{L_3L_4(C_3+2C_4+C_L)}}(C_3+2C_4+C_L)}{R_3R_4+2R_3R_L+R_4R_L} \\ \text{Wo:} & \sqrt{\frac{2L_3+L_4}{L_3L_4(C_3+2C_4+C_L)}} \\ \text{bandwidth:} & \frac{R_3R_4+2R_3R_L+R_4R_L}{R_3R_4R_L(C_3+2C_4+C_L)} \\ \text{K-LP:} & 0 \\ \text{K-HP:} & 0 \\ \text{K-BP:} & \frac{R_3R_4R_L}{R_3R_4+2R_3R_L+R_4R_L} \\ \text{Qz:} & 0 \\ \text{Wz:} & \text{None} \end{array}$$

$$\textbf{3.90} \quad \textbf{BP-90} \ \ Z(s) = \left( \infty, \ \infty, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$$
 
$$H(s) = \frac{L_3 L_4 L_L R_3 R_4 s}{C_3 L_3 L_4 L_L R_3 R_4 s^2 + 2 C_4 L_3 L_4 L_L R_3 R_4 s^2 + 2 L_3 L_4 L_L R_3 s + L_3 L_4 L_L R_3 s + L_3 L_4 L_R R_3 R_4 + 2 L_3 L_L R_3 R_4 + L_4 L_L R_3 R_4 }$$

$$\begin{array}{l} \text{Q:} \ \frac{R_3R_4\sqrt{\frac{L_3L_4+2L_3L_L+L_4L_L}{L_3L_4L_C(C_3+2C_4+C_L)}}(C_3+2C_4+C_L)}{2R_3+R_4}\\ \text{wo:} \ \sqrt{\frac{L_3L_4+2L_3L_L+L_4L_L}{L_3L_4L_C(C_3+2C_4+C_L)}}\\ \text{bandwidth:} \ \frac{2R_3+R_4}{R_3R_4(C_3+2C_4+C_L)}\\ \text{K-LP:} \ 0\\ \text{K-HP:} \ 0\\ \text{K-BP:} \ \frac{R_3R_4}{2R_3+R_4}\\ \text{Qz:} \ 0\\ \text{Wz:} \ \text{None} \end{array}$$

**3.91** BP-91 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

 $H(s) = \frac{L_3L_4L_LR_3R_4R_Ls}{C_3L_3L_4L_LR_3R_4R_Ls^2 + 2C_4L_3L_4L_R3R_4R_Ls^2 + C_LL_3L_4L_R3R_4R_Ls^2 + L_3L_4L_R3R_4s + 2L_3L_4L_R3R_4s + L_3L_4L_R3R_4s + L_3L_4L_R3R_4s$ 

#### Parameters:

$$\begin{array}{l} \text{Q:} & \frac{R_3R_4R_L\sqrt{\frac{L_3L_4+2L_3L_L+L_4L_L}{L_3L_4L_L(C_3+2C_4+C_L)}}(C_3+2C_4+C_L)}{R_3R_4+2R_3R_L+R_4R_L} \\ \text{wo:} & \sqrt{\frac{L_3L_4+2L_3L_L+L_4L_L}{L_3L_4L_C(C_3+2C_4+C_L)}} \\ \text{bandwidth:} & \frac{R_3R_4+2R_3R_L+R_4R_L}{R_3R_4R_L(C_3+2C_4+C_L)} \\ \text{K-LP:} & 0 \\ \text{K-HP:} & 0 \\ \text{K-BP:} & \frac{R_3R_4R_L}{R_3R_4+2R_3R_L+R_4R_L} \\ \text{Qz:} & 0 \\ \text{Wz:} & \text{None} \end{array}$$

# $\operatorname{LP}$

#### BS5

**5.1** BS-1 
$$Z(s) = \left(\infty, \infty, R_3, R_4, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 R_4 \left( C_L L_L s^2 + 1 \right)}{2 C_L L_L R_3 s^2 + C_L L_L R_4 s^2 + C_L R_3 R_4 s + 2 R_3 + R_4}$$

Q: 
$$\frac{L_L \sqrt{\frac{1}{C_L L_L}} (2R_3 + R_4)}{R_3 R_4}$$
  
wo:  $\sqrt{\frac{1}{C_L L_L}}$   
bandwidth:  $\frac{R_3 R_4}{L_L (2R_3 + R_4)}$ 

$$\begin{array}{l} \text{K-LP: } \frac{R_3R_4}{2R_3+R_4} \\ \text{K-HP: } \frac{R_3R_4}{2R_3+R_4} \\ \text{K-BP: } 0 \\ \text{Qz: None} \\ \text{Wz: } \sqrt{\frac{1}{C_LL_L}} \end{array}$$

5.2 BS-2 
$$Z(s) = \left(\infty, \ \infty, \ R_3, \ R_4, \ \infty, \ \frac{R_L\left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{R_3 R_4 R_L \left(C_L L_L s^2 + 1\right)}{C_L L_L R_3 R_4 s^2 + 2C_L L_L R_3 R_L s^2 + C_L L_L R_4 R_L s^2 + C_L R_3 R_4 R_L s + R_3 R_4 + 2R_3 R_L + R_4 R_L}$$

$$\begin{array}{l} \text{Q:} \ \frac{L_L\sqrt{\frac{1}{C_LL_L}}}{R_3R_4+2R_3R_L+R_4R_L)} \\ \text{wo:} \ \sqrt{\frac{1}{C_LL_L}} \\ \text{bandwidth:} \ \frac{R_3R_4R_L}{L_L(R_3R_4+2R_3R_L+R_4R_L)} \\ \text{K-LP:} \ \frac{R_3R_4R_L}{R_3R_4+2R_3R_L+R_4R_L} \\ \text{K-HP:} \ \frac{R_3R_4R_L}{R_3R_4+2R_3R_L+R_4R_L} \\ \text{K-BP:} \ 0 \\ \text{Qz:} \ \text{None} \\ \text{Wz:} \ \sqrt{\frac{1}{C_LL_L}} \end{array}$$

**5.3** BS-3 
$$Z(s) = \left(\infty, \infty, R_3, L_4 s + \frac{1}{C_4 s}, \infty, R_L\right)$$

$$H(s) = \frac{R_3 R_L \left( C_4 L_4 s^2 + 1 \right)}{C_4 L_4 R_3 s^2 + C_4 L_4 R_L s^2 + 2C_4 R_3 R_L s + R_3 + R_L}$$

Q: 
$$\frac{L_4\sqrt{\frac{1}{C_4L_4}}(R_3+R_L)}{2R_3}R_L$$
  
wo:  $\sqrt{\frac{1}{C_4L_4}}$ 

bandwidth: 
$$\frac{2R_3R_L}{L_4(R_3+R_L)}$$
  
K-LP:  $\frac{R_3R_L}{R_3+R_L}$   
K-HP:  $\frac{R_3R_L}{R_3+R_L}$   
K-BP: 0  
Qz: None  
Wz:  $\sqrt{\frac{1}{C_4L_4}}$ 

**5.4** BS-4 
$$Z(s) = \left(\infty, \infty, R_3, \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}, \infty, R_L\right)$$

$$H(s) = \frac{R_3 R_4 R_L \left( C_4 L_4 s^2 + 1 \right)}{C_4 L_4 R_3 R_4 s^2 + 2 C_4 L_4 R_3 R_L s^2 + C_4 L_4 R_4 R_L s^2 + 2 C_4 R_3 R_4 R_L s + R_3 R_4 + 2 R_3 R_L + R_4 R_L s^2}$$

$$\begin{array}{l} \text{Q:} \ \frac{L_4\sqrt{\frac{1}{C_4L_4}}(R_3R_4 + 2R_3R_L + R_4R_L)}{2R_3R_4R_L} \\ \text{wo:} \ \sqrt{\frac{1}{C_4L_4}} \\ \text{bandwidth:} \ \frac{2R_3R_4R_L}{L_4(R_3R_4 + 2R_3R_L + R_4R_L)} \\ \text{K-LP:} \ \frac{R_3R_4R_L}{R_3R_4 + 2R_3R_L + R_4R_L} \\ \text{K-HP:} \ \frac{R_3R_4R_L}{R_3R_4 + 2R_3R_L + R_4R_L} \\ \text{K-BP:} \ 0 \\ \text{Qz:} \ \text{None} \\ \text{Wz:} \ \sqrt{\frac{1}{C_4L_4}} \end{array}$$

**5.5** BS-5 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, R_4, \infty, R_L\right)$$

$$H(s) = \frac{R_4 R_L \left( C_3 L_3 s^2 + 1 \right)}{C_3 L_3 R_4 s^2 + 2C_3 L_3 R_L s^2 + C_3 R_4 R_L s + R_4 + 2R_L}$$

Q: 
$$\frac{L_3\sqrt{\frac{1}{C_3L_3}}(R_4+2R_L)}{R_4R_L}$$

wo: 
$$\sqrt{\frac{1}{C_3L_3}}$$
 bandwidth:  $\frac{R_4R_L}{L_3(R_4+2R_L)}$  K-LP:  $\frac{R_4R_L}{R_4+2R_L}$  K-HP:  $\frac{R_4R_L}{R_4+2R_L}$  K-BP: 0 Qz: None Wz:  $\sqrt{\frac{1}{C_3L_3}}$ 

5.6 BS-6 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, R_4, \infty, R_L\right)$$

$$H(s) = \frac{R_3R_4R_L\left(C_3L_3s^2 + 1\right)}{C_3L_3R_3R_4s^2 + 2C_3L_3R_3R_Ls^2 + C_3L_3R_4R_Ls^2 + C_3R_3R_4R_Ls + R_3R_4 + 2R_3R_L + R_4R_Ls^2}$$

$$\begin{array}{l} \text{Q:} \ \frac{L_3\sqrt{\frac{1}{C_3L_3}}(R_3R_4 + 2R_3R_L + R_4R_L)}{R_3R_4R_L} \\ \text{wo:} \ \sqrt{\frac{1}{C_3L_3}} \\ \text{bandwidth:} \ \frac{R_3R_4R_L}{L_3(R_3R_4 + 2R_3R_L + R_4R_L)} \\ \text{K-LP:} \ \frac{R_3R_4R_L}{R_3R_4 + 2R_3R_L + R_4R_L} \\ \text{K-HP:} \ \frac{R_3R_4R_L}{R_3R_4 + 2R_3R_L + R_4R_L} \\ \text{K-BP:} \ 0 \\ \text{Qz:} \ \text{None} \\ \text{Wz:} \ \sqrt{\frac{1}{C_3L_3}} \end{array}$$

# 6 GE

**6.1 GE-1** 
$$Z(s) = \left(\infty, \infty, R_3, R_4, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 R_4 \left(C_L L_L s^2 + C_L R_L s + 1\right)}{2C_L L_L R_3 s^2 + C_L L_L R_4 s^2 + C_L R_3 R_4 s + 2C_L R_3 R_L s + C_L R_4 R_L s + 2R_3 + R_4}$$

$$\begin{array}{l} \text{Q:} \ \frac{L_L\sqrt{\frac{1}{C_LL_L}}}(2R_3+R_4)}{R_3R_4+2R_3R_L+R_4R_L} \\ \text{wo:} \ \sqrt{\frac{1}{C_LL_L}} \\ \text{bandwidth:} \ \frac{R_3R_4+2R_3R_L+R_4R_L}{L_L(2R_3+R_4)} \\ \text{K-LP:} \ \frac{R_3R_4}{2R_3+R_4} \\ \text{K-HP:} \ \frac{R_3R_4}{2R_3+R_4} \\ \text{K-BP:} \ \frac{R_3R_4+2R_3R_L+R_4R_L}{R_3R_4+2R_3R_L+R_4R_L} \\ \text{Qz:} \ \frac{L_L\sqrt{\frac{1}{C_LL_L}}}{R_L} \\ \text{Wz:} \ \sqrt{\frac{1}{C_LL_L}} \end{array}$$

**6.2** GE-2 
$$Z(s) = \left(\infty, \infty, R_3, R_4, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$Q \colon \frac{C_L \sqrt{\frac{1}{C_L L_L}} (R_3 R_4 + 2 R_3 R_L + R_4 R_L)}{2 R_3 + R_4}$$
 wo:  $\sqrt{\frac{1}{C_L L_L}}$  bandwidth:  $\frac{2 R_3 + R_4}{C_L (R_3 R_4 + 2 R_3 R_L + R_4 R_L)}$  K-LP:  $\frac{R_3 R_4 R_L}{R_3 R_4 + 2 R_3 R_L + R_4 R_L}$  K-HP:  $\frac{R_3 R_4 R_L}{R_3 R_4 + 2 R_3 R_L + R_4 R_L}$  K-BP:  $\frac{R_3 R_4}{2 R_3 + R_4}$  Qz:  $C_L R_L \sqrt{\frac{1}{C_L L_L}}$  Wz:  $\sqrt{\frac{1}{C_L L_L}}$ 

**6.3** GE-3 
$$Z(s) = \left(\infty, \infty, R_3, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, R_L\right)$$

$$H(s) = \frac{R_3 R_L \left( C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{C_4 L_4 R_3 s^2 + C_4 L_4 R_L s^2 + C_4 R_3 R_4 s + 2C_4 R_3 R_L s + C_4 R_4 R_L s + R_3 + R_L}$$

$$\begin{array}{l} \text{Q: } \frac{L_4\sqrt{\frac{1}{C_4L_4}}(R_3 + R_L)}{R_3R_4 + 2R_3R_L + R_4R_L} \\ \text{wo: } \sqrt{\frac{1}{C_4L_4}} \\ \text{bandwidth: } \frac{R_3R_4 + 2R_3R_L + R_4R_L}{L_4(R_3 + R_L)} \\ \text{K-LP: } \frac{R_3R_L}{R_3 + R_L} \\ \text{K-HP: } \frac{R_3R_L}{R_3 + R_L} \\ \text{K-BP: } \frac{R_3R_4R_L}{R_3R_4 + 2R_3R_L + R_4R_L} \\ \text{Qz: } \frac{L_4\sqrt{\frac{1}{C_4L_4}}}{R_4} \\ \text{Wz: } \sqrt{\frac{1}{C_4L_4}} \end{array}$$

**6.4** GE-4 
$$Z(s) = \left(\infty, \infty, R_3, \frac{L_4s}{C_4L_4s^2+1} + R_4, \infty, R_L\right)$$

$$H(s) = \frac{R_3 R_L \left( C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{C_4 L_4 R_3 R_4 s^2 + 2 C_4 L_4 R_3 R_L s^2 + C_4 L_4 R_4 R_L s^2 + L_4 R_3 s + L_4 R_L s + R_3 R_4 + 2 R_3 R_L + R_4 R_L s^2 +$$

$$\begin{aligned} & \text{Q:} \ \frac{C_4\sqrt{\frac{1}{C_4L_4}}(R_3R_4 + 2R_3R_L + R_4R_L)}{R_3 + R_L} \\ & \text{wo:} \ \sqrt{\frac{1}{C_4L_4}} \\ & \text{bandwidth:} \ \frac{R_3 + R_L}{C_4(R_3R_4 + 2R_3R_L + R_4R_L)} \\ & \text{K-LP:} \ \frac{R_3R_4R_L}{R_3R_4 + 2R_3R_L + R_4R_L} \\ & \text{K-HP:} \ \frac{R_3R_4}{R_3R_4 + 2R_3R_L + R_4R_L} \\ & \text{K-BP:} \ \frac{R_3R_L}{R_3 + R_L} \\ & \text{Qz:} \ C_4R_4\sqrt{\frac{1}{C_4L_4}} \end{aligned}$$

Wz: 
$$\sqrt{\frac{1}{C_4L_4}}$$

**6.5** GE-5 
$$Z(s) = \left(\infty, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ R_4, \ \infty, \ R_L\right)$$

$$H(s) = \frac{R_4 R_L \left( C_3 L_3 s^2 + C_3 R_3 s + 1 \right)}{C_3 L_3 R_4 s^2 + 2 C_3 L_3 R_L s^2 + C_3 R_3 R_4 s + 2 C_3 R_3 R_L s + C_3 R_4 R_L s + R_4 + 2 R_L}$$

$$\begin{array}{l} \text{Q: } \frac{L_3\sqrt{\frac{1}{C_3L_3}}(R_4+2R_L)}{R_3R_4+2R_3R_L+R_4R_L} \\ \text{wo: } \sqrt{\frac{1}{C_3L_3}} \\ \text{bandwidth: } \frac{R_3R_4+2R_3R_L+R_4R_L}{L_3(R_4+2R_L)} \\ \text{K-LP: } \frac{R_4R_L}{R_4+2R_L} \\ \text{K-HP: } \frac{R_4R_L}{R_4+2R_L} \\ \text{K-BP: } \frac{R_3R_4+2R_L}{R_3R_4+2R_3R_L+R_4R_L} \\ \text{Qz: } \frac{L_3\sqrt{\frac{1}{C_3L_3}}}{R_3} \\ \text{Wz: } \sqrt{\frac{1}{C_3L_3}} \end{array}$$

**6.6 GE-6** 
$$Z(s) = \left(\infty, \infty, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, R_4, \infty, R_L\right)$$

$$H(s) = \frac{R_4 R_L \left( C_3 L_3 R_3 s^2 + L_3 s + R_3 \right)}{C_3 L_3 R_3 R_4 s^2 + 2 C_3 L_3 R_3 R_L s^2 + C_3 L_3 R_4 R_L s^2 + L_3 R_4 s + 2 L_3 R_L s + R_3 R_4 + 2 R_3 R_L + R_4 R_L}$$

$$\begin{aligned} &\text{Q:} \ \frac{C_3\sqrt{\frac{1}{C_3L_3}}(R_3R_4 + 2R_3R_L + R_4R_L)}{R_4 + 2R_L} \\ &\text{wo:} \ \sqrt{\frac{1}{C_3L_3}} \\ &\text{bandwidth:} \ \frac{R_4 + 2R_L}{C_3(R_3R_4 + 2R_3R_L + R_4R_L)} \\ &\text{K-LP:} \ \frac{R_3R_4R_L}{R_3R_4 + 2R_3R_L + R_4R_L} \\ &\text{K-HP:} \ \frac{R_3R_4R_L}{R_3R_4 + 2R_3R_L + R_4R_L} \end{aligned}$$

K-BP: 
$$\frac{R_4 R_L}{R_4 + 2R_L}$$
  
Qz:  $C_3 R_3 \sqrt{\frac{1}{C_3 L_3}}$   
Wz:  $\sqrt{\frac{1}{C_3 L_3}}$ 

# AP

# INVALID-NUMER

8.1 INVALID-NUMER-1 
$$Z(s) = \left(\infty, \infty, R_3, \frac{1}{C_4 s}, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 (C_L R_L s + 1)}{2C_4 C_L R_3 R_L s^2 + 2C_4 R_3 s + C_L R_3 s + C_L R_L s + 1}$$

# Parameters:

Q: 
$$\frac{\sqrt{2}C_{4}C_{L}R_{3}R_{L}\sqrt{\frac{1}{C_{4}C_{L}R_{3}R_{L}}}}{\frac{2C_{4}R_{3}+C_{L}R_{3}+C_{L}R_{L}}{2}}$$
wo: 
$$\frac{\sqrt{2}\sqrt{\frac{1}{C_{4}C_{L}R_{3}R_{L}}}}{\frac{2}{2}}$$
bandwidth: 
$$\frac{2C_{4}R_{3}+C_{L}R_{3}+C_{L}R_{L}}{2C_{4}C_{L}R_{3}R_{L}}$$

K-LP:  $R_3$ K-HP: 0

K-BP:  $\frac{C_L R_3 R_L}{2C_4 R_3 + C_L R_3 + C_L R_L}$  Qz: 0

Wz: None

8.2 INVALID-NUMER-2  $Z(s) = \left(\infty, \infty, R_3, \frac{R_4}{C_4 R_4 s + 1}, \infty, R_L + \frac{1}{C_L s}\right)$ 

$$H(s) = \frac{R_3 R_4 \left( C_L R_L s + 1 \right)}{2 C_4 C_L R_3 R_4 R_L s^2 + 2 C_4 R_3 R_4 s + C_L R_3 R_4 s + 2 C_L R_3 R_L s + C_L R_4 R_L s + 2 R_3 + R_4}$$

$$\begin{array}{l} \text{Q: } \frac{\sqrt{2}C_4C_LR_3R_4R_L\sqrt{\frac{2R_3+R_4}{C_4C_LR_3R_4R_L}}}{2C_4R_3R_4+C_LR_3R_4+2C_LR_3R_L+C_LR_4R_L} \\ \text{wo: } \sqrt{\frac{R_3+\frac{R_4}{2}}{C_4C_LR_3R_4R_L}} \\ \text{bandwidth: } \frac{\sqrt{2}\sqrt{\frac{R_3+\frac{R_4}{2}}{C_4C_LR_3R_4R_L}}(2C_4R_3R_4+C_LR_3R_4+2C_LR_3R_L+C_LR_4R_L)}{2C_4C_LR_3R_4R_L\sqrt{\frac{2R_3+R_4}{C_4C_LR_3R_4R_L}}} \\ \text{K-LP: } \frac{R_3R_4}{2R_3+R_4} \\ \text{K-HP: 0} \\ \text{K-BP: } \frac{C_LR_3R_4R_L}{2C_4R_3R_4+C_LR_3R_L+C_LR_4R_L} \\ \text{Qz: 0} \end{array}$$

Wz: None

8.3 INVALID-NUMER-3  $Z(s) = \left(\infty, \infty, R_3, R_4 + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s}\right)$ 

$$H(s) = \frac{R_3 (C_4 R_4 s + 1)}{C_4 C_L R_3 R_4 s^2 + 2C_4 R_3 s + C_4 R_4 s + C_L R_3 s + 1}$$

Q: 
$$\frac{C_4C_LR_3R_4\sqrt{\frac{1}{C_4C_LR_3R_4}}}{2C_4R_3+C_4R_4+C_LR_3}$$
 wo: 
$$\sqrt{\frac{1}{C_4C_LR_3R_4}}$$
 bandwidth: 
$$\frac{2C_4R_3+C_4R_4+C_LR_3}{C_4C_LR_3R_4}$$
 K-LP:  $R_3$  K-HP: 0 K-BP: 
$$\frac{C_4R_3R_4}{2C_4R_3+C_4R_4+C_LR_3}$$
 Qz: 0 Wz: None

8.4 INVALID-NUMER-4 
$$Z(s) = \left(\infty, \infty, R_3, R_4 + \frac{1}{C_4 s}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$
 
$$H(s) = \frac{R_3 R_L \left(C_4 R_4 s + 1\right)}{C_4 C_L R_3 R_4 R_L s^2 + C_4 R_3 R_4 s + 2C_4 R_3 R_L s + C_4 R_4 R_L s + C_L R_3 R_L s + R_3 + R_L}$$

$$\begin{array}{l} \text{Q:} \ \frac{C_4C_LR_3R_4R_L\sqrt{\frac{R_3+R_L}{C_4C_LR_3R_4R_L}}}{C_4R_3R_4+2C_4R_3R_L+C_4R_4R_L+C_LR_3R_L} \\ \text{wo:} \ \sqrt{\frac{R_3+R_L}{C_4C_LR_3R_4R_L}} \\ \text{bandwidth:} \ \frac{C_4R_3R_4+2C_4R_3R_L+C_4R_4R_L+C_LR_3R_L}{C_4C_LR_3R_4R_L} \\ \text{K-LP:} \ \frac{R_3R_L}{R_3+R_L} \\ \text{V. III.} \end{array}$$

K-BP:  $\frac{C_4R_3R_4R_L}{C_4R_3R_4+2C_4R_3R_L+C_4R_4R_L+C_LR_3R_L}$  Qz: 0

Wz: None

8.5 INVALID-NUMER-5 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, R_4, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_4 \left( C_L R_L s + 1 \right)}{C_3 C_L R_4 R_L s^2 + C_3 R_4 s + C_L R_4 s + 2 C_L R_L s + 2}$$

# Parameters:

Q: 
$$\frac{\sqrt{2}C_{3}C_{L}R_{4}R_{L}\sqrt{\frac{1}{C_{3}C_{L}R_{4}R_{L}}}}{C_{3}R_{4}+C_{L}R_{4}+2C_{L}R_{L}}$$
wo: 
$$\sqrt{2}\sqrt{\frac{1}{C_{3}C_{L}R_{4}R_{L}}}$$
bandwidth: 
$$\frac{C_{3}R_{4}+C_{L}R_{4}+2C_{L}R_{L}}{C_{3}C_{L}R_{4}R_{L}}$$

 $\begin{array}{c} & C_3C_LR_4R_1 \\ \text{K-LP: } \frac{R_4}{2} \\ \text{K-HP: 0} \\ \text{K-BP: } \frac{C_LR_4R_L}{C_3R_4 + C_LR_4 + 2C_LR_L} \\ \text{Qz: 0} \end{array}$ 

Wz: None

**8.6** INVALID-NUMER-6 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_4 \left( C_L R_L s + 1 \right)}{C_3 C_L R_4 R_L s^2 + C_3 R_4 s + 2 C_4 C_L R_4 R_L s^2 + 2 C_4 R_4 s + C_L R_4 s + 2 C_L R_L s + 2}$$

Q: 
$$\frac{\sqrt{2}C_LR_4R_L\sqrt{\frac{1}{C_LR_4R_L(C_3+2C_4)}}(C_3+2C_4)}{C_3R_4+2C_4R_4+C_LR_4+2C_LR_L}$$
 wo: 
$$\sqrt{2}\sqrt{\frac{1}{C_LR_4R_L(C_3+2C_4)}}$$
 bandwidth: 
$$\frac{C_3R_4+2C_4R_4+C_LR_4+2C_LR_L}{C_LR_4R_L(C_3+2C_4)}$$
 K-LP: 
$$\frac{R_4}{2}$$

K-LP:  $\frac{R_4}{2}$  K-HP: 0

K-BP:  $\frac{C_L R_4 R_L}{C_3 R_4 + 2 C_4 R_4 + C_L R_4 + 2 C_L R_L}$ Qz: 0

Wz: None

# 8.7 INVALID-NUMER-7 $Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, R_L\right)$

$$H(s) = \frac{R_L (C_4 R_4 s + 1)}{C_3 C_4 R_4 R_L s^2 + C_3 R_L s + C_4 R_4 s + 2C_4 R_L s + 1}$$

# Parameters:

$$\begin{aligned} \text{Q:} & \frac{C_3C_4R_4R_L\sqrt{\frac{1}{C_3C_4R_4R_L}}}{C_3R_L+C_4R_4+2C_4R_L} \\ \text{wo:} & \sqrt{\frac{1}{C_3C_4R_4R_L}} \\ \text{bandwidth:} & \frac{C_3R_L+C_4R_4+2C_4R_L}{C_3C_4R_4R_L} \\ \text{K-LP:} & R_L \end{aligned}$$

K-HP: 0

K-BP:  $\frac{C_4 R_4 R_L}{C_3 R_L + C_4 R_4 + 2 C_4 R_L}$ Qz: 0

Wz: None

8.8 INVALID-NUMER-8 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_L (C_4 R_4 s + 1)}{C_3 C_4 R_4 R_L s^2 + C_3 R_L s + C_4 C_L R_4 R_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L R_L s + 1}$$

$$\begin{array}{l} \text{Q:} \ \frac{C_4R_4R_L\sqrt{\frac{1}{C_4R_4R_L(C_3+C_L)}}(C_3+C_L)}{C_3R_L+C_4R_4+2C_4R_L+C_LR_L} \\ \text{wo:} \ \sqrt{\frac{1}{C_4R_4R_L(C_3+C_L)}} \\ \text{bandwidth:} \ \frac{C_3R_L+C_4R_4+2C_4R_L+C_LR_L}{C_4R_4R_L(C_3+C_L)} \\ \text{K-LP:} \ R_L \\ \text{K-HP:} \ 0 \\ \text{K-BP:} \ \frac{C_4R_4R_L}{C_3R_L+C_4R_4+2C_4R_L+C_LR_L} \\ \text{Qz:} \ 0 \\ \text{Wz:} \ \text{None} \end{array}$$

# 8.9 INVALID-NUMER-9 $Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, R_4, \infty, R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{R_3 R_4 \left( C_L R_L s + 1 \right)}{C_3 C_L R_3 R_4 R_L s^2 + C_3 R_3 R_4 s + C_L R_3 R_4 s + 2C_L R_3 R_L s + C_L R_4 R_L s + 2R_3 + R_4}$$

$$\begin{array}{l} \text{Q:} \ \frac{C_3C_LR_3R_4R_L\sqrt{\frac{2R_3+R_4}{C_3C_LR_3R_4R_L}}}{C_3R_1R_4+C_LR_3R_4+2C_LR_3R_L+C_LR_4R_L} \\ \text{wo:} \ \sqrt{\frac{2R_3+R_4}{C_3C_LR_3R_4R_L}} \\ \text{bandwidth:} \ \frac{C_3R_3R_4+C_LR_3R_4+2C_LR_3R_L+C_LR_4R_L}{C_3C_LR_3R_4R_L} \\ \text{K-LP:} \ \frac{R_3R_4}{2R_3+R_4} \\ \text{K-HP:} \ 0 \\ \text{K-BP:} \ \frac{C_LR_3R_4R_L}{C_3R_3R_4+C_LR_3R_4+2C_LR_3R_L+C_LR_4R_L} \\ \text{Qz:} \ 0 \\ \text{Wz:} \ \text{None} \end{array}$$

**8.10** INVALID-NUMER-10 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{1}{C_4 s}, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 (C_L R_L s + 1)}{C_3 C_L R_3 R_L s^2 + C_3 R_3 s + 2 C_4 C_L R_3 R_L s^2 + 2 C_4 R_3 s + C_L R_3 s + C_L R_L s + 1}$$

$$\begin{array}{l} \text{Q:} \ \frac{C_L R_3 R_L \sqrt{\frac{1}{C_L R_3 R_L (C_3 + 2C_4)}} (C_3 + 2C_4)}{C_3 R_3 + 2C_4 R_3 + C_L R_3 + C_L R_L} \\ \text{wo:} \ \sqrt{\frac{1}{C_L R_3 R_L (C_3 + 2C_4)}} \\ \text{bandwidth:} \ \frac{C_3 R_3 + 2C_4 R_3 + C_L R_3 + C_L R_L}{C_L R_3 R_L (C_3 + 2C_4)} \\ \text{K-LP:} \ R_3 \\ \text{K-HP:} \ 0 \\ \text{K-BP:} \ \frac{C_L R_3 R_L}{C_3 R_3 + 2C_4 R_3 + C_L R_3 + C_L R_L} \\ \text{Qz:} \ 0 \\ \text{Wz:} \ \text{None} \end{array}$$

## **8.11** INVALID-NUMER-11 $Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{R_4}{C_4 R_4 s + 1}, \infty, R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{R_3 R_4 \left( C_L R_L s + 1 \right)}{C_3 C_L R_3 R_4 R_L s^2 + C_3 R_3 R_4 s + 2 C_4 C_L R_3 R_4 R_L s^2 + 2 C_4 R_3 R_4 s + C_L R_3 R_4 s + 2 C_L R_3 R_L s + C_L R_4 R_L s + 2 R_3 + R_4}$$

$$\begin{array}{l} \text{Q:} \ \frac{C_L R_3 R_4 R_L \sqrt{\frac{2 R_3 + R_4}{C_L R_3 R_4 R_L (C_3 + 2 C_4)}} (C_3 + 2 C_4)}{C_3 R_3 R_4 + 2 C_4 R_3 R_4 + C_L R_3 R_4 + 2 C_L R_3 R_L + C_L R_4 R_L} \\ \text{wo:} \ \sqrt{\frac{2 R_3 + R_4}{C_L R_3 R_4 R_L (C_3 + 2 C_4)}} \\ \text{bandwidth:} \ \frac{C_3 R_3 R_4 + 2 C_4 R_3 R_4 + C_L R_3 R_4 + 2 C_L R_3 R_L + C_L R_4 R_L}{C_L R_3 R_4 R_L (C_3 + 2 C_4)} \\ \text{K-LP:} \ \frac{R_3 R_4}{2 R_3 + R_4} \\ \text{K-HP:} \ 0 \\ \text{K-BP:} \ \frac{C_L R_3 R_4 R_L}{C_3 R_3 R_4 + 2 C_4 R_3 R_4 + 2 C_L R_3 R_L + C_L R_4 R_L} \\ \text{Qz:} \ 0 \\ \text{Wz:} \ \text{None} \end{array}$$

8.12 INVALID-NUMER-12 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, R_4 + \frac{1}{C_4 s}, \infty, R_L\right)$$

$$H(s) = \frac{R_3 R_L \left( C_4 R_4 s + 1 \right)}{C_3 C_4 R_3 R_4 R_L s^2 + C_3 R_3 R_L s + C_4 R_3 R_4 s + 2 C_4 R_3 R_L s + C_4 R_4 R_L s + R_3 + R_L}$$

$$\begin{array}{l} \text{Q:} \ \frac{C_3C_4R_3R_4R_L\sqrt{\frac{R_3+R_L}{C_3C_4R_3R_4R_L}}}{C_3R_3R_L+C_4R_3R_4+2C_4R_3R_L+C_4R_4R_L} \\ \text{wo:} \ \sqrt{\frac{R_3+R_L}{C_3C_4R_3R_4R_L}} \\ \text{bandwidth:} \ \frac{C_3R_3R_L+C_4R_3R_4+2C_4R_3R_L+C_4R_4R_L}{C_3C_4R_3R_4R_L} \\ \text{K-LP:} \ \frac{R_3R_L}{R_3+R_L} \\ \text{K-HP:} \ 0 \\ \text{K-BP:} \ \frac{C_4R_3R_4R_L}{C_3R_3R_L+C_4R_3R_4+2C_4R_3R_L+C_4R_4R_L} \\ \text{Qz:} \ 0 \\ \text{Wz:} \ \text{None} \end{array}$$

8.13 INVALID-NUMER-13 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, R_4 + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 \left( C_4 R_4 s + 1 \right)}{C_3 C_4 R_3 R_4 s^2 + C_3 R_3 s + C_4 C_L R_3 R_4 s^2 + 2 C_4 R_3 s + C_4 R_4 s + C_L R_3 s + 1}$$

Q: 
$$\frac{C_4R_3R_4\sqrt{\frac{1}{C_4R_3R_4(C_3+C_L)}}(C_3+C_L)}{C_3R_3+2C_4R_3+C_4R_4+C_LR_3}$$
 wo: 
$$\sqrt{\frac{1}{C_4R_3R_4(C_3+C_L)}}$$
 bandwidth: 
$$\frac{C_3R_3+2C_4R_3+C_4R_4+C_LR_3}{C_4R_3R_4(C_3+C_L)}$$
 K-LP:  $R_3$  K-HP: 0 
K-BP: 
$$\frac{C_4R_3R_4}{C_3R_3+2C_4R_3+C_4R_4+C_LR_3}$$
 Qz: 0 
Wz: None

**8.14** INVALID-NUMER-14 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, R_4 + \frac{1}{C_4 s}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$Q \colon \frac{C_4 R_3 R_4 R_L \sqrt{\frac{R_3 + R_L}{C_4 R_3 R_4 R_L (C_3 + C_L)}}(C_3 + C_L)}{C_3 R_3 R_L + C_4 R_3 R_4 + 2C_4 R_3 R_L + C_4 R_4 R_L + C_L R_3 R_L}$$
 wo: 
$$\sqrt{\frac{R_3 + R_L}{C_4 R_3 R_4 R_L (C_3 + C_L)}}$$
 bandwidth: 
$$\frac{C_3 R_3 R_L + C_4 R_3 R_4 + 2C_4 R_3 R_L + C_4 R_4 R_L + C_L R_3 R_L}{C_4 R_3 R_4 R_L (C_3 + C_L)}$$
 K-LP: 
$$\frac{R_3 R_L}{R_3 + R_L}$$
 K-HP: 
$$0$$
 K-BP: 
$$\frac{C_4 R_3 R_4 R_L}{C_3 R_3 R_L + C_4 R_3 R_4 + 2C_4 R_3 R_L + C_4 R_4 R_L + C_L R_3 R_L}}{C_3 R_3 R_L + C_4 R_3 R_4 + 2C_4 R_3 R_L + C_4 R_4 R_L + C_L R_3 R_L}}$$
 Qz: 
$$0$$
 Wz: None

# 8.15 INVALID-NUMER-15 $Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, R_4, \infty, \frac{1}{C_L s}\right)$

$$H(s) = \frac{R_4 (C_3 R_3 s + 1)}{C_3 C_L R_3 R_4 s^2 + 2C_3 R_3 s + C_3 R_4 s + C_L R_4 s + 2}$$

Q: 
$$\frac{\sqrt{2}C_{3}C_{L}R_{3}R_{4}\sqrt{\frac{1}{C_{3}C_{L}R_{3}R_{4}}}}{2C_{3}R_{3}+C_{3}R_{4}+C_{L}R_{4}}$$
 wo: 
$$\sqrt{2}\sqrt{\frac{1}{C_{3}C_{L}R_{3}R_{4}}}$$
 bandwidth: 
$$\frac{2C_{3}R_{3}+C_{3}R_{4}+C_{L}R_{4}}{C_{3}C_{L}R_{3}R_{4}}$$
 K-LP: 
$$\frac{R_{4}}{2}$$
 K-HP: 0 K-BP: 
$$\frac{C_{3}R_{3}R_{4}}{2C_{3}R_{3}+C_{3}R_{4}+C_{L}R_{4}}$$
 Qz: 0 Wz: None

8.16 INVALID-NUMER-16 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, R_4, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_4 R_L \left( C_3 R_3 s + 1 \right)}{C_3 C_L R_3 R_4 R_L s^2 + C_3 R_3 R_4 s + 2 C_3 R_3 R_L s + C_3 R_4 R_L s + C_L R_4 R_L s + R_4 + 2 R_L}$$

Q: 
$$\frac{C_3C_LR_3R_4R_L\sqrt{\frac{R_4+2R_L}{C_3C_LR_3R_4R_L}}}{C_3R_3R_4+2C_3R_3R_L+C_3R_4R_L+C_LR_4R_L}$$
WO:  $A\sqrt{\frac{R_4+2R_L}{R_4+2R_L}}$ 

wo:  $\sqrt{\frac{R_4+2R_L}{C_3C_LR_3R_4R_L}}$ bandwidth:  $\frac{C_3R_3R_4+2C_3R_3R_L+C_3R_4R_L+C_LR_4R_L}{C_3C_LR_3R_4R_L}$ 

K-BP:  $\frac{C_3R_3R_4R_L}{C_3R_3R_4+2C_3R_3R_L+C_3R_4R_L+C_LR_4R_L}$  Qz: 0

Wz: None

## 8.17 INVALID-NUMER-17 $Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, R_L\right)$

$$H(s) = \frac{R_L (C_3 R_3 s + 1)}{2C_3 C_4 R_3 R_L s^2 + C_3 R_3 s + C_3 R_L s + 2C_4 R_L s + 1}$$

### Parameters:

Q: 
$$\frac{\sqrt{2}C_{3}C_{4}R_{3}R_{L}\sqrt{\frac{1}{C_{3}C_{4}R_{3}R_{L}}}}{C_{3}R_{3}+C_{3}R_{L}+2C_{4}R_{L}}$$
wo: 
$$\frac{\sqrt{2}\sqrt{\frac{1}{C_{3}C_{4}R_{3}R_{L}}}}{2}$$
bandwidth: 
$$\frac{C_{3}R_{3}+C_{3}R_{L}+2C_{4}R_{L}}{2C_{3}C_{4}R_{3}R_{L}}$$

K-LP:  $R_L$ K-HP: 0

K-BP:  $\frac{C_3 R_3 R_L}{C_3 R_3 + C_3 R_L + 2C_4 R_L}$ Qz: 0

Wz: None

8.18 INVALID-NUMER-18 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_L (C_3 R_3 s + 1)}{2C_3 C_4 R_3 R_L s^2 + C_3 C_L R_3 R_L s^2 + C_3 R_3 s + C_3 R_L s + 2C_4 R_L s + C_L R_L s + 1}$$

$$\begin{array}{l} \text{Q:} \ \frac{C_3R_3R_L\sqrt{\frac{1}{C_3R_3R_L(2C_4+C_L)}}(2C_4+C_L)}{C_3R_3+C_3R_L+2C_4R_L+C_LR_L} \\ \text{wo:} \ \sqrt{\frac{1}{C_3R_3R_L(2C_4+C_L)}} \\ \text{bandwidth:} \ \frac{C_3R_3+C_3R_L+2C_4R_L+C_LR_L}{C_3R_3R_L(2C_4+C_L)} \\ \text{K-LP:} \ R_L \\ \text{K-HP:} \ 0 \\ \text{K-BP:} \ \frac{C_3R_3R_L}{C_3R_3+C_3R_L+2C_4R_L+C_LR_L} \\ \text{Qz:} \ 0 \end{array}$$

## **8.19** INVALID-NUMER-19 $Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, R_L\right)$

$$H(s) = \frac{R_4 R_L \left( C_3 R_3 s + 1 \right)}{2 C_3 C_4 R_3 R_4 R_L s^2 + C_3 R_3 R_4 s + 2 C_3 R_3 R_L s + C_3 R_4 R_L s + 2 C_4 R_4 R_L s + R_4 + 2 R_L}$$

### Parameters:

Wz: None

Q: 
$$\frac{\sqrt{2}C_{3}C_{4}R_{3}R_{4}R_{L}\sqrt{\frac{R_{4}+2R_{L}}{C_{3}C_{4}R_{3}R_{4}R_{L}}}}{C_{3}R_{3}R_{4}+2C_{3}R_{3}R_{L}+C_{3}R_{4}R_{L}+2C_{4}R_{4}R_{L}}$$
 wo: 
$$\sqrt{\frac{\frac{R_{4}}{2}+R_{L}}{C_{3}C_{4}R_{3}R_{4}R_{L}}}$$
 bandwidth: 
$$\frac{\sqrt{2}\sqrt{\frac{\frac{R_{4}}{2}+R_{L}}{C_{3}C_{4}R_{3}R_{4}R_{L}}}(C_{3}R_{3}R_{4}+2C_{3}R_{3}R_{L}+C_{3}R_{4}R_{L}+2C_{4}R_{4}R_{L}})}{2C_{3}C_{4}R_{3}R_{4}R_{L}\sqrt{\frac{R_{4}+2R_{L}}{C_{3}C_{4}R_{3}R_{4}R_{L}}}}$$
 K-LP: 
$$\frac{R_{4}R_{L}}{R_{4}+2R_{L}}$$
 K-HP: 
$$0$$
 K-BP: 
$$\frac{C_{3}R_{3}R_{4}+2C_{3}R_{3}R_{4}R_{L}}{C_{3}R_{3}R_{4}+2C_{4}R_{4}R_{L}}}$$
 Qz: 
$$0$$
 Wz: None

**8.20** INVALID-NUMER-20 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_4 \left( C_3 R_3 s + 1 \right)}{2 C_3 C_4 R_3 R_4 s^2 + C_3 C_L R_3 R_4 s^2 + 2 C_3 R_3 s + C_3 R_4 s + 2 C_4 R_4 s + C_L R_4 s + 2}$$

# **8.21** INVALID-NUMER-21 $Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$

#### Parameters:

$$\begin{array}{l} \text{Q:} \quad \frac{C_{3}R_{3}R_{4}R_{L}\sqrt{\frac{R_{4}+2R_{L}}{C_{3}R_{3}R_{4}R_{L}(2C_{4}+C_{L})}}}(2C_{4}+C_{L})}{C_{3}R_{3}R_{4}+2C_{3}R_{3}R_{L}+C_{3}R_{4}R_{L}+2C_{4}R_{4}R_{L}+C_{L}R_{4}R_{L}}}\\ \text{wo:} \quad \sqrt{\frac{R_{4}+2R_{L}}{C_{3}R_{3}R_{4}R_{L}(2C_{4}+C_{L})}}\\ \text{bandwidth:} \quad \frac{C_{3}R_{3}R_{4}+2C_{3}R_{3}R_{L}+C_{3}R_{4}R_{L}+2C_{4}R_{4}R_{L}+C_{L}R_{4}R_{L}}{C_{3}R_{3}R_{4}R_{L}(2C_{4}+C_{L})}\\ \text{K-LP:} \quad \frac{R_{4}R_{L}}{R_{4}+2R_{L}}\\ \text{K-HP:} \quad 0\\ \text{K-BP:} \quad \frac{C_{3}R_{3}R_{4}+2C_{3}R_{3}R_{L}+C_{3}R_{4}R_{L}}{C_{3}R_{3}R_{4}R_{L}+2C_{4}R_{4}R_{L}+C_{L}R_{4}R_{L}}\\ \text{Qz:} \quad 0\\ \text{Wz:} \quad \text{None} \end{array}$$

### 9 INVALID-WZ

**9.1** INVALID-WZ-1 
$$Z(s) = \left(\infty, \infty, R_3, R_4 + \frac{1}{C_4 s}, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 \left( C_4 R_4 s + 1 \right) \left( C_L R_L s + 1 \right)}{C_4 C_L R_3 R_4 s^2 + 2 C_4 C_L R_3 R_L s^2 + C_4 C_L R_4 R_L s^2 + 2 C_4 R_3 s + C_4 R_4 s + C_L R_3 s + C_L R_L s + 1}$$

$$\begin{aligned} & \text{Q:} \ \frac{C_4 C_L \sqrt{\frac{1}{C_4 C_L (R_3 R_4 + 2 R_3 R_L + R_4 R_L)}} (R_3 R_4 + 2 R_3 R_L + R_4 R_L)}{2 C_4 R_3 + C_4 R_4 + C_L R_3 + C_L R_L} \\ & \text{wo:} \ \sqrt{\frac{1}{C_4 C_L (R_3 R_4 + 2 R_3 R_L + R_4 R_L)}} \\ & \text{bandwidth:} \ \frac{2 C_4 R_3 + C_4 R_4 + C_L R_3 + C_L R_L}{C_4 C_L (R_3 R_4 + 2 R_3 R_L + R_4 R_L)} \\ & \text{K-LP:} \ R_3 \\ & \text{K-HP:} \ \frac{R_3 R_4 R_L}{R_3 R_4 + 2 R_3 R_L + R_4 R_L} \\ & \text{K-BP:} \ \frac{R_3 (C_4 R_4 + C_L R_L)}{2 C_4 R_3 + C_4 R_4 + C_L R_3 + C_L R_L} \\ & \text{Qz:} \ \frac{C_4 C_L R_4 R_L \sqrt{\frac{1}{C_4 C_L (R_3 R_4 + 2 R_3 R_L + R_4 R_L)}}}{C_4 R_4 + C_L R_L} \\ & \text{Wz:} \ \sqrt{\frac{1}{C_4 C_L R_4 R_L}} \end{aligned}$$

## **9.2** INVALID-WZ-2 $Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, R_4, \infty, R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{R_4 \left( C_3 R_3 s + 1 \right) \left( C_L R_L s + 1 \right)}{C_3 C_L R_3 R_4 s^2 + 2 C_3 C_L R_3 R_L s^2 + C_3 C_L R_4 R_L s^2 + 2 C_3 R_3 s + C_3 R_4 s + C_L R_4 s + 2 C_L R_L s + 2}$$

$$\begin{aligned} & \text{Q:} \ \frac{\sqrt{2}C_3C_L\sqrt{\frac{1}{C_3C_L(R_3R_4+2R_3R_L+R_4R_L)}}(R_3R_4+2R_3R_L+R_4R_L)}{2C_3R_3+C_3R_4+C_LR_4+2C_LR_L} \\ & \text{wo:} \ \sqrt{2}\sqrt{\frac{1}{C_3C_L(R_3R_4+2R_3R_L+R_4R_L)}} \\ & \text{bandwidth:} \ \ \frac{2C_3R_3+C_3R_4+C_LR_4+2C_LR_L}{C_3C_L(R_3R_4+2R_3R_L+R_4R_L)} \\ & \text{K-LP:} \ \frac{R_4}{2} \\ & \text{K-HP:} \ \ \frac{R_3R_4R_L}{R_3R_4+2R_3R_L+R_4R_L} \\ & \text{K-BP:} \ \ \frac{R_4(C_3R_3+C_LR_L)}{2C_3R_3+C_3R_4+C_LR_4+2C_LR_L} \\ & \text{Qz:} \ \ \frac{\sqrt{2}C_3C_LR_3R_L}{C_3C_L(R_3R_4+2R_3R_L+R_4R_L)} \\ & \text{Wz:} \ \ \sqrt{\frac{1}{C_3C_LR_3R_L}} \end{aligned}$$

9.3 INVALID-WZ-3 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, R_L\right)$$

$$H(s) = \frac{R_L \left(C_3 R_3 s + 1\right) \left(C_4 R_4 s + 1\right)}{C_3 C_4 R_3 R_4 s^2 + 2 C_3 C_4 R_3 R_L s^2 + C_3 C_4 R_4 R_L s^2 + C_3 R_3 s + C_3 R_L s + C_4 R_4 s + 2 C_4 R_L s + 1}$$

$$\begin{aligned} & \text{Q:} \ \frac{C_3C_4\sqrt{\frac{1}{C_3C_4(R_3R_4+2R_3R_L+R_4R_L)}}(R_3R_4+2R_3R_L+R_4R_L)}{C_3R_3+C_3R_L+C_4R_4+2C_4R_L} \\ & \text{wo:} \ \sqrt{\frac{1}{C_3C_4(R_3R_4+2R_3R_L+R_4R_L)}} \\ & \text{bandwidth:} \ \frac{C_3R_3+C_3R_L+C_4R_4+2C_4R_L}{C_3C_4(R_3R_4+2R_3R_L+R_4R_L)} \\ & \text{K-LP:} \ R_L \\ & \text{K-HP:} \ \frac{R_3R_4R_L}{R_3R_4+2R_3R_L+R_4R_L} \\ & \text{K-BP:} \ \frac{R_L(C_3R_3+C_4R_4)}{C_3R_3+C_4R_4+2C_4R_L} \\ & \text{Qz:} \ \frac{C_3C_4R_3R_4\sqrt{\frac{1}{C_3C_4(R_3R_4+2R_3R_L+R_4R_L)}}}{C_3R_3+C_4R_4} \\ & \text{Wz:} \ \sqrt{\frac{1}{C_3C_4R_3R_4}} \end{aligned}$$

### 10 INVALID-ORDER

10.1 INVALID-ORDER-1  $Z(s) = (\infty, \infty, R_3, R_4, \infty, R_L)$ 

$$H(s) = \frac{R_3 R_4 R_L}{R_3 R_4 + 2R_3 R_L + R_4 R_L}$$

10.2 INVALID-ORDER-2 
$$Z(s) = \left(\infty, \infty, R_3, R_4, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 R_4}{C_L R_3 R_4 s + 2R_3 + R_4}$$

10.3 INVALID-ORDER-3 
$$Z(s) = \left(\infty, \infty, R_3, R_4, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_3 R_4 R_L}{C_L R_3 R_4 R_L s + R_3 R_4 + 2R_3 R_L + R_4 R_L}$$

10.4 INVALID-ORDER-4 
$$Z(s) = \left(\infty, \infty, R_3, R_4, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 R_4 (C_L R_L s + 1)}{C_L R_3 R_4 s + 2C_L R_3 R_L s + C_L R_4 R_L s + 2R_3 + R_4}$$

10.5 INVALID-ORDER-5 
$$Z(s) = \left(\infty, \infty, R_3, \frac{1}{C_4 s}, \infty, R_L\right)$$

$$H(s) = \frac{R_3 R_L}{2C_4 R_3 R_L s + R_3 + R_L}$$

10.6 INVALID-ORDER-6 
$$Z(s) = \left(\infty, \infty, R_3, \frac{1}{C_4 s}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3}{2C_4R_3s + C_LR_3s + 1}$$

10.7 INVALID-ORDER-7 
$$Z(s) = \left(\infty, \infty, R_3, \frac{1}{C_4 s}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_3 R_L}{2C_4 R_3 R_L s + C_L R_3 R_L s + R_3 + R_L}$$

10.8 INVALID-ORDER-8 
$$Z(s) = \left(\infty, \infty, R_3, \frac{1}{C_4 s}, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 \left( C_L L_L s^2 + 1 \right)}{2C_4 C_L L_L R_3 s^3 + 2C_4 R_3 s + C_L L_L s^2 + C_L R_3 s + 1}$$

10.9 INVALID-ORDER-9 
$$Z(s) = \left(\infty, \infty, R_3, \frac{1}{C_4 s}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 \left( C_L L_L s^2 + C_L R_L s + 1 \right)}{2C_4 C_L L_L R_3 s^3 + 2C_4 C_L R_3 R_L s^2 + 2C_4 R_3 s + C_L L_L s^2 + C_L R_3 s + C_L R_L s + 1}$$

10.10 INVALID-ORDER-10 
$$Z(s) = \left(\infty, \infty, R_3, \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

10.11 INVALID-ORDER-11 
$$Z(s) = \left(\infty, \infty, R_3, \frac{1}{C_4 s}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{R_3 R_L \left( C_L L_L s^2 + 1 \right)}{2 C_4 C_L L_L R_3 R_L s^3 + 2 C_4 R_3 R_L s + C_L L_L R_3 s^2 + C_L L_L R_L s^2 + C_L R_3 R_L s + R_3 + R_L}$$

10.12 INVALID-ORDER-12 
$$Z(s) = \left(\infty, \infty, R_3, \frac{R_4}{C_4R_4s+1}, \infty, R_L\right)$$

$$H(s) = \frac{R_3 R_4 R_L}{2C_4 R_3 R_4 R_L s + R_3 R_4 + 2R_3 R_L + R_4 R_L}$$

**10.13** INVALID-ORDER-13 
$$Z(s) = \left(\infty, \infty, R_3, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 R_4}{2C_4 R_3 R_4 s + C_L R_3 R_4 s + 2R_3 + R_4}$$

10.14 INVALID-ORDER-14 
$$Z(s) = \left(\infty, \infty, R_3, \frac{R_4}{C_4R_4s+1}, \infty, \frac{R_L}{C_LR_Ls+1}\right)$$

$$H(s) = \frac{R_3 R_4 R_L}{2C_4 R_3 R_4 R_L s + C_L R_3 R_4 R_L s + R_3 R_4 + 2R_3 R_L + R_4 R_L}$$

10.15 INVALID-ORDER-15 
$$Z(s) = \left(\infty, \infty, R_3, \frac{R_4}{C_4 R_4 s + 1}, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 R_4 \left( C_L L_L s^2 + 1 \right)}{2 C_4 C_L L_L R_3 R_4 s^3 + 2 C_4 R_3 R_4 s + 2 C_L L_L R_3 s^2 + C_L L_L R_4 s^2 + C_L R_3 R_4 s + 2 R_3 + R_4}$$

10.16 INVALID-ORDER-16 
$$Z(s) = \left(\infty, \infty, R_3, \frac{R_4}{C_4 R_4 s + 1}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 R_4 \left(C_L L_L s^2 + C_L R_L s + 1\right)}{2 C_4 C_L L_L R_3 R_4 s^3 + 2 C_4 C_L R_3 R_4 R_L s^2 + 2 C_4 R_3 R_4 s + 2 C_L L_L R_3 s^2 + C_L L_L R_4 s^2 + C_L R_3 R_4 s + 2 C_L R_3 R_L s + C_L R_4 R_L s + 2 R_3 + R_4 R_4 r_1 + 2 C_L R_3 R_4 r_2 + 2 C_L R_3 R_4 r_3 + 2 C_L R_3 R_4 r_4 + 2 C_L R_3$$

10.17 INVALID-ORDER-17 
$$Z(s) = \left(\infty, \infty, R_3, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{R_3 R_4 \left( C_L L_L R_L s^2 + L_L s + R_L \right)}{2 C_4 C_L L_L R_3 R_4 R_L s^3 + 2 C_4 L_L R_3 R_4 s^2 + 2 C_4 R_3 R_4 R_L s + C_L L_L R_3 R_4 s^2 + 2 C_L L_L R_3 R_L s^2 + C_L L_L R_4 R_L s^2 + 2 L_L R_3 s + L_L R_4 s + R_3 R_4 + 2 R_3 R_L + R_4 R_L r_4 R_L r_5 + 2 R_4 R_L r_5$$

10.18 INVALID-ORDER-18 
$$Z(s) = \left(\infty, \ \infty, \ R_3, \ \frac{R_4}{C_4R_4s+1}, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

$$H(s) = \frac{R_3 R_4 R_L \left(C_L L_L s^2 + 1\right)}{2 C_4 C_L L_L R_3 R_4 R_L s^3 + 2 C_4 R_3 R_4 R_L s + C_L L_L R_3 R_4 s^2 + 2 C_L L_L R_3 R_L s^2 + C_L L_L R_4 R_L s^2 + C_L R_3 R_4 R_L s + R_3 R_4 + 2 R_3 R_L + R_4 R_L s^2 + C_L R_3 R_4 R_L s^2 + C_L R_3 R_4 R_L s + R_3 R_4 R_L s + R_4 R_L s^2 + C_L R_3 R_4 R_L s + R_5 R_4 R_L s + R_5$$

**10.19** INVALID-ORDER-19 
$$Z(s) = \left(\infty, \ \infty, \ R_3, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L\right)$$

$$H(s) = \frac{R_3 R_L (C_4 R_4 s + 1)}{C_4 R_3 R_4 s + 2C_4 R_3 R_L s + C_4 R_4 R_L s + R_3 + R_L}$$

**10.20** INVALID-ORDER-20 
$$Z(s) = \left(\infty, \infty, R_3, R_4 + \frac{1}{C_4 s}, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 \left( C_4 R_4 s + 1 \right) \left( C_L L_L s^2 + 1 \right)}{2 C_4 C_L L_L R_3 s^3 + C_4 C_L L_L R_4 s^3 + C_4 C_L R_3 R_4 s^2 + 2 C_4 R_3 s + C_4 R_4 s + C_L L_L s^2 + C_L R_3 s + 1}$$

10.21 INVALID-ORDER-21 
$$Z(s) = \left(\infty, \infty, R_3, R_4 + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L R_3 s \left(C_4 R_4 s + 1\right)}{C_4 C_L L_L R_3 R_4 s^3 + 2 C_4 L_L R_3 s^2 + C_4 L_L R_4 s^2 + C_4 R_3 R_4 s + C_L L_L R_3 s^2 + L_L s + R_3}$$

10.22 INVALID-ORDER-22 
$$Z(s) = \left(\infty, \infty, R_3, R_4 + \frac{1}{C_4 s}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 \left(C_4 R_4 s + 1\right) \left(C_L L_L s^2 + C_L R_L s + 1\right)}{2 C_4 C_L L_L R_3 s^3 + C_4 C_L L_L R_4 s^3 + C_4 C_L R_3 R_4 s^2 + 2 C_4 C_L R_3 R_L s^2 + C_4 C_L R_4 R_L s^2 + 2 C_4 R_3 s + C_4 R_4 s + C_L L_L s^2 + C_L R_3 s + C_L R_L s + 1}$$

10.23 INVALID-ORDER-23 
$$Z(s) = \left(\infty, \infty, R_3, R_4 + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

**10.24** INVALID-ORDER-24 
$$Z(s) = \left(\infty, \infty, R_3, R_4 + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

10.25 INVALID-ORDER-25 
$$Z(s) = \left(\infty, \ \infty, \ R_3, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$R_3 R_L \left( C_4 R_4 s + 1 \right) \left( C_L L_L s^2 + 1 \right)$$

$$H(s) = \frac{R_3 R_L \left(C_4 R_4 s + 1\right) \left(C_L L_L s^2 + 1\right)}{C_4 C_L L_L R_3 R_4 s^3 + 2 C_4 C_L L_L R_3 R_L s^3 + C_4 C_L L_R R_4 R_L s^3 + C_4 C_L R_3 R_4 R_L s^2 + C_4 R_3 R_4 s + 2 C_4 R_3 R_L s + C_4 R_4 R_L s + C_L L_L R_3 s^2 + C_L L_L R_4 s^2 + C_L R_3 R_L s + R_3 + R_L r_1 + C_1 R_2 r_2 + C_1 R_3 R_L s + C_2 R_2 R_L s + C_2 R_$$

10.26 INVALID-ORDER-26 
$$Z(s) = \left(\infty, \infty, R_3, L_4 s + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 (C_4 L_4 s^2 + 1)}{C_4 C_L L_4 R_3 s^3 + C_4 L_4 s^2 + 2C_4 R_3 s + C_L R_3 s + 1}$$

10.27 INVALID-ORDER-27 
$$Z(s) = \left(\infty, \infty, R_3, L_4 s + \frac{1}{C_4 s}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_3 R_L \left( C_4 L_4 s^2 + 1 \right)}{C_4 C_L L_4 R_3 R_L s^3 + C_4 L_4 R_3 s^2 + C_4 L_4 R_L s^2 + 2 C_4 R_3 R_L s + C_L R_3 R_L s + R_3 + R_L}$$

10.28 INVALID-ORDER-28 
$$Z(s) = \left(\infty, \infty, R_3, L_4 s + \frac{1}{C_4 s}, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 \left( C_4 L_4 s^2 + 1 \right) \left( C_L R_L s + 1 \right)}{C_4 C_L L_4 R_3 s^3 + C_4 C_L L_4 R_L s^3 + 2 C_4 C_L R_3 R_L s^2 + C_4 L_4 s^2 + 2 C_4 R_3 s + C_L R_3 s + C_L R_L s + 1}$$

**10.29** INVALID-ORDER-29 
$$Z(s) = \left(\infty, \infty, R_3, L_4 s + \frac{1}{C_4 s}, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 \left( C_4 L_4 s^2 + 1 \right) \left( C_L L_L s^2 + 1 \right)}{C_4 C_L L_4 S^4 + C_4 C_L L_4 R_3 s^3 + 2C_4 C_L L_L R_3 s^3 + C_4 L_4 s^2 + 2C_4 R_3 s + C_L L_L s^2 + C_L R_3 s + 1}$$

**10.30** INVALID-ORDER-30 
$$Z(s) = \left(\infty, \infty, R_3, L_4 s + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L R_3 s \left(C_4 L_4 s^2 + 1\right)}{C_4 C_L L_4 L_L R_3 s^4 + C_4 L_4 L_L s^3 + C_4 L_4 R_3 s^2 + 2C_4 L_L R_3 s^2 + C_L L_L R_3 s^2 + L_L s + R_3}$$

10.31 INVALID-ORDER-31  $Z(s) = \left(\infty, \infty, R_3, L_4 s + \frac{1}{C_4 s}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$ 

$$H(s) = \frac{R_3 \left( C_4 L_4 s^2 + 1 \right) \left( C_L L_L s^2 + C_L R_L s + 1 \right)}{C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_3 s^3 + C_4 C_L L_L R_3 s^3 + 2 C_4 C_L R_3 R_L s^2 + C_4 L_4 s^2 + 2 C_4 R_3 s + C_L L_L s^2 + C_L R_3 s + C_L R_L s + 1}$$

10.32 INVALID-ORDER-32 
$$Z(s) = \left(\infty, \infty, R_3, L_4 s + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_L R_3 R_L s \left(C_4 L_4 s^2 + 1\right)}{C_4 C_L L_4 L_L R_3 R_L s^4 + C_4 L_4 L_L R_3 s^3 + C_4 L_4 L_L R_3 s^3 + C_4 L_4 R_3 R_L s^2 + 2 C_4 L_L R_3 R_L s^2 + C_L L_L R_3 R_L s^2 + L_L R_3 s + L_L R_L s + R_3 R_L s^2 + C_4 L_4 R_4 R_4$$

10.33 INVALID-ORDER-33  $Z(s) = \left(\infty, \infty, R_3, L_4 s + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$ 

$$H(s) = \frac{R_3 \left( C_4 L_4 s^2 + 1 \right) \left( C_L L_L R_L s^2 + L_L s + R_L \right)}{C_4 C_L L_4 L_L R_3 s^4 + C_4 C_L L_4 L_L R_3 s^4 + 2 C_4 C_L L_L R_3 R_L s^3 + C_4 L_4 L_3 s^3 + C_4 L_4 R_3 s^2 + C_4 L_4 R_3 s^2 + 2 C_4 L_4 R_3 s^2 + 2 C_4 R_3 R_L s + C_L L_L R_3 s^2 + C_L L_L R_3 s^2 + L_L s + R_3 + R_L R_3 s^2 + C_L R_3 R_L s + C_L R_3$$

10.34 INVALID-ORDER-34 
$$Z(s) = \left(\infty, \ \infty, \ R_3, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{R_3 R_L \left(C_4 L_4 s^2 + 1\right) \left(C_L L_L s^2 + 1\right)}{C_4 C_L L_4 L_L R_3 s^4 + C_4 C_L L_4 R_3 R_L s^3 + 2 C_4 C_L L_L R_3 R_L s^3 + C_4 L_4 R_3 s^2 + C_4 L_4 R_1 s^2 + 2 C_4 R_3 R_L s + C_L L_L R_3 s^2 + C_L L_L R_3 s^2$$

10.35 INVALID-ORDER-35 
$$Z(s) = \left(\infty, \infty, R_3, \frac{L_{4s}}{C_4L_4s^2+1}, \infty, R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{L_4 R_3 s \left(C_L R_L s + 1\right)}{2 C_4 C_L L_4 R_3 R_L s^3 + 2 C_4 L_4 R_3 s^2 + C_L L_4 R_3 s^2 + C_L L_4 R_L s^2 + 2 C_L R_3 R_L s + L_4 s + 2 R_3}$$

**10.36** INVALID-ORDER-36 
$$Z(s) = \left(\infty, \infty, R_3, \frac{L_4s}{C_4L_4s^2+1}, \infty, L_Ls + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{L_4 R_3 s \left(C_L L_L s^2 + 1\right)}{2 C_4 C_L L_4 L_L R_3 s^4 + 2 C_4 L_4 R_3 s^2 + C_L L_4 L_L s^3 + C_L L_4 R_3 s^2 + 2 C_L L_L R_3 s^2 + L_4 s + 2 R_3}$$

10.37 INVALID-ORDER-37 
$$Z(s) = \left(\infty, \infty, R_3, \frac{L_4s}{C_4L_4s^2+1}, \infty, L_Ls + R_L + \frac{1}{C_Ls}\right)$$

**10.38** INVALID-ORDER-38 
$$Z(s) = \left(\infty, \infty, R_3, \frac{L_4s}{C_4L_4s^2+1}, \infty, \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$$

10.39 INVALID-ORDER-39 
$$Z(s) = \left(\infty, \infty, R_3, \frac{L_4s}{C_4L_4s^2+1}, \infty, \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

$$H(s) = \frac{L_4 R_3 R_L s \left(C_L L_L s^2 + 1\right)}{2 C_4 C_L L_4 L_L R_3 R_L s^4 + 2 C_4 L_4 R_3 R_L s^2 + C_L L_4 L_L R_3 s^3 + C_L L_4 L_L R_3 s^3 + C_L L_4 R_3 R_L s^2 + 2 C_L L_L R_3 R_L s^2 + L_4 R_3 s + L_4 R_L s + 2 R_3 R_L s^2 + L_4 R_3 R_L s^$$

**10.40** INVALID-ORDER-40 
$$Z(s) = \left(\infty, \infty, R_3, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 \left( C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{C_4 C_L L_4 R_3 s^3 + C_4 C_L R_3 R_4 s^2 + C_4 L_4 s^2 + 2 C_4 R_3 s + C_4 R_4 s + C_L R_3 s + 1}$$

**10.41** INVALID-ORDER-41 
$$Z(s) = \left(\infty, \infty, R_3, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

**10.42** INVALID-ORDER-42 
$$Z(s) = \left(\infty, \infty, R_3, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 \left( C_L R_L s + 1 \right) \left( C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{C_4 C_L L_4 R_3 s^3 + C_4 C_L L_4 R_L s^3 + C_4 C_L R_3 R_4 s^2 + 2 C_4 C_L R_3 R_L s^2 + C_4 C_L R_4 R_L s^2 + C_4 L_4 s^2 + 2 C_4 R_3 s + C_4 R_4 s + C_L R_3 s + C_L R_L s + 1}$$

**10.43** INVALID-ORDER-43 
$$Z(s) = \left(\infty, \infty, R_3, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 \left( C_L L_L s^2 + 1 \right) \left( C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{C_4 C_L L_L s^4 + C_4 C_L L_4 R_3 s^3 + 2 C_4 C_L L_L R_3 s^3 + C_4 C_L L_L R_4 s^3 + C_4 C_L R_3 R_4 s^2 + C_4 L_4 s^2 + 2 C_4 R_3 s + C_4 R_4 s + C_L L_L s^2 + C_L R_3 s + 1}$$

**10.44** INVALID-ORDER-44 
$$Z(s) = \left(\infty, \infty, R_3, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L R_3 s \left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{C_4 C_L L_4 L_L R_3 s^4 + C_4 C_L L_L R_3 R_4 s^3 + C_4 L_4 L_L s^3 + C_4 L_4 R_3 s^2 + 2 C_4 L_L R_3 s^2 + C_4 L_L R_4 s^2 + C_4 R_3 R_4 s + C_L L_L R_3 s^2 + L_L s + R_3 R_4 s^2 + C_4 R_4 R_4 R_3 r^2 + C_4 R_4 R_4 R_4 R_5 r^2 + C_4 R_4 R_4 R_5 r^2 + C_4 R_4 R_4 R_5 r^2 + C_4 R_5 R_5 r^2 + C_5 R_5 r^$$

**10.45** INVALID-ORDER-45 
$$Z(s) = \left(\infty, \infty, R_3, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 \left( C_4 L_4 s^2 + C_4 R_4 s + 1 \right) \left( C_L L_L s^2 + C_L R_L s + 1 \right)}{C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_3 s^3 + C_4 C_L L_L R_3 s^3 + C_4 C_L L_R R_3 R_4 s^2 + 2 C_4 C_L R_3 R_L s^2 + C_4 C_L R_4 R_L s^2 + 2 C_4 R_3 s + C_4 R_4 s + C_L L_L s^3 + C_4 R_4 s^$$

**10.46** INVALID-ORDER-46 
$$Z(s) = \left(\infty, \infty, R_3, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

10.47 INVALID-ORDER-47 
$$Z(s) = \left(\infty, \infty, R_3, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{R_3 \left( C_4 L_4 s^2 + C_4 R_4 s + 1 \right) \left( C_L L_L R_L s^2 + L_L s + R_L \right)}{C_4 C_L L_4 L_L R_3 s^4 + C_4 C_L L_L R_3 R_4 s^3 + 2 C_4 C_L L_L R_3 R_L s^3 + C_4 L_L L_L R_3 s^3 + C_4 L_4 L_L s^3 + C_4 L_4 R_3 s^2 + C_4 L_4 R_3 s^2 + C_4 L_L R_3 s^2 + C_4 L_L R_4 s^2 + C_4 R_4 s^2 + C_4$$

**10.48** INVALID-ORDER-48 
$$Z(s) = \left(\infty, \ \infty, \ R_3, \ L_4s + R_4 + \frac{1}{C_4s}, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

$$H(s) = \frac{R_3 R_L \left(C_L L_L s^2 + 1\right) \left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{C_4 C_L L_4 R_3 s^4 + C_4 C_L L_4 R_3 R_L s^3 + C_4 C_L L_L R_3 R_4 s^3 + 2 C_4 C_L L_L R_3 R_L s^3 + C_4 C_L L_L R_4 R_L s^3 + C_4 C_L R_3 R_4 R_L s^2 + C_4 L_4 R_3 s^2 + C_$$

10.50 INVALID-ORDER-50 
$$Z(s) = \left(\infty, \ \infty, \ R_3, \ \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_4 R_3 R_4 s \left(C_L L_L s^2 + 1\right)}{2C_4 C_L L_4 L_L R_3 R_4 s^4 + 2C_4 L_4 R_3 R_4 s^2 + 2C_L L_4 L_L R_3 s^3 + C_L L_4 L_L R_4 s^3 + C_L L_4 R_3 R_4 s^2 + 2C_L L_4 R_3 R_4 s^2 + 2L_4 R_3 s + L_4 R_4 s + 2R_3 R_4}$$

10.51 INVALID-ORDER-51 
$$Z(s) = \left(\infty, \infty, R_3, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

10.52 INVALID-ORDER-52 
$$Z(s) = \left(\infty, \infty, R_3, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{L_4 R_3 R_4 s \left(C_L L_L R_L s^2 + L_L s + R_L\right)}{2 C_4 C_L L_4 L_L R_3 R_4 R_L s^4 + 2 C_4 L_4 L_L R_3 R_4 s^3 + 2 C_L L_4 L_L R_3 R_4 s^3 + 2 C_L L_4 L_L R_3 R_4 s^3 + 2 C_L L_4 L_L R_3 R_4 R_L s^3 + 2 C_L L_4 L_L R_3 R_4 s^3 + 2 C_L L_4 L_L R_3 R_4 R_L s^3 + 2 C_L L_4 L_4 R_3 R_4 R_L s^3 + 2 C_L L_4 L_4 R_3 R_4 R_L s^3 + 2 C_L L_4 L_4 R_3 R_4 R_L s^3 + 2 C_L L_4 L_4 R_3 R_4 R_L s^3 + 2 C_L L_4 R_3 R_4 R_L$$

10.53 INVALID-ORDER-53 
$$Z(s) = \left(\infty, \infty, R_3, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{L_4 R_3 R_4 R_L s \left(C_L L_L s^2 + 1\right)}{2 C_4 C_L L_4 L_L R_3 R_4 R_L s^4 + 2 C_4 L_4 R_3 R_4 R_L s^2 + C_L L_4 L_L R_3 R_4 s^3 + 2 C_L L_4 L_L R_3 R_L s^3 + C_L L_4 L_L R_3 R_4 R_L s^2 + 2 C_L L_L R_3 R_4 R_L s^2 + L_4 R_3 R_4 s + 2 L_4 R_3 R_L s + 2 L_4 R_3 R_4 R_L s^2 + 2 L_4 R_3$$

**10.54** INVALID-ORDER-54 
$$Z(s) = \left(\infty, \infty, R_3, \frac{L_4s}{C_4L_4s^2+1} + R_4, \infty, \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{R_3 \left( C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{C_4 C_L L_4 R_3 R_4 s^3 + 2 C_4 L_4 R_3 s^2 + C_4 L_4 R_4 s^2 + C_L L_4 R_3 s^2 + C_L R_3 R_4 s + L_4 s + 2 R_3 + R_4}$$

**10.55** INVALID-ORDER-55 
$$Z(s) = \left(\infty, \infty, R_3, \frac{L_4s}{C_4L_4s^2+1} + R_4, \infty, \frac{R_L}{C_LR_Ls+1}\right)$$

$$H(s) = \frac{R_3 R_L \left( C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{C_4 C_L L_4 R_3 R_4 s^3 + C_4 L_4 R_3 R_4 s^2 + 2 C_4 L_4 R_3 R_L s^2 + C_4 L_4 R_3 R_L s^2 + C_L L_4 R_3 R_L s^2 + C_L R_3 R_4 R_L s + L_4 R_3 s + L_4 R_L s + R_3 R_4 + 2 R_3 R_L + R_4 R_L s + R_4 R_L$$

**10.56** INVALID-ORDER-56 
$$Z(s) = \left(\infty, \infty, R_3, \frac{L_4s}{C_4L_4s^2+1} + R_4, \infty, R_L + \frac{1}{C_Ls}\right)$$

10.57 INVALID-ORDER-57 
$$Z(s) = \left(\infty, \infty, R_3, \frac{L_4s}{C_4L_4s^2+1} + R_4, \infty, L_Ls + \frac{1}{C_Ls}\right)$$

**10.58** INVALID-ORDER-58 
$$Z(s) = \left(\infty, \infty, R_3, \frac{L_4s}{C_4L_4s^2+1} + R_4, \infty, \frac{L_Ls}{C_LL_Ls^2+1}\right)$$

**10.59** INVALID-ORDER-59 
$$Z(s) = \left(\infty, \infty, R_3, \frac{L_4s}{C_4L_4s^2+1} + R_4, \infty, L_Ls + R_L + \frac{1}{C_Ls}\right)$$

**10.60** INVALID-ORDER-60 
$$Z(s) = \left(\infty, \infty, R_3, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_L R_3 R_L s \left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{C_4 C_L L_4 L_L R_3 R_4 s^4 + C_4 L_4 L_L R_3 R_4 s^3 + 2 C_4 L_4 L_L R_3 R_L s^3 + C_4 L_4 L_L R_3 R_4 R_L s^3 + L_4 L_L R_4 R_$$

10.61 INVALID-ORDER-61 
$$Z(s) = \left(\infty, \infty, R_3, \frac{L_4s}{C_4L_4s^2+1} + R_4, \infty, \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$$

10.62 INVALID-ORDER-62 
$$Z(s) = \left(\infty, \infty, R_3, \frac{L_4s}{C_4L_4s^2+1} + R_4, \infty, \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

10.63 INVALID-ORDER-63 
$$Z(s) = \left(\infty, \infty, R_3, \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}, \infty, \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{R_3R_4\left(C_4L_4s^2 + 1\right)}{C_4C_LL_4R_3R_4s^3 + 2C_4L_4R_3s^2 + C_4L_4R_4s^2 + 2C_4R_3R_4s + C_LR_3R_4s + 2R_3 + R_4}$$

10.64 INVALID-ORDER-64 
$$Z(s) = \left(\infty, \ \infty, \ R_3, \ \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}, \ \infty, \ \frac{R_L}{C_LR_Ls + 1}\right)$$

$$H(s) = \frac{R_3R_4R_L\left(C_4L_4s^2 + 1\right)}{C_4C_LL_4R_3R_4R_Ls^3 + C_4L_4R_3R_4s^2 + 2C_4L_4R_3R_Ls^2 + C_4L_4R_4R_Ls^2 + 2C_4R_3R_4R_Ls + C_LR_3R_4R_Ls + R_3R_4 + 2R_3R_L + R_4R_Ls^2}$$

10.65 INVALID-ORDER-65 
$$Z(s) = \left(\infty, \infty, R_3, \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}, \infty, R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{L_L R_3 R_4 R_L s \left(C_4 L_4 s^2 + 1\right)}{C_4 C_L L_4 L_L R_3 R_4 R_L s^4 + C_4 L_4 L_L R_3 R_4 s^3 + 2 C_4 L_4 L_L R_3 R_L s^3 + C_4 L_4 L_L R_3 R_4 R_L s^2 + 2 C_4 L_L R_3 R_4 R_L s^2 + C_L L_L R_3 R_4 R_L s^2 + L_L R_3 R_4 s + 2 L_L R_3 R_4 R_L s^2 + 2 C_4 L_L R_3 R_L s^2 + 2 C_4 L_L R_3 R_L s^2 + 2$$

10.70 INVALID-ORDER-70 
$$Z(s) = \left(\infty, \infty, R_3, \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}, \infty, \frac{L_Ls}{C_LL_Ls^2 + 1} + R_L\right)$$

10.71 INVALID-ORDER-71 
$$Z(s) = \left(\infty, \ \infty, \ R_3, \ \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

10.72 INVALID-ORDER-72 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, R_4, \infty, R_L\right)$$

$$H(s) = \frac{R_4 R_L}{C_3 R_4 R_L s + R_4 + 2R_L}$$

10.73 INVALID-ORDER-73 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, R_4, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_4}{C_3 R_4 s + C_L R_4 s + 2}$$

10.74 INVALID-ORDER-74 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, R_4, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_4 R_L}{C_3 R_4 R_L s + C_L R_4 R_L s + R_4 + 2R_L}$$

10.75 INVALID-ORDER-75 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, R_4, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_4 \left( C_L L_L s^2 + 1 \right)}{C_3 C_L L_L R_4 s^3 + C_3 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2}$$

**10.76** INVALID-ORDER-76 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, R_4, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_4 \left( C_L L_L s^2 + C_L R_L s + 1 \right)}{C_3 C_L L_L R_4 s^3 + C_3 C_L R_4 R_L s^2 + C_3 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2 C_L R_L s + 2}$$

10.77 INVALID-ORDER-77 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, R_4, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{R_4 \left( C_L L_L R_L s^2 + L_L s + R_L \right)}{C_3 C_L L_L R_4 R_L s^3 + C_3 L_L R_4 s^2 + C_3 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + 2 L_L s + R_4 + 2 R_L}$$

10.78 INVALID-ORDER-78 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, R_4, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{R_4 R_L \left( C_L L_L s^2 + 1 \right)}{C_3 C_L L_L R_4 R_L s^3 + C_3 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + C_L R_4 R_L s + R_4 + 2 R_L}$$

10.79 INVALID-ORDER-79 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, R_L\right)$$

$$H(s) = \frac{R_L}{C_3 R_L s + 2C_4 R_L s + 1}$$

10.80 INVALID-ORDER-80 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{1}{s(C_3 + 2C_4 + C_L)}$$

10.81 INVALID-ORDER-81 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_L}{C_3 R_L s + 2C_4 R_L s + C_L R_L s + 1}$$

10.82 INVALID-ORDER-82 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{C_L R_L s + 1}{s \left( C_3 C_L R_L s + C_3 + 2C_4 C_L R_L s + 2C_4 + C_L \right)}$$

10.83 INVALID-ORDER-83 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{C_L L_L s^2 + 1}{s \left( C_3 C_L L_L s^2 + C_3 + 2C_4 C_L L_L s^2 + 2C_4 + C_L \right)}$$

10.84 INVALID-ORDER-84 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L s}{C_3 L_L s^2 + 2C_4 L_L s^2 + C_L L_L s^2 + 1}$$

10.85 INVALID-ORDER-85 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{C_L L_L s^2 + C_L R_L s + 1}{s \left( C_3 C_L L_L s^2 + C_3 C_L R_L s + C_3 + 2C_4 C_L L_L s^2 + 2C_4 C_L R_L s + 2C_4 + C_L \right)}$$

**10.86** INVALID-ORDER-86 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{C_L L_L R_L s^2 + L_L s + R_L}{C_3 C_L L_L R_L s^3 + C_3 L_L s^2 + C_3 R_L s + 2C_4 C_L L_L R_L s^3 + 2C_4 L_L s^2 + 2C_4 R_L s + C_L L_L s^2 + 1}$$

10.87 INVALID-ORDER-87 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{R_L \left( C_L L_L s^2 + 1 \right)}{C_3 C_L L_L R_L s^3 + C_3 R_L s + 2 C_4 C_L L_L R_L s^3 + 2 C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1}$$

10.88 INVALID-ORDER-88 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, R_L\right)$$

$$H(s) = \frac{R_4 R_L}{C_3 R_4 R_L s + 2C_4 R_4 R_L s + R_4 + 2R_L}$$

10.89 INVALID-ORDER-89 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_4}{C_3 R_4 s + 2C_4 R_4 s + C_L R_4 s + 2}$$

**10.90** INVALID-ORDER-90 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_4 R_L}{C_3 R_4 R_L s + 2 C_4 R_4 R_L s + C_L R_4 R_L s + R_4 + 2 R_L}$$

**10.91** INVALID-ORDER-91 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_4 \left( C_L L_L s^2 + 1 \right)}{C_3 C_L L_L R_4 s^3 + C_3 R_4 s + 2 C_4 C_L L_L R_4 s^3 + 2 C_4 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2}$$

10.92 INVALID-ORDER-92 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_4 \left( C_L L_L s^2 + C_L R_L s + 1 \right)}{C_3 C_L L_L R_4 s^3 + C_3 C_L R_4 R_L s^2 + C_3 R_4 s + 2 C_4 C_L L_L R_4 s^3 + 2 C_4 C_L R_4 R_L s^2 + 2 C_4 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2 C_L R_L s + 2}$$

**10.93** INVALID-ORDER-93 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{R_4 \left( C_L L_L R_L s^2 + L_L s + R_L \right)}{C_3 C_L L_L R_4 R_L s^3 + C_3 L_L R_4 s^2 + C_3 R_4 R_L s + 2 C_4 C_L L_L R_4 R_L s^3 + 2 C_4 L_L R_4 s^2 + 2 C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + 2 L_L s + R_4 + 2 R_L R_4 R_L s^2 + 2 C_4 R_4 R_L s + C_4 R_4 R_L s^2 + 2 C_4 R_4 R_L s + C_4 R_4 R_L s + C_4 R_4 R_L s^2 + 2 C_4 R_4 R_L s + C_4 R_4 R_L s^2 + 2 C_4 R_4 R_L s + C_4 R_4 R_L s^2 + 2 C_4 R_4 R_L s^2 + 2 C_4 R_4 R_L s + C_4 R_4 R_L s^2 + 2 C_4 R_4 R_L s + C_4 R_4 R_L s^2 + 2 C_4 R_4 R_L s + C_4 R_4 R_L s^2 + 2 C_4 R_4 R_L s + C_4 R_4 R_L s^2 + 2 C_4 R_4 R_L s + C_4 R_4 R_L s^2 + 2 C_4 R_4 R_L s + C_4 R_4$$

10.94 INVALID-ORDER-94 
$$Z(s) = \left(\infty, \ \infty, \ \frac{1}{C_3 s}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{R_4 R_L \left( C_L L_L s^2 + 1 \right)}{C_3 C_L L_L R_4 R_L s^3 + C_3 R_4 R_L s + 2 C_4 C_L L_L R_4 R_L s^3 + 2 C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + C_L R_4 R_L s + R_4 + 2 R_L R_4 R_L s^2 + C_4 R_4 R_L s + C_4 R_4 R_L s^2 + C_4 R_4 R_L s + C_4 R_4 R_L s^2 + C_4$$

10.95 INVALID-ORDER-95 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{C_4 R_4 s + 1}{s \left( C_3 C_4 R_4 s + C_3 + C_4 C_L R_4 s + 2 C_4 + C_L \right)}$$

**10.96** INVALID-ORDER-96 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_4 R_4 s + 1\right) \left(C_L R_L s + 1\right)}{s \left(C_3 C_4 C_L R_4 R_L s^2 + C_3 C_4 R_4 s + C_3 C_L R_L s + C_3 + C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L\right)}$$

**10.97** INVALID-ORDER-97 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_4 R_4 s + 1\right) \left(C_L L_L s^2 + 1\right)}{s \left(C_3 C_4 C_L L_L R_4 s^3 + C_3 C_4 R_4 s + C_3 C_L L_L s^2 + C_3 + 2 C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2 C_4 + C_L\right)}$$

**10.98** INVALID-ORDER-98 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L s \left(C_4 R_4 s + 1\right)}{C_3 C_4 L_L R_4 s^3 + C_3 L_L s^2 + C_4 C_L L_L R_4 s^3 + 2 C_4 L_L s^2 + C_4 R_4 s + C_L L_L s^2 + 1}$$

**10.99** INVALID-ORDER-99 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_{4}R_{4}s+1\right)\left(C_{L}L_{L}s^{2}+C_{L}R_{L}s+1\right)}{s\left(C_{3}C_{4}C_{L}L_{L}R_{4}s^{3}+C_{3}C_{4}L_{L}R_{2}s^{2}+C_{3}C_{4}R_{4}s+C_{3}C_{L}L_{L}s^{2}+C_{3}C_{L}R_{L}s+C_{3}+2C_{4}C_{L}L_{L}s^{2}+C_{4}C_{L}R_{4}s+2C_{4}C_{L}R_{L}s+2C_{4}+C_{L}\right)}$$

**10.100** INVALID-ORDER-100 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_L R_L s \left(C_4 R_4 s + 1\right)}{C_3 C_4 L_L R_4 R_L s^3 + C_3 L_L R_L s^2 + C_4 C_L L_L R_4 R_L s^3 + C_4 L_L R_4 s^2 + 2 C_4 L_L R_L s^2 + C_4 R_4 R_L s + C_L L_L R_L s^2 + L_L s + R_L R_L s^2 + C_4 R_4 R_L s + C_$$

10.101 INVALID-ORDER-101 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{\left(C_4 R_4 s + 1\right) \left(C_L L_L R_L s^2 + L_L s + R_L\right)}{C_3 C_4 C_L L_L R_4 s^4 + C_3 C_4 L_L R_4 s^3 + C_3 C_4 R_4 R_L s^2 + C_3 C_L L_L R_L s^3 + C_3 L_L s^2 + C_4 R_L s + C_4 L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + 2 C_4 L_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + 1 C_4 R_4 s^3 + 2 C_4 R_4 s^2 + C_4 R_4 s + 2 C_4 R_4 s +$$

10.102 INVALID-ORDER-102 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{R_L \left( C_4 R_4 s + 1 \right) \left( C_L L_L s^2 + 1 \right)}{C_3 C_4 C_L L_L R_4 R_L s^4 + C_3 C_4 R_4 R_L s^2 + C_3 C_L L_L R_L s^3 + C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + C_4 C_L R_4 R_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1}$$

**10.103** INVALID-ORDER-103 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, R_L\right)$$

$$H(s) = \frac{R_L \left( C_4 L_4 s^2 + 1 \right)}{C_3 C_4 L_4 R_L s^3 + C_3 R_L s + C_4 L_4 s^2 + 2C_4 R_L s + 1}$$

**10.104** INVALID-ORDER-104 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{C_4 L_4 s^2 + 1}{s \left( C_3 C_4 L_4 s^2 + C_3 + C_4 C_L L_4 s^2 + 2C_4 + C_L \right)}$$

**10.105** INVALID-ORDER-105 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_L \left( C_4 L_4 s^2 + 1 \right)}{C_3 C_4 L_4 R_L s^3 + C_3 R_L s + C_4 C_L L_4 R_L s^3 + C_4 L_4 s^2 + 2 C_4 R_L s + C_L R_L s + 1}$$

**10.106** INVALID-ORDER-106 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_4 L_4 s^2 + 1\right) \left(C_L R_L s + 1\right)}{s \left(C_3 C_4 C_L L_4 R_L s^3 + C_3 C_4 L_4 s^2 + C_3 C_L R_L s + C_3 + C_4 C_L L_4 s^2 + 2 C_4 C_L R_L s + 2 C_4 + C_L\right)}$$

10.107 INVALID-ORDER-107 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_4 L_4 s^2 + 1\right) \left(C_L L_L s^2 + 1\right)}{s \left(C_3 C_4 C_L L_4 L_L s^4 + C_3 C_4 L_4 s^2 + C_3 C_L L_L s^2 + C_3 + C_4 C_L L_4 s^2 + 2C_4 C_L L_L s^2 + 2C_4 + C_L\right)}$$

10.108 INVALID-ORDER-108 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L s \left(C_4 L_4 s^2 + 1\right)}{C_3 C_4 L_4 L_L s^4 + C_3 L_L s^2 + C_4 C_L L_4 L_L s^4 + C_4 L_4 s^2 + 2C_4 L_L s^2 + C_L L_L s^2 + 1}$$

**10.109** INVALID-ORDER-109 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_4 L_4 s^2 + 1\right) \left(C_L L_L s^2 + C_L R_L s + 1\right)}{s \left(C_3 C_4 C_L L_4 L_L s^4 + C_3 C_4 L_L L_4 s^3 + C_3 C_4 L_4 s^2 + C_3 C_L L_L s^2 + C_3 C_L R_L s + C_3 + C_4 C_L L_4 s^2 + 2 C_4 C_L L_L s^2 + 2 C_4 C_L R_L s + 2 C_4 + C_L C_L R_L s^2 + C_4 C_L$$

10.110 INVALID-ORDER-110 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_L R_L s \left(C_4 L_4 s^2 + 1\right)}{C_3 C_4 L_4 L_L R_L s^4 + C_3 L_L R_L s^2 + C_4 C_L L_4 L_L R_L s^4 + C_4 L_4 L_L s^3 + C_4 L_4 R_L s^2 + 2 C_4 L_L R_L s^2 + C_L L_L R_L s^2 + L_L s + R_L R_L s^4 + C_4 L_4 R_L s^4 + C_4 R_L s^4 + C_4$$

10.111 INVALID-ORDER-111 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{\left(C_4L_4s^2 + 1\right)\left(C_LL_LR_Ls^2 + L_Ls + R_L\right)}{C_3C_4C_LL_4L_LS^5 + C_3C_4L_4L_Ls^4 + C_3C_4L_4R_Ls^3 + C_3C_LL_LR_Ls^2 + C_3R_Ls + C_4C_LL_4L_Ls^4 + 2C_4C_LL_LR_Ls^3 + C_4L_4s^2 + 2C_4L_Ls^2 + 2C_4R_Ls + C_LL_Ls^2 + 1C_4R_Ls^2 + C_4R_Ls^2 + C_4R$$

10.112 INVALID-ORDER-112 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{R_L \left( C_4 L_4 s^2 + 1 \right) \left( C_L L_L s^2 + 1 \right)}{C_3 C_4 C_L L_4 L_L R_L s^5 + C_3 C_4 L_4 R_L s^3 + C_3 C_L L_L R_L s^3 + C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_L s^3 + 2 C_4 C_L L_L R_L s^3 + C_4 L_4 s^2 + 2 C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1}$$

**10.113** INVALID-ORDER-113 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_4 s}{C_3 L_4 s^2 + 2C_4 L_4 s^2 + C_L L_4 s^2 + 2}$$

**10.114** INVALID-ORDER-114 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_4 s \left(C_L R_L s + 1\right)}{C_3 C_L L_4 R_L s^3 + C_3 L_4 s^2 + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L R_L s + 2}$$

**10.115** INVALID-ORDER-115 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_4 s \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_4 L_L s^4 + C_3 L_4 s^2 + 2C_4 C_L L_4 L_L s^4 + 2C_4 L_4 s^2 + C_L L_4 s^2 + 2C_L L_L s^2 + 2}$$

**10.116** INVALID-ORDER-116 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_4 L_L s}{C_3 L_4 L_L s^2 + 2C_4 L_4 L_L s^2 + C_L L_4 L_L s^2 + L_4 + 2L_L}$$

**10.117** INVALID-ORDER-117 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_4 s \left(C_L L_L s^2 + C_L R_L s + 1\right)}{C_3 C_L L_4 L_L s^4 + C_3 C_L L_4 R_L s^3 + C_3 L_4 s^2 + 2 C_4 C_L L_4 L_L s^4 + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L L_L s^2 + 2 C_L R_L s + 2}$$

10.118 INVALID-ORDER-118 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

10.119 INVALID-ORDER-119 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

**10.120** INVALID-ORDER-120 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, R_L\right)$$

$$H(s) = \frac{R_L \left( C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{C_3 C_4 L_4 R_L s^3 + C_3 C_4 R_4 R_L s^2 + C_3 R_L s + C_4 L_4 s^2 + C_4 R_4 s + 2 C_4 R_L s + 1}$$

**10.121** INVALID-ORDER-121 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{C_4 L_4 s^2 + C_4 R_4 s + 1}{s \left( C_3 C_4 L_4 s^2 + C_3 C_4 R_4 s + C_3 + C_4 C_L L_4 s^2 + C_4 C_L R_4 s + 2 C_4 + C_L \right)}$$

**10.122** INVALID-ORDER-122 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_L \left( C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{C_3 C_4 L_4 R_L s^3 + C_3 C_4 R_4 R_L s^2 + C_3 R_L s + C_4 C_L L_4 R_L s^3 + C_4 C_L R_4 R_L s^2 + C_4 L_4 s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L R_L s + 1}$$

10.123 INVALID-ORDER-123 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_L R_L s + 1\right) \left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{s \left(C_3 C_4 C_L L_4 R_L s^3 + C_3 C_4 C_L R_4 R_L s^2 + C_3 C_4 L_4 s^2 + C_3 C_4 R_4 s + C_3 C_L R_L s + C_3 + C_4 C_L L_4 s^2 + C_4 C_L R_4 s + 2 C_4 C_L R_4 s + 2$$

10.124 INVALID-ORDER-124 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_L L_L s^2 + 1\right) \left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{s \left(C_3 C_4 C_L L_4 L_L s^4 + C_3 C_4 L_L L_R s^3 + C_3 C_4 L_4 s^2 + C_3 C_4 R_4 s + C_3 C_L L_L s^2 + C_3 + C_4 C_L L_4 s^2 + 2C_4 C_L L_L s^2 + C_4 C_L L_4 s^2 + 2C_4 C_L L_4$$

10.125 INVALID-ORDER-125 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L s \left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{C_3 C_4 L_4 L_L s^4 + C_3 C_4 L_L R_4 s^3 + C_3 L_L s^2 + C_4 C_L L_4 L_L s^4 + C_4 C_L L_L R_4 s^3 + C_4 L_4 s^2 + 2C_4 L_L s^2 + C_4 R_4 s + C_L L_L s^2 + 1}$$

**10.126** INVALID-ORDER-126 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_4L_4s^2 + C_4R_4s + 1\right)\left(C_LL_Ls^2 + C_LR_Ls + 1\right)}{s\left(C_3C_4C_LL_4L_Ls^4 + C_3C_4C_LL_4R_Ls^3 + C_3C_4C_LL_4R_Ls^2 + C_3C_4L_4s^2 + C_3C_4L_4s^2 + C_3C_4L_Ls^2 + C_3C_LL_Ls^2 + C_3C_LL_Ls^2 + C_3C_LL_Ls^2 + C_4C_LL_4s^2 + C_4C_LL_$$

$$\textbf{10.127} \quad \textbf{INVALID-ORDER-127} \ Z(s) = \left( \infty, \ \infty, \ \frac{1}{C_3 s}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}} \right) \\ H(s) = \frac{L_L R_L s \left( C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{C_3 C_4 L_4 L_L R_4 s^4 + C_3 C_4 L_L R_4 R_L s^3 + C_4 L_4 L_L R_4 s^3 + C_4 L_4 L_L R_4 s^2 + 2 C_4 L_L R_4 s^2 + 2 C_4 L_L R_4 s^2 + C_4 L_L R_4 s^$$

**10.128** INVALID-ORDER-128 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right) \left(C_L L_L R_L s^2 + L_L s + R_L\right)}{C_3 C_4 C_L L_4 L_L R_4 s^5 + C_3 C_4 L_L L_4 R_L s^4 + C_3 C_4 L_4 L_L s^3 + C_3 C_4 L_L R_4 s^3 + C_3 C_4 L_L R_4 s^3 + C_3 C_4 L_L R_L s^3 + C_3 L_L L_2 r^3 + C_3 R_L s + C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 L_4 r^4 + C_4 C_L L_4 L_4 r^4 + C_4 C_L L_4 r^4 +$$

10.129 INVALID-ORDER-129 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{R_L \left( C_L L_L s^2 + 1 \right) \left( C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{C_3 C_4 C_L L_L R_L s^5 + C_3 C_4 C_L L_L R_4 R_L s^4 + C_3 C_4 L_4 R_L s^3 + C_3 C_L L_L R_L s^3 + C_3 C_L L_L R_L s^3 + C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_L s^3 + C_4 C_L L_L R_4 s^3 + 2 C_4 C_L$$

10.130 INVALID-ORDER-130 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_4 R_4 s \left(C_L R_L s + 1\right)}{C_2 C_L L_4 R_4 R_L s^3 + C_2 L_4 R_4 s^2 + 2 C_4 L_4 R_4 R_4 s^3 + 2 C_4 L_4 R_4 s^2 + 2$$

**10.131** INVALID-ORDER-131 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_4 R_4 s \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_4 L_L R_4 s^4 + C_3 L_4 R_4 s^2 + 2 C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 L_4 R_4 s^2 + 2 C_L L_4 L_L s^3 + C_L L_4 R_4 s^2 + 2 C_L R_4 R_4$$

**10.132** INVALID-ORDER-132 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_4 R_4 s \left(C_L L_L s^2 + C_L R_L s + 1\right)}{C_3 C_L L_4 L_L R_4 s^4 + C_3 C_L L_4 R_4 R_L s^3 + C_3 L_4 R_4 s^2 + 2 C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 R_4 R_L s^3 + 2 C_4 L_4 L_L s^3 + C_L L_4 R_4 s^2 + 2 C_L L_4 R_L s^2 + 2 C_L L_4 R_4 s^2 + 2 C_L L_$$

10.133 INVALID-ORDER-133 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{L_4 R_4 s \left(C_L L_L R_L s^2 + L_L s + R_L\right)}{C_3 C_L L_4 L_L R_4 R_L s^4 + C_3 L_4 L_L R_4 s^3 + C_3 L_4 R_L R_2 s^2 + 2 C_4 C_L L_4 L_L R_4 R_L s^4 + 2 C_4 L_4 L_L R_4 s^3 + 2 C_4 L_4 R_L R_4 s^3 + 2 C_L L_4 L_L R_4 s^3 + 2 C_L L_4 L_4 L_4 R_4 s^3 + 2 C_L L_4 L_4 L_4 R_4 s^3 + 2 C_L L_4 L_4 L_4 R_4 R_4 t^3 + 2 C_L L_4 L_4 L_4 t^3 + 2 C_L L_4 L_4 t^3 +$$

10.134 INVALID-ORDER-134 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$S_{s} = \frac{L_4 R_4 R_L s \left(C_L L_L s^2 + 1\right)}{L_5 R_4 R_L s \left(C_L L_L s^2 + 1\right)}$$

$$H(s) = \frac{L_4 R_4 R_L s \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_4 L_L R_4 R_L s^4 + C_3 L_4 R_4 R_L s^2 + 2 C_4 C_L L_4 L_L R_4 R_L s^4 + 2 C_4 L_4 R_4 R_L s^2 + C_L L_4 L_L R_4 s^3 + 2 C_L L_4 L_L R_4 s^3 + C_L L_4 R_4 R_L s^2 + 2 C_L L_L R_4 R_L s^2 + L_4 R_4 s + 2 L_4 R_L s + 2 R_4 R_4 R_L s^2 + 2 C_4 R_4 R_L$$

**10.135** INVALID-ORDER-135 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, R_L\right)$$

$$H(s) = \frac{R_L \left( C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{C_3 C_4 L_4 R_4 s^3 + C_3 L_4 R_L s^2 + C_3 R_4 R_L s + C_4 L_4 R_4 s^2 + 2C_4 L_4 R_L s^2 + L_4 s + R_4 + 2R_L s^2 + C_4 R_4 s^2 + 2C_4 R_4 s^2 + 2C$$

**10.136** INVALID-ORDER-136 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_3 C_4 L_4 R_4 s^3 + C_3 L_4 s^2 + C_3 R_4 s + C_4 C_L L_4 R_4 s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + C_L R_4 s + 2}$$

10.137 INVALID-ORDER-137 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_L \left( C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{C_3 C_4 L_4 R_4 R_L s^3 + C_3 L_4 R_L s^2 + C_3 R_4 R_L s + C_4 C_L L_4 R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + C_L L_4 R_L s^2 + C_L R_4 R_L s + L_4 s + R_4 + 2 R_L r^2 + 2 C_4 R_4 R_4 r^2 + 2 C_4 R_4 r^2 + 2 C_4 R_4 R_4 r^2 + 2 C_4 R_4 R_4 r^2 + 2 C_4 R_4$$

**10.138** INVALID-ORDER-138 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_L R_L s + 1\right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{C_3 C_4 C_L L_4 R_L s^4 + C_3 C_4 L_4 R_4 s^3 + C_3 C_L L_4 R_L s^3 + C_3 C_L R_4 R_L s^2 + C_3 L_4 s^2 + C_3 R_4 s + C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 L_4 s^2 + C_L R_4 s + 2 C_L R_L s + 2 C_L R_4 s$$

10.139 INVALID-ORDER-139 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_L L_L s^2 + 1\right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{C_3 C_4 C_L L_4 L_L R_4 s^5 + C_3 C_4 L_4 R_4 s^3 + C_3 C_L L_4 L_L s^4 + C_3 C_L L_L R_4 s^3 + C_3 L_4 L_2 s^2 + C_3 R_4 s + 2 C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L L_L s^2 + C_L R_4 s + 2 C_4 L_4 R_4 s^3 + 2 C_4 L_4$$

**10.140** INVALID-ORDER-140 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L s \left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{C_3 C_4 L_4 L_L R_4 s^4 + C_3 L_4 L_L s^3 + C_3 L_L R_4 s^2 + C_4 C_L L_4 L_L R_4 s^4 + 2C_4 L_4 L_L s^3 + C_4 L_4 L_L s^3 + C_L L_4 L_L s^3 + C_L L_4 L_L s^3 + C_L L_4 L_L s^4 + 2L_L s + R_4}$$

**10.141** INVALID-ORDER-141 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, L_1 s + R_1 + \frac{1}{C_1 s}\right)$$

$$H(s) = \frac{\left(C_{L}L_{L}s^{2} + C_{L}R_{L}s + 1\right)\left(C_{4}L_{4}R_{4}s^{2} + L_{4}s + R_{4}\right)}{C_{3}C_{4}C_{L}L_{4}L_{L}s^{4} + C_{3}C_{4}L_{4}R_{4}s^{3} + C_{3}C_{L}L_{4}L_{L}s^{4} + C_{3}C_{L}L_{4}R_{L}s^{3} + C_{3}C_{L}L_{4}R_{L}s^{3} + C_{3}C_{L}R_{4}R_{L}s^{2} + C_{3}L_{4}s^{2} + C_{3}R_{4}s + 2C_{4}C_{L}L_{4}L_{L}s^{4} + C_{4}C_{L}L_{4}R_{4}s^{3} + C_{5}C_{L}L_{4}R_{4}s^{3} + C_{5}C_{L}L_{4}R_{4}s^{3} + C_{5}C_{L}L_{4}R_{4}s^{2} + C_{5}R_{4}s^{2} + C_{5}R_{4}s^{2} + C_{5}R_{4}s^{2} + C_{5}R_{5}R_{5}s^{2} + C_{5}R_{5}R_{5$$

10.144 INVALID-ORDER-144 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

10.145 INVALID-ORDER-145 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, R_L\right)$$

$$H(s) = \frac{R_4 R_L \left(C_4 L_4 s^2 + 1\right)}{C_3 C_4 L_4 R_4 R_L s^3 + C_3 R_4 R_L s + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + 2 C_4 R_4 R_L s + R_4 + 2 R_L}$$

10.146 INVALID-ORDER-146 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_4 \left(C_4 L_4 s^2 + 1\right)}{C_3 C_4 L_4 R_4 s^3 + C_3 R_4 s + C_4 C_L L_4 R_4 s^3 + 2 C_4 L_4 s^2 + 2 C_4 R_4 s + C_L R_4 s + 2}$$

10.147 INVALID-ORDER-147 
$$Z(s) = \left(\infty, \ \infty, \ \frac{1}{C_3 s}, \ \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_4 R_L \left(C_4 L_4 s^2 + 1\right)}{C_3 C_4 L_4 R_4 R_L s^3 + C_3 R_4 R_L s + C_4 C_L L_4 R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + 2 C_4 R_4 R_L s + C_L R_4 R_L s + R_4 + 2 R_L s^2}$$

10.148 INVALID-ORDER-148 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}\right), \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_4 \left(C_4 L_4 s^2 + 1\right) \left(C_L R_L s + 1\right)}{C_3 C_4 C_L L_4 R_4 s^4 + C_3 C_4 L_4 R_4 s^3 + C_3 C_L R_4 R_L s^2 + C_3 R_4 s + C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 C_L R_4 R_L s^2 + 2 C_4 R_4 s + C_L R_4 s + 2 C_L R_$$

10.149 INVALID-ORDER-149 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_4 \left( C_4 L_4 s^2 + 1 \right) \left( C_L L_L s^2 + 1 \right)}{C_3 C_4 C_L L_4 L_L R_4 s^5 + C_3 C_4 L_4 R_4 s^3 + C_3 C_L L_L R_4 s^3 + 2 C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_L R_4 s^3 + 2 C_4 L_4 R_4 s^3 + 2 C_4 L_4 R_4 s^3 + 2 C_4 L_4 L_5 r^4 + C_4 C_4 L_4 L_4 R_4 s^3 + 2 C_4 L_4 L_5 r^4 + C_4 C_4 L_4 R_4 r^3 + 2 C_4 L_4 R_4$$

10.150 INVALID-ORDER-150 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

10.151 INVALID-ORDER-151 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_4 \left(C_4 L_4 s^2 + 1\right) \left(C_L L_L s^2 + C_L R_L s + 1\right)}{C_3 C_4 C_L L_4 R_4 s^5 + C_3 C_4 C_L L_4 R_4 s^3 + C_3 C_L L_L R_4 s^3 + C_3 C_L L_R R_4 s^3 + 2 C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_$$

10.152 INVALID-ORDER-152 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{R_4\left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$L_L R_4 R_L s \left( C_4 L_4 s^2 + 1 \right)$$

10.153 INVALID-ORDER-153 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{R_4 \left( C_4 L_4 s^2 + 1 \right) \left( C_L L_L R_L s^2 + L_L s + R_L \right)}{C_3 C_4 C_L L_4 L_L R_4 s^5 + C_3 C_4 L_4 L_L R_4 s^4 + C_3 C_4 L_4 L_L R_4 s^3 + C_3 C_L L_L R_4 R_L s^3 + C_3 L_L R_4 s^2 + C_3 R_4 R_L s + C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_L R_4 s^3 + 2 C_4 C_L L_4 L_L R_4 s^3 + 2 C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_4 L_4 R_4 s^4 + 2 C_4 C_L L_4 R_4 R_4 s^4 + 2 C_4 C_L L_4 R_4 R_4 R_5 t^4 + 2 C_4 C_L L_4 R_4 R_5 t^4 + 2 C_$$

10.154 INVALID-ORDER-154 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

**10.155** INVALID-ORDER-155 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, R_4, \infty, R_L\right)$$

$$H(s) = \frac{R_3 R_4 R_L}{C_3 R_3 R_4 R_L s + R_3 R_4 + 2R_3 R_L + R_4 R_L}$$

**10.156** INVALID-ORDER-156 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, R_4, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 R_4}{C_3 R_3 R_4 s + C_L R_3 R_4 s + 2R_3 + R_4}$$

10.157 INVALID-ORDER-157 
$$Z(s) = \left(\infty, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ R_4, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_3 R_4 R_L}{C_3 R_3 R_4 R_L s + C_L R_3 R_4 R_L s + R_3 R_4 + 2 R_3 R_L + R_4 R_L}$$

**10.158** INVALID-ORDER-158  $Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, R_4, \infty, L_L s + \frac{1}{C_L s}\right)$ 

$$H(s) = \frac{R_3 R_4 \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_L R_3 R_4 s^3 + C_3 R_3 R_4 s + 2 C_L L_L R_3 s^2 + C_L L_L R_4 s^2 + C_L R_3 R_4 s + 2 R_3 + R_4}$$

**10.159** INVALID-ORDER-159  $Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, R_4, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$ 

**10.160** INVALID-ORDER-160  $Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, R_4, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$ 

$$H(s) = \frac{R_3 R_4 \left(C_L L_L R_L s^2 + L_L s + R_L\right)}{C_3 C_L L_L R_3 R_4 R_L s^3 + C_3 L_L R_3 R_4 s^2 + C_3 R_3 R_4 R_L s + C_L L_L R_3 R_4 s^2 + 2 C_L L_L R_3 R_L s^2 + C_L L_L R_4 R_L s^2 + 2 L_L R_3 s + L_L R_4 s + R_3 R_4 + 2 R_3 R_L + R_4 R_L s^2 + 2 R_4 R_L s^2$$

10.161 INVALID-ORDER-161 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, R_4, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{R_3 R_4 R_L \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_L R_3 R_4 R_L s^3 + C_3 R_3 R_4 R_L s + C_L L_L R_3 R_4 s^2 + 2C_L L_L R_3 R_L s^2 + C_L L_L R_4 R_L s^2 + C_L R_3 R_4 R_L s + R_3 R_4 + 2R_3 R_L + R_4 R_L r^2}$$

**10.162** INVALID-ORDER-162 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{1}{C_4 s}, \infty, R_L\right)$$

$$H(s) = \frac{R_3 R_L}{C_3 R_3 R_L s + 2C_4 R_3 R_L s + R_3 + R_L}$$

**10.163** INVALID-ORDER-163 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{1}{C_4 s}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3}{C_3 R_3 s + 2C_4 R_3 s + C_L R_3 s + 1}$$

**10.164** INVALID-ORDER-164 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{1}{C_4 s}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_3 R_L}{C_3 R_3 R_L s + 2C_4 R_3 R_L s + C_L R_3 R_L s + R_3 + R_L}$$

**10.165** INVALID-ORDER-165 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{1}{C_4 s}, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 \left( C_L L_L s^2 + 1 \right)}{C_3 C_L L_L R_3 s^3 + C_3 R_3 s + 2 C_4 C_L L_L R_3 s^3 + 2 C_4 R_3 s + C_L L_L s^2 + C_L R_3 s + 1}$$

**10.166** INVALID-ORDER-166 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{1}{C_4 s}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 \left( C_L L_L s^2 + C_L R_L s + 1 \right)}{C_3 C_L L_L R_3 s^3 + C_3 C_L R_3 R_L s^2 + C_3 R_3 s + 2 C_4 C_L L_L R_3 s^3 + 2 C_4 C_L R_3 R_L s^2 + 2 C_4 R_3 s + C_L L_L s^2 + C_L R_3 s + C_L R_L s + 1}$$

**10.167** INVALID-ORDER-167 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

**10.169** INVALID-ORDER-169 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{R_4}{C_4 R_4 s + 1}, \infty, R_L\right)$$

$$H(s) = \frac{R_3 R_4 R_L}{C_3 R_3 R_4 R_L s + 2C_4 R_3 R_4 R_L s + R_3 R_4 + 2R_3 R_L + R_4 R_L}$$

**10.170** INVALID-ORDER-170 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 R_4}{C_3 R_3 R_4 s + 2C_4 R_3 R_4 s + C_L R_3 R_4 s + 2R_3 + R_4}$$

10.171 INVALID-ORDER-171 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_3 R_4 R_L}{C_3 R_3 R_4 R_L s + 2 C_4 R_3 R_4 R_L s + C_L R_3 R_4 R_L s + R_3 R_4 + 2 R_3 R_L + R_4 R_L}$$

**10.172** INVALID-ORDER-172 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{R_4}{C_4 R_4 s + 1}, \infty, L_L s + \frac{1}{C_L s}\right)$$

10.173 INVALID-ORDER-173 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{R_4}{C_4 R_4 s + 1}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 R_4 \left(C_L L_L s^2 + C_L R_L s + 1\right)}{C_3 C_L L_L R_3 R_4 s^3 + C_3 C_L R_3 R_4 R_L s^2 + C_3 R_3 R_4 s + 2 C_4 C_L L_L R_3 R_4 s^3 + 2 C_4 C_L R_3 R_4 R_L s^2 + 2 C_4 R_3 R_4 s + 2 C_L L_L R_3 s^2 + C_L R_3 R_4 s + 2 C_L R_3 R_4 s$$

**10.174** INVALID-ORDER-174 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{R_3 R_4 \left( C_L L_L R_L s^2 + L_L s + R_L \right)}{C_3 C_L L_L R_3 R_4 R_L s^3 + C_3 L_L R_3 R_4 s^2 + C_3 R_3 R_4 R_L s + 2 C_4 C_L L_L R_3 R_4 R_L s^3 + 2 C_4 L_L R_3 R_4 s^2 + 2 C_4 R_3 R_4 R_L s + C_L L_L R_3 R_4 s^2 + 2 C_L R_3$$

10.175 INVALID-ORDER-175 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{R_3 R_4 R_L \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_L R_3 R_4 R_L s^3 + C_3 R_3 R_4 R_L s + 2 C_4 C_L L_L R_3 R_4 R_L s^3 + 2 C_4 R_3 R_4 R_L s + C_L L_L R_3 R_4 s^2 + 2 C_L L_L R_3 R_L s^2 + C_L L_L R_4 R_L s^2 + C_L R_3 R_4 R_L s + R_3 R_4 + 2 R_3 R_L + R_4 R_L s^2 + 2 C_L R_3 R_4 R_L s^2 + C_L R_3 R_4$$

**10.176** INVALID-ORDER-176 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, R_4 + \frac{1}{C_4 s}, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 \left( C_4 R_4 s + 1 \right) \left( C_L R_L s + 1 \right)}{C_3 C_4 C_L R_3 R_4 R_L s^3 + C_3 C_4 R_3 R_4 s^2 + C_3 C_L R_3 R_L s^2 + C_4 C_L R_3 R_4 s^2 + 2 C_4 C_L R_3 R_L s^2 + 2 C_4 R_3 s + C_4 R_4 s + C_L R_3 s + C_L R_L s + 1}$$

**10.177** INVALID-ORDER-177 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, R_4 + \frac{1}{C_4 s}, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 \left(C_4 R_4 s + 1\right) \left(C_L L_L s^2 + 1\right)}{C_3 C_4 C_L L_L R_3 R_4 s^4 + C_3 C_4 R_3 R_4 s^2 + C_3 C_L L_L R_3 s^3 + C_4 C_L L_L R_3 s^3 + C_4 C_L L_L R_4 s^3 + C_4 C_L L_R R_3 R_4 s^2 + 2 C_4 R_3 s + C_4 R_4 s + C_L L_L s^2 + C_L R_3 s + 1}$$

**10.178** INVALID-ORDER-178 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, R_4 + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L R_3 s \left(C_4 R_4 s + 1\right)}{C_3 C_4 L_L R_3 R_4 s^3 + C_3 L_L R_3 s^2 + C_4 C_L L_L R_3 R_4 s^3 + 2 C_4 L_L R_3 s^2 + C_4 L_L R_4 s^2 + C_4 R_3 R_4 s + C_L L_L R_3 s^2 + L_L s + R_3}$$

10.179 INVALID-ORDER-179 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, R_4 + \frac{1}{C_4 s}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 \left(C_4 R_4 s + 1\right) \left(C_L L_L s^2 + C_L R_L s + 1\right)}{C_3 C_4 C_L L_L R_3 R_4 s^4 + C_3 C_4 C_L R_3 R_4 R_L s^3 + C_3 C_L L_L R_3 s^3 + C_3 C_L R_3 R_L s^2 + C_3 R_3 s + 2 C_4 C_L L_L R_3 s^3 + C_4 C_L L_L R_4 s^3 + C_4 C_L R_3 R_4 s^2 + 2 C_4 C_L R_3 R_L s^2 + C_4 C_L R_3 R_4 s^3 + C_4 C_L R_3$$

10.180 INVALID-ORDER-180 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, R_4 + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_L R_3 R_L s \left(C_4 R_4 s + 1\right)}{C_3 C_4 L_L R_3 R_4 R_L s^3 + C_3 L_L R_3 R_L s^2 + C_4 C_L L_L R_3 R_4 R_L s^3 + C_4 L_L R_3 R_4 s^2 + 2 C_4 L_L R_3 R_L s^2 + C_4 L_L R_3 R_4 R_L s^2 + C_4 R_3 R_4 R_L s + C_L L_L R_3 R_L s^2 + L_L R_3 s + L_L R_L s + R_3 R_L s^2 + C_4 R_3 R_4 R_L s^2 + C_4 R_4 R_L s^2 + C_$$

10.181 INVALID-ORDER-181 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, R_4 + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{R_3 \left( C_4 R_4 s + 1 \right) \left( C_L L_L R_L s^2 + L_L s + R_L \right)}{C_3 C_4 C_L L_L R_3 R_4 R_L s^4 + C_3 C_4 L_L R_3 R_4 R_L s^3 + C_3 C_L L_L R_3 R_L s^3 + C_3 L_L R_3 s^2 + C_3 R_3 R_L s + C_4 C_L L_L R_3 R_4 s^3 + 2 C_4 C_L L_L R_3 R_L s^3 + C_$$

10.182 INVALID-ORDER-182 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, R_4 + \frac{1}{C_4 s}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{R_3 R_L \left(C_4 R_4 s + 1\right) \left(C_L L_L s^2 + 1\right)}{C_3 C_4 C_L L_L R_3 R_4 R_L s^4 + C_3 C_4 R_3 R_4 R_L s^2 + C_3 C_L L_L R_3 R_L s^3 + C_4 C_L L_L R_3 R_4 s^3 + 2 C_4 C_L L_L R_3 R_L s^3 + C_4 C_L L_L R_4 R_L s^3 + C_4 C_L R_3 R_4 R_L s^2 + C_4 R_3 R_4 s + 2 C_4 C_L R_3 R_4 R_L s^3 + C_4 C_L R_$$

**10.183** INVALID-ORDER-183 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, L_4 s + \frac{1}{C_4 s}, \infty, R_L\right)$$

$$H(s) = \frac{R_3 R_L \left( C_4 L_4 s^2 + 1 \right)}{C_3 C_4 L_4 R_3 R_L s^3 + C_3 R_3 R_L s + C_4 L_4 R_3 s^2 + C_4 L_4 R_L s^2 + 2 C_4 R_3 R_L s + R_3 + R_L}$$

**10.184** INVALID-ORDER-184 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, L_4 s + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 \left( C_4 L_4 s^2 + 1 \right)}{C_3 C_4 L_4 R_3 s^3 + C_3 R_3 s + C_4 C_L L_4 R_3 s^3 + C_4 L_4 s^2 + 2 C_4 R_3 s + C_L R_3 s + 1}$$

**10.185** INVALID-ORDER-185 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, L_4 s + \frac{1}{C_4 s}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

**10.186** INVALID-ORDER-186 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, L_4 s + \frac{1}{C_4 s}, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 \left(C_4 L_4 s^2 + 1\right) \left(C_L R_L s + 1\right)}{C_3 C_4 C_L L_4 R_3 R_L s^4 + C_3 C_4 L_4 R_3 s^3 + C_3 C_L R_3 R_L s^2 + C_3 R_3 s + C_4 C_L L_4 R_3 s^3 + C_4 C_L L_4 R_2 s^3 + 2 C_4 C_L R_3 R_L s^2 + C_4 L_4 s^2 + 2 C_4 R_3 s + C_L R_3 s + C_L R_4 s + 1}$$

**10.187** INVALID-ORDER-187 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, L_4 s + \frac{1}{C_4 s}, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 \left( C_4 L_4 s^2 + 1 \right) \left( C_L L_L s^2 + 1 \right)}{C_3 C_4 C_L L_4 L_1 R_3 s^5 + C_3 C_4 L_4 R_3 s^3 + C_3 C_L L_L R_3 s^3 + C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_3 s^3 + 2 C_4 C_L L_L R_3 s^3 + C_4 L_4 s^2 + 2 C_4 R_3 s + C_L L_L s^2 + C_L R_3 s + 1}$$

**10.188** INVALID-ORDER-188 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, L_4 s + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L R_3 s \left(C_4 L_4 s^2 + 1\right)}{C_3 C_4 L_4 L_L R_3 s^4 + C_3 L_L R_3 s^2 + C_4 C_L L_4 L_L R_3 s^4 + C_4 L_4 L_L s^3 + C_4 L_4 R_3 s^2 + 2 C_4 L_L R_3 s^2 + C_L L_L R_3 s^2 + L_L s + R_3}$$

**10.189** INVALID-ORDER-189 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, L_4 s + \frac{1}{C_4 s}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 \left(C_4 L_4 s^2 + 1\right) \left(C_L L_L s^2 + C_L R_L s + 1\right)}{C_3 C_4 C_L L_4 R_3 s^5 + C_3 C_4 C_L L_4 R_3 s^3 + C_3 C_L L_L R_3 s^3 + C_3 C_L L_R R_3 s^3 + C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_3 s^3 + C_4 C_L L_4$$

10.190 INVALID-ORDER-190 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, L_4 s + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$L_L R_3 R_L s \left( C_4 L_4 s^2 + 1 \right)$$

**10.191** INVALID-ORDER-191 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_{3s+1}}, L_4 s + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{R_3 \left( C_4 L_4 s^2 + 1 \right) \left( C_L L_L R_L s^2 + L_L s + R_L \right)}{C_3 C_4 C_L L_4 L_L R_3 R_L s^5 + C_3 C_4 L_4 L_L R_3 s^4 + C_3 C_4 L_4 R_3 R_L s^3 + C_3 C_L L_L R_3 R_L s^3 + C_3 L_L R_3 s^2 + C_3 R_3 R_L s + C_4 C_L L_4 L_L R_3 s^4 + C_4 C_L L_4 L_L R_3 s^4 + C_4 C_L L_4 L_L R_3 r_L s^3 + C_4 C_L L_4 R_3 r_L s^3 + C_4 C_L L_4 R_3 r_L s^3 + C_4 C_L R_3 r_L s^3 + C_4 C_L R_3 r_L s^3 + C_4 C_L R_3 r_L s^4 + C_4 C_L R_3 r_L s^4 + C_4 C_L R_3 r_L s^3 + C_4 C_L R_3 r_L s^4 + C_4 C_L R_3 r_L s^4$$

10.192 INVALID-ORDER-192 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, L_4 s + \frac{1}{C_4 s}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{R_3 R_L \left( C_4 L_4 s^2 + 1 \right) \left( C_L L_L s^2 + 1 \right)}{C_3 C_4 C_L L_4 L_R R_3 R_L s^5 + C_3 C_4 L_4 R_3 R_L s^3 + C_3 C_L L_L R_3 R_L s^3 + C_4 C_L L_4 L_L R_3 s^4 + C_4 C_L L_4 L_L R_3 s^4 + C_4 C_L L_4 R_3 R_L s^3 + 2 C_4 C_L L_L R_3 R_L s^3 + C_4 L_4 R_3 s^2 + C_4 C_L L_4 R_3 R_L s^3 + C_4$$

**10.193** INVALID-ORDER-193 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_4 R_3 s \left(C_L R_L s + 1\right)}{C_3 C_L L_4 R_3 R_L s^3 + C_3 L_4 R_3 s^2 + 2 C_4 C_L L_4 R_3 R_L s^3 + 2 C_4 L_4 R_3 s^2 + C_L L_4 R_3 s^2 + C_L L_4 R_L s^2 + 2 C_L R_3 R_L s + L_4 s + 2 R_3 R_L s^2 + 2 C_L R_3 R_L s + L_4 s + 2 R_3 R_L s^2 + 2 C_L R_3 R_L s + L_4 s + 2 R_3 R_L s^2 + 2 C_L R_3 R_$$

**10.194** INVALID-ORDER-194 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, L_L s + \frac{1}{C_L s}\right)$$

**10.195** INVALID-ORDER-195 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_4 R_3 s \left(C_L L_L s^2 + C_L R_L s + 1\right)}{C_3 C_L L_4 L_L R_3 s^4 + C_3 C_L L_4 R_3 R_L s^3 + C_3 L_4 R_3 s^2 + 2 C_4 C_L L_4 L_L R_3 s^4 + 2 C_4 C_L L_4 R_3 R_L s^3 + 2 C_4 L_4 L_L s^3 + C_L L_4 L_L s^3 + C_L L_4 R_3 s^2 + C_L L_4 R_3 s^2 + 2 C_L L_4 R_3 s^2 + 2 C_L L_4 R_3 s^2 + 2 C_L L_4 R_3 s^2 + C_L$$

**10.196** INVALID-ORDER-196 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3R_3s+1}, \frac{L_4s}{C_4L_4s^2+1}, \infty, \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$$

$$H(s) = \frac{L_4 R_3 s \left(C_L L_L R_L s^2 + L_L s + R_L\right)}{C_3 C_L L_4 L_L R_3 R_L s^4 + C_3 L_4 L_L R_3 s^3 + C_3 L_4 R_3 R_L s^2 + 2 C_4 C_L L_4 L_L R_3 R_L s^4 + 2 C_4 L_4 L_L R_3 s^3 + 2 C_4 L_4 R_3 R_L s^2 + C_L L_4 L_L R_3 s^3 + C_L L_4 L_L R_3 s^3 + 2 C_L L_4 R_3 R_L s^2 + L_4 L_L R_3 r_L s^2 + L_4 L_L R_3 r_L s^3 + 2 C_4 L_4 R_3 R_L s^3 + 2 C_4 R_3 R_$$

10.197 INVALID-ORDER-197 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{L_4 R_3 R_L s \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_4 L_L R_3 R_L s^4 + C_3 L_4 R_3 R_L s^2 + 2 C_4 C_L L_4 L_L R_3 R_L s^4 + 2 C_4 L_4 R_3 R_L s^2 + C_L L_4 L_L R_3 s^3 + C_L L_4 L_L R_3 s^3 + C_L L_4 R_3 R_L s^2 + 2 C_L L_L R_3 R_L s^2 + L_4 R_3 s + L_4 R_L s + 2 R_3 R_L s^2 + 2 C_L R_3 R_L s^2 + 2$$

**10.198** INVALID-ORDER-198 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, R_L\right)$$

**10.199** INVALID-ORDER-199 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 \left( C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{C_3 C_4 L_4 R_3 s^3 + C_3 C_4 R_3 R_4 s^2 + C_3 R_3 s + C_4 C_L L_4 R_3 s^3 + C_4 C_L R_3 R_4 s^2 + C_4 L_4 s^2 + 2 C_4 R_3 s + C_4 R_4 s + C_L R_3 s + 1}$$

**10.200** INVALID-ORDER-200 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$R_3R_L\left(C_4L_4s^2+C_4R_4s+1\right)$$

$$H(s) = \frac{R_3 R_L \left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{C_3 C_4 L_4 R_3 R_L s^3 + C_3 C_4 R_3 R_4 R_L s^2 + C_3 R_3 R_L s + C_4 C_L L_4 R_3 R_L s^3 + C_4 C_L R_3 R_4 R_L s^2 + C_4 L_4 R_3 s^2 + C_4 L_4 R_3 s^2 + C_4 L_4 R_3 R_L s + C_4 R_3 R_L s + C_4 R_4 R_L s + C_L R_3 R_L s + R_3 R_L s + C_4 R_3 R_L s$$

10.201 INVALID-ORDER-201 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 \left( C_L R_L s + 1 \right) \left( C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{C_3 C_4 C_L L_4 R_3 R_L s^4 + C_3 C_4 C_L R_3 R_4 R_L s^3 + C_3 C_4 R_3 R_4 s^2 + C_3 C_L R_3 R_L s^2 + C_3 R_3 s + C_4 C_L L_4 R_3 s^3 + C_4 C_L L_4 R_2 s^3 + C_4 C_L R_3 R_4 s^2 + 2 C_4 C_L R_3 R_L s^2 + C_4 C_L R_3 R_4 s^2 + C_4 C_L R_$$

**10.202** INVALID-ORDER-202 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 \left( C_L L_L s^2 + 1 \right) \left( C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{C_3 C_4 C_L L_L R_3 s^5 + C_3 C_4 C_L L_L R_3 s^3 + C_3 C_4 R_3 R_4 s^2 + C_3 C_L L_L R_3 s^3 + C_4 C_L L_L L_L s^4 + C_4 C_L L_4 R_3 s^3 + 2 C_4 C_L L_L R_3 s^3 + C_4 C_L L_L R_4 s^3 + C_4 C_$$

**10.203** INVALID-ORDER-203 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L R_3 s \left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{C_3 C_4 L_4 L_L R_3 s^4 + C_3 C_4 L_L R_3 R_4 s^3 + C_4 L_L L_R R_3 s^4 + C_4 C_L L_L R_3 R_4 s^3 + C_4 L_4 L_L R_3 s^2 + 2C_4 L_L R_3 s^2 + C_4 L_L R_4 s^2 + C_4 R_3 R_4 s + C_L L_L R_3 s^2 + 2C_4 L_L R_3 s^2 + C_4 L_L R_4 s^2 + C_4 R_3 R_4 s + C_4 L_L R_3 s^2 + 2C_4 L_L R_3 s^2 + C_4 L_L R_3 s^2 +$$

**10.204** INVALID-ORDER-204 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

10.205 INVALID-ORDER-205 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_L R_3 R_L s \left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{C_3 C_4 L_4 L_L R_3 R_L s^4 + C_3 C_4 L_L R_3 R_L s^3 + C_4 L_4 L_L R_3 R_L s^3 + C_4 L_4$$

**10.206** INVALID-ORDER-206 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{1}{C_3 C_4 C_L L_4 L_L R_3 R_L s^5 + C_3 C_4 C_L L_L R_3 R_4 R_L s^4 + C_3 C_4 L_4 L_L R_3 s^4 + C_3 C_4 L_4 R_3 R_L s^3 + C_3 C_4 L_L R_3 R_4 s^3 + C_3 C_4 R_3 R_4 R_L s^2 + C_3 C_L L_L R_3 R_L s^3 + C_3 L_L R_3 R_L s^4 + C_3 C_4 L_4 R_3 R_L s^3 + C_3 C_4 L_4 R_3 R_L s^3 + C_3 C_4 R_3 R_4 R_L s^2 + C_3 C_4 L_4 R_3 R_L s^3 + C_3 C_4 R_3 R_4 R_L s^3 + C_3 C_4 R_4 R_L s^3 + C_3 C_4 R_4 R_L s^3 +$$

10.207 INVALID-ORDER-207 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

10.208 INVALID-ORDER-208 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, R_L + \frac{1}{C_L s}\right)$$

10.209 INVALID-ORDER-209 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, L_L s + \frac{1}{C_L s}\right)$$

**10.210** INVALID-ORDER-210 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

10.211 INVALID-ORDER-211 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{L_4 R_3 R_4 s \left(C_L L_L R_L s^2 + L_L s + R_L\right)}{C_3 C_L L_4 L_L R_3 R_4 R_L s^4 + C_3 L_4 L_L R_3 R_4 s^3 + C_3 L_4 R_3 R_4 R_L s^2 + 2 C_4 C_L L_4 L_L R_3 R_4 R_L s^4 + 2 C_4 L_4 L_L R_3 R_4 s^3 + 2 C_4 L_4 L_L R_3 R_4 s^3 + 2 C_L L_4 L_L R_$$

10.212 INVALID-ORDER-212 
$$Z(s) = \left(\infty, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

**10.213** INVALID-ORDER-213 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, R_L\right)$$

10.214 INVALID-ORDER-214 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, \frac{1}{C_L s}\right)$$

**10.215** INVALID-ORDER-215 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$R_3R_L\left(C_4L_4R_4s^2 + L_4s + R_4\right)$$

**10.216** INVALID-ORDER-216 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, R_L + \frac{1}{C_L s}\right)$$

10.217 INVALID-ORDER-217 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, L_L s + \frac{1}{C_L s}\right)$$

10.218 INVALID-ORDER-218 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

**10.219** INVALID-ORDER-219 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{1}{C_3C_4C_LL_4L_RR_3R_4s^5 + C_3C_4C_LL_4R_3R_4R_Ls^4 + C_3C_4L_4R_3R_4s^3 + C_3C_LL_4R_3s^4 + C_3C_LL_4R_3R_Ls^3 + C_3C_LL_LR_3R_4s^3 + C_3C_LR_3R_4R_Ls^2 + C_3L_4R_3s^2 + C_3R_3R_4s + C_3C_LL_4R_3R_4s^3 +$$

10.220 INVALID-ORDER-220 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$L_L R_3 R_L s \left( C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)$$

$$H(s) = \frac{L_L R_3 R_L s \left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{C_3 C_4 L_4 L_L R_3 R_4 R_L s^4 + C_3 L_4 L_L R_3 R_4 R_L s^3 + C_4 L_4 L_L R_3 R_4 R_L s^3 + C_$$

10.221 INVALID-ORDER-221 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3R_3s+1}, \frac{L_4s}{C_4L_4s^2+1} + R_4, \infty, \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$$

10.222 INVALID-ORDER-222 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

10.223 INVALID-ORDER-223 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, R_L\right)$$

$$H(s) = \frac{R_3 R_4 R_L \left(C_4 L_4 s^2 + 1\right)}{C_3 C_4 L_4 R_3 R_4 R_L s^3 + C_3 R_3 R_4 R_L s + C_4 L_4 R_3 R_4 s^2 + 2 C_4 L_4 R_3 R_L s^2 + C_4 L_4 R_3 R_4 R_L s^2 + 2 C_4 R_3 R_4 R_L s + R_3 R_4 + 2 R_3 R_L + R_4 R_L s^2 + 2 C_4 R_3 R_4 R_L s^2$$

10.224 INVALID-ORDER-224 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 R_4 \left(C_4 L_4 s^2 + 1\right)}{C_3 C_4 L_4 R_3 R_4 s^3 + C_3 R_3 R_4 s + C_4 C_L L_4 R_3 R_4 s^3 + 2C_4 L_4 R_3 s^2 + C_4 L_4 R_4 s^2 + 2C_4 R_3 R_4 s + C_L R_3 R_4 s + 2R_3 + R_4 R_4 s^2 + 2C_4 R_3 R_4 s + C_4 R_3 R_4 s + 2R_3 R_$$

10.225 INVALID-ORDER-225 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_3 R_4 R_L \left(C_4 L_4 s^2 + 1\right)}{C_3 C_4 L_4 R_3 R_4 R_L s^3 + C_3 R_3 R_4 R_L s + C_4 C_L L_4 R_3 R_4 R_L s^3 + C_4 L_4 R_3 R_4 s^2 + 2 C_4 L_4 R_3 R_L s^2 + 2 C_4 R_3 R_4 R_L s + C_L R_3 R_4 R_L s + R_3 R_4 + 2 R_3 R_L + R_4 R_L s^2 + 2 C_4 R_3 R_4 R_L s + C_4 R_3 R_4 R_L s + R_3 R_4 R_L s + R_4 R_L s^2 + 2 C_4 R_3 R_4 R_L s + C_4 R_3 R_4 R_L s + R_4 R_L s^2 + 2 C_4 R_3 R_4 R_L s + C_4 R_3 R_4 R_L s + R_4 R_L$$

10.226 INVALID-ORDER-226 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}\right), \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 R_4 \left(C_4 L_4 s^2 + 1\right) \left(C_L R_L s + 1\right)}{C_3 C_4 C_L L_4 R_3 R_4 R_L s^4 + C_3 C_4 L_4 R_3 R_4 s^3 + C_4 C_L L_4 R_3 R_4 s^3 + 2 C_4 C_L L_4 R_3 R_L s^3 + 2 C_4 C_L L_4 R_3 R_4 R_L s^3 + 2 C_4 C_L L_4 R_3$$

10.227 INVALID-ORDER-227 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 R_4 \left(C_4 L_4 s^2 + 1\right) \left(C_L L_L s^2 + 1\right)}{C_3 C_4 C_L L_4 L_L R_3 R_4 s^5 + C_3 C_4 L_4 R_3 R_4 s^3 + C_3 C_L L_L R_3 R_4 s^3 + 2 C_4 C_L L_4 L_L R_3 s^4 + C_4 C_L L_4 L_L R_4 s^4 + C_4 C_L L_4 R_3 R_4 s^3 + 2 C_4 C_L L_4 R_3 R_4 s^3 + 2 C_4 L_4 R_4 R_4 R_4 R_4 R_4 R_4 R_4 R_$$

10.228 INVALID-ORDER-228 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L R_3 R_4 s \left(C_4 L_4 s^2 + 1\right)}{C_3 C_4 L_4 L_L R_3 R_4 s^4 + C_3 L_L R_3 R_4 s^2 + C_4 C_L L_4 L_L R_3 R_4 s^4 + 2 C_4 L_4 L_L R_3 s^3 + C_4 L_4 L_L R_4 s^3 + C_4 L_4 R_3 R_4 s^2 + 2 C_4 L_L R_3 R_4 s^2 + 2 L_L R_3 s + L_L R_4 s + R_3 R_4 s^2 + 2 L_L R_3 R_4 s^2 + 2 L_L$$

10.229 INVALID-ORDER-229 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

10.230 INVALID-ORDER-230 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{1}{C_3 C_4 L_4 L_L R_3 R_4 R_L s^4 + C_3 L_L R_3 R_4 R_L s^2 + C_4 C_L L_4 L_L R_3 R_4 R_L s^4 + C_4 L_4 L_L R_3 R_4 s^3 + 2 C_4 L_4 L_L R_3 R_L s^3 + C_4 L_4 L_L R_3 R_4 R_L$$

10.231 INVALID-ORDER-231 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

10.232 INVALID-ORDER-232 
$$Z(s) = \left(\infty, \infty, \frac{R_3}{C_3 R_3 s + 1}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

**10.233** INVALID-ORDER-233 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, R_4, \infty, R_L\right)$$

$$H(s) = \frac{R_4 R_L (C_3 R_3 s + 1)}{C_3 R_3 R_4 s + 2 C_3 R_3 R_L s + C_3 R_4 R_L s + R_4 + 2 R_L}$$

**10.234** INVALID-ORDER-234 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, R_4, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_4 \left( C_3 R_3 s + 1 \right) \left( C_L L_L s^2 + 1 \right)}{2 C_3 C_L L_L R_3 s^3 + C_3 C_L L_L R_4 s^3 + C_3 C_L R_3 R_4 s^2 + 2 C_3 R_3 s + C_3 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2}$$

**10.235** INVALID-ORDER-235 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, R_4, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L R_4 s \left(C_3 R_3 s + 1\right)}{C_3 C_L L_L R_3 R_4 s^3 + 2 C_3 L_L R_3 s^2 + C_3 L_L R_4 s^2 + C_3 R_3 R_4 s + C_L L_L R_4 s^2 + 2 L_L s + R_4}$$

**10.236** INVALID-ORDER-236 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, R_4, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_4 \left(C_3 R_3 s + 1\right) \left(C_L L_L s^2 + C_L R_L s + 1\right)}{2 C_3 C_L L_L R_3 s^3 + C_3 C_L L_L R_4 s^3 + C_3 C_L R_3 R_4 s^2 + 2 C_3 C_L R_3 R_L s^2 + C_3 C_L R_4 R_L s^2 + 2 C_3 R_3 s + C_3 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2 C_L R_L s + 2}$$

10.237 INVALID-ORDER-237 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, R_4, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_L R_4 R_L s \left(C_3 R_3 s + 1\right)}{C_3 C_L L_L R_3 R_4 R_L s^3 + C_3 L_L R_3 R_4 s^2 + 2 C_3 L_L R_3 R_L s^2 + C_3 L_L R_4 R_L s^2 + C_3 R_3 R_4 R_L s + C_L L_L R_4 R_L s^2 + L_L R_4 s + 2 L_L R_4 s + R_4 R_L s^2 + 2 C_3 L_L R_3 R_4 R_L s^2 + C_3 R_3 R_4 R_L s + C_4 R_4 R_L s^2 + L_4 R_4 R_L s^2 + L_4 R_4 R_L s^2 + L_4 R_4 R_L s^2 + C_4 R_4 R_$$

10.238 INVALID-ORDER-238 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, R_4, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{R_4 \left( C_3 R_3 s + 1 \right) \left( C_L L_L R_L s^2 + L_L s + R_L \right)}{C_3 C_L L_L R_3 R_4 s^3 + 2 C_3 C_L L_L R_3 R_L s^3 + C_3 C_L L_L R_4 R_L s^3 + 2 C_3 L_L R_3 s^2 + C_3 L_L R_4 s^2 + C_3 R_3 R_4 s + 2 C_3 R_3 R_L s + C_3 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_4 s^2 + 2 L_L s + R_4 + 2 C_L R_4 s^2 + 2 C_L R_4 R_4 s^2 + 2 C_L R_4 R_4 r^2 + 2 C_L R_4 R_4 r^$$

10.239 INVALID-ORDER-239 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, R_4, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

**10.240** INVALID-ORDER-240 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{C_3 R_3 s + 1}{s \left(2 C_3 C_4 R_3 s + C_3 C_L R_3 s + C_3 + 2 C_4 + C_L\right)}$$

**10.241** INVALID-ORDER-241 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_3 R_3 s + 1\right) \left(C_L R_L s + 1\right)}{s \left(2C_3 C_4 C_L R_3 R_L s^2 + 2C_3 C_4 R_3 s + C_3 C_L R_3 s + C_3 C_L R_L s + C_3 + 2C_4 C_L R_L s + 2C_4 + C_L\right)}$$

**10.242** INVALID-ORDER-242 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{(C_3R_3s + 1)(C_LL_Ls^2 + 1)}{s(2C_3C_4C_LL_LR_3s^3 + 2C_3C_4R_3s + C_3C_LL_Ls^2 + C_3C_LR_3s + C_3 + 2C_4C_LL_Ls^2 + 2C_4 + C_L)}$$

**10.243** INVALID-ORDER-243 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L s \left(C_3 R_3 s + 1\right)}{2 C_3 C_4 L_L R_3 s^3 + C_3 C_L L_L R_3 s^3 + C_3 L_L s^2 + C_3 R_3 s + 2 C_4 L_L s^2 + C_L L_L s^2 + 1}$$

**10.244** INVALID-ORDER-244 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_{3}R_{3}s+1\right)\left(C_{L}L_{L}s^{2}+C_{L}R_{L}s+1\right)}{s\left(2C_{3}C_{4}C_{L}L_{L}R_{3}s^{3}+2C_{3}C_{4}R_{L}R_{L}s^{2}+2C_{3}C_{4}R_{3}s+C_{3}C_{L}L_{L}s^{2}+C_{3}C_{L}R_{3}s+C_{3}C_{L}R_{L}s+C_{3}+2C_{4}C_{L}L_{L}s^{2}+2C_{4}C_{L}R_{L}s+2C_{4}+C_{L}\right)}$$

10.245 INVALID-ORDER-245 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

**10.246** INVALID-ORDER-246 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{\left(C_{3}R_{3}s+1\right)\left(C_{L}L_{L}R_{2}s^{2}+L_{L}s+R_{L}\right)}{2C_{3}C_{4}C_{L}L_{L}R_{3}R_{L}s^{4}+2C_{3}C_{4}L_{L}R_{3}s^{3}+2C_{3}C_{4}R_{3}R_{L}s^{2}+C_{3}C_{L}L_{L}R_{3}s^{3}+C_{3}C_{L}L_{L}R_{L}s^{3}+C_{3}L_{L}s^{2}+C_{3}R_{3}s+C_{3}R_{L}s+2C_{4}C_{L}L_{L}R_{2}s^{3}+2C_{4}L_{L}s^{2}+2C_{4}R_{L}s+C_{L}L_{L}s^{2}+C_{4}R_{L}s$$

10.247 INVALID-ORDER-247 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{R_L \left( C_3 R_3 s + 1 \right) \left( C_L L_L s^2 + 1 \right)}{2 C_3 C_4 C_L L_L R_3 R_L s^4 + 2 C_3 C_4 R_3 R_L s^2 + C_3 C_L L_L R_3 s^3 + C_3 C_L L_L R_L s^3 + C_3 C_L R_3 R_L s^2 + C_3 R_3 s + C_3 R_L s + 2 C_4 C_L L_L R_L s^3 + 2 C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1}$$

**10.248** INVALID-ORDER-248 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_4 \left(C_3 R_3 s + 1\right) \left(C_L R_L s + 1\right)}{2 C_3 C_4 C_L R_3 R_4 R_L s^3 + 2 C_3 C_4 R_3 R_4 s^2 + C_3 C_L R_3 R_4 s^2 + 2 C_3 C_L R_3 R_L s^2 + 2 C_3 R_3 s + C_3 R_4 s + 2 C_4 C_L R_4 R_L s^2 + 2 C_4 R_4 s + C_L R_4 s + 2 C_L R_L s + 2 C_4 R_4 R_L s^2 + 2$$

10.249 INVALID-ORDER-249 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_4 \left( C_3 R_3 s + 1 \right) \left( C_L L_L s^2 + 1 \right)}{2 C_3 C_4 C_L L_L R_3 R_4 s^4 + 2 C_3 C_4 R_3 R_4 s^2 + 2 C_3 C_L L_L R_3 s^3 + C_3 C_L L_L R_4 s^3 + C_3 C_L R_3 R_4 s^2 + 2 C_3 R_3 s + C_3 R_4 s + 2 C_4 C_L L_L R_4 s^3 + 2 C_4 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2 C_4 R_4 s^2 + 2 C_4 R_4 s^3 + 2 C_4 R_4 s^$$

**10.250** INVALID-ORDER-250 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

10.251 INVALID-ORDER-251 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_4 \left( C_3 R_3 s + 1 \right) \left( C_L L_L s^2 + C_L R_L s + 1 \right)}{2 C_3 C_4 C_L L_L R_3 R_4 s^4 + 2 C_3 C_4 C_L R_3 R_4 R_L s^3 + 2 C_3 C_4 L_L R_3 s^3 + C_3 C_L L_L R_4 s^3 + C_3 C_L R_3 R_4 s^2 + 2 C_3 C_L R_3 R_L s^2 + C_3 C_L R_4 R_L s^2 + 2 C_3 R_3 s + C_3 R_4 s + 2 C_3 C_4 R_3 R_4 s^2 + 2 C_3 C_4 R_3 R_4 s^$$

10.252 INVALID-ORDER-252 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_L R_4 R_L s \left(C_3 R_3 s + 1\right)}{2 C_3 C_4 L_L R_3 R_4 R_L s^3 + C_3 C_L L_L R_3 R_4 R_L s^3 + C_3 L_L R_3 R_4 s^2 + 2 C_3 L_L R_3 R_L s^2 + C_3 L_L R_4 R_L s^2 + C_3 R_3 R_4 R_L s + 2 C_4 L_L R_4 R_L s^2 + C_L L_L R_4 R_L s^2 + L_L R_4 s + 2 L_L R_4 s + 2$$

**10.253** INVALID-ORDER-253 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

10.254 INVALID-ORDER-254 
$$Z(s) = \left(\infty, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{R_4 R_L \left(C_3 R_3 s + 1\right) \left(C_L L_L s^2 + 1\right)}{2 C_3 C_4 C_L L_L R_3 R_4 R_L s^4 + 2 C_3 C_4 R_3 R_4 R_L s^2 + C_3 C_L L_L R_3 R_4 s^3 + 2 C_3 C_L L_L R_3 R_L s^3 + C_3 C_L L_L R_4 R_L s^3 + C_3 C_L R_3 R_4 R_L s^2 + C_3 R_3 R_4 s + 2 C_3 R_3 R_L s + C_3 R_4 R_L s + 2 C_4 C_L R_3 R_4 R_L s^2 + C_3 R_3 R_4 R_L s^2 + C_3 R_3 R_4 R_L s^2 + C_3 R_4 R_L s^3 + C_3 C_L R_3 R_4 R_L s^3 + C_3 C_L R_3 R_4 R_L s^2 + C_3 R_3 R_4 R_L s^2 + C_3 R_4 R_L s^3 + C_3 C_L R_3 R_4 R_L s^3 +$$

**10.255** INVALID-ORDER-255 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_{3}R_{3}s + 1\right)\left(C_{4}R_{4}s + 1\right)}{s\left(C_{3}C_{4}C_{L}R_{3}R_{4}s^{2} + 2C_{3}C_{4}R_{3}s + C_{3}C_{4}R_{4}s + C_{3}C_{L}R_{3}s + C_{3} + C_{4}C_{L}R_{4}s + 2C_{4} + C_{L}\right)}$$

10.256 INVALID-ORDER-256 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_L \left( C_3 R_3 s + 1 \right) \left( C_4 R_4 s + 1 \right)}{C_3 C_4 C_L R_3 R_4 R_L s^3 + C_3 C_4 R_3 R_4 s^2 + 2 C_3 C_4 R_3 R_L s^2 + C_3 C_4 R_4 R_L s^2 + C_3 C_L R_3 R_L s^2 + C_3 R_4 R_L s^2 + C_4 R_4 R_L s^2$$

10.257 INVALID-ORDER-257 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_{3}R_{3}s+1\right)\left(C_{4}R_{4}s+1\right)\left(C_{L}R_{L}s+1\right)}{s\left(C_{3}C_{4}C_{L}R_{3}R_{4}s^{2}+2C_{3}C_{4}C_{L}R_{3}R_{L}s^{2}+C_{3}C_{4}C_{L}R_{4}R_{L}s^{2}+2C_{3}C_{4}R_{3}s+C_{3}C_{L}R_{3}s+C_{3}C_{L}R_{3}s+C_{3}C_{L}R_{4}s+2C_{4}C_{L}R_{4}$$

**10.258** INVALID-ORDER-258 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, L_L s + \frac{1}{C_L s}\right)$$

**10.259** INVALID-ORDER-259 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L s \left(C_3 R_3 s + 1\right) \left(C_4 R_4 s + 1\right)}{C_3 C_4 C_L L_L R_3 R_4 s^4 + 2 C_3 C_4 L_L R_3 s^3 + C_3 C_4 L_L R_4 s^3 + C_3 C_4 R_3 R_4 s^2 + C_3 C_L L_L R_3 s^3 + C_3 L_L s^2 + C_3 R_3 s + C_4 C_L L_L R_4 s^3 + 2 C_4 L_L s^2 + C_4 R_4 s + C_L L_L s^2 + 1}$$

**10.260** INVALID-ORDER-260 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_{3}R_{3}s+1\right)\left(C_{4}R_{4}s+1\right)\left(C_{L}L_{L}s^{2}+C_{L}R_{L}s+1\right)}{s\left(2C_{3}C_{4}C_{L}L_{L}R_{3}s^{3}+C_{3}C_{4}C_{L}R_{3}R_{4}s^{2}+2C_{3}C_{4}C_{L}R_{3}R_{L}s^{2}+C_{3}C_{4}C_{L}R_{4}R_{L}s^{2}+2C_{3}C_{4}R_{3}s+C_{3}C_{L}L_{L}s^{2}+C_{3}C_{L}R_{3}s+C_{3}C_{L}R_{L}s+C_{3}+C_{4}C_{L}R_{3}s^{2}+C_{4}C_{L}R_{3}R_{L}s^{2}+C_{4}C_{L}R_{4}R_{L}s^{2}+2C_{3}C_{4}R_{3}s+C_{3}C_{L}L_{L}s^{2}+C_{3}C_{L}R_{3}s+C_{3}C_{L}R_{2}s+C_{3}C_{L}R_{3}s+C_{3}C_{L}R_{3}s+C_{3}C_{L}R_{2}s+C_{3}C_{L}R_{3}s+C_{3}C_{L}R_{3}s+C_{3}C_{L}R_{3}s+C_{3}C_{L}R_{3}s+C_{3}C_{L}R_{3}s+C_{3}C_{L}R_{3}s+C_{3}C_{L}R_{3}s+C_{3}C_{L}R_{3}s+C_{3}C_{L}R_{3}s+C_{3}C_{L}R_{3}s+C_{3}C_{L}R_{3}s+C_{3}C_{L}R_{3}s+C_{3}C_{L}R_{2}s+C_{3}C_{L}R_{3$$

10.261 INVALID-ORDER-261 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_L R_L s \left(C_3 R_3 s + 1\right) \left(C_4 R_4 s + 1\right)}{C_3 C_4 C_L L_L R_3 R_4 s^4 + C_3 C_4 L_L R_3 R_4 s^3 + 2 C_3 C_4 L_L R_3 R_L s^3 + C_3 C_4 L_L R_4 R_L s^3 + C_3 C_4 L_L R_3 R_4 R_L s^2 + C_3 C_4 L_L R_3 R_4 s^3 + C_3 L_L R_3 s^2 + C_3 L_L R_4 s^2 + C_3 R_3 R_L s + C_4 C_L L_L R_4 R_4 r_4 r_5 + C_4 C_4 R_4 r_4 r_5 + C_4 C_4 R_4 r_5 + C_4 R_4 r_$$

10.262 INVALID-ORDER-262 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{\left(C_{3}R_{3}s+1\right)\left(C_{4}R_{4}s+1\right)\left(C_{L}L_{L}R_{2}s^{2}+L_{L}s+R_{L}s^{2}+L_{L}s+R_{L}s^{2}+L_{L}s+R_{L}s^{2}+L_{L}s+R_{L}s^{2}+L_{L}s+R_{L}s^{2}+L_{L}s+R_{L}s^{2}+L_{L}s+R_{L}s^{2}+L_{L}s+R_{L}s^{2}+L_{L}s+R_{L}s+$$

10.263 INVALID-ORDER-263 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{R_L \left( C_3 R_3 s + 1 \right) \left( C_4 R_4 s + 1 \right) \left( C_4 L_L s^2 + C_3 C_4 C_L L_L R_3 R_4 s^4 + C_3 C_4 C_L L_L R_4 R_L s^4 + C_3 C_4 C_L R_3 R_4 R_L s^3 + C_3 C_4 R_3 R_4 s^2 + 2 C_3 C_4 R_3 R_L s^2 + C_3 C_4 R_4 R_L s^2 + C_3 C_4 L_L R_3 s^3 + C_3 C_L L_L R_4 R_L s^4 + C_3 C_4 C_L R_4 R_4 R_L s^4 + C_3 C_4 C_L R_4 R_L s^4 + C_3 C_4$$

**10.264** INVALID-ORDER-264 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, R_L\right)$$

$$H(s) = \frac{R_L \left( C_3 R_3 s + 1 \right) \left( C_4 L_4 s^2 + 1 \right)}{C_3 C_4 L_4 R_3 s^3 + C_3 C_4 L_4 R_L s^3 + 2 C_3 C_4 R_3 R_L s^2 + C_3 R_3 s + C_3 R_L s + C_4 L_4 s^2 + 2 C_4 R_L s + 1}$$

10.265 INVALID-ORDER-265 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{(C_3R_3s + 1)(C_4L_4s^2 + 1)}{s(C_3C_4C_LL_4R_3s^3 + C_3C_4L_4s^2 + 2C_3C_4R_3s + C_3C_LR_3s + C_3 + C_4C_LL_4s^2 + 2C_4 + C_L)}$$

**10.266** INVALID-ORDER-266 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_L \left( C_3 R_3 s + 1 \right) \left( C_4 L_4 s^2 + 1 \right)}{C_3 C_4 C_L L_4 R_3 R_L s^4 + C_3 C_4 L_4 R_3 s^3 + C_3 C_4 L_4 R_L s^3 + 2 C_3 C_4 R_3 R_L s^2 + C_3 C_L R_3 R_L s^2 + C_3 R_3 s + C_3 R_L s + C_4 C_L L_4 R_L s^3 + C_4 L_4 s^2 + 2 C_4 R_L s + C_L R_L s + 1}$$

**10.267** INVALID-ORDER-267 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_{3}R_{3}s+1\right)\left(C_{4}L_{4}s^{2}+1\right)\left(C_{L}R_{L}s+1\right)}{s\left(C_{3}C_{4}C_{L}L_{4}R_{3}s^{3}+C_{3}C_{4}C_{L}L_{4}R_{L}s^{3}+2C_{3}C_{4}C_{L}R_{3}R_{L}s^{2}+C_{3}C_{4}L_{4}s^{2}+2C_{3}C_{4}R_{3}s+C_{3}C_{L}R_{3}s+C_{3}C_{L}R_{L}s+C_{3}+C_{4}C_{L}L_{4}s^{2}+2C_{4}C_{L}R_{L}s+2C_{4}+C_{L}\right)}$$

**10.268** INVALID-ORDER-268 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_{3}R_{3}s+1\right)\left(C_{4}L_{4}s^{2}+1\right)\left(C_{L}L_{L}s^{2}+1\right)}{s\left(C_{3}C_{4}C_{L}L_{4}S^{4}+C_{3}C_{4}C_{L}L_{4}R_{3}s^{3}+2C_{3}C_{4}C_{L}L_{L}R_{3}s^{3}+C_{3}C_{4}L_{4}s^{2}+2C_{3}C_{4}R_{3}s+C_{3}C_{L}L_{L}s^{2}+C_{3}C_{L}R_{3}s+C_{3}+C_{4}C_{L}L_{4}s^{2}+2C_{4}C_{L}L_{L}s^{2}+2C_{4}+C_{L}C_{L}S^{2}+C_{4}C_{L}L_{4}S^{2}+C_{4}C_{L}L$$

**10.269** INVALID-ORDER-269 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L s \left(C_3 R_3 s + 1\right) \left(C_4 L_4 s^2 + 1\right)}{C_3 C_4 C_L L_4 L_L R_3 s^5 + C_3 C_4 L_4 L_L s^4 + C_3 C_4 L_4 R_3 s^3 + 2 C_3 C_4 L_L R_3 s^3 + C_3 C_L L_L R_3 s^3 + C_3 L_L s^2 + C_3 R_3 s + C_4 C_L L_4 L_L s^4 + C_4 L_4 s^2 + 2 C_4 L_L s^2 + 1}$$

10.270 INVALID-ORDER-270 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

10.271 INVALID-ORDER-271 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

10.272 INVALID-ORDER-272 
$$Z(s) = \left(\infty, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

 $H(s) = \frac{\left(C_{3}R_{3}s+1\right)\left(C_{4}L_{4}s^{2}+1\right)\left(C_{L}L_{L}R_{L}s^{2}+L_{L}s+R_{L}s+R_{L}s^{2}+L_{L}s+R_{$ 

10.273 INVALID-ORDER-273 
$$Z(s) = \left(\infty, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{R_L \left( C_3 R_3 s + 1 \right) \left( C_4 L_4 s^2 + 1 \right) \left( C_L L_L s^2 + 1 \right) \left( C_L L_L s^2 + 1 \right) \left( C_L L_L s^3 + 1 \right) \left( C_4 L_4 L_L R_3 s^5 + C_3 C_4 C_L L_4 L_L R_3 s^4 + 2 C_3 C_4 C_L L_L R_3 R_L s^4 + C_3 C_4 L_4 R_3 s^3 + C_3 C_4 L_4 R_4 R_3 s^3 + 2 C_3 C_4 R_3 R_L s^2 + C_3 C_L L_L R_3 s^3 + C_3$$

10.274 INVALID-ORDER-274 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, R_L\right)$$

$$H(s) = \frac{L_4 R_L s \left(C_3 R_3 s + 1\right)}{2 C_3 C_4 L_4 R_3 R_L s^3 + C_3 L_4 R_3 s^2 + C_3 L_4 R_L s^2 + 2 C_3 R_3 R_L s + 2 C_4 L_4 R_L s^2 + L_4 s + 2 R_L r_1 + 2 C_4 R_1 r_2 + 2 C_4 R_1 r_2 + 2 C_4 R_1 r_2 + 2 C_4 R_1 r_3 + 2 C_4 R_1 r_4 + 2 C_4 R_1 r_$$

10.275 INVALID-ORDER-275 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_4 s \left(C_3 R_3 s + 1\right)}{2 C_3 C_4 L_4 R_3 s^3 + C_3 C_L L_4 R_3 s^3 + C_3 L_4 s^2 + 2 C_3 R_3 s + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2}$$

10.276 INVALID-ORDER-276 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

10.277 INVALID-ORDER-277 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, R_L + \frac{1}{C_L s}\right)$$

10.278 INVALID-ORDER-278 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_4 s \left(C_3 R_3 s + 1\right) \left(C_L L_L s^2 + 1\right)}{2 C_3 C_4 C_L L_4 L_L R_3 s^5 + 2 C_3 C_4 L_4 R_3 s^3 + C_3 C_L L_4 L_L s^4 + C_3 C_L L_4 R_3 s^3 + 2 C_3 C_L L_L R_3 s^3 + C_3 L_4 L_2 s^4 + 2 C_4 L_4 L_L s^4 + 2 C_4 L_4 L_4 s^2 + 2 C_L L_4 s^2 + 2 C_4 L_4 L_4 L_4 s^2 + 2 C_4 L_4 L_4 L_4 s^2 + 2 C_4 L_4 L_4 L_4 L_4 t^2 + 2 C_4 L_4 t^2 + 2 C_4 L_4 L_4 t^2 + 2 C_4 L_4 L_4 t^2 + 2 C_4 L_4 L_4 t^$$

10.279 INVALID-ORDER-279 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

**10.280** INVALID-ORDER-280 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_{4}s\left(C_{3}R_{3}s+1\right)\left(C_{L}L_{L}s^{2}+C_{L}R_{L}s+1\right)}{2C_{3}C_{4}C_{L}L_{4}R_{3}s^{5}+2C_{3}C_{4}L_{4}R_{3}s^{3}+C_{3}C_{L}L_{4}L_{L}s^{4}+C_{3}C_{L}L_{4}R_{3}s^{3}+C_{3}C_{L}L_{4}R_{3}s^{3}+2C_{3}C_{L}L_{L}R_{3}s^{3}+2C_{3}C_{L}R_{3}R_{L}s^{2}+C_{3}L_{4}s^{2}+2C_{3}R_{3}s+2C_{3}C_{L}R_{3}R_{L}s^{2}+C_{3}R_{3}s+2C_{3}C_{L}R_{3}R_{L}s^{2}+C_{3}R_{3}s+2C_{3}C_{L}R_{3}R_{L}s^{2}+C_{3}R_{3}s+2C$$

10.281 INVALID-ORDER-281 
$$Z(s) = \left(\infty, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_4 L_L R_1 s \left(C_3 R_3 s + 1\right)}{2 C_3 C_4 L_4 L_L R_3 R_L s^3 + C_3 C_L L_4 L_L R_3 s^2 + C_3 L_4 L_L R_3 s^2 + C_3 L_4 L_L R_2 s^2 + C_3 L_4 R_3 R_L s + 2 C_3 L_L R_3 R_L s + 2 C_4 L_4 L_L R_L s^2 + C_4 L_4 L_L R_L s^2 + L_4 L_L s + L_4 R_L + 2 L_L R_L s^2 + C_4 L_4 L_L R_2 s^2 + C_4 L_4 L_L R_$$

**10.282** INVALID-ORDER-282 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

10.283 INVALID-ORDER-283 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

**10.284** INVALID-ORDER-284 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, R_L\right)$$

$$H(s) = \frac{R_L \left( C_3 R_3 s + 1 \right) \left( C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{C_3 C_4 L_4 R_3 s^3 + C_3 C_4 L_4 R_L s^3 + C_3 C_4 R_3 R_4 s^2 + 2 C_3 C_4 R_3 R_L s^2 + C_3 C_4 R_4 R_L s^2 + C_3 R_3 s + C_3 R_L s + C_4 L_4 s^2 + C_4 R_4 s + 2 C_4 R_L s + 1}$$

**10.285** INVALID-ORDER-285 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_{3}R_{3}s+1\right)\left(C_{4}L_{4}s^{2}+C_{4}R_{4}s+1\right)}{s\left(C_{3}C_{4}C_{L}L_{4}R_{3}s^{3}+C_{3}C_{4}L_{L}R_{3}R_{4}s^{2}+C_{3}C_{4}L_{4}s^{2}+2C_{3}C_{4}R_{3}s+C_{3}C_{4}R_{4}s+C_{3}C_{L}R_{3}s+C_{3}+C_{4}C_{L}L_{4}s^{2}+C_{4}C_{L}R_{4}s+2C_{4}+C_{L}\right)}$$

**10.286** INVALID-ORDER-286 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_L \left( C_3 R_3 s + 1 \right) \left( C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{C_3 C_4 C_L L_4 R_3 R_L s^4 + C_3 C_4 C_L R_3 R_4 R_L s^3 + C_3 C_4 L_4 R_3 s^3 + C_3 C_4 L_4 R_3 s^3 + C_3 C_4 R_3 R_4 s^2 + 2 C_3 C_4 R_3 R_L s^2 + C_3 C_4 R_4 R_L s^2 + C_3 C_L R_3 R_L s^2 + C_3 R_3 s + C_3 R_L s + C_4 C_L L_4 R_3 R_L s^2 + C_4 R_4 R_L s^2 + C_5 R_3 R_L s^2 + C_5 R_5 R_L s^2 + C_5 R_L s^2 + C_$$

**10.287** INVALID-ORDER-287 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_{3}R_{3}s+1\right)\left(C_{L}R_{L}s+1\right)\left(C_{4}L_{4}s^{2}+C_{4}R_{4}s+1\right)}{s\left(C_{3}C_{4}C_{L}L_{4}R_{3}s^{3}+C_{3}C_{4}C_{L}R_{3}R_{4}s^{2}+2C_{3}C_{4}C_{L}R_{3}R_{L}s^{2}+C_{3}C_{4}L_{4}s^{2}+2C_{3}C_{4}L_{4}s^{2}+2C_{3}C_{4}R_{3}s+C_{3}C_{L}R_{3}s+C_{2}C_{L}R_{3}s+C_{2}C_{L}R_{3}s+C_{2}C_{L}R_{3}s+C_{2}C_{L}R_{3}s+C_{2}C$$

10.288 INVALID-ORDER-288 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_{3}R_{3}s+1\right)\left(C_{L}L_{L}s^{2}+1\right)\left(C_{4}L_{4}s^{2}+C_{4}R_{4}s+1\right)}{s\left(C_{3}C_{4}C_{L}L_{4}R_{3}s^{3}+2C_{3}C_{4}C_{L}L_{L}R_{3}s^{3}+C_{3}C_{4}C_{L}L_{L}R_{4}s^{3}+C_{3}C_{4}C_{L}L_{3}R_{4}s^{2}+C_{3}C_{4}L_{4}s^{2}+2C_{3}C_{4}R_{3}s+C_{3}C_{4}L_{L}s^{2}+C_{3}C_{L}L_{L}s^{2}+C_{3}C_{L}R_{3}s+C_{3}C_{L}L_{L}s^{2}+C_{3}C_{L}R_{3}s+C_{3}C_{L}L_{L}s^{2}+C_{3}C_{L}R_{3}s+C_{3}C_{L}R_{3}s+C_{3}C_{L}R_{3}s+C_{3}C_{L}R_{3}s+C_{3}C_{L}R_{3}s+C_{3}C_{L}R_{3}s+C_{3}C_{L}R_{3}s+C_{3}C_{L}R_{3}s+C_{3}C_{L}R_{3}s+C_{3}C_{L}R_{3}s+C_{3}C_{L}R_{3}s+C_{3}C_{L}R_{3}s+C_{3}C_{L}R_{3}s+C_{3}C_{L}R_{3}s+C_{3}C_{L}R_{3}s+C_{3}C_{L}R_{2}s+C_{3}C_{L}R_{3}s+C_{2}C_{L}R_{3}s+C_{2}C_{L}R_{3}s+C_{2}C_{L}R_{3}s+C_{2}C_{L}R_{3}s+C_{2}C_{L}R$$

10.289 INVALID-ORDER-289 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

**10.290** INVALID-ORDER-290 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_{3}R_{3}s+1\right)\left(C_{4}L_{4}s^{2}+C_{4}R_{4}s+1\right)\left(C_{L}L_{L}s^{2}+C_{4}R_{4}s+1\right)\left(C_{$$

10.291 INVALID-ORDER-291 
$$Z(s) = \left(\infty, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_L R_3}{C_3 C_4 C_L L_4 L_L R_3 R_L s^5 + C_3 C_4 C_L L_L R_3 R_4 R_L s^4 + C_3 C_4 L_4 L_L R_3 s^4 + C_3 C_4 L_4 L_L R_3 s^4 + C_3 C_4 L_4 R_3 R_L s^3 + C_3 C_4 L_L R_3 R_4 s^3 + 2 C_3 C_4 L_L R_3 R_L s^3 + C_3 C_$$

10.292 INVALID-ORDER-292 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

10.293 INVALID-ORDER-293 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{1}{C_3C_4C_LL_4L_LR_3s^5 + C_3C_4C_LL_4L_LR_Ls^5 + C_3C_4C_LL_4R_3R_Ls^4 + C_3C_4C_LL_LR_3R_4s^4 + 2C_3C_4C_LL_LR_3R_Ls^4 + C_3C_4C_LL_LR_4R_Ls^4 + C_3C_4C_LL_RR_3R_4s^4 + 2C_3C_4C_LL_RR_3R_Ls^4 + C_3C_4C_LL_RR_4R_Ls^4 + C_3C_4C_LL_RR_3R_4s^4 + 2C_3C_4C_LL_RR_3R_Ls^4 + C_3C_4C_LL_RR_4R_Ls^4 + C_3C_4C_LL_RR_3R_4s^4 + 2C_3C_4C_LL_RR_3R_Ls^4 + C_3C_4C_LL_RR_4R_Ls^4 + C_3C_4C_LL_RR_3R_4s^4 + 2C_3C_4C_LL_RR_3R_Ls^4 + 2C_3C_4C_LL_RR_4R_Ls^4 + 2C_3C_4C_LR_4R_4R_Ls^4 + 2C_3C_4C_LR_4R_4R_L$$

10.294 INVALID-ORDER-294 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, R_L\right)$$

$$H(s) = \frac{L_4 R_4 R_L s \left(C_3 R_3 s + 1\right)}{2 C_3 C_4 L_4 R_3 R_4 S^3 + C_3 L_4 R_3 R_4 S^2 + 2 C_3 L_4 R_3 R_L s^2 + 2 C_3 L_4 R_4 R_L s^2 + 2 C_3 R_3 R_4 R_L s + 2 C_4 L_4 R_4 R_L s^2 + L_4 R_4 s + 2 L_4 R_L s + 2 R_4 R_L s^2 + 2 C_3 R_3 R_4 R_L s + 2 C_4 R_4 R_4 R_L s^2 + 2 R_4 R_L s + 2 R_4$$

10.295 INVALID-ORDER-295 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, \frac{1}{C_L s}\right)$$

10.296 INVALID-ORDER-296 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

10.297 INVALID-ORDER-297 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, R_L + \frac{1}{C_L s}\right)$$

10.298 INVALID-ORDER-298 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, L_L s + \frac{1}{C_L s}\right)$$

10.299 INVALID-ORDER-299 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_4 L_L R_4 s \left(C_3 R_3 s + 1\right)}{2 C_3 C_4 L_4 L_L R_3 R_4 s^3 + C_3 C_L L_4 L_L R_3 s^2 + C_3 L_4 L_L R_3 s^2 + C_3 L_4 L_L R_4 s^2 + C_3 L_4 R_3 R_4 s + 2 C_3 L_L R_3 R_4 s + 2 C_4 L_4 L_L R_4 s^2 + C_L L_4 L_L R_4 s^2 + 2 L_4 L_L s + L_4 R_4 + 2 L_L R_4 s^2 + 2 L_4 L_L R_$$

10.300 INVALID-ORDER-300 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{1}{2C_3C_4C_LL_4L_RR_3R_4s^5 + 2C_3C_4C_LL_4R_3R_4R_Ls^4 + 2C_3C_4L_4R_3R_4s^3 + 2C_3C_LL_4L_RR_3s^4 + C_3C_LL_4L_RR_3s^4 + C_3C_LL_4R_3R_4s^3 + 2C_3C_LL_4R_3R_Ls^3 + 2C_3C_LL_4R_3R_Ls^3$$

10.301 INVALID-ORDER-301 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_4 L_L R_4 R_L s \left(C_3 R_3 s + 1\right)}{2 C_3 C_4 L_4 L_L R_3 R_4 R_L s^3 + C_3 L_4 L_L R_3 R_4 s^2 + 2 C_3 L_4 L_L R_3 R_L s^2 + C_3 L_4 L_L R_4 R_L s^2 + C_3 L_4 R_3 R_4 R_L s + 2 C_3 L_L R_3 R_4 R_L s + 2 C_4 L_4 L_L R_4 R_L s^2 + C_4 L_4 L_$$

**10.302** INVALID-ORDER-302 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

10.303 INVALID-ORDER-303 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

**10.304** INVALID-ORDER-304 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, R_L\right)$$

$$H(s) = \frac{R_L \left(C_3 R_3 s + 1\right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{C_3 C_4 L_4 R_3 R_4 s^3 + 2 C_3 C_4 L_4 R_3 R_L s^3 + C_3 C_4 L_4 R_4 R_L s^3 + C_3 L_4 R_3 s^2 + C_3 L_4 R_L s^2 + C_3 R_3 R_4 s + 2 C_3 R_3 R_L s + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + L_4 s + R_4 + 2 R_L r_4 R_4 r_5 + 2 C_4 R_5 r_5 + 2 C_5 R_$$

**10.305** INVALID-ORDER-305 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_{3}R_{3}s+1\right)\left(C_{4}L_{4}R_{4}s^{2}+L_{4}s+R_{4}\right)}{C_{3}C_{4}L_{L}R_{3}s^{4}+2C_{3}C_{4}L_{4}R_{3}s^{3}+C_{3}C_{4}L_{4}R_{3}s^{3}+C_{3}C_{L}L_{4}R_{3}s^{3}+C_{3}C_{L}R_{3}R_{4}s^{2}+C_{3}L_{4}s^{2}+2C_{3}R_{3}s+C_{3}R_{4}s+C_{4}C_{L}L_{4}R_{4}s^{3}+2C_{4}L_{4}s^{2}+C_{L}L_{4}s^{2}+C_{L}R_{4}s+2C_{4}L_{4}s^{2}+C_{4}L_$$

**10.306** INVALID-ORDER-306 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_L \left( C_3 R_3 s + 1 \right) \left( C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{C_3 C_4 C_L L_4 R_3 R_4 s^4 + C_3 C_4 L_4 R_3 R_4 s^3 + 2 C_3 C_4 L_4 R_3 R_L s^3 + C_3 C_L L_4 R_3 R_L s^3 + C_3 C_L R_3 R_4 R_L s^2 + C_3 L_4 R_3 s^2 + C_$$

**10.307** INVALID-ORDER-307 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_{3}R_{3}s+1\right)\left(C_{L}R_{L}s+1\right)\left(C_{4}L_{4}R_{4}s^{2}+L_{4}s+R_{4}\right)}{C_{3}C_{4}C_{L}L_{4}R_{3}R_{4}s^{4}+2C_{3}C_{4}L_{4}R_{4}R_{L}s^{4}+2C_{3}C_{4}L_{4}R_{3}s^{3}+C_{3}C_{L}L_{4}R_{3}s$$

**10.308** INVALID-ORDER-308 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_{3}R_{3}s+1\right)\left(C_{L}L_{L}s^{2}+1\right)\left(C_{4}L_{4}R_{4}s^{2}+L_{4}s+R_{4}\right)}{2C_{3}C_{4}C_{L}L_{4}L_{L}R_{3}s^{5}+C_{3}C_{4}C_{L}L_{4}R_{3}s^{4}+2C_{3}C_{4}L_{4}R_{3}s^{3}+C_{3}C_{4}L_{4}L_{5}s^{4}+C_{3}C_{L}L_{4}R_{3}s^{3}+2C_{3}C_{L}L_{L}R_{3}s^{3}+C_{3}C_{L}L_{L}R_{4}s^{3}+C_{3}C_{L}L_{4}R_{3}s^{3}+C_{3}C_{L}L_{4}R_{4}s^{3}+C_{3}C_{L}L_{4}R_{4}s^{3}+C_{3}C_{L}L_{4}R_{4}s^{3}+C_{2}C_{L}L_{4}R_{4}s^{3}+C_{2}C_{L}L_{4}R_{4}s^{3}+C_{2}C_{L}L_{4}R$$

**10.309** INVALID-ORDER-309 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L s \left(C_3 R_3 s + 1\right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{C_3 C_4 L_L L_R R_3 R_4 s^5 + 2 C_3 C_4 L_4 L_L R_3 s^4 + C_3 C_4 L_4 L_R R_3 r^4 + C_3 C_4 L_4 L_L R_3 s^4 + C_3 C_4 L_4 L_L R_3 r^4 + C_3 C_4 L_4 L_L R_3$$

10.310 INVALID-ORDER-310 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{1}{2C_3C_4C_LL_4L_LR_3s^5 + C_3C_4C_LL_4L_LR_4s^5 + C_3C_4C_LL_4R_3R_4s^4 + 2C_3C_4C_LL_4R_3R_Ls^4 + C_3C_4C_LL_4R_4R_Ls^4 + 2C_3C_4L_4R_3s^3 + C_3C_4L_4R_4s^3 + C_3C_4L_4L_4s^4 + C_3C_4L_4R_4s^4 + C_3C_4L_4R_4R_4s^4 + C_3C_4L_4R_4s^3 + C_3C_4L_4R_4s^3$$

10.311 INVALID-ORDER-311 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

10.312 INVALID-ORDER-312 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{1}{C_3C_4C_LL_4L_LR_3R_4s^5 + 2C_3C_4C_LL_4L_LR_3R_Ls^5 + C_3C_4C_LL_4L_LR_4R_Ls^5 + 2C_3C_4L_4L_LR_3s^4 + C_3C_4L_4L_LR_4s^4 + C_3C_4L_4R_3R_4s^3 + 2C_3C_4L_4R_3R_Ls^3 + C_3C_4L_4R_4R_Ls^3 + C_3C_4L_4L_LR_3s^4 + C_3C_4L_4L_LR_3s^4 + C_3C_4L_4R_3R_4s^3 + 2C_3C_4L_4R_3R_Ls^3 + C_3C_4L_4R_4R_Ls^3 + C_3C_4L_4L_LR_3s^4 + C_3C_4L_4L_LR_3s^4 + C_3C_4L_4L_Rs^3 + C_3C_4L_4R_3s^4 + C_3$$

10.313 INVALID-ORDER-313 
$$Z(s) = \left(\infty, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

10.314 INVALID-ORDER-314 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, R_L\right)$$

10.315 INVALID-ORDER-315 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_4 \left(C_3 R_3 s + 1\right) \left(C_4 L_4 s^2 + 1\right)}{C_3 C_4 C_L L_4 R_3 R_4 s^4 + 2 C_3 C_4 L_4 R_3 s^3 + C_3 C_4 L_4 R_4 s^3 + 2 C_3 C_4 R_3 R_4 s^2 + C_3 C_L R_3 R_4 s^2 + 2 C_3 R_3 s + C_3 R_4 s + C_4 C_L L_4 R_4 s^3 + 2 C_4 L_4 s^2 + 2 C_4 R_4 s + C_L R_4 s + 2 C_4 R_4 s^2 + 2 C_$$

10.316 INVALID-ORDER-316 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

10.317 INVALID-ORDER-317 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, R_L + \frac{1}{C_L s}\right)$$

10.318 INVALID-ORDER-318 
$$Z(s) = \left(\infty, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_4 \left( C_3 R_3 s + 1 \right) \left( C_4 L_4 s^2 + 1 \right) \left( C_L L_L s^2 R_3 s + 1 \right) \left( C_4 L_4 s^2 + 1 \right) \left( C_4 L_4 s^2 + 1 \right) \left( C_4 L_4 s^2 R_3 s^2 + 2 C_3 C_4 L_4 L_4 R_3 s^3 + 2 C_3 C_4 L_4 R_4 s^3 + 2 C_3 C_4 R_4 R_$$

10.319 INVALID-ORDER-319 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

10.320 INVALID-ORDER-320 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{1}{2C_3C_4C_LL_4L_LR_3s^5 + C_3C_4C_LL_4L_LR_4s^5 + C_3C_4C_LL_4R_3R_4s^4 + 2C_3C_4C_LL_4R_3R_Ls^4 + 2C_3C_4C_LL_4R_3R_Ls^4 + 2C_3C_4C_LL_4R_3R_4s^4 + 2C_3C_4C_$$

10.321 INVALID-ORDER-321 
$$Z(s) = \left(\infty, \infty, R_3 + \frac{1}{C_3 s}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_L R_4 R_L}{C_3 C_4 C_L L_4 L_L R_3 R_4 R_L s^5 + C_3 C_4 L_4 L_L R_3 R_4 s^4 + 2 C_3 C_4 L_4 L_L R_3 R_L s^4 + C_3 C_4 L_4 L_L R_4 R_L s^4 + C_3 C_4 L_4 R_3 R_4 R_L s^3 + 2 C_3 C_4 L_L R_3 R_4 R_L s^3 + C_3 C_L L_L R_3 R_4 R_L s^3 + C_3 L_$$

10.322 INVALID-ORDER-322 
$$Z(s) = \left(\infty, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{1}{C_3C_4C_LL_4L_LR_3R_4s^5 + 2C_3C_4C_LL_4L_RR_3R_Ls^5 + C_3C_4C_LL_4L_RR_4R_Ls^5 + 2C_3C_4C_LL_4R_3R_4R_Ls^4 + 2C_3C_4L_4L_RR_3s^4 + C_3C_4L_4L_RR_4s^4 + C_3C_4L_4R_3R_4s^3 + 2C_3C_4L_4R_3R_4s^4 + C_3C_4L_4L_RR_4s^4 + C_3C_4L_4R_3R_4s^3 + 2C_3C_4L_4R_3R_4s^4 + C_3C_4L_4R_3R_4s^4 + C_3C_4L_4R_3R_4s^3 + 2C_3C_4L_4R_3R_4s^4 + C_3C_4L_4R_3R_4s^4 + C_3C_4L$$

10.323 INVALID-ORDER-323 
$$Z(s) = \left(\infty, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

**10.324** INVALID-ORDER-324 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, R_4, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_4 \left( C_3 L_3 s^2 + 1 \right)}{C_3 C_L L_3 R_4 s^3 + 2 C_3 L_3 s^2 + C_3 R_4 s + C_L R_4 s + 2}$$

10.325 INVALID-ORDER-325 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, R_4, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_4 R_L \left( C_3 L_3 s^2 + 1 \right)}{C_3 C_L L_3 R_4 R_L s^3 + C_3 L_3 R_4 s^2 + 2 C_3 L_3 R_L s^2 + C_3 R_4 R_L s + C_L R_4 R_L s + R_4 + 2 R_L}$$

**10.326** INVALID-ORDER-326 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, R_4, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_4 \left( C_3 L_3 s^2 + 1 \right) \left( C_L R_L s + 1 \right)}{C_3 C_L L_3 R_4 s^3 + 2 C_3 C_L L_3 R_L s^3 + C_3 C_L R_4 R_L s^2 + 2 C_3 L_3 s^2 + C_3 R_4 s + C_L R_4 s + 2 C_L R_L s + 2}$$

**10.327** INVALID-ORDER-327 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, R_4, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_4 \left( C_3 L_3 s^2 + 1 \right) \left( C_L L_L s^2 + 1 \right)}{2C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_4 s^3 + C_3 C_L L_L R_4 s^3 + 2C_3 L_3 s^2 + C_3 R_4 s + 2C_L L_L s^2 + C_L R_4 s + 2}$$

10.328 INVALID-ORDER-328 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, R_4, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L R_4 s \left(C_3 L_3 s^2 + 1\right)}{C_3 C_L L_3 L_L R_4 s^4 + 2 C_3 L_3 L_L s^3 + C_3 L_3 R_4 s^2 + C_3 L_L R_4 s^2 + C_L L_L R_4 s^2 + 2 L_L s + R_4}$$

10.329 INVALID-ORDER-329 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, R_4, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_4 \left( C_3 L_3 s^2 + 1 \right) \left( C_L L_L s^2 + C_L R_L s + 1 \right)}{2 C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_4 s^3 + 2 C_3 C_L L_3 R_L s^3 + C_3 C_L L_L R_4 s^3 + C_3 C_L R_4 R_L s^2 + 2 C_3 L_3 s^2 + C_3 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2 C_L R_4 s$$

10.330 INVALID-ORDER-330 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, R_4, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_L R_4 R_L s \left(C_3 L_3 s^2 + 1\right)}{C_3 C_L L_3 L_L R_4 s^4 + C_3 L_3 L_L R_4 s^3 + 2 C_3 L_3 L_L R_L s^3 + C_3 L_3 R_4 R_L s^2 + C_3 L_L R_4 R_L s^2 + C_L L_L R_4 R_L s^2 + L_L R_4 s + 2 L_L R_L s + R_4 R_L s^2 + C_L R_4 R_L s^2 + C_L$$

10.331 INVALID-ORDER-331 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, R_4, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

10.332 INVALID-ORDER-332 
$$Z(s) = \left(\infty, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ R_4, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

10.333 INVALID-ORDER-333 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, R_L\right)$$

$$H(s) = \frac{R_L \left( C_3 L_3 s^2 + 1 \right)}{2C_3 C_4 L_3 R_L s^3 + C_3 L_3 s^2 + C_3 R_L s + 2C_4 R_L s + 1}$$

10.334 INVALID-ORDER-334 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{C_3 L_3 s^2 + 1}{s \left(2 C_3 C_4 L_3 s^2 + C_3 C_L L_3 s^2 + C_3 + 2 C_4 + C_L\right)}$$

**10.335** INVALID-ORDER-335 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_L \left( C_3 L_3 s^2 + 1 \right)}{2C_3 C_4 L_3 R_L s^3 + C_3 C_L L_3 R_L s^3 + C_3 L_3 s^2 + C_3 R_L s + 2C_4 R_L s + C_L R_L s + 1}$$

**10.336** INVALID-ORDER-336 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_3 L_3 s^2 + 1\right) \left(C_L R_L s + 1\right)}{s \left(2 C_3 C_4 C_L L_3 R_L s^3 + 2 C_3 C_4 L_3 s^2 + C_3 C_L L_3 s^2 + C_3 C_L R_L s + C_3 + 2 C_4 C_L R_L s + 2 C_4 + C_L\right)}$$

**10.337** INVALID-ORDER-337 
$$Z(s) = \left(\infty, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{1}{C_4 s}, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + 1\right)\left(C_LL_Ls^2 + 1\right)}{s\left(2C_3C_4C_LL_3L_Ls^4 + 2C_3C_4L_3s^2 + C_3C_LL_3s^2 + C_3C_LL_Ls^2 + C_3 + 2C_4C_LL_Ls^2 + 2C_4 + C_L\right)}$$

**10.338** INVALID-ORDER-338 
$$Z(s) = \left(\infty, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L s \left(C_3 L_3 s^2 + 1\right)}{2C_3 C_4 L_3 L_L s^4 + C_3 C_L L_3 L_L s^4 + C_3 L_3 s^2 + C_3 L_L s^2 + 2C_4 L_L s^2 + C_L L_L s^2 + 1}$$

**10.339** INVALID-ORDER-339 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + 1\right)\left(C_LL_Ls^2 + C_LR_Ls + 1\right)}{s\left(2C_3C_4C_LL_3L_Ls^4 + 2C_3C_4C_LL_3R_Ls^3 + 2C_3C_4L_3s^2 + C_3C_LL_Ls^2 + C_3C_LL_Ls^2 + C_3C_LL_Ls^2 + 2C_4C_LL_Ls^2 + 2C_4C_LL_$$

10.340 INVALID-ORDER-340 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_L R_L s \left(C_3 L_3 s^2 + 1\right)}{2C_3 C_4 L_3 L_L R_L s^4 + C_3 C_L L_3 L_L R_L s^4 + C_3 L_3 L_L s^3 + C_3 L_3 R_L s^2 + C_3 L_L R_L s^2 + 2C_4 L_L R_L s^2 + C_L L_L R_L s^2 + L_L s + R_L R_L s^2 + C_4 L_L R_L s^2 + C_$$

**10.341** INVALID-ORDER-341 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + 1\right)\left(C_LL_LR_Ls^2 + L_Ls + R_L\right)}{2C_3C_4C_LL_3L_LR_Ls^5 + 2C_3C_4L_3L_Ls^4 + 2C_3C_4L_3R_Ls^3 + C_3C_LL_3L_Ls^4 + C_3C_LL_LR_Ls^3 + C_3L_3s^2 + C_3L_Ls^2 + C_3L_Ls^2 + C_3L_Ls^2 + C_3L_Ls^3 + 2C_4L_Ls^3 + 2C_4L_Ls^3 + 2C_4L_Ls^2 + 2C_4L_Ls^3 + 2C_4L_Ls$$

10.342 INVALID-ORDER-342 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{R_L \left( C_3 L_3 s^2 + 1 \right) \left( C_L L_L s^2 + 1 \right)}{2 C_3 C_4 C_L L_3 L_L R_L s^5 + 2 C_3 C_4 L_3 R_L s^3 + C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_L s^3 + C_3 C_L L_L R_L s^3 + C_3 R_L s + 2 C_4 C_L L_L R_L s^3 + 2 C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1}$$

**10.343** INVALID-ORDER-343 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, R_L\right)$$

$$H(s) = \frac{R_4 R_L \left( C_3 L_3 s^2 + 1 \right)}{2 C_3 C_4 L_3 R_4 R_L s^3 + C_3 L_3 R_4 s^2 + 2 C_3 L_3 R_L s^2 + C_3 R_4 R_L s + 2 C_4 R_4 R_L s + R_4 + 2 R_L}$$

**10.344** INVALID-ORDER-344 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_4 \left( C_3 L_3 s^2 + 1 \right)}{2 C_3 C_4 L_3 R_4 s^3 + C_3 C_L L_3 R_4 s^3 + 2 C_3 L_3 s^2 + C_3 R_4 s + 2 C_4 R_4 s + C_L R_4 s + 2}$$

10.345 INVALID-ORDER-345 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_4 R_L \left( C_3 L_3 s^2 + 1 \right)}{2 C_3 C_4 L_3 R_4 R_L s^3 + C_3 C_L L_3 R_4 R_L s^3 + C_3 L_3 R_4 s^2 + 2 C_3 L_3 R_L s^2 + C_3 R_4 R_L s + 2 C_4 R_4 R_L s + C_L R_4 R_L s + R_4 + 2 R_L R_4 R_L s^2 + C_4 R_4 R_L s^2 +$$

**10.346** INVALID-ORDER-346 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_4 \left(C_3 L_3 s^2 + 1\right) \left(C_L R_L s + 1\right)}{2 C_3 C_4 C_L L_3 R_4 s^4 + 2 C_3 C_4 L_3 R_4 s^3 + C_3 C_L L_3 R_4 s^3 + 2 C_3 C_L L_3 R_L s^3 + C_3 C_L R_4 R_L s^2 + 2 C_3 L_3 s^2 + C_3 R_4 s + 2 C_4 C_L R_4 R_L s^2 + 2 C_4 R_4 s + C_L R_4 s + 2 C_L R_L s + 2 C_4 R_4 s + C_4 R_4 R_L s^2 + 2 C_4 R_$$

**10.347** INVALID-ORDER-347 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_4 \left(C_3 L_3 s^2 + 1\right) \left(C_L L_L s^2 + 1\right)}{2 C_3 C_4 C_L L_3 L_L R_4 s^5 + 2 C_3 C_4 L_3 R_4 s^3 + 2 C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_4 s^3 + C_3 C_L L_L R_4 s^3 + 2 C_3 L_3 s^2 + C_3 R_4 s + 2 C_4 C_L L_L R_4 s^3 + 2 C_4 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2 C_4 R_$$

**10.348** INVALID-ORDER-348 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L R_4 s \left(C_3 L_3 s^2 + 1\right)}{2C_3 C_4 L_3 L_L R_4 s^4 + C_3 C_L L_3 L_L R_4 s^4 + 2C_3 L_3 L_L s^3 + C_3 L_3 R_4 s^2 + C_3 L_L R_4 s^2 + 2C_4 L_L R_4 s^2 + C_L L_L R_4 s^2 + 2L_L s + R_4 R_4 s^2 + C_4 L_L R_4 s^2 +$$

**10.349** INVALID-ORDER-349 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_4 \left( C_3 L_3 s^2 + 1 \right) \left( C_L L_L s^2 + C_L R_L s + 1 \right)}{2 C_3 C_4 C_L L_3 L_L R_4 s^5 + 2 C_3 C_4 C_L L_3 R_4 R_L s^4 + 2 C_3 C_4 L_3 L_L s^4 + C_3 C_L L_3 R_4 s^3 + 2 C_3 C_L L_3 R_L s^3 + C_3 C_L L_L R_4 s^3 + C_3 C_L R_4 R_L s^2 + 2 C_3 L_3 s^2 + C_3 R_4 s + 2 C_3 C_4 R_4 R_L s^3 + C_3 C_4 R_4 R_L s^2 + 2 C_3 R_4 R_L s^3 + C_3 R_4 R_L s^4 + C_3 R_4 R_$$

10.350 INVALID-ORDER-350 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_L R_4 R_L s \left(C_3 L_3 s^2 + 1\right)}{2 C_3 C_4 L_3 L_L R_4 R_L s^4 + C_3 C_L L_3 L_L R_4 s^4 + C_3 L_3 L_L R_4 s^3 + 2 C_3 L_3 L_L R_L s^3 + C_3 L_3 R_4 R_L s^2 + C_3 L_L R_4 R_L s^2 + 2 C_4 L_L R_4 R_L s^2 + C_L L_L R_4 R_L s^2 + L_L R_4 s + 2 L_L R_4 s + 2$$

10.351 INVALID-ORDER-351 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{R_4 \left( C_3 L_3 s^2 + 1 \right) \left( C_L L_L R_L s^2 + L_L s + R_L \right)}{2 C_3 C_4 C_L L_3 L_L R_4 R_L s^5 + 2 C_3 C_4 L_3 L_L R_4 s^4 + 2 C_3 C_L L_3 L_L R_4 s^3 + 2 C_3 L_3 L_L s^3 + C_3 L_3 R_4 s^2 + 2 C_3 L_3 R_L s^2 + C_3 L_3 R_4 s^2 + 2 C_3 L_3 R_4 s^3 +$$

10.352 INVALID-ORDER-352 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

**10.353** INVALID-ORDER-353 
$$Z(s) = \left(\infty, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L\right)$$

$$H(s) = \frac{R_L \left( C_3 L_3 s^2 + 1 \right) \left( C_4 R_4 s + 1 \right)}{C_3 C_4 L_3 R_4 s^3 + 2 C_3 C_4 L_3 R_L s^3 + C_3 C_4 R_4 R_L s^2 + C_3 L_3 s^2 + C_3 R_L s + C_4 R_4 s + 2 C_4 R_L s + 1}$$

**10.354** INVALID-ORDER-354 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + 1\right)\left(C_4R_4s + 1\right)}{s\left(C_3C_4C_LL_3R_4s^3 + 2C_3C_4L_3s^2 + C_3C_4R_4s + C_3C_LL_3s^2 + C_3 + C_4C_LR_4s + 2C_4 + C_L\right)}$$

**10.355** INVALID-ORDER-355 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_L \left( C_3 L_3 s^2 + 1 \right) \left( C_4 R_4 s + 1 \right)}{C_3 C_4 C_L L_3 R_4 R_L s^4 + C_3 C_4 L_3 R_4 s^3 + 2 C_3 C_4 L_3 R_L s^3 + C_3 C_4 R_4 R_L s^2 + C_3 C_L L_3 R_L s^3 + C_3 L_3 s^2 + C_3 R_L s + C_4 C_L R_4 R_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L R_L s + 1}$$

**10.356** INVALID-ORDER-356 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + 1\right)\left(C_4R_4s + 1\right)\left(C_LR_Ls + 1\right)}{s\left(C_3C_4C_LL_3R_4s^3 + 2C_3C_4C_LL_3R_Ls^3 + C_3C_4C_LR_4R_Ls^2 + 2C_3C_4L_3s^2 + C_3C_4R_4s + C_3C_LL_3s^2 + C_3C_LR_Ls + C_3 + C_4C_LR_4s + 2C_4C_LR_Ls + 2C_4 + C_L\right)}$$

**10.357** INVALID-ORDER-357 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + 1\right)\left(C_4R_4s + 1\right)\left(C_LL_Ls^2 + 1\right)}{s\left(2C_3C_4C_LL_3L_Ls^4 + C_3C_4C_LL_3R_4s^3 + C_3C_4C_LL_Rs^3 + 2C_3C_4L_3s^2 + C_3C_4L_4s^2 + C_3C_LL_3s^2 + C_3C_LL_Ls^2 + C_3 + 2C_4C_LL_Ls^2 + C_4C_LR_4s + 2C_4 + C_LC_Ls^2\right)}$$

**10.358** INVALID-ORDER-358 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L s \left(C_3 L_3 s^2 + 1\right) \left(C_4 R_4 s + 1\right)}{C_3 C_4 C_L L_3 L_L R_4 s^5 + 2 C_3 C_4 L_3 L_L s^4 + C_3 C_4 L_3 R_4 s^3 + C_3 C_4 L_L R_4 s^3 + C_3 C_L L_3 L_L s^4 + C_3 L_3 s^2 + C_3 L_L s^2 + C_4 C_L L_L R_4 s^3 + 2 C_4 L_L s^2 + C_4 R_4 s + C_L L_L s^2 + 1}$$

**10.359** INVALID-ORDER-359 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + 1\right)\left(C_4R_4s + 1\right)\left(C_LL_Ls^2 + C_LR_Ls + 1\right)}{s\left(2C_3C_4C_LL_3L_Ls^4 + C_3C_4C_LL_3R_4s^3 + 2C_3C_4C_LL_3R_Ls^3 + C_3C_4C_LL_R4s^3 + C_3C_4C_LR_4R_Ls^2 + 2C_3C_4L_3s^2 + C_3C_4L_3s^2 + C_3C_LL_3s^2 + C_3C_$$

10.360 INVALID-ORDER-360 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

**10.361** INVALID-ORDER-361 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + 1\right)\left(C_4R_4s + 1\right)\left(C_LL_LR_Ls^2 + L_Ls + R_Ls^2\right)}{C_3C_4C_LL_3L_LR_4s^5 + 2C_3C_4C_LL_3L_LR_4s^4 + 2C_3C_4L_3L_Ls^4 + C_3C_4L_3R_4s^3 + 2C_3C_4L_3R_Ls^3 + C_3C_4L_LR_4s^3 + C_3C_4L_3L_Ls^4 + C_3C_4L_3L_Ls^4 + C_3C_4L_3R_4s^3 + 2C_3C_4L_3R_4s^3 + C_3C_4L_3R_4s^3 + C_3C_4R_4R_Ls^2 + C_3C_4L_3L_Ls^4 + C_3C_4L_3R_4s^3 + C_3C_4L_3R_4s^3 + C_3C_4R_4R_Ls^2 + C_3C_4L_3L_Ls^4 + C_3C_4L_3R_4s^3 + C_3C_4L_3R_4s^3 + C_3C_4R_4R_Ls^2 + C_3C_4L_3L_Ls^4 + C_3C_4L_3R_4s^3 + C_3C_4L_3R_4s^3 + C_3C_4L_3R_4s^3 + C_3C_4R_4R_Ls^2 + C_3C_4L_3R_4s^3 + C_3C_4R_4R_4s^3 + C_3C_4R_4$$

10.362 INVALID-ORDER-362 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{R_L \left( C_3 L_3 s^2 + 1 \right) \left( C_4 R_4 s + 1 \right) \left( C_L L_L s^2 + C_3 C_4 C_L L_3 L_L R_4 s^5 + C_3 C_4 C_L L_3 R_4 R_L s^4 + C_3 C_4 L_L R_4 R_L s^4 + C_3 C_4 L_3 R_4 s^3 + 2 C_3 C_4 L_3 R_L s^3 + C_3 C_4 L_3 L_L R_4 s^5 + C_3 C_L L_3 L_L R_4 s^4 + C_3 C_4 L_4 R_L s^4 + C_3 C_4 L_3 R_4 s^3 + 2 C_3 C_4 L_3 R_L s^3 + C_3 C_4 L_3 L_L R_4 s^4 + C_3 C_4 L_3 R_4 R_L s^4 + C_3 C_4 R_4 R_L s^4 + C_3$$

**10.363** INVALID-ORDER-363 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, R_L\right)$$

$$H(s) = \frac{R_L \left( C_3 L_3 s^2 + 1 \right) \left( C_4 L_4 s^2 + 1 \right)}{C_3 C_4 L_3 L_4 s^4 + 2 C_3 C_4 L_3 R_L s^3 + C_3 C_4 L_4 R_L s^3 + C_3 L_3 s^2 + C_3 R_L s + C_4 L_4 s^2 + 2 C_4 R_L s + 1}$$

**10.364** INVALID-ORDER-364 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + 1\right)\left(C_4L_4s^2 + 1\right)}{s\left(C_3C_4C_LL_3L_4s^4 + 2C_3C_4L_3s^2 + C_3C_4L_4s^2 + C_3C_LL_3s^2 + C_3 + C_4C_LL_4s^2 + 2C_4 + C_L\right)}$$

**10.365** INVALID-ORDER-365 
$$Z(s) = \left(\infty, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_L \left( C_3 L_3 s^2 + 1 \right) \left( C_4 L_4 s^2 + 1 \right)}{C_3 C_4 C_L L_3 L_4 R_L s^5 + C_3 C_4 L_3 L_4 s^4 + 2 C_3 C_4 L_3 R_L s^3 + C_3 C_4 L_4 R_L s^3 + C_3 C_L L_3 R_L s^3 + C_3 L_4 S^2 + C_3 R_L s + C_4 C_L L_4 R_L s^3 + C_4 L_4 s^2 + 2 C_4 R_L s + C_L R_L s + 1}$$

**10.366** INVALID-ORDER-366 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + 1\right)\left(C_4L_4s^2 + 1\right)\left(C_LR_Ls + 1\right)}{s\left(C_3C_4C_LL_3L_4s^4 + 2C_3C_4C_LL_3R_Ls^3 + C_3C_4L_Ls^3 + 2C_3C_4L_3s^2 + C_3C_4L_4s^2 + C_3C_LL_3s^2 + C_3C_LR_Ls + C_3 + C_4C_LL_4s^2 + 2C_4C_LR_Ls + 2C_4 + C_L\right)}$$

**10.367** INVALID-ORDER-367 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + 1\right)\left(C_4L_4s^2 + 1\right)\left(C_LL_Ls^2 + 1\right)}{s\left(C_3C_4C_LL_3L_4s^4 + 2C_3C_4C_LL_4L_Ls^4 + 2C_3C_4L_3s^2 + C_3C_4L_4s^2 + C_3C_LL_3s^2 + C_3C_LL_4s^2 + C_3C_LL_4s^2 + 2C_4C_LL_4s^2 + 2C_4$$

10.368 INVALID-ORDER-368 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

**10.369** INVALID-ORDER-369 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + 1\right)\left(C_4L_4s^2 + 1\right)\left(C_LL_Ls^2 + C_LR_Ls + 1\right)}{s\left(C_3C_4C_LL_3L_4s^4 + 2C_3C_4C_LL_3R_Ls^3 + C_3C_4C_LL_4L_Ls^4 + C_3C_4C_LL_4R_Ls^3 + 2C_3C_4L_4s^2 + C_3C_4L_4s^2 + C_3C_LL_3s^2 + C_3C_LL_4s^2 + C_3C_LL_$$

10.370 INVALID-ORDER-370 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_L R_L s \left(C_3 L_3 s^2 + 1\right) \left(C_4 L_4 s^2 + 1\right)}{C_3 C_4 C_L L_3 L_4 L_L s^6 + C_3 C_4 L_3 L_4 L_L s^5 + C_3 C_4 L_3 L_4 R_L s^4 + C_3 C_4 L_4 L_L R_L s^4 + C_3 C_4 L_3 L_L R_L s^4 + C_3 L_4 L_L R_L s^4 + C_$$

10.371 INVALID-ORDER-371 
$$Z(s) = \left(\infty, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{\left(C_{3}L_{3}s^{2} + 1\right)\left(C_{4}L_{4}s^{2} + 1\right)\left(C_{L}L_{L}R_{L}s^{2} + L_{L}s + R_{L}s + R_$$

10.372 INVALID-ORDER-372 
$$Z(s) = \left(\infty, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{R_L \left( C_3 L_3 s^2 + 1 \right) \left( C_4 L_4 s^2 + 1 \right) \left( C_4 L_4 s^2 + 1 \right) \left( C_L L_L s^2 + 1 \right) \left( C_4 L_4 s^2 + 1 \right) \left( C_4$$

10.373 INVALID-ORDER-373 
$$Z(s) = \left(\infty, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ R_L\right)$$

$$H(s) = \frac{L_4 R_L s \left(C_3 L_3 s^2 + 1\right)}{2C_3 C_4 L_3 L_4 R_L s^4 + C_3 L_3 L_4 s^3 + 2C_3 L_3 R_L s^2 + C_3 L_4 R_L s^2 + 2C_4 L_4 R_L s^2 + L_4 s + 2R_L s^2 + 2C_4 L_4 R_L s^2 + L_4 s + 2R_L s^2 + 2C_4 L_4 R_L s^2 + L_4 s + 2R_L s^2 + 2C_4 L_4 R_L s^2 + 2C_$$

**10.374** INVALID-ORDER-374 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_4s \left(C_3 L_3 s^2 + 1\right)}{2C_3 C_4 L_3 L_4 s^4 + C_3 C_L L_3 L_4 s^4 + 2C_3 L_3 s^2 + C_3 L_4 s^2 + 2C_4 L_4 s^2 + C_L L_4 s^2 + 2}$$

10.375 INVALID-ORDER-375 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{L_4 R_L s \left(C_3 L_3 s^2 + 1\right)}{2 C_3 C_4 L_3 L_4 R_L s^4 + C_3 C_L L_3 L_4 R_L s^4 + C_3 L_3 L_4 s^3 + 2 C_3 L_3 R_L s^2 + C_3 L_4 R_L s^2 + 2 C_4 L_4 R_L s^2 + C_L L_4 R_L s^2 + L_4 s + 2 R_L R_L s^2 + C_4 L_4 R_L s^$$

10.376 INVALID-ORDER-376 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_4 s \left(C_3 L_3 s^2 + 1\right) \left(C_L R_L s + 1\right)}{2 C_3 C_4 C_L L_3 L_4 R_L s^5 + 2 C_3 C_4 L_3 L_4 s^4 + C_3 C_L L_3 L_4 s^4 + 2 C_3 C_L L_3 R_L s^3 + C_3 C_L L_4 R_L s^3 + 2 C_3 L_4 s^2 + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L R_L s + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 L_4 R_L s^3$$

10.377 INVALID-ORDER-377 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_4 s \left(C_3 L_3 s^2 + 1\right) \left(C_L L_L s^2 + 1\right)}{2 C_3 C_4 C_L L_3 L_4 L_5 ^6 + 2 C_3 C_4 L_3 L_4 s^4 + C_3 C_L L_3 L_L s^4 + C_3 C_L L_4 L_L s^4 + 2 C_3 L_3 s^2 + C_3 L_4 s^2 + 2 C_4 C_L L_4 L_L s^4 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L L_L s^2 + 2 C_4 L_4 L_4 s^4 + 2 C_4 L_4 L_4 L_4 s^4 + 2 C_4 L_4 L_4 s^4 + 2 C_4 L_4 L_4 L_4 s^4 + 2 C_4 L_4 L_4 L_4 s^4 + 2 C_4 L_4 L_4 L_4 t^4 + 2 C_4 L_4 L_4 L_4 t^4 + 2 C_4 L_4$$

10.378 INVALID-ORDER-378 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

10.379 INVALID-ORDER-379 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

10.380 INVALID-ORDER-380 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_4 L_L R_L s \left(C_3 L_3 s^2 + 1\right)}{2 C_3 C_4 L_3 L_4 L_L R_L s^4 + C_3 C_L L_3 L_4 L_L R_S^4 + C_3 L_3 L_4 L_L s^3 + C_3 L_3 L_4 R_L s^2 + 2 C_3 L_3 L_L R_L s^2 + C_3 L_4 L_L R_L s^2 + C_L L_4 L_L R_L s^2 + L_4 L_L s + L_4 R_L + 2 L_L R_L s^2 + L_4 L_L$$

10.381 INVALID-ORDER-381 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{L_4 s \left(C_3 L_3 s^2 + 1\right) \left(C_L L_L R_L s^2 + L_L s + R_L\right)}{2 C_3 C_4 C_L L_3 L_4 L_L R_L s^6 + 2 C_3 C_4 L_3 L_4 L_L s^5 + 2 C_3 C_4 L_3 L_4 L_L s^5 + 2 C_3 C_L L_3 L_L R_L s^4 + C_3 C_L L_4 L_L R_L s^4 + C_3 L_3 L_4 s^3 + 2 C_3 L_3 L_L s^3 + 2 C_3 L_3 L_L s^2 + C_3 L_3 L_L s^3 + C_3 L_3 L_L s^3 + 2 C_3 L_3 L_L s^3 + 2 C_3 L_3 L_L s^3 + 2 C_3 L_3 L_L s^3 + C_3 L_2 L_L s^3 +$$

10.382 INVALID-ORDER-382 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{L_4 R_L s \left(C_3 L_3 s^2 + 1\right) \left(C_L L_L s^2 + 1\right)}{2 C_3 C_4 C_L L_3 L_4 L_L s^6 + 2 C_3 C_4 L_3 L_4 R_L s^4 + C_3 C_L L_3 L_4 R_L s^4 + 2 C_3 C_L L_3 L_4 R_L s^4 + C_3 C_L L_4 L_L R_L s^4 + C_3 L_3 L_4 s^3 + 2 C_3 L_3 R_L s^2 + C_3 L_4 R_L s^2 + 2 C_4 C_L R_L s^4 + C_4 R_L s^4 + C_5 R_L R_L s^4 + C_5 R_L$$

**10.383** INVALID-ORDER-383 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, R_L\right)$$

$$H(s) = \frac{R_L \left( C_3 L_3 s^2 + 1 \right) \left( C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{C_3 C_4 L_3 L_4 s^4 + C_3 C_4 L_3 R_4 s^3 + 2 C_3 C_4 L_3 R_L s^3 + C_3 C_4 L_4 R_L s^3 + C_3 C_4 R_4 R_L s^2 + C_3 L_3 s^2 + C_3 R_L s + C_4 L_4 s^2 + C_4 R_4 s + 2 C_4 R_L s + 1}$$

**10.384** INVALID-ORDER-384 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + 1\right)\left(C_4L_4s^2 + C_4R_4s + 1\right)}{s\left(C_3C_4C_LL_3L_4s^4 + C_3C_4L_LR_4s^3 + 2C_3C_4L_3s^2 + C_3C_4L_4s^2 + C_3C_4L_4s^2 + C_3C_LL_3s^2 + C_3 + C_4C_LL_4s^2 + C_4C_LR_4s + 2C_4 + C_L\right)}$$

10.385 INVALID-ORDER-385 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

**10.386** INVALID-ORDER-386 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + 1\right)\left(C_LR_Ls + 1\right)\left(C_4L_4s^2 + C_4R_4s + 1\right)}{s\left(C_3C_4C_LL_3L_4s^4 + C_3C_4C_LL_3R_4s^3 + 2C_3C_4C_LL_3R_Ls^3 + C_3C_4C_LL_4R_Ls^3 + C_3C_4C_LR_4R_Ls^2 + 2C_3C_4L_3s^2 + C_3C_4L_4s^2 + C_3C_4R_4s + C_3C_LL_3s^2 + C_3C_L$$

**10.387** INVALID-ORDER-387 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + 1\right)\left(C_LL_Ls^2 + 1\right)\left(C_4L_4s^2 + C_4R_4s + 1\right)}{s\left(C_3C_4C_LL_3L_4s^4 + 2C_3C_4C_LL_3L_Ls^4 + C_3C_4C_LL_4L_Ls^4 + C_3C_4C_LL_LR_4s^3 + 2C_3C_4L_3s^2 + C_3C_4L_4s^2 + C_3C_4L_$$

**10.388** INVALID-ORDER-388 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L s \left(C_3 L_3 s^2 + 1\right) \left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{C_3 C_4 C_L L_3 L_4 L_5 e^4 + C_3 C_4 L_3 L_4 L_5 e^4 + C_3 C_4 L_3 L_4 L_5 e^4 + C_3 C_4 L_4 L_4 L_5 e^4 + C_3 C_4 L_4 L_4 L_5 e^4 + C_3 C_4 L_4 L_4 L_5 e^4 + C_3 L_5 e^4 + C_3 L_5 e^4 + C_5 L_5 e^4 + C_5$$

**10.389** INVALID-ORDER-389 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_{3}L_{3}s^{2} + 1\right)\left(C_{4}L_{4}s^{2} + C_{4}R_{4}s + 1\right)\left(C_{L}L_{L}s^{2} + C_{4}R_{4}s + 1\right)\left(C_{L}L_{L}s^{2} + C_{4}R_{4}s + 1\right)\left(C_{L}L_{L}s^{2} + C_{4}R_{L}s^{2} + C_{4}R_{L$$

10.390 INVALID-ORDER-390 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

 $H(s) = \frac{L_L \kappa_L}{C_3 C_4 C_L L_3 L_4 L_L R_L s^6 + C_3 C_4 C_L L_3 L_L R_4 R_L s^5 + C_3 C_4 L_3 L_4 L_L s^5 + C_3 C_4 L_3 L_4 R_L s^4 + C_3 C_4 L_3 L_L R_4 s^4 + 2 C_3 C_4 L_3 L_L R_L s^4 + C_3 C_4 L_3 R_4 R_L s^3 + C_3 C_4 L_4 L_L R_L s^4 + C_3 C_4 L_3 L_L R_L s^4 + C_3 C_$ 

10.391 INVALID-ORDER-391 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{1}{C_3C_4C_LL_3L_4L_Ls^6 + C_3C_4C_LL_3L_LR_4s^5 + 2C_3C_4C_LL_3L_LR_Ls^5 + C_3C_4C_LL_4L_LR_Ls^5 + C_3C_4C_LL_4R_Ls^4 + C_3C_4L_3L_4s^4 + 2C_3C_4L_3L_Ls^4 + C_3C_4L_3R_4s^3 + 2C_3C_4L_3R_4s^3 + 2C_3C_4L_3R_4s^4 + 2C_3C_4L_3L_4L_4s^4 + 2C_3C_4L_3L_4s^4 + 2C_3C_4L_3L_3c_5 + 2C_3C_4C_4L_3L_3c_5 + 2C_3C_4C_4L_3c_5 + 2C_3C_4C_4c_5 + 2C_3C_4C_4c_5 + 2C_3C_4C_4c_5 + 2C_$$

10.392 INVALID-ORDER-392 
$$Z(s) = \left(\infty, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{1}{C_3C_4C_LL_3L_4L_Ls^6 + C_3C_4C_LL_3L_4R_Ls^5 + C_3C_4C_LL_3L_LR_4s^5 + 2C_3C_4C_LL_3L_LR_Ls^5 + C_3C_4C_LL_3R_4R_Ls^4 + C_3C_4C_LL_4L_LR_Ls^5 + C_3C_4C_LL_4L_LR_4s^4 + C_3C_4C_LL_3L_4R_Ls^4 + C_3C_4C_LL_3L_4$$

10.393 INVALID-ORDER-393 
$$Z(s) = \left(\infty, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \ \infty, \ R_L\right)$$

$$H(s) = \frac{L_4 R_4 R_L s \left(C_3 L_3 s^2 + 1\right)}{2 C_3 C_4 L_3 L_4 R_4 s^4 + C_3 L_3 L_4 R_4 s^3 + 2 C_3 L_3 L_4 R_L s^3 + 2 C_3 L_3 R_4 R_L s^2 + C_3 L_4 R_4 R_L s^2 + 2 C_4 L_4 R_4 R_L s^2 + L_4 R_4 s + 2 L_4 R_L s + 2 R_4 R_L s^2 + 2 C_4 L_4 R_4$$

**10.394** INVALID-ORDER-394 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_4 R_4 s \left(C_3 L_3 s^2 + 1\right)}{2 C_3 C_4 L_3 L_4 R_4 s^4 + C_3 C_L L_3 L_4 R_4 s^4 + 2 C_3 L_3 L_4 s^3 + 2 C_3 L_3 R_4 s^2 + C_3 L_4 R_4 s^2 + 2 C_4 L_4 R_4 s^2 + C_L L_4 R_4 s^2 + 2 L_4 s + 2 R_4 R_4 s^2 + 2 C_4 L_4 R_4 s^2 + 2 C_4 L_$$

10.395 INVALID-ORDER-395 
$$Z(s) = \left(\infty, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{L_4 R_4 R_L s \left(C_3 L_3 s^2 + 1\right)}{2 C_3 C_4 L_3 L_4 R_4 R_L s^4 + C_3 C_L L_3 L_4 R_4 R_L s^4 + C_3 L_3 L_4 R_4 s^3 + 2 C_3 L_3 L_4 R_L s^3 + 2 C_3 L_3 R_4 R_L s^2 + C_3 L_4 R_4 R_L s^2 + C_L L_4 R_4 R_L s^2 + L_4 R_4 s + 2 L_4 R_L s + 2 R_4 R_4 R_L s^2 + 2 C_4 L_4 R_4 R_L s^2 + C_4 L_4 R_4 R_L$$

10.396 INVALID-ORDER-396 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, R_L + \frac{1}{C_L s}\right)$$

10.397 INVALID-ORDER-397 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, L_L s + \frac{1}{C_L s}\right)$$

10.398 INVALID-ORDER-398 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_4 L_L R_4 s \left(C_3 L_3 s^2 + 1\right)}{2 C_3 C_4 L_3 L_4 L_L R_4 s^4 + C_3 C_L L_3 L_4 L_L R_4 s^4 + 2 C_3 L_3 L_4 L_L s^3 + C_3 L_3 L_4 R_4 s^2 + 2 C_3 L_3 L_L R_4 s^2 + 2 C_4 L_4 L_L R_4 s^2 + C_L L_4 L_L R_4 s^2 + 2 L_4 L_L s + L_4 R_4 + 2 L_L R_4 s^2 + 2 L_4 L_L R_4 s^2 + 2$$

10.399 INVALID-ORDER-399 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{1}{2C_3C_4C_LL_3L_4L_LR_4s^6 + 2C_3C_4C_LL_3L_4R_4s^5 + 2C_3C_4L_3L_4R_4s^4 + 2C_3C_LL_3L_4L_Ls^5 + C_3C_LL_3L_4R_4s^4 + 2C_3C_LL_3L_4R_4s^4 +$$

10.400 INVALID-ORDER-400 
$$Z(s) = \left(\infty, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \ \infty, \ \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_4 L_L R_4 R_L s \left(C_3 L_3 s^2 + 1\right)}{2 C_3 C_4 L_3 L_4 L_L R_4 R_L s^4 + C_3 C_L L_3 L_4 L_L R_4 s^3 + 2 C_3 L_3 L_4 L_L R_L s^3 + C_3 L_3 L_4 R_4 R_L s^2 + 2 C_3 L_3 L_L R_4 R_L s^2 + 2 C_4 L_4 L_L R_4 R_L s^2 + C_4 L_4 L_L R_4 R_L s^2 +$$

10.401 INVALID-ORDER-401 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{1}{2C_3C_4C_LL_3L_4L_LR_4R_Ls^6 + 2C_3C_4L_3L_4L_LR_4s^5 + 2C_3C_4L_3L_4R_4R_Ls^4 + C_3C_LL_3L_4L_LR_4s^5 + 2C_3C_LL_3L_4L_LR_4s^5 + 2C_3C_LL_3L_4L_4L_4L_4s^5 + 2C_3C_LL_3L_4L_4L_4s^5 + 2C_3C_LL_3L_4L_4s^5 + 2C_3C_LL_3L_4L_4s^5 + 2C_3C_LL_3L_4L_4s^5 + 2C_3C_LL_3L_4c_Lt_3L_4s^5 + 2C_3C_LL_3L_4t^5 + 2C_3C_LL_3L_3L_4t^5 + 2C_3C_LL_3L_3L_3L$$

10.402 INVALID-ORDER-402 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

**10.403** INVALID-ORDER-403 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, R_L\right)$$

$$H(s) = \frac{R_L \left( C_3 L_3 s^2 + 1 \right) \left( C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{C_3 C_4 L_3 L_4 R_4 s^4 + 2 C_3 C_4 L_3 L_4 R_L s^4 + C_3 C_4 L_4 R_4 s^3 + C_3 L_3 L_4 s^3 + C_3 L_3 R_4 s^2 + 2 C_3 L_3 R_L s^2 + C_3 L_4 R_L s^2 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + L_4 s + R_4 + 2 R_L r_4 R_4 s^2 + 2 C_4 R_4 R_4 r_5 + 2 C_4 R_4 r_5 + 2 C_4 R_4 r_5 + 2 C_4 R_4 R_4 r_5 + 2 C_4 R_5 r_5 + 2 C_4 R_5 r_5 + 2 C_4 R_5 r_5 + 2 C_5 R_5 r_5 + 2 C_5 R_5 r_5 + 2 C_5 R_5 r_5 + 2$$

**10.404** INVALID-ORDER-404 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + 1\right)\left(C_4L_4R_4s^2 + L_4s + R_4\right)}{C_3C_4L_3L_4s^5 + 2C_3C_4L_3L_4s^4 + C_3C_4L_4R_4s^3 + C_3C_LL_3L_4s^4 + C_3C_LL_3R_4s^3 + 2C_3L_3s^2 + C_3L_4s^2 + C_3R_4s + C_4C_LL_4R_4s^3 + 2C_4L_4s^2 + C_LR_4s + 2C_4L_4s^2 + C_4L_4s^2 + C_4L_4s$$

10.405 INVALID-ORDER-405 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_L \left( C_3 L_3 s^2 + 1 \right) \left( C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{C_3 C_4 C_L L_3 L_4 R_4 s^5 + C_3 C_4 L_3 L_4 R_4 s^4 + 2 C_3 C_4 L_3 L_4 R_L s^4 + C_3 C_4 L_3 L_4 R_L s^3 + C_3 C_L L_3 L_4 R_L s^3 + C_3 L_4 L_3 L_4 R_L s^3 + C_3 L_4 R_L s^3 + C_3$$

**10.406** INVALID-ORDER-406 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_{3}L_{3}s^{2}+1\right)\left(C_{L}R_{L}s+1\right)\left(C_{4}L_{4}R_{4}s^{2}+L_{4}s+R_{4}\right)}{C_{3}C_{4}C_{L}L_{3}L_{4}R_{4}s^{5}+2C_{3}C_{4}L_{L}L_{4}R_{4}R_{L}s^{4}+2C_{3}C_{4}L_{3}L_{4}s^{4}+C_{3}C_{4}L_{3}L_{4}s^{4}+C_{3}C_{L}L_{3}L_{4}s^{3}+2C_{3}C_{L}L_{3}R_{L}s^{3}+C_{3}C_{L}L_{4}R_{L}s^{3}+C_{3}C_{L}L_{4}R_{L}s^{3}+C_{3}C_{L}L_{4}R_{L}s^{3}+C_{3}C_{L}L_{4}R_{L}s^{3}+C_{3}C_{L}L_{4}R_{L}s^{3}+C_{3}C_{L}L_{3}L_{4}s^{4}+C_{3}C_{L}L_{3}L_{4}s^{4}+C_{3}C_{L}L_{3}L_{4}s^{3}+C_{3}C_{L}L$$

10.407 INVALID-ORDER-407 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, L_L s + \frac{1}{C_L s}\right)$$

10.408 INVALID-ORDER-408 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L s \left(C_3 L_3 s^2 + 1\right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{C_3 C_4 C_L L_3 L_4 L_L R_4 s^6 + 2 C_3 C_4 L_3 L_4 L_L s^5 + C_3 C_4 L_4 L_L R_4 s^4 + C_3 C_L L_3 L_4 L_L s^5 + C_3 C_L L_3 L_4 R_4 s^4 + C_3 L_3 L_4 s^3 + 2 C_3 L_3 L_4 s^3 + C_3 L_3 L_4 s^3 + C_3 L_4 L_L s^3}$$

**10.409** INVALID-ORDER-409 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

10.410 INVALID-ORDER-410 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

10.411 INVALID-ORDER-411 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

10.412 INVALID-ORDER-412 
$$Z(s) = \left(\infty, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

10.413 INVALID-ORDER-413 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, R_L\right)$$

10.414 INVALID-ORDER-414 
$$Z(s) = \left(\infty, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \ \infty, \ \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_4 \left( C_3 L_3 s^2 + 1 \right) \left( C_4 L_4 s^2 + 1 \right)}{C_3 C_4 C_L L_3 L_4 R_4 s^5 + 2 C_3 C_4 L_3 L_4 s^4 + 2 C_3 C_4 L_3 R_4 s^3 + C_3 C_4 L_4 R_4 s^3 + 2 C_3 L_3 R_4 s^3 + 2 C_3 L_3 R_4 s^3 + 2 C_4 L_4 R_4 s^3 + 2 C_4$$

10.415 INVALID-ORDER-415 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_4 R_L \left(C_3 L_3 s^2 + 1\right) \left(C_4 L_4 s^2 + 1\right)}{C_3 C_4 C_L L_3 L_4 R_4 s^5 + C_3 C_4 L_3 L_4 R_4 s^4 + 2 C_3 C_4 L_3 R_4 R_L s^3 + C_3 C_4 L_4 R_4 R_L s^3 + C_3 C_L L_3 R_4 R_L s^3 + C_3 L_3 R_4 s^2 + 2 C_3 L_3 R_L s^2 + C_3 R_4 R_L s + C_4 C_L L_4 R_4 R_L s^3 + C_$$

**10.416** INVALID-ORDER-416 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}\right), \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_4 \left( C_3 L_3 s^2 + 1 \right) \left( C_4 L_4 s^2 + 1 \right) \left( C_4$$

10.417 INVALID-ORDER-417 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_4 \left( C_3 L_3 s^2 + 1 \right) \left( C_4 L_4 s^2 + 1 \right) \left( C_4 L_4 s^2 + 1 \right) \left( C_L L_L s^2 + 1 \right) \left( C_4 L_4 s^2 + 1 \right) \left( C_4$$

10.418 INVALID-ORDER-418 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

10.419 INVALID-ORDER-419 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{1}{2C_3C_4C_LL_3L_4L_Ls^6 + C_3C_4C_LL_3L_4R_4s^5 + 2C_3C_4C_LL_3L_4R_Ls^5 + 2C_3C_4C_LL_3L_LR_4s^5 + 2C_3C_4C_LL_3R_4R_Ls^4 + C_3C_4C_LL_4L_LR_4s^5 + C_3C_4C_LL_4R_4R_Ls^4 + 2C_3C_4L_3L_4R_4s^5 + 2C_3C_4C_LL_3L_4R_4s^5 + 2C_3C_4C_LL_3$$

10.420 INVALID-ORDER-420 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

 $H(s) = \frac{L_L R_4 R_L s}{C_3 C_4 C_L L_3 L_4 L_L R_4 R_L s^6 + C_3 C_4 L_3 L_4 L_L R_4 s^5 + 2 C_3 C_4 L_3 L_4 L_L R_4 s^5 + C_3 C_4 L_3 L_4 R_4 R_L s^4 + 2 C_3 C_4 L_3 L_L R_4 R_L s^4 + C_3 C_4 L_4 L_L R_4 R_L s^4 + C_3 C_4 L_3 L_L R_4 R_L s^4$ 

10.421 INVALID-ORDER-421 
$$Z(s) = \left(\infty, \infty, L_3 s + \frac{1}{C_3 s}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

10.422 INVALID-ORDER-422 
$$Z(s) = \left(\infty, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{1}{C_3C_4C_LL_3L_4L_LR_4s^6 + 2C_3C_4C_LL_3L_4L_RL_s^6 + C_3C_4C_LL_3L_4R_4R_Ls^5 + 2C_3C_4C_LL_3L_4R_4R_Ls^5 + C_3C_4C_LL_4L_RL_8s^5 + C_3C_4L_3L_4R_4s^4 + 2C_3C_4L_3L_4R_4s^4 + 2C_3C_4L$$

**10.423** INVALID-ORDER-423 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3 L_3 s^2 + 1}, R_4, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 R_4 s \left(C_L R_L s + 1\right)}{C_3 C_L L_3 R_4 R_L s^3 + C_3 L_3 R_4 s^2 + C_L L_3 R_4 s^2 + 2C_L L_3 R_L s^2 + C_L R_4 R_L s + 2L_3 s + R_4}$$

**10.424** INVALID-ORDER-424 
$$Z(s) = \left(\infty, \infty, \frac{L_3 s}{C_3 L_3 s^2 + 1}, R_4, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 R_4 s \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_3 L_L R_4 s^4 + C_3 L_3 R_4 s^2 + 2C_L L_3 L_L s^3 + C_L L_3 R_4 s^2 + C_L L_L R_4 s^2 + 2L_3 s + R_4}$$

**10.425** INVALID-ORDER-425 
$$Z(s) = \left(\infty, \infty, \frac{L_3 s}{C_3 L_3 s^2 + 1}, R_4, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

**10.426** INVALID-ORDER-426 
$$Z(s) = \left(\infty, \infty, \frac{L_3 s}{C_3 L_3 s^2 + 1}, R_4, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{L_3 R_4 s \left(C_L L_L R_L s^2 + L_L s + R_L\right)}{C_3 C_L L_3 L_L R_4 s^4 + C_3 L_3 L_L R_4 s^3 + C_3 L_3 R_4 R_L s^2 + C_L L_3 L_L R_4 s^3 + 2C_L L_3 L_L R_4 s^3 + C_L L_L R_4 R_L s^2 + 2L_3 L_L s^2 + L_3 R_4 s + 2L_3 R_L s + L_L R_4 s + R_4 R_L s^2 + 2L_3 L_L R_4 R_L s^2 + 2L_2 R_4 R_L$$

10.427 INVALID-ORDER-427 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_{3}L_{3}s^{2}+1}, R_{4}, \infty, \frac{R_{L}\left(L_{L}s+\frac{1}{C_{L}s}\right)}{L_{L}s+R_{L}+\frac{1}{C_{L}s}}\right)$$

10.428 INVALID-ORDER-428 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3 L_{3s^2+1}}, \frac{1}{C_4 s}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 s}{C_3 L_3 s^2 + 2C_4 L_3 s^2 + C_L L_3 s^2 + 1}$$

**10.429** INVALID-ORDER-429 
$$Z(s) = \left(\infty, \infty, \frac{L_{3}s}{C_{3}L_{3}s^{2}+1}, \frac{1}{C_{4}s}, \infty, R_{L} + \frac{1}{C_{L}s}\right)$$

$$H(s) = \frac{L_3 s \left(C_L R_L s + 1\right)}{C_3 C_L L_3 R_L s^3 + C_3 L_3 s^2 + 2 C_4 C_L L_3 R_L s^3 + 2 C_4 L_3 s^2 + C_L L_3 s^2 + C_L R_L s + 1}$$

**10.430** INVALID-ORDER-430 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1}, \frac{1}{C_4s}, \infty, L_Ls + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{L_3 s \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_3 L_L s^4 + C_3 L_3 s^2 + 2C_4 C_L L_3 L_L s^4 + 2C_4 L_3 s^2 + C_L L_3 s^2 + C_L L_L s^2 + 1}$$

10.431 INVALID-ORDER-431 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1}, \frac{1}{C_4s}, \infty, \frac{L_{Ls}}{C_LL_Ls^2+1}\right)$$

$$H(s) = \frac{L_3 L_L s}{C_3 L_3 L_L s^2 + 2C_4 L_3 L_L s^2 + C_L L_3 L_L s^2 + L_3 + L_L}$$

**10.432** INVALID-ORDER-432 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1}, \frac{1}{C_4s}, \infty, L_Ls + R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{L_3s \left( C_L L_L s^2 + C_L R_L s + 1 \right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_L s^3 + C_3 L_3 s^2 + 2C_4 C_L L_3 L_L s^4 + 2C_4 C_L L_3 R_L s^3 + 2C_4 L_3 s^2 + C_L L_3 s^2 + C_L L_4 s^2 + C_L R_L s + 1}$$

10.433 INVALID-ORDER-433 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1}, \frac{1}{C_4s}, \infty, \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$$

$$H(s) = \frac{L_3 s \left(C_L L_L R_L s^2 + L_L s + R_L\right)}{C_3 C_L L_3 L_L R_L s^4 + C_3 L_3 L_L s^3 + C_3 L_3 R_L s^2 + 2 C_4 C_L L_3 L_L R_L s^4 + 2 C_4 L_3 L_L s^3 + 2 C_4 L_3 L_L s^3 + C_L L_3 L_L s^3 + C_L L_4 R_L s^2 + L_3 s + L_L s + R_L R_L r^2 + 2 C_4 L_3 L_L r^3 + C_4 L_4 L_4 R_L r^2 + 2 C_4 L_4 R_L r^3 + 2 C_4 R_L r^3 + 2 C_$$

10.434 INVALID-ORDER-434 
$$Z(s) = \left(\infty, \ \infty, \ \frac{L_3s}{C_3L_3s^2+1}, \ \frac{1}{C_4s}, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

$$H(s) = \frac{L_3 R_L s \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_3 L_L R_L s^4 + C_3 L_3 R_L s^2 + 2 C_A C_L L_3 L_L R_L s^4 + 2 C_A L_3 R_L s^2 + C_L L_3 L_L s^3 + C_L L_3 R_L s^2 + C_L L_1 R_L s^2 + L_3 s + R_L}$$

**10.435** INVALID-ORDER-435 
$$Z(s) = \left(\infty, \infty, \frac{L_{3}s}{C_{3}L_{3}s^{2}+1}, \frac{R_{4}}{C_{4}R_{4}s+1}, \infty, R_{L} + \frac{1}{C_{L}s}\right)$$

$$H(s) = \frac{L_3 R_4 s \left(C_L R_L s + 1\right)}{C_3 C_L L_3 R_4 R_L s^3 + C_3 L_3 R_4 s^2 + 2 C_4 C_L L_3 R_4 R_L s^3 + 2 C_4 L_3 R_4 s^2 + C_L L_3 R_4 s^2 + 2 C_L L_3 R_L s^2 + C_L R_4 R_L s + 2 L_3 s + R_4}$$

**10.436** INVALID-ORDER-436 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3 L_3 s^2 + 1}, \frac{R_4}{C_4 R_4 s + 1}, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 R_4 s \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_3 L_L R_4 s^4 + C_3 L_3 R_4 s^2 + 2 C_4 C_L L_3 L_L R_4 s^4 + 2 C_4 L_3 R_4 s^2 + 2 C_L L_3 L_L s^3 + C_L L_3 R_4 s^2 + C_L L_L R_4 s^2 + 2 L_3 s + R_4}$$

10.437 INVALID-ORDER-437 
$$Z(s) = \left(\infty, \infty, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \frac{R_4}{C_4 R_4 s + 1}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

**10.438** INVALID-ORDER-438 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1}, \frac{R_4}{C_4R_4s+1}, \infty, \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$$

10.439 INVALID-ORDER-439 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1}, \frac{R_4}{C_4R_4s+1}, \infty, \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

**10.440** INVALID-ORDER-440 
$$Z(s) = \left(\infty, \infty, \frac{L_3 s}{C_3 L_3 s^2 + 1}, R_4 + \frac{1}{C_4 s}, \infty, R_L\right)$$

$$H(s) = \frac{L_3 R_L s \left(C_4 R_4 s + 1\right)}{C_3 C_4 L_3 R_4 R_L s^3 + C_3 L_3 R_L s^2 + C_4 L_3 R_4 s^2 + 2C_4 L_3 R_L s^2 + C_4 R_4 R_L s + L_3 s + R_L}$$

10.441 INVALID-ORDER-441 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3 L_{3s}^2 + 1}, R_4 + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 s \left(C_4 R_4 s + 1\right)}{C_3 C_4 L_3 R_4 s^3 + C_3 L_3 s^2 + C_4 C_L L_3 R_4 s^3 + 2 C_4 L_3 s^2 + C_4 R_4 s + C_L L_3 s^2 + 1}$$

10.442 INVALID-ORDER-442 
$$Z(s) = \left(\infty, \infty, \frac{L_3 s}{C_3 L_3 s^2 + 1}, R_4 + \frac{1}{C_4 s}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{L_3 R_L s \left(C_4 R_4 s + 1\right)}{C_3 C_4 L_3 R_4 R_L s^3 + C_3 L_3 R_L s^2 + C_4 C_L L_3 R_4 R_L s^3 + C_4 L_3 R_4 s^2 + 2 C_4 L_3 R_L s^2 + C_4 R_4 R_L s + C_L L_3 R_L s^2 + L_3 s + R_L R_L s^2 + C_4 R_4 R_L s + C_$$

**10.443** INVALID-ORDER-443 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3 L_3 s^2 + 1}, R_4 + \frac{1}{C_4 s}, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3s\left(C_4R_4s + 1\right)\left(C_LR_Ls + 1\right)}{C_3C_4C_LL_3R_4s^4 + C_3C_4L_3R_4s^3 + C_3C_LL_3R_Ls^3 + C_4C_LL_3R_4s^3 + 2C_4C_LL_3R_Ls^3 + C_4C_LR_4R_Ls^2 + 2C_4L_3s^2 + C_4R_4s + C_LL_3s^2 + C_LR_Ls + 1}$$

**10.444** INVALID-ORDER-444 
$$Z(s) = \left(\infty, \infty, \frac{L_3 s}{C_3 L_3 s^2 + 1}, R_4 + \frac{1}{C_4 s}, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_{3}s\left(C_{4}R_{4}s+1\right)\left(C_{L}L_{L}s^{2}+1\right)}{C_{3}C_{4}C_{L}L_{3}L_{L}R_{4}s^{5}+C_{3}C_{4}L_{3}R_{4}s^{3}+C_{3}C_{L}L_{3}L_{L}s^{4}+C_{3}L_{3}s^{2}+2C_{4}C_{L}L_{3}L_{L}s^{4}+C_{4}C_{L}L_{3}R_{4}s^{3}+C_{4}C_{L}L_{3}R_{4}s^{3}+2C_{4}L_{3}s^{2}+C_{4}R_{4}s+C_{L}L_{3}s^{2}+C_{L}L_{L}s^{2}+1}$$

**10.445** INVALID-ORDER-445 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1}, R_4 + \frac{1}{C_4s}, \infty, \frac{L_{Ls}}{C_LL_Ls^2+1}\right)$$

**10.446** INVALID-ORDER-446 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3 L_{3s^2+1}}, R_4 + \frac{1}{C_4 s}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

10.447 INVALID-ORDER-447 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1}, R_4 + \frac{1}{C_4s}, \infty, \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

$$H(s) = \frac{L_3 L_L R_L s \left(C_4 R_4 s + 1\right)}{C_3 C_4 L_3 L_L R_4 S^3 + C_3 L_3 L_L R_L s^2 + C_4 C_L L_3 L_L R_4 R_L s^3 + C_4 L_3 L_L R_L s^2 + 2 C_4 L_3 L_L R_L s^2 + C_4 L_3 R_4 R_L s + C_4 L_L R_4 R_L s + C_L L_3 L_L R_L s^2 + L_3 L_L s + L_3 R_L + L_L R_L R_L s^2 + C_4 L_3 R_4 R_L s + C_4 L_4 R_L R_L$$

**10.448** INVALID-ORDER-448 
$$Z(s) = \left(\infty, \infty, \frac{L_3 s}{C_3 L_3 s^2 + 1}, R_4 + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{L_{3}s\left(C_{4}R_{4}s+1\right)\left(C_{L}L_{L}R_{L}s^{2}+L_{L}s+R_{L}\right)}{C_{3}C_{4}C_{L}L_{3}L_{L}R_{4}s^{5}+C_{3}C_{4}L_{3}L_{L}R_{4}s^{4}+C_{3}C_{L}L_{3}L_{L}R_{L}s^{4}+C_{3}L_{3}L_{L}S^{3}+C_{3}L_{3}L_{L}S^{3}+C_{4}L_{3}L_{L}R_{4}s^{4}+2C_{4}C_{L}L_{3}L_{L}R_{4}s^{4}+C_{4}C_{L}L_{L}R_{4}R_{L}s^{3}+2C_{4}C_{L}L_{3}L_{L}R_{4}s^{4}+C_{4}C_{L}L_{L}R_{4}R_{L}s^{3}+2C_{4}C_{L}L_{3}L_{L}R_{4}s^{4}+C_{4}C_{L}L_{3}L_{L}R_{4}s^{4}+C_{4}C_{L}L_{3}L_{L}R_{4}s^{4}+C_{4}C_{L}L_{3}L_{L}R_{4}s^{3}+C_{4}C_{L}L_{3}L_{L}R_{4}s^{4}+C_{4}C$$

10.449 INVALID-ORDER-449 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1}, R_4 + \frac{1}{C_4s}, \infty, \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

**10.450** INVALID-ORDER-450 
$$Z(s) = \left(\infty, \infty, \frac{L_3 s}{C_3 L_3 s^2 + 1}, L_4 s + \frac{1}{C_4 s}, \infty, R_L\right)$$

$$H(s) = \frac{L_3 R_L s \left(C_4 L_4 s^2 + 1\right)}{C_3 C_4 L_3 L_4 R_L s^4 + C_3 L_3 R_L s^2 + C_4 L_3 L_4 s^3 + 2 C_4 L_3 R_L s^2 + C_4 L_4 R_L s^2 + L_3 s + R_L}$$

10.451 INVALID-ORDER-451 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3 L_{3s^2+1}}, L_4 s + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3s \left( C_4 L_4 s^2 + 1 \right)}{C_3 C_4 L_3 L_4 s^4 + C_3 L_3 s^2 + C_4 C_L L_3 L_4 s^4 + 2C_4 L_3 s^2 + C_4 L_4 s^2 + C_L L_3 s^2 + 1}$$

10.452 INVALID-ORDER-452 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1}, L_4s + \frac{1}{C_4s}, \infty, \frac{R_L}{C_LR_Ls+1}\right)$$

$$H(s) = \frac{L_3 R_L s \left(C_4 L_4 s^2 + 1\right)}{C_3 C_4 L_3 L_4 R_L s^4 + C_3 L_3 R_L s^2 + C_4 C_L L_3 L_4 R_L s^4 + C_4 L_3 L_4 s^3 + 2C_4 L_3 R_L s^2 + C_4 L_4 R_L s^2 + C_L L_3 R_L s^2 + L_3 s + R_L R_L s^4 + C_4 L_4 R_L s^2 + C_4$$

**10.453** INVALID-ORDER-453 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1}, L_4s + \frac{1}{C_4s}, \infty, R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{L_{3}s\left(C_{4}L_{4}s^{2}+1\right)\left(C_{L}R_{L}s+1\right)}{C_{3}C_{4}C_{L}L_{3}L_{4}s^{5}+C_{3}C_{4}L_{3}L_{4}s^{3}+C_{3}L_{3}s^{2}+C_{4}C_{L}L_{3}L_{4}s^{4}+2C_{4}C_{L}L_{3}R_{L}s^{3}+C_{4}C_{L}L_{4}R_{L}s^{3}+2C_{4}L_{3}s^{2}+C_{4}L_{4}s^{2}+C_{L}L_{3}s^{2}+C_{L}R_{L}s+1}$$

**10.454** INVALID-ORDER-454 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1}, L_4s + \frac{1}{C_4s}, \infty, L_Ls + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{L_{3}s\left(C_{4}L_{4}s^{2}+1\right)\left(C_{L}L_{L}s^{2}+1\right)}{C_{3}C_{4}C_{L}L_{3}L_{L}s^{6}+C_{3}C_{4}L_{3}L_{4}s^{4}+C_{3}L_{3}L_{2}s^{4}+C_{4}C_{L}L_{3}L_{4}s^{4}+2C_{4}C_{L}L_{3}L_{L}s^{4}+C_{4}C_{L}L_{4}L_{L}s^{4}+2C_{4}L_{3}s^{2}+C_{4}L_{4}s^{2}+C_{L}L_{3}s^{2}+C_{L}L_{4}s^{2}+1}$$

**10.455** INVALID-ORDER-455 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1}, L_4s + \frac{1}{C_4s}, \infty, \frac{L_Ls}{C_LL_Ls^2+1}\right)$$

**10.456** INVALID-ORDER-456 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1}, L_4s + \frac{1}{C_4s}, \infty, L_Ls + R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{L_{3}s\left(C_{4}L_{4}s^{2} + 1\right)\left(C_{L}L_{L}s^{2} + C_{L}R_{L}s + 1\right)}{C_{3}C_{4}C_{L}L_{3}L_{4}S^{6} + C_{3}C_{4}L_{3}L_{4}S^{5} + C_{3}C_{4}L_{3}L_{4}S^{4} + C_{3}C_{L}L_{3}L_{L}s^{4} + C_{3}C_{L}L_{3}R_{L}s^{3} + C_{4}L_{L}L_{3}L_{4}s^{4} + 2C_{4}C_{L}L_{3}L_{L}s^{4} + 2C_{4}C_{L}L_{3}L_{L}s^{4} + 2C_{4}C_{L}L_{3}L_{L}s^{4} + 2C_{4}C_{L}L_{3}L_{L}s^{4} + C_{4}C_{L}L_{4}L_{L}s^{4} + C_{4}C_{L}L_{3}L_{4}S^{4} + C_{4}C_{L}L_{4}L_{5}S^{4} + C_{4}C_{L}L_{5}S^{4} + C_{4}C_{L}L_{5}S^{4} + C_{4}C_{L}L_{5}S^{4} + C_{4}C_{L}L_{5}S^{4} + C_{5}C_{L}L_{5}S^{4} + C_{5}C_$$

10.457 INVALID-ORDER-457 
$$Z(s) = \left(\infty, \infty, \frac{L_3 s}{C_3 L_3 s^2 + 1}, L_4 s + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

**10.458** INVALID-ORDER-458 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1}, L_4s + \frac{1}{C_4s}, \infty, \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$$

$$H(s) = \frac{L_{3}s\left(C_{4}L_{4}s^{2} + 1\right)\left(C_{L}L_{L}R_{L}s^{2} + L_{L}s + R_{L}\right)}{C_{3}C_{4}C_{L}L_{3}L_{4}L_{L}s^{6} + C_{3}C_{4}L_{3}L_{4}L_{L}s^{5} + C_{3}C_{4}L_{3}L_{4}R_{L}s^{4} + C_{3}C_{L}L_{3}L_{L}R_{L}s^{4} + C_{3}L_{3}L_{L}s^{3} + C_{3}L_{3}R_{L}s^{2} + C_{4}C_{L}L_{3}L_{4}L_{L}s^{5} + 2C_{4}C_{L}L_{3}L_{L}R_{L}s^{4} + C_{4}C_{L}L_{4}L_{L}R_{L}s^{4} + C_{4}C_{L}L_{4}L_{L}R_{L}s^{4} + C_{4}C_{L}L_{3}L_{4}L_{L}s^{5} + C_{4}C_{L}L_{3}L_{4}L_{4}L_{5}s^{5} + C_{4}C_{L}L_{3}L_{4}L_{5}s^{5} + C_{4}C_{L}L_{3}L_{4}L_{5}s^{5} + C_{4}C_{L}L_{3}L_{5}s^{5} + C_{4}C_{L}L_{3}L_{5}s^{5} + C_{4}C_{L}L_{5}s^{5} + C_{4}C_{L}L_{5}s^{5} + C_{5}C_{5}L_{5}s^{5} + C_{5}C_{5}L_$$

10.459 INVALID-ORDER-459 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1}, L_4s + \frac{1}{C_4s}, \infty, \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

$$H(s) = \frac{L_3 R_L s \left(C_4 L_4 s^2 + 1\right) \left(C_L L_L s^2 + 1\right)}{C_3 C_4 C_L L_3 L_4 L_L s^6 + C_3 C_4 L_3 L_4 R_L s^4 + C_3 C_L L_3 L_L R_L s^4 + C_4 C_L L_3 L_4 L_L s^5 + C_4 C_L L_3 L_4 R_L s^4 + C_4 C_L L_4 L_L R_L s^4 + C_4 C_L L_3 L_4 R_L s^4 + C_4 C_L L_4 R_L s^4 +$$

**10.460** INVALID-ORDER-460 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1}, \frac{L_4s}{C_4L_4s^2+1}, \infty, \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{L_3 L_4 s}{C_3 L_3 L_4 s^2 + 2C_4 L_3 L_4 s^2 + C_L L_3 L_4 s^2 + 2L_3 + L_4}$$

**10.461** INVALID-ORDER-461 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1}, \frac{L_4s}{C_4L_4s^2+1}, \infty, R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{L_3 L_4 s \left(C_L R_L s + 1\right)}{C_3 C_L L_3 L_4 R_L s^3 + C_3 L_3 L_4 s^2 + 2 C_4 C_L L_3 L_4 R_L s^3 + 2 C_4 L_3 L_4 s^2 + C_L L_3 L_4 s^2 + 2 C_L L_3 R_L s + C_L L_4 R_L s + 2 L_3 + L_4 R_L s^2 + 2 C_L L_3 R_L s + C_L L_4 R_L s + 2 L_3 + L_4 R_L s^2 + 2 C_L L_3 R_L s + C_L L_4 R_L s + 2 L_3 + L_4 R_L s^2 + 2 C_L L_3 R_L s + C_L L_4 R_L s + 2 L_3 + L_4 R_L s^2 + 2 C_L L_3 R_L s + C_L L_4 R_L s + 2 L_3 + L_4 R_L s^2 + 2 C_L L_3 R_L s + C_L L_4 R_L s + 2 C_L L_3 R_L s + C_L L_4 R_L s + 2 C_L L_3 R_L s + C_L L_4 R_L s + 2 C_L L_3 R_L s + C_L L_4 R_L s + 2 C_$$

10.462 INVALID-ORDER-462 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1}, \frac{L_{4s}}{C_4L_4s^2+1}, \infty, L_Ls + \frac{1}{C_Ls}\right)$$

10.463 INVALID-ORDER-463 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1}, \frac{L_{4s}}{C_4L_4s^2+1}, \infty, \frac{L_{Ls}}{C_LL_Ls^2+1}\right)$$

$$H(s) = \frac{L_3 L_4 L_L s}{C_3 L_3 L_4 L_L s^2 + 2 C_4 L_3 L_4 L_L s^2 + C_L L_3 L_4 L_L s^2 + L_3 L_4 + 2 L_3 L_L + L_4 L_L}$$

**10.464** INVALID-ORDER-464 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_{3}L_{3}s^{2}+1}, \frac{L_{4s}}{C_{4}L_{4}s^{2}+1}, \infty, L_{L}s + R_{L} + \frac{1}{C_{L}s}\right)$$

$$H(s) = \frac{L_3L_4s\left(C_LL_Ls^2 + C_LR_Ls + 1\right)}{C_3C_LL_3L_4L_Ls^4 + C_3C_LL_3L_4R_Ls^3 + C_3L_3L_4s^2 + 2C_4C_LL_3L_4L_Ls^4 + 2C_4C_LL_3L_4R_Ls^3 + 2C_4L_3L_4s^2 + 2C_LL_3L_4s^2 + 2C_LL_3R_Ls + C_LL_4L_Ls^2 + C_LL_4R_Ls^2 + C_LR_4R_Ls^2 + C_LR_4R$$

10.465 INVALID-ORDER-465 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1}, \frac{L_4s}{C_4L_4s^2+1}, \infty, \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$$

**10.466** INVALID-ORDER-466 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1}, \frac{L_{4s}}{C_4L_4s^2+1}, \infty, \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

$$H(s) = \frac{L_3L_4R_Ls\left(C_LL_Ls^2 + 1\right)}{C_3C_LL_3L_4L_LR_Ls^4 + C_3L_3L_4R_Ls^2 + 2C_4C_LL_3L_4L_LR_Ls^4 + 2C_4L_3L_4R_Ls^2 + C_LL_3L_4L_Ls^3 + C_LL_3L_4R_Ls^2 + 2C_LL_3L_LR_Ls^2 + C_LL_4L_LR_Ls^2 + L_3L_4s + 2L_3R_L + L_4R_Ls^2 + C_LL_3L_4R_Ls^2 + C_LL_3L_4R_Ls^2$$

**10.467** INVALID-ORDER-467 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1}, L_4s + R_4 + \frac{1}{C_4s}, \infty, R_L\right)$$

**10.468** INVALID-ORDER-468 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3 L_{3s^2+1}}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3s\left(C_4L_4s^2 + C_4R_4s + 1\right)}{C_3C_4L_3L_4s^4 + C_3C_4L_3R_4s^3 + C_3L_3s^2 + C_4C_LL_3L_4s^4 + C_4C_LL_3R_4s^3 + 2C_4L_3s^2 + C_4L_4s^2 + C_4R_4s + C_LL_3s^2 + 1}$$

**10.469** INVALID-ORDER-469 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1}, L_4s + R_4 + \frac{1}{C_4s}, \infty, \frac{R_L}{C_LR_Ls+1}\right)$$

$$H(s) = \frac{L_3 R_L s \left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{C_3 C_4 L_3 L_4 R_L s^4 + C_3 C_4 L_3 R_4 R_L s^3 + C_4 L_4 L_4 R_L s^4 + C_4 C_L L_3 R_4 R_L s^3 + C_4 L_3 R_4 s^3 + C_4 L_3 R_4 s^2 + 2 C_4 L_3 R_L s^2 + C_4 R_4 R_L s + C_L L_3 R_L s^2 + R_4 R_L s^2 + C_4 R_$$

**10.470** INVALID-ORDER-470 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1}, L_4s + R_4 + \frac{1}{C_4s}, \infty, R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{L_{3}s\left(C_{L}R_{L}s+1\right)\left(C_{4}L_{4}s^{2}+C_{4}R_{4}s+1\right)}{C_{3}C_{4}C_{L}L_{3}L_{4}s^{5}+C_{3}C_{4}L_{3}L_{4}s^{4}+C_{3}C_{4}L_{3}L_{4}s^{3}+C_{3}C_{L}L_{3}R_{L}s^{3}+C_{4}L_{L}L_{3}L_{4}s^{4}+C_{4}C_{L}L_{3}L_{4}s^{4}+C_{4}C_{L}L_{3}R_{4}s^{3}+2C_{4}C_{L}L_{3}R_{L}s^{3}+C_{4}C_{L}L_{4}R_{L}s$$

**10.471** INVALID-ORDER-471 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1}, L_4s + R_4 + \frac{1}{C_4s}, \infty, L_Ls + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{L_{3}s\left(C_{L}L_{L}s^{2}+1\right)\left(C_{4}L_{4}s^{2}+C_{4}R_{4}s+1\right)}{C_{3}C_{4}C_{L}L_{3}L_{L}s^{6}+C_{3}C_{4}L_{3}L_{4}s^{5}+C_{3}C_{4}L_{3}L_{4}s^{4}+C_{3}C_{4}L_{3}L_{4}s^{4}+C_{3}C_{4}L_{3}L_{4}s^{4}+C_{4}C_{L}L_{4}L_{4}L_{5}s^{4}+C_{4}C_{L}L_{5}L_{5}s^{4}+C_{4}C_{L}L_{5}L_{5}s^{4}+C_{4}C_{L}L_{5}L_{5}s^{4}+C_{4}C_{L}L_{5}L_{5}s^{4}+C_{4}C_{L}L_{5}L_{5}s^{4}+C_{5}C_{L}L_{$$

10.472 INVALID-ORDER-472 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1}, L_4s + R_4 + \frac{1}{C_4s}, \infty, \frac{L_Ls}{C_LL_Ls^2+1}\right)$$

$$H(s) = \frac{L_3L_Ls\left(C_4L_4s^2 + C_4R_4s + 1\right)}{C_3C_4L_3L_Ls^4 + C_3C_4L_3L_LR_4s^3 + C_3L_3L_Ls^2 + C_4C_LL_3L_4L_s^4 + C_4C_LL_3L_LR_4s^3 + C_4L_3L_4s^2 + 2C_4L_3L_Ls^2 + C_4L_3R_4s + C_4L_4L_Ls^2 + C_4L_4L_4L_Ls^2 + C_4L_4L_4L_4s^2 + C_4L_4L_4s^2 + C_4L_4L_4L_4s^2 + C_4L_4L_4t^2 + C_4L_4t^2 + C_4L_4$$

**10.473** INVALID-ORDER-473 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1}, L_4s + R_4 + \frac{1}{C_4s}, \infty, L_Ls + R_L + \frac{1}{C_Ls}\right)$$

 $H(s) = \frac{L_{3}s\left(C_{4}L_{4}s^{2} + C_{5}C_{4}C_{L}L_{3}L_{4}L_{5}s^{6} + C_{3}C_{4}C_{L}L_{3}L_{4}R_{L}s^{5} + C_{3}C_{4}C_{L}L_{3}L_{L}R_{4}s^{5} + C_{3}C_{4}L_{L}R_{4}s^{4} + C_{3}C_{4}L_{3}L_{4}s^{4} + C_{3}C_{4}L_{4}s^{4} + C_{3}C_{4}$ 

10.474 INVALID-ORDER-474 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1}, L_4s + R_4 + \frac{1}{C_4s}, \infty, \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

 $H(s) = \frac{L_3 L_L R_L s \left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{C_3 C_4 L_3 L_4 L_L R_L s^4 + C_3 C_4 L_3 L_L R_L s^2 + C_4 L_3 L_L R_L s^4 + C_4 C_L L_3 L_L R_L s^4 + C_4 C_L L_3 L_L R_L s^3 + C_4 L_3 L_4 L_L s^3 + C_4 L_3 L_4 R_L s^2 + C_4 L_3 L_L R_L s^2 + C_4 L_2 L_$ 

10.475 INVALID-ORDER-475 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1}, L_4s + R_4 + \frac{1}{C_4s}, \infty, \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$$

$$H(s) = \frac{1}{C_3C_4C_LL_3L_4L_LR_Ls^6 + C_3C_4C_LL_3L_LR_4R_Ls^5 + C_3C_4L_3L_4L_Ls^5 + C_3C_4L_3L_4R_Ls^4 + C_3C_4L_3L_LR_4s^4 + C_3C_4L_3R_4R_Ls^3 + C_3C_4L_3L_LR_4s^4 + C_3C_4L_3L_4L_4s^4 + C_3C_4L_3L_4t^4 + C_3C_4L$$

10.476 INVALID-ORDER-476 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1}, L_4s + R_4 + \frac{1}{C_4s}, \infty, \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

 $H(s) = \frac{L_3 R_L s}{C_3 C_4 C_L L_3 L_4 L_L R_L s^6 + C_3 C_4 C_L L_3 L_L R_4 R_L s^5 + C_3 C_4 L_3 L_4 R_L s^4 + C_3 C_4 L_3 L_L R_L s^4 + C_3 C_4 L_3 L_L R_L s^4 + C_3 L_3 L_L R_L s^4 + C_4 C_L L_3 L_4 L_L s^5 + C_4 C_L L_3 L_4 R_L s^4 + C_4 C_L L_5 R_L s^4 + C_4 C_L$ 

10.477 INVALID-ORDER-477 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1}, \frac{1}{C_4s+\frac{1}{R_4}+\frac{1}{L_4s}}, \infty, R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{L_3L_4R_4s\left(C_LR_Ls + 1\right)}{C_3C_LL_3L_4R_4R_Ls^3 + C_3L_3L_4R_4s^2 + 2C_4C_LL_3L_4R_4R_Ls^3 + 2C_4L_3L_4R_4s^2 + C_LL_3L_4R_4s^2 + 2C_LL_3L_4R_Ls^2 + 2C_LL_3R_4R_Ls + C_LL_4R_4R_Ls + 2L_3L_4s + 2L_3R_4 + L_4R_4s^2 + 2C_4L_3L_4R_4s^2 + 2C_4L_3L_4R_4s$$

 $H(s) = \frac{L_3 R_L s \left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{C_2 C_4 L_3 L_4 R_L s^4 + C_2 L_2 L_4 R_L s^3 + C_3 L_3 R_4 R_L s^2 + L_4 L_3 L_4 R_4 s^3 + 2C_4 L_3 L_4 R_L s^3 + C_4 L_4 R_4 R_L s^2 + L_3 L_4 s^2 + L_3 R_4 s + 2L_3 R_L s + L_4 R_L s + R_4 R_L s^2 + L_4 R_$ 

10.483 INVALID-ORDER-483 
$$Z(s) = \left(\infty, \infty, \frac{L_{3}s}{C_3L_3s^2+1}, \frac{L_{4}s}{C_4L_4s^2+1} + R_4, \infty, \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{L_3s\left(C_4L_4R_4s^2 + L_4s + R_4\right)}{C_3C_4L_3L_4R_4s^4 + C_3L_3L_4s^3 + C_3L_3R_4s^2 + C_4C_LL_3L_4R_4s^4 + 2C_4L_3L_4s^3 + C_4L_4R_4s^2 + C_LL_3L_4s^3 + C_LL_3R_4s^2 + 2L_3s + L_4s + R_4}$$

10.484 INVALID-ORDER-484 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1}, \frac{L_{4s}}{C_4L_4s^2+1} + R_4, \infty, \frac{R_L}{C_LR_Ls+1}\right)$$

$$H(s) = \frac{L_3 R_L s \left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{C_3 C_4 L_3 L_4 R_L s^4 + C_3 L_3 L_4 R_L s^3 + C_3 L_3 R_4 R_L s^2 + C_4 C_L L_3 L_4 R_4 R_L s^4 + C_4 L_3 L_4 R_4 s^3 + 2 C_4 L_3 L_4 R_L s^3 + C_4 L_4 R_4 R_L s^2 + C_L L_3 L_4 R_L s^3 + C_L L_3 R_4 R_L s^2 + L_3 L_4 s^2 + L_3 L_4 R_L s^3 + C_4 L_4 R_4 R_L s^4 + C_4 L_4$$

**10.485** INVALID-ORDER-485 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1}, \frac{L_4s}{C_4L_4s^2+1} + R_4, \infty, R_L + \frac{1}{C_Ls}\right)$$

**10.486** INVALID-ORDER-486 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1}, \frac{L_{4s}}{C_4L_4s^2+1} + R_4, \infty, L_Ls + \frac{1}{C_Ls}\right)$$

10.487 INVALID-ORDER-487 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1}, \frac{L_4s}{C_4L_4s^2+1} + R_4, \infty, \frac{L_Ls}{C_LL_Ls^2+1}\right)$$

**10.488** INVALID-ORDER-488 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1}, \frac{L_{4s}}{C_4L_4s^2+1} + R_4, \infty, L_Ls + R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{1}{C_3C_4C_LL_3L_4L_LR_4s^6 + C_3C_4C_LL_3L_4R_4R_Ls^5 + C_3C_4L_3L_4R_4s^4 + C_3C_LL_3L_4L_Ls^5 + C_3C_LL_3L_4R_Ls^4 + C_3C_LL_3L_4R_4s^4 + C_3C_LL_3R_4R_Ls^3 + C_3L_3L_4S^3 + C_3L_3R_4S^2 + C_3C_4C_4L_3L_4R_4s^4 + C_3C_4L_3L_4R_4s^4 + C_3C_4L_3L_4R$$

10.489 INVALID-ORDER-489 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1}, \frac{L_{4s}}{C_4L_4s^2+1} + R_4, \infty, \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

$$H(s) = \frac{L_3 L_L R_L s \left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{C_3 C_4 L_3 L_4 L_L R_4 R_L s^4 + C_3 L_3 L_4 L_L R_4 R_L s^2 + C_4 L_4 L_L R_4 R_L s^4 + C_4 L_3 L_4 L_L R_4 s^3 + 2 C_4 L_3 L_4 L_L R_4 s^3 + 2 C_4 L_3 L_4 L_L R_4 s^3 + C_4 L_3 L_4 L_L R_4 s^2 + C_4 L_4 L_L R_4 R_L s^2 + C_4 L_4 L_4 R_4 R_L s^2 + C_4 L_4 R_4 R_L s^2 + C_$$

**10.490** INVALID-ORDER-490 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1}, \frac{L_{4s}}{C_4L_4s^2+1} + R_4, \infty, \frac{L_{Ls}}{C_LL_Ls^2+1} + R_L\right)$$

$$H(s) = \frac{1}{C_3C_4C_LL_3L_4L_LR_4R_Ls^6 + C_3C_4L_3L_4L_LR_4s^5 + C_3C_4L_3L_4R_4R_Ls^4 + C_3C_LL_3L_4L_LR_4s^5 + C_3C_LL_3L_4L_LR_4s^4 + C_3L_3L_4L_Ls^4 + C_3L_3L_4L_Ls^4$$

10.491 INVALID-ORDER-491 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1}, \frac{L_{4s}}{C_4L_4s^2+1} + R_4, \infty, \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

$$H(s) = \frac{1}{C_3 C_4 C_L L_3 L_4 L_L R_4 R_L s^6 + C_3 C_4 L_3 L_4 R_L s^4 + C_3 C_L L_3 L_4 L_L R_L s^5 + C_3 C_L L_3 L_4 R_L s^4 + C_3 L_3 L_4 R_L s^3 + C_3 L_3 R_4 R_L s^2 + C_4 C_L L_3 L_4 L_L R_4 s^5 + 2 C_4 C_L L_3$$

10.492 INVALID-ORDER-492 
$$Z(s) = \left(\infty, \infty, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, R_L\right)$$

$$H(s) = \frac{L_3 R_4 R_L s \left(C_4 L_4 s^2 + 1\right)}{C_3 C_4 L_3 L_4 R_4 s^4 + C_3 L_3 R_4 R_L s^2 + C_4 L_3 L_4 R_4 s^3 + 2 C_4 L_3 L_4 R_L s^3 + 2 C_4 L_3 R_4 R_L s^2 + C_4 L_4 R_4 R_L s^2 + L_3 R_4 s + 2 L_3 R_L s + R_4 R_L s^2 + 2 C_4 L_3 R_4 R_L s^2 + C_4 L_4 R_4 R_L s^2 + 2 C_4 R_4 R_L$$

10.493 INVALID-ORDER-493 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1}, \frac{R_4\left(L_4s+\frac{1}{C_4s}\right)}{L_4s+R_4+\frac{1}{C_4s}}, \infty, \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{L_3 R_4 s \left(C_4 L_4 s^2 + 1\right)}{C_3 C_4 L_3 L_4 R_4 s^4 + C_3 L_3 R_4 s^2 + C_4 C_L L_3 L_4 R_4 s^4 + 2C_4 L_3 L_4 s^3 + 2C_4 L_3 R_4 s^2 + C_4 L_4 R_4 s^2 + C_L L_3 R_4 s^2 + 2L_3 s + R_4}$$

10.494 INVALID-ORDER-494 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1}, \frac{R_4\left(L_4s+\frac{1}{C_4s}\right)}{L_4s+R_4+\frac{1}{C_4s}}, \infty, \frac{R_L}{C_LR_Ls+1}\right)$$

$$H(s) = \frac{L_3 R_4 R_L s \left(C_4 L_4 s^2 + 1\right)}{C_3 C_4 L_3 L_4 R_4 R_L s^4 + C_3 L_3 R_4 R_L s^2 + C_4 C_L L_3 L_4 R_4 R_L s^4 + C_4 L_3 L_4 R_4 s^3 + 2 C_4 L_3 L_4 R_L s^3 + 2 C_4 L_3 R_4 R_L s^2 + C_4 L_4 R_4 R_L s^2 + C_L L_3 R_4 R_L s^2 + L_3 R_4 s + 2 L_3 R_L s + R_4 R_L s^2 + 2 C_4 L_3 R_4 R_L s^2 + C_4 L_4 R_4 R_L s^2 + C_$$

10.495 INVALID-ORDER-495 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1}, \frac{R_4\left(L_4s+\frac{1}{C_4s}\right)}{L_4s+R_4+\frac{1}{C_4s}}, \infty, R_L + \frac{1}{C_Ls}\right)$$

10.496 INVALID-ORDER-496 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1}, \frac{R_4\left(L_4s+\frac{1}{C_4s}\right)}{L_4s+R_4+\frac{1}{C_4s}}, \infty, L_Ls + \frac{1}{C_Ls}\right)$$

10.497 INVALID-ORDER-497 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1}, \frac{R_4\left(L_4s+\frac{1}{C_4s}\right)}{L_4s+R_4+\frac{1}{C_4s}}, \infty, \frac{L_Ls}{C_LL_Ls^2+1}\right)$$

10.498 INVALID-ORDER-498 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1}, \frac{R_4\left(L_4s+\frac{1}{C_4s}\right)}{L_4s+R_4+\frac{1}{C_4s}}, \infty, L_Ls + R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{L_3R_4}{C_3C_4C_LL_3L_4L_LR_4s^6 + C_3C_4C_LL_3L_4R_4s^5 + C_3C_4L_3L_4R_4s^4 + C_3C_LL_3L_4R_4s^4 + C_3C_LL_3R_4R_Ls^3 + C_3L_3R_4s^2 + 2C_4C_LL_3L_4L_Ls^5 + C_4C_LL_3L_4R_4s^4 + 2C_4C_LL_3L_4R_4s^4 + 2C_4C_L$$

10.499 INVALID-ORDER-499 
$$Z(s) = \left(\infty, \ \infty, \ \frac{L_3s}{C_3L_3s^2+1}, \ \frac{R_4\left(L_4s+\frac{1}{C_4s}\right)}{L_4s+R_4+\frac{1}{C_4s}}, \ \infty, \ \frac{1}{C_Ls+\frac{1}{R_L}+\frac{1}{L_Ls}}\right)$$

**10.500** INVALID-ORDER-500 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1}, \frac{R_4\left(L_4s+\frac{1}{C_4s}\right)}{L_4s+R_4+\frac{1}{C_4s}}, \infty, \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$$

10.501 INVALID-ORDER-501 
$$Z(s) = \left(\infty, \ \infty, \ \frac{L_3s}{C_3L_3s^2+1}, \ \frac{R_4\left(L_4s+\frac{1}{C_4s}\right)}{L_4s+R_4+\frac{1}{C_4s}}, \ \infty, \ \frac{R_L\left(L_Ls+\frac{1}{C_Ls}\right)}{L_Ls+R_L+\frac{1}{C_Ls}}\right)$$

$$H(s) = \frac{L_3 R_4 R_L s}{C_3 C_4 C_L L_3 L_4 L_L R_4 R_L s^6 + C_3 C_4 L_3 L_4 R_4 R_L s^4 + C_3 C_L L_3 L_4 R_4 R_L s^4 + C_3 L_3 R_4 R_L s^2 + C_4 C_L L_3 L_4 L_L R_4 s^5 + 2 C_4 C_L L_3 L_4 L_L R_4 s^5 + C_4 C_L L_3 L_4 R_4 R_L s^4 + 2 C_4 C_L L_3 L_$$

**10.502** INVALID-ORDER-502 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, R_4, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_4 \left( C_3 L_3 s^2 + C_3 R_3 s + 1 \right)}{C_3 C_L L_3 R_4 s^3 + C_3 C_L R_3 R_4 s^2 + 2 C_3 L_3 s^2 + 2 C_3 R_3 s + C_3 R_4 s + C_L R_4 s + 2}$$

10.503 INVALID-ORDER-503 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, R_4, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

10.504 INVALID-ORDER-504 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, R_4, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_4 \left( C_L R_L s + 1 \right) \left( C_3 L_3 s^2 + C_3 R_3 s + 1 \right)}{C_3 C_L L_3 R_4 s^3 + 2 C_3 C_L L_3 R_L s^3 + C_3 C_L R_3 R_4 s^2 + 2 C_3 C_L R_3 R_L s^2 + C_3 C_L R_4 R_L s^2 + 2 C_3 L_3 s^2 + 2 C_3 R_3 s + C_3 R_4 s + C_L R_4 s + 2 C_L R_L s + 2 C_L R_4 R_4 r^2 + 2 C_3 R_4 r^2 + 2 C_4 R_4 r^2$$

10.505 INVALID-ORDER-505 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, R_4, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_4 \left( C_L L_L s^2 + 1 \right) \left( C_3 L_3 s^2 + C_3 R_3 s + 1 \right)}{2 C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_4 s^3 + 2 C_3 C_L L_L R_3 s^3 + C_3 C_L L_L R_4 s^3 + C_3 C_L R_3 R_4 s^2 + 2 C_3 L_3 s^2 + 2 C_3 R_3 s + C_3 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2 C_L R_4 s + 2 C_L R_4 s^2 + 2 C_3 R_3 s + 2 C_3 R_3 s + 2 C_4 R_4 s + 2 C_4 R_4$$

10.506 INVALID-ORDER-506 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, R_4, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

10.507 INVALID-ORDER-507 
$$Z(s) = \left(\infty, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ R_4, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$$

10.508 INVALID-ORDER-508 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, R_4, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

**10.509** INVALID-ORDER-509 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, R_4, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{R_4 \left(C_3 L_3 s^2 + C_3 R_3 s + 1\right) \left(C_L L_L R_L s^2 + L_L s + R_L\right)}{C_3 C_L L_3 L_L R_4 s^4 + 2 C_3 C_L L_L R_3 R_4 s^3 + 2 C_3 C_L L_L R_3 R_L s^3 + C_3 C_L L_L R_4 R_L s^3 + 2 C_3 L_3 L_L s^3 + C_3 L_3 R_4 s^2 + 2 C_3 L_3 R_L s^2 + 2 C_3 L_L R_3 s^2 + C_3 L_L R_4 s^2 + C_3 L_L R_4 s^2 + C_3 L_L R_4 s^3 + C_3 L_L R_5 s^$$

10.510 INVALID-ORDER-510 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, R_4, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{R_4 R_L \left(C_L L_L s^2 + 1\right) \left(C_3 L_3 s^2 + C_3 R_3 s + 1\right)}{C_3 C_L L_3 L_L R_4 s^4 + 2 C_3 C_L L_3 R_4 R_L s^3 + C_3 C_L L_L R_3 R_4 s^3 + 2 C_3 C_L L_L R_3 R_L s^3 + C_3 C_L L_L R_4 R_L s^3 + C_3 C_L R_3 R_4 R_L s^2 + C_3 L_3 R_4 s^2 + 2 C_3 L_3 R_4 s^2 + 2 C_3 L_3 R_4 s^2 + 2 C_3 L_3 R_4 s^3 + C_3 C_L L_1 R_3 R_4 s^3 + C_3 C_L L_2 R_4 R_2 s^3 + C_3 C_L L_3 R_4 R_2$$

**10.511** INVALID-ORDER-511 
$$Z(s) = \left(\infty, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{1}{C_4 s}, \ \infty, \ R_L\right)$$

$$H(s) = \frac{R_L \left( C_3 L_3 s^2 + C_3 R_3 s + 1 \right)}{2C_3 C_4 L_3 R_L s^3 + 2C_3 C_4 R_3 R_L s^2 + C_3 L_3 s^2 + C_3 R_3 s + C_3 R_L s + 2C_4 R_L s + 1}$$

**10.512** INVALID-ORDER-512 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{C_3 L_3 s^2 + C_3 R_3 s + 1}{s \left(2 C_3 C_4 L_3 s^2 + 2 C_3 C_4 R_3 s + C_3 C_L L_3 s^2 + C_3 C_L R_3 s + C_3 + 2 C_4 + C_L\right)}$$

**10.513** INVALID-ORDER-513 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_L \left( C_3 L_3 s^2 + C_3 R_3 s + 1 \right)}{2 C_3 C_4 L_3 R_L s^3 + 2 C_3 C_4 R_3 R_L s^2 + C_3 C_L L_3 R_L s^3 + C_3 C_L R_3 R_L s^2 + C_3 L_3 s^2 + C_3 R_3 s + C_3 R_L s + 2 C_4 R_L s + C_L R_L s + 1}$$

10.514 INVALID-ORDER-514 
$$Z(s) = \left(\infty, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{1}{C_4 s}, \ \infty, \ R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_L R_L s + 1\right) \left(C_3 L_3 s^2 + C_3 R_3 s + 1\right)}{s \left(2 C_3 C_4 C_L L_3 R_L s^3 + 2 C_3 C_4 C_L R_3 R_L s^2 + 2 C_3 C_4 L_3 s^2 + 2 C_3 C_4 R_3 s + C_3 C_L L_3 s^2 + C_3 C_L R_3 s + C_3 C_L R_4 s + C_3 + 2 C_4 C_L R_4 s + 2 C_4 + C_L\right)}$$

10.515 INVALID-ORDER-515 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_L L_L s^2 + 1\right) \left(C_3 L_3 s^2 + C_3 R_3 s + 1\right)}{s \left(2C_3 C_4 C_L L_3 L_L s^4 + 2C_3 C_4 C_L L_L R_3 s^3 + 2C_3 C_4 L_3 s^2 + 2C_3 C_4 R_3 s + C_3 C_L L_3 s^2 + C_3 C_L L_L s^2 + C_3 C_L L_L s^2 + 2C_4 C_L L$$

10.516 INVALID-ORDER-516 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L s \left(C_3 L_3 s^2 + C_3 R_3 s + 1\right)}{2C_3 C_4 L_3 L_L s^4 + 2C_3 C_4 L_L R_3 s^3 + C_3 C_L L_L L_R s^3 + C_3 C_L L_L R_3 s^3 + C_3 L_L s^2 + C_3 L_L s^2 + C_3 L_L s^2 + C_L L_L s^2 + 1}$$

**10.517** INVALID-ORDER-517 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + C_3R_3s + 1\right)\left(C_LL_Ls^2 + C_LR_Ls + 1\right)}{s\left(2C_3C_4C_LL_3L_Ls^4 + 2C_3C_4C_LL_3R_Ls^3 + 2C_3C_4C_LL_Rs^3 + 2C_3C_4C_LR_3R_Ls^2 + 2C_3C_4L_3s^2 + 2C_3C_4L_3s^2 + C_3C_LL_3s^2 +$$

10.518 INVALID-ORDER-518 
$$Z(s) = \left(\infty, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{1}{C_4 s}, \ \infty, \ \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_L R_L s \left(C_3 L_3 s^2 + C_3 R_3 s + 1\right)}{2 C_3 C_4 L_3 L_L R_L s^4 + 2 C_3 C_4 L_L R_3 R_L s^3 + C_3 L_L L_R R_3 R_L s^3 + C_3 L_3 L_L R_3 s^2 + C_3 L_L R_2 s^2 + C_4 L_L R_L s^2$$

**10.519** INVALID-ORDER-519 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + C_3R_3s + 1\right)\left(C_LL_LR_Ls^2 + L_Ls + R_L\right)}{2C_3C_4C_LL_3L_LR_Ls^5 + 2C_3C_4L_LL_Rs^4 + 2C_3C_4L_3L_Ls^4 + 2C_3C_4L_2R_3s^3 + 2C_3C_4L_LR_3s^3 + 2C_3C_4L_3L_Ls^4 + C_3C_LL_LR_3s^3 + C_3L_LL_Rs^3 + C_3L_LL_R$$

10.520 INVALID-ORDER-520 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{R_L \left( C_L L_L s^2 + 1 \right) \left( C_3 L_3 s^2 + C_3 R_3 s + 1 \right)}{2 C_3 C_4 C_L L_2 R_2 s^5 + 2 C_3 C_4 C_L L_L R_3 R_L s^4 + 2 C_3 C_4 L_3 R_L s^3 + 2 C_3 C_4 R_3 R_L s^2 + C_3 C_L L_3 L_L s^4 + C_3 C_L L_2 R_3 s^3 + C_3 C_L L_L R_2 s^3 + C_3 C_L L_R R_2 s^3 + C_3 C_L R_3 R_L s^2 + C_3 L_3 R_2 s^3 + C_3 C_L R_3 R_L s^3 +$$

**10.521** INVALID-ORDER-521 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, R_L\right)$$

10.522 INVALID-ORDER-522 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_4 \left( C_3 L_3 s^2 + C_3 R_3 s + 1 \right)}{2 C_3 C_4 L_3 R_4 s^3 + 2 C_3 C_4 R_3 R_4 s^2 + C_3 C_L L_3 R_4 s^3 + C_3 C_L R_3 R_4 s^2 + 2 C_3 L_3 s^2 + 2 C_3 R_3 s + C_3 R_4 s + 2 C_4 R_4 s + C_L R_4 s + 2 C_4 R_4 s + C_4 R_4 s$$

10.523 INVALID-ORDER-523 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_4 R_L \left(C_3 L_3 s^2 + C_3 R_3 s + 1\right)}{2 C_3 C_4 L_3 R_4 R_L s^3 + 2 C_3 C_4 R_3 R_4 R_L s^2 + C_3 C_L L_3 R_4 R_L s^3 + C_3 C_L R_3 R_4 R_L s^2 + C_3 L_3 R_4 s^2 + 2 C_3 L_3 R_4 s^2 + 2 C_3 L_3 R_4 s + 2 C_3 R_3 R_L s + C_3 R_4 R_L s + 2 C_4 R_4 R_L s + C_L R_4 R_L s + 2 C_4 R_4 R_L s$$

10.524 INVALID-ORDER-524 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_4 \left( C_L R_L s + 1 \right) \left( C_3 L_3 s^2 + C_3 R_3 s + 1 \right)}{2 C_3 C_4 C_L L_3 R_4 R_L s^4 + 2 C_3 C_4 L_3 R_4 R_L s^3 + 2 C_3 C_4 L_3 R_4 s^3 + 2 C_3 C_L L_3 R_4 s^3 + 2 C_3 C_L L_3 R_4 s^3 + 2 C_3 C_L R_3 R_4 s^2 + 2 C_3 C_L R_3 R_L s^2 + C_3 C_L R_4 R_L s^2 + 2 C_3 C_L R_4 R_L s^2 + 2 C_3 C_L R_3 R_4 s^2$$

10.525 INVALID-ORDER-525 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, L_L s + \frac{1}{C_L s}\right)$$

10.526 INVALID-ORDER-526 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L R_4 s \left(C_3 L_3 s^2 + C_3 R_3 s + 1\right)}{2 C_3 C_4 L_3 L_L R_4 s^4 + 2 C_3 C_4 L_L R_3 R_4 s^3 + C_3 C_L L_L R_3 R_4 s^3 + 2 C_3 L_L R_3 s^2 + C_3 L_L R_3 s^2 + C_3 L_L R_3 s^2 + C_3 L_L R_4 s^2 + C_4 L_L R_4 s^2 +$$

10.527 INVALID-ORDER-527 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

10.528 INVALID-ORDER-528 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_L R_4 R_L s \left(C_3 L_3 s^2 + C_3 R_3 s + 1\right)}{2 C_3 C_4 L_3 L_L R_4 R_L s^4 + 2 C_3 C_4 L_L R_3 R_4 R_L s^3 + C_3 C_L L_L R_3 R_4 R_L s^3 + C_3 L_L R_3 R_4 R_L s^$$

10.529 INVALID-ORDER-529 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

10.530 INVALID-ORDER-530 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{1}{2C_3C_4C_LL_3L_LR_4R_Ls^5 + 2C_3C_4C_LL_LR_3R_4R_Ls^4 + 2C_3C_4L_3R_4R_Ls^3 + 2C_3C_4R_3R_4R_Ls^2 + C_3C_LL_3L_LR_4s^4 + 2C_3C_LL_3L_LR_4s^4 + C_3C_LL_3R_4R_Ls^3 +$$

**10.531** INVALID-ORDER-531 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, R_L\right)$$

$$H(s) = \frac{R_L \left( C_4 R_4 s + 1 \right) \left( C_3 L_3 s^2 + C_3 R_3 s + 1 \right)}{C_3 C_4 L_3 R_4 s^3 + 2 C_3 C_4 L_3 R_L s^3 + C_3 C_4 R_3 R_4 s^2 + 2 C_3 C_4 R_3 R_L s^2 + C_3 C_4 R_4 R_L s^2 + C_3 L_3 s^2 + C_3 R_3 s + C_3 R_L s + C_4 R_4 s + 2 C_4 R_L s + 1}$$

10.532 INVALID-ORDER-532 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_4 R_4 s + 1\right) \left(C_3 L_3 s^2 + C_3 R_3 s + 1\right)}{s \left(C_3 C_4 C_L L_3 R_4 s^3 + C_3 C_4 C_L R_3 R_4 s^2 + 2 C_3 C_4 L_3 s^2 + 2 C_3 C_4 R_3 s + C_3 C_4 R_4 s + C_3 C_L L_3 s^2 + C_3 C_L R_3 s + C_3 + C_4 C_L R_4 s + 2 C_4 + C_L\right)}$$

10.533 INVALID-ORDER-533 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_L \left( C_4 R_4 s + 1 \right) \left( C_3 L_3 s^2 + C_3 R_3 s + 1 \right)}{C_3 C_4 C_L L_3 R_4 R_L s^4 + C_3 C_4 C_L R_3 R_4 R_L s^3 + C_3 C_4 L_3 R_L s^3 + C_3 C_4 L_3 R_L s^3 + C_3 C_4 R_3 R_4 s^2 + 2 C_3 C_4 R_3 R_L s^2 + C_3 C_4 R_4 R_L s^2 + C_3 C_L L_3 R_L s^3 + C_3 C_L R_3 R_L s^2 + C_3 C_4 R_3 R_L s^3 + C_3 C_L R_3 R_L s^3 + C_2 C_L R_3 R_L s^3 +$$

10.534 INVALID-ORDER-534 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_4R_4s + 1\right)\left(C_LR_Ls + 1\right)\left(C_3L_3s^2 + C_3R_3s + 1\right)}{s\left(C_3C_4C_LL_3R_4s^3 + 2C_3C_4C_LR_3R_4s^2 + 2C_3C_4C_LR_3R_Ls^2 + C_3C_4C_LR_4R_Ls^2 + 2C_3C_4L_3s^2 + 2C_3C_4R_3s + C_3C_4R_4s + C_3C_LL_3s^2 + C_3C_LR_3s + C_3C_LR_3$$

10.535 INVALID-ORDER-535 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_4R_4s + 1\right)\left(C_LL_Ls^2 + 1\right)\left(C_3L_3s^2 + C_3R_3s + 1\right)}{s\left(2C_3C_4C_LL_3L_Ls^4 + C_3C_4C_LL_3R_4s^3 + 2C_3C_4C_LL_LR_4s^3 + C_3C_4C_LL_R4s^3 + C_3C_4C_LL_3s^2 + 2C_3C_4L_3s^2 + 2C_3C_4R_3s + C_3C_4R_4s + C_3C_LL_3s^2 + C_3C_LL_2s^2 + C_3C_LL_3s^2 + C_3C_LL_3s^$$

**10.536** INVALID-ORDER-536 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L s \left(C_4 R_4 s + 1\right) \left(C_3 L_3 s^2 + C_3 R_3 s + 1\right)}{C_3 C_4 C_L L_L R_3 R_4 s^4 + 2 C_3 C_4 L_L L_3 R_4 s^3 + 2 C_3 C_4 L_L R_3 s^3 + C_3 C_4 L_L R_4 s^3 + C_3 C_4 L_L R_3 s^4 + C_3 C_L L_3 L_L s^4 + C_3 C_L L_L R_3 s^3 + C_3 L_3 s^2 + C_3 C_4 L_L R_3 s^3 + C_3 C_4 L_L$$

10.537 INVALID-ORDER-537 
$$Z(s) = \left(\infty, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_{4}R_{4}s+1\right)\left(C_{3}L_{3}s^{2}+C_{3}R_{3}s+1\right)\left(C_{L}L_{L}s^{2}+C_{2}R_{3}s^{2}+C_{3}R_{3}s+1\right)\left(C_{L}L_{L}s^{2}+C_{3}R_{4}s^{2$$

10.538 INVALID-ORDER-538 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_L R_3}{C_3 C_4 C_L L_3 L_L R_4 R_L s^5 + C_3 C_4 C_L L_L R_3 R_4 R_L s^4 + C_3 C_4 L_3 L_L R_4 s^4 + 2 C_3 C_4 L_3 L_L R_4 s^4 + C_3 C_4 L_3 R_4 R_L s^3 + C_3 C_4 L_L R_3 R_4 s^3 + 2 C_3 C_4 L_L R_3 R_L s^3 + C_3 C_4 L_L R_4 R_L s^3 + C_3 C_4 L_L R_3 R_4 R_L s^3 + C_3 C_4 L_L R_4 R_L s^3 + C_3 C_4 L_L R_3 R_4 R_L s^3 + C_$$

10.539 INVALID-ORDER-539 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

10.540 INVALID-ORDER-540 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, R_4 + \frac{1}{C_4 s}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{1}{C_3 C_4 C_L L_3 L_L R_4 s^5 + 2 C_3 C_4 C_L L_3 L_L R_L s^5 + C_3 C_4 C_L L_3 R_4 R_L s^4 + C_3 C_4 C_L L_L R_3 R_4 s^4 + 2 C_3 C_4 C_L L_L R_3 R_L s^4 + C_3 C_4 C_L L_L R_4 R_L s^4 + C_3 C_4 C_L R_3 R_4 R_L s^3 + C_3 C_4 C_L L_L R_3 R_4 s^4 + C_3 C_4 C_L L_L R_3 R_4 s^4 + C_3 C_4 C_L L_L R_4 R_L s^4 + C_3 C_4 C_L L_R R_$$

**10.541** INVALID-ORDER-541 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, R_L\right)$$

$$H(s) = \frac{R_L \left( C_4 L_4 s^2 + 1 \right) \left( C_3 L_3 s^2 + C_3 R_3 s + 1 \right)}{C_3 C_4 L_3 L_4 s^4 + 2 C_3 C_4 L_3 R_L s^3 + C_3 C_4 L_4 R_3 s^3 + C_3 C_4 L_4 R_L s^3 + 2 C_3 C_4 R_3 R_L s^2 + C_3 L_3 s^2 + C_3 R_3 s + C_3 R_L s + C_4 L_4 s^2 + 2 C_4 R_L s + 1}$$

10.542 INVALID-ORDER-542 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_4L_4s^2 + 1\right)\left(C_3L_3s^2 + C_3R_3s + 1\right)}{s\left(C_3C_4C_LL_3L_4s^4 + C_3C_4C_LL_4R_3s^3 + 2C_3C_4L_3s^2 + C_3C_4L_4s^2 + 2C_3C_4R_3s + C_3C_LL_3s^2 + C_3C_LR_3s + C_3C_LL_4s^2 + 2C_4 + C_L\right)}$$

10.543 INVALID-ORDER-543 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_L \left( C_4 L_4 s^2 + 1 \right) \left( C_3 L_3 s^2 + C_3 R_3 s + 1 \right)}{C_3 C_4 C_L L_3 L_4 R_L s^5 + C_3 C_4 L_4 L_3 L_4 s^4 + 2 C_3 C_4 L_3 R_L s^3 + C_3 C_4 L_4 R_3 s^3 + C_3 C_4 L_4 R_L s^3 + 2 C_3 C_4 R_3 R_L s^2 + C_3 C_L L_3 R_L s^3 + C_3 C_L R_3 R_L s^3 +$$

**10.544** INVALID-ORDER-544 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, R_L + \frac{1}{C_L s}\right)$$

10.545 INVALID-ORDER-545 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_4L_4s^2 + 1\right)\left(C_LL_Ls^2 + 1\right)\left(C_3L_3s^2 + C_3R_3s + 1\right)}{s\left(C_3C_4C_LL_3L_4s^4 + 2C_3C_4C_LL_4L_4s^4 + C_3C_4C_LL_4R_3s^3 + 2C_3C_4C_LL_LR_3s^3 + 2C_3C_4L_4s^2 + C_3C_4L_4s^2 + 2C_3C_4R_3s + C_3C_LL_3s^2 + C_3C_LL_4s^2 + C_3C_LL_$$

**10.546** INVALID-ORDER-546 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L s \left(C_4 L_4 s^2 + 1\right) \left(C_3 L_3 s^2 + C_3 R_3 s + 1\right)}{C_3 C_4 C_L L_3 L_4 L_L s^6 + C_3 C_4 L_4 L_L R_3 s^5 + C_3 C_4 L_3 L_4 s^4 + 2 C_3 C_4 L_4 L_L s^4 + C_3 C_4 L_4 L_4 s^3 + 2 C_3 C_4 L_4 L_3 s^3 + C_3 C_4 L_4 L_4 s^4 + C_3 C_4 L_4 L_4 s^4 + C_3 C_4 L_4 L_4 R_3 s^3 + 2 C_3 C_4 L_4 L_3 s^3 + C_3 C_4 L_4 L_4 R_3 s^3 + C_3 C_4 L_4 R_3 s^3$$

**10.547** INVALID-ORDER-547 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

10.548 INVALID-ORDER-548 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

10.549 INVALID-ORDER-549 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, L_4 s + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

10.550 INVALID-ORDER-550 
$$Z(s) = \left(\infty, \ \infty, \ L_3s + R_3 + \frac{1}{C_3s}, \ L_4s + \frac{1}{C_4s}, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

$$H(s) = \frac{1}{C_3C_4C_LL_3L_4L_Ls^6 + C_3C_4C_LL_3L_4R_Ls^5 + 2C_3C_4C_LL_3L_LR_Ls^5 + C_3C_4C_LL_4L_LR_3s^5 + C_3C_4C_LL_4L_LR_3s^5 + C_3C_4C_LL_4R_3R_Ls^4 + 2C_3C_4C_LL_4R_3R_Ls^4 + 2C_3C_4C_LL_$$

10.551 INVALID-ORDER-551 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, R_L\right)$$

10.552 INVALID-ORDER-552 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_4s\left(C_3L_3s^2 + C_3R_3s + 1\right)}{2C_3C_4L_3L_4s^4 + 2C_3C_4L_4R_3s^3 + C_3C_LL_3L_4s^4 + C_3C_LL_4R_3s^3 + 2C_3L_3s^2 + C_3L_4s^2 + 2C_3R_3s + 2C_4L_4s^2 + C_LL_4s^2 + 2C_3R_3s^2 + C_3L_4s^2 + 2C_3R_3s + 2C_4L_4s^2 + 2C_4L_4s^2$$

10.553 INVALID-ORDER-553 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{L_4 R_L s \left(C_3 L_3 s^2 + C_3 R_3 s + 1\right)}{2 C_3 C_4 L_3 L_4 R_L s^4 + 2 C_3 C_4 L_4 R_3 R_L s^3 + C_3 C_L L_4 R_3 R_L s^3 + C_3 L_4 R_3 s^2 + C_3 L_4 R_3 s^2 + C_3 L_4 R_3 s^2 + C_3 L_4 R_4 s^2 + 2 C_3 R_3 R_L s + 2 C_4 L_4 R_L s^2 + C_4 L_4 R_L s^2 +$$

10.554 INVALID-ORDER-554 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_{4}s\left(C_{L}R_{L}s+1\right)\left(C_{3}L_{3}s^{2}+C_{3}R_{3}s+1\right)}{2C_{3}C_{4}C_{L}L_{3}L_{4}S^{5}+2C_{3}C_{4}L_{4}L_{3}L_{4}s^{4}+2C_{3}C_{4}L_{4}R_{3}s^{3}+C_{3}C_{L}L_{3}L_{4}s^{4}+2C_{3}C_{L}L_{3}L_{4}s^{3}+C_{3}C_{L}L_{4}R_{3}s^{3}+C_{3}C_{L}L_{$$

10.555 INVALID-ORDER-555 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, L_L s + \frac{1}{C_L s}\right)$$

10.556 INVALID-ORDER-556 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_4 L_L s \left(C_3 L_3 s^2 + C_3 R_3 s + 1\right)}{2 C_3 C_4 L_3 L_4 L_L s^4 + 2 C_3 C_4 L_4 L_L R_3 s^3 + C_3 C_L L_3 L_4 L_L s^4 + C_3 C_L L_4 L_L R_3 s^3 + C_3 L_3 L_4 s^2 + 2 C_3 L_3 L_L s^2 + C_3 L_4 L_L s^2 + C_3 L_4 L_L s^2 + C_4 L_4 L_$$

10.557 INVALID-ORDER-557 
$$Z(s) = \left(\infty, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_4 s \left(C_3 L_4 L_5 + 2 C_3 C_4 C_L L_3 L_4 L_L s^6 + 2 C_3 C_4 C_L L_3 L_4 R_L s^5 + 2 C_3 C_4 C_L L_4 L_L R_3 s^5 + 2 C_3 C_4 C_L L_4 R_3 R_L s^4 + 2 C_3 C_4 L_3 L_4 s^4 + 2 C_3 C_4 L_4 R_3 s^3 + C_3 C_L L_3 L_4 s^4 + 2 C_3 C_L L_4 L_4 L_5 s^4 + 2 C_3 C_L L_5 L_5 L_5 t^4 + 2 C_3 C_L L_5 L_5 t^4 + 2 C_5 C$$

10.558 INVALID-ORDER-558 
$$Z(s) = \left(\infty, \ \infty, \ L_3s + R_3 + \frac{1}{C_3s}, \ \frac{L_4s}{C_4L_4s^2 + 1}, \ \infty, \ \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

$$H(s) = \frac{L_4 L_L R_L s \left(C_3 L_3 s^2 + C_3 R_3 s + 1\right)}{2 C_3 C_4 L_3 L_4 L_L R_3 R_L s^3 + C_3 C_L L_3 L_4 L_L R_3 s^4 + C_3 C_L L_4 L_L R_3 R_L s^3 + C_3 L_3 L_4 L_L s^3 + C_3 L_3 L_4 L_L s^3 + C_3 L_3 L_4 L_L s^2 + C_3 L_4 L_L R_3 s^2 +$$

**10.559** INVALID-ORDER-559 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

10.560 INVALID-ORDER-560 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{1}{2C_3C_4C_LL_3L_4L_LR_2s^6 + 2C_3C_4C_LL_4L_RR_3R_Ls^5 + 2C_3C_4L_3L_4R_Ls^4 + 2C_3C_4L_4R_3R_Ls^3 + C_3C_LL_3L_4L_Ls^5 + C_3C_LL_3L_4R_Ls^4 + 2C_3C_LL_3L_4L_Rs^4 + C_3C_LL_4L_RR_3s^4 + C_3C_LL_3L_4L_Rs^4 +$$

**10.561** INVALID-ORDER-561 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, R_L\right)$$

$$H(s) = \frac{R_L \left( C_3 L_3 s^2 + C_3 R_3 s + 1 \right) \left( C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{C_3 C_4 L_3 L_4 s^4 + C_3 C_4 L_3 R_4 s^3 + 2 C_3 C_4 L_3 R_L s^3 + C_3 C_4 L_4 R_3 s^3 + C_3 C_4 L_4 R_L s^3 + C_3 C_4 R_3 R_L s^2 + C_3 C_4 R_4 R_L s^2 + C_3 C_4 R_4 R_L s^2 + C_3 R_3 s + C_3 R_4 s + C_4 R_4 s^2 + C_4 R_4 s^$$

10.562 INVALID-ORDER-562 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + C_3R_3s + 1\right)\left(C_4L_4s^2 + C_4R_4s + 1\right)}{s\left(C_3C_4C_LL_3L_4s^4 + C_3C_4L_LR_3s^3 + C_3C_4C_LR_3R_4s^2 + 2C_3C_4L_3s^2 + C_3C_4L_4s^2 + 2C_3C_4R_3s + C_3C_4L_4s^2 + 2C_3C_4R_3s + C_3C_4L_4s^2 + 2C_3C_4R_3s + C_3C_4L_4s^2 + 2C_3C_4R_4s + C_3C_4L_4s^2 + 2C_3C_4R_4s^2 + 2C$$

10.563 INVALID-ORDER-563 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_L \left( C_3 L_3 s^2 + C_3 C_4 C_L L_3 L_4 R_L s^5 + C_3 C_4 C_L L_3 R_4 R_L s^4 + C_3 C_4 C_L R_3 R_4 R_L s^3 + C_3 C_4 L_3 L_4 s^4 + C_3 C_4 L_3 R_4 s^3 + 2 C_3 C_4 L_3 R_L s^3 + C_3 C_4 L_4 R_3 R_4 R_5 s^3 + C_3 C_4 L_4 R_5 R_5 s^3 + C_3 C_4 L_4 R_5 R_5 r_5 + C_3 C_4 L_5 R_5 r_5 + C_3 C_4 L_5 R_5 r_5 + C_3 C_4 L_5 R_5 r_5 + C_5 C_5 R_5$$

**10.564** INVALID-ORDER-564 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_L R_L s + 1\right) \left(C_3 L_3 s^2 + C_3 R_3 s + 1\right) \left(C_4 L_4 s^2 + C_3 R_3 s^2 + C_3 R_4 s^2 + C_3 R_4 s^3 + C_3 C_4 C_L L_3 R_4 s^3 + C_3 C_4 C_L L_3 R_4 s^3 + C_3 C_4 C_L L_4 R_3 s^3 + C_3 C_4 C_L L_4 R_2 s^3 + C_3 C_4 C_L R_3 R_4 s^2 + 2 C_3 C_4 C_L R_3 R_4 s^2 + 2 C_3 C_4 C_L R_4 R_L s^2 + 2 C_3 C_4 C_L R_3 R_4 c^2 + 2 C_3 C_4 C_L R_3 R_4 s^2 + 2 C_3$$

**10.565** INVALID-ORDER-565 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_{L}L_{L}s^{2} + 1\right)\left(C_{3}L_{3}s^{2} + C_{3}R_{3}s + 1\right)\left(C_{4}L_{4}s^{2} + C_{3}R_{4}s^{2} + C_{3}R_{4}s$$

**10.566** INVALID-ORDER-566 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L s \left(C_3 L_3 s^2 + C_3 L_4 L_L s^6 + C_3 C_4 C_L L_3 L_L R_4 s^5 + C_3 C_4 C_L L_4 L_L R_3 s^5 + C_3 C_4 C_L L_L R_3 R_4 s^4 + C_3 C_4 L_3 L_4 s^4 + C_3 C_4 L_3 L_L s^4 + C_3 C_4 L_4 L$$

**10.567** INVALID-ORDER-567 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{(C_3C_4C_LL_3L_4s^4 + 2C_3C_4C_LL_3L_Ls^4 + C_3C_4C_LL_3R_4s^3 + 2C_3C_4C_LL_3R_Ls^3 + C_3C_4C_LL_4L_Ls^4 + C_3C_4C_LL_4R_3s^3 + C_3C_4C_LL_4R_Ls^3 + 2C_3C_4C_LL_4R_3s^3 + C_3C_4C_LL_4R_3s^3 + C_3C_4C_LL_4R_3$$

10.568 INVALID-ORDER-568 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{1}{C_3C_4C_LL_3L_4L_LR_2s^6 + C_3C_4C_LL_3L_LR_4R_Ls^5 + C_3C_4C_LL_4L_RR_3R_Ls^5 + C_3C_4C_LL_LR_3R_4R_Ls^4 + C_3C_4L_3L_4L_Ls^5 + C_3C_4L_3L_4R_Ls^4 + C_3C_4L_3L_4R$$

10.569 INVALID-ORDER-569 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

10.570 INVALID-ORDER-570 
$$Z(s) = \left(\infty, \ \infty, \ L_3s + R_3 + \frac{1}{C_3s}, \ L_4s + R_4 + \frac{1}{C_4s}, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

10.571 INVALID-ORDER-571 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, R_L\right)$$

$$H(s) = \frac{L_4 R_4 R_L s \left(C_3 L_3 s^2 + C_3 R_3 s + 1\right)}{2 C_3 C_4 L_3 L_4 R_4 s^4 + 2 C_3 C_4 L_4 R_3 R_4 R_L s^3 + C_3 L_3 L_4 R_4 s^3 + 2 C_3 L_3 L_4 R_L s^3 + 2 C_3 L_3 R_4 R_L s^2 + C_3 L_4 R_3 R_4 s^2 + 2 C_3 L_4 R_3 R_L s^2 + C_3 L_4 R_4 R_L s^2 + 2 C_3 R_3 R_4 R_L s + 2 C_4 L_4 R_4 R_L s^2 + 2 C_3 R_3 R_4 R_$$

10.572 INVALID-ORDER-572 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_4 R_4 s \left(C_3 L_3 s^2 + C_3 R_3 s + 1\right)}{2 C_3 C_4 L_3 L_4 R_4 s^4 + 2 C_3 C_4 L_4 R_3 R_4 s^3 + C_3 C_L L_4 R_3 R_4 s^3 + 2 C_3 L_4 L_4 s^3 + 2 C_3 L_3 L_4 R_3 s^2 + C_3 L_4 R_3 s^2 + C_3 L_4 R_4 s^2 + 2 C_3 R_3 R_4 s + 2 C_4 L_4 R_4 s^2 + C_L L_4 R_4 s^2 + C_4 L_4 R_$$

10.573 INVALID-ORDER-573 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

10.574 INVALID-ORDER-574 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, R_L + \frac{1}{C_L s}\right)$$

10.575 INVALID-ORDER-575 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, L_L s + \frac{1}{C_L s}\right)$$

10.576 INVALID-ORDER-576 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_4 L_L R_4 s \left(C_3 L_3 s^2 + C_3 R_3 s + 1\right)}{2 C_3 C_4 L_3 L_4 L_L R_4 s^4 + 2 C_3 C_4 L_4 L_L R_3 R_4 s^3 + C_3 C_L L_4 L_L R_3 R_4 s^3 + 2 C_3 L_3 L_4 L_L s^3 + C_3 L_3 L_4 R_4 s^2 + 2 C_3 L_3 L_L R_4 s^2 + 2 C_3 L_4 L_L R_3 s^2 + C_3 L_4 L_L R_4 s^$$

10.577 INVALID-ORDER-577 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

10.578 INVALID-ORDER-578 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

10.579 INVALID-ORDER-579 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

**10.580** INVALID-ORDER-580 
$$Z(s) = \left(\infty, \ \infty, \ L_3s + R_3 + \frac{1}{C_3s}, \ \frac{1}{C_4s + \frac{1}{R_4} + \frac{1}{L_4s}}, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

$$H(s) = \frac{1}{2C_3C_4C_LL_3L_4L_LR_4R_Ls^6 + 2C_3C_4C_LL_4L_R_3R_4R_Ls^5 + 2C_3C_4L_3L_4R_4R_Ls^4 + 2C_3C_4L_4R_3R_4R_Ls^3 + C_3C_LL_3L_4L_LR_4s^5 + 2C_3C_LL_3L_4L_LR_4s^5 + 2C_3C_LL_3L_4L_4L_4L_4L_4s^5 + 2C_3C_LL_3L_4L_4L_4L_4s^5 + 2C_3C_LL_3L_4L_4L_4L_4s^5 + 2C_3C_LL_3L_4L_4L_4L_4s^5 + 2C_3C_LL_3L_4L_4L_4L_4s^5 + 2C_3C_LL_3L_4L_4L_4L_4s^5 + 2C_3C_LL_3L_4L_4L_4L_4L_4s^5 + 2C_3C_LL_3L_4L_4L_4L_4L_4s^5 + 2C_3C_LL_3L_4L_4L_4L_4s^5 + 2C_3C_LL_3L_4L_4L_4L_4s^5 + 2C_3C_LL_3L_4L_4L_4s^5 + 2C_3C_LL_3L_4L_4s^5 + 2C_3C_LL_3L_4c^5 + 2C_$$

10.581 INVALID-ORDER-581 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, R_L\right)$$

$$H(s) = \frac{R_L \left( C_3 L_3 s^2 + C_3 R_3 s + 1 \right) \left( C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{C_3 C_4 L_3 L_4 R_4 s^4 + 2 C_3 C_4 L_4 R_3 R_4 s^3 + 2 C_3 C_4 L_4 R_3 R_L s^3 + C_3 C_4 L_4 R_4 R_L s^3 + C_3 L_3 L_4 s^3 + C_3 L_3 R_4 s^2 + 2 C_3 L_3 R_L s^2 + C_3 L_4 R_3 s^2 + C_3 L_4 R_4 s^$$

10.582 INVALID-ORDER-582 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + C_3R_3s + 1\right)\left(C_4L_4R_4s^2 + L_4s + R_4\right)}{C_3C_4C_LL_3L_4R_4s^5 + C_3C_4L_4R_3R_4s^4 + 2C_3C_4L_3L_4s^3 + C_3C_4L_4R_4s^3 + C_3C_LL_3L_4s^4 + C_3C_LL_3R_4s^3 + C_3C_LL_4R_3s^3 + C_3C_LR_3R_4s^2 + 2C_3L_3s^2 + C_3R_3s^3 + C_3C_LR_3R_4s^3 + C_3C_LR_3R_4s^3$$

10.583 INVALID-ORDER-583 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{1}{C_3C_4C_LL_3L_4R_4R_Ls^5 + C_3C_4L_4R_3R_4R_Ls^4 + C_3C_4L_3L_4R_4s^4 + 2C_3C_4L_3L_4R_Ls^4 + C_3C_4L_4R_3R_4s^3 + 2C_3C_4L_4R_3R_Ls^3 + C_3C_4L_4R_4R_Ls^3 + C_3C_4L_3L_4R_Ls^4 + C_3C_4L_3L_4R_4R_Ls^4 + C_3C_4L_4R_3R_4s^3 + 2C_3C_4L_4R_3R_Ls^3 + C_3C_4L_4R_4R_Ls^3 + C_3C_4L_3L_4R_Ls^4 + C_3C_4L_3L_4R_4s^4 + C_3C_4L_3L_4R_4s^4 + C_3C_4L_3L_4R_3R_4s^3 + 2C_3C_4L_4R_3R_4s^3 + C_3C_4L_4R_3R_4s^3 + C_3C_4L_4R_4R_4s^3 + C_3C_4L_4R_4s^3 +$$

10.584 INVALID-ORDER-584 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{1}{C_3C_4C_LL_3L_4R_4s^5 + 2C_3C_4C_LL_3L_4R_Ls^5 + C_3C_4C_LL_4R_3R_4s^4 + 2C_3C_4C_LL_4R_3R_Ls^4 + C_3C_4C_LL_4R_4R_Ls^4 + 2C_3C_4L_4L_4s^4 + 2C_3C_4L_4R_3s^3 + C_3C_4L_4R_4s^3 + C_3C_4L_4R_4s^4 + 2C_3C_4L_4R_4s^4 + 2C_3C_4L_4R_4s^3 + C_3C_4L_4R_4s^3 + C_3C_4L_4R_4s^4 + 2C_3C_4L_4R_4s^4 + 2C_3C_4L_4R_4s^3 + C_3C_4L_4R_4s^3 + C_3C_4L_4R_4s^4 + 2C_3C_4L_4R_4s^4 + 2C_3C_4L_4R_4s^4$$

10.585 INVALID-ORDER-585 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{1}{2C_3C_4C_LL_3L_4L_Ls^6 + C_3C_4C_LL_3L_4R_4s^5 + 2C_3C_4C_LL_4L_Rs^5 + C_3C_4C_LL_4L_Rs^5 + C_3C_4C_LL_4R_3R_4s^4 + 2C_3C_4L_3L_4s^4 + 2C_3C_4L_4R_3s^3 + C_3C_4L_4R_4s^3 + C_3C_4L_4L_4R_4s^5 + C_3C_4C_LL_4R_3R_4s^4 + 2C_3C_4L_4R_3s^3 + C_3C_4L_4R_4s^3 + C_3C_4L_4R_4s^$$

**10.586** INVALID-ORDER-586 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{1}{C_3C_4C_LL_3L_4L_LR_4s^6 + C_3C_4L_4L_LR_3R_4s^5 + 2C_3C_4L_3L_4L_Ls^5 + C_3C_4L_3L_4L_Ls^5 + C_3C_4L_4L_LR_3s^4 + 2C_3C_4L_4L_LR_4s^4 + C_3C_4L_4R_3R_4s^3 + C_3C_4L_4L_Ls^5 + C_3C_4L_4L_4L_2s^5 + C_3C_4L_4L_4L_4s^5 + C_3C_4L_4L_4s^5 +$$

10.587 INVALID-ORDER-587 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{1}{2C_3C_4C_LL_3L_4L_Ls^6 + C_3C_4C_LL_3L_4R_4s^5 + 2C_3C_4C_LL_3L_4R_Ls^5 + 2C_3C_4C_LL_4L_LR_3s^5 + C_3C_4C_LL_4L_LR_4s^5 + C_3C_4C_LL_4R_3R_4s^4 + 2C_3C_4C_LL_4R_3R_Ls^4 + C_3C_4C_LL_4R_3R_4s^4 + 2C_3C_4C_LL_4R_3R_Ls^4 + C_3C_4C_LL_4R_3R_4s^4 + 2C_3C_4C_LL_4R_3R_4s^4 + 2C_3C_4C_LL_4R_4s^4 + 2C_3C_4$$

10.588 INVALID-ORDER-588 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

10.589 INVALID-ORDER-589 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

10.590 INVALID-ORDER-590 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

10.591 INVALID-ORDER-591 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, R_L\right)$$

$$H(s) = \frac{R_4 R_L \left(C_4 L_4 s^2 + 1\right) \left(C_3 L_3 s^2 + C_3 R_3 s + 1\right)}{C_3 C_4 L_3 L_4 R_4 s^4 + 2 C_3 C_4 L_3 R_4 R_L s^3 + C_3 C_4 L_4 R_3 R_4 s^3 + 2 C_3 C_4 L_4 R_3 R_L s^3 + 2 C_3 C_4 L_4 R_4 R_L s^3 + 2 C_3 C_4 R_3 R_4 R_L s^2 + C_3 L_3 R_4 s^2 + 2 C_3 L_3 R_L s^2 + C_3 R_3 R_4 R_L s^3 + 2 C_3 C_4 R_4 R_L s^3 + 2 C_3$$

10.592 INVALID-ORDER-592 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_4 \left( C_4 L_4 s^2 + 1 \right) \left( C_3 L_3 s^2 + C_3 R_3 s + 1 \right)}{C_3 C_4 C_L L_3 L_4 R_3 s^4 + 2 C_3 C_4 L_3 L_4 s^4 + 2 C_3 C_4 L_3 R_4 s^3 + 2 C_3 C_4 L_4 R_3 s^3 + C_3 C_4 L_4 R_4 s^3 + 2 C_3 C_4 R_3 R_4 s^2 + C_3 C_L L_3 R_4 s^3 + C_3 C_L L_3 R_4 s^3 + C_3 C_L R_3 R_4 s^2 + 2 C_3 L_3 R_4 s^3 + C_3 C_L R_3 R_4 s^3 + C_2 C_L R_3 R_4 s^3 + C_3 C_L R_3 R_4 s^3 + C_3 C_L R_3 R_4 s^3 + C_$$

10.593 INVALID-ORDER-593 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_4 R_L}{C_3 C_4 C_L L_3 L_4 R_4 R_L s^5 + C_3 C_4 C_L L_4 R_3 R_4 R_L s^4 + C_3 C_4 L_3 L_4 R_4 s^4 + 2 C_3 C_4 L_3 R_4 R_L s^4 + 2 C_3 C_4 L_4 R_3 R_4 s^3 + 2 C_3 C_4 L_4 R_3 R_4 s^3 + 2 C_3 C_4 L_4 R_3 R_L s^3 + C_3 C_4 L_4 R_4 R_L s^3 + 2 C_3 C_4 L_4 R_3 R_4 s^3 + 2 C_3 C_4 L_4 R_4 s^3 + 2 C_3$$

10.594 INVALID-ORDER-594 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{1}{C_3C_4C_LL_3L_4R_4s^5 + 2C_3C_4C_LL_3L_4R_Ls^5 + 2C_3C_4C_LL_3R_4R_Ls^4 + C_3C_4C_LL_4R_3R_4s^4 + 2C_3C_4C_LL_4R_3R_Ls^4 + 2C_3C_4C_LL_4R_4R_Ls^4 + 2C_3C_4C_LL_4R_4R_Ls^4 + 2C_3C_4C_$$

10.595 INVALID-ORDER-595 
$$Z(s) = \left(\infty, \ \infty, \ L_3s + R_3 + \frac{1}{C_3s}, \ \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}, \ \infty, \ L_Ls + \frac{1}{C_Ls}\right)$$

10.596 INVALID-ORDER-596 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

10.597 INVALID-ORDER-597 
$$Z(s) = \left(\infty, \infty, L_3 s + R_3 + \frac{1}{C_3 s}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{1}{2C_3C_4C_LL_3L_4L_Ls^6 + C_3C_4C_LL_3L_4R_4s^5 + 2C_3C_4C_LL_3L_4R_Ls^5 + 2C_3C_4C_LL_3L_4R_4s^5 + 2C_3C_4C_LL_3R_4R_Ls^4 + 2C_3C_4C_LL_4L_LR_3s^5 + C_3C_4C_LL_4L_LR_4s^5 + 2C_3C_4C_LL_4L_Rs^5 + 2C_3C_4C_LL_3L_4R_4s^5 + 2C_3C_4C_LL_3L_4R_4s^5 + 2C_3C_4C_LL_3L_4R_4s^5 + 2C_3C_4C_LL_3R_4R_Ls^4 + 2C_3C_4C_LL_4L_LR_3s^5 + 2C_3C_4C_LL_4L_Rs^5 + 2C_3C_4C_LL_4L_Rs^5 + 2C_3C_4C_LL_3L_4R_4s^5 + 2C_3C_4C_LL_3L_4R_$$

10.598 INVALID-ORDER-598 
$$Z(s) = \left(\infty, \ \infty, \ L_3s + R_3 + \frac{1}{C_3s}, \ \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}, \ \infty, \ \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

10.599 INVALID-ORDER-599 
$$Z(s) = \left(\infty, \ \infty, \ L_3s + R_3 + \frac{1}{C_3s}, \ \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2 + 1} + R_L\right)$$

10.600 INVALID-ORDER-600 
$$Z(s) = \left(\infty, \ \infty, \ L_3s + R_3 + \frac{1}{C_3s}, \ \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

$$H(s) = \frac{1}{C_3 C_4 C_L L_3 L_4 L_L R_4 s^6 + 2 C_3 C_4 C_L L_3 L_4 L_L R_L s^6 + C_3 C_4 C_L L_3 L_4 R_4 R_L s^5 + 2 C_3 C_4 C_L L_3 L_L R_4 R_L s^5 + C_3 C_4 C_L L_4 L_L R_3 R_4 s^5 + 2 C_3 C_4 C_L L_4 L_L R_3 R_L s^5 + C_3 C_4 C_L L_4 L_L R_4 R_L R_4 R_L s^5 + C_3 C_4 C_L L_4 L_L R_4 R_L R_5 R_L R_5 R_L R_4 R_L R_5 R_L$$

**10.601** INVALID-ORDER-601 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, R_4, \infty, R_L + \frac{1}{C_L s}\right)$$

**10.602** INVALID-ORDER-602 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, R_4, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 R_3 R_4 s \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_3 L_L R_3 R_4 s^4 + C_3 L_3 R_3 R_4 s^2 + 2 C_L L_3 L_L R_3 s^3 + C_L L_3 L_L R_4 s^3 + C_L L_3 R_3 R_4 s^2 + C_L L_L R_3 R_4 s^2 + 2 L_3 R_3 s + L_3 R_4 s + R_3 R_4 s^2 + 2 L_3 R_3 R_4 s^2$$

10.603 INVALID-ORDER-603 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, R_4, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 R_3 R_4 s \left(C_L L_L s^2 + C_L R_L s + 1\right)}{C_3 C_L L_3 L_L R_3 R_4 s^4 + C_3 C_L L_3 R_3 R_4 R_L s^3 + C_3 L_3 R_3 R_4 s^2 + 2 C_L L_3 L_L R_3 s^3 + C_L L_3 L_L R_4 s^3 + C_L L_3 R_3 R_4 s^2 + 2 C_L L_3 R_3 R_L s^2 + C_L L_3 R_4 R_L s^2 + C_L L_1 R_3 R_4 s^2 + C_L R_3 R_4 R_L s^2 + C_L R_3 R_$$

10.605 INVALID-ORDER-605 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, R_4, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{L_3 R_3 R_4 R_L s \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_3 L_L R_3 R_4 R_L s^4 + C_3 L_3 R_3 R_4 R_L s^2 + C_L L_3 L_L R_3 R_4 s^3 + C_L L_3 L_L R_3 R_4 R_L s^3 + C_L L_3 R_3 R_4 R_L s^2 + C_L L_L R_3 R_4 R_L s^2 + L_3 R_3 R_4 s + 2 L_3 R_3 R_4 R_L s^3 + C_L L_3 R_4 R_L s^3 + C_L L_3 R_4 R_L s^3 +$$

10.606 INVALID-ORDER-606 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{1}{C_4 s}, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 R_3 s \left(C_L R_L s + 1\right)}{C_3 C_L L_3 R_3 R_L s^3 + C_3 L_3 R_3 s^2 + 2 C_4 C_L L_3 R_3 R_L s^3 + 2 C_4 L_3 R_3 s^2 + C_L L_3 R_3 s^2 + C_L L_3 R_L s^2 + C_L R_3 R_L s + L_3 s + R_3}$$

10.607 INVALID-ORDER-607 
$$Z(s) = \left(\infty, \ \infty, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \frac{1}{C_4 s}, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 R_3 s \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 L_3 R_3 s^2 + 2 C_4 C_L L_3 L_L R_3 s^4 + 2 C_4 L_3 R_3 s^2 + C_L L_3 L_L s^3 + C_L L_3 R_3 s^2 + C_L L_L R_3 s^2 + L_3 s + R_3}$$

10.608 INVALID-ORDER-608 
$$Z(s) = \left(\infty, \ \infty, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 R_3 s \left(C_L L_L s^2 + C_L R_L s + 1\right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 C_L L_3 R_3 R_L s^3 + C_3 L_3 R_3 s^2 + 2 C_4 C_L L_3 L_L R_3 s^4 + 2 C_4 C_L L_3 R_3 R_L s^3 + 2 C_4 L_3 R_3 s^2 + C_L L_3 L_L s^3 + C_L L_3 R_3 s^2 + C_L L_3 R_L s^3 + C_L L_3 R_3 s^2 + C_L R_3 R_3 s^2 + C$$

10.611 INVALID-ORDER-611 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{R_4}{C_4 R_4 s + 1}, \infty, R_L + \frac{1}{C_L s}\right)$$

**10.612** INVALID-ORDER-612 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{R_4}{C_4 R_4 s + 1}, \infty, L_L s + \frac{1}{C_L s}\right)$$

**10.613** INVALID-ORDER-613 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{R_4}{C_4 R_4 s + 1}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 R_3 R_4 s \left(C_L L_L s^2 + C_L R_L s + 1\right)}{C_3 C_L L_3 L_L R_3 R_4 s^4 + C_3 C_L L_3 R_3 R_4 R_L s^3 + C_3 L_3 R_3 R_4 s^2 + 2 C_4 C_L L_3 L_L R_3 R_4 s^4 + 2 C_4 C_L L_3 R_3 R_4 R_L s^3 + 2 C_4 L_3 R_3 R_4 s^2 + 2 C_L L_3 L_L R_3 s^3 + C_L L_3 L_L R_3 R_4 s^3 + C_L L_3 R_3 R_4 s^2 + 2 C_L L_3 L_L R_3 R_4 s^3 + C_L L_3 R_3 R_4 s^3 + C_$$

10.614 INVALID-ORDER-614 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{L_3 R_3 R_4 s \left(C_L L_L R_L s^2 + L_L s + R_L\right)}{C_3 C_L L_3 L_L R_3 R_4 R_L s^4 + C_3 L_3 L_L R_3 R_4 s^3 + C_3 L_3 R_4 R_L s^2 + 2 C_4 C_L L_3 L_L R_3 R_4 R_L s^4 + 2 C_4 L_3 L_L R_3 R_4 s^3 + 2 C_4 L_3 L_L R_3 R_4 s^3 + 2 C_L L_3 L_L R_3 R_$$

10.615 INVALID-ORDER-615 
$$Z(s) = \left(\infty, \ \infty, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{L_3 R_3 R_4 R_L s \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_3 L_L R_3 R_4 R_L s^4 + C_3 L_3 R_3 R_4 R_L s^2 + 2 C_4 C_L L_3 L_L R_3 R_4 R_L s^2 + C_L L_3 L_L R_3 R_4 s^3 + 2 C_L L_3 L_L R_3 R_L s^3 + C_L L_3 L_L R_4 R_L s^3 + C_L L_3 R_4 R_L s^2 + C_L R_3 R_4 R_L s^3 + C_L R_3 R_4 R_L$$

**10.616** INVALID-ORDER-616 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, R_4 + \frac{1}{C_4 s}, \infty, R_L\right)$$

$$H(s) = \frac{L_3 R_3 R_L s \left(C_4 R_4 s + 1\right)}{C_3 C_4 L_3 R_3 R_4 R_L s^3 + C_3 L_3 R_3 R_L s^2 + C_4 L_3 R_3 R_4 s^2 + 2 C_4 L_3 R_3 R_L s^2 + C_4 L_3 R_4 R_L s^2 + C_4 R_3 R_4 R_L s + L_3 R_3 s + L_3 R_L s + R_3 R_L s^2 + C_4 R_3 R_4 R_L s^2 + C_4 R_3 R_4 R_L s + L_3 R_3 R_L s + R_$$

10.617 INVALID-ORDER-617 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, R_4 + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 R_3 s \left(C_4 R_4 s + 1\right)}{C_3 C_4 L_3 R_3 R_4 s^3 + C_3 L_3 R_3 s^2 + C_4 C_L L_3 R_3 R_4 s^3 + 2C_4 L_3 R_3 s^2 + C_4 L_3 R_4 s^2 + C_4 R_3 R_4 s + C_L L_3 R_3 s^2 + L_3 s + R_3}$$

10.618 INVALID-ORDER-618 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, R_4 + \frac{1}{C_4 s}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{L_3 R_3 R_L s \left(C_4 R_4 s + 1\right)}{C_3 C_4 L_3 R_3 R_4 R_L s^3 + C_3 L_3 R_3 R_L s^2 + C_4 C_L L_3 R_3 R_4 R_L s^3 + C_4 L_3 R_3 R_4 s^2 + 2 C_4 L_3 R_3 R_L s^2 + C_4 L_3 R_4 R_L s^2 + C_4 R_3 R_4 R_L s + C_L L_3 R_3 R_L s^2 + L_3 R_3 s + L_3 R_L s + R_3 R_L s^2 + C_4 R_3 R_4 R_L s^2 + C_4 R_3 R_4$$

10.621 INVALID-ORDER-621 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, R_4 + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_3 L_L R_3 s \left(C_4 R_4 s + 1\right)}{C_3 C_4 L_3 L_L R_3 R_4 s^3 + C_3 L_3 L_L R_3 s^2 + C_4 C_L L_3 L_L R_3 R_4 s^3 + 2 C_4 L_3 L_L R_3 s^2 + L_3 L_L R_3$$

10.622 INVALID-ORDER-622 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, R_4 + \frac{1}{C_4 s}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 R_3 s}{C_3 C_4 C_L L_3 L_L R_3 R_4 s^5 + C_3 C_4 C_L L_3 R_3 R_4 R_L s^4 + C_3 C_4 L_3 R_3 R_4 s^3 + C_3 C_L L_3 L_L R_3 s^4 + C_3 C_L L_3 R_3 R_L s^3 + C_3 L_3 R_3 s^2 + 2 C_4 C_L L_3 L_L R_3 s^4 + C_4 C_L L_3$$

10.623 INVALID-ORDER-623 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, R_4 + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_3 L_L R_3 R_L s \left(C_4 R_4 s + 1\right)}{C_3 C_4 L_3 L_L R_3 R_4 R_L s^3 + C_3 L_3 L_L R_3 R_4 R_L s^2 + C_4 L_2 L_L R_3 R_4 R_L s^3 + C_4 L_3 L_L R_3 R_4 s^2 + 2 C_4 L_3 L_L R_3 R_L s^2 + C_4 L_3 R_3 R_4 R_L s + C_4 L_L R_3 R_4 R_L s + C_$$

10.624 INVALID-ORDER-624 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, R_4 + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{1}{C_3C_4C_LL_3L_LR_3R_4R_Ls^5 + C_3C_4L_3L_LR_3R_4s^4 + C_3C_4L_3R_3R_4R_Ls^3 + C_3C_LL_3L_LR_3R_Ls^4 + C_3L_3L_LR_3s^3 + C_3L_3R_3R_Ls^2 + C_4C_LL_3L_LR_3R_4s^4 + 2C_4C_LL_3L_LR_3R_Ls^4 + C_3C_4L_3L_LR_3R_Ls^4 + C_3C_4L_3L_LR_3R_Ls^4$$

10.625 INVALID-ORDER-625 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, R_4 + \frac{1}{C_4 s}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

10.628 INVALID-ORDER-628 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_0} + \frac{1}{L_0 s}}, L_4 s + \frac{1}{C_4 s}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

10.629 INVALID-ORDER-629 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, L_4 s + \frac{1}{C_4 s}, \infty, R_L + \frac{1}{C_L s}\right)$$

**10.630** INVALID-ORDER-630 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, L_4 s + \frac{1}{C_4 s}, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 R_3 s \left(C_4 L_4 s^2 + 1\right) \left(C_L L_L s^2 + 1\right)}{C_3 C_4 C_L L_3 L_4 L_R 3 s^6 + C_3 C_4 L_3 L_4 R_3 s^4 + C_3 C_L L_3 L_L R_3 s^4 + C_4 C_L L_3 L_4 L_L s^5 + C_4 C_L L_3 L_4 R_3 s^4 + 2 C_4 C_L L_3 L_L R_3 s^4 + C_4 C_L L_4 L_L R_3 s^4 + C_4 L_3 L_4 s^3 + 2 C_4 L_3 L_4 R_3 s^4 + C_4 C_L L_$$

10.631 INVALID-ORDER-631 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, L_4 s + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

**10.632** INVALID-ORDER-632 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, L_4 s + \frac{1}{C_4 s}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 R_3 s}{C_3 C_4 C_L L_3 L_4 L_L R_3 s^6 + C_3 C_4 C_L L_3 L_4 R_3 R_L s^5 + C_3 C_4 L_3 L_4 R_3 s^4 + C_3 C_L L_3 L_4 R_3 s^4 + C_3 C_L L_3 R_3 R_L s^3 + C_3 L_3 R_3 s^2 + C_4 C_L L_3 L_4 L_L s^5 + C_4 C_L L_3 L_4 R_3 s^4 + C_4 C_L L_3 L_$$

10.633 INVALID-ORDER-633 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, L_4 s + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

10.634 INVALID-ORDER-634 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, L_4 s + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

10.635 INVALID-ORDER-635 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, L_4 s + \frac{1}{C_4 s}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{L_3 R_3 R_L s}{C_3 C_4 C_L L_3 L_4 L_L R_3 R_L s^6 + C_3 C_4 L_3 L_4 R_3 R_L s^4 + C_3 C_L L_3 L_L R_3 R_L s^2 + C_4 C_L L_3 L_4 L_L R_3 s^5 + C_4 C_L L_3 L_4 L_L R_3 s^5 + C_4 C_L L_3 L_4 R_3 R_L s^4 + 2 C_4 C_L L_3 L_L R_3 R_L s^4 + C_4 C_L L_3 L_4 R_3 R_L s^4 +$$

**10.636** INVALID-ORDER-636 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3L_4R_3s\left(C_LR_Ls + 1\right)}{C_3C_LL_3L_4R_3R_Ls^3 + C_3L_3L_4R_3s^2 + 2C_4C_LL_3L_4R_3R_Ls^3 + 2C_4L_3L_4R_3s^2 + C_LL_3L_4R_3s^2 + C_LL_3L_4R_Ls^2 + 2C_LL_3R_3R_Ls + C_LL_4R_3R_Ls + L_3L_4s + 2L_3R_3 + L_4R_3s^2 + C_LL_3L_4R_3s^2 + C_L$$

10.637 INVALID-ORDER-637 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, L_L s + \frac{1}{C_L s}\right)$$

**10.638** INVALID-ORDER-638 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3L_4R_3s\left(C_LL_S^2 + C_LR_Ls + 1\right)}{C_3C_LL_3L_4L_LR_3s^4 + C_3C_LL_3L_4R_3R_Ls^3 + C_3L_3L_4R_3s^2 + 2C_4C_LL_3L_4L_LR_3s^4 + 2C_4C_LL_3L_4R_3R_Ls^3 + 2C_4L_3L_4R_3s^2 + C_LL_3L_4L_Ls^3 + C_LL_3L_4R_3s^2 + C_LL_3L_$$

10.644 INVALID-ORDER-644 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, R_L + \frac{1}{C_L s}\right)$$

 $H(s) = \frac{L_3 \kappa_3 s \left( \frac{L_3 \kappa_3 s \left( \frac{L_3 \kappa_4 c_L L_3 L_4 R_3 R_L s^5 + C_3 C_4 C_L L_3 R_3 R_4 R_L s^4 + C_3 C_4 L_3 L_4 R_3 s^4 + C_3 C_4 L_3 R_3 R_4 s^3 + C_3 C_L L_3 R_3 R_L s^3 + C_3 L_4 R_3 s^4 + C_4 C_L L_3 L_4 R_3 s$ 

**10.645** INVALID-ORDER-645 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, L_L s + \frac{1}{C_L s}\right)$$

**10.646** INVALID-ORDER-646 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

 $H(s) = \frac{L_3L_LR_3s\left(C_4L_4s^2 + C_4R_4s + 1\right)}{C_3C_4L_3L_4R_3s^4 + C_3C_4L_3L_LR_3s^2 + C_4C_LL_3L_4L_Rs^4 + C_4C_LL_3L_LR_3s^4 + C_4L_3L_4L_s^3 + C_4L_3L_4R_3s^2 + 2C_4L_3L_LR_3s^2 + C_4L_3L_LR_3s^4 + C_4C_LL_3L_4R_3s^4 + C_4C_LL_3L_4R_3s^3 + C_4L_3L_4R_3s^2 + 2C_4L_3L_4R_3s^2 + C_4L_3L_4R_3s^2 + C_4L_3L_4R_3s^3 + C_4L_3L_4R_3s^3$ 

10.647 INVALID-ORDER-647 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{1}{C_3C_4C_LL_3L_4L_LR_3s^6 + C_3C_4C_LL_3L_4R_3R_Ls^5 + C_3C_4C_LL_3L_LR_3R_4s^5 + C_3C_4C_LL_3R_3R_4R_Ls^4 + C_3C_4L_3L_4R_3s^4 + C_3C_4L_3R_3R_4s^3 + C_3C_4L_3L_4R_3s^4 + C_3C_4L_3L_3L_4R_3s^4 + C_3C_4L_3L_3L_3R_3s^4 + C_3C_4L_3L_3L_3R_3s^4 + C_3C_4L_3L_3L_3R_3s^4 + C_3C_4L_3L_3L_3R_3s^4 + C_3C_4L_3L_3L_3R_3s^4 + C_3C_4L_3L_3L_3R$$

10.648 INVALID-ORDER-648 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

10.649 INVALID-ORDER-649 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{1}{C_3C_4C_LL_3L_4L_LR_3R_Ls^6 + C_3C_4C_LL_3L_LR_3R_4R_Ls^5 + C_3C_4L_3L_4L_Rs^5 + C_3C_4L_3L_4R_3R_Ls^4 + C_3C_4L_3L_LR_3R_4s^4 + C_3C_4L_3L_4R_3R_4s^4 + C_3C_4L$$

10.650 INVALID-ORDER-650 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, L_4 s + R_4 + \frac{1}{C_4 s}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

10.651 INVALID-ORDER-651 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3L_4R_3R_4s\left(C_LR_Ls + 1\right)}{C_3C_LL_3L_4R_3R_4s^2 + C_LL_3L_4R_3R_4s^2 + 2C_4L_3L_4R_3R_4s^2 + C_LL_3L_4R_3R_4s^2 + 2C_LL_3L_4R_3R_Ls^2 + C_LL_3L_4R_3R_Ls^2 + 2C_LL_3R_3R_4R_Ls + C_LL_3R_3R_4R_Ls + C_LR_3R_3R_4R_Ls + C_LR_3R_3R_$$

10.652 INVALID-ORDER-652 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 L_4 R_3 R_4 s \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_3 L_4 L_L R_3 R_4 s^4 + C_3 L_3 L_4 R_3 R_4 s^2 + 2 C_4 L_3 L_4 L_L R_3 R_4 s^2 + 2 C_L L_3 L_4 L_L R_3 s^3 + C_L L_3 L_4 L_L R_4 s^3 + C_L L_3 L_4 R_3 R_4 s^2 + 2 C_L L_3 L_4 R_3 R_4 s^2 + C_L L_3 L_4 L_4 R_3 R_4 s^2 + C_L L_3 L_4 L_4 R_3 R_4 s^2 + C_L L_3 L_4 R_3 R_4$$

**10.653** INVALID-ORDER-653 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

10.654 INVALID-ORDER-654 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

10.655 INVALID-ORDER-655 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

**10.656** INVALID-ORDER-656 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, R_L\right)$$

$$H(s) = \frac{L_3 R_3 R_L s \left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{C_3 C_4 L_3 L_4 R_3 R_4 R_L s^4 + C_3 L_3 L_4 R_3 R_L s^3 + C_4 L_3 L_4 R_3 R_4 s^3 + 2 C_4 L_3 L_4 R_3 R_L s^3 + C_4 L_3 L_4 R_3 R_4 R_L s^3 + C_4 L_4 R_3 R_4 R_L s^2 + L_3 L_4 R_3 s^2$$

10.657 INVALID-ORDER-657 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, \frac{1}{C_L s}\right)$$

10.658 INVALID-ORDER-658 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

10.659 INVALID-ORDER-659 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, R_L + \frac{1}{C_L s}\right)$$

**10.660** INVALID-ORDER-660 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, L_L s + \frac{1}{C_L s}\right)$$

10.661 INVALID-ORDER-661 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

**10.662** INVALID-ORDER-662 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{1}{C_3C_4C_LL_3L_4L_LR_3R_4s^6 + C_3C_4C_LL_3L_4R_3R_4R_Ls^5 + C_3C_4L_3L_4R_3R_4s^4 + C_3C_LL_3L_4L_RR_3s^5 + C_3C_LL_3L_4R_3R_Ls^4 + C_3C_LL_3L_4R_3R_4s^4 + C_3C$$

10.663 INVALID-ORDER-663 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

10.664 INVALID-ORDER-664 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

10.665 INVALID-ORDER-665 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

10.666 INVALID-ORDER-666 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, R_L\right)$$

10.667 INVALID-ORDER-667 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, \frac{1}{C_L s}\right)$$

10.668 INVALID-ORDER-668 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

10.669 INVALID-ORDER-669 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, R_L + \frac{1}{C_L s}\right)$$

10.670 INVALID-ORDER-670 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, L_L s + \frac{1}{C_L s}\right)$$

10.671 INVALID-ORDER-671 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

10.672 INVALID-ORDER-672 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

10.673 INVALID-ORDER-673 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

10.674 INVALID-ORDER-674 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

10.675 INVALID-ORDER-675 
$$Z(s) = \left(\infty, \infty, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \frac{R_4 \left(L_4 s + \frac{1}{C_4 s}\right)}{L_4 s + R_4 + \frac{1}{C_4 s}}, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

**10.676** INVALID-ORDER-676 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, R_4, \infty, \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{R_4 \left( C_3 L_3 R_3 s^2 + L_3 s + R_3 \right)}{C_3 C_L L_3 R_3 R_4 s^3 + 2 C_3 L_3 R_3 s^2 + C_3 L_3 R_4 s^2 + C_L L_3 R_4 s^2 + C_L R_3 R_4 s + 2 L_3 s + 2 R_3 + R_4}$$

**10.677** INVALID-ORDER-677 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1} + R_3, R_4, \infty, \frac{R_L}{C_LR_Ls+1}\right)$$

$$H(s) = \frac{R_4 R_L \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{C_3 C_L L_3 R_3 R_4 R_L s^3 + C_3 L_3 R_3 R_4 s^2 + 2 C_3 L_3 R_3 R_L s^2 + C_3 L_3 R_4 R_L s^2 + C_L L_3 R_4 R_L s^2 + C_L R_3 R_4 R_L s + L_3 R_4 s + 2 L_3 R_L s + R_3 R_4 + 2 R_3 R_L + R_4 R_L s^2 + 2 R_4 R_L s^2$$

**10.678** INVALID-ORDER-678 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1} + R_3, R_4, \infty, R_L + \frac{1}{C_Ls}\right)$$

10.679 INVALID-ORDER-679 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, R_4, \infty, L_Ls + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{R_4 \left( C_L L_L s^2 + 1 \right) \left( C_3 L_3 R_3 s^2 + L_3 s + R_3 \right)}{2 C_3 C_L L_3 L_L R_3 s^4 + C_3 C_L L_3 L_L R_4 s^4 + C_3 C_L L_3 R_3 R_4 s^3 + 2 C_3 L_3 R_4 s^2 + 2 C_L L_3 L_L s^3 + C_L L_3 R_4 s^2 + 2 C_L L_L R_3 s^2 + C_L L_L R_4 s^2 + C_L R_3 R_4 s + 2 L_3 s + 2 R_3 + R_3}$$

**10.680** INVALID-ORDER-680 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, R_4, \infty, \frac{L_Ls}{C_LL_Ls^2+1}\right)$$

$$H(s) = \frac{L_L R_4 s \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{C_3 C_L L_3 L_L R_3 R_4 s^4 + 2 C_3 L_3 L_L R_3 s^3 + C_3 L_3 L_L R_4 s^3 + C_3 L_3 R_3 R_4 s^2 + C_L L_3 L_L R_4 s^3 + C_L L_L R_3 R_4 s^2 + 2 L_3 L_L s^2 + L_3 R_4 s + 2 L_L R_3 s + L_L R_4 s + R_3 R_4 r_4 r_5 + 2 L_4 R_3 r_4 r_5 + 2 L_4 R_3 r_4 r_5 + 2 L_4 R_5 r_5 + 2 L_5 R_$$

**10.681** INVALID-ORDER-681 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1} + R_3, R_4, \infty, L_Ls + R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{R_4 \left( C_L L_L s^2 + C_L R_L s + 1 \right) \left( C_3 L_3 R_3 s^2 + L_3 s + R_3 \right)}{2 C_3 C_L L_3 L_L R_3 s^4 + C_3 C_L L_3 R_4 s^3 + 2 C_3 C_L L_3 R_3 R_L s^3 + C_3 C_L L_3 R_4 R_L s^3 + 2 C_3 L_3 R_3 s^2 + C_3 L_3 R_4 s^2 + 2 C_L L_3 L_L s^3 + C_L L_3 R_4 s^2 + 2 C_L L_3 R_L s^2 + 2 C_L L_3 R_4 s^2 +$$

10.682 INVALID-ORDER-682 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1} + R_3, R_4, \infty, \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

$$H(s) = \frac{L_L R_4 R_L s \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{C_3 C_L L_3 L_L R_3 R_4 R_L s^4 + C_3 L_3 L_L R_3 R_4 s^3 + 2 C_3 L_3 L_L R_3 R_L s^3 + C_3 L_3 L_L R_4 R_L s^3 + C_3 L_3 L_L R_4 R_L s^3 + C_L L_L R_3 R_4 R_L s^2 + L_3 L_L R_4 s^2 + 2 L_3 L_L R_4 s^2 + 2$$

**10.683** INVALID-ORDER-683 
$$Z(s) = \left(\infty, \infty, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, R_4, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{R_4 \left( C_3 L_3 R_3 s^2 + L_3 s + R_3 \right) \left( C_L L_L R_L s^2 + C_3 C_L L_3 L_L R_3 R_4 s^4 + 2 C_3 C_L L_3 L_L R_4 R_L s^4 + 2 C_3 L_3 L_L R_3 s^3 + C_3 L_3 L_L R_4 s^3 + C_3 L_3 R_4 s^2 + 2 C_3 L_3 R_4 R_L s^2 + C_L L_3 L_L R_4 s^3 + 2 C_L L_3 L_L R_4 s^3 + 2$$

10.684 INVALID-ORDER-684 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, R_4, \infty, \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

$$R_4 R_L \left( C_L L_L s^2 + 1 \right) \left( C_3 L_3 R_3 s^2 + L_3 s + L_3 s \right)$$

**10.685** INVALID-ORDER-685 
$$Z(s) = \left(\infty, \infty, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \frac{1}{C_4 s}, \infty, R_L\right)$$

$$H(s) = \frac{R_L \left( C_3 L_3 R_3 s^2 + L_3 s + R_3 \right)}{2 C_3 C_4 L_3 R_3 R_L s^3 + C_3 L_3 R_3 s^2 + C_3 L_3 R_L s^2 + 2 C_4 L_3 R_L s^2 + 2 C_4 R_3 R_L s + L_3 s + R_3 + R_L}$$

**10.686** INVALID-ORDER-686 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3 L_3 s^2 + 1} + R_3, \frac{1}{C_4 s}, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{C_3L_3R_3s^2 + L_3s + R_3}{2C_3C_4L_3R_3s^3 + C_3C_LL_3R_3s^3 + C_3L_3s^2 + 2C_4L_3s^2 + 2C_4R_3s + C_LL_3s^2 + C_LR_3s + 1}$$

**10.687** INVALID-ORDER-687 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{1}{C_4s}, \infty, \frac{R_L}{C_LR_Ls+1}\right)$$

**10.688** INVALID-ORDER-688 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3 L_{3s^2+1}} + R_3, \frac{1}{C_4 s}, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_L R_L s + 1\right) \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{2 C_3 C_4 C_L L_3 R_3 R_L s^4 + 2 C_3 C_4 L_3 R_3 s^3 + C_3 C_L L_3 R_L s^3 + C_3 L_4 S^2 + 2 C_4 C_L L_3 R_L s^3 + 2 C_4 C_L L_3 R_L s^2 + 2 C_4 L_3 s^2 + 2 C_4 R_3 s + C_L L_3 s^2 + C_L R_3 s + C_L R_L s + C_L R_3 R_L s^2 + C_L R_3 R_$$

**10.689** INVALID-ORDER-689 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{1}{C_4s}, \infty, L_Ls + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{\left(C_L L_L s^2 + 1\right) \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{2 C_3 C_4 C_L L_3 L_L R_3 s^5 + 2 C_3 C_4 L_3 R_3 s^3 + C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_3 s^3 + C_3 L_3 s^2 + 2 C_4 C_L L_L L_3 L_2 s^4 + 2 C_4 C_L L_L R_3 s^3 + 2 C_4 L_3 s^2 + 2 C_4 R_3 s + C_L L_3 s^2 + C_L L_L s^2 + C_L R_3 s + C_L L_3 r^2 + C_L R_3 r^2 + C_L R_3$$

**10.690** INVALID-ORDER-690 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{1}{C_4s}, \infty, \frac{L_Ls}{C_LL_Ls^2+1}\right)$$

$$H(s) = \frac{L_L s \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{2 C_3 C_4 L_3 L_L R_3 s^4 + C_3 C_L L_3 L_L R_3 s^4 + C_3 L_3 L_L s^3 + C_3 L_3 R_3 s^2 + 2 C_4 L_3 L_L s^3 + 2 C_4 L_L R_3 s^2 + C_L L_3 L_L s^3 + C_L L_L R_3 s^2 + L_3 s + L_L s + R_3}$$

**10.691** INVALID-ORDER-691 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{1}{C_4s}, \infty, L_Ls + R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{\left(C_L L_L s^2 + C_L R_L s + 1\right) \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{2 C_3 C_4 C_L L_3 L_L R_3 s^5 + 2 C_3 C_4 C_L L_3 R_3 R_L s^4 + 2 C_3 C_4 L_3 L_L s^4 + C_3 C_L L_3 R_3 s^3 + C_3 C_L L_3 R_L s^3 + C_3 L_L R_3 s^3 + C_3 C_L L_3 R_L s^3 + 2 C_4 C_L L_3 L_L s^4 + 2 C_4 C_L L_3 R_L s^3 + 2 C_4 C_L L_3 R_L s^$$

**10.692** INVALID-ORDER-692 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1} + R_3, \frac{1}{C_4s}, \infty, \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

$$H(s) = \frac{L_L R_L s \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{2 C_3 C_4 L_3 L_L R_3 R_L s^4 + C_3 C_L L_3 L_L R_3 s^3 + C_3 L_3 L_L R_2 s^3 + C_3 L_3 R_3 R_L s^2 + 2 C_4 L_3 L_L R_2 s^3 + 2 C_4 L_L R_3 R_L s^2 + C_L L_3 L_L R_3 s^2 + L_3 L_L s^2}$$

**10.693** INVALID-ORDER-693 
$$Z(s) = \left(\infty, \infty, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

10.694 INVALID-ORDER-694 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{1}{C_4s}, \infty, \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

$$H(s) = \frac{R_L \left( C_L L_L s^2 + 1 \right) \left( C_3 L_3 R_3 s^2 + L_3 s + R_3 \right)}{2 C_3 C_4 C_L L_3 L_L R_3 R_L s^5 + 2 C_3 C_4 L_3 R_L R_3 s^4 + C_3 C_L L_3 L_L R_L s^4 + C_3 C_L L_3 R_3 R_L s^3 + C_3 L_3 R_L s^3 + C_3 L_3 R_L s^2 + 2 C_4 C_L L_3 L_L R_L s^4 + 2 C_4 C_L L_L R_3 R_L s^3 + C_3 L_3 R_L s^3 +$$

**10.695** INVALID-ORDER-695 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3 L_3 s^2 + 1} + R_3, \frac{R_4}{C_4 R_4 s + 1}, \infty, R_L\right)$$

**10.696** INVALID-ORDER-696 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{R_4}{C_4R_4s+1}, \infty, \frac{1}{C_Ls}\right)$$

10.697 INVALID-ORDER-697 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1} + R_3, \frac{R_4}{C_4R_4s+1}, \infty, \frac{R_L}{C_LR_Ls+1}\right)$$

$$H(s) = \frac{R_4 R_L \left( C_3 L_3 R_3 s^2 + L_3 s + R_3 \right)}{2 C_3 C_4 L_3 R_3 R_4 R_L s^3 + C_3 C_L L_3 R_3 R_4 R_L s^3 + C_3 L_3 R_3 R_4 s^2 + 2 C_3 L_3 R_3 R_L s^2 + C_3 L_3 R_4 R_L s^2 + 2 C_4 L_3 R_4 R_L s^2 + 2 C_4 R_3 R_4 R_L s + C_L L_3 R_4 R_L s^2 + C_L R_3 R_4 R_L s + L_3 R_4 s + 2 C_4 R_3 R_4 R_L s^2 + 2 C_4 R_$$

**10.698** INVALID-ORDER-698 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{R_4}{C_4R_4s+1}, \infty, R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{R_4 \left( C_L R_L s + 1 \right) \left( C_3 L_3 R_3 s^2 + L_3 s + R_3 \right)}{2 C_3 C_4 C_L L_3 R_3 R_4 R_L s^4 + 2 C_3 C_4 L_3 R_3 R_4 s^3 + C_3 C_L L_3 R_3 R_4 s^3 + 2 C_3 C_L L_3 R_3 R_L s^3 + C_3 C_L L_3 R_4 R_L s^3 + 2 C_4 C_L L_3 R_4 R_L s^3 + 2 C_4 C_L L_3 R_4 R_L s^3 + 2 C_4 C_L R_3 R_4 R_L s^3 + 2 C_4 C_L$$

**10.699** INVALID-ORDER-699 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{R_4}{C_4R_4s+1}, \infty, L_Ls + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{R_4 \left( C_L L_L s^2 + 1 \right) \left( C_3 L_3 R_3 s^2 + L_3 s + R_3 \right)}{2 C_3 C_4 C_L L_3 L_L R_3 R_4 s^5 + 2 C_3 C_4 L_3 R_3 R_4 s^3 + 2 C_3 L_L L_R R_3 R_4 s^4 + C_3 C_L L_3 L_L R_3 R_4 s^3 + 2 C_3 L_3 R_3 s^2 + C_3 L_3 R_4 s^2 + 2 C_4 C_L L_3 L_L R_4 s^4 + 2 C_4 C_L L_L R_3 R_4 s^3 + 2 C_4 C_L L_3 L_L R_3 R_4 s^$$

10.700 INVALID-ORDER-700 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{R_4}{C_4R_4s+1}, \infty, \frac{L_Ls}{C_LL_Ls^2+1}\right)$$

$$H(s) = \frac{L_L R_4 s \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{2 C_3 C_4 L_3 L_L R_3 R_4 s^4 + C_3 C_L L_3 L_L R_3 s^3 + C_3 L_3 L_L R_4 s^3 + C_3 L_3 R_4 s^2 + 2 C_4 L_3 L_L R_4 s^3 + 2 C_4 L_4 L_4 R_3 R_4 s^2 + C_L L_3 L_L R_4 s^3 + C_L L_L R_3 R_4 s^2 + 2 L_3 L_L s^2}$$

10.701 INVALID-ORDER-701 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{R_4}{C_4R_4s+1}, \infty, L_Ls + R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{1}{2C_3C_4C_LL_3L_LR_3R_4s^5 + 2C_3C_4C_LL_3R_3R_4R_Ls^4 + 2C_3C_4L_3R_3R_4s^3 + 2C_3C_LL_3L_LR_3s^4 + C_3C_LL_3L_LR_4s^4 + C_3C_LL_3R_3R_4s^3 + 2C_3C_LL_3R_3R_Ls^3 + C_3C_LL_3R_4R_Ls^3 + 2C_3C_LL_3R_3R_4s^3 +$$

10.702 INVALID-ORDER-702 
$$Z(s) = \left(\infty, \infty, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

10.703 INVALID-ORDER-703 
$$Z(s) = \left(\infty, \infty, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \frac{R_4}{C_4 R_4 s + 1}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

10.704 INVALID-ORDER-704 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{R_4}{C_4R_4s+1}, \infty, \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

**10.705** INVALID-ORDER-705 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, R_4 + \frac{1}{C_4s}, \infty, R_L\right)$$

10.706 INVALID-ORDER-706 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, R_4 + \frac{1}{C_4s}, \infty, \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{\left(C_4R_4s + 1\right)\left(C_3L_3R_3s^2 + L_3s + R_3\right)}{C_3C_4C_LL_3R_3R_4s^4 + 2C_3C_4L_3R_3s^3 + C_3C_4L_3R_4s^3 + C_3C_LL_3R_3s^2 + C_4C_LL_3R_4s^3 + C_4C_LR_3R_4s^2 + 2C_4L_3s^2 + 2C_4R_3s + C_4R_4s + C_LL_3s^2 + C_LR_3s + 1}$$

10.707 INVALID-ORDER-707 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1} + R_3, R_4 + \frac{1}{C_4s}, \infty, \frac{R_L}{C_LR_Ls+1}\right)$$

10.708 INVALID-ORDER-708 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, R_4 + \frac{1}{C_4s}, \infty, R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{\left(C_{4}R_{4}s+1\right)\left(C_{L}R_{L}s+1\right)\left(C_{3}L_{3}R_{3}s^{2}+L_{3}s+R_{3}\right)}{C_{3}C_{4}C_{L}L_{3}R_{3}R_{4}s^{4}+2C_{3}C_{4}L_{1}R_{4}R_{L}s^{4}+2C_{3}C_{4}L_{3}R_{3}s^{3}+C_{3}C_{L}L_{3}R_{3}s^{3}+C_{3}C_{L}L_{3}R_{3}s^{3}+C_{3}C_{L}L_{3}R_{2}s^{3}+C_{4}C_{L}L_{3}R_{4}s^{3}+2C_{4}C_{L}L_{3}R_{4}s^{3}+C_{4}C_{L}L_{3}R_{4}s^{3}+C_{5}C_{L}L_{3}R_{3}s^{3}+C_{5}C_{L}L_{3}R_{3}s^{3}+C_{5}C_{L}L_{3}R_{3}s^{3}+C_{5}C_{L}L_{3}R_{3}s^{3}+C_{5}C_{L}L_{3}R_{3}s^{3}+C_{5}C_{L}L_{3}R_{3}s^{3}+C_{5}C_{L}L_{3}R_{3}s^{3}+C_{5}C_{L}L_{3}R_{3}s^{3}+C_{5}C_{L}L_{3}R_{3}s^{3}+C_{5}C_{L}L_{3}R_{3}s^{3}+C_{5}C_{L}L_{3}R_{5}s^{3}+C_{5}C_{L}L_{3}R_{5}s^{3}+C_{5}C_{L}L_{3}R_{5}s^{3}+C_{5}C_{L}L_{5}R_{5}$$

10.709 INVALID-ORDER-709 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1} + R_3, R_4 + \frac{1}{C_4s}, \infty, L_Ls + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{\left(C_4 R_4 s + 1\right) \left(C_L L_L s^2 + 1\right) \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{2 C_3 C_4 C_L L_3 L_L R_3 s^5 + C_3 C_4 C_L L_3 L_L R_4 s^5 + C_3 C_4 C_L L_3 R_3 s^4 + 2 C_3 C_4 L_3 R_3 s^3 + C_3 C_4 L_3 L_L s^4 + C_3 C_L L_3 L_L s^4 + C_4 C_L L_3 L_L s^4 + C_$$

10.710 INVALID-ORDER-710 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, R_4 + \frac{1}{C_4s}, \infty, \frac{L_Ls}{C_LL_Ls^2+1}\right)$$

10.711 INVALID-ORDER-711 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1} + R_3, R_4 + \frac{1}{C_4s}, \infty, L_Ls + R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{1}{2C_3C_4C_LL_3L_LR_3s^5 + C_3C_4C_LL_3L_LR_4s^5 + C_3C_4C_LL_3R_3R_4s^4 + 2C_3C_4C_LL_3R_3R_Ls^4 + C_3C_4C_LL_3R_4R_Ls^4 + 2C_3C_4L_3R_3s^3 + C_3C_4L_3R_4s^3 + C_3C_4L_3L_Ls^4 + C_3C_4L_3R_3R_4s^4 + C_3C_4L_3R_4R_Ls^4 + 2C_3C_4L_3R_3R_4s^3 + C_3C_4L_3R_4s^3 + C_3C_4L_3$$

10.712 INVALID-ORDER-712 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1} + R_3, R_4 + \frac{1}{C_4s}, \infty, \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

10.713 INVALID-ORDER-713 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, R_4 + \frac{1}{C_4s}, \infty, \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$$

10.714 INVALID-ORDER-714 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, R_4 + \frac{1}{C_4s}, \infty, \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

**10.715** INVALID-ORDER-715 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1} + R_3, L_4s + \frac{1}{C_4s}, \infty, R_L\right)$$

**10.716** INVALID-ORDER-716 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, L_4s + \frac{1}{C_4s}, \infty, \frac{1}{C_Ls}\right)$$

10.717 INVALID-ORDER-717 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, L_4s + \frac{1}{C_4s}, \infty, \frac{R_L}{C_LR_Ls+1}\right)$$

10.718 INVALID-ORDER-718 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, L_4s + \frac{1}{C_4s}, \infty, R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{\left(C_4L_4s^2 + 1\right)\left(C_LR_Ls + 1\right)\left(C_3L_3R_3s^2 + L_3s + R_3\right)}{C_3C_4C_LL_3L_4R_3s^5 + C_3C_4L_LL_3L_4R_Ls^5 + 2C_3C_4L_LL_3R_3R_Ls^4 + C_3C_4L_3R_3s^3 + C_3C_LL_3R_3s^3 + C_3C_LL_3R_Ls^3 + C_3L_LL_3R_Ls^3 + C_4C_LL_3L_4R_Ls^4 + 2C_4C_LL_3R_Ls^4 + 2C_4C_LL_3R_Ls^4 + 2C_4C_LL_3R_3s^3 + C_3C_LL_3R_3s^3 + C_3C_LL_3R_Ls^3 + C_3C_LL_3R_Ls^4 + 2C_4C_LL_3L_4R_Ls^4 + 2C_4C_LL_3R_3R_Ls^4 + 2$$

**10.719** INVALID-ORDER-719 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, L_4s + \frac{1}{C_4s}, \infty, L_Ls + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{\left(C_4L_4s^2 + 1\right)\left(C_LL_Ls^2 + 1\right)\left(C_3L_3R_3s^2 + L_3s + R_3\right)}{C_3C_4C_LL_3L_4L_3s^6 + C_3C_4C_LL_3L_4R_3s^5 + 2C_3C_4C_LL_3L_4s^4 + 2C_3C_4L_3R_3s^3 + C_3C_LL_3L_Ls^4 + C_3C_LL_3R_3s^3 + C_3L_3R_3s^3 +$$

10.720 INVALID-ORDER-720 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1} + R_3, L_4s + \frac{1}{C_4s}, \infty, \frac{L_Ls}{C_LL_Ls^2+1}\right)$$

10.721 INVALID-ORDER-721 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, L_4s + \frac{1}{C_4s}, \infty, L_Ls + R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{1}{C_3C_4C_LL_3L_4L_Ls^6 + C_3C_4C_LL_3L_4R_3s^5 + C_3C_4C_LL_3L_4R_Ls^5 + 2C_3C_4C_LL_3L_LR_3s^5 + 2C_3C_4C_LL_3R_3R_Ls^4 + C_3C_4L_3L_4s^4 + 2C_3C_4L_3R_3s^3 + C_3C_LL_3L_Ls^4 + C_3C_LL_3R_3s^5 + 2C_3C_4C_LL_3R_3R_Ls^4 + C_3C_4L_3L_4s^4 + 2C_3C_4L_3R_3s^3 + C_3C_LL_3L_Ls^4 + C_3C_4L_3R_3s^5 + 2C_3C_4C_LL_3R_3s^5 + 2$$

10.722 INVALID-ORDER-722 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, L_4s + \frac{1}{C_4s}, \infty, \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

10.723 INVALID-ORDER-723 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, L_4s + \frac{1}{C_4s}, \infty, \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$$

10.724 INVALID-ORDER-724 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, L_4s + \frac{1}{C_4s}, \infty, \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

$$H(s) = \frac{1}{C_3C_4C_LL_3L_4L_LR_3s^6 + C_3C_4C_LL_3L_4L_RL_s^6 + C_3C_4C_LL_3L_4R_3R_Ls^5 + 2C_3C_4C_LL_3L_LR_3R_Ls^5 + C_3C_4L_3L_4R_3s^4 + C_3C_4L_3L_4R_Ls^4 + 2C_3C_4L_3R_3R_Ls^3 + C_3C_4L_3L_4R_3R_Ls^4 + 2C_3C_4L_3L_4R_3R_Ls^4 + 2C_3C_4L_3L_4R_3R_3R_Ls^4 + 2C_3C_4L_3L_4R_3R_3R_Ls^4 + 2C_3C_4L_3L_3R_3R_3R_Ls^4 + 2C_3C_4L_3L_3R_3R_Ls^4 + 2C_3C_4L_3L_3R_3R_Ls^4 + 2C_3C_4L_3L_3R_3R_Ls^4 + 2C_3C_4L_3L_3R_3R_Ls^4 + 2C_3C_4L_3L_3R_3R_Ls^4 + 2C_3C_4L_3L_3R_3R_Ls^4 + 2C$$

10.725 INVALID-ORDER-725 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{L_4s}{C_4L_4s^2+1}, \infty, R_L\right)$$

**10.726** INVALID-ORDER-726 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{L_4s}{C_4L_4s^2+1}, \infty, \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{L_4s\left(C_3L_3R_3s^2 + L_3s + R_3\right)}{2C_3C_4L_3L_4R_3s^4 + C_3C_LL_3L_4R_3s^4 + C_3L_3L_4s^3 + 2C_3L_3R_3s^2 + 2C_4L_3L_4s^3 + 2C_4L_4R_3s^2 + C_LL_3L_4s^3 + C_LL_4R_3s^2 + 2L_3s + L_4s + 2R_3s^2 + 2C_4L_3L_4s^3 + 2C_4L_4R_3s^2 + 2C_4L_3L_4s^3 + 2C_4L_3L_4s^3 + 2C_4L_3L_4s^3 + 2C_4L_3L_4s^3 + 2C_4L_4R_3s^2 +$$

10.727 INVALID-ORDER-727 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{L_4s}{C_4L_4s^2+1}, \infty, \frac{R_L}{C_LR_Ls+1}\right)$$

$$H(s) = \frac{L_4 R_L s \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{2 C_3 C_4 L_3 L_4 R_3 R_L s^4 + C_3 C_L L_3 L_4 R_3 s^3 + C_3 L_3 L_4 R_L s^3 + 2 C_3 L_3 R_3 R_L s^2 + 2 C_4 L_3 L_4 R_L s^3 + 2 C_4 L_4 R_3 R_L s^2 + C_L L_3 L_4 R_L s^3 + C_L L_4 R_3 R_L s^2 + L_3 L_4 s^2 + C_L L_3 L_4 R_3 R_L s^3 + C_L L_4 R_3 R_L$$

10.728 INVALID-ORDER-728 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{L_4s}{C_4L_4s^2+1}, \infty, R_L + \frac{1}{C_Ls}\right)$$

10.729 INVALID-ORDER-729 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{L_4s}{C_4L_4s^2+1}, \infty, L_Ls + \frac{1}{C_Ls}\right)$$

10.730 INVALID-ORDER-730 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{L_4s}{C_4L_4s^2+1}, \infty, \frac{L_Ls}{C_LL_Ls^2+1}\right)$$

10.731 INVALID-ORDER-731 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1} + R_3, \frac{L_{4s}}{C_4L_4s^2+1}, \infty, L_Ls + R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{1}{2C_3C_4C_LL_3L_4L_Rs^6 + 2C_3C_4C_LL_3L_4R_3R_Ls^5 + 2C_3C_4L_3L_4R_3s^4 + C_3C_LL_3L_4L_Ls^5 + C_3C_LL_3L_4R_3s^4 + C_3C_LL_3L_4R_Ls^4 + 2C_3C_LL_3L_4R_3s^4 + 2C$$

10.732 INVALID-ORDER-732 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1} + R_3, \frac{L_{4s}}{C_4L_4s^2+1}, \infty, \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

$$H(s) = \frac{L_4 L_L R_L s \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{2 C_3 C_4 L_3 L_4 L_L R_3 R_L s^4 + C_3 C_L L_3 L_4 L_L R_3 s^3 + C_3 L_3 L_4 L_L R_3 s^3 + C_3 L_3 L_4 L_L R_3 s^3 + C_3 L_3 L_4 L_L R_3 s^2 + 2 C_4 L_3 L_4 L_L R_3 s^3 + 2 C_4 L_4 L_L R_3 R_L s^2 + C_4 L_3 L_4 L_L R_3 r_L s^3 + C_4 L_4 L_4 L_4 R_4 r_L s^3 + C_4 L_4 L_4 L_4 r_L s^3 + C_4 L_4 L_4 L_4 r_L s^3 + C_4 L_4 L_4 L_4 r_L s^3 + C_4 L_4$$

10.733 INVALID-ORDER-733 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{L_4s}{C_4L_4s^2+1}, \infty, \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$$

10.734 INVALID-ORDER-734 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_{3s^2+1}} + R_3, \frac{L_{4s}}{C_4L_4s^2+1}, \infty, \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

**10.735** INVALID-ORDER-735 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, L_4s + R_4 + \frac{1}{C_4s}, \infty, R_L\right)$$

$$H(s) = \frac{R_L \left( C_4 L_4 s^2 + C_4 R_4 s + 1 \right) \left( C_3 L_3 R_3 s^2 + L_3 s + R_3 \right)}{C_3 C_4 L_3 L_4 R_3 s^4 + C_3 C_4 L_3 R_4 s^3 + 2 C_3 C_4 L_3 R_4 R_L s^3 + C_3 C_4 L_3 R_4 s^2 + C_4 L_3 R_L s^2 + C_4 L_3 L_4 s^3 + C_4 L_3 R_4 s^2 + 2 C_4 L_3 R_L s^2 + C_4 L_4 R_3 s^2 + C_4 L_3 R_4 s^3 + C_4 L_3 R_4 s^3 + C_4 L_3 R_4 s^2 + C_4 L_3 R_4 s^2 + C_4 L_3 R_4 s^3 + C_4 L_$$

10.736 INVALID-ORDER-736 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1} + R_3, L_4s + R_4 + \frac{1}{C_4s}, \infty, \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{\left(C_4L_4s^2 + C_4R_4s + 1\right)\left(C_3L_3R_3s^2 + L_3s + R_3\right)}{C_3C_4C_LL_3L_4R_3s^5 + C_3C_4L_2L_3R_3R_4s^4 + C_3C_4L_3L_4s^4 + 2C_3C_4L_3R_3s^3 + C_3C_4L_3R_4s^3 + C_3C_LL_3R_3s^3 + C_3L_3L_3s^2 + C_4C_LL_3L_4s^4 + C_4C_LL_3R_4s^3 + C_4C_LL_4R_3s^3 + C_4C_LL_3R_3s^3 + C_4C_$$

10.737 INVALID-ORDER-737 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, L_4s + R_4 + \frac{1}{C_4s}, \infty, \frac{R_L}{C_LR_Ls+1}\right)$$

$$H(s) = \frac{1}{C_3C_4C_LL_3L_4R_3R_Ls^5 + C_3C_4L_Ll_3R_3R_4R_Ls^4 + C_3C_4L_3L_4R_3s^4 + C_3C_4L_3L_4R_Ls^4 + C_3C_4L_3R_3R_4s^3 + 2C_3C_4L_3R_3R_Ls^3 + C_3C_4L_3R_4R_Ls^3 + C_3C_4L_3R_3R_Ls^3 + C_3C_4L_3R_3R_2R_Ls^3 + C_3C_4L_3R_3R_2R_Ls^3$$

10.738 INVALID-ORDER-738 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, L_4s + R_4 + \frac{1}{C_4s}, \infty, R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{1}{C_3C_4C_LL_3L_4R_3s^5 + C_3C_4C_LL_3L_4R_Ls^5 + C_3C_4C_LL_3R_3R_4s^4 + 2C_3C_4C_LL_3R_3R_Ls^4 + C_3C_4C_LL_3R_4R_Ls^4 + 2C_3C_4L_3L_4s^4 + 2C_3C_4L_3R_3s^3 + C_3C_4L_3R_4s^3 + C_3C_4L_3R_3s^3 + C$$

10.739 INVALID-ORDER-739 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, L_4s + R_4 + \frac{1}{C_4s}, \infty, L_Ls + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{1}{C_3C_4C_LL_3L_4L_Ls^6 + C_3C_4C_LL_3L_4R_3s^5 + 2C_3C_4C_LL_3L_LR_3s^5 + C_3C_4C_LL_3L_LR_4s^5 + C_3C_4C_LL_3R_3R_4s^4 + C_3C_4L_3L_4s^4 + 2C_3C_4L_3R_3s^3 + C_3C_4L_3R_4s^3 + C_3C_4L_3L_4L_3s^4 + C_3C_4L_3L_4L_3s^4 + C_3C_4L_3L_4R_3s^5 + C_3C_4L_$$

10.740 INVALID-ORDER-740 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, L_4s + R_4 + \frac{1}{C_4s}, \infty, \frac{L_Ls}{C_LL_Ls^2+1}\right)$$

10.741 INVALID-ORDER-741 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, L_4s + R_4 + \frac{1}{C_4s}, \infty, L_Ls + R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{1}{C_3C_4C_LL_3L_4L_Ls^6 + C_3C_4C_LL_3L_4R_3s^5 + C_3C_4C_LL_3L_4R_Ls^5 + 2C_3C_4C_LL_3L_LR_3s^5 + C_3C_4C_LL_3L_LR_4s^5 + C_3C_4C_LL_3R_3R_4s^4 + 2C_3C_4C_LL_3R_3R_Ls^4 + C_3C_4C_LL_3R_4R_Ls^5 + C_3C_4C_LL_3L_4R_4s^5 + C_3C_4C_LL_3R_4R_4s^5 + C_3C_4C_LL_3R_$$

10.742 INVALID-ORDER-742 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1} + R_3, L_4s + R_4 + \frac{1}{C_4s}, \infty, \frac{1}{C_Ls + \frac{1}{L_Ls} + \frac{1}{L_Ls}}\right)$$

10.743 INVALID-ORDER-743 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, L_4s + R_4 + \frac{1}{C_4s}, \infty, \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$$

$$H(s) = \frac{1}{C_3C_4C_LL_3L_4L_LR_3s^6 + C_3C_4C_LL_3L_4L_LR_2s^6 + C_3C_4C_LL_3L_LR_3R_4s^5 + 2C_3C_4C_LL_3L_LR_3R_Ls^5 + C_3C_4C_LL_3L_LR_4R_Ls^5 + C_3C_4L_3L_4L_Ls^5 + C_3C_4L_3L_4R_3s^4 + C_3C_4L_3L_3L_3R_3s^4 + C_3C_4L_3L_3L_3R_3s^4 + C_3C_4L_3L_3L_3R_3s^4 + C_3C_4L_3L_3L_3R_3$$

10.744 INVALID-ORDER-744 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1} + R_3, L_4s + R_4 + \frac{1}{C_4s}, \infty, \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

$$H(s) = \frac{1}{C_3C_4C_LL_3L_4L_LR_3s^6 + C_3C_4C_LL_3L_4L_RL_s^6 + C_3C_4C_LL_3L_4R_3R_Ls^5 + C_3C_4C_LL_3L_LR_3R_4s^5 + 2C_3C_4C_LL_3L_LR_3R_Ls^5 + C_3C_4C_LL_3L_LR_4R_Ls^5 + C_3C_4C_LL_3R_3R_4R_Ls^5 + C_3C_4C_LL_3L_LR_3R_4s^5 + C_3C_4C_LL_3L_4R_4s^5 + C_3C_4C_LL_3L_4C_4C_LL_3L_4C_4C_LL_3L_4C_4C_LL_3L_4C$$

10.745 INVALID-ORDER-745 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{1}{C_4s + \frac{1}{R_4} + \frac{1}{L_4s}}, \infty, R_L\right)$$

10.746 INVALID-ORDER-746 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1} + R_3, \frac{1}{C_4s + \frac{1}{R_4} + \frac{1}{L_4s}}, \infty, \frac{1}{C_Ls}\right)$$

10.747 INVALID-ORDER-747 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{1}{C_4s + \frac{1}{R_4} + \frac{1}{L_4s}}, \infty, \frac{R_L}{C_LR_Ls + 1}\right)$$

10.748 INVALID-ORDER-748 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{1}{C_4s + \frac{1}{R_4} + \frac{1}{L_4s}}, \infty, R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{1}{2C_3C_4C_LL_3L_4R_3R_4R_Ls^5 + 2C_3C_4L_3L_4R_3R_4s^4 + 2C_3C_LL_3L_4R_3R_Ls^4 + 2C_3C_LL_3L_4R_4R_Ls^4 + 2C_3C_LL_3R_3R_4R_Ls^3 + 2C_3L_3L_4R_3s^3 + 2C_3L_3L_3L_3R_3s^3 + 2C_3L_3L_3L_3R_3s^3 + 2C_3L_3L_3L_3R_3s^3 + 2C_3L_3L_3R_3s^3 + 2C_3L_3L_3L_3R_3s^3 + 2C_3L_3L_3L_3R_3s^3 + 2C_3L$$

10.749 INVALID-ORDER-749 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{1}{C_4s + \frac{1}{R_4} + \frac{1}{L_4s}}, \infty, L_Ls + \frac{1}{C_Ls}\right)$$

10.750 INVALID-ORDER-750 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{1}{C_4s + \frac{1}{R_4} + \frac{1}{L_4s}}, \infty, \frac{L_Ls}{C_LL_Ls^2+1}\right)$$

10.751 INVALID-ORDER-751 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1} + R_3, \frac{1}{C_4s + \frac{1}{R_4} + \frac{1}{L_4s}}, \infty, L_Ls + R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{1}{2C_3C_4C_LL_3L_4L_RR_3R_4s^6 + 2C_3C_4C_LL_3L_4R_3R_4R_Ls^5 + 2C_3C_4L_3L_4R_3R_4s^4 + 2C_3C_LL_3L_4L_RR_3s^5 + C_3C_LL_3L_4L_RR_3s^5 + C_3C_LL_3L_4R_3R_4s^4 + 2C_3C_LL_3L_4R_3R_4s^4 + 2C_3C$$

10.752 INVALID-ORDER-752 
$$Z(s) = \left(\infty, \ \infty, \ \frac{L_3s}{C_3L_3s^2+1} + R_3, \ \frac{1}{C_4s + \frac{1}{R_4} + \frac{1}{L_4s}}, \ \infty, \ \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

10.753 INVALID-ORDER-753 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{1}{C_4s + \frac{1}{R_4} + \frac{1}{L_4s}}, \infty, \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$$

10.754 INVALID-ORDER-754 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{1}{C_4s + \frac{1}{R_4} + \frac{1}{L_4s}}, \infty, \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

10.755 INVALID-ORDER-755 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1} + R_3, \frac{L_{4s}}{C_4L_4s^2+1} + R_4, \infty, R_L\right)$$

$$H(s) = \frac{R_L \left( C_3 L_3 R_3 s^2 + L_3 s + R_3 \right) \left( C_4 L_4 R_4 s^2 + L_4 s^2 + L_4$$

10.756 INVALID-ORDER-756 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{L_4s}{C_4L_4s^2+1} + R_4, \infty, \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{\left(C_3L_3R_3s^2 + L_3s + R_3\right)\left(C_4L_4R_4s^2 + L_4s + R_3R_4s^2 + L_4s + R_4s^2 + L_4s^2 + L_$$

10.757 INVALID-ORDER-757 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{L_4s}{C_4L_4s^2+1} + R_4, \infty, \frac{R_L}{C_LR_Ls+1}\right)$$

$$H(s) = \frac{1}{C_3C_4C_LL_3L_4R_3R_4R_Ls^5 + C_3C_4L_3L_4R_3R_4s^4 + 2C_3C_4L_3L_4R_3R_Ls^4 + C_3C_4L_3L_4R_3R_Ls^4 + C_3C_LL_3L_4R_3R_Ls^4 + C_3C_LL_3R_3R_4R_Ls^3 + C_3L_3L_4R_3s^3 + C_3L_3L_3L_3R_3s^3 + C_3L_3L_3L_3R_3s^3 + C_3L_3L_3L_3R_3s^3 + C_3L_3L_3R_3s^3 + C_3L_3L_3L_3R_3s^3 + C_3L_3L_3L_3R_3s^3 + C_3L_3L_3L_3$$

10.758 INVALID-ORDER-758 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{L_4s}{C_4L_4s^2+1} + R_4, \infty, R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{1}{C_3 C_4 C_L L_3 L_4 R_3 R_4 s^5 + 2 C_3 C_4 C_L L_3 L_4 R_3 R_L s^5 + C_3 C_4 C_L L_3 L_4 R_4 R_L s^5 + 2 C_3 C_4 L_3 L_4 R_3 s^4 + C_3 C_4 L_3 L_4 R_3 s^4 + C_3 C_L L_3 L_4 R_3 s^4 + C_$$

10.759 INVALID-ORDER-759 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{L_4s}{C_4L_4s^2+1} + R_4, \infty, L_Ls + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{1}{2C_3C_4C_LL_3L_4L_LR_3s^6 + C_3C_4C_LL_3L_4L_RA_5s^6 + C_3C_4C_LL_3L_4R_3R_4s^5 + 2C_3C_4L_3L_4R_3s^4 + C_3C_4L_3L_4R_4s^4 + C_3C_LL_3L_4L_Ls^5 + C_3C_LL_3L_4R_3s^4 + 2C_3C_LL_3L_4R_3s^4 + C_3C_4L_3L_4R_3s^4 + C_3C_4L_3L_4L_Ls^5 + C_3C_4L_3L_4R_3s^4 + 2C_3C_4L_3L_4R_3s^4 + C_3C_4L_3L_4R_3s^4 + C_3C_4L_3L_4L_Ls^5 + C_3C_4L_3L_4R_3s^4 + C_3C_4L_3L_3L_4R_3s^4 + C_3C_4L_3L_4R_3s^4 + C_3C_4L_3L_3L_4R_3s^4 + C_3C_4L_3L_3L_3L_3R_3s^4 + C_3$$

10.760 INVALID-ORDER-760 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{L_4s}{C_4L_4s^2+1} + R_4, \infty, \frac{L_Ls}{C_LL_Ls^2+1}\right)$$

$$H(s) = \frac{1}{C_3C_4C_LL_3L_4L_LR_3R_4s^6 + 2C_3C_4L_3L_4L_RR_3s^5 + C_3C_4L_3L_4L_RR_4s^5 + C_3C_4L_3L_4R_3R_4s^4 + C_3C_LL_3L_4L_RR_3s^5 + C_3C_LL_3L_4L_RR_3s^4 + C_3L_3L_4L_RR_3s^4 + C_3L_3L_4L_4$$

10.761 INVALID-ORDER-761 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{L_4s}{C_4L_4s^2+1} + R_4, \infty, L_Ls + R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{1}{2C_3C_4C_LL_3L_4L_LR_3s^6 + C_3C_4C_LL_3L_4L_Rs^6 + C_3C_4C_LL_3L_4R_3R_4s^5 + 2C_3C_4C_LL_3L_4R_3R_Ls^5 + C_3C_4C_LL_3L_4R_4R_4s^4 + C_3C_4L_3L_4R_3R_4s^4 + C_3C_4L_3L_4R_3R_4s^5 + C_3C_4C_LL_3L_4R_3R_4s^5 + C_3C_4C_LL_3L_$$

10.762 INVALID-ORDER-762 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{L_4s}{C_4L_4s^2+1} + R_4, \infty, \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

10.763 INVALID-ORDER-763 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1} + R_3, \frac{L_{4s}}{C_4L_4s^2+1} + R_4, \infty, \frac{L_{Ls}}{C_LL_Ls^2+1} + R_L\right)$$

10.764 INVALID-ORDER-764 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1} + R_3, \frac{L_{4s}}{C_4L_4s^2+1} + R_4, \infty, \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

$$H(s) = \frac{1}{C_3C_4C_LL_3L_4L_LR_3R_4s^6 + 2C_3C_4C_LL_3L_4L_LR_3R_Ls^6 + C_3C_4C_LL_3L_4L_LR_4R_Ls^6 + C_3C_4C_LL_3L_4R_3R_4s^5 + C_3C_4L_3L_4R_3R_4s^4 + 2C_3C_4L_3L_4R_3R_Ls^4 + C_3C_4L_3L_4R_3R_4s^6 + C_3C_4L_3L_3L_4R_3R_4s^6 + C_3C_4L_3L_3L_4R_3R_4s^6 + C_3C_4L_3L_$$

10.765 INVALID-ORDER-765 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_{3}L_{3s^{2}+1}} + R_{3}, \frac{R_{4}\left(L_{4}s + \frac{1}{C_{4}s}\right)}{L_{4}s + R_{4} + \frac{1}{C_{4}s}}, \infty, R_{L}\right)$$

10.766 INVALID-ORDER-766 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}, \infty, \frac{1}{C_Ls}\right)$$

10.767 INVALID-ORDER-767 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}, \infty, \frac{R_L}{C_LR_Ls + 1}\right)$$

10.768 INVALID-ORDER-768 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1} + R_3, \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}, \infty, R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{1}{C_3C_4C_LL_3L_4R_3R_4s^5 + 2C_3C_4C_LL_3L_4R_3R_Ls^5 + C_3C_4C_LL_3L_4R_4R_Ls^5 + 2C_3C_4C_LL_3R_3R_4R_Ls^4 + 2C_3C_4L_3L_4R_3s^4 + C_3C_4L_3L_4R_4s^4 + 2C_3C_4L_3R_3R_4s^3 + C_3C_4L_3R_3R_4s^3 + C_3C_4L_3$$

10.769 INVALID-ORDER-769 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}, \infty, L_Ls + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{1}{2C_3C_4C_LL_3L_4L_LR_3s^6 + C_3C_4C_LL_3L_4L_RA_s^6 + C_3C_4C_LL_3L_4R_3R_4s^5 + 2C_3C_4C_LL_3L_LR_3R_4s^5 + 2C_3C_4L_3L_4R_3s^4 + C_3C_4L_3L_4R_4s^4 + 2C_3C_4L_3R_3R_4s^3 + 2C_3C_4L_3L_4R_3R_4s^5 + 2C_3C_4L_3L_4R_3s^4 + 2C_3C_4L_3L_3L_3R_3s^4 + 2C_3C_4L_3L_3L_3R_3s^4 + 2C_3C_4L_3L_3L_3R_3s^4 + 2C_3C_4L_3L_3L_3R_3s^4 + 2C_3C_4L_3L_3R_3s$$

10.770 INVALID-ORDER-770 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}, \infty, \frac{L_Ls}{C_LL_Ls^2+1}\right)$$

10.771 INVALID-ORDER-771 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}, \infty, L_Ls + R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{1}{2C_3C_4C_LL_3L_4L_LR_3s^6 + C_3C_4C_LL_3L_4L_RA_5s^6 + C_3C_4C_LL_3L_4R_3R_4s^5 + 2C_3C_4C_LL_3L_4R_3R_Ls^5 + C_3C_4C_LL_3L_4R_4R_Ls^5 + 2C_3C_4C_LL_3L_4R_3R_4s^5 + 2C_3C_4C_LL_3L_4R_3$$

10.772 INVALID-ORDER-772 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}, \infty, \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

10.773 INVALID-ORDER-773 
$$Z(s) = \left(\infty, \infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}, \infty, \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$$

10.774 INVALID-ORDER-774 
$$Z(s) = \left(\infty, \infty, \frac{L_{3s}}{C_3L_3s^2+1} + R_3, \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}, \infty, \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

10.775 INVALID-ORDER-775 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, R_4, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 R_4 \left( C_3 L_3 s^2 + 1 \right)}{C_3 C_L L_3 R_3 R_4 s^3 + 2 C_3 L_3 R_3 s^2 + C_3 L_3 R_4 s^2 + C_3 R_3 R_4 s + C_L R_3 R_4 s + 2 R_3 + R_4}$$

10.776 INVALID-ORDER-776 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, R_4, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_3 R_4 R_L \left(C_3 L_3 s^2 + 1\right)}{C_3 C_L L_3 R_3 R_4 R_L s^3 + C_3 L_3 R_3 R_4 s^2 + 2 C_3 L_3 R_3 R_L s^2 + C_3 L_3 R_4 R_L s^2 + C_3 R_3 R_4 R_L s + C_L R_3 R_4 R_L s + R_3 R_4 + 2 R_3 R_L + R_4 R_L r^2}$$

10.777 INVALID-ORDER-777 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, R_4, \infty, R_L + \frac{1}{C_L s}\right)$$

10.778 INVALID-ORDER-778 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, R_4, \infty, L_Ls + \frac{1}{C_Ls}\right)$$

10.780 INVALID-ORDER-780 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, R_4, \infty, L_Ls + R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{R_3 R_4 \left(C_3 L_3 s^2 + 1\right) \left(C_L L_L s^2 + C_L R_L s + 1\right)}{2 C_3 C_L L_3 L_L R_3 s^4 + C_3 C_L L_3 R_3 R_4 s^3 + 2 C_3 C_L L_3 R_3 R_L s^3 + C_3 C_L L_3 R_4 R_L s^3 + C_3 C_L L_L R_3 R_4 s^3 + C_3 C_L R_3 R_4 R_L s^2 + 2 C_3 L_3 R_4 s^2 + C_3 L_3 R_4 s^2 + C_3 R_3 R_4 R_L s^3 + C_3 C_L R_3$$

10.781 INVALID-ORDER-781 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, R_4, \infty, \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

$$H(s) = \frac{L_L R_3 R_4 R_L s \left(C_3 L_3 s^2 + 1\right)}{C_3 C_L L_3 L_L R_3 R_4 R_L s^4 + C_3 L_3 L_L R_3 R_4 s^3 + 2 C_3 L_3 L_L R_3 R_L s^3 + C_3 L_3 L_L R_3 R_4 R_L s^2 + C_3 L_L R_3 R_4 R_L s^2 + C_L L_L R_3 R_4 R_L s^2 + L_L R_3 R_4 s + 2 L_L R_3 R_4 s + 2 L_L R_3 R_4 s + 2 L_L R_3 R_4 R_L s^2 + C_4 L_L$$

10.782 INVALID-ORDER-782 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_2s}}, R_4, \infty, \frac{L_Ls}{C_LL_Ls^2 + 1} + R_L\right)$$

10.783 INVALID-ORDER-783 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, R_4, \infty, \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

$$H(s) = \frac{R_3 R_4 R_L \left(C_3 L_3 s^2 + 1\right) \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_3 L_L R_3 R_4 s^4 + 2 C_3 C_L L_3 L_L R_3 R_L s^4 + C_3 C_L L_3 R_4 R_L s^3 + C_3 C_L L_L R_3 R_4 R_L s^3 + C_3 L_3 R_3 R_4 s^2 + 2 C_3 L_3 R_3 R_L s^2 + C_3 L_3 R_4 R_L s^2 + C_3 R_3 R_4 R_L s^3 + C_3 R_4 R_$$

10.784 INVALID-ORDER-784 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{1}{C_4s}, \infty, R_L\right)$$

$$H(s) = \frac{R_3R_L\left(C_3L_3s^2 + 1\right)}{2C_3C_4L_3R_3R_Ls^3 + C_3L_3R_3s^2 + C_3L_3R_Ls^2 + C_3R_3R_Ls + 2C_4R_3R_Ls + R_3 + R_L}$$

10.785 INVALID-ORDER-785 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{1}{C_4s}, \infty, \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{R_3\left(C_3L_3s^2 + 1\right)}{2C_3C_4L_3R_3s^3 + C_3C_LL_3R_3s^3 + C_3L_3s^2 + C_3R_3s + 2C_4R_3s + C_LR_3s + 1}$$

10.786 INVALID-ORDER-786 
$$Z(s) = \left(\infty, \ \infty, \ \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \frac{1}{C_4s}, \ \infty, \ \frac{R_L}{C_LR_Ls + 1}\right)$$

$$H(s) = \frac{R_3R_L\left(C_3L_3s^2 + 1\right)}{2C_3C_4L_3R_3R_Ls^3 + C_3C_LL_3R_3R_Ls^3 + C_3L_3R_3s^2 + C_3L_3R_Ls^2 + C_3R_3R_Ls + 2C_4R_3R_Ls + C_LR_3R_Ls + R_3 + R_L}$$

$$\begin{aligned} \mathbf{10.787} \quad \mathbf{INVALID\text{-}ORDER\text{-}787} \ Z(s) &= \left( \infty, \ \infty, \ \frac{R_3 \left( L_3 s + \frac{1}{C_3 s} \right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \frac{1}{C_4 s}, \ \infty, \ R_L + \frac{1}{C_L s} \right) \\ H(s) &= \frac{R_3 \left( C_3 L_3 s^2 + 1 \right) \left( C_L R_L s + 1 \right)}{2 C_3 C_4 C_L L_3 R_3 R_L s^4 + 2 C_3 C_4 L_3 R_3 s^3 + C_3 C_L L_3 R_L s^3 + C_3 C_L R_3 R_L s^2 + C_3 L_3 s^2 + C_3 R_3 s + 2 C_4 C_L R_3 R_L s^2 + 2 C_4 R_3 s + C_L R_3 s + C_L R_L s + 1} \end{aligned}$$

10.788 INVALID-ORDER-788 
$$Z(s) = \left(\infty, \ \infty, \ \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \frac{1}{C_4s}, \ \infty, \ L_Ls + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{R_3\left(C_3L_3s^2 + 1\right)\left(C_LL_Ls^2 + 1\right)}{2C_3C_4C_LL_3L_LR_3s^5 + 2C_3C_4L_3R_3s^3 + C_3C_LL_3R_3s^3 + C_3C_LL_LR_3s^3 + C_3L_3L_3s^2 + C_3R_3s + 2C_4C_LL_LR_3s^3 + 2C_4R_3s + C_LL_Ls^2 + C_LR_3s + 1}$$

10.789 INVALID-ORDER-789 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{1}{C_4s}, \infty, \frac{L_Ls}{C_LL_Ls^2 + 1}\right)$$

$$H(s) = \frac{L_LR_3s\left(C_3L_3s^2 + 1\right)}{2C_3C_4L_3L_LR_3s^4 + C_3C_LL_3L_LR_3s^4 + C_3L_3L_Ls^3 + C_3L_3R_3s^2 + C_3L_LR_3s^2 + 2C_4L_LR_3s^2 + C_LL_LR_3s^2 + L_Ls + R_3}$$

10.790 INVALID-ORDER-790 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{1}{C_4s}, \infty, L_Ls + R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{R_3 \left( C_3 L_3 s^2 + 1 \right) \left( C_L L_L s^2 + C_L R_L s + 1 \right)}{2 C_3 C_4 C_L L_3 L_L R_3 s^5 + 2 C_3 C_4 C_L L_3 R_3 R_L s^4 + 2 C_3 C_4 L_3 R_3 s^3 + C_3 C_L L_3 R_L s^3 + C_3 C_L L_3 R_L s^3 + C_3 C_L L_2 R_3 s^3 + C_3 C_L L_3 R_L s^2 + C_3 L_3 s^2 + C_3 R_3 s + 2 C_4 C_L R_3 R_2 s^3 + C_3 C_L R_3 R_L s^2 + C_3 R_3 s^2 + C_3 R_3 s^2 + C_3 R_3 s^2 + C_3 R_3 s^3 + C_3 C_L R_3 R_L s^3$$

10.791 INVALID-ORDER-791 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{1}{C_4s}, \infty, \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

$$H(s) = \frac{L_L R_3 R_L s \left(C_3 L_3 s^2 + 1\right)}{2 C_3 C_4 L_3 L_L R_3 R_L s^4 + C_3 C_L L_3 L_L R_3 R_L s^4 + C_3 L_3 L_L R_3 s^3 + C_3 L_3 L_L R_1 s^3 + C_3 L_3 R_3 R_L s^2 + C_3 L_L R_3 R_L s^2 + C_L L_L R_3 R_L s^2 + L_L R_3 s + L_L R_1 s + R_3 R_L s^2 + L_L R_2 s + L_L R_3 R_L s^2 + L_L R_3 R_L s^$$

10.792 INVALID-ORDER-792 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \frac{1}{C_4 s}, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{R_3 \left( C_3 L_3 s^2 + 1 \right) \left( C_L L_L R_L s^2 + L_L s + R_L \right)}{2 C_3 C_4 C_L L_3 L_L R_3 R_L s^5 + 2 C_3 C_4 L_3 L_L R_3 s^4 + 2 C_3 C_4 L_3 L_L R_3 s^4 + C_3 C_L L_3 L_L R_3 s^4 + C_3 C_L L_L R_3 R_L s^3 + C_3 L_3 L_L s^3 + C_3 L_3 R_L s^2 + C_3 L_3 R_L s^2 + C_3 L_L R_3 R_L s^3 + C_3 L_3 R_L s^3 + C_3 L_$$

10.793 INVALID-ORDER-793 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{1}{C_4s}, \infty, \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

$$H(s) = \frac{R_3 R_L \left(C_3 L_3 s^2 + 1\right) \left(C_L L_L s^2 + 1\right)}{2 C_3 C_4 C_L L_3 L_L R_3 R_L s^5 + 2 C_3 C_4 L_3 R_3 R_L s^3 + C_3 C_L L_3 L_L R_3 s^4 + C_3 C_L L_3 L_L R_3 s^4 + C_3 C_L L_3 R_3 R_L s^3 + C_3 C_L L_R R_3 R_L s^3 + C_3 L_3 R_3 s^2 + C_3 L_3 R_L s^2 + C_3 R_3 R_L s + 2 C_4 C_L L_3 R_3 R_L s^3 + C_3 C_L L_2 R_3 R_L s^3 + C_3 C_L L_3 R_3 R_L s^$$

10.794 INVALID-ORDER-794 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{R_4}{C_4R_4s + 1}, \infty, R_L\right)$$

$$H(s) = \frac{R_3R_4R_L\left(C_3L_3s^2 + 1\right)}{2C_3C_4L_3R_3R_4R_Ls^3 + C_3L_3R_3R_4s^2 + 2C_3L_3R_3R_Ls^2 + C_3L_3R_4R_Ls^2 + C_3R_3R_4R_Ls + 2C_4R_3R_4R_Ls + R_3R_4 + 2R_3R_L + R_4R_L}$$

10.795 INVALID-ORDER-795 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{R_4}{C_4R_4s + 1}, \infty, \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{R_3R_4\left(C_3L_3s^2 + 1\right)}{2C_3C_4L_3R_3R_4s^3 + C_3C_4L_3R_3R_4s^3 + 2C_3L_3R_3s^2 + C_3L_3R_4s^2 + C_3R_3R_4s + 2C_4R_3R_4s + C_4R_3R_4s + 2R_3 + R_4}$$

10.796 INVALID-ORDER-796 
$$Z(s) = \left(\infty, \ \infty, \ \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \frac{R_4}{C_4R_4s + 1}, \ \infty, \ \frac{R_L}{C_LR_Ls + 1}\right)$$

$$H(s) = \frac{R_3 R_4 R_L \left(C_3 L_3 s^2 + 1\right)}{2 C_3 C_4 L_3 R_3 R_4 R_L s^3 + C_3 C_L L_3 R_3 R_4 R_L s^3 + C_3 L_3 R_3 R_4 s^2 + 2 C_3 L_3 R_3 R_L s^2 + C_3 L_3 R_4 R_L s^2 + C_3 R_3 R_4 R_L s + 2 C_4 R_3 R_4 R_L s + C_L R_3 R_4 R_L s + R_3 R_4 + 2 R_3 R_L + R_4 R_L s^2 + C_4 R_3 R_4 R_L s + C_4 R_4 R_L s + C_4 R_3 R_4 R_L s$$

10.797 INVALID-ORDER-797 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{R_4}{C_4R_4s + 1}, \infty, R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{R_3 R_4 \left(C_3 L_3 s^2 + 1\right) \left(C_L R_L s + 1\right)}{2 C_3 C_4 C_L L_3 R_3 R_4 R_L s^4 + 2 C_3 C_4 L_3 R_3 R_4 s^3 + 2 C_3 C_L L_3 R_3 R_L s^3 + C_3 C_L L_3 R_4 R_L s^3 + C_3 C_L R_3 R_4 R_L s^2 + 2 C_3 L_3 R_3 s^2 + C_3 L_3 R_4 s^2 + C_3 R_3 R_4 s + 2 C_4 C_L R_3 R_4 R_L s^3 + C_3 C_L R_3 R_4 R_L$$

10.798 INVALID-ORDER-798 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{R_4}{C_4R_4s + 1}, \infty, L_Ls + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{R_3 R_4 \left(C_3 L_3 s^2 + 1\right) \left(C_L L_L s^2 + 1\right)}{2 C_3 C_4 C_L L_3 L_L R_3 R_4 s^5 + 2 C_3 C_4 L_3 R_3 R_4 s^3 + 2 C_3 C_L L_3 L_L R_3 s^4 + C_3 C_L L_3 R_3 R_4 s^3 + C_3 C_L L_L R_3 R_4 s^3 + 2 C_3 L_3 R_3 s^2 + C_3 L_3 R_4 s^2 + C_3 R_3 R_4 s^2 + C_3 R_3 R_4 s^2 + C_3 R_3 R_4 s^3 + C_3 C_L L_3 R_3 R_4 s^3 + C_3 C_L$$

10.799 INVALID-ORDER-799 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{R_4}{C_4R_4s + 1}, \infty, \frac{L_Ls}{C_LL_Ls^2 + 1}\right)$$

$$L_L R_3 R_4 s \left(C_3 L_3 s^2 + 1\right)$$

$$H(s) = \frac{L_L R_3 R_4 s \left(C_3 L_3 s^2 + 1\right)}{2 C_3 C_4 L_3 L_L R_3 R_4 s^4 + C_3 C_L L_3 L_L R_3 R_4 s^4 + 2 C_3 L_3 L_L R_3 s^3 + C_3 L_3 L_L R_4 s^3 + C_3 L_3 R_3 R_4 s^2 + C_3 L_L R_3 R_4 s^2 + 2 C_4 L_L R_3 R_4 s^2 + C_L L_L R_3 R_4 s^2 + 2 L_L R_3 s + L_L R_4 s + R_3 R_4 s^2 + C_4 L_L R_3 R_4 s^2 + C_$$

10.800 INVALID-ORDER-800 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{R_4}{C_4R_4s + 1}, \infty, L_Ls + R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{R_3}{2C_3C_4C_LL_3L_LR_3R_4s^5 + 2C_3C_4C_LL_3R_3R_4R_Ls^4 + 2C_3C_4L_3R_3R_4s^3 + 2C_3C_LL_3L_LR_3s^4 + C_3C_LL_3L_LR_4s^4 + C_3C_LL_3R_3R_4s^3 + 2C_3C_LL_3R_3R_4s^3 + C_3C_LL_3R_3R_4s^3 + C_3C_LL_3R_3R_4s^3$$

10.801 INVALID-ORDER-801 
$$Z(s) = \left(\infty, \ \infty, \ \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \frac{R_4}{C_4R_4s + 1}, \ \infty, \ \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

10.802 INVALID-ORDER-802 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{R_4}{C_4R_4s + 1}, \infty, \frac{L_Ls}{C_LL_Ls^2 + 1} + R_L\right)$$

$$H(s) = \frac{1}{2C_3C_4C_LL_3L_LR_3R_4R_Ls^5 + 2C_3C_4L_3L_LR_3R_4s^4 + 2C_3C_4L_3R_3R_4R_Ls^3 + C_3C_LL_3L_LR_3R_4s^4 + 2C_3C_LL_3L_LR_3R_Ls^4 + C_3C_LL_3L_LR_3R_4R_Ls^4 + C_3C_LL_3L_LR_3R_4R_Ls^3 + 2C_3L_3L_RR_3R_4R_Ls^4 + C_3C_LL_3L_LR_3R_4R_Ls^4 + C_3C_LL_3L_LR_3R_4R_Ls^4 + C_3C_LL_3L_LR_3R_4R_Ls^4 + C_3C_LL_3L_LR_3R_4R_Ls^4 + C_3C_LL_3L_LR_3R_4R_Ls^4 + C_3C_LL_3L_RR_3R_4R_Ls^4 + C_3C_LL_3L_RR_$$

10.803 INVALID-ORDER-803 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{R_4}{C_4R_4s + 1}, \infty, \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

$$H(s) = \frac{R_3 R_4 R_L}{2 C_3 C_4 C_L L_3 L_L R_3 R_4 R_L s^5 + 2 C_3 C_4 L_3 R_3 R_4 R_L s^3 + C_3 C_L L_3 L_L R_3 R_4 s^4 + 2 C_3 C_L L_3 L_L R_3 R_L s^4 + C_3 C_L L_3 L_L R_4 R_L s^4 + C_3 C_L L_3 R_3 R_4 R_L s^3 + C_3 C_L L_1 R_3 R_4 R_L s^3 + C_3 C_L L_1 R_3 R_4 R_L s^3 + C_3 C_L L_3 R_4 R_L s^3 +$$

**10.806** INVALID-ORDER-806 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, R_4 + \frac{1}{C_4s}, \infty, \frac{R_L}{C_LR_Ls + 1}\right)$$

$$H(s) = \frac{R_3 R_L \left(C_3 L_3 s^2 + 1\right) \left(C_4 R_4 s + 1\right)}{C_3 C_4 C_L L_3 R_3 R_4 R_L s^4 + C_3 C_4 L_3 R_3 R_4 s^3 + 2 C_3 C_4 L_3 R_3 R_L s^3 + C_3 C_4 L_3 R_4 R_L s^2 + C_3 C_L L_3 R_3 R_L s^3 + C_3 L_3 R_3 s^2 + C_3 L_3 R_4 s^2 + C_3 R_3 R_L s + C_4 C_L R_3 R_4 R_L s^2 + C_4 R_3 R_4 R_L s^3 + C_3 R_4 R_L s^3 + C_$$

10.807 INVALID-ORDER-807 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_4s}}, R_4 + \frac{1}{C_4s}, \infty, R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{R_3 \left(C_3 L_3 s^2 + 1\right) \left(C_4 R_4 s + 1\right) \left(C_L R_L s + 1\right)}{C_3 C_4 C_L L_3 R_3 R_4 s^4 + 2 C_3 C_4 C_L L_3 R_3 R_L s^4 + C_3 C_4 C_L L_3 R_4 R_L s^3 + 2 C_3 C_4 L_3 R_3 s^3 + C_3 C_4 L_3 R_4 s^3 + C_3 C_4 L_3 R_3 s^3 + C_3 C_4 L_3 R_4 s^3 + C_3 C_4 L_3 R_3 s^3 + C_3 C_4 L_3 R_4 s^3 + C_3 C_4 L_3 R_3 s^3 + C_3 C_4 L_$$

10.808 INVALID-ORDER-808 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, R_4 + \frac{1}{C_4s}, \infty, L_Ls + \frac{1}{C_Ls}\right)$$

10.809 INVALID-ORDER-809 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, R_4 + \frac{1}{C_4s}, \infty, \frac{L_Ls}{C_LL_Ls^2 + 1}\right)$$

10.810 INVALID-ORDER-810 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, R_4 + \frac{1}{C_4 s}, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{1}{2C_3C_4C_LL_3L_LR_3s^5 + C_3C_4C_LL_3L_LR_4s^5 + C_3C_4C_LL_3R_3R_4s^4 + 2C_3C_4C_LL_3R_3R_Ls^4 + C_3C_4C_LL_3R_4R_Ls^4 + C_3C_4C_LL_3R_4R_4s^4 + C_3C_4C_LL_3R_4R_Ls^4 + C_3C_4C_LL_3R_$$

10.811 INVALID-ORDER-811 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, R_4 + \frac{1}{C_4s}, \infty, \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

10.812 INVALID-ORDER-812 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, R_4 + \frac{1}{C_4s}, \infty, \frac{L_Ls}{C_LL_Ls^2 + 1} + R_L\right)$$

10.813 INVALID-ORDER-813 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, R_4 + \frac{1}{C_4s}, \infty, \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

$$\begin{aligned} &\textbf{10.814} \quad \textbf{INVALID-ORDER-814} \ Z(s) = \left( \infty, \ \infty, \ \frac{R_3\left( L_{3}s + \frac{1}{C_3s} \right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ L_4s + \frac{1}{C_4s}, \ \infty, \ R_L \right) \\ & H(s) = \frac{R_3R_L\left( C_3L_3s^2 + 1 \right) \left( C_4L_4s^2 + 1 \right)}{C_3C_4L_3L_4R_3s^4 + C_3C_4L_3R_3R_Ls^3 + C_3C_4L_4R_3R_Ls^3 + C_3L_3R_3s^2 + C_3L_3R_Ls^2 + C_3R_3R_Ls + C_4L_4R_3s^2 + C_4L_4R_3s^3 + C$$

10.817 INVALID-ORDER-817 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, L_4s + \frac{1}{C_4s}, \infty, R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{R_3 \left( C_3 L_3 s^2 + 1 \right) \left( C_4 L_4 s^2 + 1 \right) \left( C_L R_L s + 1 \right) \left( C_L$$

10.818 INVALID-ORDER-818 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, L_4s + \frac{1}{C_4s}, \infty, L_Ls + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{R_3 \left( C_3 L_3 s^2 + 1 \right) \left( C_4 L_4 s^2 + 1 \right) \left( C_4 L_4 s^2 + 1 \right) \left( C_L L_L s^2 + 1 \right) \left( C_4 L_4 s^2 + 1 \right) \left( C_4$$

10.819 INVALID-ORDER-819 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, L_4s + \frac{1}{C_4s}, \infty, \frac{L_Ls}{C_LL_Ls^2 + 1}\right)$$

10.820 INVALID-ORDER-820 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, L_4s + \frac{1}{C_4s}, \infty, L_Ls + R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{1}{C_3C_4C_LL_3L_4L_Ls^6 + C_3C_4C_LL_3L_4R_3s^5 + C_3C_4C_LL_3L_4R_Ls^5 + 2C_3C_4C_LL_3L_LR_3s^5 + 2C_3C_4C_LL_3R_3R_Ls^4 + C_3C_4C_LL_4L_Rs^5 + C_3C_4C_LL_4R_3R_Ls^4 + C_3C_4C_LL_4R_3R_$$

10.821 INVALID-ORDER-821 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, L_4s + \frac{1}{C_4s}, \infty, \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

$$H(s) = \frac{L_L R_3 R_L s}{C_3 C_4 C_L L_3 L_4 L_L R_3 R_L s^6 + C_3 C_4 L_3 L_4 L_L R_3 s^5 + C_3 C_4 L_3 L_4 L_L R_3 R_L s^4 + 2 C_3 C_4 L_3 L_L R_3 R_L s^4 + C_3 C_4 L_4 L_L R_3 R_L s^4 + C_3 C_4 L_3 L_L R_3 R_L s^$$

10.822 INVALID-ORDER-822 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, L_4s + \frac{1}{C_4s}, \infty, \frac{L_Ls}{C_LL_Ls^2 + 1} + R_L\right)$$

$$H(s) = \frac{1}{C_3C_4C_LL_3L_4L_LR_3s^6 + C_3C_4C_LL_3L_4L_LR_2s^6 + 2C_3C_4C_LL_3L_LR_3R_Ls^5 + C_3C_4C_LL_4L_LR_3R_Ls^5 + C_3C_4L_3L_4L_Ls^5 + C_3C_4L_3L_4R_3s^4 + C_3C_4L_3L_4R_Ls^4 + 2C_3C_4L_3L_4R_3s^4 + C_3C_4L_3L_4R_3s^4 + C_3C_4L_3L_3L_3R_3s^4 + C_3C_4L_3L_3R_3s^4 + C_3C_4L_3L_3R_3s^4 + C_3C_4L_3L_3R_3s^4 + C_3C_4L_3L_3R_3s^4 + C_3C_4L_$$

10.823 INVALID-ORDER-823 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, L_4s + \frac{1}{C_4s}, \infty, \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

$$H(s) = \frac{1}{C_3C_4C_LL_3L_4L_LR_3s^6 + C_3C_4C_LL_3L_4L_RL_s^6 + C_3C_4C_LL_3L_4R_3R_Ls^5 + 2C_3C_4C_LL_3L_LR_3R_Ls^5 + C_3C_4C_LL_4L_LR_3R_Ls^5 + C_3C_4L_3L_4R_3s^4 + C_3C_4L_3L_4R_Ls^4 + 2C_3C_4L_3L_4R_3R_Ls^5 + C_3C_4L_4L_4L_4R_3R_Ls^5 + C_3C_4L_3L_4R_3R_Ls^4 + C_3C_4L_3L_3R_4R_3R_Ls^4 + C_3C_4L_3L_3R_3R_Ls^4 + C_3C_4L_3L_3R_3R_2R_3R_3R_3R_3R_3R_3R_3R_3R_3R_3$$

10.824 INVALID-ORDER-824 
$$Z(s) = \left(\infty, \ \infty, \ \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \frac{L_4s}{C_4L_4s^2 + 1}, \ \infty, \ R_L\right)$$

$$H(s) = \frac{L_4R_3R_Ls\left(C_3L_3s^2 + 1\right)}{2C_3C_4L_3L_4R_3R_Ls^4 + C_3L_3L_4R_3s^3 + C_3L_3L_4R_Ls^3 + 2C_3L_3R_3R_Ls^2 + C_3L_4R_3R_Ls^2 + 2C_4L_4R_3R_Ls^2 + L_4R_3s + L_4R_Ls + 2R_3R_Ls^2\right)$$

10.825 INVALID-ORDER-825 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \frac{L_4 s}{C_4 L_4 s^2 + 1}, \infty, \frac{1}{C_L s}\right)$$

10.826 INVALID-ORDER-826 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{L_4s}{C_4L_4s^2 + 1}, \infty, \frac{R_L}{C_LR_Ls + 1}\right)$$

$$H(s) = \frac{L_4 R_3 R_L s \left(C_3 L_3 s^2 + 1\right)}{2 C_3 C_4 L_3 L_4 R_3 R_L s^4 + C_3 C_L L_3 L_4 R_3 R_L s^3 + C_3 L_3 L_4 R_L s^3 + 2 C_3 L_3 R_3 R_L s^2 + C_3 L_4 R_3 R_L s^2 + 2 C_4 L_4 R_3 R_L s^2 + C_L L_4 R_3 R_L s^2 + L_4 R_3 s + L_4 R_L s + 2 R_3 R_L s^2 + C_4 R_3 R_L s^2 + C_$$

10.827 INVALID-ORDER-827 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{L_4s}{C_4L_4s^2 + 1}, \infty, R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{L_4 R_3 s \left(C_3 L_3 s^2 + 1\right) \left(C_L R_L s + 1\right)}{2 C_3 C_4 C_L L_3 L_4 R_3 s^4 + C_3 C_L L_3 L_4 R_3 s^4 + C_3 C_L L_3 L_4 R_L s^4 + 2 C_3 C_L L_3 R_3 R_L s^3 + C_3 C_L L_4 R_3 R_L s^3 + C_3 L_4 L_3 R_3 s^2 + C_3 L_4 R_3 s^2 + 2 C_4 C_L R_3 R_4 R_3 r_4 + C_3 C_L R_3 R_4 R_5 r_4 + C_3 C_L R_3 R_4 R_5 r_4 + C_3 C_L R_3 R_4 R_5 r_4 + C_3 C_L R_3 R_5 r_4 + C_3 C_L R_3 R_5 r_4 + C_3 C_L R_3 R_5 r_5 + C_3 C_L R_5 R_5 r_$$

10.828 INVALID-ORDER-828 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{L_4s}{C_4L_4s^2 + 1}, \infty, L_Ls + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{L_4 R_3 s \left(C_3 L_3 s^2 + 1\right) \left(C_L L_L s^2 + 1\right)}{2 C_3 C_4 C_L L_3 L_4 L_L R_3 s^6 + 2 C_3 C_4 L_3 L_4 R_3 s^4 + C_3 C_L L_3 L_4 R_3 s^4 + 2 C_3 C_L L_3 L_L R_3 s^4 + C_3 C_L L_4 L_L R_3 s^4 + C_3 L_3 L_4 s^3 + 2 C_3 L_3 R_3 s^2 + C_3 L_4 R_3 s^2 + 2 C_4 C_L L_4 L_4 R_3 s^4 + C_3 L_4 L_4 R_3 s^4 + C_3 L_$$

10.829 INVALID-ORDER-829 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{L_4s}{C_4L_4s^2 + 1}, \infty, \frac{L_Ls}{C_LL_Ls^2 + 1}\right)$$

10.830 INVALID-ORDER-830 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{L_4s}{C_4L_4s^2 + 1}, \infty, L_Ls + R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{L_4}{2C_3C_4C_LL_3L_4L_R_3s^6 + 2C_3C_4C_LL_3L_4R_3R_Ls^5 + 2C_3C_4L_3L_4R_3s^4 + C_3C_LL_3L_4L_Ls^5 + C_3C_LL_3L_4R_3s^4 + C_3C_LL_3L_4R_Ls^4 + 2C_3C_LL_3L_4R_3s^4 + 2C_3C_LL_3R_3R_Ls^3 + C_3C_LL_3L_4R_3s^4 + C_3C_LL_3L_3L_3R_3c^4 + C_3C_LL_3L_3L_3R_3c^4 + C_3C_LL_3L_3C$$

10.831 INVALID-ORDER-831 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{L_4s}{C_4L_4s^2 + 1}, \infty, \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

$$H(s) = \frac{L_4 L_L R_3 R_L s \left(C_3 L_3 s^2 + 1\right)}{2 C_3 C_4 L_3 L_4 L_L R_3 R_L s^4 + C_3 C_L L_3 L_4 L_L R_3 R_L s^4 + C_3 L_3 L_4 L_L R_3 s^3 + C_3 L_3 L_4 L_L R_3 R_L s^3 + C_3 L_3 L_4 R_3 R_L s^2 + 2 C_3 L_3 L_L R_3 R_L s^2 + C_3 L_4 L_L R_3 R_L s^2 + 2 C_4 L_4 L_L R_3 R_L s^2 + C_4 L_4 L_4 L_4 R_3 R_L s^2 + C_4 L_4 L_4 R_4 R_4 R_4 R_4 R_4 R_4 R_4 R_$$

10.832 INVALID-ORDER-832 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{L_4s}{C_4L_4s^2 + 1}, \infty, \frac{L_Ls}{C_LL_Ls^2 + 1} + R_L\right)$$

10.833 INVALID-ORDER-833 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{L_4s}{C_4L_4s^2 + 1}, \infty, \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

 $H(s) = \frac{L_4 R_3 R_L}{2 C_3 C_4 C_L L_3 L_4 L_L R_3 R_L s^6 + 2 C_3 C_4 L_3 L_4 R_3 R_L s^4 + C_3 C_L L_3 L_4 L_L R_3 s^5 + C_3 C_L L_3 L_4 L_L R_3 s^5 + C_3 C_L L_3 L_4 R_3 R_L s^4 + C_3 C_L L_3 L_4 R_3 R_L s^4 + C_3 C_L L_4 L_L R_3 R_L s^4 +$ 

**10.834** INVALID-ORDER-834 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, L_4s + R_4 + \frac{1}{C_4s}, \infty, R_L\right)$$

$$H(s) = \frac{R_3 R_L \left(C_3 L_3 s^2 + 1\right) \left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{C_3 C_4 L_3 L_4 R_3 s^4 + C_3 C_4 L_3 R_4 R_4 s^3 + 2 C_3 C_4 L_3 R_3 R_L s^3 + C_3 C_4 L_3 R_4 R_L s^3 + C_3 C_4 L_3 R_4 R_L s^3 + C_3 C_4 R_3 R_4 R_L s^2 + C_3 L_3 R_3 s^2 + C_3 L_3 R_L s^2 + C_3 R_3 R_L s^3 + C_3 C_4 R_3 R_4 R_L s^3 + C_3 C_4 R_4 R_4 R_L$$

10.835 INVALID-ORDER-835 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, L_4s + R_4 + \frac{1}{C_4s}, \infty, \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{R_3 \left(C_3 L_3 s^2 + 1\right) \left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{C_3 C_4 C_L L_3 L_4 R_3 s^5 + C_3 C_4 L_L R_3 R_4 s^4 + C_3 C_4 L_3 R_3 s^3 + C_3 C_4 L_3 R_4 s^3 + C_3 C_4 L_4 R_3 s^3 + C_3 C_4 L_3 R_3 s^3 + C_3 L_4 R_3 s^3$$

10.836 INVALID-ORDER-836 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, L_4s + R_4 + \frac{1}{C_4s}, \infty, \frac{R_L}{C_LR_Ls + 1}\right)$$

$$H(s) = \frac{R_3 R_L \left(C_{50} + C_{10} +$$

10.837 INVALID-ORDER-837 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, L_4s + R_4 + \frac{1}{C_4s}, \infty, R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{1}{C_3 C_4 C_L L_3 L_4 R_3 s^5 + C_3 C_4 C_L L_3 L_4 R_L s^5 + C_3 C_4 C_L L_3 R_3 R_4 s^4 + 2 C_3 C_4 C_L L_3 R_3 R_L s^4 + C_3 C_4 C_L L_3 R_4 R_L s^4 + C_3 C_4 C_L L_4 R_3 R_L s^4 + C_3 C_4 C_L L_4 R_4 R_L s^4 + C_3 C_4 C_L L_4 R_4$$

10.838 INVALID-ORDER-838 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, L_4s + R_4 + \frac{1}{C_4s}, \infty, L_Ls + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{1}{C_3C_4C_LL_3L_4L_Ls^6 + C_3C_4C_LL_3L_4R_3s^5 + 2C_3C_4C_LL_3L_LR_3s^5 + C_3C_4C_LL_3L_LR_4s^5 + C_3C_4C_LL_3R_3R_4s^4 + C_3C_4C_LL_4L_LR_3s^5 + C_3C_4C_LL_4L_LR_3s^5 + C_3C_4C_LL_3L_4R_3s^5 + C_3C_4C_LL_3L_4$$

10.839 INVALID-ORDER-839 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, L_4s + R_4 + \frac{1}{C_4s}, \infty, \frac{L_{Ls}}{C_L L_L s^2 + 1}\right)$$

10.840 INVALID-ORDER-840 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, L_4s + R_4 + \frac{1}{C_4s}, \infty, L_Ls + R_L + \frac{1}{C_Ls}\right)$$

 $H(s) = \frac{1}{C_3C_4C_LL_3L_4L_Ls^6 + C_3C_4C_LL_3L_4R_3s^5 + C_3C_4C_LL_3L_4R_Ls^5 + 2C_3C_4C_LL_3L_LR_3s^5 + C_3C_4C_LL_3L_LR_4s^5 + C_3C_4C_LL_3R_3R_4s^4 + 2C_3C_4C_LL_3R_3R_Ls^4 + C_3C_4C_LL_3R_4R_Ls^5 + C_3C_4C_LL_3L_4R_3s^5 + C_3C_4C_LL_3L_4R_3s^5 + C_3C_4C_LL_3L_4R_3s^5 + C_3C_4C_LL_3L_4R_3s^5 + C_3C_4C_LL_3R_3R_4s^4 + 2C_3C_4C_LL_3R_3R_4s^4 + C_3C_4C_LL_3R_4R_4s^5 + C_3C_4C_LL_3R$ 

10.841 INVALID-ORDER-841 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, L_4s + R_4 + \frac{1}{C_4s}, \infty, \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

 $H(s) = \frac{1}{C_3 C_4 C_L L_3 L_4 L_L R_3 R_L s^6 + C_3 C_4 C_L L_3 L_L R_3 R_4 R_L s^5 + C_3 C_4 L_3 L_4 L_R R_3 s^5 + C_3 C_4 L_3 L_4 L_L R_3 s^5 + C_3 C_4 L_3 L_4 L_4 R_3 R_L s^4 + C_3 C_4 L_3 L_4 R_3 R_L s^4 + C_$ 

10.842 INVALID-ORDER-842 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, L_4s + R_4 + \frac{1}{C_4s}, \infty, \frac{L_Ls}{C_LL_Ls^2 + 1} + R_L\right)$$

10.843 INVALID-ORDER-843 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, L_4s + R_4 + \frac{1}{C_4s}, \infty, \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

 $H(s) = \frac{1}{C_3C_4C_LL_3L_4L_LR_3s^6 + C_3C_4C_LL_3L_4L_RL_s^6 + C_3C_4C_LL_3L_4R_3R_Ls^5 + C_3C_4C_LL_3L_LR_3R_4s^5 + 2C_3C_4C_LL_3L_LR_3R_Ls^5 + C_3C_4C_LL_3L_LR_4R_Ls^5 + C_3C_4C_LL_3R_3R_4R_Ls^5 + C_3C_4C_LL_3L_LR_3R_4s^5 + C_3C_4C_LL_3L_4R_4s^5 + C_3C_4C_LL_3L_4C_4C_LL_3L_4C_4C_LL_3L_4C_4C_LL_3L_4C$ 

10.844 INVALID-ORDER-844 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \frac{1}{C_4 s + \frac{1}{R_4} + \frac{1}{L_4 s}}, \infty, R_L\right)$$

$$H(s) = \frac{L_4 R_3 R_4 R_L s \left(C_3 L_3 s^2 + 1\right)}{2 C_3 C_4 L_3 L_4 R_3 R_4 R_L s^4 + C_3 L_3 L_4 R_3 R_4 s^3 + 2 C_3 L_3 L_4 R_3 R_L s^3 + C_3 L_3 L_4 R_3 R_4 R_L s^2 + C_3 L_4 R_3 R_4 R_L s^2 + 2 C_4 L_4 R_3 R_4 R_L s^2 + L_4 R_3 R_4 s + 2 L_4 R_3 R_L s + L_4 R_3 R_4 R_L s^2 + 2 C_4 L_4 R_3 R_4 R_L s^2 + 2$$

10.845 INVALID-ORDER-845 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{1}{C_4s + \frac{1}{R_4} + \frac{1}{L_4s}}, \infty, \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{L_4 R_3 R_4 s \left(C_3 L_3 s^2 + 1\right)}{2 C_3 C_4 L_3 L_4 R_3 R_4 s^4 + C_3 C_L L_3 L_4 R_3 R_4 s^4 + 2 C_3 L_3 L_4 R_3 s^3 + C_3 L_3 L_4 R_4 s^3 + 2 C_3 L_3 R_3 R_4 s^2 + C_3 L_4 R_3 R_4 s^2 + C_L L_4 R_3 R_4 s^2 + 2 L_4 R_3 s + L_4 R_4 s + 2 R_3 R_4 s^2 + 2 L_4 R_3 R_4 s^2 + 2$$

10.846 INVALID-ORDER-846 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{1}{C_4s + \frac{1}{R_4} + \frac{1}{L_4s}}, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{L_4 R_3 R_4 R_L s \left(C_3 L_3 s^2 + 1\right)}{2 C_3 C_4 L_3 L_4 R_3 R_4 R_L s^4 + C_3 C_L L_3 L_4 R_3 R_4 R_L s^4 + C_3 L_3 L_4 R_3 R_4 s^3 + 2 C_3 L_3 L_4 R_3 R_L s^3 + C_3 L_3 L_4 R_3 R_4 R_L s^2 + C_3 L_4 R_3 R_4 R_L s^2 + 2 C_4 L_4 R_3 R_4 R_L s^2 + C_4 L_4 R_4 R_L s^2$$

10.847 INVALID-ORDER-847 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{1}{C_4s + \frac{1}{R_4} + \frac{1}{L_4s}}, \infty, R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{L_4 R_3 R_4}{2 C_3 C_4 C_L L_3 L_4 R_3 R_4 R_L s^5 + 2 C_3 C_4 L_3 L_4 R_3 R_4 s^4 + C_3 C_L L_3 L_4 R_3 R_4 s^4 + 2 C_3 C_L L_3 L_4 R_3 R_L s^4 + C_3 C_L L_3 L_4 R_3 R_4 R_L s^4 + 2 C_3 C_L L_3 R_3 R_4 R_L s^3 + C_3 C_L L_4 R_3 R_4 R_L s^3 + 2 C_3 L_4 R_3 R_4 R_L s^4 + 2 C_3 C_L L_3 R_3 R_4 R_L s^3 + C_3 C_L L_4 R_3 R_4 R_L s^3 + 2 C_3 L_4 R_3 R_4 R_L s^4 + 2 C_3 C_L L_3 R_3 R_4 R_L s^3 + 2 C_3 C_L R_3 R_4 R_L s^3$$

10.848 INVALID-ORDER-848 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{1}{C_4s + \frac{1}{R_4} + \frac{1}{L_4s}}, \infty, L_Ls + \frac{1}{C_Ls}\right)$$

10.849 INVALID-ORDER-849 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{1}{C_4s + \frac{1}{R_4} + \frac{1}{L_4s}}, \infty, \frac{L_Ls}{C_LL_Ls^2 + 1}\right)$$

10.850 INVALID-ORDER-850 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{1}{C_4s + \frac{1}{R_4} + \frac{1}{L_4s}}, \infty, L_Ls + R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{1}{2C_3C_4C_LL_3L_4L_RR_3R_4s^6 + 2C_3C_4C_LL_3L_4R_3R_4R_Ls^5 + 2C_3C_4L_3L_4R_3R_4s^4 + 2C_3C_LL_3L_4L_RR_3s^5 + C_3C_LL_3L_4L_RR_3s^5 + C_3C_LL_3L_4R_3R_4s^4 + 2C_3C_LL_3L_4R_3R_4s^4 + 2C_3C$$

10.851 INVALID-ORDER-851 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{1}{C_4s + \frac{1}{R_4} + \frac{1}{L_4s}}, \infty, \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

$$H(s) = \frac{L_4 L_L R_3 R_4 R_L s \left(C_3 L_3 s^2 + 1\right)}{2 C_3 C_4 L_3 L_4 L_L R_3 R_4 R_L s^4 + C_3 L_3 L_4 L_L R_3 R_4 s^3 + 2 C_3 L_3 L_4 L_L R_3 R_L s^3 + C_3 L_3 L_4 L_L R_3 R_4 R_L s^2 + 2 C_3 L_3 L_L R_3 R_4 R_L s^2 + C_3 L_3 L_4 L_L R_3 R_4 R_L s^2 + 2 C_3 L_3 L_4 R_4 R_L s^2 + 2 C_3 L_4 R_4 R_L s^2 + 2 C_3 L_4 R_4 R_L s^2 + 2 C_3$$

10.852 INVALID-ORDER-852 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{1}{C_4s + \frac{1}{R_4} + \frac{1}{L_4s}}, \infty, \frac{L_Ls}{C_LL_Ls^2 + 1} + R_L\right)$$

10.853 INVALID-ORDER-853 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{1}{C_4s + \frac{1}{R_4} + \frac{1}{L_4s}}, \infty, \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

10.854 INVALID-ORDER-854 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{L_4s}{C_4L_4s^2 + 1} + R_4, \infty, R_L\right)$$

$$H(s) = \frac{R_3 R_L \left(C_3 L_3 s^2 + 1\right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{C_3 C_4 L_3 L_4 R_3 R_4 s^4 + 2 C_3 C_4 L_3 L_4 R_3 R_L s^4 + C_3 C_4 L_3 L_4 R_3 R_4 R_L s^3 + C_3 L_3 L_4 R_3 s^3 + C_3 L_3 L_4 R_L s^3 + C_3 L_3 R_3 R_L s^2 + 2 C_3 L_3 R_3 R_L s^2 + C_3 L_3 R_4 R_L s^2 + C_3 L_3 R_4 R_L s^3 + C_3$$

10.855 INVALID-ORDER-855 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{L_4s}{C_4L_4s^2 + 1} + R_4, \infty, \frac{1}{C_Ls}\right)$$

10.856 INVALID-ORDER-856 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{L_4s}{C_4L_4s^2 + 1} + R_4, \infty, \frac{R_L}{C_LR_Ls + 1}\right)$$

$$H(s) = \frac{1}{C_3 C_4 C_L L_3 L_4 R_3 R_4 R_L s^5 + C_3 C_4 L_3 L_4 R_3 R_4 s^4 + 2 C_3 C_4 L_3 L_4 R_3 R_L s^4 + C_3 C_4 L_3 L_4 R_3 R_4 R_L s^4 + C_3 C_4 L_4 R_3 R_4 R_L s^3 + C_3 C_L L_3 L_4 R_3 R_4 R_L s^4 + C_3 C_L L_3 L_4 R_3 R_L s^$$

10.857 INVALID-ORDER-857 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{L_4s}{C_4L_4s^2 + 1} + R_4, \infty, R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{1}{C_3C_4C_LL_3L_4R_3R_4s^5 + 2C_3C_4C_LL_3L_4R_3R_Ls^5 + C_3C_4C_LL_3L_4R_4R_Ls^5 + C_3C_4C_LL_4R_3R_4R_Ls^4 + 2C_3C_4L_3L_4R_3s^4 + C_3C_4L_3L_4R_4s^4 + C_3C_4L_4R_3R_4s^3 + C_3C_4L_3L_4R_3s^4 + C_3C_4L_3L_3L_4R_3s^4 + C_3C_4L_3L_3L_3s^4 + C_3C_4L_3L_3s^4 + C_3C_4L_$$

10.858 INVALID-ORDER-858 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{L_4s}{C_4L_4s^2 + 1} + R_4, \infty, L_Ls + \frac{1}{C_Ls}\right)$$

10.859 INVALID-ORDER-859 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{L_4s}{C_4L_4s^2 + 1} + R_4, \infty, \frac{L_Ls}{C_LL_Ls^2 + 1}\right)$$

10.860 INVALID-ORDER-860 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{L_4s}{C_4L_4s^2 + 1} + R_4, \infty, L_Ls + R_L + \frac{1}{C_Ls}\right)$$

10.861 INVALID-ORDER-861 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{L_4s}{C_4L_4s^2 + 1} + R_4, \infty, \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

10.862 INVALID-ORDER-862 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

10.863 INVALID-ORDER-863 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{L_4s}{C_4L_4s^2 + 1} + R_4, \infty, \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

10.864 INVALID-ORDER-864 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}, \infty, R_L\right)$$

$$H(s) = \frac{R_3 R_4 R_L \left(C_3 L_3 s^2 + 1\right) \left(C_4 L_4 s^2 + 1\right)}{C_3 C_4 L_3 L_4 R_3 R_4 s^4 + 2 C_3 C_4 L_3 L_4 R_4 R_L s^4 + 2 C_3 C_4 L_3 R_3 R_4 R_L s^3 + C_3 C_4 L_4 R_3 R_4 R_L s^3 + C_3 L_3 R_3 R_4 s^2 + 2 C_3 L_3 R_3 R_L s^2 + C_3 L_3 R_4 R_L s^2 + C_3 R_3 R_4 R_L s^3 + C_3 C_4 L_4 R_3 R_4 R_L s^3 + C_3 L_4 R_4 R_$$

10.865 INVALID-ORDER-865 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}, \infty, \frac{1}{C_Ls}\right)$$

10.866 INVALID-ORDER-866 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}, \infty, \frac{R_L}{C_LR_Ls + 1}\right)$$

$$H(s) = \frac{R_3 R_4 R_L \left(C_3 + C_3 C_4 L_3 L_4 R_3 R_4 R_L s^5 + C_3 C_4 L_3 L_4 R_3 R_4 s^4 + 2 C_3 C_4 L_3 L_4 R_3 R_L s^4 + 2 C_3 C_4 L_3 L_4 R_3 R_4 R_L s^4 + 2 C_3 C_4 L_3 R_3 R_4 R_L s^3 + C_3 C_4 L_4 R_3 R_4 R_L s^3 + C_3 C_4 L_3 R_4 R_L s^3 + C_3 C_4 R_4 R_L s^3 + C$$

10.867 INVALID-ORDER-867 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}, \infty, R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{1}{C_3C_4C_LL_3L_4R_3R_4s^5 + 2C_3C_4C_LL_3L_4R_3R_Ls^5 + C_3C_4C_LL_3L_4R_4R_Ls^5 + 2C_3C_4C_LL_3R_3R_4R_Ls^4 + C_3C_4C_LL_4R_3R_4R_Ls^4 + 2C_3C_4L_3L_4R_3s^4 + C_3C_4L_3L_4R_3s^4 + C_3C_4L_3L_3L_3s^4 + C_3C_4L_3L_3s^4 + C_3C_4L_3L_3s^4 + C_3C_4L_3L_3s^4 + C_3C_4L_3L_3s^4 + C_3C_4L_3L_3s^4 + C_3C_4L_3L_3s^4 + C$$

10.868 INVALID-ORDER-868 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}, \infty, L_Ls + \frac{1}{C_Ls}\right)$$

10.869 INVALID-ORDER-869 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}, \infty, \frac{L_Ls}{C_LL_Ls^2 + 1}\right)$$

10.870 INVALID-ORDER-870 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}, \infty, L_Ls + R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{1}{2C_3C_4C_LL_3L_4L_LR_3s^6 + C_3C_4C_LL_3L_4L_RA_s^6 + C_3C_4C_LL_3L_4R_3R_4s^5 + 2C_3C_4C_LL_3L_4R_3R_Ls^5 + C_3C_4C_LL_3L_4R_4R_Ls^5 + 2C_3C_4C_LL_3L_4R_3R_4s^5 + 2C_3C_4C_LL_3L_4R_3R$$

10.871 INVALID-ORDER-871 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}, \infty, \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

10.872 INVALID-ORDER-872 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}, \infty, \frac{L_Ls}{C_LL_Ls^2 + 1} + R_L\right)$$

10.873 INVALID-ORDER-873 
$$Z(s) = \left(\infty, \infty, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \frac{R_4\left(L_4s + \frac{1}{C_4s}\right)}{L_4s + R_4 + \frac{1}{C_4s}}, \infty, \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$