Filter Summary Report: TIA,some,parasitic,Z2,Z3,ZL

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10.80INVALID-ORDER-80 $Z(s) = \left(\infty, \frac{1}{C_2 s}, R_3, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$	98
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10.83INVALID-ORDER-83 $Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s}\right)$ 10.84INVALID-ORDER-84 $Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{1}{C_3 s}, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$ 10.85INVALID-ORDER-85 $Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{1}{C_3 s}, \infty, \infty, R_L + \frac{1}{C_L s}\right)$	98
$10.84 \text{INVALID-ORDER-84 } Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right) \dots \dots$	98
10.85INVALID-ORDER-85 $Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{1}{C_3 s}, \infty, \infty, R_L + \frac{1}{C_L s}\right)$	98

$10.86 \text{INVALID-ORDER-} 86 \ Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{1}{C_3 s}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s}\right) \ \dots $
$10.87 \text{INVALID-ORDER-87 } Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right) $
10.88INVALID-ORDER-88 $Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{1}{C_3 s}, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$
$10.89 \text{INVALID-ORDER-89 } Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right) $
$10.90 \text{INVALID-ORDER-90 } Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_T s}}\right) $
10.91INVALID-ORDER-91 $Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{R_3}{C_3 R_3 s+1}, \infty, \infty, R_L\right)$
$10.92 \text{INVALID-ORDER-92 } Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{R_3}{C_3 R_3 s+1}, \ \infty, \ \infty, \ \frac{1}{C_L s}\right) $
$10.93\text{INVALID-ORDER-93 } Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{R_3}{C_3 R_3 s+1}, \ \infty, \ \infty, \ \frac{R_L}{C_L R_L s+1}\right) $
10.94INVALID-ORDER-94 $Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{R_3}{C_3 R_3 s+1}, \infty, \infty, \infty, L_L s + \frac{1}{C_L s}\right)$
10.95INVALID-ORDER-95 $Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{R_3}{C_3 R_3 s+1}, \infty, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$
$10.96 \text{INVALID-ORDER-} 96 \ Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{R_3}{C_3 R_3 s+1}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2+1} + R_L\right) $
10.97INVALID-ORDER-97 $Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s} \right)}{L_L s + R_L + \frac{1}{C_L s}} \right)$
10.98INVALID-ORDER-98 $Z(s) = \left(\infty, \frac{1}{C_2 s}, R_3 + \frac{1}{C_3 s}, \infty, \infty, R_L\right)$
$10.99INVALID-ORDER-99 \ Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{1}{C_L s}\right) \qquad \dots \qquad \dots \qquad \dots \qquad \dots $
10.10 0 NVALID-ORDER-100 $Z(s) = \left(\infty, \frac{1}{C_2 s}, R_3 + \frac{1}{C_3 s}, \infty, \infty, R_L + \frac{1}{C_L s}\right)$
$10.10 \text{INVALID-ORDER-} 101 \ Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s}\right) \dots $
$10.102\text{NVALID-ORDER-}102\ Z(s) = \left(\infty,\ \frac{1}{C_2s},\ R_3 + \frac{1}{C_3s},\ \infty,\ \infty,\ \frac{L_Ls}{C_LL_Ls^2+1}\right) \qquad . \qquad $
$10.10 \text{ENVALID-ORDER-} 103 \ Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right) \dots \dots$
10.10 INVALID-ORDER-104 $Z(s) = \left(\infty, \frac{1}{C_2 s}, R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$
10.10 INVALID-ORDER-105 $Z(s) = \left(\infty, \frac{1}{C_2 s}, R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$
10.10 6 NVALID-ORDER-106 $Z(s) = \left(\infty, \frac{1}{C_2 s}, R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$
10.10 TNVALID-ORDER-107 $Z(s) = \left(\infty, \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s}\right)$
10.10 NVALID-ORDER-108 $Z(s) = \left(\infty, \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$
10.10 9 NVALID-ORDER-109 $Z(s) = \left(\infty, \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, R_L + \frac{1}{C_L s}\right)$
$10.11 \text{@NVALID-ORDER-110 } Z(s) = \left(\infty, \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, L_L s + \frac{1}{C_L s}\right) \dots \dots \dots \dots \dots \dots \dots \dots \dots $
10.11INVALID-ORDER-111 $Z(s) = \left(\infty, \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)'$
$10.11 \text{ ENVALID-ORDER-112 } Z(s) = \left(\infty, \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L L_L s^2 + 1}\right) $ $10.11 \text{ ENVALID-ORDER-112 } Z(s) = \left(\infty, \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L L_L s^2 + 1}\right) $ $10.11 \text{ ENVALID-ORDER-112 } Z(s) = \left(\infty, \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_2 s}, \frac{1}{$
10.11 2NVALID-ORDER-113 $Z(s) = \left(\infty, \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s + \frac{1}{C_1} + \frac{1}{c_1}}\right)$
10.114NVALID-ORDER-114 $Z(s) = \left(\infty, \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$
10.115NVALID-ORDER-115 $Z(s) = \left(\infty, \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$
10.11 6 NVALID-ORDER-116 $Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, \frac{1}{C_L s} \right)$
$10.11 \text{ INVALID-ORDER-} 117 \ Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \infty, \ \infty, \ R_L + \frac{1}{C_L s} \right) $ $10.11 \text{ INVALID-ORDER-} 118 \ Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s} \right) $ $10.11 \text{ INVALID-ORDER-} 119 \ Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right) $ $10.11 \text{ INVALID-ORDER-} 119 \ Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right) $
10.11\(\text{NVALID-ORDER-118} \(Z(s) = \left(\infty, \frac{L_3s}{C_3L_3s^2+1}, \frac{L_3s}{C_3L_3s^2+1}, \frac{\infty}{\infty}, \frac{L_Ls}{C_Ls} \right) \tag{10.11}\(\text{NVALID-ORDER-118} \(Z(s) = \left(\infty, \frac{L_3s}{C_3L_3s^2+1}, \infty, \infty, \infty, \frac{L_Ls}{C_Ls} \right) \tag{10.11}\(\text{NVALID-ORDER-118} \)
$10.11 \mathfrak{D} \text{NVALID-ORDER-119 } Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right) \dots $
10.12 0 NVALID-ORDER-120 $Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$

10.12INVALID-ORDER-121 $Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$
$10.122\text{NVALID-ORDER-}122\ Z(s) = \left(\infty,\ \frac{1}{C_2 s},\ \frac{L_3 s}{C_3 L_3 s^2 + 1},\ \infty,\ \infty,\ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)\ \dots \dots$
10.12 NVALID-ORDER-123 $Z(s) = \left(\infty, \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s}\right)$
10.124NVALID-ORDER-124 $Z(s) = \left(\infty, \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$
10.12 INVALID-ORDER-125 $Z(s) = \left(\infty, \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, R_L + \frac{1}{C_L s}\right)$
10.126NVALID-ORDER-126 $Z(s) = \left(\infty, \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, L_L s + \frac{1}{C_L s}\right)$
10.12 T NVALID-ORDER-127 $Z(s) = \left(\infty, \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$
10.12 NVALID-ORDER-128 $Z(s) = \left(\infty, \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$
10.12 INVALID-ORDER-129 $Z(s) = \left(\infty, \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$
10.13 0 NVALID-ORDER-130 $Z(s) = \left(\infty, \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$
10.13INVALID-ORDER-131 $Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s} \right)}{L_L s + R_L + \frac{1}{C_L s}} \right)$
$10.132 \text{NVALID-ORDER-} 132 \ Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \infty, \ \infty, \ R_L + \frac{1}{C_L s} \right) $
10.13 R NVALID-ORDER-133 $Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$
10.13\(\text{LVALID-ORDER-134}\(Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \infty, \infty, \infty, \infty, \left(L_L s + R_L + \frac{1}{C_L s}\right)\) \qquad \qqqq
10.13 INVALID-ORDER-135 $Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \infty, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$
$10.136 \text{NVALID-ORDER-} 136 \ Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \infty, \ \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) $
10.13 TNVALID-ORDER-137 $Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, \frac{1}{C_L s}\right)$
10.13 NVALID-ORDER-138 $Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$
10.13 9 NVALID-ORDER-139 $Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \ \infty, \ \infty, \ R_L + \frac{1}{C_L s} \right)$
10.14 0 NVALID-ORDER-140 $Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, L_L s + \frac{1}{C_L s} \right)$
$10.14 \text{INVALID-ORDER-141 } Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right) $
10.142NVALID-ORDER-142 $Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, L_L s + R_L + \frac{1}{C_L s} \right)$
$10.14 \text{BNVALID-ORDER-} 143 \ Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \ \infty, \ \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 $
10.14\(\text{INVALID-ORDER-144}\(Z(s) = \left(\infty, \frac{L_3s}{C_3L_3s^2+1} + R_3, \infty, \infty, \infty, \infty, \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right) \qquad \qqqq \qqqqq \qqqq
$10.14 \text{ INVALID-ORDER-} 145 \ Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \ \infty, \ \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 $
$ \begin{array}{c} 10.14 \text{Invalid-order-} 141 \ Z(s) = \left(\infty, \ \frac{c_{2s}}{c_{2s}}, \ \frac{c_{3d_3s^2+1}}{c_{3d_3s^2+1}} + R_3, \ \infty, \ \infty, \ \frac{c_{LL_Ls^2+1}}{c_{LL_s}} \right) \\ 10.14 \text{Invalid-order-} 142 \ Z(s) = \left(\infty, \ \frac{1}{c_2s}, \ \frac{L_3s}{c_3L_3s^2+1} + R_3, \ \infty, \ \infty, \ L_Ls + R_L + \frac{1}{c_{Ls}} \right) \\ 10.14 \text{Invalid-order-} 143 \ Z(s) = \left(\infty, \ \frac{1}{c_2s}, \ \frac{L_3s}{c_3L_3s^2+1} + R_3, \ \infty, \ \infty, \ \frac{1}{c_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}} \right) \\ 10.14 \text{Invalid-order-} 144 \ Z(s) = \left(\infty, \ \frac{1}{c_2s}, \ \frac{L_3s}{c_3L_3s^2+1} + R_3, \ \infty, \ \infty, \ \frac{L_Ls}{c_LL_s^2+1} + R_L \right) \\ 10.14 \text{Invalid-order-} 145 \ Z(s) = \left(\infty, \ \frac{1}{c_2s}, \ \frac{L_3s}{c_3L_3s^2+1} + R_3, \ \infty, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{c_Ls}\right)}{L_Ls + R_L + \frac{1}{c_Ls}} \right) \\ 10.14 \text{Invalid-order-} 146 \ Z(s) = \left(\infty, \ \frac{1}{c_2s}, \ \frac{R_3\left(L_3s + \frac{1}{c_3s}\right)}{L_3s + R_3 + \frac{1}{c_2s}}, \ \infty, \ \infty, \ \frac{1}{c_Ls} \right) \\ 10.14 \text{Invalid-order-} 146 \ Z(s) = \left(\infty, \ \frac{1}{c_2s}, \ \frac{R_3\left(L_3s + \frac{1}{c_3s}\right)}{L_3s + R_3 + \frac{1}{c_2s}}, \ \infty, \ \infty, \ \frac{1}{c_Ls} \right) \\ 10.14 \text{Invalid-order-} 146 \ Z(s) = \left(\infty, \ \frac{1}{c_2s}, \ \frac{R_3\left(L_3s + \frac{1}{c_3s}\right)}{L_3s + R_3 + \frac{1}{c_2s}}, \ \infty, \ \infty, \ \frac{1}{c_Ls} \right) \\ 10.14 \text{Invalid-order-} 146 \ Z(s) = \left(\infty, \ \frac{1}{c_2s}, \ \frac{R_3\left(L_3s + \frac{1}{c_3s}\right)}{L_3s + R_3 + \frac{1}{c_2s}}, \ \infty, \ \infty, \ \frac{1}{c_Ls} \right) \\ 10.14 \text{Invalid-order-} 146 \ Z(s) = \left(\infty, \ \frac{1}{c_2s}, \ \frac{R_3\left(L_3s + \frac{1}{c_3s}\right)}{L_3s + R_3 + \frac{1}{c_2s}}, \ \infty, \ \infty, \ \frac{1}{c_Ls} \right) \\ 10.14 \text{Invalid-order-} 146 \ Z(s) = \left(\infty, \ \frac{1}{c_2s}, \ \frac{R_3\left(L_3s + \frac{1}{c_3s}\right)}{L_3s + R_3 + \frac{1}{c_2s}}, \ \infty, \ \infty, \ \frac{1}{c_Ls} \right) \\ 10.14 \text{Invalid-order-} 146 \ Z(s) = \left(\infty, \ \frac{1}{c_2s}, \ \frac{1}{c_$
$10.14\text{TNVALID-ORDER-}147 \ Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{R_3\left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right) \ \dots $
$10.14 \$NVALID-ORDER-148 \ Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ R_L + \frac{1}{C_L s}\right) $
10.14 NVALID-ORDER-149 $Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \infty, \infty, L_L s + \frac{1}{C_L s}\right)$
$10.14 \text{INVALID-ORDER-} 140 \ Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{1}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ \frac{C_L s}{C_L s} \right)$ $10.14 \text{INVALID-ORDER-} 147 \ Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s} \right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$ $10.14 \text{INVALID-ORDER-} 148 \ Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s} \right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ R_L + \frac{1}{C_L s} \right)$ $10.14 \text{INVALID-ORDER-} 149 \ Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s} \right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$ $10.15 \text{INVALID-ORDER-} 150 \ Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s} \right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$ $10.6 \text{INVALID-ORDER-} 150 \ Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s} \right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$
$10.15 \text{INVALID-ORDER-151 } Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{R_3\left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right) $

10.15 2 NVALID-ORDER-152 $Z(s) =$	$\left(\infty, \ \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right) \ \dots \ $.06
10.15 & NVALID-ORDER-153 $Z(s)=$	$\left(\infty, \ \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right) \ \dots \ $.06
10.154NVALID-ORDER-154 $Z(s)=$	$\left(\infty, \ \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \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) \ . \ . \ . \ . \ . \ . \ . \ . \ . \ $.06
10.15 Б NVALID-ORDER-155 $Z(s) =$	$\left(\infty, \frac{R_2}{C_2R_2s+1}, R_3, \infty, \infty, \infty, R_L\right)$.06
10.156NVALID-ORDER-156 $Z(s) =$	$\left(\infty, \frac{R_2}{C_2R_2s+1}, R_3, \infty, \infty, \frac{1}{C_Ls}\right)$.06
10.15 NVALID-ORDER-157 $Z(s) =$	$\left(\infty, \frac{R_2}{C_2R_2s+1}, R_3, \infty, \infty, \frac{R_L}{C_LR_Ls+1}\right)$.07
10.15&NVALID-ORDER-158 $Z(s) =$	$\left(\infty, \frac{R_2}{C_2R_2s+1}, R_3, \infty, \infty, R_L + \frac{1}{C_Ls}\right)$.07
10.15 9 NVALID-ORDER-159 $Z(s) =$	$\left(\infty, \frac{R_2}{C_2R_2s+1}, \frac{1}{C_3s}, \infty, \infty, \infty, R_L\right)$.07
10.16 0 NVALID-ORDER-160 $Z(s) =$	$\left(\infty, \frac{R_2}{C_2R_2s+1}, \frac{1}{C_3s}, \infty, \infty, \frac{1}{C_Ls}\right)$.07
10.16 I NVALID-ORDER-161 $Z(s) =$	$\left(\infty, \frac{R_2}{C_2R_2s+1}, \frac{1}{C_3s}, \infty, \infty, \frac{R_L}{C_LR_Ls+1}\right)$.07
10.16 2 NVALID-ORDER-162 $Z(s) =$	$\left(\infty, \frac{R_2}{C_2R_2s+1}, \frac{1}{C_3s}, \infty, \infty, R_L + \frac{1}{C_Ls}\right)$.07
10.16 SNVALID-ORDER-163 $Z(s) =$	$\left(\infty, \ \frac{R_2}{C_2R_2s+1}, \ \frac{1}{C_3s}, \ \infty, \ \infty, \ L_Ls + \frac{1}{C_Ls}\right)$.07
10.16 4 NVALID-ORDER-164 $Z(s)=$	$\left(\infty, \frac{R_2}{C_2R_2s+1}, \frac{1}{C_3s}, \infty, \infty, \frac{L_Ls}{C_LL_Ls^2+1}\right)$.07
10.16 БNVALID-ORDER-165 $Z(s) =$	$\left(\infty, \frac{R_2}{C_2R_2s+1}, \frac{1}{C_3s}, \infty, \infty, L_Ls + R_L + \frac{1}{C_Ls}\right)$.07
10.16 CNVALID-ORDER-166 Z(s) =	$\left(\infty, \frac{R_2}{C_2R_2s+1}, \frac{1}{C_3s}, \infty, \infty, \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$.08
10.16 TNVALID-ORDER-167 $Z(s) =$	$\left(\infty, \ \frac{R_2}{C_2 R_2 s + 1}, \ \frac{1}{C_3 s}, \ \infty, \ \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) $.08
10.16&NVALID-ORDER-168 $Z(s) =$	$\left(\infty, \frac{R_2}{C_2R_2s+1}, \frac{R_3}{C_3R_3s+1}, \infty, \infty, R_L\right)$.08
10.16 9 NVALID-ORDER-169 $Z(s) =$	$\left(\infty, \frac{R_2}{C_2R_2s+1}, \frac{R_3}{C_3R_3s+1}, \infty, \infty, \frac{1}{C_Ls}\right)$.08
10.170NVALID-ORDER-170 $Z(s) =$	$\left(\infty, \frac{R_2}{C_2R_2s+1}, \frac{R_3}{C_3R_3s+1}, \infty, \infty, \frac{R_L}{C_LR_Ls+1}\right)$.08
10.17 I NVALID-ORDER-171 $Z(s) =$	$\left(\infty, \frac{R_2}{C_2R_2s+1}, \frac{R_3}{C_3R_3s+1}, \infty, \infty, L_Ls + \frac{1}{C_Ls}\right)$.08
10.172NVALID-ORDER-172 $Z(s) =$	$\left(\infty, \frac{R_2}{C_2R_2s+1}, \frac{R_3}{C_3R_3s+1}, \infty, \infty, \infty, L_Ls + R_L + \frac{1}{C_Ls}\right)$	108
10.17\$NVALID-ORDER-173 $Z(s) =$	$\left(\infty, \frac{R_2}{C_2R_2s+1}, \frac{R_3}{C_3R_3s+1}, \infty, \infty, \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$.08
10.174NVALID-ORDER-174 $Z(s) =$	$\left(\infty, \ \frac{R_2}{C_2R_2s+1}, \ \frac{R_3}{C_3R_3s+1}, \ \infty, \ \infty, \ \frac{R_L\left(L_Ls+\frac{1}{C_Ls}\right)}{L_Ls+R_L+\frac{1}{C_Ls}}\right) \ \dots \ $.08
10.17 5 NVALID-ORDER-175 $Z(s) =$	$\left(\infty, \ \frac{R_2}{C_2R_2s+1}, \ R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ R_L\right)$.09
10.176NVALID-ORDER-176 $Z(s) =$	$\left(\infty, \frac{R_2}{C_2R_2s+1}, R_3 + \frac{1}{C_2s}, \infty, \infty, \frac{1}{C_Ls}\right)$	109
10.17 NVALID-ORDER-177 $Z(s) =$	$\left(\infty, \frac{R_2}{C_2R_2s+1}, R_3 + \frac{1}{C_3s}, \infty, \infty, R_L + \frac{1}{C_Ls}\right)$.09
10.17&NVALID-ORDER-178 $Z(s)=$	$\left(\infty, \frac{R_2}{C_2R_2s+1}, R_3 + \frac{1}{C_3s}, \infty, \infty, R_L + \frac{1}{C_Ls}\right) \dots \dots$.09
10.17 9 NVALID-ORDER-179 $Z(s)=$	$\left(\infty, \frac{R_2}{C_2R_2s+1}, R_3 + \frac{1}{C_3s}, \infty, \infty, \frac{L_Ls}{C_LL_Ls^2+1}\right)$	109
10.18 0 NVALID-ORDER-180 $Z(s) =$	$\left(\infty, \frac{R_2}{C_2R_2s+1}, R_3 + \frac{1}{C_3s}, \infty, \infty, L_Ls + R_L + \frac{1}{C_Ls}\right)$	109
10.18INVALID-ORDER-181 $Z(s) =$	$\left(\infty, \frac{R_2}{C_2R_2s+1}, R_3 + \frac{1}{C_3s}, \infty, \infty, \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)^{\prime}$.09
10.18 2 NVALID-ORDER-182 $Z(s) =$	$\left(\infty, \frac{R_2}{C_2R_2s+1}, R_3 + \frac{1}{C_3s}, \infty, \infty, \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$.09
10.18 B NVALID-ORDER-183 $Z(s) =$	$\left(\infty, \frac{R_2}{C_2R_2s+1}, R_3 + \frac{1}{C_2s}, \infty, \infty, \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{L}}\right)$	109
10.18 4 NVALID-ORDER-184 $Z(s) =$	$\left(\infty, \frac{R_2}{C_2R_2s+1}, L_3s + \frac{1}{C_3s}, \infty, \infty, \frac{1}{C_Ls}\right) $ $\left(\infty, \frac{R_2}{C_2R_2s+1}, L_3s + \frac{1}{C_3s}, \infty, \infty, \frac{R_L}{C_LR_Ls+1}\right) $ 1	.10
10.18 5 NVALID-ORDER-185 $Z(s) =$	$(\infty, \frac{R_2}{C_2R_2s+1}, L_3s + \frac{1}{C_3s}, \infty, \infty, \frac{R_L}{C_LR_Ls+1})$	10

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10.18 \text{INVALID-ORDER-} 187 \ Z(s) = \left(\infty, \ \frac{R_2}{C_2 R_2 s+1}, \ L_3 s + \frac{1}{C_4 s}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_4 s}\right) \ \dots 
10.21 \text{ 2NVALID-ORDER-} 213 \ Z(s) = \left( \infty, \ \frac{R_2}{C_2 R_2 s + 1}, \ \frac{1}{C_3 s + \frac{1}{R_2} + \frac{1}{L_3 s}}, \ \infty, \ \infty, \ \frac{R_L \left( L_L s + \frac{1}{C_L s} \right)}{L_L s + R_L + \frac{1}{L_3 s}} \right) \quad \dots
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10.21 9 NVALID-ORDER-219 $Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{1}{C_3 L}\right)$	$\frac{L_3s}{L_3s^2+1} + R_3, \ \infty, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls}$	114
10.22 0 NVALID-ORDER-220 $Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{1}{C_3 L}\right)$	$\frac{L_3s}{L_3s^2+1} + R_3, \ \infty, \ \infty, \ \frac{1}{C_Ls + \frac{1}{R_I} + \frac{1}{L_Ls}} $	114
10.22INVALID-ORDER-221 $Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{1}{C_3 L}\right)$	$\frac{L_3s}{L_3s^2+1} + R_3, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1} + R_L \Big) \ \dots $	114
10.22 2 NVALID-ORDER-222 $Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{R_2}{C_3 L}\right)$	$\frac{L_3s}{L_3s^2+1} + R_3, \ \infty, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right) $	114
10.22 B NVALID-ORDER-223 $Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{R_3}{L_3 s}\right)$	$\frac{\left(L_3s+rac{1}{C_3s} ight)}{ss+R_3+rac{1}{C_4s}},\;\infty,\;\infty,\;rac{1}{C_Ls} ight)\;\ldots\;$	114
10.22 1 NVALID-ORDER-224 $Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{R_3}{L_3 s}\right)$	$\frac{\left(L_3s+rac{1}{C_3s} ight)}{(s+R_3+rac{1}{C_3s})},\;\infty,\;\infty,\;rac{R_L}{C_LR_Ls+1} ight)$	114
10.22 5 NVALID-ORDER-225 $Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{R_3}{L_3 s}\right)$	$\frac{\left(L_{3}s+\frac{1}{C_{3}s}\right)}{s+R_{3}+\frac{1}{C_{3}s}}, \ \infty, \ \infty, \ R_{L}+\frac{1}{C_{L}s}$	115
10.22 6 NVALID-ORDER-226 $Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{R_3}{L_3 s}\right)$	$\frac{\left(L_{3}s+rac{1}{C_{3}s} ight)}{(s+R_{3}+rac{1}{C_{3}s})},\;\infty,\;\infty,\;L_{L}s+rac{1}{C_{L}s} ight)\;\;\ldots\;\;\ldots\;\;\ldots\;\;\ldots\;\;\ldots\;\;\ldots\;\;\ldots\;\;\ldots\;\;\ldots\;\;\ldots\;\;\ldots\;\;\ldots\;\;\ldots$	115
10.22 T NVALID-ORDER-227 $Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{R_3}{L_3 s}\right)$	$\frac{\left(L_{3}s+rac{1}{C_{3}s} ight)}{(s+R_{3}+rac{1}{C_{3}s})},\;\infty,\;\infty,\;rac{L_{L}s}{C_{L}L_{L}s^{2}+1}$	115
10.22\NVALID-ORDER-228 $Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{R_3}{L_3 s}\right)$	$\frac{\left(L_{3}s+\frac{1}{C_{3}s}\right)}{s+R_{3}+\frac{1}{C_{3}s}}, \ \infty, \ \infty, \ L_{L}s+R_{L}+\frac{1}{C_{L}s}$	115
10.22 9 NVALID-ORDER-229 $Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{R_3}{L_3 s}\right)$	$\frac{\left(L_{3}s+\frac{1}{C_{3}s}\right)}{s+R_{3}+\frac{1}{C_{3}s}}, \ \infty, \ \infty, \ \frac{1}{C_{L}s+\frac{1}{R_{L}}+\frac{1}{L_{L}s}}\right)$	115
10.23 0 NVALID-ORDER-230 $Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{R_3}{L_3 s}\right)$	$\frac{\left(L_{3}s+\frac{1}{C_{3}s}\right)}{(s+R_{3}+\frac{1}{C_{3}s})}, \ \infty, \ \infty, \ \frac{L_{L}s}{C_{L}L_{L}s^{2}+1}+R_{L}$	115
10.23INVALID-ORDER-231 $Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{R_3}{L_3 s}\right)$	$\frac{\left(L_{3}s + \frac{1}{C_{3}s}\right)}{l_{s} + R_{3} + \frac{1}{C_{3}s}}, \ \infty, \ \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)^{\prime} \ . \ . \ . \ . \ . \ . \ . \ . \ . \ $	115
10.232NVALID-ORDER-232 $Z(s) = (\infty, R_2 + \frac{1}{C_2 s}, R_3)$	$_3,\;\infty,\;\infty,\;R_L\Big)$	115
>	$_3,\infty,\infty,rac{1}{C_L s}$)	116
`	$_3,\infty,\infty,rac{\stackrel{?}{R_L}}{C_LR_Ls+1}\Big)$	116
10.23 5 NVALID-ORDER-235 $Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, R_3\right)$	$_3,~\infty,~\infty,~R_L+rac{1}{C_L s}$	116
10.236NVALID-ORDER-236 $Z(s) = (\infty, R_2 + \frac{1}{C_{2s}}, \frac{1}{C_{3s}})$, '	116
10.23 T NVALID-ORDER-237 $Z(s) = \left(\infty, R_2 + \frac{1}{C_{2s}}, \frac{1}{C_{3s}}\right)$	$\frac{1}{3S}$, ∞ , ∞ , $\frac{1}{C_{IS}}$	116
(116
10.23 9 NVALID-ORDER-239 $Z(s) = \left(\infty, R_2 + \frac{1}{C_{0.8}}, \frac{1}{C_{0.8}}\right)$	$\frac{1}{1-\epsilon}$, ∞ , ∞ , $R_L + \frac{1}{1-\epsilon}$ $\frac{1}{1-\epsilon}$	116
10.24 0 NVALID-ORDER-240 $Z(s) = \left(\infty, R_2 + \frac{1}{C_{12}}, \frac{1}{C_{22}}\right)$	$egin{array}{l} rac{1}{3^s}, \; \infty, \; \infty, \; rac{R_L}{C_L R_L s + 1} \end{pmatrix} \; . \; . \; . \; . \; . \; . \; . \; . \; . \;$	116
10.24INVALID-ORDER-241 $Z(s) = \left(\infty, R_2 + \frac{1}{C_2}, \frac{1}{C_2}\right)$	$rac{1}{3^{8}},~\infty,~\infty,~rac{L_{L}s}{C_{L}L_{L}s^{2}+1} ight)$	116
10.242NVALID-ORDER-242 $Z(s) = (\infty, R_2 + \frac{1}{C_{2s}}, \frac{1}{C_{2s}})$	$\frac{1}{cs}$, ∞ , ∞ , $L_L s + R_L + \frac{1}{C + s}$)	117
10.24 B NVALID-ORDER-243 $Z(s) = \left(\infty, R_2 + \frac{1}{C_{0.8}}, \frac{1}{C_{0.8}}\right)$	$\frac{1}{3^s}$, ∞ , ∞ , $\frac{L_L s}{C_L L_L s^2 + 1} + R_L$	117
10.24 INVALID-ORDER-244 $Z(s) = \left(\infty, R_2 + \frac{1}{C_{22}}, \frac{1}{C_{22}}\right)$	$\frac{1}{L_{rs}}$, ∞ , ∞ , $\frac{R_L(L_L s + \frac{1}{C_L s})}{L_L s + \frac{1}{C_L s}}$	117
10.245NVALID-ORDER-245 $Z(s) = \left(\infty, R_2 + \frac{1}{2}, \frac{1}{2}\right)$	$\frac{R_3}{_3R_3s+1}, \; \infty, \; \infty, \; R_L $	117
10.246NVALID-ORDER-246 $Z(s) = \left(\infty, R_2 + \frac{1}{2}, \frac{1}{2}\right)$	$rac{R_3}{3R_3s+1}, \; \infty, \; \infty, \; rac{1}{C_L s}$	117
10.24 NVALID-ORDER-247 $Z(s) = \left(\infty, R_2 + \frac{1}{C_{2s}}, C_3 \right)$	$\frac{R_3}{R_3}$, ∞ , ∞ , $\frac{R_L}{R_1}$	117
10.248NVALID-ORDER-248 $Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, C_3, R_4 + \frac{1}{C_4 s} \right)$	$rac{R_3}{3R_3s+1}, \infty, \infty, rac{R_L}{C_LR_Ls+1} \Big) \ . \ . \ . \ . \ . \ . \ . \ . \ . \ $	117
10.24 9 NVALID-ORDER-249 $Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, C_3, \frac{1}{C_3 s}\right)$	$\frac{R_3}{R_3}$ \propto $\propto L_1 s + R_1 + \frac{1}{L_1}$	117
10.250NVALID-ORDER-250 $Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, C_3, \frac{1}{C_3 s}\right)$	$\frac{R_3}{R_3} \propto \frac{L_L s}{R_L} + R_L$	117
C_{2s} , C_{2s} , C_{3s}	$_3R_3s+1$, \sim , $_{C_L}L_Ls^2+1$, $_{C_L}L_Ls^2+1$	* * 1

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10.25 INVALID-ORDER-253 Z(s) = \left(\infty, R_2 + \frac{1}{C_{0.8}}, R_3 + \frac{1}{C_{0.8}}, \infty, \infty, \frac{1}{C_{1.8}}\right) \dots \dots \dots
10.254NVALID-ORDER-254 Z(s) = \left(\infty, R_2 + \frac{1}{C_{28}}, R_3 + \frac{1}{C_{28}}, \infty, \infty, R_L + \frac{1}{C_{L8}}\right) . . . . . . .
10.25 INVALID-ORDER-255 Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, R_3 + \frac{1}{C_2 s}, \infty, \infty, L_L s + \frac{1}{C_L s}\right) \dots \dots \dots
10.25 NVALID-ORDER-256 Z(s) = \left(\infty, R_2 + \frac{1}{C_0 s}, R_3 + \frac{1}{C_0 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right) .....
10.25\( \text{NVALID-ORDER-258} \( Z(s) = \left( \infty, \ R_2 + \frac{1}{C_2 s}, \ R_3 + \frac{1}{C_3 s}, \ \infty, \infty, \infty, \frac{1}{C_L s + \frac{1}{D} + \frac{1}{C_2 s}} \right) \quad \tag{118}
10.26 INVALID-ORDER-263 Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, L_3 s + \frac{1}{C_2 s}, \infty, \infty, R_L + \frac{1}{C_L s}\right) \dots
10.264NVALID-ORDER-264 Z(s) = \left(\infty, R_2 + \frac{1}{C_{2s}}, L_3 s + \frac{1}{C_{2s}}, \infty, \infty, L_L s + \frac{1}{C_{Ls}}\right) . . . . . . . . . . .
10.26TNVALID-ORDER-267 Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)
10.26\( \text{NVALID-ORDER-268} \( Z(s) = \left( \infty, \ R_2 + \frac{1}{C_2 s}, \ L_3 s + \frac{1}{C_2 s}, \ \infty, \infty, \infty, \infty, \infty, \infty, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right) \\ \quad \tag{1.00}
10.270NVALID-ORDER-270 Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{L_3 s}{C_2 L_3 s^2 + 1}, \infty, \infty, \frac{1}{C_L s}\right) \dots \dots \dots
10.27 INVALID-ORDER-273 Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right) .....
10.27 INVALID-ORDER-275 Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{L_3 s}{C_2 L_2 s^2 + 1}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right) . . . . . . . . . .
10.276NVALID-ORDER-276 Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \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
10.27 INVALID-ORDER-277 Z(s) = \left(\infty, R_2 + \frac{1}{C_{0.8}}, L_3 s + R_3 + \frac{1}{C_{0.8}}, \infty, \infty, \frac{1}{C_{0.8}}\right) . . . . . . . . . . . .
10.27\( \text{NVALID-ORDER-278} \) Z(s) = \left( \infty, \ R_2 + \frac{1}{C_2 s}, \ L_3 s + R_3 + \frac{1}{C_2 s}, \ \infty, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right) \quad \dots \quad \dots
10.28 INVALID-ORDER-280 Z(s) = \left(\infty, R_2 + \frac{1}{C_{2s}}, L_3 s + R_3 + \frac{1}{C_{2s}}, \infty, \infty, L_L s + \frac{1}{C_{Ls}}\right) . . . . . . .
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10.28 INVALID-ORDER-285 $Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$
10.28 INVALID-ORDER-286 $Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \infty, \infty, R_L + \frac{1}{C_L s}\right)$
10.28INVALID-ORDER-287 $Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \infty, \infty, L_L s + \frac{1}{C_L s}\right)$
10.28 NVALID-ORDER-288 $Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$
10.28 INVALID-ORDER-289 $Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$
$10.29 \text{ @NVALID-ORDER-290 } Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \infty, \ \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 $
10.29INVALID-ORDER-291 $Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, \frac{1}{C_L s}\right)$
10.292NVALID-ORDER-292 $Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$
10.29 INVALID-ORDER-293 $Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, R_L + \frac{1}{C_L s}\right)$
10.29\(\text{LVALID-ORDER-294}\(Z(s) = \sqrt{\infty}, \ R_2 + \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, \infty, L_L s + \frac{1}{C_L s}\)\\ \dots \tag{1.35}\\ \tag{1.35}
10.29 INVALID-ORDER-295 $Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)'$
$10.29 \text{ (INVALID-ORDER-296 } Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \ \infty, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right) \dots $
$10.29 \text{ INVALID-ORDER-} 297 \ Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \ \infty, \ \infty, \ \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}} \right)^{\frac{1}{2}} . \dots \dots$
10.29 NVALID-ORDER-298 $Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$
$10.29 \text{ (NVALID-ORDER-299 } Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \ \infty, \ \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 $
10.30 0 NVALID-ORDER-300 $Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ \frac{1}{C_L s}\right)$
10.30INVALID-ORDER-301 $Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$
10.30 2 NVALID-ORDER-302 $Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \infty, \infty, R_L + \frac{1}{C_L s}\right)$
10.30 2 NVALID-ORDER-303 $Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \infty, \infty, L_L s + \frac{1}{C_L s}\right)$
10.30 INVALID-ORDER-304 $Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s} \right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)'$
$10.30 \text{Invalid-order-} 305 \ Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_2 s} \right)}{L_3 s + R_3 + \frac{1}{C_2 s}}, \ \infty, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right) \ \dots $
$10.30 \text{ (INVALID-ORDER-306 } Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right) \ \dots $
$10.30 \text{ INVALID-ORDER-307 } Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s} \right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right) \ \dots $
10.30\text{NVALID-ORDER-308} $Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s} \right)}{L_3 s + R_3 + \frac{1}{C_2 s}}, \ \infty, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s} \right)}{L_L s + R_L + \frac{1}{C_L s}} \right)^{\prime} \dots \dots$
10.30 9 NVALID-ORDER-309 $Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, R_3, \infty, \infty, R_L\right)$
10.31 0 NVALID-ORDER-310 $Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, R_3, \infty, \infty, \frac{1}{C_4 s}\right)$
$10.30\mathfrak{P} \text{NVALID-ORDER-309 } Z(s) = \left(\infty, \ L_2s + \frac{1}{C_2s}, \ R_3, \ \infty, \ \infty, \ R_L\right) $ $10.31\mathfrak{P} \text{NVALID-ORDER-310 } Z(s) = \left(\infty, \ L_2s + \frac{1}{C_2s}, \ R_3, \ \infty, \ \infty, \ \frac{1}{C_Ls}\right) $ $10.31\mathfrak{P} \text{NVALID-ORDER-311 } Z(s) = \left(\infty, \ L_2s + \frac{1}{C_2s}, \ R_3, \ \infty, \ \infty, \ \frac{R_L}{C_LR_Ls+1}\right) $ 125
10.312NVALID-ORDER-312 $Z(s) = \left(\infty, L_2s + \frac{1}{C}, R_3, \infty, \infty, R_L + \frac{1}{C}\right)$
10.31 NVALID-ORDER-313 $Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, \frac{1}{C_2 s}, \infty, \infty, R_L\right)$
10.31\(\text{anvalib-ORDER-314}\(Z(s) = \sqrt{\infty}, \lambda_{2s} + \frac{1}{C_{2s}}, \frac{1}{C_{2s}}, \infty, \infty, \infty, \infty, \frac{1}{C_{1s}}\) \\ \tag{1.5}
$10.31 \text{NVALID-ORDER-} 313 \ Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{1}{C_3 s}, \ \infty, \ \infty, \ R_L\right) $ $10.31 \text{NVALID-ORDER-} 314 \ Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{1}{C_L s}\right) $ $10.31 \text{NVALID-ORDER-} 315 \ Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right) $ 125

10.316NVALID-ORDER-316 $Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{1}{C_3 s}, \ \infty, \ \infty, \ R_L + \frac{1}{C_L s}\right)$	125
10.31 INVALID-ORDER-317 $Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, \frac{1}{C_3 s}, \infty, \infty, L_L s + \frac{1}{C_L s}\right)$	125
$10.31 \& NVALID-ORDER-318 \ Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right) $	126
$10.31 \text{ @NVALID-ORDER-319 } Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{1}{C_3 s}, \ \infty, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right) \dots $	126
10.32 0 NVALID-ORDER-320 $Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$	126
10.32INVALID-ORDER-321 $Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$	126
10.32 2 NVALID-ORDER-322 $Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{R_3}{C_3 R_3 s + 1}, \ \infty, \ \infty, \ R_L\right)$	126
10.32\(\text{SNVALID-ORDER-323} \(Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{R_3}{C_3 R_3 s + 1}, \ \infty, \ \infty, \ \frac{1}{C_L s} \right) \].	126
$10.32 \text{ INVALID-ORDER-} 324 \ Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{R_3}{C_3 R_3 s + 1}, \ \infty, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right) \ \dots $	126
10.32 INVALID-ORDER-325 $Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{R_3}{C_3 R_3 s + 1}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$	126
10.326NVALID-ORDER-326 $Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{R_3}{C_3 R_3 s + 1}, \ \infty, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$	126
10.32TNVALID-ORDER-327 $Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{R_3}{C_3 R_3 s + 1}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$	127
10.32\(\text{NVALID-ORDER-328} \(Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{R_3}{C_3 R_3 s + 1}, \ \infty, \infty, \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) \ \tag{1.5}	127
10.329NVALID-ORDER-329 $Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ R_L\right)$	127
10.33@NVALID-ORDER-330 $Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{1}{C_L s}\right)$	127
10.33INVALID-ORDER-331 $Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, R_3 + \frac{1}{C_2 s}, \infty, \infty, \infty, R_L + \frac{1}{C_L s}\right)$	127
10.332NVALID-ORDER-332 $Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, R_3 + \frac{1}{C_3 s}, \infty, \infty, L_L s + \frac{1}{C_L s}\right)$	127
10.33\(\mathbb{Z}\)NVALID-ORDER-333\(Z(s) = \left(\infty, \L_2 s + \frac{1}{C_2 s}, \R_3 + \frac{1}{C_3 s}, \infty, \infty, \infty, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)	127
10.33\(\text{anvalid}\) NVALID-ORDER-334 $Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ R_3 + \frac{1}{C_2 s}, \ \infty, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$	127
10.33 INVALID-ORDER-335 $Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$	127
$10.33 \text{ 6NVALID-ORDER-} 336 \ Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ R_3 + \frac{1}{C_2 s}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right) \ \dots $	128
10.33 T NVALID-ORDER-337 $Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$	128
10.33 NVALID-ORDER-338 $Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ L_3 s + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{1}{C_L s} \right)$	128
10.33 9 NVALID-ORDER-339 $Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$	128
10.340NVALID-ORDER-340 $Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ L_3 s + \frac{1}{C_3 s}, \ \infty, \ \infty, \ R_L + \frac{1}{C_L s}\right)$	128
$10.34 \text{INVALID-ORDER-} 341 \ Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ L_3 s + \frac{1}{C_3 s}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s}\right) \ \dots $	128
$10.34 \text{ 2NVALID-ORDER-} 342 \ Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ L_3 s + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)' $	128
10.34 INVALID-ORDER-343 $Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$	
$10.34 \text{INVALID-ORDER-} 344 \ Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ L_3 s + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}} \right) \ \dots $	129
10.345NVALID-ORDER-345 $Z(s) = \left(\infty, \ L_2s + \frac{1}{C_2s}, \ L_3s + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2 + 1} + R_L\right)$	129
$10.34 \text{ 6NVALID-ORDER-} 346 \ Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ L_3 s + \frac{1}{C_3 s}, \ \infty, \ \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) \ . \ . \ . \ . \ . \ . \ . \ . \ . \ $	
10.34 INVALID-ORDER-347 $Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \infty, \ \infty, \ \frac{1}{C_L s}\right)$	129
10.34 NVALID-ORDER-348 $Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \infty, \ \infty, \ R_L + \frac{1}{C_L s}\right)$	129
$10.34 \text{ 9} \text{NVALID-ORDER-349 } Z(s) = \left(\infty, \ L_2 s + \frac{L_3 s}{C_2 L_3 s^2 + 1}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s} \right) $ $10.35 \text{ 0} \text{NVALID-ORDER-350 } Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_7 s}, \ \frac{L_3 s}{C_2 L_3 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right) $ $10.35 \text{ 0} \text{ NVALID-ORDER-350 } Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_7 s}, \ \frac{L_3 s}{C_2 L_3 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right) $	129
10.35 QNVALID-ORDER-350 $Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{L_3 s}{C_2 L_2 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_L s}{C_1 L_1 s^2 + 1}\right)$	129

10.35INVALID-ORDER-351 $Z(s) =$	$\left(\infty, \ L_2s + \frac{1}{C_2s}, \ \frac{L_3s}{C_3L_3s^2 + 1}, \ \infty, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls}\right)$. 129
	$\left(\infty, \ L_2s + \frac{1}{C_2s}, \ \frac{L_3s}{C_3L_3s^2+1}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$. 129
10.35 NVALID-ORDER-353 $Z(s) =$	$\left(\infty, \ L_2s + \frac{1}{C_2s}, \ \frac{L_3s}{C_3L_3s^2 + 1}, \ \infty, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right) \dots $. 130
10.354NVALID-ORDER-354 $Z(s) =$	$\left(\infty, L_2s + \frac{1}{C_2s}, L_3s + R_3 + \frac{1}{C_3s}, \infty, \infty, \frac{1}{C_Ls}\right)^{-1}$	130
10.35 Б NVALID-ORDER-355 $Z(s) =$	$\left(\infty, \ L_2s + \frac{1}{C_2s}, \ L_3s + R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{R_L}{C_LR_Ls + 1}\right)$. 130
10.356NVALID-ORDER-356 $Z(s) =$	$\left(\infty,\ L_2s + \frac{1}{C_2s},\ L_3s + R_3 + \frac{1}{C_3s},\ \infty,\ \infty,\ R_L + \frac{1}{C_Ls}\right)$. 130
10.35 T NVALID-ORDER-357 $Z(s) =$	$\left(\infty, \ L_2s + \frac{1}{C_2s}, \ L_3s + R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ L_Ls + \frac{1}{C_Ls}\right)$. 130
10.35&NVALID-ORDER-358 $Z(s) =$	$\left(\infty, \ L_2s + \frac{1}{C_2s}, \ L_3s + R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1}\right)$. 130
10.35 9 NVALID-ORDER-359 $Z(s) =$	$\left(\infty, \ L_2s + \frac{1}{C_2s}, \ L_3s + R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls}\right)$. 130
10.36 0 NVALID-ORDER-360 $Z(s) =$	$\left(\infty, \ L_2s + \frac{1}{C_2s}, \ L_3s + R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right) \ \dots $. 130
	$\left(\infty, \ L_2s + \frac{1}{C_2s}, \ L_3s + R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2 + 1} + R_L\right)$. 131
10.362NVALID-ORDER-362 $Z(s) =$	$\left(\infty, \ L_2s + \frac{1}{C_2s}, \ L_3s + R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right) \ \dots $. 131
10.36 B NVALID-ORDER-363 $Z(s)=$	$\left(\infty, \ L_2s + \frac{1}{C_2s}, \ \frac{1}{C_3s + \frac{1}{R_3} + \frac{1}{L_3s}}, \ \infty, \ \infty, \ R_L + \frac{1}{C_Ls}\right)$. 131
10.36#NVALID-ORDER-364 $Z(s)=$	$\left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s} \right) \dots \dots \dots \dots \dots \dots \dots \dots \dots $. 131
10.36 Б NVALID-ORDER-365 $Z(s) = % \left(\frac{1}{2} \right) \left(\frac{1}{2} \right)$	$\left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \infty, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right) \dots $	131
	$\left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right) \dots $. 131
10.36 T NVALID-ORDER-367 $Z(s) =$	$\left(\infty, \ L_2s + \frac{1}{C_2s}, \ \frac{1}{C_3s + \frac{1}{R_3} + \frac{1}{L_3s}}, \ \infty, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right) $. 131
10.36\nbelownvalid-Order-368 $Z(s) =$	$\left(\infty, \ L_2s + \frac{1}{C_2s}, \ \frac{L_3s}{C_3L_3s^2+1} + R_3, \ \infty, \ \infty, \ \frac{1}{C_Ls}\right)$. 131
10.36 9 NVALID-ORDER-369 $Z(s) =$	$\left(\infty, \ L_2s + \frac{1}{C_2s}, \ \frac{L_3s}{C_3\overline{L_3}s^2 + 1} + R_3, \ \infty, \ \infty, \ \frac{R_L}{C_L\overline{R_L}s + 1}\right)$. 132
10.370NVALID-ORDER-370 $Z(s) =$	$\left(\infty, \ L_2s + \frac{1}{C_2s}, \ \frac{L_3s}{C_3L_3s^2+1} + R_3, \ \infty, \ \infty, \ R_L + \frac{1}{C_Ls}\right)$. 132
10.37 I NVALID-ORDER-371 $Z(s) =$	$\left(\infty, \ L_2s + \frac{1}{C_2s}, \ \frac{L_3s}{C_3L_3s^2+1} + R_3, \ \infty, \ \infty, \ L_Ls + \frac{1}{C_Ls}\right)$	132
10.372NVALID-ORDER-372 $Z(s) =$	$\left(\infty, \ L_2s + \frac{1}{C_2s}, \ \frac{L_3s}{C_3L_3s^2+1} + R_3, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1}\right)$. 132
10.373NVALID-ORDER-373 $Z(s) = \\$	$\left(\infty,\ L_{2}s + \frac{1}{C_{2}s},\ \frac{L_{3}s}{C_{3}L_{3}s^{2}+1} + R_{3},\ \infty,\ \infty,\ \frac{L_{L}s}{C_{L}L_{L}s^{2}+1}\right) \ . \ . \ . \ . \ . \ . \ . \ . \ . \ $. 132
10.374NVALID-ORDER-374 $Z(s) =$	$\left(\infty, \ L_2s + \frac{1}{C_2s}, \ \frac{L_3s}{C_3L_3s^2 + 1} + R_3, \ \infty, \ \infty, \ \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right) \dots $. 132
10.37 NVALID-ORDER-375 $Z(s) =$	$\left(\infty, \ L_2s + \frac{1}{C_2s}, \ \frac{L_3s}{C_3L_3s^2+1} + R_3, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$. 132
10.376NVALID-ORDER-376 $Z(s) =$	$\left(\infty, \ L_{2}s + \frac{1}{C_{2}s}, \ \frac{L_{3}s}{C_{3}L_{3}s^{2}+1} + R_{3}, \ \infty, \ \infty, \ \frac{1}{C_{L}s + \frac{1}{R_{L}} + \frac{1}{L_{L}s}}\right) $ $\left(\infty, \ L_{2}s + \frac{1}{C_{2}s}, \ \frac{L_{3}s}{C_{3}L_{3}s^{2}+1} + R_{3}, \ \infty, \ \infty, \ \frac{L_{L}s}{C_{L}L_{L}s^{2}+1} + R_{L}\right) $ $\left(\infty, \ L_{2}s + \frac{1}{C_{2}s}, \ \frac{L_{3}s}{C_{3}L_{3}s^{2}+1} + R_{3}, \ \infty, \ \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) $ $\left(\infty, \ L_{2}s + \frac{1}{C_{2}s}, \ \frac{L_{3}s}{C_{3}L_{3}s^{2}+1} + R_{3}, \ \infty, \ \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) $. 132
10.37 NVALID-ORDER-377 $Z(s) =$	$\left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ \frac{1}{C_L s}\right) \ \dots $. 133
10.37&NVALID-ORDER-378 $Z(s) =$	$\left(\infty, L_2s + \frac{1}{C_2s}, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_{col}R_{col}L_{c$. 133
10.379 NVALID-ORDER-379 $Z(s)=% {\textstyle\int\limits_{s=0}^{\infty }} \left({\frac{1}{2}} \right) \left({1$	$\left(\infty, \ L_{2}s + \frac{1}{C_{2}s}, \ \frac{R_{3}\left(L_{3}s + \frac{1}{C_{3}s}\right)}{L_{3}s + R_{3} + \frac{1}{C_{3}s}}, \ \infty, \ \infty, \ R_{L} + \frac{1}{C_{L}s}\right) \\ \left(\infty, \ L_{2}s + \frac{1}{C_{2}s}, \ \frac{R_{3}\left(L_{3}s + \frac{1}{C_{3}s}\right)}{L_{3}s + R_{3} + \frac{1}{C_{3}s}}, \ \infty, \ \infty, \ L_{L}s + \frac{1}{C_{L}s}\right) \\ \left(\infty, \ L_{2}s + \frac{1}{C_{2}s}, \ \frac{R_{3}\left(L_{3}s + \frac{1}{C_{3}s}\right)}{L_{3}s + R_{3} + \frac{1}{C_{3}s}}, \ \infty, \ \infty, \ \frac{L_{L}s}{C_{L}L_{L}s^{2} + 1}\right) \\ \left(\infty, \ L_{2}s + \frac{1}{C_{2}s}, \ \frac{R_{3}\left(L_{3}s + \frac{1}{C_{3}s}\right)}{L_{3}s + R_{3} + \frac{1}{C_{3}s}}, \ \infty, \ \infty, \ \frac{L_{L}s}{C_{L}L_{L}s^{2} + 1}\right) \right.$. 133
10.380NVALID-ORDER-380 $Z(s) =$	$\left(\infty, \ L_2s + \frac{1}{C_2s}, \ \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \infty, \ \infty, \ L_Ls + \frac{1}{C_Ls}\right) \ \dots $. 133
10.38INVALID-ORDER-381 $Z(s) =$	$\left(\infty, \ L_2s + \frac{1}{C_2s}, \ \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2 + 1}\right) $. 133

10.382NVALID-ORDER-382 $Z(s) =$	$\left(\infty, \ L_2s + \frac{1}{C_2s}, \ \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \infty, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls}\right) \ \dots $	133
10.382NVALID-ORDER-383 $Z(s) =$	$\left(\infty, \ L_2s + \frac{1}{C_2s}, \ \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \infty, \ \infty, \ \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right) \right) - \dots $	133
10.384NVALID-ORDER-384 $Z(s)=$	$\left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right) \dots $	133
10.38 INVALID-ORDER-385 $Z(s) =$	$\left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ \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 $	134
10.38 6 NVALID-ORDER-386 $Z(s) =$	$\left(\infty,\ L_2s+R_2+rac{1}{C_2s},\ R_3,\ \infty,\ \infty,\ R_L ight)$	134
10.38¶NVALID-ORDER-387 $Z(s) =$	$(\infty, L_2s + R_2 + \frac{1}{C_2s}, R_3, \infty, \infty, \frac{1}{C_Ls})$	134
10.38\nvalid-Order-388 $Z(s) =$	$(\infty, L_2s + R_2 + \frac{1}{C_2s}, R_3, \infty, \infty, \frac{R_L}{C_LR_Ls + 1})$	134
10.38 9 NVALID-ORDER-389 $Z(s) =$	$\left(\infty,\ L_2s+R_2+rac{1}{C_2s},\ R_3,\ \infty,\ \infty,\ R_L+rac{1}{C_Ls} ight)$	134
10.39 0 NVALID-ORDER-390 $Z(s) =$	$(\infty, L_2s + R_2 + \frac{1}{C_2s}, \frac{1}{C_3s}, \infty, \infty, \infty, R_L)$	134
10.39 INVALID-ORDER-391 $Z(s) = \displaystyle$	$\left(\infty,\ L_2s+R_2+rac{1}{C_2s},\ rac{1}{C_3s},\ \infty,\ \infty,\ rac{1}{C_Ls} ight)$	134
10.39 2 NVALID-ORDER-392 $Z(s) =$	$\left(\infty,\ L_2s+R_2+rac{1}{C_2s},\ rac{1}{C_3s},\ \infty,\ \infty,\ rac{R_L}{C_LR_Ls+1} ight)$	134
10.39 % NVALID-ORDER-393 $Z(s) =$	$(\infty, L_2s + R_2 + \frac{1}{C_2s}, \frac{1}{C_3s}, \infty, \infty, \infty, R_L + \frac{1}{C_Ls})$	134
10.39 4 NVALID-ORDER-394 $Z(s) =$	$(\infty, L_2s + R_2 + \frac{1}{C_2s}, \frac{1}{C_3s}, \infty, \infty, \infty, L_Ls + \frac{1}{C_Ls})$	135
10.39 5 NVALID-ORDER-395 $Z(s) =$	$\left(\infty,\ L_2s + R_2 + \frac{1}{C_2s},\ \frac{1}{C_3s},\ \infty,\ \infty,\ \frac{L_Ls}{C_LL_Ls^2+1}\right)$	135
10.396NVALID-ORDER-396 $Z(s) =$	$\left(\infty,\ L_2s + R_2 + \frac{1}{C_2s},\ \frac{1}{C_3s},\ \infty,\ \infty,\ L_Ls + R_L + \frac{1}{C_Ls}\right)$	135
10.39 NVALID-ORDER-397 $Z(s) =$	$\left(\infty, \ L_2s + R_2 + \frac{1}{C_2s}, \ \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2 + 1} + R_L\right)$	135
10.39&NVALID-ORDER-398 $Z(s) =$	$\left(\infty, \ L_2s + R_2 + \frac{1}{C_2s}, \ \frac{1}{C_3s}, \ \infty, \ \infty, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right) $	135
10.39 9 NVALID-ORDER-399 $Z(s) =$	$\left(\infty, \ L_2s + R_2 + \frac{1}{C_2s}, \ \frac{R_3}{C_3R_3s+1}, \ \infty, \ \infty, \ R_L\right)$	135
10.40 0 NVALID-ORDER-400 $Z(s) =$	$\left(\infty, \ L_2s + R_2 + \frac{1}{C_2s}, \ \frac{R_3}{C_3R_3s+1}, \ \infty, \ \infty, \ \frac{1}{C_Ls}\right)$	135
10.40 I NVALID-ORDER-401 $Z(s) =$	$\left(\infty, \ L_2s + R_2 + \frac{1}{C_2s}, \ \frac{R_3}{C_3R_3s+1}, \ \infty, \ \infty, \ \frac{R_L}{C_LR_Ls+1}\right)$	135
10.40 2 NVALID-ORDER-402 $Z(s) =$	$\left(\infty, \ L_2s + R_2 + \frac{1}{C_2s}, \ \frac{R_3}{C_3R_3s + 1}, \ \infty, \ \infty, \ L_Ls + \frac{1}{C_Ls}\right)$	135
10.40 B NVALID-ORDER-403 $Z(s) =$	$\left(\infty, \ L_2s + R_2 + \frac{1}{C_2s}, \ \frac{R_3}{C_3R_3s + 1}, \ \infty, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls}\right)$	136
10.40 4 NVALID-ORDER-404 $Z(s) =$	$\left(\infty,\ L_{2}s+R_{2}+\frac{1}{C_{2}s},\ \frac{R_{3}}{C_{3}R_{3}s+1},\ \infty,\ \infty,\ \frac{L_{L}s}{C_{L}L_{L}s^{2}+1}+R_{L}\right)$	136
10.405NVALID-ORDER- $405 Z(s) =$	$\left(\infty, L_2 s + R_2 + \frac{1}{2}, \frac{R_3}{2}, \infty, \infty, \infty, \frac{R_L(L_L s + \overline{C_L s})}{R_2}\right)$	136
10.40 6 NVALID-ORDER-406 $Z(s) =$	$\left(\infty,\ L_2s+R_2+\frac{1}{C_2s},\ R_3+\frac{1}{C_3s},\ \infty,\ \infty,\ R_L\right)$	136
10.40 T NVALID-ORDER-407 $Z(s) =$	$\left(\infty, \ L_2s + R_2 + \frac{1}{C_2s}, \ R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{1}{C_Ls}\right)$	136
10.40&NVALID-ORDER-408 $Z(s) =$	$ \left(\begin{array}{cccccccccccccccccccccccccccccccccccc$	136
10.409NVALID-ORDER- $409 Z(s) =$	$\left(\infty,\ L_2s+R_2+\frac{1}{C_2s},\ R_3+\frac{1}{C_3s},\ \infty,\ \infty,\ L_Ls+\frac{1}{C_Ls}\right)$. 136
10.41 0 NVALID-ORDER-410 $Z(s) =$	$\left(\infty, \ L_2s + R_2 + \frac{1}{C_2s}, \ R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2 + 1}\right)'$	136
10.41 I NVALID-ORDER-411 $Z(s) =$	$\left(\infty, \ L_2s + R_2 + \frac{1}{C_2s}, \ R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls}\right)$	136
10.41 2 NVALID-ORDER-412 $Z(s) =$	$ \begin{pmatrix} \infty, L_{2}s + R_{2} + \frac{1}{C_{2}s}, R_{3} + \frac{1}{C_{3}s}, & \infty, & \infty, L_{L}s + R_{L} + \frac{1}{C_{L}s} \end{pmatrix} \\ \begin{pmatrix} \infty, L_{2}s + R_{2} + \frac{1}{C_{2}s}, R_{3} + \frac{1}{C_{3}s}, & \infty, & \infty, \frac{1}{C_{L}s + \frac{1}{R_{L}} + \frac{1}{L_{L}s}} \end{pmatrix} \\ \begin{pmatrix} \infty, L_{2}s + R_{2} + \frac{1}{C_{2}s}, R_{3} + \frac{1}{C_{3}s}, & \infty, & \infty, \frac{L_{L}s}{C_{L}L_{L}s^{2} + 1} + R_{L} \end{pmatrix} \\ \begin{pmatrix} \infty, L_{2}s + R_{2} + \frac{1}{C_{2}s}, R_{3} + \frac{1}{C_{3}s}, & \infty, & \infty, \frac{L_{L}s}{C_{L}L_{L}s^{2} + 1} + R_{L} \end{pmatrix} $	137
10.41 B NVALID-ORDER-413 $Z(s) =$	$\left(\infty, \ L_2s + R_2 + \frac{1}{C_2s}, \ R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2 + 1} + R_L\right)$	137
10.41 4 NVALID-ORDER-414 $Z(s)=$	$\left(\infty, \ L_{2}s + R_{2} + \frac{1}{C_{2}s}, \ R_{3} + \frac{1}{C_{3}s}, \ \infty, \ \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) $ $\left(\infty, \ L_{2}s + R_{2} + \frac{1}{C_{2}s}, \ L_{3}s + \frac{1}{C_{3}s}, \ \infty, \ \infty, \ \frac{1}{C_{L}s} \right) \dots $	137
10.41 INVALID-ORDER-415 $Z(s) =$	$\left(\infty,\ L_2s + R_2 + \frac{1}{C_2s},\ L_3s + \frac{1}{C_3s},\ \infty,\ \infty,\ \frac{1}{C_Ls}\right)$	137

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10.416NVALID-ORDER-416 Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, L_3 s + \frac{1}{C_2 s}, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)
10.41 TNVALID-ORDER-417 Z(s) = (\infty, L_2 s + R_2 + \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, R_L + \frac{1}{C_L s}) . . . . . . . . .
10.418NVALID-ORDER-418 Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, L_L s + \frac{1}{C_L s}\right) \dots \dots \dots
10.419NVALID-ORDER-419 Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_0 s}, L_3 s + \frac{1}{C_0 s}, \infty, \infty, \frac{L_L s}{C_1 L_1 s^2 + 1}\right) .....
10.42INVALID-ORDER-421 Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s + \frac{1}{D_2} + \frac{1}{L_2}}\right) \dots \dots \dots \dots
10.422NVALID-ORDER-422 Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right) ......
10.42 INVALID-ORDER-423 Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, \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)
10.424NVALID-ORDER-424 Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, \frac{L_3 s}{C_2 L_2 s^2 + 1}, \infty, \infty, \frac{1}{C_1 s}\right) . . . . . . . . . . . . . . . . .
10.426NVALID-ORDER-426 Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, \frac{L_3 s}{C_2 L_2 s^2 + 1}, \infty, \infty, L_L s + \frac{1}{C_L s}\right) . . . . .
10.42 INVALID-ORDER-427 Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, \frac{L_3 s}{C_2 L_2 s^2 + 1}, \infty, \infty, \frac{L_L s}{C_1 L_2 s^2 + 1}\right) . . . . . . . .
10.429NVALID-ORDER-429 Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, \frac{L_3 s}{C_2 L_2 s^2 + 1}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right) \dots
10.43 INVALID-ORDER-430 Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \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)
10.43INVALID-ORDER-431 Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_2 s}, \infty, \infty, \frac{1}{C_4 s}\right) . . . . . .
10.432NVALID-ORDER-432 Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right) \dots \dots
10.43 INVALID-ORDER-434 Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_2 s}, \infty, \infty, L_L s + \frac{1}{C_L s}\right) . . . . . . . . . . . .
10.43 INVALID-ORDER-435 Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_2 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right) ......
10.436NVALID-ORDER-436 Z(s) = \left(\infty, L_2s + R_2 + \frac{1}{C_2s}, L_3s + R_3 + \frac{1}{C_3s}, \infty, \infty, L_Ls + R_L + \frac{1}{C_Ls}\right) .....
10.43 INVALID-ORDER-437 Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_T} + \frac{1}{L_T s}}\right) \dots \dots \dots \dots
10.43\(\text{NVALID-ORDER-438}\(Z(s) = \int(\infty, L_2s + R_2 + \frac{1}{C_2s}, L_3s + R_3 + \frac{1}{C_3s}, \infty, \infty, \infty, \infty, \infty, \frac{L_Ls}{C_LL_Ls^2 + 1} + R_L\infty\) \\\ \tag{1.0}\)
10.439NVALID-ORDER-439 Z(s) = \left(\infty, L_2s + R_2 + \frac{1}{C_2s}, L_3s + R_3 + \frac{1}{C_3s}, \infty, \infty, \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right) ......
10.440NVALID-ORDER-440 Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_2 s}}, \infty, \infty, R_L + \frac{1}{C_L s}\right)
10.44 \text{ENVALID-ORDER-} 443 \ Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{1}{C_3 s + \frac{1}{R_2} + \frac{1}{L_2 s}}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right) 
10.44 INVALID-ORDER-444 Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{1}{C_3 s + \frac{1}{R_2} + \frac{1}{L_2 s}}, \ \infty, \ \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)
10.44 INVALID-ORDER-445 Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, \frac{L_3 s}{C_2 L_3 s^2 + 1} + R_3, \infty, \infty, \frac{1}{C_1 s}\right) . . . . . . . . . . . . . .
10.44 INVALID-ORDER-447 Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, \frac{L_3 s}{C_2 L_2 s^2 + 1} + R_3, \infty, \infty, R_L + \frac{1}{C_L s}\right) \dots
10.44\(\text{NVALID-ORDER-448}\(Z(s) = \left(\infty, \L_2 s + R_2 + \frac{1}{C_2 s}, \frac{L_3 s}{C_2 L_2 s^2 + 1} + R_3, \infty, \infty, \infty, \infty, \L_L s + \frac{1}{C_L s}\right) \\dots \cdots \cdo
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10.44 9 NVALID-ORDER-449 $Z(s) =$	$= \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right) \ \dots $	141
10.45 ONVALID-ORDER- $450 Z(s) =$	$= \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \ \infty, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right) \ \dots $	141
10.45INVALID-ORDER-451 $Z(s) =$	$= \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \ \infty, \ \infty, \ \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}} \right) \dots $	141
10.45 2 NVALID-ORDER- 452 $Z(s) =$	$= \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + \overset{'}{R_L} \right) \dots $	142
10.45 B NVALID-ORDER-453 $Z(s) =$	$= \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \ \infty, \ \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 $	142
10.454NVALID-ORDER-454 $Z(s) =$	$= \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s} \right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ \frac{1}{C_L s} \right) \ \dots $	142
10.45 5 NVALID-ORDER-455 $Z(s)=$	$= \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s} \right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right) \ \dots $	142
10.456NVALID-ORDER-456 $Z(s) =$	$= \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s} \right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ R_L + \frac{1}{C_L s} \right) $	142
10.45 T NVALID-ORDER-457 $Z(s) =$	$= \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s} \right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s} \right) \ \dots $	142
10.45&NVALID-ORDER-458 $Z(s) =$	$= \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s} \right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right) $	142
	$= \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s} \right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right) $	142
	$= \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s} \right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}} \right) \right) $	143
	$= \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s} \right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right) \dots $	143
10.462NVALID-ORDER-462 $Z(s) =$	$= \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s} \right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \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 $	143
	$=\left(\infty,\; rac{L_2s}{C_2L_2s^2+1}+R_2,\; R_3,\; \infty,\; \infty,\; R_L ight)\; \ldots \ldots$	143
10.46#NVALID-ORDER-464 $Z(s) =$	$=\left(\infty,\ \frac{L_2s}{C_2L_2s^2+1}+R_2,\ R_3,\ \infty,\ \infty,\ \frac{1}{C_Ls}\right)$	143
10.46 5 NVALID-ORDER-465 $Z(s) =$	$=\left(\infty,\; rac{L_2s}{C_2L_2s^2+1}+R_2,\; R_3,\; \infty,\; \infty,\; rac{R_L}{C_LR_Ls+1} ight)$	143
10.46 ENVALID-ORDER-466 $Z(s) =$	$=\left(\infty,\;rac{L_2s}{C_2L_2s^2+1}+R_2,\;R_3,\;\infty,\;\infty,\;R_L+rac{1}{C_Ls} ight)\;\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots$	143
10.46 T NVALID-ORDER-467 $Z(s) =$	$=\left(\infty,\;rac{L_2s}{C_2L_2s^2+1}+R_2,\;rac{1}{C_3s},\;\infty,\;\infty,\;R_L ight)$	143
10.46 NVALID-ORDER-468 $Z(s) =$	$=\left(\infty, \ \frac{L_{2S}}{C_2L_2s^2+1} + R_2, \ \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{1}{C_{Ls}}\right)$	143
10.46 9 NVALID-ORDER-469 $Z(s) =$	$= \left(\infty, \ \frac{L_2s}{C_2L_0s^2+1} + R_2, \ \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{R_L}{C_LR_Ls+1} \right) \dots \dots \dots \dots \dots \dots \dots \dots \dots $	144
10.47 0 NVALID-ORDER-470 $Z(s) =$	$= \left(\infty, \ \frac{L_{2s}}{C_2 L_{2s}^2 + 1} + R_2, \ \frac{1}{C_{2s}}, \ \infty, \ \infty, \ R_L + \frac{1}{C_{Ls}} \right) \dots \dots \dots \dots \dots \dots \dots \dots \dots $	144
10.47 I NVALID-ORDER-471 $Z(s) =$	$= \left(\infty, \ \frac{L_2 s}{C_2 L_2 s^2 + 1} + R_2, \ \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right) $ $= \left(\infty, \ \frac{L_2 s}{C_2 L_2 s^2 + 1} + R_2, \ \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right) $ $= \left(\infty, \ \frac{L_2 s}{C_2 L_2 s^2 + 1} + R_2, \ \frac{1}{C_3 s}, \ \infty, \ \infty, \ R_L + \frac{1}{C_L s} \right) $ $= \left(\infty, \ \frac{L_2 s}{C_2 L_2 s^2 + 1} + R_2, \ \frac{1}{C_3 s}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s} \right) $	144
10.47 2 NVALID-ORDER- $472 Z(s) =$	$=\left(\infty, \frac{L_2s}{C_2L_3s^2+1}+R_2, \frac{1}{C_2s}, \infty, \infty, \frac{L_Ls}{C_LL_Ls^2+1}\right)$	144
10.47BNVALID-ORDER- 473 $Z(s) =$	$= \left(\infty, \frac{L_2s}{C_2L_2s^2+1} + R_2, \frac{1}{C_2s}, \infty, \infty, L_Ls + R_L + \frac{1}{C_2s} \right) \dots $	144
10.47#NVALID-ORDER-474 $Z(s) =$	$= \left(\infty, \ \frac{L_{2S}}{C_{2}L_{2s}^{2}+1} + R_{2}, \ \frac{1}{C_{3s}}, \ \infty, \ \infty, \ \frac{L_{LS}}{C_{L}L_{Ls}^{2}+1} + R_{L} \right) \dots $	144
	$= \left(\infty, \ \frac{L_2 s}{C_2 L_2 s^2 + 1} + R_2, \ \frac{1}{C_3 s}, \ \infty, \ \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 $	
10.476NVALID-ORDER-476 $Z(s) =$	$= \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{R_3}{C_3R_3s+1}, \ \infty, \ \infty, \ R_L \right) \ . \ . \ . \ . \ . \ . \ . \ . \ . \ $	144
10.47TNVALID-ORDER- $477 Z(s) =$	$=\left(\infty,\ \frac{L_2s}{C_2L_3s^2+1}+R_2,\ \frac{R_3}{C_2R_3s+1},\ \infty,\ \infty,\ \frac{1}{C_Ls} ight)$	144
10.478NVALID-ORDER- 478 $Z(s) =$	$=\left(\infty, \frac{L_2s}{GL^{-2}+1}+R_2, \frac{R_3}{GR^{-2}+1}, \infty, \infty, \frac{R_L}{GR^{-2}+1}\right)$	145
10.47 9 NVALID-ORDER-479 $Z(s) =$	$= \left(\infty, \ \frac{L_2s}{C_2L_3s^2+1} + R_2, \ \frac{R_3}{C_3R_3s+1}, \ \infty, \ \infty, \ L_Ls + \frac{1}{C_Ls} \right)$	145
10.48 0 NVALID-ORDER-480 $Z(s) =$	$= \left(\infty, \frac{L_2 s}{C_2 L_2 s^2 + 1} + R_2, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, L_L s + \frac{1}{C_L s} \right) $ $= \left(\infty, \frac{L_2 s}{C_2 L_2 s^2 + 1} + R_2, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, L_L s + \frac{1}{C_L s} \right) $ $= \left(\infty, \frac{L_2 s}{C_2 L_2 s^2 + 1} + R_2, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, L_L s + R_L + \frac{1}{C_L s} \right) $	145

10.48INVALID-ORDER-481 $Z(s) = 0$	$\left(\infty, \frac{L_2s}{C_2L_2s^2+1} + R_2, \frac{R_3}{C_3R_3s+1}, \infty, \infty, \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$	145
10.48 2 NVALID-ORDER-482 $Z(s) = 1$	$\left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{R_3}{C_3R_3s+1}, \ \infty, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ts}}\right) \ \dots $	145
10.48 B NVALID-ORDER-483 $Z(s) = ($	$\left(\infty,\ \frac{L_{2s}}{C_2L_2s^2+1}+R_2,\ R_3+\frac{1}{C_3s},\ \infty,\ \infty,\ R_L\right)$	145
10.48#NVALID-ORDER-484 $Z(s) = 0$	$(\infty, \frac{L_2s}{C_2L_2s^2+1} + R_2, R_3 + \frac{1}{C_3s}, \infty, \infty, \frac{1}{C_Ls})$	145
10.485NVALID-ORDER-485 $Z(s) = 0$	$\left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ R_L + \frac{1}{C_Ls}\right)$	145
10.486NVALID-ORDER-486 $Z(s) = 0$	$\left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ L_Ls + \frac{1}{C_Ls}\right)$	145
10.48 TNVALID-ORDER-487 $Z(s) = 0$	$\left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1}\right)$	146
10.48\(\text{NVALID-ORDER-488} \(Z(s) = ($\left(\infty, \frac{L_2s}{C_2L_2s^2+1} + R_2, R_3 + \frac{1}{C_3s}, \infty, \infty, L_Ls + R_L + \frac{1}{C_Ls}\right)$	146
10.48 9 NVALID-ORDER-489 $Z(s) = 1$	$\left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right) \ \dots $	146
	$\left(\infty, \frac{L_2s}{C_2L_2s^2+1} + R_2, R_3 + \frac{1}{C_3s}, \infty, \infty, \infty, \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$	146
10.49 INVALID-ORDER-491 $Z(s) = \langle$	$\left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right) \ \dots \ $	146
10.49 2 NVALID-ORDER-492 $Z(s) = 0$	$\left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ L_3s + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{1}{C_Ls}\right)$	146
10.49 B NVALID-ORDER-493 $Z(s) = 0$	$\left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ L_3s + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{R_L}{C_LR_Ls+1}\right)$	146
10.49 4 NVALID-ORDER-494 $Z(s) = 0$	$\left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ L_3s + \frac{1}{C_3s}, \ \infty, \ \infty, \ R_L + \frac{1}{C_Ls}\right)$	146
10.495NVALID-ORDER- $495 Z(s) = 0$	$\left(\infty, \frac{L_2s}{C_2L_2s^2+1} + R_2, L_3s + \frac{1}{C_3s}, \infty, \infty, L_Ls + \frac{1}{C_Ls}\right)$	147
	$\left(\infty, \frac{L_2s}{C_2L_2s^2+1} + R_2, L_3s + \frac{1}{C_3s}, \infty, \infty, \frac{L_Ls}{C_LL_Ls^2+1}\right)$	147
10.49TNVALID-ORDER- $497 Z(s) = 0$	$\left(\infty, \frac{L_2s}{C_2L_2s^2+1} + R_2, L_3s + \frac{1}{C_3s}, \infty, \infty, L_Ls + R_L + \frac{1}{C_Ls}\right)$	147
10.49&NVALID-ORDER-498 $Z(s) = 1$	$\left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ L_3s + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)\right]$	147
	$\left(\infty, \frac{L_2s}{C_2L_2s^2+1} + R_2, L_3s + \frac{1}{C_3s}, \infty, \infty, \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$	147
10.50 0 NVALID-ORDER-500 $Z(s) = 1$	$\left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ L_3s + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right) \ \dots $	147
10.50 I NVALID-ORDER-501 $Z(s) = ($	$\left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{L_3s}{C_3L_3s^2+1}, \ \infty, \ \infty, \ \frac{1}{C_Ls}\right)$	147
10.50 2 NVALID-ORDER-502 $Z(s) = 0$	$\left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{L_3s}{C_3L_3s^2+1}, \ \infty, \ \infty, \ R_L + \frac{1}{C_Ls}\right)$	147
10.50 B NVALID-ORDER-503 $Z(s) = 0$	$\left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{L_3s}{C_3L_3s^2+1}, \ \infty, \ \infty, \ L_Ls + \frac{1}{C_Ls}\right) \ \dots $	148
10.50 4 NVALID-ORDER- 504 $Z(s) = ($	$\left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{L_3s}{C_3L_3s^2+1}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1}\right) \dots $	148
	$\left(\infty, \frac{L_2s}{C_2L_2s^2+1} + R_2, \frac{L_3s}{C_3L_3s^2+1}, \infty, \infty, \infty, L_Ls + R_L + \frac{1}{C_Ls}\right)$	
	$\left(\infty, \frac{L_2s}{C_2L_2s^2+1} + R_2, \frac{L_3s}{C_3L_3s^2+1}, \infty, \infty, \infty, \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)'$	
10.50¶NVALID-ORDER-507 $Z(s) = 1$	$\left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{L_3s}{C_3L_3s^2+1}, \ \infty, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right) \ \dots $	148
	$\left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ L_3s + R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{1}{C_Ls}\right)$	
10.50 9 NVALID-ORDER-509 $Z(s) = 0$	$\left(\infty, \frac{L_2s}{C_2L_2s^2+1} + R_2, L_3s + R_3 + \frac{1}{C_3s}, \infty, \infty, \frac{R_L}{C_LR_Ls+1}\right)$	148
10.51 ONVALID-ORDER- $510 Z(s) = 0$	$\left(\infty, \frac{L_2s}{C_2L_2s^2+1} + R_2, L_3s + R_3 + \frac{1}{C_3s}, \infty, \infty, R_L + \frac{1}{C_Ls}\right)$	148
10.51 I NVALID-ORDER-511 $Z(s) = 0$	$\left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ L_3s + R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ L_Ls + \frac{1}{C_Ls}\right) \dots $	148
10.512NVALID-ORDER-512 $Z(s) = 0$	$\left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ L_3s + R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1} \right)' \dots \dots$	149
10.51BNVALID-ORDER- 513 $Z(s) = ($	$\left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ L_3s + R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls}\right) \ \dots $	149
10.51#NVALID-ORDER-514 $Z(s) = 1$	$\left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ L_3s + R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}} \right)^{\prime} \dots \dots$	149

10.51 NVALID-ORDER-515 $Z(s) =$	$\left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ L_3s + R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right) \dots $	149
10.51 6 NVALID-ORDER-516 $Z(s) =$	$\left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ L_3s + R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right) \ \dots $	149
10.51 INVALID-ORDER-517 $Z(s) =$	$\left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{1}{C_3s + \frac{1}{R_3} + \frac{1}{L_3s}}, \ \infty, \ \infty, \ R_L + \frac{1}{C_Ls}\right) \dots $	149
10.51&NVALID-ORDER-518 $Z(s)=$	$\left(\infty, \frac{L_2s}{C_2L_2s^2+1} + R_2, \frac{1}{C_3s + \frac{1}{R_3} + \frac{1}{L_3s}}, \infty, \infty, \infty, L_Ls + \frac{1}{C_Ls}\right)$	149
10.51 9 NVALID-ORDER-519 $Z(s) =$	$\left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{1}{C_3s + \frac{1}{R_3} + \frac{1}{L_3s}}, \ \infty, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls}\right) \dots $	149
10.52 0 NVALID-ORDER-520 $Z(s) =$	$\left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{1}{C_3s + \frac{1}{R_3} + \frac{1}{L_3s}}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right) \ \dots $	150
10.52INVALID-ORDER-521 $Z(s)=$	$\left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{1}{C_3s + \frac{1}{R_3} + \frac{1}{L_3s}}, \ \infty, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right) \ \dots $	150
	$(\infty, \frac{L_2s}{C_2L_2s^2+1} + R_2, \frac{L_3s}{C_3L_3s^2+1} + R_3, \infty, \infty, \frac{1}{C_Ls})$	150
10.52 B NVALID-ORDER-523 $Z(s) =$	$(x, \frac{L_2s}{C_2L_2s^2+1} + R_2, \frac{L_3s}{C_3L_3s^2+1} + R_3, \infty, \infty, \frac{R_L}{C_LR_Ls+1})$	150
10.52#NVALID-ORDER-524 $Z(s) =$	$(\infty, \frac{L_2s}{C_2L_2s^2+1} + R_2, \frac{L_3s}{C_3L_3s^2+1} + R_3, \infty, \infty, R_L + \frac{1}{C_Ls})$	150
10.525NVALID-ORDER-525 $Z(s) =$	$\left(\infty, \frac{L_{2}s}{C_{2}L_{2}s^{2}+1} + R_{2}, \frac{L_{3}s}{C_{3}L_{3}s^{2}+1} + R_{3}, \infty, \infty, L_{L}s + \frac{1}{C_{L}s}\right)$	150
10.526NVALID-ORDER-526 $Z(s) =$	$(\infty, \frac{L_2s}{C_2L_2s^2+1} + R_2, \frac{L_3s}{C_3L_3s^2+1} + R_3, \infty, \infty, \frac{L_Ls}{C_LL_Ls^2+1})'$	150
10.52 T NVALID-ORDER-527 $Z(s) =$	$(\infty, \frac{L_{2s}}{C_2L_2s^2+1} + R_2, \frac{L_{3s}}{C_3L_3s^2+1} + R_3, \infty, \infty, \infty, L_Ls + R_L + \frac{1}{C_Ls})$	150
10.52\nextbf{k}NVALID-ORDER-528 $Z(s) =$	$\left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{L_3s}{C_3L_3s^2+1} + R_3, \ \infty, \ \infty, \ \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}} \right) \right) . \dots $	151
10.52 9 NVALID-ORDER-529 $Z(s) =$	$(\infty, \frac{L_2s}{C_2L_2s^2+1} + R_2, \frac{L_3s}{C_3L_3s^2+1} + R_3, \infty, \infty, \frac{L_Ls}{C_LL_Ls^2+1} + R_L)$	151
10.53@NVALID-ORDER-530 $Z(s)=$	$\left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{L_3s}{C_3L_3s^2+1} + R_3, \ \infty, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right) \right) \dots $	151
10.53INVALID-ORDER-531 $Z(s) =$	$\left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \infty, \ \infty, \ \frac{1}{C_Ls}\right) \dots $	151
10.53 2 NVALID-ORDER-532 $Z(s) =$	$\left(\infty, \ \frac{L_{2}s}{C_{2}L_{2}s^{2}+1} + R_{2}, \ \frac{R_{3}\left(L_{3}s + \frac{1}{C_{3}s}\right)}{L_{3}s + R_{3} + \frac{1}{C_{3}s}}, \ \infty, \ \infty, \ \frac{R_{L}}{C_{L}R_{L}s + 1}\right) \dots $	151
10.53 B NVALID-ORDER-533 $Z(s)=$	$\left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \infty, \ \infty, \ R_L + \frac{1}{C_Ls}\right) \ \dots $	151
10.53#NVALID-ORDER-534 $Z(s)=$	$\left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \infty, \ \infty, \ L_Ls + \frac{1}{C_Ls} \right) \dots \dots \dots \dots \dots \dots \dots \dots \dots $	151
10.53 5 NVALID-ORDER-535 $Z(s) =$	$\left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1}\right) \ \dots $	151
10.536NVALID-ORDER-536 $Z(s) =$	$\left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \infty, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls}\right) \ \dots \right)$	152
10.53 T NVALID-ORDER-537 $Z(s) =$	$\left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_2s}}, \ \infty, \ \infty, \ \frac{1}{C_Ls + \frac{1}{R_I} + \frac{1}{L_Ls}}\right) \ \dots $	152
10.53&NVALID-ORDER-538 $Z(s)=$	$\left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right) \ \dots $	152
10.53 9 NVALID-ORDER-539 $Z(s)=$	$\left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \infty, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)\right) \dots \dots$	152
10.540 NVALID-ORDER-540 $Z(s) =$	$\left(\infty, \frac{L_{2}s}{C_{2}L_{2}s^{2}+1} + R_{2}, \frac{R_{3}\left(L_{3}s + \frac{1}{C_{3}s}\right)}{L_{3}s + R_{3} + \frac{1}{C_{3}s}}, \infty, \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) $ $\left(\infty, \frac{R_{2}\left(L_{2}s + \frac{1}{C_{2}s}\right)}{L_{2}s + R_{2} + \frac{1}{C_{2}s}}, R_{3}, \infty, \infty, R_{L}\right) \dots \dots$	152
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10.542NVALID-ORDER-542 $Z(s) =$	$\left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ R_3, \ \infty, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right) \dots $	152
10.54\%NVALID-ORDER-543 $Z(s) =$	$\left(\infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, R_3, \infty, \infty, R_L + \frac{1}{C_Ls}\right) \dots $	152

	$R_2\left(L_2s+\frac{1}{G}\right)$		\								
10.54 INVALID-ORDER- 544 $Z(s) = 10.54$	$\left(\infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}\right)$. 153
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10.546NVALID-ORDER-546 $Z(s) = 1$	$\left(\infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}\right)$	$\frac{1}{C_3s}$, ∞ ,	∞ , $\frac{R_L}{C_L R_L s + 1}$	$_{ar{1}}\Big)$. 153
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10.55 I NVALID-ORDER-551 $Z(s) =$	(22			. /		 	 	 	 	 	 . 153
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10.554NVALID-ORDER-554 $Z(s) =$	$\left(\infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}\right)$	$\frac{R_3}{C_3R_3s+1}$	$, \infty, \infty, \frac{1}{C_L s}$	\overline{s}		 	 	 	 	 	 . 154
10.55 NVALID-ORDER-555 $Z(s) = 1$	$\left(\infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}\right)$	$\frac{R_3}{C_3R_3s+1}$	$, \infty, \infty, \frac{1}{C_L R}$	$\frac{R_L}{R_L s+1}$. 154
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10.56 0 NVALID-ORDER-560 $Z(s) = 0$	$\left(\infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}\right)$	$+, R_3 + \frac{1}{C_3 s}$	\bar{s} , ∞ , ∞ , R_I	L)		 	 	 	 	 	 . 155
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10.564NVALID-ORDER-564 $Z(s) =$	$\left(\infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}\right)$	r , $R_3 + \frac{1}{C_3 s}$	$\frac{1}{s}$, ∞ , ∞ , $\frac{1}{C_L}$	$\frac{L_L s}{L_L s^2 + 1}$. 155
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10.570NVALID-ORDER-570 $Z(s) = \left(\infty, \frac{1}{2}\right)$	$\frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}},$	$L_3s + \frac{1}{C_3s}, \ \infty, \ \infty,$	$\frac{R_L}{C_L R_L s + 1}$. 156
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10.572NVALID-ORDER-572 $Z(s) = \left(\infty, \frac{1}{2}\right)$	$\frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}},$	$L_3s + \frac{1}{C_3s}, \ \infty, \ \infty,$	$L_L s + \frac{1}{C_L s}$. 156
10.578NVALID-ORDER-573 $Z(s) = \left(\infty, \frac{1}{2}\right)$	$\frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}},$	$L_3s + \frac{1}{C_3s}, \ \infty, \ \infty,$	$\frac{L_L s}{C_L L_L s^2 + 1}$. 156
10.574NVALID-ORDER-574 $Z(s) = \left(\infty, \frac{1}{2}\right)$	$\frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}},$	$L_3s + \frac{1}{C_3s}, \ \infty, \ \infty,$	$L_L s + R_L + \frac{1}{C}$	$\left(\frac{1}{L^s}\right) \dots$. 156
10.57 NVALID-ORDER-575 $Z(s) = \left(\infty, -\frac{1}{2}\right)$	$\frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}},$	$L_3s + \frac{1}{C_3s}, \ \infty, \ \infty,$	$\frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$. 156
10.576NVALID-ORDER-576 $Z(s) = \left(\infty, \frac{1}{2}\right)$	$\frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}},$	$L_3s + \frac{1}{C_3s}, \ \infty, \ \infty,$	$\frac{L_L s}{C_L L_L s^2 + 1} + R_L$	$_{L}$)	 	 	 	 . 157
10.57 T NVALID-ORDER-577 $Z(s) = \left(\infty, \frac{1}{2}\right)$	$\frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}},$	$L_3s + \frac{1}{C_3s}, \ \infty, \ \infty,$	$\frac{R_L\left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}$)	 	 	 	 . 157
10.57\NVALID-ORDER-578 $Z(s) = \left(\infty, \frac{1}{2}\right)$	$\frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}},$	$\frac{L_3s}{C_3L_3s^2+1}, \ \infty, \ \infty,$	$\frac{1}{C_L s}$ \cdots		 	 	 	 . 157
	(23	$\frac{L_3s}{C_3L_3s^2+1}, \ \infty, \ \infty,$	/		 	 	 	 . 157
	020	$\frac{L_3s}{C_3L_3s^2+1}, \ \infty, \ \infty,$	/		 	 	 	 . 157
10.58INVALID-ORDER-581 $Z(s) = \left(\infty, \frac{1}{2}\right)$	- 2 -		/		 	 	 	 . 157
10.582NVALID-ORDER-582 $Z(s) = \left(\infty, \frac{1}{2}\right)$	$\frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}},$	$\frac{L_3s}{C_3L_3s^2+1}, \ \infty, \ \infty,$	$L_L s + R_L + \frac{1}{C_L}$	\overline{s})	 	 	 	 . 157
10.58\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	$\frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}},$	$\frac{L_3s}{C_3L_3s^2+1}, \ \infty, \ \infty,$	$\frac{L_L s}{C_L L_L s^2 + 1} + R_L$)	 	 	 	 . 157
10.584NVALID-ORDER-584 $Z(s) = \left(\infty, \frac{1}{2}\right)$	$\frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}},$	$\frac{L_3s}{C_3L_3s^2+1}, \ \infty, \ \infty,$	$\frac{R_L\left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}$. 158
10.58 INVALID-ORDER-585 $Z(s) = \left(\infty, \frac{1}{2}\right)$	$\frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}},$	$L_3s + R_3 + \frac{1}{C_3s}, \ \circ$	$0, \infty, \frac{1}{C_L s}$. 158
10.586NVALID-ORDER-586 $Z(s) = \left(\infty, \frac{1}{2}\right)$	$\frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}},$	$L_3s + R_3 + \frac{1}{C_3s}, \ \circ$	$0, \infty, \frac{R_L}{C_L R_L s + 1}$)	 	 	 	 . 158
10.58 INVALID-ORDER-587 $Z(s) = \left(\infty, \frac{1}{2}\right)$ 10.58 INVALID-ORDER-588 $Z(s) = \left(\infty, \frac{1}{2}\right)$ 10.58 INVALID-ORDER-589 $Z(s) = \left(\infty, \frac{1}{2}\right)$	$\frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}},$	$L_3s + R_3 + \frac{1}{C_3s}, \ \circ$	∞ , ∞ , $R_L + \frac{1}{C_L}$	\bar{s} \cdots	 	 	 	 . 158
10.58\(\text{NVALID-ORDER-588} \(Z(s) = \left(\infty, \) \)	$\frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}},$	$L_3s + R_3 + \frac{1}{C_3s}, \ \circ$	∞ , ∞ , $L_L s + \frac{1}{C_L}$	$\left(\frac{1}{2s}\right)$. 158
10.58 9 NVALID-ORDER-589 $Z(s) = \left(\infty, \frac{1}{2}\right)$	$\frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}},$	$L_3s + R_3 + \frac{1}{C_3s}, \ \circ$	$0, \infty, \frac{L_L s}{C_L L_L s^2 + 1}$	$\left(1\right) $. 158
10.59 0 NVALID-ORDER-590 $Z(s) = \left(\infty, \frac{1}{2}\right)$ 10.59 1 NVALID-ORDER-591 $Z(s) = \left(\infty, \frac{1}{2}\right)$	$\frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}},$	$L_3s + R_3 + \frac{1}{C_3s}, \circ$	∞ , ∞ , $L_L s + R_L$	$L + \frac{1}{C_L s}$.	 	 	 	 . 158
10.59INVALID-ORDER-591 $Z(s) = \left(\infty, \frac{1}{2}\right)$	$\frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}},$	$L_3s + R_3 + \frac{1}{C_3s}, \ \circ$	$0, \ \infty, \ \frac{1}{C_L s + \frac{1}{R_L}} +$	$\left(\frac{1}{L_L s}\right)$. 158
10.592NVALID-ORDER-592 $Z(s) = \left(\infty, \frac{1}{2}\right)$	$\frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}},$	$L_3s + R_3 + \frac{1}{C_3s}, \ \circ$	$0, \infty, \frac{L_L s}{C_L L_L s^2 + 1}$	$\left(1 + R_L\right)$. 159
10.59 B NVALID-ORDER-593 $Z(s) = \left(\infty, \frac{1}{2}\right)$	$\frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}},$	$L_3s + R_3 + \frac{1}{C_3s}, \circ$	$0, \infty, \frac{R_L \left(L_L s + \frac{1}{L_L s + R_L + R_L + \frac{1}{L_L s + R_L + R_L + \frac{1}{L_L s + R_L + \frac{1}{L_L s + R_L + R_L + R_L + \frac{1}{L_L s + R_L + R_L$	$\left(\frac{\frac{1}{C_L s}}{\frac{1}{C_L s}} \right)$. 159
10.594NVALID-ORDER-594 $Z(s) = \left(\infty, \frac{1}{2}\right)$	$\frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}},$	$\frac{1}{C_3s + \frac{1}{R_3} + \frac{1}{L_3s}}, \infty, \alpha$	∞ , $R_L + \frac{1}{C_L s}$. 159
10.59\(\text{Envalid-order-592}\) $Z(s) = \left(\infty, -10.59\(\text{Envalid-order-593}\) Z(s) = \left(\infty, -10.59\(\text{Envalid-order-594}\) Z(s) = \left(\infty, -10.59\(\text{Envalid-order-594}\) Z(s) = \left(\infty, -10.59\(\text{Envalid-order-595}\) Z(s) = \left(\infty, -10.59\(Envalid-o$	$\frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}},$	$\frac{1}{C_3s + \frac{1}{R_3} + \frac{1}{L_3s}}, \infty, $	∞ , $L_L s + \frac{1}{C_L s}$. 159

10.596NVALID-ORDER-596 $Z(s) = \left(\circ \right)$	$ \infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}} $	$\frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \infty, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}$
10.59 T NVALID-ORDER-597 $Z(s) = \left(c \right)$	$ \infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}} $	$\frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L $
10.59&NVALID-ORDER-598 $Z(s) = \left(\circ \right)$	$ \infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}} $	$, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \infty, \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 $
10.59 9 NVALID-ORDER-599 $Z(s) = \left(\circ \right)$	$ \infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}} $	$\frac{L_3s}{C_3L_3s^2+1} + R_3, \ \infty, \ \infty, \ \frac{1}{C_Ls}$
10.60 0 NVALID-ORDER-600 $Z(s) = \left(\circ \right)$	$ \infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}} $	$\frac{L_3s}{C_3L_3s^2+1} + R_3, \ \infty, \ \infty, \ \frac{R_L}{C_LR_Ls+1}$
10.60INVALID-ORDER-601 $Z(s) = \left(\circ \right)$		$\frac{L_3s}{C_3L_3s^2+1} + R_3, \ \infty, \ \infty, \ R_L + \frac{1}{C_Ls}$
10.60 2 NVALID-ORDER-602 $Z(s) = \left(\circ \right)$	$ \infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}} $	$\frac{L_3s}{C_3L_3s^2+1} + R_3, \ \infty, \ \infty, \ L_Ls + \frac{1}{C_Ls}$
10.60 B NVALID-ORDER-603 $Z(s) = \left(\circ \right)$	$ \infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}} $	$\frac{L_3s}{C_3L_3s^2+1} + R_3, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1}$
	- 2 -	$\frac{L_3s}{C_3L_3s^2+1} + R_3, \ \infty, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls}$
10.60 INVALID-ORDER-605 $Z(s) = \left(\circ \right)$	$ \infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}} $	$\frac{L_3s}{C_3L_3s^2+1} + R_3, \ \infty, \ \infty, \ \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}} $
10.60 6 NVALID-ORDER-606 $Z(s) = \left(\circ \right)$	$ \infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}} $	$\frac{L_3s}{C_3L_3s^2+1} + R_3, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1} + R_L$
10.60 T NVALID-ORDER-607 $Z(s) = \left(\circ \right)$		$\frac{L_3s}{C_3L_3s^2+1} + R_3, \ \infty, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right) \ \dots \ $
10.60\text{NVALID-ORDER-608} $Z(s) = \left(\circ \right)$,	$\frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \infty, \infty, \frac{1}{C_Ls}$
10.60 9 NVALID-ORDER-609 $Z(s) = \left(\circ \right)$	$ \infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}} $	$\frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \infty, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right) \qquad . \ . \ . \ . \ . \ . \ . \ . \ . \ .$
10.61 0 NVALID-ORDER-610 $Z(s) = \left(\circ \right)$	$ \infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}} $	$\frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \infty, \ \infty, \ R_L + \frac{1}{C_Ls}\right) \ \dots $
10.61 I NVALID-ORDER-611 $Z(s) = \left(\circ \right)$	$ \infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}} $	$\frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \infty, \ \infty, \ L_Ls + \frac{1}{C_Ls}\right) \qquad \dots \qquad $
10.61 2 NVALID-ORDER-612 $Z(s) = \left(\circ \right)$	$ \infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}} $	$\frac{R_3\left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} $
10.61 E NVALID-ORDER-613 $Z(s) = \left(\circ \right)$	$ \infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}} $	$\frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \infty, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls}\right) \dots \dots \dots \dots \dots \dots \dots \dots \dots $
10.61#NVALID-ORDER-614 $Z(s) = \left(\circ \right)$	$ \infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}} $	$\frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \infty, \ \infty, \ \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right) \ \dots $
10.61 5 NVALID-ORDER-615 $Z(s) = \left(\circ \right)$	$ \infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}} $	$\frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2 + 1} + R_L\right) \ \dots \ $
10.616NVALID-ORDER-616 $Z(s) = \left(\circ \right)$	$ \infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}} $	$ \frac{R_3\left(L_3 + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right) \\ \frac{R_3\left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \infty, \infty, \frac{1}{C_L s + \frac{1}{L_L} + \frac{1}{L_L s}}\right) \\ \frac{R_3\left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \infty, \infty, \frac{1}{C_L L_L s^2 + 1} + R_L\right) \\ \frac{R_3\left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \infty, \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) \\ \frac{R_3\left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \infty, \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) \\ \frac{162}{L_L s + R_L + \frac{1}{C_L s}} $

1 Examined
$$H(z)$$
 for TIA some parasitic Z2 Z3 ZL:
$$\frac{Z_3Z_L(Z_2g_mr_o+Z_2+r_o)}{Z_2Z_3g_mr_o+Z_2Z_3+Z_2Z_Lg_mr_o+Z_2Z_L+Z_3r_o+Z_Lr_o}$$

$$\frac{Z_3Z_L(Z_2g_mr_o + Z_2 + r_o)}{Z_2Z_3g_mr_o + Z_2Z_3 + Z_2Z_Lg_mr_o + Z_2Z_L + Z_3r_o + Z_Lr_o}$$

$$H(z) = \frac{Z_3 Z_L \left(Z_2 g_m r_o + Z_2 + r_o \right)}{Z_2 Z_3 g_m r_o + Z_2 Z_3 + Z_2 Z_L g_m r_o + Z_2 Z_L + Z_3 r_o + Z_L r_o}$$

2 HP

3 BP

3.1 BP-1
$$Z(s) = \left(\infty, R_2, R_3, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

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

Parameters:

Q:
$$C_L R_3 \sqrt{\frac{1}{C_L L_L}}$$

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

3.2 BP-2
$$Z(s) = \left(\infty, R_2, R_3, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

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

Parameters:

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

3.3 BP-3
$$Z(s) = \left(\infty, R_2, \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

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

wo:
$$\sqrt{\frac{1}{L_L(C_3+C_L)}}$$

bandwidth: $\frac{1}{R_L(C_3+C_L)}$
K-LP: 0
K-HP: 0
K-BP: R_L
Qz: 0
Wz: None

3.4 BP-4
$$Z(s) = \left(\infty, R_2, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

Parameters:

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

3.5 BP-5
$$Z(s) = \left(\infty, R_2, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

Parameters:

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

3.6 BP-6
$$Z(s) = \left(\infty, R_2, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, R_L\right)$$

Q:
$$C_3R_L\sqrt{\frac{1}{C_3L_3}}$$

wo: $\sqrt{\frac{1}{C_3L_3}}$
bandwidth: $\frac{1}{C_3R_L}$
K-LP: 0

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

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

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

K-HP: 0 K-BP: R_L Qz: 0 Wz: None

3.7 BP-7 $Z(s) = \left(\infty, R_2, \frac{L_{3s}}{C_3 L_3 s^2 + 1}, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$

Parameters:

Q:
$$R_L \sqrt{\frac{1}{L_3(C_3 + C_L)}} (C_3 + C_L)$$

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

3.8 BP-8 $Z(s) = \left(\infty, R_2, \frac{L_{3s}}{C_3L_3s^2+1}, \infty, \infty, \frac{1}{C_Ls+\frac{1}{R_L}+\frac{1}{L_Ls}}\right)$

Parameters:

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

3.9 BP-9 $Z(s) = \left(\infty, R_2, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \infty, \infty, R_L\right)$

Parameters:

Q:
$$\frac{C_3R_3R_L\sqrt{\frac{1}{C_3L_3}}}{R_3+R_L}$$

wo: $\sqrt{\frac{1}{C_3L_3}}$
bandwidth: $\frac{R_3+R_L}{C_3R_3R_L}$
K-LP: 0
K-HP: 0
K-BP: $\frac{R_3R_L}{R_3+R_L}$
Qz: 0

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

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

$$H(s) = \frac{L_3 R_3 R_L s}{C_2 L_2 R_2 R_2 R_2 S^2 + L_2 R_2 S + L_2 R_2 S + R_2 R_2}$$

Wz: None

3.10 BP-10
$$Z(s) = \left(\infty, R_2, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \infty, \infty, \frac{1}{C_L s}\right)$$

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

Parameters:

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

3.11 BP-11
$$Z(s) = \left(\infty, R_2, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

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

Parameters:

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

3.12 BP-12
$$Z(s) = \left(\infty, R_2, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

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

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

3.13 BP-13
$$Z(s) = \left(\infty, R_2, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_3L_LR_3R_Ls}{C_3L_3L_LR_3R_Ls^2 + C_LL_3L_LR_3R_Ls^2 + L_3L_LR_3s + L_3L_LR_Ls + L_3R_3R_L + L_LR_3R_L}$$

Parameters:

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

3.14 BP-14 $Z(s) = \left(\infty, \frac{1}{C_2 s}, R_3, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$

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

Parameters:

Q:
$$C_L R_3 \sqrt{\frac{1}{C_L L_L}}$$

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

3.15 BP-15 $Z(s) = \left(\infty, \frac{1}{C_2 s}, R_3, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$

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

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

3.16 BP-16
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

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

Parameters:

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

3.17 BP-17 $Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$

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

Parameters:

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

3.18 BP-18 $Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$

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

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

3.19 BP-19
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, R_L\right)$$

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

Parameters:

Q:
$$C_3R_L\sqrt{\frac{1}{C_3L_3}}$$

wo: $\sqrt{\frac{1}{C_3L_3}}$
bandwidth: $\frac{1}{C_3R_L}$
K-LP: 0
K-HP: 0
K-BP: R_L
Qz: 0
Wz: None

3.20 BP-20
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

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

Parameters:

Q:
$$R_L \sqrt{\frac{1}{L_3(C_3 + C_L)}} (C_3 + C_L)$$

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

3.21 BP-21
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

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

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

3.22 BP-22
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \infty, \infty, R_L\right)$$

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

Parameters:

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

3.23 BP-23
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \infty, \infty, \frac{1}{C_L s}\right)$$

Parameters:

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

3.24 BP-24
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

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

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

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

3.25 BP-25
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

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

Parameters:

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

3.26 BP-26
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_3L_LR_3R_Ls}{C_3L_3L_LR_3R_Ls^2 + C_LL_3L_LR_3R_Ls^2 + L_3L_LR_3s + L_3L_LR_Ls + L_3R_3R_L + L_LR_3R_L}$$

Parameters:

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

3.27 BP-27
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, R_3, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L R_3 s}{C_L L_L R_2 s^2 + L_L s + R_2}$$

Q:
$$C_L R_3 \sqrt{\frac{1}{C_L L_L}}$$

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

3.28 BP-28
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, R_3, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

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

Parameters:

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

3.29 BP-29
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

Parameters:

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

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

3.30 BP-30
$$Z(s) = \left(\infty, \frac{R_2}{C_2R_2s+1}, \frac{R_3}{C_3R_3s+1}, \infty, \infty, \frac{L_Ls}{C_LL_Ls^2+1}\right)$$

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

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

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

3.31 BP-31
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

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

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

3.32 BP-32
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, R_L\right)$$

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

Parameters:

Q:
$$C_3R_L\sqrt{\frac{1}{C_3L_3}}$$

wo: $\sqrt{\frac{1}{C_3L_3}}$
bandwidth: $\frac{1}{C_3R_L}$
K-LP: 0
K-HP: 0
K-BP: R_L
Qz: 0
Wz: None

3.33 BP-33
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

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

Q:
$$R_L \sqrt{\frac{1}{L_3(C_3 + C_L)}} (C_3 + C_L)$$

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

3.34 BP-34
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

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

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

3.35 BP-35
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \infty, \infty, R_L\right)$$

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

Parameters:

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

3.36 BP-36
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \infty, \infty, \frac{1}{C_L s}\right)$$

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

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

3.37 BP-37
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

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

Q:
$$\frac{R_3R_L\sqrt{\frac{1}{L_3(C_3+C_L)}(C_3+C_L)}}{R_3+R_L}$$

wo: $\sqrt{\frac{1}{L_3(C_3+C_L)}}$
bandwidth: $\frac{R_3+R_L}{R_3R_L(C_3+C_L)}$
K-LP: 0
K-HP: 0
K-BP: $\frac{R_3R_L}{R_3+R_L}$
Qz: 0

3.38 BP-38
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

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

Parameters:

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

3.39 BP-39
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

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

$$Q \colon \frac{R_3 R_L \sqrt{\frac{L_3 + L_L}{L_3 L_L (C_3 + C_L)}}}{R_3 + R_L} (C_3 + C_L)} \times \frac{1}{R_3 + R_L} \times \frac{1}{R_3 R_L (C_3 + C_L)} \times \frac{1}{R_3 R_L (C_$$

3.40 BP-40
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, R_3, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

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

Parameters:

Q:
$$C_L R_3 \sqrt{\frac{1}{C_L L_L}}$$

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

3.41 BP-41
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, R_3, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

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

Parameters:

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

3.42 BP-42
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

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

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

3.43 BP-43
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

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

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

3.44 BP-44
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

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

Parameters:

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

3.45 BP-45
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, R_L\right)$$

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

Q:
$$C_3R_L\sqrt{\frac{1}{C_3L_3}}$$

wo: $\sqrt{\frac{1}{C_3L_3}}$
bandwidth: $\frac{1}{C_3R_L}$
K-LP: 0
K-HP: 0
K-BP: R_L
Qz: 0
Wz: None

3.46 BP-46
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

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

Q:
$$R_L \sqrt{\frac{1}{L_3(C_3 + C_L)}} (C_3 + C_L)$$

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

3.47 BP-47
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

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

Parameters:

Q:
$$R_L \sqrt{\frac{L_3 + L_L}{L_3 L_L (C_3 + C_L)}} (C_3 + C_L)$$

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

3.48 BP-48
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \infty, \infty, R_L\right)$$

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

Q:
$$\frac{C_3R_3R_L\sqrt{\frac{1}{C_3L_3}}}{R_3+R_L}$$

wo: $\sqrt{\frac{1}{C_3L_3}}$
bandwidth: $\frac{R_3+R_L}{C_3R_3R_L}$
K-LP: 0
K-HP: 0
K-BP: $\frac{R_3R_L}{R_3+R_L}$
Qz: 0

3.49 BP-49
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \infty, \infty, \frac{1}{C_L s}\right)$$

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

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

3.50 BP-50
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

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

Parameters:

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

3.51 BP-51
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_3L_LR_3s}{C_3L_3L_LR_3s^2 + C_LL_3L_LR_3s^2 + L_3L_Ls + L_3R_3 + L_LR_3}$$

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

3.52 BP-52
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \infty, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

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

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

3.53 BP-53
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, R_3, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

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

Parameters:

Q:
$$C_L R_3 \sqrt{\frac{1}{C_L L_L}}$$

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

3.54 BP-54
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, R_3, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

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

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

3.55 BP-55
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

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

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

3.56 BP-56
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

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

Parameters:

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

3.57 BP-57
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

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

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

3.58 BP-58
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, R_L\right)$$

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

Q:
$$C_3R_L\sqrt{\frac{1}{C_3L_3}}$$

wo: $\sqrt{\frac{1}{C_3L_3}}$
bandwidth: $\frac{1}{C_3R_L}$
K-LP: 0
K-HP: 0
K-BP: R_L
Qz: 0
Wz: None

3.59 BP-59
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

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

Parameters:

Q:
$$R_L \sqrt{\frac{1}{L_3(C_3 + C_L)}} (C_3 + C_L)$$

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

3.60 BP-60
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

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

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

3.61 BP-61
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \infty, \infty, R_L\right)$$

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

Parameters:

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

3.62 BP-62
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \infty, \infty, \frac{1}{C_L s}\right)$$

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

Parameters:

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

3.63 BP-63
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

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

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

3.64 BP-64
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

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

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

3.65 BP-65
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_3L_LR_3R_Ls}{C_3L_3L_LR_3R_Ls^2 + C_LL_3L_LR_3R_Ls^2 + L_3L_LR_3s + L_3L_LR_Ls + L_3R_3R_L + L_LR_3R_L}$$

Parameters:

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

3.66 BP-66
$$Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, R_3, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

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

Q:
$$C_L R_3 \sqrt{\frac{1}{C_L L_L}}$$

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

3.67 BP-67
$$Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, R_3, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

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

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

3.68 BP-68
$$Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

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

Parameters:

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

3.69 BP-69
$$Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

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

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

3.70 BP-70
$$Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{R_3}{C_3 R_3 s + 1}, \ \infty, \ \infty, \ \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

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

Q:
$$\frac{R_3R_L\sqrt{\frac{1}{L_L(C_3+C_L)}}(C_3+C_L)}{R_3+R_L}$$

wo: $\sqrt{\frac{1}{L_L(C_3+C_L)}}$
bandwidth: $\frac{R_3+R_L}{R_3R_L(C_3+C_L)}$
K-LP: 0
K-HP: 0
K-BP: $\frac{R_3R_L}{R_3+R_L}$
Qz: 0

3.71 BP-71
$$Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, R_L\right)$$

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

Parameters:

Q:
$$C_3R_L\sqrt{\frac{1}{C_3L_3}}$$

wo: $\sqrt{\frac{1}{C_3L_3}}$
bandwidth: $\frac{1}{C_3R_L}$
K-LP: 0
K-HP: 0
K-BP: R_L
Qz: 0
Wz: None

3.72 BP-72
$$Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

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

Q:
$$R_L \sqrt{\frac{1}{L_3(C_3+C_L)}} (C_3+C_L)$$

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

3.73 BP-73
$$Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

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

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

3.74 BP-74
$$Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \infty, \infty, R_L\right)$$

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

Parameters:

Q:
$$\frac{C_3R_3R_L}{R_3+R_L}\sqrt{\frac{1}{C_3L_3}}$$

wo: $\sqrt{\frac{1}{C_3L_3}}$
bandwidth: $\frac{R_3+R_L}{C_3R_3R_L}$
K-LP: 0
K-HP: 0
K-BP: $\frac{R_3R_L}{R_3+R_L}$
Qz: 0

3.75 BP-75
$$Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \infty, \infty, \frac{1}{C_L s}\right)$$

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

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

3.76 BP-76
$$Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \infty, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$$

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

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

$$\mathbf{3.77} \quad \mathbf{BP-77} \ Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

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

Parameters:

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

$$\textbf{3.78} \quad \textbf{BP-78} \ Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \infty, \ \infty, \ \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}} \right)$$

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

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

3.79 BP-79
$$Z(s) = \left(\infty, \frac{L_2s}{C_2L_2s^2+1} + R_2, R_3, \infty, \infty, \frac{L_Ls}{C_LL_Ls^2+1}\right)$$

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

Parameters:

Q:
$$C_L R_3 \sqrt{\frac{1}{C_L L_L}}$$

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

3.80 BP-80
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ R_3, \ \infty, \ \infty, \ \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

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

Parameters:

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

3.81 BP-81
$$Z(s) = \left(\infty, \ \frac{L_2 s}{C_2 L_2 s^2 + 1} + R_2, \ \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

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

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

3.82 BP-82
$$Z(s) = \left(\infty, \frac{L_2s}{C_2L_2s^2+1} + R_2, \frac{R_3}{C_3R_3s+1}, \infty, \infty, \frac{L_Ls}{C_LL_Ls^2+1}\right)$$

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

Q:
$$R_3 \sqrt{\frac{1}{L_L(C_3 + C_L)}} (C_3 + C_L)$$

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

3.83 BP-83
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{R_3}{C_3R_3s+1}, \ \infty, \ \infty, \ \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

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

Parameters:

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

3.84 BP-84
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{L_3s}{C_3L_3s^2+1}, \ \infty, \ \infty, \ R_L\right)$$

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

Q:
$$C_3R_L\sqrt{\frac{1}{C_3L_3}}$$

wo: $\sqrt{\frac{1}{C_3L_3}}$
bandwidth: $\frac{1}{C_3R_L}$
K-LP: 0
K-HP: 0
K-BP: R_L
Qz: 0
Wz: None

3.85 BP-85
$$Z(s) = \left(\infty, \frac{L_2s}{C_2L_2s^2+1} + R_2, \frac{L_3s}{C_3L_3s^2+1}, \infty, \infty, \frac{R_L}{C_LR_Ls+1}\right)$$

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

Q:
$$R_L \sqrt{\frac{1}{L_3(C_3 + C_L)}} (C_3 + C_L)$$

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

3.86 BP-86
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{L_3s}{C_3L_3s^2+1}, \ \infty, \ \infty, \ \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

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

Parameters:

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

3.87 BP-87
$$Z(s) = \left(\infty, \ \frac{L_{2}s}{C_{2}L_{2}s^{2}+1} + R_{2}, \ \frac{1}{C_{3}s + \frac{1}{R_{3}} + \frac{1}{L_{3}s}}, \ \infty, \ \infty, \ R_{L}\right)$$

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

Q:
$$\frac{C_3R_3R_L\sqrt{\frac{1}{C_3L_3}}}{R_3+R_L}$$

wo: $\sqrt{\frac{1}{C_3L_3}}$
bandwidth: $\frac{R_3+R_L}{C_3R_3R_L}$
K-LP: 0
K-HP: 0
K-BP: $\frac{R_3R_L}{R_3+R_L}$
Qz: 0
Wz: None

3.88 BP-88
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{1}{C_3s + \frac{1}{R_3} + \frac{1}{L_3s}}, \ \infty, \ \infty, \ \frac{1}{C_Ls}\right)$$

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

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

3.89 BP-89
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{1}{C_3s + \frac{1}{R_3} + \frac{1}{L_3s}}, \ \infty, \ \infty, \ \frac{R_L}{C_LR_Ls + 1}\right)$$

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

Parameters:

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

3.90 BP-90
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{1}{C_3s + \frac{1}{R_3} + \frac{1}{L_3s}}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1}\right)$$

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

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

3.91 BP-91
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{1}{C_3s + \frac{1}{R_3} + \frac{1}{L_3s}}, \ \infty, \ \infty, \ \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

$$H(s) = \frac{L_3L_LR_3R_Ls}{C_3L_3L_LR_3R_Ls^2 + C_LL_3L_LR_3R_Ls^2 + L_3L_LR_3s + L_3R_3R_L + L_LR_3R_L}$$

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

3.92 BP-92
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ R_3, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2 + 1}\right)$$

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

Parameters:

Q:
$$C_L R_3 \sqrt{\frac{1}{C_L L_L}}$$

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

3.93 BP-93
$$Z(s) = \left(\infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, R_3, \infty, \infty, \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

$H(s) = \frac{L_L R_3 R_L s}{C_L L_L R_3 R_L s^2 + L_L R_3 s + L_L R_L s + R_3 R_L} \label{eq:hamiltonian}$

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

3.94 BP-94
$$Z(s) = \left(\infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \frac{1}{C_3s}, \infty, \infty, \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

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

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

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

3.95 BP-95
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ \frac{R_3}{C_3R_3s + 1}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2 + 1}\right)$$

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

Parameters:

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

$$\textbf{3.96} \quad \textbf{BP-96} \ Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ \frac{R_3}{C_3R_3s + 1}, \ \infty, \ \infty, \ \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right) \\ H(s) = \frac{L_LR_3R_Ls}{C_3L_LR_3R_Ls^2 + C_LL_LR_3R_Ls^2 + L_LR_3s + L_LR_Ls + R_3R_Ls}$$

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

3.97 BP-97
$$Z(s) = \left(\infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \frac{L_3s}{C_3L_3s^2 + 1}, \infty, \infty, R_L\right)$$

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

Q:
$$C_3R_L\sqrt{\frac{1}{C_3L_3}}$$

wo: $\sqrt{\frac{1}{C_3L_3}}$
bandwidth: $\frac{1}{C_3R_L}$
K-LP: 0
K-HP: 0
K-BP: R_L
Qz: 0
Wz: None

3.98 BP-98
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ \frac{L_3s}{C_3L_3s^2 + 1}, \ \infty, \ \infty, \ \frac{R_L}{C_LR_Ls + 1}\right)$$

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

Parameters:

Q:
$$R_L \sqrt{\frac{1}{L_3(C_3 + C_L)}} (C_3 + C_L)$$

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

3.99 BP-99
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ \frac{L_3s}{C_3L_3s^2 + 1}, \ \infty, \ \infty, \ \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

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

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

3.100 BP-100
$$Z(s) = \left(\infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \frac{1}{C_3s + \frac{1}{R_3} + \frac{1}{L_3s}}, \infty, \infty, \infty, R_L\right)$$

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

Q:
$$\frac{C_3 R_3 R_L \sqrt{\frac{1}{C_3 L_3}}}{R_3 + R_L}$$

wo: $\sqrt{\frac{1}{C_3 L_3}}$
bandwidth: $\frac{R_3 + R_L}{C_3 R_3 R_L}$
K-LP: 0
K-HP: 0
K-BP: $\frac{R_3 R_L}{R_3 + R_L}$
Qz: 0
Wz: None

3.101 BP-101
$$Z(s) = \left(\infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \frac{1}{C_3s + \frac{1}{R_3} + \frac{1}{L_3s}}, \infty, \infty, \frac{1}{C_Ls}\right)$$

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

Parameters:

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

3.102 BP-102
$$Z(s) = \left(\infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \frac{1}{C_3s + \frac{1}{R_3} + \frac{1}{L_3s}}, \infty, \infty, \infty, \frac{R_L}{C_LR_Ls + 1}\right)$$

$$H(s) = \frac{L_3R_3R_Ls}{C_3L_3R_3R_Ls^2 + C_LL_3R_3R_Ls^2 + L_3R_3s + L_3R_Ls + R_3R_Ls}$$

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

3.103 BP-103
$$Z(s) = \left(\infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \frac{1}{C_3s + \frac{1}{R_3} + \frac{1}{L_3s}}, \infty, \infty, \infty, \frac{L_Ls}{C_LL_Ls^2 + 1}\right)$$

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

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

$$\textbf{3.104} \quad \textbf{BP-104} \ Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ \frac{1}{C_3s + \frac{1}{R_3} + \frac{1}{L_3s}}, \ \infty, \ \infty, \ \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}} \right)$$

$$H(s) = \frac{L_3L_LR_3R_Ls}{C_3L_3L_LR_3R_Ls^2 + C_LL_3L_LR_3R_Ls^2 + L_3L_LR_3s + L_3L_LR_4s + L_3R_3R_L + L_LR_3R_L}$$

Parameters:

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

- 4 LP
- 5 BS
- **5.1** BS-1 $Z(s) = \left(\infty, R_2, R_3, \infty, \infty, L_L s + \frac{1}{C_L s}\right)$

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

Q:
$$\frac{L_L\sqrt{\frac{1}{C_LL_L}}}{R_3}$$
wo:
$$\sqrt{\frac{1}{C_LL_L}}$$
bandwidth:
$$\frac{R_3}{L_L}$$
K-LP: R_3 K-HP: R_3

K-BP: 0
Qz: None
Wz:
$$\sqrt{\frac{1}{C_L L_L}}$$

5.2 BS-2
$$Z(s) = \left(\infty, R_2, R_3, \infty, \infty, \frac{R_L\left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

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

5.3 BS-3
$$Z(s) = \left(\infty, R_2, L_3 s + \frac{1}{C_3 s}, \infty, \infty, R_L\right)$$

Parameters:

$$\begin{aligned} &\text{Q: } \frac{L_3\sqrt{\frac{1}{C_3L_3}}}{R_L}\\ &\text{wo: } \sqrt{\frac{1}{C_3L_3}}\\ &\text{bandwidth: } \frac{R_L}{L_3}\\ &\text{K-LP: } R_L\\ &\text{K-HP: } R_L\\ &\text{K-BP: } 0\\ &\text{Qz: None}\\ &\text{Wz: } \sqrt{\frac{1}{C_3L_3}} \end{aligned}$$

5.4 BS-4
$$Z(s) = \left(\infty, R_2, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \infty, \infty, R_L\right)$$

$$\begin{array}{l} \text{Q:} \ \frac{L_3\sqrt{\frac{1}{C_3L_3}}(R_3+R_L)}{R_3R_L} \\ \text{wo:} \ \sqrt{\frac{1}{C_3L_3}} \\ \text{bandwidth:} \ \frac{R_3R_L}{L_3(R_3+R_L)} \\ \text{K-LP:} \ \frac{R_3R_L}{R_3+R_L} \\ \text{K-HP:} \ \frac{R_3R_L}{R_3+R_L} \\ \text{K-BP:} \ 0 \end{array}$$

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

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

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

Qz: None Wz:
$$\sqrt{\frac{1}{C_3L_3}}$$

5.5 BS-5
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, R_3, \infty, \infty, L_L s + \frac{1}{C_L s}\right)$$

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

5.6 BS-6
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, R_3, \infty, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

Parameters:

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

5.7 BS-7
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, R_L\right)$$

Q:
$$\frac{L_3\sqrt{\frac{1}{C_3L_3}}}{R_L}$$
 wo:
$$\sqrt{\frac{1}{C_3L_3}}$$
 bandwidth:
$$\frac{R_L}{L_3}$$
 K-LP: R_L K-HP: R_L K-BP: 0 Qz: None

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

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

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

Wz:
$$\sqrt{\frac{1}{C_3L_3}}$$

5.8 BS-8
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{R_3\left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \infty, \infty, R_L\right)$$

$$\begin{array}{l} \text{Q:} \ \frac{L_3\sqrt{\frac{1}{C_3L_3}}(R_3 + R_L)}{R_3R_L} \\ \text{wo:} \ \sqrt{\frac{1}{C_3L_3}} \\ \text{bandwidth:} \ \frac{R_3R_L}{L_3(R_3 + R_L)} \\ \text{K-LP:} \ \frac{R_3R_L}{R_3 + R_L} \\ \text{K-HP:} \ \frac{R_3R_L}{R_3 + R_L} \\ \text{K-BP:} \ 0 \\ \text{Qz:} \ \text{None} \\ \text{Wz:} \ \sqrt{\frac{1}{C_3L_3}} \end{array}$$

5.9 BS-9
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, R_3, \infty, \infty, L_L s + \frac{1}{C_L s}\right)$$

Parameters:

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

5.10 BS-10
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, R_3, \infty, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

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

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

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

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

Wz:
$$\sqrt{\frac{1}{C_L L_L}}$$

5.11 BS-11
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, R_L\right)$$

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

Parameters:

$$\begin{array}{l} \text{Q:} \ \frac{L_3\sqrt{\frac{1}{C_3L_3}}}{R_L}\\ \text{wo:} \ \sqrt{\frac{1}{C_3L_3}}\\ \text{bandwidth:} \ \frac{R_L}{L_3}\\ \text{K-LP:} \ R_L\\ \text{K-HP:} \ R_L\\ \text{K-BP:} \ 0\\ \text{Qz:} \ \text{None}\\ \text{Wz:} \ \sqrt{\frac{1}{C_3L_3}} \end{array}$$

5.12 BS-12
$$Z(s) = \left(\infty, \ \frac{R_2}{C_2 R_2 s + 1}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ R_L\right)$$

Parameters:

$$\begin{array}{l} \text{Q:} \ \frac{L_3\sqrt{\frac{1}{C_3L_3}}(R_3 + R_L)}{R_3R_L} \\ \text{wo:} \ \sqrt{\frac{1}{C_3L_3}} \\ \text{bandwidth:} \ \frac{R_3R_L}{L_3(R_3 + R_L)} \\ \text{K-LP:} \ \frac{R_3R_L}{R_3 + R_L} \\ \text{K-HP:} \ \frac{R_3R_L}{R_3 + R_L} \\ \text{K-BP:} \ 0 \\ \text{Qz:} \ \text{None} \\ \text{Wz:} \ \sqrt{\frac{1}{C_3L_3}} \end{array}$$

5.13 BS-13
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, R_3, \infty, \infty, L_L s + \frac{1}{C_L s}\right)$$

Q:
$$\frac{L_L\sqrt{\frac{1}{C_LL_L}}}{R_3}$$
 wo:
$$\sqrt{\frac{1}{C_LL_L}}$$
 bandwidth:
$$\frac{R_3}{L_L}$$
 K-LP: R_3 K-HP: R_3 K-BP: 0 Qz: None Wz:
$$\sqrt{\frac{1}{C_LL_L}}$$

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

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

5.14 BS-14
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, R_3, \infty, \infty, \frac{R_L\left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

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

Parameters:

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

5.15 BS-15 $Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, R_L\right)$

Parameters:

Q:
$$\frac{L_3\sqrt{\frac{1}{C_3L_3}}}{R_L}$$
 wo:
$$\sqrt{\frac{1}{C_3L_3}}$$
 bandwidth:
$$\frac{R_L}{L_3}$$
 K-LP: R_L K-HP: R_L K-BP: 0 Qz: None Wz:
$$\sqrt{\frac{1}{C_3L_3}}$$

5.16 BS-16 $Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \infty, \infty, R_L\right)$

Parameters:

$$\begin{array}{l} \text{Q:} \ \frac{L_3\sqrt{\frac{1}{C_3L_3}}(R_3 + R_L)}{R_3R_L} \\ \text{wo:} \ \sqrt{\frac{1}{C_3L_3}} \\ \text{bandwidth:} \ \frac{R_3R_L}{L_3(R_3 + R_L)} \\ \text{K-LP:} \ \frac{R_3R_L}{R_3 + R_L} \\ \text{K-HP:} \ \frac{R_3R_L}{R_3 + R_L} \\ \text{K-BP:} \ 0 \\ \text{Qz:} \ \text{None} \\ \text{Wz:} \ \sqrt{\frac{1}{C_3L_3}} \end{array}$$

 $H(s) = \frac{R_L \left(C_3 L_3 s^2 + 1 \right)}{C_2 L_2 s^2 + C_2 R_L s + 1}$

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

5.17 BS-17 $Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, R_3, \infty, \infty, L_L s + \frac{1}{C_L s}\right)$

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

Parameters:

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

5.18 BS-18 $Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, R_3, \infty, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$

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

Parameters:

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

5.19 BS-19 $Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, R_L\right)$

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

$$\begin{array}{l} \text{Q:} \ \frac{L_3\sqrt{\frac{1}{C_3L_3}}}{R_L}\\ \text{wo:} \ \sqrt{\frac{1}{C_3L_3}}\\ \text{bandwidth:} \ \frac{R_L}{L_3}\\ \text{K-LP:} \ R_L\\ \text{K-HP:} \ R_L\\ \text{K-BP:} \ 0\\ \text{Qz:} \ \text{None}\\ \text{Wz:} \ \sqrt{\frac{1}{C_3L_3}} \end{array}$$

5.20 BS-20
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \infty, \infty, R_L\right)$$

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

$$\begin{array}{l} \text{Q:} \ \, \frac{L_3\sqrt{\frac{1}{C_3L_3}}(R_3 + R_L)}{R_3R_L} \\ \text{wo:} \ \, \sqrt{\frac{1}{C_3L_3}} \\ \text{bandwidth:} \ \, \frac{R_3R_L}{L_3(R_3 + R_L)} \\ \text{K-LP:} \ \, \frac{R_3R_L}{R_3 + R_L} \\ \text{K-HP:} \ \, \frac{R_3R_L}{R_3 + R_L} \\ \text{K-BP:} \ \, 0 \\ \text{Qz:} \ \, \text{None} \\ \text{Wz:} \ \, \sqrt{\frac{1}{C_3L_3}} \end{array}$$

5.21 BS-21 $Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, R_3, \infty, \infty, L_L s + \frac{1}{C_L s}\right)$

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

Parameters:

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

5.22 BS-22 $Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, R_3, \infty, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$

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

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

5.23 BS-23
$$Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, R_L\right)$$

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

$$\begin{array}{l} \text{Q:} \ \frac{L_3\sqrt{\frac{1}{C_3L_3}}}{R_L}\\ \text{wo:} \ \sqrt{\frac{1}{C_3L_3}}\\ \text{bandwidth:} \ \frac{R_L}{L_3}\\ \text{K-LP:} \ R_L\\ \text{K-HP:} \ R_L\\ \text{K-BP:} \ 0\\ \text{Qz:} \ \text{None}\\ \text{Wz:} \ \sqrt{\frac{1}{C_3L_3}} \end{array}$$

5.24 BS-24
$$Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \infty, \infty, R_L\right)$$

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

Parameters:

$$\begin{array}{l} \text{Q:} \ \frac{L_3\sqrt{\frac{1}{C_3L_3}}(R_3+R_L)}{R_3R_L} \\ \text{wo:} \ \sqrt{\frac{1}{C_3L_3}} \\ \text{bandwidth:} \ \frac{R_3R_L}{L_3(R_3+R_L)} \\ \text{K-LP:} \ \frac{R_3R_L}{R_3+R_L} \\ \text{K-HP:} \ \frac{R_3R_L}{R_3+R_L} \\ \text{K-BP:} \ 0 \\ \text{Qz:} \ \text{None} \\ \text{Wz:} \ \sqrt{\frac{1}{C_3L_3}} \end{array}$$

5.25 BS-25
$$Z(s) = \left(\infty, \ \frac{L_2 s}{C_2 L_2 s^2 + 1} + R_2, \ R_3, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$$

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

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

5.26 BS-26
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ R_3, \ \infty, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

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

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

5.27 BS-27
$$Z(s) = \left(\infty, \ \frac{L_2 s}{C_2 L_2 s^2 + 1} + R_2, \ L_3 s + \frac{1}{C_3 s}, \ \infty, \ \infty, \ R_L\right)$$

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

Parameters:

Q:
$$\frac{L_3\sqrt{\frac{1}{C_3L_3}}}{R_L}$$
 wo:
$$\sqrt{\frac{1}{C_3L_3}}$$
 bandwidth:
$$\frac{R_L}{L_3}$$
 K-LP: R_L K-HP: R_L K-BP: 0 Qz: None Wz:
$$\sqrt{\frac{1}{C_3L_3}}$$

5.28 BS-28
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \infty, \ \infty, \ R_L\right)$$

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

$$\begin{array}{l} \text{Q:} \ \frac{L_3\sqrt{\frac{1}{C_3L_3}}(R_3+R_L)}{R_3R_L} \\ \text{wo:} \ \sqrt{\frac{1}{C_3L_3}} \\ \text{bandwidth:} \ \frac{R_3R_L}{L_3(R_3+R_L)} \\ \text{K-LP:} \ \frac{R_3R_L}{R_3+R_L} \\ \text{K-HP:} \ \frac{R_3R_L}{R_3+R_L} \\ \text{K-BP:} \ 0 \\ \text{Qz:} \ \text{None} \\ \text{Wz:} \ \sqrt{\frac{1}{C_3L_3}} \end{array}$$

5.29 BS-29
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ R_3, \ \infty, \ \infty, \ L_Ls + \frac{1}{C_Ls}\right)$$

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

Parameters:

Q:
$$\frac{L_L\sqrt{\frac{1}{C_LL_L}}}{R_3}$$
wo:
$$\sqrt{\frac{1}{C_LL_L}}$$
bandwidth:
$$\frac{R_3}{L_L}$$
K-LP: R_3 K-HP: R_3 K-BP: 0
Qz: None
Wz:
$$\sqrt{\frac{1}{C_LL_L}}$$

5.30 BS-30
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ R_3, \ \infty, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

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

Parameters:

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

5.31 BS-31
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ L_3s + \frac{1}{C_3s}, \ \infty, \ \infty, \ R_L\right)$$

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

$$\begin{array}{c} \text{Q:} \ \frac{L_3\sqrt{\frac{1}{C_3L_3}}}{R_L} \\ \text{wo:} \ \sqrt{\frac{1}{C_3L_3}} \\ \text{bandwidth:} \ \frac{R_L}{L_3} \\ \text{K-LP:} \ R_L \\ \text{K-HP:} \ R_L \\ \text{K-BP:} \ 0 \\ \text{Qz:} \ \text{None} \\ \text{Wz:} \ \sqrt{\frac{1}{C_3L_3}} \end{array}$$

5.32 BS-32
$$Z(s) = \left(\infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \infty, \infty, \infty, R_L\right)$$

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

Parameters:

$$\begin{array}{l} \text{Q:} \ \frac{L_3\sqrt{\frac{1}{C_3L_3}}(R_3 + R_L)}{R_3R_L} \\ \text{wo:} \ \sqrt{\frac{1}{C_3L_3}} \\ \text{bandwidth:} \ \frac{R_3R_L}{L_3(R_3 + R_L)} \\ \text{K-LP:} \ \frac{R_3R_L}{R_3 + R_L} \\ \text{K-HP:} \ \frac{R_3R_L}{R_3 + R_L} \\ \text{K-BP:} \ 0 \\ \text{Qz:} \ \text{None} \\ \text{Wz:} \ \sqrt{\frac{1}{C_3L_3}} \end{array}$$

6 **GE**

6.1 GE-1
$$Z(s) = \left(\infty, R_2, R_3, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

Parameters:

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

6.2 GE-2 $Z(s) = \left(\infty, R_2, R_3, \infty, \infty, \frac{L_{Ls}}{C_L L_L s^2 + 1} + R_L\right)$

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

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

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

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

Wz:
$$\sqrt{\frac{1}{C_L L_L}}$$

6.3 GE-3
$$Z(s) = \left(\infty, R_2, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, R_L\right)$$

Q:
$$\frac{L_3\sqrt{\frac{1}{C_3L_3}}}{R_3+R_L}$$

wo: $\sqrt{\frac{1}{C_3L_3}}$
bandwidth: $\frac{R_3+R_L}{L_3}$
K-LP: R_L
K-HP: R_L
K-BP: $\frac{R_3R_L}{R_3+R_L}$
Qz: $\frac{L_3\sqrt{\frac{1}{C_3L_3}}}{R_3}$
Wz: $\sqrt{\frac{1}{C_3L_3}}$

6.4 GE-4
$$Z(s) = \left(\infty, R_2, \frac{L_3s}{C_3L_3s^2+1} + R_3, \infty, \infty, R_L\right)$$

Parameters:

Q:
$$C_3\sqrt{\frac{1}{C_3L_3}}$$
 (R_3+R_L)
wo: $\sqrt{\frac{1}{C_3L_3}}$
bandwidth: $\frac{1}{C_3(R_3+R_L)}$
K-LP: $\frac{R_3R_L}{R_3+R_L}$
K-HP: $\frac{R_3R_L}{R_3+R_L}$
K-BP: R_L
Qz: $C_3R_3\sqrt{\frac{1}{C_3L_3}}$
Wz: $\sqrt{\frac{1}{C_3L_3}}$

6.5 GE-5
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, R_3, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

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

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

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

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

Wz:
$$\sqrt{\frac{1}{C_L L_L}}$$

6.6 GE-6
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, R_3, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

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

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

6.7 GE-7
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, R_L\right)$$

Parameters:

$$\begin{array}{l} \text{Q:} \ \frac{L_{3}\sqrt{\frac{1}{C_{3}L_{3}}}}{R_{3}+R_{L}} \\ \text{wo:} \ \sqrt{\frac{1}{C_{3}L_{3}}} \\ \text{bandwidth:} \ \frac{R_{3}+R_{L}}{L_{3}} \\ \text{K-LP:} \ R_{L} \\ \text{K-HP:} \ R_{L} \\ \text{K-BP:} \ \frac{R_{3}R_{L}}{R_{3}+R_{L}} \\ \text{Qz:} \ \frac{L_{3}\sqrt{\frac{1}{C_{3}L_{3}}}}{R_{3}} \\ \text{Wz:} \ \sqrt{\frac{1}{C_{3}L_{3}}} \end{array}$$

6.8 GE-8
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, R_L\right)$$

Q:
$$C_3\sqrt{\frac{1}{C_3L_3}}(R_3+R_L)$$

wo: $\sqrt{\frac{1}{C_3L_3}}$
bandwidth: $\frac{1}{C_3(R_3+R_L)}$
K-LP: $\frac{R_3R_L}{R_3+R_L}$
K-HP: $\frac{R_3R_L}{R_3+R_L}$
K-BP: R_L
Qz: $C_3R_3\sqrt{\frac{1}{C_3L_3}}$

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

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

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

Wz:
$$\sqrt{\frac{1}{C_3L_3}}$$

6.9 GE-9
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, R_3, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

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

Parameters:

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

$$Qz: \frac{L_L \sqrt{\frac{1}{C_L L_L}}}{R_L}$$
Wz:
$$\sqrt{\frac{1}{C_L L_L}}$$

6.10 GE-10
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, R_3, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

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

Parameters:

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

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

6.11 GE-11
$$Z(s) = \left(\infty, \frac{R_2}{C_2R_2s+1}, L_3s + R_3 + \frac{1}{C_3s}, \infty, \infty, R_L\right)$$

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

Q:
$$\frac{L_3\sqrt{\frac{1}{C_3L_3}}}{R_3+R_L}$$

wo: $\sqrt{\frac{1}{C_3L_3}}$
bandwidth: $\frac{R_3+R_L}{L_3}$
K-LP: R_L
K-HP: R_L
K-BP: $\frac{R_3R_L}{R_3+R_L}$
Qz: $\frac{L_3\sqrt{\frac{1}{C_3L_3}}}{R_3}$

Wz:
$$\sqrt{\frac{1}{C_3L_3}}$$

6.12 GE-12
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, R_L\right)$$

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

Parameters:

Q:
$$C_3\sqrt{\frac{1}{C_3L_3}}$$
 (R_3+R_L)
wo: $\sqrt{\frac{1}{C_3L_3}}$
bandwidth: $\frac{1}{C_3(R_3+R_L)}$
K-LP: $\frac{R_3R_L}{R_3+R_L}$
K-HP: $\frac{R_3R_L}{R_3+R_L}$
K-BP: R_L
Qz: $C_3R_3\sqrt{\frac{1}{C_3L_3}}$
Wz: $\sqrt{\frac{1}{C_3L_3}}$

6.13 GE-13
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, R_3, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

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

Parameters:

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

6.14 GE-14
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, R_3, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

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

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

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

Wz:
$$\sqrt{\frac{1}{C_L L_L}}$$

6.15 GE-15
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, R_L\right)$$

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

Parameters:

Q:
$$\frac{L_3\sqrt{\frac{1}{C_3L_3}}}{R_3+R_L}$$
 wo: $\sqrt{\frac{1}{C_3L_3}}$ bandwidth: $\frac{R_3+R_L}{L_3}$ K-LP: R_L K-HP: R_L K-BP: $\frac{R_3R_L}{R_3+R_L}$ Qz: $\frac{L_3\sqrt{\frac{1}{C_3L_3}}}{R_3}$ Wz: $\sqrt{\frac{1}{C_3L_3}}$

6.16 GE-16
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, R_L\right)$$

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

Parameters:

Q:
$$C_3\sqrt{\frac{1}{C_3L_3}}$$
 (R_3+R_L)
wo: $\sqrt{\frac{1}{C_3L_3}}$
bandwidth: $\frac{1}{C_3(R_3+R_L)}$
K-LP: $\frac{R_3R_L}{R_3+R_L}$
K-HP: $\frac{R_3R_L}{R_3+R_L}$
K-BP: R_L
Qz: $C_3R_3\sqrt{\frac{1}{C_3L_3}}$
Wz: $\sqrt{\frac{1}{C_3L_3}}$

6.17 GE-17
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, R_3, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

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

$$\begin{aligned} &\text{Q: } \frac{L_L \sqrt{\frac{1}{C_L L_L}}}{R_3 + R_L} \\ &\text{wo: } \sqrt{\frac{1}{C_L L_L}} \\ &\text{bandwidth: } \frac{R_3 + R_L}{L_L} \\ &\text{K-LP: } R_3 \\ &\text{K-HP: } R_3 \\ &\text{K-BP: } \frac{R_3 R_L}{R_3 + R_L} \\ &\text{Qz: } \frac{L_L \sqrt{\frac{1}{C_L L_L}}}{R_L} \end{aligned}$$

Wz:
$$\sqrt{\frac{1}{C_L L_L}}$$

6.18 GE-18
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, R_3, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

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

Parameters:

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

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

6.19 GE-19
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, R_L\right)$$

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

Parameters:

Q:
$$\frac{L_3\sqrt{\frac{1}{C_3L_3}}}{R_3+R_L}$$

wo: $\sqrt{\frac{1}{C_3L_3}}$
bandwidth: $\frac{R_3+R_L}{L_3}$
K-LP: R_L
K-HP: R_L
K-BP: $\frac{R_3R_L}{R_3+R_L}$
Qz: $\frac{L_3\sqrt{\frac{1}{C_3L_3}}}{R_3}$
Wz: $\sqrt{\frac{1}{C_3L_3}}$

6.20 GE-20
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, R_L\right)$$

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

Q:
$$C_3\sqrt{\frac{1}{C_3L_3}}(R_3+R_L)$$

wo: $\sqrt{\frac{1}{C_3L_3}}$
bandwidth: $\frac{1}{C_3(R_3+R_L)}$
K-LP: $\frac{R_3R_L}{R_3+R_L}$
K-HP: $\frac{R_3R_L}{R_3+R_L}$
K-BP: R_L
Qz: $C_3R_3\sqrt{\frac{1}{C_3L_3}}$

Wz:
$$\sqrt{\frac{1}{C_3L_3}}$$

6.21 GE-21
$$Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, R_3, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

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

Q:
$$\frac{L_L\sqrt{\frac{1}{C_LL_L}}}{R_3+R_L}$$
 wo:
$$\sqrt{\frac{1}{C_LL_L}}$$
 bandwidth:
$$\frac{R_3+R_L}{L_L}$$
 K-LP: R_3 K-HP: R_3 K-BP:
$$\frac{R_3R_L}{R_3+R_L}$$
 Qz:
$$\frac{L_L\sqrt{\frac{1}{C_LL_L}}}{R_L}$$
 Wz:
$$\sqrt{\frac{1}{C_LL_L}}$$

6.22 GE-22
$$Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, R_3, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

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

Parameters:

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

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

6.23 GE-23
$$Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, R_L\right)$$

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

$$\begin{array}{l} \text{Q:} \ \frac{L_{3}\sqrt{\frac{1}{C_{3}L_{3}}}}{R_{3}+R_{L}} \\ \text{wo:} \ \sqrt{\frac{1}{C_{3}L_{3}}} \\ \text{bandwidth:} \ \frac{R_{3}+R_{L}}{L_{3}} \\ \text{K-LP:} \ R_{L} \\ \text{K-HP:} \ R_{L} \\ \text{K-BP:} \ \frac{R_{3}R_{L}}{R_{3}+R_{L}} \\ \text{Qz:} \ \frac{L_{3}\sqrt{\frac{1}{C_{3}L_{3}}}}{R_{3}} \end{array}$$

Wz:
$$\sqrt{\frac{1}{C_3L_3}}$$

6.24 GE-24
$$Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, R_L\right)$$

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

Parameters:

$$\begin{array}{l} \text{Q: } C_3\sqrt{\frac{1}{C_3L_3}}\left(R_3+R_L\right) \\ \text{wo: } \sqrt{\frac{1}{C_3L_3}} \\ \text{bandwidth: } \frac{1}{C_3(R_3+R_L)} \\ \text{K-LP: } \frac{R_3R_L}{R_3+R_L} \\ \text{K-HP: } \frac{R_3R_L}{R_3+R_L} \\ \text{K-BP: } R_L \\ \text{Qz: } C_3R_3\sqrt{\frac{1}{C_3L_3}} \\ \text{Wz: } \sqrt{\frac{1}{C_3L_3}} \end{array}$$

6.25 GE-25
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ R_3, \ \infty, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls}\right)$$

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

Parameters:

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

6.26 GE-26
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ R_3, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$$

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

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

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

Wz:
$$\sqrt{\frac{1}{C_L L_L}}$$

6.27 GE-27
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ L_3s + R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ R_L\right)$$

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

Parameters:

$$\begin{array}{l} \text{Q:} \ \frac{L_{3}\sqrt{\frac{1}{C_{3}L_{3}}}}{R_{3}+R_{L}} \\ \text{wo:} \ \sqrt{\frac{1}{C_{3}L_{3}}} \\ \text{bandwidth:} \ \frac{R_{3}+R_{L}}{L_{3}} \\ \text{K-LP:} \ R_{L} \\ \text{K-HP:} \ R_{L} \\ \text{K-BP:} \ \frac{R_{3}R_{L}}{R_{3}+R_{L}} \\ \text{Qz:} \ \frac{L_{3}\sqrt{\frac{1}{C_{3}L_{3}}}}{R_{3}} \\ \text{Wz:} \ \sqrt{\frac{1}{C_{3}L_{3}}} \end{array}$$

6.28 GE-28
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{L_3s}{C_3L_3s^2+1} + R_3, \ \infty, \ \infty, \ R_L\right)$$

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

Parameters:

Q:
$$C_3\sqrt{\frac{1}{C_3L_3}}$$
 (R_3+R_L)
wo: $\sqrt{\frac{1}{C_3L_3}}$
bandwidth: $\frac{1}{C_3(R_3+R_L)}$
K-LP: $\frac{R_3R_L}{R_3+R_L}$
K-HP: $\frac{R_3R_L}{R_3+R_L}$
K-BP: R_L
Qz: $C_3R_3\sqrt{\frac{1}{C_3L_3}}$
Wz: $\sqrt{\frac{1}{C_3L_3}}$

6.29 GE-29
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ R_3, \ \infty, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls}\right)$$

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

$$\begin{array}{l} \text{Q:} \ \frac{L_L \sqrt{\frac{1}{C_L L_L}}}{R_3 + R_L} \\ \text{wo:} \ \sqrt{\frac{1}{C_L L_L}} \\ \text{bandwidth:} \ \frac{R_3 + R_L}{L_L} \\ \text{K-LP:} \ R_3 \\ \text{K-HP:} \ R_3 \\ \text{K-BP:} \ \frac{R_3 R_L}{R_3 + R_L} \\ \text{Qz:} \ \frac{L_L \sqrt{\frac{1}{C_L L_L}}}{R_L} \end{array}$$

Wz:
$$\sqrt{\frac{1}{C_L L_L}}$$

6.30 GE-30
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ R_3, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2 + 1} + R_L\right)$$

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

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

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

6.31 GE-31
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ L_3s + R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ R_L\right)$$

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

Parameters:

$$\begin{aligned} &\text{Q: } \frac{L_3 \sqrt{\frac{1}{C_3 L_3}}}{R_3 + R_L} \\ &\text{wo: } \sqrt{\frac{1}{C_3 L_3}} \\ &\text{bandwidth: } \frac{R_3 + R_L}{L_3} \\ &\text{K-LP: } R_L \\ &\text{K-HP: } R_L \\ &\text{K-BP: } \frac{R_3 R_L}{R_3 + R_L} \\ &\text{Qz: } \frac{L_3 \sqrt{\frac{1}{C_3 L_3}}}{R_3} \\ &\text{Wz: } \sqrt{\frac{1}{C_3 L_3}} \end{aligned}$$

6.32 GE-32
$$Z(s) = \left(\infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \frac{L_3s}{C_3L_3s^2 + 1} + R_3, \infty, \infty, R_L\right)$$

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

$$\begin{array}{l} \text{Q: } C_3\sqrt{\frac{1}{C_3L_3}}\left(R_3+R_L\right) \\ \text{wo: } \sqrt{\frac{1}{C_3L_3}} \\ \text{bandwidth: } \frac{1}{C_3(R_3+R_L)} \\ \text{K-LP: } \frac{R_3R_L}{R_3+R_L} \\ \text{K-HP: } \frac{R_3R_L}{R_3+R_L} \\ \text{K-BP: } R_L \end{array}$$

Qz:
$$C_3 R_3 \sqrt{\frac{1}{C_3 L_3}}$$

Wz: $\sqrt{\frac{1}{C_3 L_3}}$

- 7 AP
- 8 INVALID-NUMER
- 8.1 INVALID-NUMER-1 $Z(s) = \left(\infty, R_2, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, R_L + \frac{1}{C_L s}\right)$

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

$$\begin{array}{l} \text{Q:} \ \frac{C_3C_LR_3R_L\sqrt{\frac{1}{C_3C_LR_3R_L}}}{C_3R_3+C_LR_3+C_LR_L} \\ \text{wo:} \ \sqrt{\frac{1}{C_3C_LR_3R_L}} \\ \text{bandwidth:} \ \frac{C_3R_3+C_LR_3+C_LR_L}{C_3C_LR_3R_L} \\ \text{K-LP:} \ R_3 \\ \text{K-HP:} \ 0 \\ \text{K-BP:} \ \frac{C_LR_3R_L}{C_3R_3+C_LR_3+C_LR_L} \\ \text{Qz:} \ 0 \\ \text{Wz:} \ \text{None} \end{array}$$

8.2 INVALID-NUMER-2 $Z(s) = \left(\infty, R_2, R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$

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

Parameters:

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

8.3 INVALID-NUMER-3 $Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, R_L + \frac{1}{C_L s}\right)$

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

$$\begin{aligned} &\text{Q: } \frac{C_3C_LR_3R_L\sqrt{\frac{1}{C_3C_LR_3R_L}}}{C_3R_3+C_LR_3+C_LR_L} \\ &\text{wo: } \sqrt{\frac{1}{C_3C_LR_3R_L}} \end{aligned}$$

bandwidth: $\frac{C_3R_3 + C_LR_3 + C_LR_L}{C_3C_LR_3R_L}$

K-LP: R_3 K-HP: 0

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

Wz: None

8.4 INVALID-NUMER-4 $Z(s) = \left(\infty, \frac{1}{C_2 s}, R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$

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

Parameters:

wo: $\sqrt{\frac{1}{C_3C_LR_3R_L}}$ bandwidth: $\frac{C_3R_3+C_3R_L+C_LR_L}{C_3C_LR_3R_L}$

K-LP: R_L K-HP: 0

K-BP: $\frac{C_3 R_3 R_L}{C_3 R_3 + C_3 R_L + C_L R_L}$

Qz: 0 Wz: None

8.5 INVALID-NUMER-5 $Z(s) = \left(\infty, \frac{R_2}{C_2R_2s+1}, \frac{R_3}{C_3R_3s+1}, \infty, \infty, R_L + \frac{1}{C_Ls}\right)$

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

Parameters:

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

K-LP: R_3

K-HP: 0 K-BP: $\frac{C_L R_3 R_L}{C_3 R_3 + C_L R_3 + C_L R_L}$ Qz: 0

Wz: None

8.6 INVALID-NUMER-6 $Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$

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

Parameters:

Q: $\frac{C_3C_LR_3R_L\sqrt{\frac{1}{C_3C_LR_3R_L}}}{C_3R_3+C_3R_L+C_LR_L}$ wo: $\sqrt{\frac{1}{C_3C_LR_3R_L}}$ bandwidth: $\frac{C_3R_3+C_3R_L+C_LR_L}{C_3C_LR_3R_L}$

K-LP: R_L

K-HP: 0 K-BP: $\frac{C_3R_3R_L}{C_3R_3+C_3R_L+C_LR_L}$

Qz: 0 Wz: None

8.7 INVALID-NUMER-7
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, R_L + \frac{1}{C_L s}\right)$$

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

Parameters:

 $\begin{array}{l} \text{Q:} \ \frac{C_3C_LR_3R_L\sqrt{\frac{1}{C_3C_LR_3R_L}}}{C_3R_3+C_LR_3+C_LR_L} \\ \text{wo:} \ \sqrt{\frac{1}{C_3C_LR_3R_L}} \\ \text{bandwidth:} \ \frac{C_3R_3+C_LR_3+C_LR_L}{C_3C_LR_3R_L} \\ \text{K-LP:} \ R_3 \\ \text{K-HP:} \ 0 \\ \text{K-BP:} \ \frac{C_LR_3R_L}{C_3R_3+C_LR_3+C_LR_L} \\ \text{Qz:} \ 0 \\ \text{Wz:} \ \text{None} \end{array}$

8.8 INVALID-NUMER-8 $Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$

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

Parameters:

 $\begin{array}{l} \text{Q:} \ \frac{C_3C_LR_3R_L\sqrt{\frac{1}{C_3C_LR_3R_L}}}{C_3R_3+C_3R_L+C_LR_L} \\ \text{wo:} \ \sqrt{\frac{1}{C_3C_LR_3R_L}} \\ \text{bandwidth:} \ \frac{C_3R_3+C_3R_L+C_LR_L}{C_3C_LR_3R_L} \\ \text{K-LP:} \ R_L \\ \text{K-HP:} \ 0 \\ \text{K-BP:} \ \frac{C_3R_3R_L}{C_3R_3+C_3R_L+C_LR_L} \\ \text{Qz:} \ 0 \\ \text{Wz:} \ \text{None} \end{array}$

8.9 INVALID-NUMER-9 $Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, R_L + \frac{1}{C_L s}\right)$

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

Parameters:

 $\begin{array}{l} \text{Q:} \ \frac{C_3C_LR_3R_L\sqrt{\frac{1}{C_3C_LR_3R_L}}}{C_3R_3+C_LR_3+C_LR_L} \\ \text{wo:} \ \sqrt{\frac{1}{C_3C_LR_3R_L}} \\ \text{bandwidth:} \ \frac{C_3R_3+C_LR_3+C_LR_L}{C_3C_LR_3R_L} \\ \text{K-LP:} \ R_3 \\ \text{K-HP:} \ 0 \\ \text{K-BP:} \ \frac{C_LR_3R_L}{C_3R_3+C_LR_3+C_LR_L} \\ \text{Qz:} \ 0 \\ \text{Wz:} \ \text{None} \end{array}$

8.10 INVALID-NUMER-10 $Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$

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

Parameters:

Q: $\frac{C_{3}C_{L}R_{3}R_{L}\sqrt{\frac{1}{C_{3}C_{L}R_{3}R_{L}}}}{C_{3}R_{3}+C_{3}R_{L}+C_{L}R_{L}}$ wo: $\sqrt{\frac{1}{C_{3}C_{L}R_{3}R_{L}}}$ bandwidth: $\frac{C_{3}R_{3}+C_{3}R_{L}+C_{L}R_{L}}{C_{3}C_{L}R_{3}R_{L}}$ K-LP: R_L K-HP: 0

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

Wz: None

8.11 INVALID-NUMER-11 $Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, R_L + \frac{1}{C_L s}\right)$

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

Parameters:

Q: $\frac{C_3C_LR_3R_L\sqrt{\frac{1}{C_3C_LR_3R_L}}}{C_3R_3+C_LR_3+C_LR_L}$

wo: $\sqrt{\frac{1}{C_3C_LR_3R_L}}$ bandwidth: $\frac{C_3R_3+C_LR_3+C_LR_L}{C_3C_LR_3R_L}$

K-LP: R_3 K-HP: 0

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

Wz: None

8.12 INVALID-NUMER-12 $Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$

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

Parameters:

Q: $\frac{C_3C_LR_3R_L\sqrt{\frac{1}{C_3C_LR_3R_L}}}{C_3R_3+C_3R_L+C_LR_L}$

wo: $\sqrt{\frac{1}{C_3C_LR_3R_L}}$ bandwidth: $\frac{C_3R_3+C_3R_L+C_LR_L}{C_3C_LR_3R_L}$ K-LP: R_L

K-HP: 0

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

Wz: None

8.13 INVALID-NUMER-13
$$Z(s) = \left(\infty, \frac{L_2s}{C_2L_2s^2+1} + R_2, \frac{R_3}{C_3R_3s+1}, \infty, \infty, R_L + \frac{1}{C_Ls}\right)$$

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

 $\begin{aligned} & \text{Q:} \ \frac{C_3 C_L R_3 R_L \sqrt{\frac{1}{C_3 C_L R_3 R_L}}}{C_3 R_3 + C_L R_3 + C_L R_L} \\ & \text{wo:} \ \sqrt{\frac{1}{C_3 C_L R_3 R_L}} \\ & \text{bandwidth:} \ \frac{C_3 R_3 + C_L R_3 + C_L R_L}{C_3 C_L R_3 R_L} \\ & \text{K-LP:} \ R_3 \\ & \text{K-HP:} \ 0 \end{aligned}$

K-HP: 0 K-BP: $\frac{C_L R_3 R_L}{C_3 R_3 + C_L R_3 + C_L R_L}$ Qz: 0

Qz: 0 Wz: None

8.14 INVALID-NUMER-14 $Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{R_L}{C_LR_Ls+1}\right)$

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

Parameters:

 $\begin{array}{l} \text{Q:} \ \frac{C_{3}C_{L}R_{3}R_{L}\sqrt{\frac{1}{C_{3}C_{L}R_{3}R_{L}}}}{C_{3}R_{3}+C_{3}R_{L}+C_{L}R_{L}} \\ \text{wo:} \ \sqrt{\frac{1}{C_{3}C_{L}R_{3}R_{L}}} \\ \text{bandwidth:} \ \frac{C_{3}R_{3}+C_{3}R_{L}+C_{L}R_{L}}{C_{3}C_{L}R_{3}R_{L}} \\ \text{K-LP:} \ R_{L} \\ \text{K-HP:} \ 0 \\ \text{K-BP:} \ \frac{C_{3}R_{3}R_{L}}{C_{3}R_{3}+C_{3}R_{L}+C_{L}R_{L}} \\ \text{Qz:} \ 0 \end{array}$

Wz: None

8.15 INVALID-NUMER-15 $Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ \frac{R_3}{C_3R_3s + 1}, \ \infty, \ \infty, \ R_L + \frac{1}{C_Ls}\right)$

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

Parameters:

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

8.16 INVALID-NUMER-16
$$Z(s) = \left(\infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, R_3 + \frac{1}{C_3s}, \infty, \infty, \infty, \frac{R_L}{C_LR_Ls + 1}\right)$$

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

$$\begin{array}{l} \text{Q:} \ \frac{C_3C_LR_3R_L\sqrt{\frac{1}{C_3C_LR_3R_L}}}{C_3R_3+C_3R_L+C_LR_L} \\ \text{wo:} \ \sqrt{\frac{1}{C_3C_LR_3R_L}} \\ \text{bandwidth:} \ \frac{C_3R_3+C_3R_L+C_LR_L}{C_3C_LR_3R_L} \\ \text{K-LP:} \ R_L \\ \text{K-HP:} \ 0 \\ \text{K-BP:} \ \frac{C_3R_3R_L}{C_3R_3+C_3R_L+C_LR_L} \\ \text{Qz:} \ 0 \\ \text{Wz:} \ \text{None} \end{array}$$

9 INVALID-WZ

10 INVALID-ORDER

10.1 INVALID-ORDER-1 $Z(s) = (\infty, R_2, R_3, \infty, \infty, R_L)$

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

10.2 INVALID-ORDER-2 $Z(s) = \left(\infty, R_2, R_3, \infty, \infty, \frac{1}{C_L s}\right)$

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

10.3 INVALID-ORDER-3 $Z(s) = \left(\infty, R_2, R_3, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$

$$H(s) = \frac{R_3R_L}{C_LR_3R_Ls + R_3 + R_L}$$

10.4 INVALID-ORDER-4 $Z(s) = \left(\infty, R_2, R_3, \infty, \infty, R_L + \frac{1}{C_L s}\right)$

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

10.5 INVALID-ORDER-5 $Z(s) = \left(\infty, R_2, \frac{1}{C_3 s}, \infty, \infty, R_L\right)$

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

10.6 INVALID-ORDER-6
$$Z(s) = \left(\infty, \ R_2, \ \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{1}{C_L s}\right)$$

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

10.7 INVALID-ORDER-7
$$Z(s) = \left(\infty, R_2, \frac{1}{C_3 s}, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

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

10.8 INVALID-ORDER-8
$$Z(s) = \left(\infty, R_2, \frac{1}{C_3 s}, \infty, \infty, R_L + \frac{1}{C_L s}\right)$$

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

10.9 INVALID-ORDER-9
$$Z(s) = \left(\infty, R_2, \frac{1}{C_3 s}, \infty, \infty, L_L s + \frac{1}{C_L s}\right)$$

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

10.10 INVALID-ORDER-10
$$Z(s) = \left(\infty, R_2, \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

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

10.11 INVALID-ORDER-11
$$Z(s) = \left(\infty, R_2, \frac{1}{C_3 s}, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

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

10.12 INVALID-ORDER-12
$$Z(s) = \left(\infty, R_2, \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

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

10.13 INVALID-ORDER-13
$$Z(s) = \left(\infty, R_2, \frac{1}{C_3 s}, \infty, \infty, \frac{R_L\left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

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

10.14 INVALID-ORDER-14
$$Z(s) = \left(\infty, R_2, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, R_L\right)$$

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

10.15 INVALID-ORDER-15
$$Z(s) = \left(\infty, \ R_2, \ \frac{R_3}{C_3R_3s+1}, \ \infty, \ \infty, \ \frac{1}{C_Ls}\right)$$

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

10.16 INVALID-ORDER-16
$$Z(s) = \left(\infty, R_2, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

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

10.17 INVALID-ORDER-17
$$Z(s) = \left(\infty, R_2, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, L_L s + \frac{1}{C_L s}\right)$$

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

10.18 INVALID-ORDER-18
$$Z(s) = \left(\infty, \ R_2, \ \frac{R_3}{C_3 R_3 s + 1}, \ \infty, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$$

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

10.19 INVALID-ORDER-19
$$Z(s) = \left(\infty, R_2, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

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

10.20 INVALID-ORDER-20
$$Z(s) = \left(\infty, R_2, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

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

10.21 INVALID-ORDER-21
$$Z(s) = \left(\infty, R_2, R_3 + \frac{1}{C_3 s}, \infty, \infty, R_L\right)$$

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

10.22 INVALID-ORDER-22
$$Z(s) = \left(\infty, R_2, R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s}\right)$$

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

10.23 INVALID-ORDER-23
$$Z(s) = \left(\infty, R_2, R_3 + \frac{1}{C_3 s}, \infty, \infty, R_L + \frac{1}{C_L s}\right)$$

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

10.24 INVALID-ORDER-24
$$Z(s) = \left(\infty, \ R_2, \ R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$$

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

10.25 INVALID-ORDER-25
$$Z(s) = \left(\infty, R_2, R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

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

10.26 INVALID-ORDER-26
$$Z(s) = \left(\infty, R_2, R_3 + \frac{1}{C_3 s}, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

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

10.27 INVALID-ORDER-27
$$Z(s) = \left(\infty, R_2, R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

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

10.28 INVALID-ORDER-28
$$Z(s) = \left(\infty, R_2, R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

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

10.29 INVALID-ORDER-29
$$Z(s) = \left(\infty, R_2, R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

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

10.30 INVALID-ORDER-30 $Z(s) = \left(\infty, R_2, L_3 s + \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s}\right)$

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

10.31 INVALID-ORDER-31 $Z(s) = \left(\infty, R_2, L_3 s + \frac{1}{C_3 s}, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$

$$H(s) = \frac{R_L \left(C_3 L_3 s^2 + 1 \right)}{C_3 C_L L_3 R_L s^3 + C_3 L_3 s^2 + C_3 R_L s + C_L R_L s + 1}$$

10.32 INVALID-ORDER-32
$$Z(s) = \left(\infty, \ R_2, \ L_3 s + \frac{1}{C_3 s}, \ \infty, \ \infty, \ R_L + \frac{1}{C_L s}\right)$$

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

10.33 INVALID-ORDER-33
$$Z(s) = \left(\infty, \ R_2, \ L_3 s + \frac{1}{C_3 s}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$$

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

10.34 INVALID-ORDER-34
$$Z(s) = \left(\infty, R_2, L_3 s + \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L s \left(C_3 L_3 s^2 + 1 \right)}{C_3 C_L L_3 L_L s^4 + C_3 L_3 s^2 + C_3 L_L s^2 + C_L L_L s^2 + 1}$$

10.35 INVALID-ORDER-35
$$Z(s) = \left(\infty, R_2, L_3 s + \frac{1}{C_3 s}, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

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

10.36 INVALID-ORDER-36
$$Z(s) = \left(\infty, R_2, L_3 s + \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_I} + \frac{1}{L_I s}}\right)$$

$$H(s) = \frac{L_L R_L s \left(C_3 L_3 s^2 + 1\right)}{C_3 C_L L_3 L_L R_L s^4 + C_3 L_3 L_L s^3 + C_3 L_3 R_L s^2 + C_3 L_L R_L s^2 + C_L L_L R_L s^2 + L_L s + R_L}$$

10.37 INVALID-ORDER-37
$$Z(s) = \left(\infty, \ R_2, \ L_3 s + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{\left(C_3 L_3 s^2 + 1\right) \left(C_L L_L R_L s^2 + L_L s + R_L\right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_L R_L s^3 + C_3 L_3 s^2 + C_3 L_L s^2 + C_3 R_L s + C_L L_L s^2 + 1}$$

10.38 INVALID-ORDER-38
$$Z(s) = \left(\infty, \ R_2, \ L_3 s + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{R_L \left(C_3 L_3 s^2 + 1 \right) \left(C_L L_L s^2 + 1 \right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_L s^3 + C_3 C_L L_L R_L s^3 + C_3 L_3 s^2 + C_3 R_L s + C_L L_L s^2 + C_L R_L s + 1}$$

10.39 INVALID-ORDER-39
$$Z(s) = \left(\infty, R_2, \frac{L_{3s}}{C_3L_3s^2+1}, \infty, \infty, \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{L_3 s}{C_3 L_3 s^2 + C_L L_3 s^2 + 1}$$

10.40 INVALID-ORDER-40
$$Z(s) = \left(\infty, \ R_2, \ \frac{L_3s}{C_3L_3s^2+1}, \ \infty, \ \infty, \ R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{L_3 s \left(C_L R_L s + 1\right)}{C_3 C_L L_3 R_L s^3 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L R_L s + 1}$$

10.41 INVALID-ORDER-41
$$Z(s) = \left(\infty, R_2, \frac{L_{3s}}{C_3 L_3 s^2 + 1}, \infty, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3s \left(C_L L_L s^2 + 1 \right)}{C_3 C_L L_3 L_L s^4 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L L_L s^2 + 1}$$

10.42 INVALID-ORDER-42
$$Z(s) = \left(\infty, \ R_2, \ \frac{L_3s}{C_3L_3s^2+1}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1}\right)$$

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

10.43 INVALID-ORDER-43
$$Z(s) = \left(\infty, R_2, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 s \left(C_L L_L s^2 + C_L R_L s + 1\right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_L s^3 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L L_L s^2 + C_L R_L s + 1}$$

10.44 INVALID-ORDER-44
$$Z(s) = \left(\infty, R_2, \frac{L_3s}{C_3L_3s^2+1}, \infty, \infty, \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$$

$$H(s) = \frac{L_3s \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{C_3 C_L L_3 L_L R_L s^4 + C_3 L_3 L_L s^3 + C_3 L_3 R_L s^2 + C_L L_3 L_L s^3 + C_L L_L R_L s^2 + L_3 s + L_L s + R_L}$$

10.45 INVALID-ORDER-45
$$Z(s) = \left(\infty, R_2, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{L_3 R_L s \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_3 L_L R_L s^4 + C_3 L_3 R_L s^2 + C_L L_3 L_L s^3 + C_L L_3 R_L s^2 + C_L L_L R_L s^2 + L_3 s + R_L}$$

10.46 INVALID-ORDER-46
$$Z(s) = \left(\infty, R_2, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s}\right)$$

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

10.47 INVALID-ORDER-47
$$Z(s) = \left(\infty, R_2, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_L \left(C_3 L_3 s^2 + C_3 R_3 s + 1 \right)}{C_3 C_L L_3 R_L s^3 + C_3 C_L R_3 R_L s^2 + C_3 L_3 s^2 + C_3 R_3 s + C_3 R_L s + C_L R_L s + 1}$$

10.48 INVALID-ORDER-48
$$Z(s) = \left(\infty, R_2, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, R_L + \frac{1}{C_L s}\right)$$

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

10.49 INVALID-ORDER-49
$$Z(s) = \left(\infty, \ R_2, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$$

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

10.50 INVALID-ORDER-50
$$Z(s) = \left(\infty, \ R_2, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L s \left(C_3 L_3 s^2 + C_3 R_3 s + 1\right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_L R_3 s^3 + C_3 L_3 s^2 + C_3 L_L s^2 + C_3 R_3 s + C_L L_L s^2 + 1}$$

10.51 INVALID-ORDER-51
$$Z(s) = \left(\infty, R_2, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + C_3R_3s + 1\right)\left(C_LL_Ls^2 + C_LR_Ls + 1\right)}{s\left(C_3C_LL_3s^2 + C_3C_LL_Ls^2 + C_3C_LR_3s + C_3C_LR_Ls + C_3 + C_L\right)}$$

10.52 INVALID-ORDER-52
$$Z(s) = \left(\infty, R_2, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_L R_L s \left(C_3 L_3 s^2 + C_3 R_3 s + 1\right)}{C_3 C_L L_3 L_L R_2 s^4 + C_3 C_L L_L R_3 R_L s^3 + C_3 L_3 L_L s^3 + C_3 L_3 R_L s^2 + C_3 L_L R_3 s^2 + C_3 L_L R_L s^2 + C_3 R_3 R_L s + C_L L_L R_L s^2 + L_L s + R_L R_L s^2 + C_3 R_3 R_L s + C_L L_L R_L s^2 + L_L s + R_L R_L s^2 + C_3 R_3 R_L s + C_L L_L R_L s^2 + L_L s + R_L R_L s^2 + C_3 R_3 R_L s + C_L R_L R_L s^2 + C_3 R_L R_L s^2 + C_2 R_L R_L s^2 + C_3 R_L R_L s^2 + C_$$

10.53 INVALID-ORDER-53
$$Z(s) = \left(\infty, R_2, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + C_3R_3s + 1\right)\left(C_LL_LR_Ls^2 + L_Ls + R_L\right)}{C_3C_LL_3L_Ls^4 + C_3C_LL_LR_3s^3 + C_3C_LL_LR_Ls^3 + C_3L_3s^2 + C_3L_Ls^2 + C_3R_3s + C_3R_Ls + C_LL_Ls^2 + 1}$$

10.54 INVALID-ORDER-54
$$Z(s) = \left(\infty, \ R_2, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{R_L \left(C_L L_L s^2 + 1 \right) \left(C_3 L_3 s^2 + C_3 R_3 s + 1 \right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_L s^3 + C_3 C_L L_L R_3 s^3 + C_3 C_L L_L R_L s^3 + C_3 C_L R_3 R_L s^2 + C_3 R_3 s + C_3 R_4 s + C_L L_L s^2 + C_L R_L s + 1}$$

10.55 INVALID-ORDER-55
$$Z(s) = \left(\infty, \ R_2, \ \frac{1}{C_3 s + \frac{1}{R_2} + \frac{1}{L_2 s}}, \ \infty, \ \infty, \ R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 R_3 s \left(C_L R_L s + 1\right)}{C_3 C_L L_3 R_3 R_L s^3 + C_3 L_3 R_3 s^2 + C_L L_3 R_3 s^2 + C_L L_3 R_L s^2 + C_L R_3 R_L s + L_3 s + R_3}$$

10.56 INVALID-ORDER-56
$$Z(s) = \left(\infty, R_2, \frac{1}{C_3 s + \frac{1}{R_2} + \frac{1}{L_2 s}}, \infty, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 R_3 s \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 L_3 R_3 s^2 + C_L L_3 L_L s^3 + C_L L_3 R_3 s^2 + C_L L_L R_3 s^2 + L_3 s + R_3}$$

$$\textbf{10.57} \quad \textbf{INVALID-ORDER-57} \ Z(s) = \left(\infty, \ R_2, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \infty, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$$

$$H(s) = \frac{L_3 R_3 s \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 C_L L_3 R_3 R_L s^3 + C_3 L_3 R_3 s^2 + C_L L_3 R_3 s^2 + C_L L_3 R_4 s^2 + C_L L_4 R_3 s^2 + C_L L_4 R_3 s^2 + C_L L_4 R_4 R_4 t^2 + C_L L_4 R_4$$

10.59 INVALID-ORDER-59
$$Z(s) = \left(\infty, \ R_2, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \infty, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{L_3 R_3 R_L s \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_3 L_L R_3 R_L s^4 + C_3 L_3 R_3 R_L s^2 + C_L L_3 L_L R_3 s^3 + C_L L_3 L_L R_3 s^2 + C_L L_L R_3 R_L s^2 + L_3 R_3 s + L_3 R_L s + R_3 R_L s^2}$$

10.60 INVALID-ORDER-60 $Z(s) = \left(\infty, \ R_2, \ \frac{L_3s}{C_3L_3s^2+1} + R_3, \ \infty, \ \infty, \ \frac{1}{C_Ls}\right)$

$$H(s) = \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 C_L L_3 R_3 s^3 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L R_3 s + 1}$$

10.61 INVALID-ORDER-61 $Z(s) = \left(\infty, \ R_2, \ \frac{L_3s}{C_3L_3s^2+1} + R_3, \ \infty, \ \infty, \ \frac{R_L}{C_LR_Ls+1}\right)$

$$H(s) = \frac{R_L \left(C_3 L_3 R_3 s^2 + L_3 s + R_3 \right)}{C_3 C_L L_3 R_3 R_L s^3 + C_3 L_3 R_3 s^2 + C_3 L_3 R_L s^2 + C_L L_3 R_L s^2 + C_L R_3 R_L s + L_3 s + R_3 + R_L r_3 r_3 R_L r_3 + C_3 R_3$$

10.62 INVALID-ORDER-62 $Z(s) = \left(\infty, R_2, \frac{L_3s}{C_3L_3s^2+1} + R_3, \infty, \infty, R_L + \frac{1}{C_Ls}\right)$

$$H(s) = \frac{\left(C_L R_L s + 1\right) \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{C_3 C_L L_3 R_3 s^3 + C_3 C_L L_3 R_L s^3 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L R_3 s + C_L R_L s + 1}$$

10.63 INVALID-ORDER-63 $Z(s) = \left(\infty, R_2, \frac{L_{3s}}{C_3L_3s^2+1} + R_3, \infty, \infty, L_Ls + \frac{1}{C_Ls}\right)$

$$H(s) = \frac{\left(C_L L_L s^2 + 1\right) \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_3 s^3 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L L_L s^2 + C_L R_3 s + 1}$$

10.64 INVALID-ORDER-64 $Z(s) = \left(\infty, R_2, \frac{L_3s}{C_3L_3s^2+1} + R_3, \infty, \infty, \frac{L_Ls}{C_LL_Ls^2+1}\right)$

$$H(s) = \frac{L_L s \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 L_3 L_L s^3 + C_3 L_3 R_3 s^2 + C_L L_3 L_L s^3 + C_L L_L R_3 s^2 + L_3 s + L_L s + R_3}$$

10.65 INVALID-ORDER-65
$$Z(s) = \left(\infty, \ R_2, \ \frac{L_3s}{C_3L_3s^2+1} + R_3, \ \infty, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{\left(C_L L_L s^2 + C_L R_L s + 1\right) \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_3 s^3 + C_3 C_L L_3 R_L s^3 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L L_L s^2 + C_L R_3 s + C_L R_L s + 1}$$

10.66 INVALID-ORDER-66
$$Z(s) = \left(\infty, \ R_2, \ \frac{L_{3s}}{C_3L_3s^2+1} + R_3, \ \infty, \ \infty, \ \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

$$H(s) = \frac{L_L R_L s \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 L_3 L_L R_3 s^3 + C_3 L_3 L_L R_L s^3 + C_3 L_3 R_L s^2 + C_L L_3 L_L R_3 s^2 + L_3 L_L s^2 + L_3 L_L s^2 + L_3 R_L s + L_L R_3 s + L_L R_L s + R_3 R_L s^2 + L_L R_3 R_L s^2 + L_3 R_$$

10.67 INVALID-ORDER-67
$$Z(s) = \left(\infty, \ R_2, \ \frac{L_3s}{C_3L_3s^2+1} + R_3, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$$

$$H(s) = \frac{\left(C_3L_3R_3s^2 + L_3s + R_3\right)\left(C_LL_LR_Ls^2 + L_Ls + R_L\right)}{C_3C_LL_3L_LR_3s^4 + C_3C_LL_3L_LR_2s^4 + C_3L_3L_Ls^3 + C_3L_3R_3s^2 + C_3L_3R_Ls^2 + C_LL_3L_Ls^3 + C_LL_LR_3s^2 + C_LL_LR_2s^2 + L_2s + R_3 + R_L}$$

10.68 INVALID-ORDER-68
$$Z(s) = \left(\infty, \ R_2, \ \frac{L_3s}{C_3L_3s^2+1} + R_3, \ \infty, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

$$H(s) = \frac{R_L \left(C_L L_L s^2 + 1 \right) \left(C_3 L_3 R_3 s^2 + L_3 s + R_3 \right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 C_L L_3 L_L R_1 s^4 + C_3 C_L L_3 R_3 R_L s^3 + C_3 L_3 R_L s^2 + C_L L_3 L_L s^3 + C_L L_3 R_L s^2 + C_L L_L R_3 s^2 + C_L L_L R_2 s^2 + C_L L_R R_3 s^2 + C_L L_R R_3 s^2 + C_L R_3 R_L s + L_3 s + R_3 + R_L R_3 s^2 + C_L R_3 R_L s^$$

10.69 INVALID-ORDER-69
$$Z(s) = \left(\infty, R_2, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \infty, \infty, \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{R_3 (C_3 L_3 s^2 + 1)}{C_3 C_L L_3 R_3 s^3 + C_3 L_3 s^2 + C_3 R_3 s + C_L R_3 s + 1}$$

10.70 INVALID-ORDER-70
$$Z(s) = \left(\infty, R_2, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_3 R_L \left(C_3 L_3 s^2 + 1\right)}{C_3 C_L L_3 R_3 R_L s^3 + C_3 L_3 R_3 s^2 + C_3 L_3 R_L s^2 + C_3 R_3 R_L s + C_L R_3 R_L s + R_3 + R_L}$$

10.71 INVALID-ORDER-71
$$Z(s) = \left(\infty, \ R_2, \ \frac{R_3\left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 \left(C_3 L_3 s^2 + 1 \right) \left(C_L R_L s + 1 \right)}{C_3 C_L L_3 R_3 s^3 + C_3 C_L L_3 R_L s^3 + C_3 C_L R_3 R_L s^2 + C_3 L_3 s^2 + C_3 R_3 s + C_L R_3 s + C_L R_L s + 1}$$

10.72 INVALID-ORDER-72
$$Z(s) = \left(\infty, \ R_2, \ \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \infty, \ \infty, \ L_Ls + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{R_3 \left(C_3 L_3 s^2 + 1 \right) \left(C_L L_L s^2 + 1 \right)}{C_3 C_L L_3 L_1 s^4 + C_3 C_L L_3 R_3 s^3 + C_3 C_L L_1 R_3 s^3 + C_3 L_3 s^2 + C_3 R_3 s + C_L L_1 s^2 + C_L R_3 s + 1}$$

10.73 INVALID-ORDER-73
$$Z(s) = \left(\infty, R_2, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \infty, \infty, \frac{L_Ls}{C_LL_Ls^2 + 1}\right)$$

$$H(s) = \frac{L_L R_3 s \left(C_3 L_3 s^2 + 1\right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 L_3 L_L s^3 + C_3 L_3 R_3 s^2 + C_3 L_L R_3 s^2 + C_L L_L R_3 s^2 + L_L s + R_3}$$

10.74 INVALID-ORDER-74
$$Z(s) = \left(\infty, \ R_2, \ \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \infty, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{R_3 \left(C_3 L_3 s^2 + 1\right) \left(C_L L_L s^2 + C_L R_L s + 1\right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_3 s^3 + C_3 C_L L_3 R_L s^3 + C_3 C_L L_1 R_3 s^3 + C_3 C_L L_1 R_3 s^3 + C_3 C_L R_3 R_L s^2 + C_3 R_3 s + C_L L_L s^2 + C_L R_3 s + C_L R_L s + 1}$$

10.75 INVALID-ORDER-75
$$Z(s) = \left(\infty, \ R_2, \ \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \infty, \ \infty, \ \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

$$H(s) = \frac{L_L R_3 R_L s \left(C_3 L_3 s^2 + 1\right)}{C_3 C_L L_3 L_L R_3 R_L s^4 + C_3 L_3 L_L R_3 s^3 + C_3 L_3 L_L R_L s^3 + C_3 L_3 R_3 R_L s^2 + C_3 L_L R_3 R_L s^2 + C_L L_L R_3 R_L s^2 + L_L R_3 s + L_L R_L s + R_3 R_L s^2 + L_L R_3 R_L s^2 + L_L$$

10.76 INVALID-ORDER-76
$$Z(s) = \left(\infty, \ R_2, \ \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2 + 1} + R_L\right)$$

$$H(s) = \frac{R_3 \left(C_3 L_3 s^2 + 1\right) \left(C_L L_L R_L s^2 + L_L s + R_L\right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 C_L L_2 L_L R_3 R_L s^3 + C_3 L_3 L_L s^3 + C_3 L_3 R_3 s^2 + C_3 L_3 R_L s^2 + C_3 L_L R_3 s^2 + C_4 L_L R_3 s^2 + C_L L_L R_3 s^2 + C_L L_L R_3 s^2 + L_L s + R_3 + R_L R_3 r^2 + C_3 R_3 R_L s + C_4 R_3 R_L s^2 + C_4 R_4 R_L s^2 + C_4$$

10.77 INVALID-ORDER-77
$$Z(s) = \left(\infty, R_2, \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \infty, \infty, \infty, \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

$$H(s) = \frac{R_3 R_L \left(C_3 L_3 s^2 + 1\right) \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 C_L L_3 R_L s^4 + C_3 C_L L_3 R_3 R_L s^3 + C_3 L_4 R_3 s^2 + C_3 L_3 R_L s^2 + C_3 L_3 R_L s^2 + C_L L_L R_3 s^2 + C_L$$

10.78 INVALID-ORDER-78 $Z(s) = \left(\infty, \frac{1}{C_2 s}, R_3, \infty, \infty, R_L\right)$

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

10.79 INVALID-ORDER-79 $Z(s) = \left(\infty, \frac{1}{C_2 s}, R_3, \infty, \infty, \frac{1}{C_L s}\right)$

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

10.80 INVALID-ORDER-80 $Z(s) = \left(\infty, \frac{1}{C_2 s}, R_3, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$

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

10.81 INVALID-ORDER-81
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, R_3, \infty, \infty, R_L + \frac{1}{C_L s}\right)$$

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

10.82 INVALID-ORDER-82
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{1}{C_3 s}, \infty, \infty, \infty, R_L\right)$$

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

10.83 INVALID-ORDER-83
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{1}{C_3 s}, \infty, \infty, \infty, \frac{1}{C_L s}\right)$$

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

10.84 INVALID-ORDER-84
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{1}{C_3 s}, \infty, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

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

10.85 INVALID-ORDER-85
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{1}{C_3 s}, \infty, \infty, R_L + \frac{1}{C_L s}\right)$$

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

10.86 INVALID-ORDER-86
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{1}{C_3 s}, \infty, \infty, L_L s + \frac{1}{C_L s}\right)$$

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

10.87 INVALID-ORDER-87
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

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

10.88 INVALID-ORDER-88
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{1}{C_3 s}, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

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

10.89 INVALID-ORDER-89
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

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

10.90 INVALID-ORDER-90
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{1}{C_3 s}, \infty, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

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

10.91 INVALID-ORDER-91
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, R_L\right)$$

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

10.92 INVALID-ORDER-92
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, \frac{1}{C_L s}\right)$$

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

10.93 INVALID-ORDER-93
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

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

10.94 INVALID-ORDER-94
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, L_L s + \frac{1}{C_L s}\right)$$

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

10.95 INVALID-ORDER-95
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

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

10.96 INVALID-ORDER-96
$$Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{R_3}{C_3 R_3 s + 1}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

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

10.97 INVALID-ORDER-97
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

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

10.98 INVALID-ORDER-98
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, R_3 + \frac{1}{C_3 s}, \infty, \infty, R_L\right)$$

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

10.99 INVALID-ORDER-99
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s}\right)$$

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

10.100 INVALID-ORDER-100
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, R_3 + \frac{1}{C_3 s}, \infty, \infty, R_L + \frac{1}{C_L s}\right)$$

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

10.101 INVALID-ORDER-101
$$Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$$

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

10.102 INVALID-ORDER-102
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

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

10.103 INVALID-ORDER-103
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, R_3 + \frac{1}{C_3 s}, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

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

10.104 INVALID-ORDER-104
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_I} + \frac{1}{L_L s}}\right)$$

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

10.105 INVALID-ORDER-105
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

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

10.106 INVALID-ORDER-106
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

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

10.107 INVALID-ORDER-107
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s}\right)$$

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

10.108 INVALID-ORDER-108
$$Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ L_3 s + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_L \left(C_3 L_3 s^2 + 1 \right)}{C_3 C_L L_3 R_L s^3 + C_3 L_3 s^2 + C_3 R_L s + C_L R_L s + 1}$$

10.109 INVALID-ORDER-109
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, R_L + \frac{1}{C_L s}\right)$$

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

10.110 INVALID-ORDER-110
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, L_L s + \frac{1}{C_L s}\right)$$

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

10.111 INVALID-ORDER-111
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L s \left(C_3 L_3 s^2 + 1\right)}{C_3 C_L L_3 L_L s^4 + C_3 L_3 s^2 + C_3 L_L s^2 + C_L L_L s^2 + 1}$$

10.112 INVALID-ORDER-112
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

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

10.113 INVALID-ORDER-113
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_L R_L s \left(C_3 L_3 s^2 + 1\right)}{C_3 C_L L_3 L_L R_L s^4 + C_3 L_3 L_L s^3 + C_3 L_3 R_L s^2 + C_3 L_L R_L s^2 + C_L L_L R_L s^2 + L_L s + R_L}$$

10.114 INVALID-ORDER-114
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + 1\right)\left(C_LL_LR_Ls^2 + L_Ls + R_L\right)}{C_3C_LL_3L_Ls^4 + C_3C_LL_LR_Ls^3 + C_3L_3s^2 + C_3L_Ls^2 + C_3R_Ls + C_LL_Ls^2 + 1}$$

10.115 INVALID-ORDER-115
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{R_L \left(C_3 L_3 s^2 + 1 \right) \left(C_L L_L s^2 + 1 \right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_L s^3 + C_3 C_L L_R L_S^3 + C_3 L_3 s^2 + C_3 R_L s + C_L L_L s^2 + C_L R_L s + 1}$$

10.116 INVALID-ORDER-116
$$Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \infty, \ \infty, \ \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 s}{C_3 L_3 s^2 + C_L L_3 s^2 + 1}$$

10.117 INVALID-ORDER-117
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 s \left(C_L R_L s + 1\right)}{C_3 C_L L_3 R_L s^3 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L R_L s + 1}$$

10.118 INVALID-ORDER-118
$$Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{L_{3s}}{C_3 L_3 s^2 + 1}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3s \left(C_L L_L s^2 + 1 \right)}{C_3 C_L L_3 L_L s^4 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L L_L s^2 + 1}$$

10.119 INVALID-ORDER-119
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

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

10.120 INVALID-ORDER-120
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3s \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_L s^3 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L L_L s^2 + C_L R_L s + 1}$$

10.121 INVALID-ORDER-121
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{L_3 s \left(C_L L_L R_L s^2 + L_L s + R_L\right)}{C_3 C_L L_3 L_L R_L s^4 + C_3 L_3 L_L s^3 + C_3 L_3 R_L s^2 + C_L L_3 L_L s^3 + C_L L_L R_L s^2 + L_3 s + L_L s + R_L}$$

10.122 INVALID-ORDER-122
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{L_3 R_L s \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_3 L_L R_L s^4 + C_3 L_3 R_L s^2 + C_L L_3 L_L s^3 + C_L L_3 R_L s^2 + C_L L_L R_L s^2 + L_3 s + R_L}$$

10.123 INVALID-ORDER-123
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s}\right)$$

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

10.124 INVALID-ORDER-124
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_L \left(C_3 L_3 s^2 + C_3 R_3 s + 1 \right)}{C_3 C_L L_3 R_L s^3 + C_3 C_L R_3 R_L s^2 + C_3 L_3 s^2 + C_3 R_3 s + C_3 R_L s + C_L R_L s + 1}$$

10.125 INVALID-ORDER-125
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, R_L + \frac{1}{C_L s}\right)$$

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

10.126 INVALID-ORDER-126
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, L_L s + \frac{1}{C_L s}\right)$$

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

10.127 INVALID-ORDER-127
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L s \left(C_3 L_3 s^2 + C_3 R_3 s + 1\right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_L R_3 s^3 + C_3 L_3 s^2 + C_3 L_L s^2 + C_3 R_3 s + C_L L_L s^2 + 1}$$

10.128 INVALID-ORDER-128
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + C_3R_3s + 1\right)\left(C_LL_Ls^2 + C_LR_Ls + 1\right)}{s\left(C_3C_LL_3s^2 + C_3C_LL_Ls^2 + C_3C_LR_3s + C_3C_LR_Ls + C_3 + C_L\right)}$$

10.129 INVALID-ORDER-129
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

10.130 INVALID-ORDER-130
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + C_3R_3s + 1\right)\left(C_LL_LR_Ls^2 + L_Ls + R_L\right)}{C_3C_LL_3L_Ls^4 + C_3C_LL_LR_3s^3 + C_3C_LL_LR_Ls^3 + C_3L_3s^2 + C_3L_Ls^2 + C_3R_3s + C_3R_Ls + C_LL_Ls^2 + 1}$$

10.131 INVALID-ORDER-131
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{R_L \left(C_L L_L s^2 + 1 \right) \left(C_3 L_3 s^2 + C_3 R_3 s + 1 \right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_L s^3 + C_3 C_L L_L R_3 s^3 + C_3 C_L L_L R_L s^3 + C_3 C_L R_3 R_L s^2 + C_3 R_3 s + C_3 R_4 s + C_L L_L s^2 + C_L R_L s + 1}$$

10.132 INVALID-ORDER-132
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{1}{C_3 s + \frac{1}{R_2} + \frac{1}{L_2 s}}, \infty, \infty, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 R_3 s \left(C_L R_L s + 1\right)}{C_3 C_L L_3 R_3 R_L s^3 + C_3 L_3 R_3 s^2 + C_L L_3 R_3 s^2 + C_L L_3 R_L s^2 + C_L R_3 R_L s + L_3 s + R_3}$$

10.133 INVALID-ORDER-133
$$Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 R_3 s \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 L_3 R_3 s^2 + C_L L_3 L_L s^3 + C_L L_3 R_3 s^2 + C_L L_L R_3 s^2 + L_3 s + R_3}$$

$$\textbf{10.134} \quad \textbf{INVALID-ORDER-134} \ Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \infty, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$$

$$H(s) = \frac{L_3 R_3 s \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 C_L L_3 R_3 R_L s^3 + C_3 L_3 R_3 s^2 + C_L L_3 R_3 s^2 + C_L L_3 R_4 s^2 + C_L L_4 R_3 s^2 + C_L L_4 R_3 s^2 + C_L L_4 R_4 R_4 s^2 + C_$$

10.135 INVALID-ORDER-135
$$Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{L_3 R_3 s \left(C_L L_L R_L s^2 + L_L s + R_L\right)}{C_3 C_L L_3 L_L R_3 R_L s^4 + C_3 L_3 L_L R_3 s^3 + C_3 L_3 R_3 R_L s^2 + C_L L_3 L_L R_3 s^3 + C_L L_3 L_L R_3 R_L s^2 + L_3 L_L s^2 + L_3 R_3 s + L_3 R_L s + L_L R_3 s + R_3 R_L s^2 + L_3 L_L R_3 R$$

$$\textbf{10.136} \quad \textbf{INVALID-ORDER-136} \ Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \infty, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s} \right)}{L_L s + R_L + \frac{1}{C_L s}} \right)$$

$$H(s) = \frac{L_3 R_3 R_L s \left(C_L L_L s^2 + 1 \right)}{C_3 C_L L_3 L_L R_3 R_L s^4 + C_3 L_3 R_3 R_L s^2 + C_L L_3 L_L R_3 s^3 + C_L L_3 L_L R_3 s^2 + C_L L_3 R_3 R_L s^2 + C_L L_4 R_3 R_L s^2 + L_4 R_3 R_L s^2 + C_4 R_3 R_L s^2 +$$

10.137 INVALID-ORDER-137
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 C_L L_3 R_3 s^3 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L R_3 s + 1}$$

10.138 INVALID-ORDER-138
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_L \left(C_3 L_3 R_3 s^2 + L_3 s + R_3 \right)}{C_3 C_L L_3 R_3 R_L s^3 + C_3 L_3 R_3 s^2 + C_3 L_3 R_L s^2 + C_L L_3 R_L s^2 + C_L R_3 R_L s + L_3 s + R_3 + R_L}$$

10.139 INVALID-ORDER-139
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_L R_L s + 1\right) \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{C_3 C_L L_3 R_3 s^3 + C_3 C_L L_3 R_L s^3 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L R_3 s + C_L R_L s + 1}$$

10.140 INVALID-ORDER-140
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_L L_L s^2 + 1\right) \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_3 s^3 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L L_L s^2 + C_L R_3 s + 1}$$

10.141 INVALID-ORDER-141
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L s \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 L_3 L_L s^3 + C_3 L_3 R_3 s^2 + C_L L_3 L_L s^3 + C_L L_L R_3 s^2 + L_3 s + L_L s + R_3}$$

10.142 INVALID-ORDER-142
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_L L_L s^2 + C_L R_L s + 1\right) \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_3 s^3 + C_3 C_L L_3 R_L s^3 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L L_L s^2 + C_L R_3 s + C_L R_L s + 1}$$

10.143 INVALID-ORDER-143
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_L R_L s \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 L_3 L_L R_3 s^3 + C_3 L_3 L_L R_L s^3 + C_3 L_3 R_L s^2 + C_L L_3 L_L R_3 s^2 + L_3 L_L s^2 + L_3 L_L s^2 + L_3 R_L s + L_L R_3 s + L_L R_L s + R_3 R_L s^2 + L_L R_3 R_L s^2 + L_3 R_$$

10.144 INVALID-ORDER-144
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{\left(C_3L_3R_3s^2 + L_3s + R_3\right)\left(C_LL_LR_Ls^2 + L_Ls + R_L\right)}{C_3C_LL_3L_LR_3s^4 + C_3C_LL_3L_LR_2s^4 + C_3L_3L_Ls^3 + C_3L_3R_3s^2 + C_3L_3R_Ls^2 + C_LL_3L_Ls^3 + C_LL_LR_3s^2 + C_LL_LR_2s^2 + L_2s + R_3 + R_Ls^3 + C_LL_LR_3s^2 + C_LL_LR_2s^2 + L_2s + R_2s^2 + C_LL_RR_2s^2 + C_LL_$$

10.145 INVALID-ORDER-145
$$Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \ \infty, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{R_L \left(C_L L_L s^2 + 1 \right) \left(C_3 L_3 R_3 s^2 + L_3 s + R_3 \right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 C_L L_3 L_L R_3 s^4 + C_3 C_L L_3 R_3 R_L s^3 + C_3 L_3 R_3 s^2 + C_L L_3 L_L s^3 + C_L L_3 R_L s^2 + C_L L_L R_3 s^2 + C_L$$

10.146 INVALID-ORDER-146
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \infty, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 (C_3 L_3 s^2 + 1)}{C_3 C_L L_3 R_3 s^3 + C_3 L_3 s^2 + C_3 R_3 s + C_L R_3 s + 1}$$

10.147 INVALID-ORDER-147
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_2 s}}, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_3 R_L \left(C_3 L_3 s^2 + 1 \right)}{C_3 C_L L_3 R_3 R_L s^3 + C_3 L_3 R_3 s^2 + C_3 L_3 R_L s^2 + C_3 R_3 R_L s + C_L R_3 R_L s + R_3 + R_L}$$

10.148 INVALID-ORDER-148
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \infty, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 \left(C_3 L_3 s^2 + 1 \right) \left(C_L R_L s + 1 \right)}{C_3 C_L L_3 R_3 s^3 + C_3 C_L L_3 R_L s^3 + C_3 C_L R_3 R_L s^2 + C_3 L_3 s^2 + C_3 R_3 s + C_L R_3 s + C_L R_L s + 1}$$

$$\textbf{10.149} \quad \textbf{INVALID-ORDER-149} \ Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s} \right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$$

$$H(s) = \frac{R_3 \left(C_3 L_3 s^2 + 1 \right) \left(C_L L_L s^2 + 1 \right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_3 s^3 + C_3 L_L L_R 3 s^3 + C_3 L_3 s^2 + C_3 R_3 s + C_L L_L s^2 + C_L R_3 s + 1}$$

10.150 INVALID-ORDER-150
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L R_3 s \left(C_3 L_3 s^2 + 1\right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 L_3 L_L s^3 + C_3 L_3 R_3 s^2 + C_3 L_L R_3 s^2 + C_L L_L R_3 s^2 + L_L s + R_3}$$

10.151 INVALID-ORDER-151
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 \left(C_3 L_3 s^2 + 1\right) \left(C_L L_L s^2 + C_L R_L s + 1\right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_3 s^3 + C_3 C_L L_3 R_L s^3 + C_3 C_L L_1 R_3 s^3 + C_3 C_L L_1 R_3 s^3 + C_3 C_L R_3 R_L s^2 + C_3 R_3 s^2 + C_3 R_3 s + C_L L_L s^2 + C_L R_3 s + C_L R_L s + 1}$$

10.152 INVALID-ORDER-152
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_L R_3 R_L s \left(C_3 L_3 s^2 + 1\right)}{C_3 C_L L_3 L_L R_3 R_L s^4 + C_3 L_3 L_L R_3 s^3 + C_3 L_3 L_L R_L s^3 + C_3 L_3 R_3 R_L s^2 + C_3 L_L R_3 R_L s^2 + C_L L_L R_3 R_L s^2 + L_L R_3 s + L_L R_L s + R_3 R_L s^2 + L_L R_3 R_L s^2 + L_L$$

10.153 INVALID-ORDER-153
$$Z(s) = \left(\infty, \frac{1}{C_2 s}, \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \infty, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

10.154 INVALID-ORDER-154
$$Z(s) = \left(\infty, \ \frac{1}{C_2 s}, \ \frac{R_3\left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ \frac{R_L\left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{R_3 R_L \left(C_3 L_3 s^2 + 1\right) \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 C_L L_3 R_4 R_L s^3 + C_3 C_L L_L R_3 R_L s^3 + C_3 L_3 R_L s^2 + C_3 L_3 R_L s^2 + C_L L_L R_3 s^2 + C_L R_3 R_L s + R_3 + R_L R_2 r^2 + C_L R_3 R_L s^2 +$$

10.155 INVALID-ORDER-155 $Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, R_3, \infty, \infty, R_L\right)$

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

10.156 INVALID-ORDER-156 $Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, R_3, \infty, \infty, \frac{1}{C_L s}\right)$

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

10.157 INVALID-ORDER-157
$$Z(s) = \left(\infty, \ \frac{R_2}{C_2R_2s+1}, \ R_3, \ \infty, \ \infty, \ \frac{R_L}{C_LR_Ls+1}\right)$$

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

10.158 INVALID-ORDER-158
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, R_3, \infty, \infty, R_L + \frac{1}{C_L s}\right)$$

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

10.159 INVALID-ORDER-159
$$Z(s) = \left(\infty, \frac{R_2}{C_2R_2s+1}, \frac{1}{C_3s}, \infty, \infty, R_L\right)$$

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

10.160 INVALID-ORDER-160
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s}\right)$$

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

10.161 INVALID-ORDER-161
$$Z(s) = \left(\infty, \frac{R_2}{C_2R_2s+1}, \frac{1}{C_3s}, \infty, \infty, \frac{R_L}{C_LR_Ls+1}\right)$$

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

10.162 INVALID-ORDER-162
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{1}{C_3 s}, \infty, \infty, R_L + \frac{1}{C_L s}\right)$$

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

10.163 INVALID-ORDER-163
$$Z(s) = \left(\infty, \ \frac{R_2}{C_2 R_2 s + 1}, \ \frac{1}{C_3 s}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$$

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

10.164 INVALID-ORDER-164
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

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

10.165 INVALID-ORDER-165
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{1}{C_3 s}, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

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

10.166 INVALID-ORDER-166
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

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

10.167 INVALID-ORDER-167
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{1}{C_3 s}, \infty, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

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

10.168 INVALID-ORDER-168
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, R_L\right)$$

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

10.169 INVALID-ORDER-169
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, \frac{1}{C_L s}\right)$$

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

10.170 INVALID-ORDER-170
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

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

10.171 INVALID-ORDER-171
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, L_L s + \frac{1}{C_L s}\right)$$

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

10.172 INVALID-ORDER-172
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

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

10.173 INVALID-ORDER-173
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

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

10.174 INVALID-ORDER-174
$$Z(s) = \left(\infty, \ \frac{R_2}{C_2R_2s+1}, \ \frac{R_3}{C_3R_3s+1}, \ \infty, \ \infty, \ \frac{R_L\left(L_Ls+\frac{1}{C_Ls}\right)}{L_Ls+R_L+\frac{1}{C_Ls}}\right)$$

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

10.175 INVALID-ORDER-175
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, R_3 + \frac{1}{C_3 s}, \infty, \infty, R_L\right)$$

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

10.176 INVALID-ORDER-176
$$Z(s) = \left(\infty, \ \frac{R_2}{C_2R_2s+1}, \ R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{1}{C_Ls}\right)$$

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

10.177 INVALID-ORDER-177
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, R_3 + \frac{1}{C_3 s}, \infty, \infty, R_L + \frac{1}{C_L s}\right)$$

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

10.178 INVALID-ORDER-178
$$Z(s) = \left(\infty, \ \frac{R_2}{C_2 R_2 s + 1}, \ R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$$

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

10.179 INVALID-ORDER-179
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

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

10.180 INVALID-ORDER-180
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, R_3 + \frac{1}{C_3 s}, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

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

10.181 INVALID-ORDER-181
$$Z(s) = \left(\infty, \ \frac{R_2}{C_2 R_2 s + 1}, \ R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

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

10.182 INVALID-ORDER-182
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

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

10.183 INVALID-ORDER-183
$$Z(s) = \left(\infty, \ \frac{R_2}{C_2 R_2 s + 1}, \ R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

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

10.184 INVALID-ORDER-184
$$Z(s) = \left(\infty, \ \frac{R_2}{C_2 R_2 s + 1}, \ L_3 s + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{1}{C_L s}\right)$$

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

10.185 INVALID-ORDER-185
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_L \left(C_3 L_3 s^2 + 1 \right)}{C_3 C_L L_3 R_L s^3 + C_3 L_3 s^2 + C_3 R_L s + C_L R_L s + 1}$$

10.186 INVALID-ORDER-186
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, R_L + \frac{1}{C_L s}\right)$$

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

10.187 INVALID-ORDER-187
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, L_L s + \frac{1}{C_L s}\right)$$

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

10.188 INVALID-ORDER-188
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L s \left(C_3 L_3 s^2 + 1\right)}{C_3 C_L L_3 L_L s^4 + C_3 L_3 s^2 + C_3 L_L s^2 + C_L L_L s^2 + 1}$$

10.189 INVALID-ORDER-189
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

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

10.190 INVALID-ORDER-190
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_L R_L s \left(C_3 L_3 s^2 + 1\right)}{C_3 C_L L_3 L_L R_L s^4 + C_3 L_3 L_L s^3 + C_3 L_3 R_L s^2 + C_3 L_L R_L s^2 + C_L L_L R_L s^2 + L_L s + R_L}$$

10.191 INVALID-ORDER-191
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{\left(C_3 L_3 s^2 + 1\right) \left(C_L L_L R_L s^2 + L_L s + R_L\right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_L R_L s^3 + C_3 L_3 s^2 + C_3 L_L s^2 + C_3 R_L s + C_L L_L s^2 + 1}$$

$$\textbf{10.192} \quad \textbf{INVALID-ORDER-192} \ Z(s) = \left(\infty, \ \frac{R_2}{C_2 R_2 s + 1}, \ L_3 s + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s} \right)}{L_L s + R_L + \frac{1}{C_L s}} \right)$$

$$H(s) = \frac{R_L \left(C_3 L_3 s^2 + 1 \right) \left(C_L L_L s^2 + 1 \right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_L s^3 + C_3 C_L L_L R_L s^3 + C_3 L_3 s^2 + C_3 R_L s + C_L L_L s^2 + C_L R_L s + 1}$$

10.193 INVALID-ORDER-193 $Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_3 s}{C_3 L_3 s^2 + C_L L_3 s^2 + 1}$$

10.194 INVALID-ORDER-194 $Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_3 s \left(C_L R_L s + 1 \right)}{C_3 C_L L_3 R_L s^3 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L R_L s + 1}$$

10.195 INVALID-ORDER-195 $Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, L_L s + \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_3s \left(C_L L_L s^2 + 1 \right)}{C_3 C_L L_3 L_L s^4 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L L_L s^2 + 1}$$

10.196 INVALID-ORDER-196 $Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$

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

10.197 INVALID-ORDER-197 $Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_3s \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_L s^3 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L L_L s^2 + C_L R_L s + 1}$$

10.198 INVALID-ORDER-198 $Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$

$$H(s) = \frac{L_3s \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{C_3 C_L L_3 L_L R_L s^4 + C_3 L_3 L_L s^3 + C_3 L_3 R_L s^2 + C_L L_3 L_L s^3 + C_L L_L R_L s^2 + L_3 s + L_L s + R_L}$$

10.199 INVALID-ORDER-199 $Z(s) = \left(\infty, \ \frac{R_2}{C_2 R_2 s + 1}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \infty, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$

$$H(s) = \frac{L_3 R_L s \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_3 L_L R_L s^4 + C_3 L_3 R_L s^2 + C_L L_3 L_L s^3 + C_L L_3 R_L s^2 + C_L L_L R_L s^2 + L_3 s + R_L}$$

10.200 INVALID-ORDER-200 $Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s}\right)$

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

10.201 INVALID-ORDER-201
$$Z(s) = \left(\infty, \ \frac{R_2}{C_2 R_2 s + 1}, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_L \left(C_3 L_3 s^2 + C_3 R_3 s + 1 \right)}{C_3 C_L L_3 R_L s^3 + C_3 C_L R_3 R_L s^2 + C_3 L_3 s^2 + C_3 R_3 s + C_3 R_L s + C_L R_L s + 1}$$

10.202 INVALID-ORDER-202
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, R_L + \frac{1}{C_L s}\right)$$

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

10.203 INVALID-ORDER-203
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, L_L s + \frac{1}{C_L s}\right)$$

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

10.204 INVALID-ORDER-204
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L s \left(C_3 L_3 s^2 + C_3 R_3 s + 1\right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_L R_3 s^3 + C_3 L_3 s^2 + C_3 L_L s^2 + C_3 R_3 s + C_L L_L s^2 + 1}$$

10.205 INVALID-ORDER-205
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

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

10.206 INVALID-ORDER-206
$$Z(s) = \left(\infty, \ \frac{R_2}{C_2 R_2 s + 1}, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{1}{C_L s + \frac{1}{R_I} + \frac{1}{L_I s}} \right)$$

$$H(s) = \frac{L_L R_L s \left(C_3 L_3 s^2 + C_3 R_3 s + 1\right)}{C_3 C_L L_3 L_L R_2 s^4 + C_3 C_L L_L R_3 R_L s^3 + C_3 L_3 L_L s^3 + C_3 L_3 R_L s^2 + C_3 L_L R_3 s^2 + C_3 L_L R_L s^2 + C_3 R_3 R_L s + C_L L_L R_L s^2 + L_L s + R_L R_L s^2 + C_3 R_3 R_L s + C_L L_L R_L s^2 + L_L s + R_L R_L s^2 + C_3 R_3 R_L s + C_L L_L R_L s^2 + L_L s + R_L R_L s^2 + C_3 R_3 R_L s + C_L R_L R_L s^2 + C_L$$

10.207 INVALID-ORDER-207
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + C_3R_3s + 1\right)\left(C_LL_LR_Ls^2 + L_Ls + R_L\right)}{C_3C_LL_3L_Ls^4 + C_3C_LL_LR_3s^3 + C_3C_LL_LR_Ls^3 + C_3L_3s^2 + C_3L_Ls^2 + C_3R_3s + C_3R_Ls + C_LL_Ls^2 + 1}$$

10.208 INVALID-ORDER-208
$$Z(s) = \left(\infty, \ \frac{R_2}{C_2 R_2 s + 1}, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{R_L \left(C_L L_L s^2 + 1 \right) \left(C_3 L_3 s^2 + C_3 R_3 s + 1 \right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_L s^3 + C_3 C_L L_L R_3 s^3 + C_3 C_L L_L R_L s^3 + C_3 C_L R_3 R_L s^2 + C_3 R_3 s + C_3 R_L s + C_L L_L s^2 + C_L R_L s + 1}$$

10.209 INVALID-ORDER-209
$$Z(s) = \left(\infty, \ \frac{R_2}{C_2 R_2 s + 1}, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \infty, \ \infty, \ R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 R_3 s \left(C_L R_L s + 1\right)}{C_3 C_L L_3 R_3 R_L s^3 + C_3 L_3 R_3 s^2 + C_L L_3 R_3 s^2 + C_L L_3 R_L s^2 + C_L R_3 R_L s + L_3 s + R_3}$$

10.210 INVALID-ORDER-210
$$Z(s) = \left(\infty, \ \frac{R_2}{C_2 R_2 s + 1}, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 R_3 s \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 L_3 R_3 s^2 + C_L L_3 L_L s^3 + C_L L_3 R_3 s^2 + C_L L_L R_3 s^2 + L_3 s + R_3}$$

10.211 INVALID-ORDER-211
$$Z(s) = \left(\infty, \ \frac{R_2}{C_2R_2s+1}, \ \frac{1}{C_3s+\frac{1}{R_3}+\frac{1}{L_3s}}, \ \infty, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{L_3R_3s\left(C_LL_Ls^2 + C_LR_Ls + 1\right)}{C_3C_LL_3L_LR_3s^4 + C_3C_LL_3R_3R_Ls^3 + C_3L_3R_3s^2 + C_LL_3R_3s^2 + C_LL_3R_3$$

$$\begin{aligned} \textbf{10.212} \quad \textbf{INVALID-ORDER-212} \ \ Z(s) &= \left(\infty, \ \ \frac{R_2}{C_2 R_2 s + 1}, \ \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \ \infty, \ \ \infty, \ \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right) \\ & H(s) &= \frac{L_3 R_3 s \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{C_3 C_L L_3 L_L R_3 R_L s^4 + C_3 L_3 L_L R_3 s^3 + C_3 L_3 R_3 R_L s^2 + C_L L_3 L_L R_3 s^3 + C_L L_3 L_L R_3 R_L s^2 + L_3 L_L s^2 + L_3 R_3 s + L_3 R_L s + L_L R_3 s + R_3 R_L s^2 + L_3 R_3 s + L_3 R_4 s + L_4 R_3 s + R_3 R_4 s + L_4 R_3 s + R_4 R_4 s + L_4 R_3 s + R_4 R_4 s + L_4 R_4 s +$$

10.213 INVALID-ORDER-213
$$Z(s) = \left(\infty, \ \frac{R_2}{C_2 R_2 s + 1}, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \infty, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s} \right)}{L_L s + R_L + \frac{1}{C_L s}} \right)$$

$$H(s) = \frac{L_3 R_3 R_L s \left(C_L L_L s^2 + 1 \right)}{C_3 C_L L_3 L_L R_3 R_L s^4 + C_3 L_3 R_3 R_L s^2 + C_L L_3 L_L R_3 s^3 + C_L L_3 L_L R_3 s^3 + C_L L_3 R_3 R_L s^2 + C_L L_L R_3 R_L s^2 + L_3 R_3 s + L_3 R_L s + R_3 R_L s^2 + C_L L_3 R_3 R_L s^2 + C_L L_3 R_3 R_L s^3 + C_L L_3 R_3 R_L s^3 + C_L L_3 R_3 R_L s^2 + C_L L_3 R_3 R_L s^2 + C_L L_3 R_3 R_L s^3 + C_L L_3 R_3$$

10.214 INVALID-ORDER-214
$$Z(s) = \left(\infty, \ \frac{R_2}{C_2R_2s+1}, \ \frac{L_3s}{C_3L_3s^2+1} + R_3, \ \infty, \ \infty, \ \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{C_3L_3R_3s^2 + L_3s + R_3}{C_3C_LL_3R_3s^3 + C_3L_3s^2 + C_LL_3s^2 + C_LR_3s + 1}$$

10.215 INVALID-ORDER-215
$$Z(s) = \left(\infty, \frac{R_2}{C_2R_2s+1}, \frac{L_3s}{C_3L_3s^2+1} + R_3, \infty, \infty, \frac{R_L}{C_LR_Ls+1}\right)$$

10.216 INVALID-ORDER-216
$$Z(s) = \left(\infty, \ \frac{R_2}{C_2R_2s+1}, \ \frac{L_3s}{C_3L_3s^2+1} + R_3, \ \infty, \ \infty, \ R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{\left(C_LR_Ls+1\right)\left(C_3L_3R_3s^2 + L_3s + R_3\right)}{C_3C_LL_3R_3s^3 + C_3C_LL_3R_Ls^3 + C_3L_3s^2 + C_LL_3s^2 + C_LR_3s + C_LR_Ls + 1}$$

10.217 INVALID-ORDER-217
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_L L_L s^2 + 1\right) \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_3 s^3 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L L_L s^2 + C_L R_3 s + 1}$$

10.218 INVALID-ORDER-218
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L s \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 L_3 L_L s^3 + C_3 L_3 R_3 s^2 + C_L L_3 L_L s^3 + C_L L_L R_3 s^2 + L_3 s + L_L s + R_3}$$

10.219 INVALID-ORDER-219
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_L L_L s^2 + C_L R_L s + 1\right) \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_3 s^3 + C_3 C_L L_3 R_L s^3 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L L_1 s^2 + C_L R_3 s + C_L R_L s + 1}$$

10.220 INVALID-ORDER-220
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_L R_L s \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{C_3 C_L L_3 L_L R_3 R_L s^4 + C_3 L_3 L_L R_3 s^3 + C_3 L_3 L_L R_L s^3 + C_3 L_3 R_L s^2 + C_L L_3 L_L R_3 s^2 + L_3 L_L s^2 + L_3 R_L s + L_L R_3 s + L_L R_4 s + R_3 R_L s^2 + L_3 R_4 s^2 + L_3 R_4 s^2 + L_4 R_$$

10.221 INVALID-ORDER-221
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{\left(C_3L_3R_3s^2 + L_3s + R_3\right)\left(C_LL_LR_Ls^2 + L_Ls + R_L\right)}{C_3C_LL_3L_LR_3s^4 + C_3C_LL_3L_LR_4s^4 + C_3L_3L_Ls^3 + C_3L_3R_3s^2 + C_3L_3R_Ls^2 + C_LL_3L_Ls^3 + C_LL_LR_3s^2 + C_LL_LR_2s^2 + L_3s + L_Ls + R_3 + R_Ls^2}$$

10.222 INVALID-ORDER-222
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{R_L \left(C_L L_L s^2 + 1 \right) \left(C_3 L_3 R_3 s^2 + L_3 s + R_3 \right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 C_L L_3 L_L R_3 s^4 + C_3 C_L L_3 R_3 R_L s^3 + C_3 L_3 R_L s^2 + C_L L_3 L_L s^3 + C_L L_3 R_L s^2 + C_L L_L R_3 s^2 + C_L L_L R_2 s^2 + C_L L_R R_2 s^2 + C_L R_3 R_L s + L_3 s + R_3 + R_L R_2 r^2 + C_L R_3 R_L s^2 + C_L R_3 R_L s^$$

10.223 INVALID-ORDER-223
$$Z(s) = \left(\infty, \frac{R_2}{C_2 R_2 s + 1}, \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_2 s}}, \infty, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 (C_3 L_3 s^2 + 1)}{C_3 C_L L_3 R_3 s^3 + C_3 L_3 s^2 + C_3 R_3 s + C_L R_3 s + 1}$$

10.224 INVALID-ORDER-224
$$Z(s) = \left(\infty, \ \frac{R_2}{C_2 R_2 s + 1}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_3 R_L \left(C_3 L_3 s^2 + 1 \right)}{C_3 C_L L_3 R_3 R_L s^3 + C_3 L_3 R_3 s^2 + C_3 L_3 R_L s^2 + C_3 R_3 R_L s + C_L R_3 R_L s + R_3 + R_L}$$

$$\textbf{10.225} \quad \textbf{INVALID-ORDER-225} \ Z(s) = \left(\infty, \ \frac{R_2}{C_2 R_2 s + 1}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s} \right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ R_L + \frac{1}{C_L s} \right)$$

$$H(s) = \frac{R_3 \left(C_3 L_3 s^2 + 1 \right) \left(C_L R_L s + 1 \right)}{C_3 C_L L_3 R_3 s^3 + C_3 C_L L_3 R_L s^3 + C_3 C_L R_3 R_L s^2 + C_3 L_3 s^2 + C_3 R_3 s + C_L R_3 s + C_L R_4 s + 1}$$

10.226 INVALID-ORDER-226
$$Z(s) = \left(\infty, \ \frac{R_2}{C_2R_2s+1}, \ \frac{R_3\left(L_3s+\frac{1}{C_3s}\right)}{L_3s+R_3+\frac{1}{C_3s}}, \ \infty, \ \infty, \ L_Ls+\frac{1}{C_Ls}\right)$$

$$H(s) = \frac{R_3\left(C_3L_3s^2+1\right)\left(C_LL_Ls^2+1\right)}{C_3C_LL_3L_Ls^4+C_3C_LL_3R_3s^3+C_3C_LL_LR_3s^3+C_3L_3s^2+C_3R_3s+C_LL_Ls^2+C_LR_3s+1}$$

10.227 INVALID-ORDER-227
$$Z(s) = \left(\infty, \ \frac{R_2}{C_2 R_2 s + 1}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L R_3 s \left(C_3 L_3 s^2 + 1\right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 L_3 L_L s^3 + C_3 L_3 R_3 s^2 + C_4 L_L R_3 s^2 + L_L s + R_3}$$

$$\textbf{10.228} \quad \textbf{INVALID-ORDER-228} \ Z(s) = \left(\infty, \ \frac{R_2}{C_2 R_2 s + 1}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s} \right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$$

$$H(s) = \frac{R_3 \left(C_3 L_3 s^2 + 1 \right) \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_3 s^3 + C_3 C_L L_2 R_3 s^3 + C_3 C_L L_L R_3 s^3 + C_3 C_L R_3 R_L s^2 + C_3 R_3 s + C_L L_L s^2 + C_L R_3 s + C_L R_L s + 1}$$

10.232 INVALID-ORDER-232
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ R_3, \ \infty, \ \infty, \ R_L\right)$$

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

10.233 INVALID-ORDER-233
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ R_3, \ \infty, \ \infty, \ \frac{1}{C_L s}\right)$$

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

10.234 INVALID-ORDER-234
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, R_3, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

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

10.235 INVALID-ORDER-235
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ R_3, \ \infty, \ \infty, \ R_L + \frac{1}{C_L s}\right)$$

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

10.236 INVALID-ORDER-236
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{1}{C_3 s}, \infty, \infty, R_L\right)$$

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

10.237 INVALID-ORDER-237
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s}\right)$$

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

10.238 INVALID-ORDER-238
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{1}{C_3 s}, \infty, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

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

10.239 INVALID-ORDER-239
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{1}{C_3 s}, \infty, \infty, R_L + \frac{1}{C_L s}\right)$$

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

10.240 INVALID-ORDER-240
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{1}{C_3 s}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$$

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

10.241 INVALID-ORDER-241
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

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

10.242 INVALID-ORDER-242
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{1}{C_3 s}, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

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

10.243 INVALID-ORDER-243
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

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

10.244 INVALID-ORDER-244
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

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

10.245 INVALID-ORDER-245
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, R_L\right)$$

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

10.246 INVALID-ORDER-246
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{R_3}{C_3 R_3 s + 1}, \ \infty, \ \infty, \ \frac{1}{C_L s}\right)$$

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

10.247 INVALID-ORDER-247
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

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

10.248 INVALID-ORDER-248
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{R_3}{C_3 R_3 s + 1}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$$

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

10.249 INVALID-ORDER-249
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

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

10.250 INVALID-ORDER-250
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

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

10.251 INVALID-ORDER-251
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{R_3}{C_3 R_3 s + 1}, \ \infty, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

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

10.252 INVALID-ORDER-252 $Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, R_3 + \frac{1}{C_3 s}, \infty, \infty, R_L\right)$

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

10.253 INVALID-ORDER-253 $Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s}\right)$

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

10.254 INVALID-ORDER-254 $Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, R_3 + \frac{1}{C_3 s}, \infty, \infty, R_L + \frac{1}{C_L s}\right)$

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

10.255 INVALID-ORDER-255 $Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$

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

10.256 INVALID-ORDER-256 $Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$

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

10.257 INVALID-ORDER-257 $Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$

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

10.258 INVALID-ORDER-258 $Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$

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

10.259 INVALID-ORDER-259 $Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$

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

$$\begin{aligned} \textbf{10.260} \quad \textbf{INVALID-ORDER-260} \ \ Z(s) &= \left(\infty, \ \ R_2 + \frac{1}{C_2 s}, \ \ R_3 + \frac{1}{C_3 s}, \ \ \infty, \ \ \infty, \ \ \frac{R_L \left(L_L s + \frac{1}{C_L s} \right)}{L_L s + R_L + \frac{1}{C_L s}} \right) \\ & H(s) &= \frac{R_L \left(C_3 R_3 s + 1 \right) \left(C_L L_L s^2 + 1 \right)}{C_3 C_L L_L R_3 s^3 + C_3 C_L L_L R_L s^3 + C_3 C_L R_3 R_L s^2 + C_3 R_3 s + C_3 R_L s + C_L L_L s^2 + C_L R_L s + 1} \end{aligned}$$

10.261 INVALID-ORDER-261
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ L_3 s + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{1}{C_L s}\right)$$

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

10.262 INVALID-ORDER-262
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ L_3 s + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_L \left(C_3 L_3 s^2 + 1 \right)}{C_3 C_L L_3 R_L s^3 + C_3 L_3 s^2 + C_3 R_L s + C_L R_L s + 1}$$

10.263 INVALID-ORDER-263
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, R_L + \frac{1}{C_L s}\right)$$

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

10.264 INVALID-ORDER-264
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, L_L s + \frac{1}{C_L s}\right)$$

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

10.265 INVALID-ORDER-265
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ L_3 s + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L s \left(C_3 L_3 s^2 + 1\right)}{C_3 C_L L_3 L_L s^4 + C_3 L_3 s^2 + C_3 L_L s^2 + C_L L_L s^2 + 1}$$

10.266 INVALID-ORDER-266
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

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

10.267 INVALID-ORDER-267
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_L R_L s \left(C_3 L_3 s^2 + 1\right)}{C_3 C_L L_3 L_L R_L s^4 + C_3 L_3 L_L s^3 + C_3 L_3 R_L s^2 + C_3 L_L R_L s^2 + C_L L_L R_L s^2 + L_L s + R_L}$$

10.268 INVALID-ORDER-268
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + 1\right)\left(C_LL_LR_Ls^2 + L_Ls + R_L\right)}{C_3C_LL_3L_Ls^4 + C_3C_LL_LR_Ls^3 + C_3L_3s^2 + C_3L_Ls^2 + C_3R_Ls + C_LL_Ls^2 + 1}$$

10.269 INVALID-ORDER-269
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ L_3 s + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{R_L \left(C_3 L_3 s^2 + 1 \right) \left(C_L L_L s^2 + 1 \right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_L s^3 + C_3 C_L L_R L_S^3 + C_3 L_3 s^2 + C_3 R_L s + C_L L_L s^2 + C_L R_L s + 1}$$

10.270 INVALID-ORDER-270
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 s}{C_3 L_3 s^2 + C_L L_3 s^2 + 1}$$

10.271 INVALID-ORDER-271
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 s \left(C_L R_L s + 1\right)}{C_3 C_L L_3 R_L s^3 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L R_L s + 1}$$

10.272 INVALID-ORDER-272
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 s \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_3 L_L s^4 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L L_L s^2 + 1}$$

10.273 INVALID-ORDER-273
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

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

10.274 INVALID-ORDER-274
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \infty, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3s\left(C_LL_Ls^2 + C_LR_Ls + 1\right)}{C_3C_LL_3L_Ls^4 + C_3C_LL_3R_Ls^3 + C_3L_3s^2 + C_LL_3s^2 + C_LL_Ls^2 + C_LR_Ls + 1}$$

10.275 INVALID-ORDER-275
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{L_3 s \left(C_L L_L R_L s^2 + L_L s + R_L\right)}{C_3 C_L L_3 L_L R_L s^4 + C_3 L_3 L_L s^3 + C_3 L_3 R_L s^2 + C_L L_3 L_L s^3 + C_L L_L R_L s^2 + L_3 s + L_L s + R_L}$$

10.276 INVALID-ORDER-276
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \infty, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{L_3 R_L s \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_3 L_L R_L s^4 + C_3 L_3 R_L s^2 + C_L L_3 L_L s^3 + C_L L_3 R_L s^2 + C_L L_L R_L s^2 + L_3 s + R_L}$$

10.277 INVALID-ORDER-277
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s}\right)$$

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

10.278 INVALID-ORDER-278
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_L \left(C_3 L_3 s^2 + C_3 R_3 s + 1 \right)}{C_3 C_L L_3 R_L s^3 + C_3 C_L R_3 R_L s^2 + C_3 L_3 s^2 + C_3 R_3 s + C_3 R_L s + C_L R_L s + 1}$$

10.279 INVALID-ORDER-279
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, R_L + \frac{1}{C_L s}\right)$$

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

10.280 INVALID-ORDER-280
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, L_L s + \frac{1}{C_L s}\right)$$

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

10.281 INVALID-ORDER-281
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L s \left(C_3 L_3 s^2 + C_3 R_3 s + 1\right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_L R_3 s^3 + C_3 L_3 s^2 + C_3 L_L s^2 + C_3 R_3 s + C_L L_L s^2 + 1}$$

10.282 INVALID-ORDER-282
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

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

10.283 INVALID-ORDER-283
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

10.284 INVALID-ORDER-284
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + C_3R_3s + 1\right)\left(C_LL_LR_Ls^2 + L_Ls + R_L\right)}{C_3C_LL_3L_Ls^4 + C_3C_LL_LR_3s^3 + C_3C_LL_LR_Ls^3 + C_3L_3s^2 + C_3L_Ls^2 + C_3R_3s + C_3R_Ls + C_LL_Ls^2 + 1}$$

10.285 INVALID-ORDER-285
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{R_L \left(C_L L_L s^2 + 1\right) \left(C_3 L_3 s^2 + C_3 R_3 s + 1\right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_L s^3 + C_3 C_L L_L R_3 s^3 + C_3 C_L L_L R_L s^3 + C_3 C_L R_3 R_L s^2 + C_3 R_3 s + C_3 R_L s + C_L L_L s^2 + C_L R_L s + 1}$$

$$\begin{aligned} \textbf{10.286} \quad \textbf{INVALID-ORDER-286} \ \ Z(s) &= \left(\infty, \ \ R_2 + \frac{1}{C_2 s}, \ \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \ \infty, \ \ \infty, \ \ R_L + \frac{1}{C_L s} \right) \\ & H(s) &= \frac{L_3 R_3 s \left(C_L R_L s + 1 \right)}{C_3 C_L L_3 R_3 R_L s^3 + C_3 L_3 R_3 s^2 + C_L L_3 R_3 s^2 + C_L L_3 R_L s^2 + C_L R_3 R_L s + L_3 s + R_3} \end{aligned}$$

10.287 INVALID-ORDER-287
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 R_3 s \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 L_3 R_3 s^2 + C_L L_3 L_L s^3 + C_L L_3 R_3 s^2 + C_L L_L R_3 s^2 + L_3 s + R_3}$$

10.288 INVALID-ORDER-288
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \infty, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 R_3 s \left(C_L L_L s^2 + C_L R_L s + 1\right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 C_L L_3 R_3 R_L s^3 + C_L L_3 R_3 s^2 + C_L L_3 R_3 s^2 + C_L L_3 R_L s^2 + C_L L_4 R_3 s^2 + C_L R_3 R_L s + L_3 s + R_3}$$

10.289 INVALID-ORDER-289
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{L_3 R_3 s \left(C_L L_L R_L s^2 + L_L s + R_L\right)}{C_3 C_L L_3 L_L R_3 R_L s^4 + C_3 L_3 L_L R_3 s^3 + C_3 L_3 R_L s^2 + C_L L_3 L_L R_3 s^3 + C_L L_3 L_L R_3 s^3 + C_L L_L R_3 R_L s^2 + L_3 L_L s^2 + L_3 R_3 s + L_3 R_L s + L_L R_3 s + R_3 R_L s^2 + L_3 L_1 R_3 R_L s^3 + C_2 L_3 L_1 R_3 R_L s^3 + C_3 L_3 R_1 R_3 R_1 R_3$$

10.290 INVALID-ORDER-290
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \infty, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{L_3 R_3 R_L s \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_3 L_L R_3 R_L s^4 + C_3 L_3 R_3 R_L s^2 + C_L L_3 L_L R_3 s^3 + C_L L_3 L_L R_3 R_L s^2 + C_L L_L R_3 R_L s^2 + L_3 R_3 s + L_3 R_L s + R_3 R_L s^2}$$

10.291 INVALID-ORDER-291
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \ \infty, \ \infty, \ \frac{1}{C_L s}\right)$$

$$H(s) = \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 C_L L_3 R_3 s^3 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L R_3 s + 1}$$

10.292 INVALID-ORDER-292
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \ \infty, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_L \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{C_3 C_L L_3 R_3 R_L s^3 + C_3 L_3 R_3 s^2 + C_3 L_3 R_L s^2 + C_L L_3 R_L s + L_3 s + R_3 + R_L}$$

10.293 INVALID-ORDER-293
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \ \infty, \ \infty, \ R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_L R_L s + 1\right) \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{C_3 C_L L_3 R_3 s^3 + C_3 C_L L_3 R_L s^3 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L R_3 s + C_L R_L s + 1}$$

10.294 INVALID-ORDER-294
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_L L_L s^2 + 1\right) \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_3 s^3 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L L_L s^2 + C_L R_3 s + 1}$$

10.295 INVALID-ORDER-295
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L s \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 L_3 L_L s^3 + C_3 L_3 R_3 s^2 + C_L L_3 L_L s^3 + C_L L_L R_3 s^2 + L_3 s + L_L s + R_3}$$

10.296 INVALID-ORDER-296
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_L L_L s^2 + C_L R_L s + 1\right) \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_3 s^3 + C_3 C_L L_3 R_L s^3 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L L_1 s^2 + C_L R_3 s + C_L R_L s + 1}$$

10.297 INVALID-ORDER-297
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \ \infty, \ \infty, \ \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_L R_L s \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 L_3 L_L R_3 s^3 + C_3 L_3 L_L R_L s^3 + C_3 L_3 L_L R_2 s^3 + C_L L_3 L_L R_3 s^2 + L_3 L_L s^2 + L_3 L_L s^2 + L_3 R_L s + L_L R_3 s + L_L R_4 s + R_3 R_L s^2 + L_3 R_4 s^2 + L_3 R_4 s^3 + L_4 R_4 R_4 R_4 R_4 R_4 R_4 R_4 R_4$$

10.298 INVALID-ORDER-298
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{\left(C_3L_3R_3s^2 + L_3s + R_3\right)\left(C_LL_LR_Ls^2 + L_Ls + R_L\right)}{C_3C_LL_3L_LR_3s^4 + C_3C_LL_3L_LR_4s^4 + C_3L_3L_Ls^3 + C_3L_3R_3s^2 + C_3L_3R_Ls^2 + C_LL_3L_Ls^3 + C_LL_LR_3s^2 + C_LL_LR_4s^2 + L_3s + L_Ls + R_3 + R_Ls^2}$$

10.299 INVALID-ORDER-299
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \ \infty, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{R_L \left(C_L L_L s^2 + 1 \right) \left(C_3 L_3 R_3 s^2 + L_3 s + R_3 \right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 C_L L_3 L_L R_3 s^4 + C_3 C_L L_3 R_3 R_L s^3 + C_3 L_3 R_3 s^2 + C_L L_3 L_L s^3 + C_L L_3 R_L s^2 + C_L L_L R_3 s^2 + C_L R_3 R_L s + L_3 s + R_3 + R_L R_3 r^2 + C_L R_3 R_L s^2 + C_L R_3 R_L s^$$

10.300 INVALID-ORDER-300
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_2 s}}, \ \infty, \ \infty, \ \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 (C_3 L_3 s^2 + 1)}{C_3 C_L L_3 R_3 s^3 + C_3 L_3 s^2 + C_3 R_3 s + C_L R_3 s + 1}$$

10.301 INVALID-ORDER-301
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_3 R_L \left(C_3 L_3 s^2 + 1\right)}{C_3 C_L L_3 R_3 R_L s^3 + C_3 L_3 R_3 s^2 + C_3 L_3 R_L s^2 + C_3 R_3 R_L s + C_L R_3 R_L s + R_3 + R_L}$$

10.302 INVALID-ORDER-302
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 \left(C_3 L_3 s^2 + 1\right) \left(C_L R_L s + 1\right)}{C_3 C_L L_3 R_3 s^3 + C_3 C_L L_3 R_L s^3 + C_3 C_L R_3 R_L s^2 + C_3 R_3 s + C_L R_3 s + C_L R_L s + 1}$$

10.303 INVALID-ORDER-303
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 \left(C_3 L_3 s^2 + 1\right) \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_3 L_1 s^4 + C_3 C_L L_3 R_3 s^3 + C_3 L_1 L_1 R_3 s^3 + C_3 L_3 s^2 + C_1 L_1 L_1 t^2 + C_1 L_1 t$$

10.304 INVALID-ORDER-304
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L R_3 s \left(C_3 L_3 s^2 + 1\right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 L_3 L_L s^3 + C_3 L_3 R_3 s^2 + C_L L_L R_3 s^2 + L_L s + R_3}$$

10.305 INVALID-ORDER-305
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 \left(C_3 L_3 s^2 + 1\right) \left(C_L L_L s^2 + C_L R_L s + 1\right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_3 s^3 + C_3 C_L L_2 R_3 s^3 + C_3 C_L L_2 R_3 s^3 + C_3 C_L R_3 R_L s^2 + C_3 R_3 s + C_L L_L s^2 + C_L R_3 s + C_L R_L s + 1}$$

10.306 INVALID-ORDER-306
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_L R_3 R_L s \left(C_3 L_3 s^2 + 1\right)}{C_3 C_L L_3 L_L R_3 R_L s^4 + C_3 L_3 L_L R_3 s^3 + C_3 L_3 L_L R_3 s^3 + C_3 L_3 R_3 R_L s^2 + C_4 L_L R_3 R_L s^2 + L_L R_3 s + L_L R_L s + R_3 R_L s^2}$$

10.307 INVALID-ORDER-307
$$Z(s) = \left(\infty, \ R_2 + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$R_3 \left(C_3 L_3 s^2 + 1\right) \left(C_L L_L R_L s^2 + L_L s + R_L\right)$$

$$R_3 \left(C_3 L_3 s^2 + 1\right) \left(C_L L_L R_L s^2 + L_L s + R_L\right)$$

$$\frac{R_3 \left(C_3 L_3 s^2 + 1\right) \left(C_L L_L R_L s^2 + L_L s + R_L\right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 C_L L_3 L_L R_3 s^4 + C_3 C_L L_L R_3 R_L s^3 + C_3 L_3 L_L s^3 + C_3 L_3 R_L s^2 + C_3 L_L R_3 s^2 + C_3 R_3 R_L s + C_L L_L R_3 s^2 + C_L L_L R_2 s^2 + L_L s + R_3 + R_L R_3 s^2 + C_2 L_L R_3 s^2 + C_3 L_1 R_3 s^2 + C_3 L_1 R_3 s^2 + C_3 L_1 R_3 s^2 + C_2 L_1 R_3 s^2 + C_2 L_2 R_3 s^2 + C_3 L_3 R_L s^3 + C_3 L_3$$

10.308 INVALID-ORDER-308
$$Z(s) = \left(\infty, R_2 + \frac{1}{C_2 s}, \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \infty, \infty, \infty, \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$R_3 R_L \left(C_3 L_3 s^2 + 1\right) \left(C_L L_L s^2 + 1\right)$$

$$R_3 R_L \left(C_3 L_3 s^2 + 1\right) \left(C_L L_L s^2 + 1\right)$$

$$R_3 R_L \left(C_3 L_3 s^2 + 1\right) \left(C_L L_L s^2 + 1\right)$$

10.309 INVALID-ORDER-309
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, R_3, \infty, \infty, R_L\right)$$

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

10.310 INVALID-ORDER-310
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, R_3, \infty, \infty, \frac{1}{C_L s}\right)$$

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

10.311 INVALID-ORDER-311
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, R_3, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

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

10.312 INVALID-ORDER-312
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, R_3, \infty, \infty, R_L + \frac{1}{C_L s}\right)$$

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

10.313 INVALID-ORDER-313
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, \frac{1}{C_3 s}, \infty, \infty, R_L\right)$$

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

10.314 INVALID-ORDER-314
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s}\right)$$

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

10.315 INVALID-ORDER-315
$$Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$$

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

10.316 INVALID-ORDER-316
$$Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{1}{C_3 s}, \ \infty, \ \infty, \ R_L + \frac{1}{C_L s}\right)$$

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

10.317 INVALID-ORDER-317
$$Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{1}{C_3 s}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$$

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

10.318 INVALID-ORDER-318
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

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

10.319 INVALID-ORDER-319
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, \frac{1}{C_3 s}, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

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

10.320 INVALID-ORDER-320
$$Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

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

10.321 INVALID-ORDER-321
$$Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

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

10.322 INVALID-ORDER-322
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, R_L\right)$$

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

10.323 INVALID-ORDER-323
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, \frac{1}{C_L s}\right)$$

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

10.324 INVALID-ORDER-324
$$Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{R_3}{C_3 R_3 s + 1}, \ \infty, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$$

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

10.325 INVALID-ORDER-325
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 \left(C_L L_L s^2 + 1 \right)}{C_3 C_L L_L R_2 s^3 + C_3 R_3 s + C_L L_L s^2 + C_L R_3 s + 1}$$

10.326 INVALID-ORDER-326
$$Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{R_3}{C_3 R_3 s + 1}, \ \infty, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$$

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

10.327 INVALID-ORDER-327
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

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

10.328 INVALID-ORDER-328
$$Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{R_3}{C_3 R_3 s + 1}, \ \infty, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

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

10.329 INVALID-ORDER-329 $Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, R_3 + \frac{1}{C_3 s}, \infty, \infty, R_L\right)$

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

10.330 INVALID-ORDER-330
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s}\right)$$

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

10.331 INVALID-ORDER-331
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, R_3 + \frac{1}{C_3 s}, \infty, \infty, R_L + \frac{1}{C_L s}\right)$$

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

10.332 INVALID-ORDER-332
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, R_3 + \frac{1}{C_3 s}, \infty, \infty, L_L s + \frac{1}{C_L s}\right)$$

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

10.333 INVALID-ORDER-333 $Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$

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

10.334 INVALID-ORDER-334
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, R_3 + \frac{1}{C_3 s}, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

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

10.335 INVALID-ORDER-335
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

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

10.336 INVALID-ORDER-336
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

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

10.337 INVALID-ORDER-337
$$Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

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

10.338 INVALID-ORDER-338
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s}\right)$$

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

10.339 INVALID-ORDER-339
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_L \left(C_3 L_3 s^2 + 1 \right)}{C_3 C_L L_3 R_L s^3 + C_3 L_3 s^2 + C_3 R_L s + C_L R_L s + 1}$$

10.340 INVALID-ORDER-340
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, R_L + \frac{1}{C_L s}\right)$$

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

10.341 INVALID-ORDER-341
$$Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ L_3 s + \frac{1}{C_3 s}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$$

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

10.342 INVALID-ORDER-342
$$Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ L_3 s + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L s \left(C_3 L_3 s^2 + 1\right)}{C_3 C_L L_3 L_L s^4 + C_3 L_3 s^2 + C_3 L_L s^2 + C_L L_L s^2 + 1}$$

10.343 INVALID-ORDER-343
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

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

10.344 INVALID-ORDER-344
$$Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ L_3 s + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$L_L R_L s \left(C_3 L_3 s^2 + 1\right)$$

$$H(s) = \frac{L_L R_L s \left(C_3 L_3 s^2 + 1\right)}{C_3 C_L L_3 L_L R_L s^4 + C_3 L_3 L_L s^3 + C_3 L_3 R_L s^2 + C_3 L_L R_L s^2 + C_L L_L R_L s^2 + L_L s + R_L}$$

10.345 INVALID-ORDER-345
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + 1\right)\left(C_LL_LR_Ls^2 + L_Ls + R_L\right)}{C_3C_LL_3L_Ls^4 + C_3C_LL_LR_Ls^3 + C_3L_3s^2 + C_3L_Ls^2 + C_3R_Ls + C_LL_Ls^2 + 1}$$

10.346 INVALID-ORDER-346
$$Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ L_3 s + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{R_L \left(C_3 L_3 s^2 + 1 \right) \left(C_L L_L s^2 + 1 \right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_L s^3 + C_3 C_L L_L R_L s^3 + C_3 L_3 s^2 + C_3 R_L s + C_L L_L s^2 + C_L R_L s + 1}$$

10.347 INVALID-ORDER-347
$$Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \infty, \ \infty, \ \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 s}{C_3 L_3 s^2 + C_L L_3 s^2 + 1}$$

10.348 INVALID-ORDER-348
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 s \left(C_L R_L s + 1\right)}{C_3 C_L L_3 R_L s^3 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L R_L s + 1}$$

10.349 INVALID-ORDER-349
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3s \left(C_L L_L s^2 + 1 \right)}{C_3 C_L L_3 L_L s^4 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L L_L s^2 + 1}$$

10.350 INVALID-ORDER-350
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

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

10.351 INVALID-ORDER-351
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3s\left(C_LL_Ls^2 + C_LR_Ls + 1\right)}{C_3C_LL_3L_Ls^4 + C_3C_LL_3R_Ls^3 + C_3L_3s^2 + C_LL_3s^2 + C_LL_Ls^2 + C_LR_Ls + 1}$$

10.352 INVALID-ORDER-352
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{L_3 s \left(C_L L_L R_L s^2 + L_L s + R_L\right)}{C_3 C_L L_3 L_L R_L s^4 + C_3 L_3 L_L s^3 + C_3 L_3 R_L s^2 + C_L L_3 L_L s^3 + C_L L_L R_L s^2 + L_3 s + L_L s + R_L}$$

$$\textbf{10.353} \quad \textbf{INVALID-ORDER-353} \ Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \infty, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s} \right)}{L_L s + R_L + \frac{1}{C_L s}} \right) \\ H(s) = \frac{L_3 R_L s \left(C_L L_L s^2 + 1 \right)}{C_3 C_L L_3 L_L R_L s^4 + C_3 L_3 R_L s^2 + C_L L_3 R_L s^2 + C_L L_1 R_L s^2 + L_3 s + R_L }$$

10.354 INVALID-ORDER-354
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s}\right)$$

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

10.355 INVALID-ORDER-355
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_L \left(C_3 L_3 s^2 + C_3 R_3 s + 1 \right)}{C_3 C_L L_3 R_L s^3 + C_3 C_L R_3 R_L s^2 + C_3 L_3 s^2 + C_3 R_3 s + C_3 R_L s + C_L R_L s + 1}$$

10.356 INVALID-ORDER-356
$$Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ R_L + \frac{1}{C_L s}\right)$$

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

10.357 INVALID-ORDER-357
$$Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$$

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

10.358 INVALID-ORDER-358
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L s \left(C_3 L_3 s^2 + C_3 R_3 s + 1\right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_L R_3 s^3 + C_3 L_3 s^2 + C_3 L_L s^2 + C_3 R_3 s + C_L L_L s^2 + 1}$$

10.359 INVALID-ORDER-359
$$Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + C_3R_3s + 1\right)\left(C_LL_Ls^2 + C_LR_Ls + 1\right)}{s\left(C_3C_LL_3s^2 + C_3C_LL_Ls^2 + C_3C_LR_3s + C_3C_LR_Ls + C_3 + C_L\right)}$$

10.360 INVALID-ORDER-360
$$Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

10.361 INVALID-ORDER-361
$$Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{\left(C_3 L_3 s^2 + C_3 R_3 s + 1\right) \left(C_L L_L R_L s^2 + L_L s + R_L\right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_L R_3 s^3 + C_3 C_L L_L R_L s^3 + C_3 L_3 s^2 + C_3 L_3 s^2 + C_3 R_3 s + C_3 R_L s + C_L L_L s^2 + 1}$$

10.362 INVALID-ORDER-362
$$Z(s) = \left(\infty, \ L_2s + \frac{1}{C_2s}, \ L_3s + R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

$$H(s) = \frac{R_L\left(C_LL_Ls^2 + 1\right)\left(C_3L_3s^2 + C_3R_3s + 1\right)}{C_3C_LL_3L_Ls^4 + C_3C_LL_3R_Ls^3 + C_3C_LL_LR_3s^3 + C_3C_LL_LR_Ls^3 + C_3C_LR_3R_Ls^2 + C_3R_3s + C_3R_Ls + C_LL_Ls^2 + C_LR_Ls + 1}$$

10.363 INVALID-ORDER-363
$$Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \infty, \ \infty, \ R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 R_3 s \left(C_L R_L s + 1\right)}{C_3 C_L L_3 R_3 R_L s^3 + C_3 L_3 R_3 s^2 + C_L L_3 R_3 s^2 + C_L L_3 R_L s^2 + C_L R_3 R_L s + L_3 s + R_3}$$

10.364 INVALID-ORDER-364
$$Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 R_3 s \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 L_3 R_3 s^2 + C_L L_3 L_L s^3 + C_L L_3 R_3 s^2 + C_L L_L R_3 s^2 + L_3 s + R_3}$$

10.365 INVALID-ORDER-365
$$Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \infty, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 R_3 s \left(C_L L_L s^2 + C_L R_L s + 1\right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 C_L L_3 R_3 R_L s^3 + C_2 L_3 L_3 R_3 s^2 + C_L L_3 R_3 s^2 + C_L L_3 R_4 s^2 + C_L L_4 R_3 s^2 + C_L L_4 R_3 s^2 + C_L L_4 R_3 s^2 + C_L L_4 R_4 s^3 + C_4 L_5 R_4 R_5}$$

$$\begin{aligned} \textbf{10.367} \quad \textbf{INVALID-ORDER-367} \ \ Z(s) &= \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \infty, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s} \right)}{L_L s + R_L + \frac{1}{C_L s}} \right) \\ & H(s) &= \frac{L_3 R_3 R_L s \left(C_L L_L s^2 + 1 \right)}{C_3 C_L L_3 L_L R_3 R_L s^4 + C_3 L_3 R_3 R_L s^2 + C_L L_3 L_L R_3 s^3 + C_L L_3 L_L R_3 R_L s^2 + C_L L_L R_3 R_L s^2 + L_3 R_3 s + L_3 R_L s + R_3 R_L s^2 + C_L L_3 R_3$$

10.368 INVALID-ORDER-368
$$Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \ \infty, \ \infty, \ \frac{1}{C_L s}\right)$$

$$H(s) = \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 C_L L_3 R_3 s^3 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L R_3 s + 1}$$

10.369 INVALID-ORDER-369
$$Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \ \infty, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_L \left(C_3 L_3 R_3 s^2 + L_3 s + R_3 \right)}{C_3 C_L L_3 R_3 R_L s^3 + C_3 L_3 R_3 s^2 + C_3 L_3 R_L s^2 + C_L L_3 R_L s^2 + C_L R_3 R_L s + L_3 s + R_3 + R_L R_3 R_L s^2 + C_L R_3 R_L s + L_3 R_L R_3 R_L R_$$

10.370 INVALID-ORDER-370
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_L R_L s + 1\right) \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{C_3 C_L L_3 R_3 s^3 + C_3 C_L L_3 R_L s^3 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L R_3 s + C_L R_L s + 1}$$

10.371 INVALID-ORDER-371
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_L L_L s^2 + 1\right) \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_3 s^3 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L L_L s^2 + C_L R_3 s + 1}$$

10.372 INVALID-ORDER-372
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L s \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 L_3 L_L s^3 + C_3 L_3 R_3 s^2 + C_L L_3 L_L s^3 + C_L L_L R_3 s^2 + L_3 s + L_L s + R_3}$$

10.373 INVALID-ORDER-373
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_L L_L s^2 + C_L R_L s + 1\right) \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_3 s^3 + C_3 C_L L_3 R_L s^3 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L L_1 s^2 + C_L R_3 s + C_L R_L s + 1}$$

10.374 INVALID-ORDER-374
$$Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \ \infty, \ \infty, \ \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

10.375 INVALID-ORDER-375
$$Z(s) = \left(\infty, L_2 s + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{\left(C_3L_3R_3s^2 + L_3s + R_3\right)\left(C_LL_LR_Ls^2 + L_Ls + R_L\right)}{C_3C_LL_3L_LR_3s^4 + C_3C_LL_3L_LR_3s^4 + C_3L_3L_Ls^3 + C_3L_3R_3s^2 + C_3L_3R_Ls^2 + C_LL_3L_Ls^3 + C_LL_LR_3s^2 + C_LL_LR_Ls^2 + L_3s + L_Ls + R_3 + R_Ls^2}$$

10.376 INVALID-ORDER-376
$$Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \ \infty, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{R_L \left(C_L L_L s^2 + 1 \right) \left(C_3 L_3 R_3 s^2 + L_3 s + R_3 \right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 C_L L_3 L_L R_3 s^4 + C_3 C_L L_3 R_3 R_L s^3 + C_3 L_3 R_3 s^2 + C_L L_3 L_L s^3 + C_L L_3 R_L s^2 + C_L L_L R_3 s^2 + C_L L_L R_2 s^2 + C_L L_R R_3 s^2 + C_L R_3 R_L s + L_3 s + R_3 + R_L R_2 r^2 + C_L R_3 R_L s^2 + C_L R_3 R_L s^$$

10.377 INVALID-ORDER-377
$$Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 \left(C_3 L_3 s^2 + 1\right)}{C_3 C_L L_3 R_3 s^3 + C_3 L_3 s^2 + C_3 R_3 s + C_L R_3 s + 1}$$

$$\begin{aligned} \textbf{10.378} \quad \textbf{INVALID-ORDER-378} \ Z(s) &= \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s} \right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right) \\ & H(s) &= \frac{R_3 R_L \left(C_3 L_3 s^2 + 1 \right)}{C_3 C_L L_3 R_3 R_L s^3 + C_3 L_3 R_3 s^2 + C_3 L_3 R_L s^2 + C_3 R_3 R_L s + C_L R_3 R_L s + R_3 + R_L} \end{aligned}$$

10.379 INVALID-ORDER-379
$$Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 \left(C_3 L_3 s^2 + 1\right) \left(C_L R_L s + 1\right)}{C_3 C_L L_3 R_3 s^3 + C_3 C_L L_3 R_L s^3 + C_3 C_L R_3 R_L s^2 + C_3 L_3 s^2 + C_3 R_3 s + C_L R_3 s + C_L R_3 s + C_L R_4 s + 1}$$

10.380 INVALID-ORDER-380
$$Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 \left(C_3 L_3 s^2 + 1\right) \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_3 s^3 + C_3 L_L L_R s^3 + C_3 L_3 s^2 + C_3 R_3 s + C_L L_L s^2 + C_L R_3 s + 1}$$

10.381 INVALID-ORDER-381
$$Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L R_3 s \left(C_3 L_3 s^2 + 1\right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 L_3 L_L s^3 + C_3 L_3 R_3 s^2 + C_L L_L R_3 s^2 + L_L s + R_3}$$

$$\textbf{10.382} \quad \textbf{INVALID-ORDER-382} \ Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s} \right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right) \\ H(s) = \frac{R_3 \left(C_3 L_3 s^2 + 1 \right) \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_3 s^3 + C_3 C_L L_2 R_3 s^3 + C_3 C_L L_2 R_3 s^3 + C_3 C_L L_3 R_$$

10.383 INVALID-ORDER-383
$$Z(s) = \left(\infty, \ L_2 s + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_L R_3 R_L s \left(C_3 L_3 s^2 + 1\right)}{C_3 C_L L_3 L_L R_3 R_L s^4 + C_3 L_3 L_L R_3 s^3 + C_3 L_3 L_L R_L s^3 + C_3 L_3 R_3 R_L s^2 + C_L L_L R_3 R_L s^2 + L_L R_3 s + L_L R_L s + R_3 R_L s^2}$$

10.386 INVALID-ORDER-386 $Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ R_3, \ \infty, \ \infty, \ R_L\right)$

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

10.387 INVALID-ORDER-387 $Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, R_3, \infty, \infty, \frac{1}{C_L s}\right)$

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

10.388 INVALID-ORDER-388 $Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ R_3, \ \infty, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$

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

10.389 INVALID-ORDER-389 $Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, R_3, \infty, \infty, R_L + \frac{1}{C_L s}\right)$

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

10.390 INVALID-ORDER-390 $Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, \frac{1}{C_3 s}, \infty, \infty, R_L\right)$

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

10.391 INVALID-ORDER-391 $Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s}\right)$

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

10.392 INVALID-ORDER-392 $Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$

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

10.393 INVALID-ORDER-393 $Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, \frac{1}{C_3 s}, \infty, \infty, R_L + \frac{1}{C_L s}\right)$

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

10.394 INVALID-ORDER-394
$$Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, \frac{1}{C_3 s}, \infty, \infty, L_L s + \frac{1}{C_L s}\right)$$

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

10.395 INVALID-ORDER-395
$$Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

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

10.396 INVALID-ORDER-396
$$Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, \frac{1}{C_3 s}, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

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

10.397 INVALID-ORDER-397
$$Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

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

10.398 INVALID-ORDER-398
$$Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

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

10.399 INVALID-ORDER-399
$$Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{R_3}{C_3 R_3 s + 1}, \ \infty, \ \infty, \ R_L\right)$$

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

10.400 INVALID-ORDER-400
$$Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, \frac{1}{C_L s}\right)$$

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

10.401 INVALID-ORDER-401
$$Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{R_3}{C_3 R_3 s + 1}, \ \infty, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$$

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

10.402 INVALID-ORDER-402
$$Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{R_3}{C_3 R_3 s + 1}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$$

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

10.403 INVALID-ORDER-403
$$Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

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

10.404 INVALID-ORDER-404
$$Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, \frac{R_3}{C_3 R_3 s + 1}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

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

10.405 INVALID-ORDER-405
$$Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{R_3}{C_3 R_3 s + 1}, \ \infty, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

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

10.406 INVALID-ORDER-406
$$Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ R_L\right)$$

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

10.407 INVALID-ORDER-407
$$Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s}\right)$$

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

10.408 INVALID-ORDER-408
$$Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, R_3 + \frac{1}{C_3 s}, \infty, \infty, R_L + \frac{1}{C_L s}\right)$$

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

10.409 INVALID-ORDER-409 $Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, R_3 + \frac{1}{C_3 s}, \infty, \infty, L_L s + \frac{1}{C_L s}\right)$

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

10.410 INVALID-ORDER-410 $Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$

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

10.411 INVALID-ORDER-411
$$Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, R_3 + \frac{1}{C_3 s}, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

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

$$\begin{aligned} \textbf{10.412} \quad \textbf{INVALID-ORDER-412} \ \ Z(s) &= \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}} \right) \\ H(s) &= \frac{L_L R_L s \left(C_3 R_3 s + 1 \right)}{C_3 C_L L_L R_3 R_L s^3 + C_3 L_L R_3 s^2 + C_3 L_L R_L s^2 + C_L L_L R_L s^2 + L_L s + R_L } \end{aligned}$$

10.413 INVALID-ORDER-413
$$Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

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

10.414 INVALID-ORDER-414
$$Z(s) = \left(\infty, \ L_2s + R_2 + \frac{1}{C_2s}, \ R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

$$H(s) = \frac{R_L\left(C_3R_3s + 1\right)\left(C_LL_Ls^2 + 1\right)}{C_3C_LL_LR_3s^3 + C_3C_LL_LR_Ls^3 + C_3C_LR_3R_Ls^2 + C_3R_3s + C_3R_Ls + C_LL_Ls^2 + C_LR_Ls + 1}$$

10.415 INVALID-ORDER-415
$$Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ L_3 s + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{1}{C_L s}\right)$$

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

10.416 INVALID-ORDER-416
$$Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ L_3 s + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_L \left(C_3 L_3 s^2 + 1\right)}{C_3 C_L L_3 R_L s^3 + C_3 L_3 s^2 + C_3 R_L s + C_L R_L s + 1}$$

10.417 INVALID-ORDER-417
$$Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ L_3 s + \frac{1}{C_3 s}, \ \infty, \ \infty, \ R_L + \frac{1}{C_L s}\right)$$

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

10.418 INVALID-ORDER-418
$$Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ L_3 s + \frac{1}{C_3 s}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$$

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

10.419 INVALID-ORDER-419
$$Z(s) = \left(\infty, \ L_2s + R_2 + \frac{1}{C_2s}, \ L_3s + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2 + 1}\right)$$

$$H(s) = \frac{L_Ls\left(C_3L_3s^2 + 1\right)}{C_3C_LL_2L_1s^4 + C_2L_2s^2 + C_2L_1s^2 + C_1L_1s^2 + 1}$$

10.420 INVALID-ORDER-420
$$Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, L_3 s + \frac{1}{C_3 s}, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

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

10.421 INVALID-ORDER-421
$$Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ L_3 s + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_L R_L s \left(C_3 L_3 s^2 + 1\right)}{C_3 C_L L_3 L_L R_L s^4 + C_3 L_3 L_L s^3 + C_3 L_3 R_L s^2 + C_3 L_L R_L s^2 + C_L L_L R_L s^2 + L_L s + R_L}$$

10.422 INVALID-ORDER-422
$$Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ L_3 s + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{\left(C_3 L_3 s^2 + 1\right) \left(C_L L_L R_L s^2 + L_L s + R_L\right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_L R_L s^3 + C_3 L_3 s^2 + C_3 L_L s^2 + C_3 R_L s + C_L L_L s^2 + 1}$$

10.423 INVALID-ORDER-423
$$Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ L_3 s + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_I s}}\right)$$

$$H(s) = \frac{R_L \left(C_3 L_3 s^2 + 1 \right) \left(C_L L_L s^2 + 1 \right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_L s^3 + C_3 C_L L_R L_S^3 + C_3 L_3 s^2 + C_3 R_L s + C_L L_L s^2 + C_L R_L s + 1}$$

10.424 INVALID-ORDER-424
$$Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \infty, \ \infty, \ \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 s}{C_3 L_3 s^2 + C_L L_3 s^2 + 1}$$

10.425 INVALID-ORDER-425
$$Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 s \left(C_L R_L s + 1 \right)}{C_3 C_L L_3 R_L s^3 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L R_L s + 1}$$

10.426 INVALID-ORDER-426
$$Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 s \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_3 L_L s^4 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L L_L s^2 + 1}$$

10.427 INVALID-ORDER-427
$$Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

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

10.428 INVALID-ORDER-428
$$Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 s \left(C_L L_L s^2 + C_L R_L s + 1\right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_L s^3 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L L_L s^2 + C_L R_L s + 1}$$

10.429 INVALID-ORDER-429
$$Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$$

$$H(s) = \frac{L_3s \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{C_3 C_L L_3 L_L R_L s^4 + C_3 L_3 L_L s^3 + C_3 L_3 R_L s^2 + C_L L_3 L_L s^3 + C_L L_L R_L s^2 + L_3 s + L_L s + R_L}$$

10.430 INVALID-ORDER-430
$$Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \infty, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s}\right)}{L_L s + R_L + \frac{1}{C_L s}}\right)$$

$$H(s) = \frac{L_3 R_L s \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_3 L_L R_L s^4 + C_3 L_3 R_L s^2 + C_L L_3 L_L s^3 + C_L L_3 R_L s^2 + C_L L_L R_L s^2 + L_3 s + R_L}$$

10.431 INVALID-ORDER-431
$$Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{1}{C_L s}\right)$$

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

10.432 INVALID-ORDER-432
$$Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_L \left(C_3 L_3 s^2 + C_3 R_3 s + 1 \right)}{C_3 C_L L_3 R_L s^3 + C_3 C_L R_3 R_L s^2 + C_3 L_3 s^2 + C_3 R_3 s + C_3 R_L s + C_L R_L s + 1}$$

10.433 INVALID-ORDER-433
$$Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, R_L + \frac{1}{C_L s}\right)$$

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

10.434 INVALID-ORDER-434
$$Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$$

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

10.435 INVALID-ORDER-435
$$Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, L_3 s + R_3 + \frac{1}{C_3 s}, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L s \left(C_3 L_3 s^2 + C_3 R_3 s + 1\right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_L R_3 s^3 + C_3 L_3 s^2 + C_3 L_L s^2 + C_3 R_3 s + C_L L_L s^2 + 1}$$

10.436 INVALID-ORDER-436
$$Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$$

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

10.437 INVALID-ORDER-437
$$Z(s) = \left(\infty, \ L_2s + R_2 + \frac{1}{C_2s}, \ L_3s + R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

$$H(s) = \frac{L_LR_Ls\left(C_3L_3s^2 + C_3R_3s + 1\right)}{C_3C_LL_3L_LR_Ls^4 + C_3C_LL_LR_3R_Ls^3 + C_3L_3L_Ls^3 + C_3L_3R_Ls^2 + C_3L_LR_3s^2 + C_3R_3R_Ls + C_LL_LR_Ls^2 + L_Ls + R_Ls^2}$$

10.438 INVALID-ORDER-438
$$Z(s) = \left(\infty, \ L_2s + R_2 + \frac{1}{C_2s}, \ L_3s + R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2 + 1} + R_L\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + C_3R_3s + 1\right)\left(C_LL_LR_Ls^2 + L_Ls + R_L\right)}{C_3C_LL_3L_Ls^4 + C_3C_LL_LR_3s^3 + C_3C_LL_LR_Ls^3 + C_3L_3s^2 + C_3L_Ls^2 + C_3R_3s + C_3R_Ls + C_LL_Ls^2 + 1}$$

10.439 INVALID-ORDER-439
$$Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s} \right)}{L_L s + R_L + \frac{1}{C_L s}} \right)$$

$$H(s) = \frac{R_L \left(C_L L_L s^2 + 1 \right) \left(C_3 L_3 s^2 + C_3 R_3 s + 1 \right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_L s^3 + C_3 C_L L_L R_2 s^3 + C_3 C_L L_R R_2 s^3 + C_3 C_L R_3 R_L s^2 + C_3 R_3 s + C_3 R_4 s + C_L L_L s^2 + C_L R_L s + 1}$$

$$\begin{aligned} \textbf{10.440} \quad \textbf{INVALID-ORDER-440} \ \ Z(s) &= \left(\infty, \ \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \ \infty, \ \ \infty, \ \ R_L + \frac{1}{C_L s} \right) \\ H(s) &= \frac{L_3 R_3 s \left(C_L R_L s + 1 \right)}{C_3 C_L L_3 R_3 R_L s^3 + C_3 L_3 R_3 s^2 + C_L L_3 R_3 s^2 + C_L L_3 R_L s^2 + C_L R_3 R_L s + L_3 s + R_3} \end{aligned}$$

10.441 INVALID-ORDER-441
$$Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{L_3 R_3 s \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 L_3 R_3 s^2 + C_L L_3 L_L s^3 + C_L L_3 R_3 s^2 + C_L L_L R_3 s^2 + L_3 s + R_3}$$

$$\textbf{10.442} \quad \textbf{INVALID-ORDER-442} \ \ Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \infty, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$$

$$H(s) = \frac{L_3 R_3 s \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 C_L L_3 R_3 R_L s^3 + C_3 L_3 R_3 s^2 + C_L L_3 R_3 s^2 + C_L L_3 R_L s^2 + C_L L_3$$

$$\textbf{10.444} \quad \textbf{INVALID-ORDER-444} \ Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \infty, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s} \right)}{L_L s + R_L + \frac{1}{C_L s}} \right) \\ H(s) = \frac{L_3 R_3 R_L s \left(C_L L_L s^2 + 1 \right)}{C_3 C_L L_3 L_L R_3 R_L s^4 + C_3 L_3 R_3 R_L s^2 + C_L L_3 L_L R_3 s^3 + C_L L_3 L_L R_3 R_L s^2 + C_L L_L R_3 R_L s^2 + L_3 R_3 s + L_3 R_L s + R_3 R_L s^2 + C_L L_3 R_3 R_$$

10.445 INVALID-ORDER-445
$$Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \ \infty, \ \infty, \ \frac{1}{C_L s}\right)$$

$$H(s) = \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 C_L L_3 R_3 s^3 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L R_3 s + 1}$$

10.446 INVALID-ORDER-446
$$Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, \frac{R_L}{C_L R_L s + 1}\right)$$

10.447 INVALID-ORDER-447
$$Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \ \infty, \ \infty, \ R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_L R_L s + 1\right) \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{C_3 C_L L_3 R_3 s^3 + C_3 C_L L_3 R_L s^3 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L R_3 s + C_L R_L s + 1}$$

10.448 INVALID-ORDER-448
$$Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_L L_L s^2 + 1\right) \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_3 s^3 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L L_L s^2 + C_L R_3 s + 1}$$

10.449 INVALID-ORDER-449
$$Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L s \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 L_3 L_L s^3 + C_3 L_3 R_3 s^2 + C_L L_3 L_L s^3 + C_L L_L R_3 s^2 + L_3 s + L_L s + R_3}$$

10.450 INVALID-ORDER-450
$$Z(s) = \left(\infty, L_2 s + R_2 + \frac{1}{C_2 s}, \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \infty, \infty, L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_L L_L s^2 + C_L R_L s + 1\right) \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_3 s^3 + C_3 C_L L_3 R_L s^3 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L L_1 s^2 + C_L R_3 s + C_L R_L s + 1}$$

10.451 INVALID-ORDER-451
$$Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \ \infty, \ \infty, \ \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}}\right)$$

$$H(s) = \frac{L_L R_L s \left(C_3 L_3 R_3 s^2 + L_3 s + R_3\right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 L_3 L_L R_3 s^3 + C_3 L_3 L_L R_L s^3 + C_3 L_3 R_L s^2 + C_L L_3 L_L R_3 s^2 + L_3 L_L s^2 + L_3 L_L s^2 + L_3 R_L s + L_L R_3 s + L_L R_L s + R_3 R_L s^2 + L_L R_3 R_L s^2 + L_3 R_$$

10.452 INVALID-ORDER-452
$$Z(s) = \left(\infty, \ L_2s + R_2 + \frac{1}{C_2s}, \ \frac{L_3s}{C_3L_3s^2+1} + R_3, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$$

$$H(s) = \frac{\left(C_3L_3R_3s^2 + L_3s + R_3\right)\left(C_LL_LR_Ls^2 + L_Ls + R_L\right)}{C_3C_LL_3L_LR_3s^4 + C_3C_LL_3L_LR_Ls^4 + C_3L_3L_Ls^3 + C_3L_3R_3s^2 + C_3L_3R_Ls^3 + C_LL_LR_3s^3 + C_LL_LR_2s^2 + L_Ls + R_3 + R_L}$$

10.453 INVALID-ORDER-453
$$Z(s) = \left(\infty, \ L_2s + R_2 + \frac{1}{C_2s}, \ \frac{L_3s}{C_3L_3s^2+1} + R_3, \ \infty, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

$$H(s) = \frac{R_L\left(C_LL_Ls^2 + 1\right)\left(C_3L_3R_3s^2 + L_3s + R_3\right)}{C_3C_LL_3L_LR_3s^4 + C_3C_LL_3L_LR_2s^4 + C_3C_LL_3R_3R_Ls^3 + C_3L_3R_3s^2 + C_LL_3L_Ls^3 + C_LL_3R_Ls^2 + C_LL_LR_3s^2 + C_LL_LR_2s^2 + C_LR_3R_Ls + L_3s + R_3 + R_L}$$

10.454 INVALID-ORDER-454
$$Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 \left(C_3 L_3 s^2 + 1\right)}{C_3 C_L L_3 R_3 s^3 + C_3 L_3 s^2 + C_3 R_3 s + C_L R_3 s + 1}$$

10.455 INVALID-ORDER-455
$$Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$$

$$H(s) = \frac{R_3 R_L \left(C_3 L_3 s^2 + 1\right)}{C_3 C_L L_3 R_3 R_L s^3 + C_3 L_3 R_3 s^2 + C_3 L_3 R_L s^2 + C_3 R_3 R_L s + C_L R_3 R_L s + R_3 + R_L}$$

10.456 INVALID-ORDER-456
$$Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 \left(C_3 L_3 s^2 + 1\right) \left(C_L R_L s + 1\right)}{C_3 C_L L_3 R_3 s^3 + C_3 C_L L_3 R_L s^3 + C_3 C_L R_3 R_L s^2 + C_3 L_3 s^2 + C_3 R_3 s + C_L R_3 s + C_L R_L s + 1}$$

10.457 INVALID-ORDER-457
$$Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{R_3 \left(C_3 L_3 s^2 + 1\right) \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_3 L_1 s^4 + C_3 C_L L_2 R_3 s^3 + C_3 L_2 L_2 R_3 s^3 + C_3 L_3 s^2 + C_2 R_3 s + C_L L_2 s^2 + C_L R_3 s + 1}$$

10.458 INVALID-ORDER-458
$$Z(s) = \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s}\right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L R_3 s \left(C_3 L_3 s^2 + 1\right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 L_3 L_L s^3 + C_3 L_3 R_3 s^2 + C_L L_L R_3 s^2 + L_L s + R_3}$$

10.459 INVALID-ORDER-459
$$Z(s) = \left(\infty, \ L_2s + R_2 + \frac{1}{C_2s}, \ \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \infty, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{R_3\left(C_3L_3s^2 + 1\right)\left(C_LL_Ls^2 + C_LR_Ls + 1\right)}{C_3C_LL_3L_Ls^4 + C_3C_LL_3R_3s^3 + C_3C_LL_3R_Ls^3 + C_3C_LL_3R_3s^3 + C_3C_LR_3R_Ls^2 + C_3L_3s^2 + C_3R_3s + C_LL_Ls^2 + C_LR_3s + C_LR_Ls + 1}$$

$$\begin{aligned} \textbf{10.460} \quad \textbf{INVALID-ORDER-460} \ \ Z(s) &= \left(\infty, \ L_2 s + R_2 + \frac{1}{C_2 s}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s} \right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ \frac{1}{C_L s + \frac{1}{R_L} + \frac{1}{L_L s}} \right) \\ & H(s) &= \frac{L_L R_3 R_L s \left(C_3 L_3 s^2 + 1 \right)}{C_3 C_L L_3 L_L R_3 R_L s^4 + C_3 L_3 L_L R_3 s^3 + C_3 L_3 L_L R_L s^3 + C_3 L_3 R_3 R_L s^2 + C_L L_L R_3 R_L s^2 + L_L R_3 s + L_L R_L s + R_3 R_L s^2 + C_L L_L R_3 R_L s^2 + L_L R_3 s + L_L R_L s + R_3 R_L s^2 + L_L R_3 s + L_L R_L s + R_3 R_L s^2 + L_L R_3 s + L_L R_L s + R_3 R_L s^2 + L_L R_3 s + L_L R_L s + R_3 R_L s^2 + L_L R_3 s + L_L R_L s + R_3 R_L s^2 + L_L R_3 s + L_L R_2 s + R_3 R_L s^2 + L_L R_3 s + L_L R_2 s + R_3 R_L s^2 + L_L R_3 s + L_L R_2 s + R_3 R_L s^2 + L_L R_3 s + L_L R_2 s + R_3 R_L s^2 + L_L R_3 s + L_L R_2 s + R_3 R_L s + L_L R_3 s + L_$$

10.462 INVALID-ORDER-462
$$Z(s) = \left(\infty, \ L_2s + R_2 + \frac{1}{C_2s}, \ \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \infty, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

$$R_3R_L\left(C_3L_3s^2 + 1\right)\left(C_LL_Ls^2 + 1\right)$$

$$R_3R_L\left(C_3L_3s^2 + C_3L_3R_Ls^2 + C_3L_3R$$

10.463 INVALID-ORDER-463
$$Z(s) = \left(\infty, \frac{L_2 s}{C_2 L_2 s^2 + 1} + R_2, R_3, \infty, \infty, R_L\right)$$

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

10.464 INVALID-ORDER-464
$$Z(s) = \left(\infty, \frac{L_2s}{C_2L_2s^2+1} + R_2, R_3, \infty, \infty, \frac{1}{C_Ls}\right)$$

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

10.465 INVALID-ORDER-465
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ R_3, \ \infty, \ \infty, \ \frac{R_L}{C_LR_Ls+1}\right)$$

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

10.466 INVALID-ORDER-466
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ R_3, \ \infty, \ \infty, \ R_L + \frac{1}{C_Ls}\right)$$

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

10.467 INVALID-ORDER-467
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{1}{C_3s}, \ \infty, \ \infty, \ R_L\right)$$

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

10.468 INVALID-ORDER-468
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{1}{C_Ls}\right)$$

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

10.469 INVALID-ORDER-469
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{R_L}{C_LR_Ls+1}\right)$$

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

10.470 INVALID-ORDER-470
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{1}{C_3s}, \ \infty, \ \infty, \ R_L + \frac{1}{C_Ls}\right)$$

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

10.471 INVALID-ORDER-471
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{1}{C_3s}, \ \infty, \ \infty, \ L_Ls + \frac{1}{C_Ls}\right)$$

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

10.472 INVALID-ORDER-472
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1}\right)$$

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

10.473 INVALID-ORDER-473
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{1}{C_3s}, \ \infty, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls}\right)$$

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

10.474 INVALID-ORDER-474
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$$

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

10.475 INVALID-ORDER-475
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}} \right)$$

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

10.476 INVALID-ORDER-476
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{R_3}{C_3R_3s+1}, \ \infty, \ \infty, \ R_L\right)$$

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

10.477 INVALID-ORDER-477
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{R_3}{C_3R_3s+1}, \ \infty, \ \infty, \ \frac{1}{C_Ls}\right)$$

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

10.478 INVALID-ORDER-478
$$Z(s) = \left(\infty, \ \frac{L_{2s}}{C_2L_2s^2+1} + R_2, \ \frac{R_3}{C_3R_3s+1}, \ \infty, \ \infty, \ \frac{R_L}{C_LR_Ls+1}\right)$$

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

10.479 INVALID-ORDER-479
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{R_3}{C_3R_3s+1}, \ \infty, \ \infty, \ L_Ls + \frac{1}{C_Ls}\right)$$

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

10.480 INVALID-ORDER-480
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{R_3}{C_3R_3s+1}, \ \infty, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls}\right)$$

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

10.481 INVALID-ORDER-481
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{R_3}{C_3R_3s+1}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$$

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

10.482 INVALID-ORDER-482
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{R_3}{C_3R_3s+1}, \ \infty, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Is}}\right)$$

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

10.483 INVALID-ORDER-483
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ R_L\right)$$

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

10.484 INVALID-ORDER-484
$$Z(s) = \left(\infty, \ \frac{L_{2s}}{C_2 L_2 s^2 + 1} + R_2, \ R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{1}{C_L s}\right)$$

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

10.485 INVALID-ORDER-485
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ R_L + \frac{1}{C_Ls}\right)$$

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

10.486 INVALID-ORDER-486
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ L_Ls + \frac{1}{C_Ls}\right)$$

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

10.487 INVALID-ORDER-487
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1}\right)$$

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

10.488 INVALID-ORDER-488
$$Z(s) = \left(\infty, \ \frac{L_2 s}{C_2 L_2 s^2 + 1} + R_2, \ R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$$

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

10.489 INVALID-ORDER-489
$$Z(s) = \left(\infty, \ \frac{L_{2s}}{C_2L_2s^2+1} + R_2, \ R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

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

10.490 INVALID-ORDER-490
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$$

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

10.491 INVALID-ORDER-491
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

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

10.492 INVALID-ORDER-492
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ L_3s + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{1}{C_Ls}\right)$$

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

10.493 INVALID-ORDER-493
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ L_3s + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{R_L}{C_LR_Ls+1}\right)$$

$$H(s) = \frac{R_L \left(C_3 L_3 s^2 + 1 \right)}{C_3 C_L L_3 R_L s^3 + C_3 L_3 s^2 + C_3 R_L s + C_L R_L s + 1}$$

10.494 INVALID-ORDER-494
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ L_3s + \frac{1}{C_3s}, \ \infty, \ \infty, \ R_L + \frac{1}{C_Ls}\right)$$

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

10.495 INVALID-ORDER-495
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ L_3s + \frac{1}{C_3s}, \ \infty, \ \infty, \ L_Ls + \frac{1}{C_Ls}\right)$$

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

10.496 INVALID-ORDER-496
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ L_3s + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1}\right)$$

$$H(s) = \frac{L_L s \left(C_3 L_3 s^2 + 1\right)}{C_3 C_L L_3 L_L s^4 + C_3 L_3 s^2 + C_3 L_L s^2 + C_L L_L s^2 + 1}$$

10.497 INVALID-ORDER-497
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ L_3s + \frac{1}{C_3s}, \ \infty, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls}\right)$$

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

10.498 INVALID-ORDER-498
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ L_3s + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

$$H(s) = \frac{L_L R_L s \left(C_3 L_3 s^2 + 1\right)}{C_3 C_L L_3 L_L R_L s^4 + C_3 L_3 L_L s^3 + C_3 L_3 R_L s^2 + C_3 L_L R_L s^2 + C_L L_L R_L s^2 + L_L s + R_L}$$

10.499 INVALID-ORDER-499
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ L_3s + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + 1\right)\left(C_LL_LR_Ls^2 + L_Ls + R_L\right)}{C_3C_LL_3L_Ls^4 + C_3C_LL_LR_Ls^3 + C_3L_3s^2 + C_3L_Ls^2 + C_3R_Ls + C_LL_Ls^2 + 1}$$

10.500 INVALID-ORDER-500
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ L_3s + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

$$H(s) = \frac{R_L \left(C_3 L_3 s^2 + 1 \right) \left(C_L L_L s^2 + 1 \right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_L s^3 + C_3 C_L L_L R_L s^3 + C_3 L_3 s^2 + C_3 R_L s + C_L L_L s^2 + C_L R_L s + 1}$$

10.501 INVALID-ORDER-501 $Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{L_3s}{C_3L_3s^2+1}, \ \infty, \ \infty, \ \frac{1}{C_Ls}\right)$

$$H(s) = \frac{L_3 s}{C_3 L_3 s^2 + C_L L_3 s^2 + 1}$$

10.502 INVALID-ORDER-502 $Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{L_3s}{C_3L_3s^2+1}, \ \infty, \ \infty, \ R_L + \frac{1}{C_Ls}\right)$

$$H(s) = \frac{L_3 s \left(C_L R_L s + 1\right)}{C_3 C_L L_3 R_L s^3 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L R_L s + 1}$$

10.503 INVALID-ORDER-503
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{L_3s}{C_3L_3s^2+1}, \ \infty, \ \infty, \ L_Ls + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{L_3 s \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_3 L_L s^4 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L L_L s^2 + 1}$$

10.504 INVALID-ORDER-504
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{L_3s}{C_3L_3s^2+1}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1}\right)$$

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

10.505 INVALID-ORDER-505
$$Z(s) = \left(\infty, \frac{L_{2}s}{C_{2}L_{2}s^{2}+1} + R_{2}, \frac{L_{3}s}{C_{3}L_{3}s^{2}+1}, \infty, \infty, L_{L}s + R_{L} + \frac{1}{C_{L}s}\right)$$

$$H(s) = \frac{L_3 s \left(C_L L_L s^2 + C_L R_L s + 1\right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_L s^3 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L L_L s^2 + C_L R_L s + 1}$$

10.506 INVALID-ORDER-506
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{L_3s}{C_3L_3s^2+1}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$$

$$H(s) = \frac{L_3s \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{C_3 C_L L_3 L_L R_L s^4 + C_3 L_3 L_L s^3 + C_3 L_3 R_L s^2 + C_L L_3 L_L s^3 + C_L L_L R_L s^2 + L_3 s + L_L s + R_L}$$

10.507 INVALID-ORDER-507
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{L_3s}{C_3L_3s^2+1}, \ \infty, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Is}}\right)$$

$$H(s) = \frac{L_3 R_L s \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_3 L_L R_L s^4 + C_3 L_3 R_L s^2 + C_L L_3 L_L s^3 + C_L L_3 R_L s^2 + C_L L_L R_L s^2 + L_3 s + R_L}$$

10.508 INVALID-ORDER-508
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ L_3s + R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{1}{C_Ls}\right)$$

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

10.509 INVALID-ORDER-509 $Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ L_3s + R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{R_L}{C_LR_Ls+1}\right)$

$$H(s) = \frac{R_L \left(C_3 L_3 s^2 + C_3 R_3 s + 1 \right)}{C_3 C_L L_3 R_L s^3 + C_3 C_L R_3 R_L s^2 + C_3 L_3 s^2 + C_3 R_3 s + C_3 R_L s + C_L R_L s + 1}$$

10.510 INVALID-ORDER-510
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ L_3s + R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ R_L + \frac{1}{C_Ls}\right)$$

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

10.511 INVALID-ORDER-511
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ L_3s + R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ L_Ls + \frac{1}{C_Ls}\right)$$

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

10.512 INVALID-ORDER-512
$$Z(s) = \left(\infty, \ \frac{L_2 s}{C_2 L_2 s^2 + 1} + R_2, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right)$$

$$H(s) = \frac{L_L s \left(C_3 L_3 s^2 + C_3 R_3 s + 1\right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_L R_3 s^3 + C_3 L_3 s^2 + C_3 L_L s^2 + C_3 R_3 s + C_L L_L s^2 + 1}$$

10.513 INVALID-ORDER-513
$$Z(s) = \left(\infty, \ \frac{L_2 s}{C_2 L_2 s^2 + 1} + R_2, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + C_3R_3s + 1\right)\left(C_LL_Ls^2 + C_LR_Ls + 1\right)}{s\left(C_3C_LL_3s^2 + C_3C_LL_Ls^2 + C_3C_LR_3s + C_3C_LR_Ls + C_3 + C_L\right)}$$

10.514 INVALID-ORDER-514
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ L_3s + R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

$$H(s) = \frac{L_L R_L s \left(C_3 L_3 s^2 + C_3 R_3 s + 1\right)}{C_3 C_L L_3 L_L R_4 s^4 + C_3 C_L L_L R_3 R_L s^3 + C_3 L_3 L_L s^3 + C_3 L_3 R_L s^2 + C_3 L_L R_3 s^2 + C_3 L_L R_2 s^2 + C_3 R_3 R_L s + C_L L_L R_L s^2 + L_L s + R_L R_2 s^2 + C_3 R_3 R_L s + C_L R_3 R_2 s^2 + C_3 R_3 R_2 s + C_3 R_3 R_3 r_2 s + C_3 R_3 R_3 r_3 + C_$$

10.515 INVALID-ORDER-515
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ L_3s + R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + C_3R_3s + 1\right)\left(C_LL_LR_Ls^2 + L_Ls + R_L\right)}{C_3C_LL_3L_Ls^4 + C_3C_LL_LR_3s^3 + C_3C_LL_LR_1s^3 + C_3L_3s^2 + C_3L_Ls^2 + C_3R_3s + C_3R_Ls + C_LL_Ls^2 + 1}$$

10.516 INVALID-ORDER-516
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ L_3s + R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

$$H(s) = \frac{R_L \left(C_L L_L s^2 + 1 \right) \left(C_3 L_3 s^2 + C_3 R_3 s + 1 \right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_L s^3 + C_3 C_L L_L R_3 s^3 + C_3 C_L L_L R_L s^3 + C_3 C_L R_3 R_L s^2 + C_3 R_3 s + C_3 R_L s + C_L L_L s^2 + C_L R_L s + 1}$$

10.517 INVALID-ORDER-517
$$Z(s) = \left(\infty, \ \frac{L_{2}s}{C_{2}L_{2}s^{2}+1} + R_{2}, \ \frac{1}{C_{3}s + \frac{1}{R_{3}} + \frac{1}{L_{3}s}}, \ \infty, \ \infty, \ R_{L} + \frac{1}{C_{L}s}\right)$$

$$H(s) = \frac{L_3 R_3 s \left(C_L R_L s + 1\right)}{C_3 C_L L_3 R_3 R_L s^3 + C_3 L_3 R_3 s^2 + C_L L_3 R_3 s^2 + C_L L_3 R_L s^2 + C_L R_3 R_L s + L_3 s + R_3}$$

10.518 INVALID-ORDER-518
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{1}{C_3s + \frac{1}{R_2} + \frac{1}{L_2s}}, \ \infty, \ \infty, \ L_Ls + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{L_3 R_3 s \left(C_L L_L s^2 + 1\right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 L_3 R_3 s^2 + C_L L_3 L_L s^3 + C_L L_3 R_3 s^2 + C_L L_L R_3 s^2 + L_3 s + R_3}$$

10.519 INVALID-ORDER-519
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{1}{C_3s + \frac{1}{R_2} + \frac{1}{L_2s}}, \ \infty, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{L_3 R_3 s \left(C_L L_L s^2 + C_L R_L s + 1\right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 C_L L_3 R_3 R_L s^3 + C_3 L_3 R_3 s^2 + C_L L_3 L_L s^3 + C_L L_3 R_3 s^2 + C_L L_3 R_L s^2 + C_L L_4 R_3 s^2 + C_L L_3 R_L s + L_3 s + R_3}$$

$$\textbf{10.520} \quad \textbf{INVALID-ORDER-520} \ Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{1}{C_3s + \frac{1}{R_3} + \frac{1}{L_3s}}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1} + R_L \right)$$

$$H(s) = \frac{L_3R_3s \left(C_LL_LR_Ls^2 + L_Ls + R_L \right)}{C_3C_LL_3L_LR_3R_Ls^4 + C_3L_3L_LR_3s^3 + C_3L_3R_3R_Ls^2 + C_LL_3L_LR_3s^3 + C_LL_3L_2L_3L_2L_3s^3 + C_LL_3L_3L_3L_3s^3 + C_LL_3L_3L_3L_3s^3 + C_LL_3L_3L_3L_3s^3 + C_LL_3L_3L_3L_3s^3 + C_LL_3$$

$$\textbf{10.521} \quad \textbf{INVALID-ORDER-521} \ \ Z(s) = \left(\infty, \ \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \ \frac{1}{C_3s + \frac{1}{R_3} + \frac{1}{L_3s}}, \ \infty, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}} \right)$$

$$H(s) = \frac{L_3R_3R_Ls\left(C_LL_Ls^2 + 1\right)}{C_3C_LL_3L_LR_3R_Ls^4 + C_3L_3R_3R_Ls^2 + C_LL_3L_LR_3s^3 + C_LL_3L_LR_3s^3 + C_LL_3R_3R_Ls^2 + C_LL_3R_3R_Ls^2 + L_3R_3s + L_3R_Ls + R_3R_Ls^2 + C_LL_3R_3R_Ls^2 + C_LL_3R_$$

10.522 INVALID-ORDER-522
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{L_3s}{C_3L_3s^2+1} + R_3, \ \infty, \ \infty, \ \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{C_3L_3R_3s^2 + L_3s + R_3}{C_3C_LL_3R_3s^3 + C_3L_3s^2 + C_LL_3s^2 + C_LR_3s + 1}$$

$$\textbf{10.523} \quad \textbf{INVALID-ORDER-523} \ Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{L_3s}{C_3L_3s^2+1} + R_3, \ \infty, \ \infty, \ \frac{R_L}{C_LR_Ls+1} \right)$$

$$H(s) = \frac{R_L \left(C_3L_3R_3s^2 + L_3s + R_3 \right)}{C_3C_LL_3R_3R_Ls^3 + C_3L_3R_3s^2 + C_3L_3R_Ls^2 + C_LL_3R_Ls + L_3s + R_3 + R_L \right)$$

$$\textbf{10.524} \quad \textbf{INVALID-ORDER-524} \ \ Z(s) = \left(\infty, \ \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \ \frac{L_3s}{C_3L_3s^2+1} + R_3, \ \ \infty, \ \ \infty, \ \ R_L + \frac{1}{C_Ls} \right)$$

$$H(s) = \frac{\left(C_LR_Ls + 1 \right) \left(C_3L_3R_3s^2 + L_3s + R_3 \right)}{C_3C_LL_3R_3s^3 + C_3C_LL_3R_Ls^3 + C_3L_3s^2 + C_LL_3s^2 + C_LR_3s + C_LR_Ls + 1}$$

10.525 INVALID-ORDER-525
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{L_3s}{C_3L_3s^2+1} + R_3, \ \infty, \ \infty, \ L_Ls + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{\left(C_LL_Ls^2 + 1\right)\left(C_3L_3R_3s^2 + L_3s + R_3\right)}{C_3C_LL_3L_Ls^4 + C_3C_LL_3R_3s^3 + C_3L_3s^2 + C_LL_3s^2 + C_LL_3s^$$

$$\textbf{10.526} \quad \textbf{INVALID-ORDER-526} \ Z(s) = \left(\infty, \ \frac{L_{2s}}{C_2L_2s^2+1} + R_2, \ \frac{L_{3s}}{C_3L_3s^2+1} + R_3, \ \infty, \ \infty, \ \frac{L_{Ls}}{C_LL_Ls^2+1} \right)$$

$$H(s) = \frac{L_{Ls} \left(C_3L_3R_3s^2 + L_3s + R_3 \right)}{C_3C_LL_3L_LR_3s^4 + C_3L_3L_Ls^3 + C_3L_3R_3s^2 + C_LL_3L_Ls^3 + C_LL_LR_3s^2 + L_3s + L_Ls + R_3}$$

10.527 INVALID-ORDER-527
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{L_3s}{C_3L_3s^2+1} + R_3, \ \infty, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{\left(C_LL_Ls^2 + C_LR_Ls + 1\right)\left(C_3L_3R_3s^2 + L_3s + R_3\right)}{C_3C_LL_3L_Ls^4 + C_3C_LL_3R_3s^3 + C_3C_LL_3R_Ls^3 + C_3L_3s^2 + C_LL_3s^2 + C_LL_3s^2 + C_LR_3s + C_LR_Ls + 1}$$

$$\begin{aligned} \textbf{10.528} \quad \textbf{INVALID-ORDER-528} \ \ Z(s) &= \left(\infty, \ \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \ \frac{L_3s}{C_3L_3s^2+1} + R_3, \ \ \infty, \ \ \infty, \ \ \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}} \right) \\ & \quad H(s) &= \frac{L_LR_Ls \left(C_3L_3R_3s^2 + L_3s + R_3 \right)}{C_3C_LL_3L_LR_3R_Ls^4 + C_3L_3L_LR_3s^3 + C_3L_3L_LR_Ls^3 + C_3L_3R_3R_Ls^2 + C_LL_3L_LR_3s^3 + C_LL_LR_3R_Ls^2 + L_3R_Ls + L_LR_3s + L_LR_Ls + R_3R_Ls^2 + L_LR_3s + L_LR_3$$

10.529 INVALID-ORDER-529
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{L_3s}{C_3L_3s^2+1} + R_3, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$$

$$H(s) = \frac{\left(C_3L_3R_3s^2 + L_3s + R_3\right)\left(C_LL_LR_Ls^2 + L_Ls + R_L\right)}{C_3C_LL_3L_LR_3s^4 + C_3C_LL_3L_LR_Ls^4 + C_3L_3L_Ls^3 + C_3L_3R_3s^2 + C_3L_3R_Ls^3 + C_LL_LR_3s^3 + C_LL_LR_3s^2 + C_LL_LR_2s^2 + L_3s + L_Ls + R_3 + R_L}$$

10.530 INVALID-ORDER-530
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{L_3s}{C_3L_3s^2+1} + R_3, \ \infty, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

$$H(s) = \frac{R_L\left(C_LL_Ls^2 + 1\right)\left(C_3L_3R_3s^2 + L_3s + R_3\right)}{C_3C_LL_3L_LR_3s^4 + C_3C_LL_3L_LR_2s^4 + C_3C_LL_3R_3R_Ls^3 + C_3L_3R_2s^2 + C_LL_3L_Ls^3 + C_LL_3R_Ls^2 + C_LL_LR_2s^2 + C_LR_3R_Ls + L_3s + R_3 + R_Ls^2}$$

10.531 INVALID-ORDER-531
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \infty, \ \infty, \ \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{R_3\left(C_3L_3s^2 + 1\right)}{C_3C_LL_3R_3s^3 + C_3L_3s^2 + C_3R_3s + C_LR_3s + 1}$$

10.532 INVALID-ORDER-532
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \infty, \ \infty, \ \frac{R_L}{C_LR_Ls + 1}\right)$$

$$H(s) = \frac{R_3R_L\left(C_3L_3s^2 + 1\right)}{C_3C_LL_2R_3R_Ls^3 + C_3L_3R_3s^2 + C_3L_3R_Ls^2 + C_3R_3R_Ls + C_LR_3R_Ls + R_3 + R_L}$$

$$\textbf{10.533} \quad \textbf{INVALID-ORDER-533} \ Z(s) = \left(\infty, \ \frac{L_{2s}}{C_2L_2s^2+1} + R_2, \ \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \infty, \ \infty, \ R_L + \frac{1}{C_Ls} \right)$$

$$H(s) = \frac{R_3\left(C_3L_3s^2 + 1\right)\left(C_LR_Ls + 1\right)}{C_3C_LL_3R_3s^3 + C_3C_LL_3R_Ls^3 + C_3C_LR_3R_Ls^2 + C_3L_3s^2 + C_3R_3s + C_LR_3s + C_LR_Ls + 1}$$

10.534 INVALID-ORDER-534
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \infty, \ \infty, \ L_Ls + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{R_3\left(C_3L_3s^2 + 1\right)\left(C_LL_Ls^2 + 1\right)}{C_3C_LL_3L_Ls^4 + C_3C_LL_3R_3s^3 + C_3C_LL_LR_3s^3 + C_3L_3s^2 + C_3R_3s + C_LL_Ls^2 + C_LR_3s + 1}$$

$$\textbf{10.535} \quad \textbf{INVALID-ORDER-535} \ Z(s) = \left(\infty, \ \frac{L_{2s}}{C_2L_2s^2+1} + R_2, \ \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1} \right)$$

$$H(s) = \frac{L_LR_3s\left(C_3L_3s^2 + 1\right)}{C_3C_LL_3L_LR_3s^4 + C_3L_3L_Ls^3 + C_3L_3R_3s^2 + C_4L_LR_3s^2 + L_Ls + R_3}$$

$$\textbf{10.536} \quad \textbf{INVALID-ORDER-536} \ Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \infty, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls} \right)$$

$$R_3\left(C_3L_3s^2 + 1\right)\left(C_LL_Ls^2 + C_LR_Ls + 1\right)$$

$$H(s) = \frac{R_3\left(C_3L_3L_2s^4 + C_3C_LL_3R_3s^3 + C_3C_LL_3R_2s^3 + C_3C_LL_3R_3s^3 + C_3C_LR_3R_Ls^2 + C_3R_3s + C_LL_Ls^2 + C_LR_3s + C_LR_Ls + 1 \right)$$

10.537 INVALID-ORDER-537
$$Z(s) = \left(\infty, \ \frac{L_{2s}}{C_2L_2s^2+1} + R_2, \ \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \infty, \ \infty, \ \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

$$H(s) = \frac{L_LR_3R_Ls\left(C_3L_3s^2 + 1\right)}{C_3C_LL_3L_LR_3R_Ls^4 + C_3L_3L_LR_3s^3 + C_3L_3L_LR_4s^3 + C_3L_3R_3R_Ls^2 + C_3L_LR_3R_Ls^2 + C_LL_LR_3R_Ls^2 + L_LR_3s + L_LR_Ls + R_3R_Ls^2}$$

$$\textbf{10.538} \quad \textbf{INVALID-ORDER-538} \ \ Z(s) = \left(\infty, \ \frac{L_{2}s}{C_2L_2s^2+1} + R_2, \ \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1} + R_L \right) \\ H(s) = \frac{R_3\left(C_3L_3s^2 + 1\right)\left(C_LL_LR_Ls^2 + L_Ls + R_L\right)}{C_3C_LL_3L_LR_3s^4 + C_3C_LL_3L_LR_3s^4 + C_3C_LL_LR_3R_Ls^3 + C_3L_3L_Ls^3 + C_3L_3R_2s^2 + C_3L_LR_3s^2 + C_3L_LR_3s^2 + C_LL_LR_3s^2 + C_LL_LR_3s^2 + L_Ls + R_3 + R_Ls^2}$$

10.539 INVALID-ORDER-539
$$Z(s) = \left(\infty, \ \frac{L_2s}{C_2L_2s^2+1} + R_2, \ \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \infty, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

$$H(s) = \frac{R_3R_L\left(C_3L_3s^2 + 1\right)\left(C_LL_Ls^2 + 1\right)}{C_3C_LL_3L_LR_3s^4 + C_3C_LL_3L_LR_2s^4 + C_3C_LL_3R_3R_Ls^3 + C_3L_LR_3s^2 + C_3L_3R_3s^2 + C_3L_3R_Ls^2 + C_3L_3R_Ls^2 + C_LL_LR_3s^2 + C_LL_LR_3s^2$$

10.540 INVALID-ORDER-540
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ R_3, \ \infty, \ \infty, \ R_L\right)$$

10.541 INVALID-ORDER-541
$$Z(s) = \left(\infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, R_3, \infty, \infty, \frac{1}{C_Ls}\right)$$

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

 $H(s) = \frac{R_3 R_L}{R_2 + R_L}$

10.542 INVALID-ORDER-542
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ R_3, \ \infty, \ \infty, \ \frac{R_L}{C_LR_Ls + 1}\right)$$

$$H(s) = \frac{R_3R_L}{C_LR_3R_Ls + R_3 + R_L}$$

10.543 INVALID-ORDER-543
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ R_3, \ \infty, \ \infty, \ R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{R_3\left(C_LR_Ls + 1\right)}{C_LR_2s + C_LR_Ls + 1}$$

10.544 INVALID-ORDER-544
$$Z(s) = \left(\infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \frac{1}{C_3s}, \infty, \infty, R_L\right)$$

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

10.545 INVALID-ORDER-545
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{1}{C_Ls}\right)$$

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

10.546 INVALID-ORDER-546
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$$

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

10.547 INVALID-ORDER-547
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ \frac{1}{C_3s}, \ \infty, \ \infty, \ R_L + \frac{1}{C_Ls}\right)$$

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

10.548 INVALID-ORDER-548
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ \frac{1}{C_3s}, \ \infty, \ \infty, \ L_Ls + \frac{1}{C_Ls}\right)$$

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

10.549 INVALID-ORDER-549
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2 + 1}\right)$$

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

10.550 INVALID-ORDER-550
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ \frac{1}{C_3s}, \ \infty, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls}\right)$$

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

10.551 INVALID-ORDER-551
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2 + 1} + R_L\right)$$

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

10.552 INVALID-ORDER-552
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

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

10.553 INVALID-ORDER-553
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ \frac{R_3}{C_3R_3s + 1}, \ \infty, \ \infty, \ R_L\right)$$

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

10.554 INVALID-ORDER-554
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ \frac{R_3}{C_3R_3s + 1}, \ \infty, \ \infty, \ \frac{1}{C_Ls}\right)$$

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

10.555 INVALID-ORDER-555
$$Z(s) = \left(\infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \frac{R_3}{C_3R_3s + 1}, \infty, \infty, \infty, \frac{R_L}{C_LR_Ls + 1}\right)$$

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

10.556 INVALID-ORDER-556
$$Z(s) = \left(\infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \frac{R_3}{C_3R_3s + 1}, \infty, \infty, L_Ls + \frac{1}{C_Ls}\right)$$

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

10.557 INVALID-ORDER-557
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ \frac{R_3}{C_3R_3s + 1}, \ \infty, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls}\right)$$

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

10.558 INVALID-ORDER-558
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ \frac{R_3}{C_3R_3s + 1}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2 + 1} + R_L\right)$$

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

10.559 INVALID-ORDER-559
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ \frac{R_3}{C_3R_3s + 1}, \ \infty, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

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

10.560 INVALID-ORDER-560
$$Z(s) = \left(\infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, R_3 + \frac{1}{C_3s}, \infty, \infty, R_L\right)$$

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

10.561 INVALID-ORDER-561
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{1}{C_Ls}\right)$$

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

10.562 INVALID-ORDER-562
$$Z(s) = \left(\infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, R_3 + \frac{1}{C_3s}, \infty, \infty, R_L + \frac{1}{C_Ls}\right)$$

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

10.563 INVALID-ORDER-563
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ L_Ls + \frac{1}{C_Ls}\right)$$

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

10.564 INVALID-ORDER-564
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2 + 1}\right)$$

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

10.565 INVALID-ORDER-565
$$Z(s) = \left(\infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, R_3 + \frac{1}{C_3s}, \infty, \infty, \infty, L_Ls + R_L + \frac{1}{C_Ls}\right)$$

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

10.566 INVALID-ORDER-566
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

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

10.567 INVALID-ORDER-567
$$Z(s) = \left(\infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, R_3 + \frac{1}{C_3s}, \infty, \infty, \infty, \frac{L_Ls}{C_LL_Ls^2 + 1} + R_L\right)$$

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

$$\begin{aligned} \textbf{10.568} \quad \textbf{INVALID-ORDER-568} \ \ Z(s) &= \left(\infty, \ \frac{R_2 \left(L_2 s + \frac{1}{C_2 s} \right)}{L_2 s + R_2 + \frac{1}{C_2 s}}, \ R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s} \right)}{L_L s + R_L + \frac{1}{C_L s}} \right) \\ & H(s) &= \frac{R_L \left(C_3 R_3 s + 1 \right) \left(C_L L_L s^2 + 1 \right)}{C_3 C_L L_L R_3 s^3 + C_3 C_L L_L R_L s^3 + C_3 C_L R_3 R_L s^2 + C_3 R_3 s + C_3 R_L s + C_L L_L s^2 + C_L R_L s + 1} \end{aligned}$$

10.569 INVALID-ORDER-569
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ L_3s + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{C_3L_3s^2 + 1}{s\left(C_3C_LL_3s^2 + C_3 + C_L\right)}$$

10.570 INVALID-ORDER-570
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ L_3s + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{R_L}{C_LR_Ls + 1}\right)$$

$$H(s) = \frac{R_L\left(C_3L_3s^2 + 1\right)}{C_3C_LL_3R_Ls^3 + C_3L_3s^2 + C_3R_Ls + C_LR_Ls + 1}$$

10.571 INVALID-ORDER-571
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ L_3s + \frac{1}{C_3s}, \ \infty, \ \infty, \ R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + 1\right)\left(C_LR_Ls + 1\right)}{s\left(C_3C_LL_3s^2 + C_3C_LR_Ls + C_3 + C_L\right)}$$

10.572 INVALID-ORDER-572
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ L_3s + \frac{1}{C_3s}, \ \infty, \ \infty, \ L_Ls + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + 1\right)\left(C_LL_Ls^2 + 1\right)}{s\left(C_3C_LL_3s^2 + C_3C_LL_Ls^2 + C_3 + C_L\right)}$$

$$\textbf{10.573} \quad \textbf{INVALID-ORDER-573} \ Z(s) = \left(\infty, \ \frac{R_2 \left(L_2 s + \frac{1}{C_2 s} \right)}{L_2 s + R_2 + \frac{1}{C_2 s}}, \ L_3 s + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right) \\ H(s) = \frac{L_L s \left(C_3 L_3 s^2 + 1 \right)}{C_3 C_L L_3 L_L s^4 + C_3 L_3 s^2 + C_3 L_L s^2 + C_L L_L s^2 + 1}$$

10.574 INVALID-ORDER-574
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ L_3s + \frac{1}{C_3s}, \ \infty, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + 1\right)\left(C_LL_Ls^2 + C_LR_Ls + 1\right)}{s\left(C_3C_LL_3s^2 + C_3C_LL_Ls^2 + C_3C_LR_Ls + C_3 + C_L\right)}$$

10.575 INVALID-ORDER-575
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ L_3s + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

$$H(s) = \frac{L_LR_Ls\left(C_3L_3s^2 + 1\right)}{C_3C_LL_3L_LR_Ls^4 + C_3L_3L_Ls^3 + C_3L_3R_Ls^2 + C_3L_LR_Ls^2 + C_LL_LR_Ls^2 + L_Ls + R_Ls^2}$$

$$\textbf{10.576} \quad \textbf{INVALID-ORDER-576} \ \ Z(s) = \left(\infty, \ \frac{R_2 \left(L_2 s + \frac{1}{C_2 s} \right)}{L_2 s + R_2 + \frac{1}{C_2 s}}, \ L_3 s + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right) \\ H(s) = \frac{\left(C_3 L_3 s^2 + 1 \right) \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_L R_L s^3 + C_3 L_L s^2 + C_3 R_L s + C_L L_L s^2 + 1}$$

$$\begin{aligned} \textbf{10.577} \quad \textbf{INVALID-ORDER-577} \ \ Z(s) &= \left(\infty, \ \ \frac{R_2 \left(L_2 s + \frac{1}{C_2 s} \right)}{L_2 s + R_2 + \frac{1}{C_2 s}}, \ \ L_3 s + \frac{1}{C_3 s}, \ \ \infty, \ \ \infty, \ \ \frac{R_L \left(L_L s + \frac{1}{C_L s} \right)}{L_L s + R_L + \frac{1}{C_L s}} \right) \\ & H(s) &= \frac{R_L \left(C_3 L_3 s^2 + 1 \right) \left(C_L L_L s^2 + 1 \right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_L s^3 + C_3 C_L L_L R_L s^3 + C_3 R_L s + C_L L_L s^2 + C_L R_L s + 1} \end{aligned}$$

10.578 INVALID-ORDER-578
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ \frac{L_3s}{C_3L_3s^2 + 1}, \ \infty, \ \infty, \ \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{L_3s}{C_3L_3s^2 + C_LL_3s^2 + 1}$$

10.579 INVALID-ORDER-579
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ \frac{L_3s}{C_3L_3s^2 + 1}, \ \infty, \ \infty, \ R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{L_3s\left(C_LR_Ls + 1\right)}{C_3C_LL_3R_Ls^3 + C_3L_3s^2 + C_LR_Ls + 1}$$

10.580 INVALID-ORDER-580
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ \frac{L_3s}{C_3L_3s^2 + 1}, \ \infty, \ \infty, \ L_Ls + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{L_3s\left(C_LL_Ls^2 + 1\right)}{C_3C_LL_3L_Ls^4 + C_3L_3s^2 + C_LL_3s^2 + C_LL_2s^2 + 1}$$

$$\textbf{10.581} \quad \textbf{INVALID-ORDER-581} \ \ Z(s) = \left(\infty, \ \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ \ \frac{L_3s}{C_3L_3s^2 + 1}, \ \ \infty, \ \ \infty, \ \ \frac{L_Ls}{C_LL_Ls^2 + 1} \right)$$

$$H(s) = \frac{L_3L_Ls}{C_3L_3L_Ls^2 + C_LL_3L_Ls^2 + L_3 + L_L}$$

$$\textbf{10.582} \quad \textbf{INVALID-ORDER-582} \ Z(s) = \left(\infty, \ \frac{R_2 \left(L_2 s + \frac{1}{C_2 s} \right)}{L_2 s + R_2 + \frac{1}{C_2 s}}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \infty, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$$

$$H(s) = \frac{L_3 s \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_L s^3 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L L_4 s^2 + C_L R_L s + 1 }$$

$$\textbf{10.583} \quad \textbf{INVALID-ORDER-583} \ Z(s) = \left(\infty, \ \frac{R_2 \left(L_2 s + \frac{1}{C_2 s} \right)}{L_2 s + R_2 + \frac{1}{C_2 s}}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$$

$$H(s) = \frac{L_3 s \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{C_3 C_L L_3 L_L R_L s^4 + C_3 L_3 L_L s^3 + C_3 L_3 R_L s^2 + C_L L_3 L_L s^3 + C_L L_L R_L s^2 + L_3 s + L_L s + R_L }$$

$$\begin{aligned} \textbf{10.584} \quad \textbf{INVALID-ORDER-584} \ \ Z(s) &= \left(\infty, \ \ \frac{R_2 \left(L_2 s + \frac{1}{C_2 s} \right)}{L_2 s + R_2 + \frac{1}{C_2 s}}, \ \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \ \infty, \ \ \infty, \ \ \frac{R_L \left(L_L s + \frac{1}{C_L s} \right)}{L_L s + R_L + \frac{1}{C_L s}} \right) \\ H(s) &= \frac{L_3 R_L s \left(C_L L_L s^2 + 1 \right)}{C_3 C_L L_3 L_L R_L s^4 + C_3 L_3 R_L s^2 + C_L L_3 R_L s^2 + C_L L_1 R_L s^2 + L_3 s + R_L R_L s^2 + C_L L_2 R_L s^2 + C_L L_2 R_L s^2 + C_L L_3 R_$$

10.585 INVALID-ORDER-585
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ L_3s + R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{C_3L_3s^2 + C_3R_3s + 1}{s\left(C_3C_LL_3s^2 + C_3C_LR_3s + C_3 + C_L\right)}$$

10.586 INVALID-ORDER-586
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ L_3s + R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{R_L}{C_LR_Ls + 1}\right)$$

$$H(s) = \frac{R_L\left(C_3L_3s^2 + C_3R_3s + 1\right)}{C_3C_LL_3R_Ls^3 + C_3C_LR_3R_Ls^2 + C_3L_3s^2 + C_3R_3s + C_3R_Ls + C_LR_Ls + 1}$$

10.587 INVALID-ORDER-587
$$Z(s) = \left(\infty, \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, L_3s + R_3 + \frac{1}{C_3s}, \infty, \infty, R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{\left(C_LR_Ls + 1\right)\left(C_3L_3s^2 + C_3R_3s + 1\right)}{s\left(C_3C_LL_3s^2 + C_3C_LR_3s + C_3C_LR_Ls + C_3 + C_L\right)}$$

10.588 INVALID-ORDER-588
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ L_3s + R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ L_Ls + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{\left(C_LL_Ls^2 + 1\right)\left(C_3L_3s^2 + C_3R_3s + 1\right)}{s\left(C_3C_LL_3s^2 + C_3C_LL_Ls^2 + C_3C_LR_3s + C_3 + C_L\right)}$$

10.589 INVALID-ORDER-589
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ L_3s + R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2 + 1}\right)$$

$$H(s) = \frac{L_Ls\left(C_3L_3s^2 + C_3R_3s + 1\right)}{C_3C_LL_3L_Ls^4 + C_3C_LL_LR_3s^3 + C_3L_3s^2 + C_3R_3s + C_LL_Ls^2 + 1}$$

10.590 INVALID-ORDER-590
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ L_3s + R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + C_3R_3s + 1\right)\left(C_LL_Ls^2 + C_LR_Ls + 1\right)}{s\left(C_3C_LL_3s^2 + C_3C_LL_Ls^2 + C_3C_LR_3s + C_3C_LR_Ls + C_3 + C_L\right)}$$

10.591 INVALID-ORDER-591
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ L_3s + R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{1}{C_Ls + \frac{1}{R_L} + \frac{1}{L_Ls}}\right)$$

$$H(s) = \frac{L_LR_Ls\left(C_3L_3s^2 + C_3R_3s + 1\right)}{C_3C_LL_3L_LR_2s^4 + C_3C_LL_LR_3R_Ls^3 + C_3L_3L_Ls^3 + C_3L_3R_Ls^2 + C_3L_LR_3s^2 + C_3R_3R_Ls + C_LL_LR_2s^2 + L_Ls + R_Ls^2}$$

10.592 INVALID-ORDER-592
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ L_3s + R_3 + \frac{1}{C_3s}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2 + 1} + R_L\right)$$

$$H(s) = \frac{\left(C_3L_3s^2 + C_3R_3s + 1\right)\left(C_LL_LR_Ls^2 + L_Ls + R_L\right)}{C_3C_LL_3L_Ls^4 + C_3C_LL_LR_3s^3 + C_3C_LL_LR_Ls^3 + C_3L_3s^2 + C_3L_Ls^2 + C_3R_3s + C_3R_Ls + C_LL_Ls^2 + 1}$$

$$\textbf{10.593} \quad \textbf{INVALID-ORDER-593} \ Z(s) = \left(\infty, \ \frac{R_2 \left(L_2 s + \frac{1}{C_2 s} \right)}{L_2 s + R_2 + \frac{1}{C_2 s}}, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \infty, \ \infty, \ \frac{R_L \left(L_L s + \frac{1}{C_L s} \right)}{L_L s + R_L + \frac{1}{C_L s}} \right) \\ H(s) = \frac{R_L \left(C_L L_L s^2 + 1 \right) \left(C_3 L_3 s^2 + C_3 R_3 s + 1 \right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_L s^3 + C_3 C_L L_L R_3 s^3 + C_3 C_L L_L R_L s^3 + C_3 C_L R_3 R_L s^2 + C_3 R_3 s + C_3 R_L s + C_L L_L s^2 + C_L R_L s + 1}$$

10.594 INVALID-ORDER-594
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ \frac{1}{C_3s + \frac{1}{R_3} + \frac{1}{L_3s}}, \ \infty, \ \infty, \ R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{L_3R_3s\left(C_LR_Ls + 1\right)}{C_3C_LL_3R_3R_Ls^3 + C_3L_3R_3s^2 + C_LL_3R_3s^2 + C_LL_3R_Ls^2 + C_LR_3R_Ls + L_3s + R_3}$$

10.595 INVALID-ORDER-595
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ \frac{1}{C_3s + \frac{1}{R_3} + \frac{1}{L_3s}}, \ \infty, \ \infty, \ L_Ls + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{L_3R_3s\left(C_LL_Ls^2 + 1\right)}{C_3C_LL_3L_LR_3s^4 + C_3L_3R_3s^2 + C_LL_3L_Ls^3 + C_LL_3R_3s^2 + C_LL_LR_3s^2 + L_3s + R_3}$$

$$\textbf{10.596} \quad \textbf{INVALID-ORDER-596} \ Z(s) = \left(\infty, \ \frac{R_2 \left(L_2 s + \frac{1}{C_2 s} \right)}{L_2 s + R_2 + \frac{1}{C_2 s}}, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \infty, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$$

$$H(s) = \frac{L_3 R_3 s \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 C_L L_3 R_3 R_L s^3 + C_3 L_3 R_3 s^2 + C_L L_3 R_3$$

$$\begin{aligned} \textbf{10.597} \quad \textbf{INVALID-ORDER-597} \ Z(s) &= \left(\infty, \ \frac{R_2\left(L_2 s + \frac{1}{C_2 s} \right)}{L_2 s + R_2 + \frac{1}{C_2 s}}, \ \frac{1}{C_3 s + \frac{1}{R_3} + \frac{1}{L_3 s}}, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right) \\ & H(s) &= \frac{L_3 R_3 s \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{C_3 C_L L_3 L_L R_3 R_L s^4 + C_3 L_3 L_L R_3 s^3 + C_3 L_3 R_3 R_L s^2 + C_L L_3 L_L R_3 s^3 + C_L L_3 L_L R_3 s^3 + C_L L_3 L_L R_3 s^3 + C_L L_3 L_L R_3 s^2 + L_3 L_L s^2 + L_3 R_3 s + L_3 R_L s + L_L R_3 s + R_3 R_L s^2 + L_3 L_L R_3 s^3 + C_L L_3 L_L R_3 s^3$$

10.598 INVALID-ORDER-598
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ \frac{1}{C_3s + \frac{1}{R_3} + \frac{1}{L_3s}}, \ \infty, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

$$H(s) = \frac{L_3R_3R_Ls\left(C_LL_Ls^2 + 1\right)}{C_3C_LL_3L_LR_3R_Ls^4 + C_3L_3R_3R_Ls^2 + C_LL_3L_LR_3s^3 + C_LL_3L_LR_3s^3 + C_LL_3R_3R_Ls^2 + C_LL_LR_3R_Ls^2 + L_3R_3s + L_3R_Ls + R_3R_Ls^2}$$

10.599 INVALID-ORDER-599
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ \frac{L_3s}{C_3L_3s^2 + 1} + R_3, \ \infty, \ \infty, \ \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{C_3L_3R_3s^2 + L_3s + R_3}{C_3C_LL_3R_3s^3 + C_3L_3s^2 + C_LL_3s^2 + C_LR_3s + 1}$$

$$\begin{aligned} \textbf{10.600} \quad \textbf{INVALID-ORDER-600} \ \ Z(s) &= \left(\infty, \ \ \frac{R_2 \left(L_2 s + \frac{1}{C_2 s} \right)}{L_2 s + R_2 + \frac{1}{C_2 s}}, \ \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \ \ \infty, \ \ \infty, \ \ \frac{R_L}{C_L R_L s + 1} \right) \\ H(s) &= \frac{R_L \left(C_3 L_3 R_3 s^2 + L_3 s + R_3 \right)}{C_3 C_L L_3 R_3 R_L s^3 + C_3 L_3 R_3 s^2 + C_3 L_3 R_L s^2 + C_L R_3 R_L s + L_3 s + R_3 + R_L } \end{aligned}$$

$$\textbf{10.601} \quad \textbf{INVALID-ORDER-601} \ Z(s) = \left(\infty, \ \frac{R_2 \left(L_2 s + \frac{1}{C_2 s} \right)}{L_2 s + R_2 + \frac{1}{C_2 s}}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \ \infty, \ \infty, \ R_L + \frac{1}{C_L s} \right)$$

$$H(s) = \frac{\left(C_L R_L s + 1 \right) \left(C_3 L_3 R_3 s^2 + L_3 s + R_3 \right)}{C_3 C_L L_3 R_3 s^3 + C_3 C_L L_3 R_L s^3 + C_3 L_3 s^2 + C_L L_3 s^2 + C_L R_3 s + C_L R_L s + 1}$$

10.602 INVALID-ORDER-602
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ \frac{L_3s}{C_3L_3s^2 + 1} + R_3, \ \infty, \ \infty, \ L_Ls + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{\left(C_LL_Ls^2 + 1\right)\left(C_3L_3R_3s^2 + L_3s + R_3\right)}{C_3C_LL_3L_Ls^4 + C_3C_LL_3R_3s^3 + C_3L_3s^2 + C_LL_3s^2 + C_LL_4s^2 + C_LR_3s + 1}$$

$$\textbf{10.603} \quad \textbf{INVALID-ORDER-603} \ Z(s) = \left(\infty, \ \frac{R_2 \left(L_2 s + \frac{1}{C_2 s} \right)}{L_2 s + R_2 + \frac{1}{C_2 s}}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$$

$$H(s) = \frac{L_L s \left(C_3 L_3 R_3 s^2 + L_3 s + R_3 \right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 L_3 L_L s^3 + C_3 L_3 R_3 s^2 + C_L L_3 L_L s^3 + C_L L_L R_3 s^2 + L_3 s + L_L s + R_3}$$

10.604 INVALID-ORDER-604
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ \frac{L_3s}{C_3L_3s^2 + 1} + R_3, \ \infty, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{\left(C_LL_Ls^2 + C_LR_Ls + 1\right)\left(C_3L_3R_3s^2 + L_3s + R_3\right)}{C_3C_LL_3L_Ls^4 + C_3C_LL_3R_3s^3 + C_3C_LL_3R_Ls^3 + C_3L_3s^2 + C_LL_3s^2 + C_LL_4s^2 + C_LR_3s + C_LR_Ls + 1}$$

$$\textbf{10.606} \quad \textbf{INVALID-ORDER-606} \ \ Z(s) = \left(\infty, \ \frac{R_2 \left(L_2 s + \frac{1}{C_2 s} \right)}{L_2 s + R_2 + \frac{1}{C_2 s}}, \ \frac{L_3 s}{C_3 L_3 s^2 + 1} + R_3, \ \infty, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right) \\ H(s) = \frac{\left(C_3 L_3 R_3 s^2 + L_3 s + R_3 \right) \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{C_3 C_L L_3 L_L R_3 s^4 + C_3 C_L L_3 L_L R_2 s^4 + C_3 L_3 L_L s^3 + C_3 L_3 R_3 s^2 + C_3 L_3 R_L s^3 + C_L L_L R_3 s^2 + C_L L_L R_2 s^2 + L_L s + R_3 + R_L R_3 r^2 + C_L L_L R_3 s^2 + C_L L_L R_$$

10.607 INVALID-ORDER-607
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ \frac{L_3s}{C_3L_3s^2 + 1} + R_3, \ \infty, \ \infty, \ \frac{R_L\left(L_Ls + \frac{1}{C_Ls}\right)}{L_Ls + R_L + \frac{1}{C_Ls}}\right)$$

$$R_L\left(C_LL_Ls^2 + 1\right)\left(C_3L_3R_3s^2 + L_3s + R_3\right)$$

$$R_L\left(C_LL_Ls^2 + 1\right)\left(C_3L_3R_3s^2 + L_3s + R_3\right)$$

$$R_L\left(C_LL_Ls^2 + 1\right)\left(C_3L_3R_3s^2 + L_3s + R_3\right)$$

10.608 INVALID-ORDER-608
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \infty, \ \infty, \ \infty, \ \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{R_3\left(C_3L_3s^2 + 1\right)}{C_3C_LL_3R_3s^3 + C_3L_3s^2 + C_3R_3s + C_LR_3s + 1}$$

$$\begin{aligned} \textbf{10.609} \quad \textbf{INVALID-ORDER-609} \ \ Z(s) &= \left(\infty, \ \ \frac{R_2 \left(L_2 s + \frac{1}{C_2 s} \right)}{L_2 s + R_2 + \frac{1}{C_2 s}}, \ \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s} \right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \ \infty, \ \ \infty, \ \ \frac{R_L}{C_L R_L s + 1} \right) \\ & H(s) &= \frac{R_3 R_L \left(C_3 L_3 s^2 + 1 \right)}{C_3 C_L L_3 R_3 R_L s^3 + C_3 L_3 R_3 s^2 + C_3 L_3 R_L s^2 + C_3 R_3 R_L s + C_L R_3 R_L s + R_3 + R_L} \end{aligned}$$

10.610 INVALID-ORDER-610
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \infty, \ \infty, \ R_L + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{R_3\left(C_3L_3s^2 + 1\right)\left(C_LR_Ls + 1\right)}{C_3C_LL_3R_3s^3 + C_3C_LL_3R_Ls^3 + C_3C_LR_3R_Ls^2 + C_3L_3s^2 + C_3R_3s + C_LR_3s + C_LR_2s + 1}$$

10.611 INVALID-ORDER-611
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \infty, \ \infty, \ L_Ls + \frac{1}{C_Ls}\right)$$

$$H(s) = \frac{R_3\left(C_3L_3s^2 + 1\right)\left(C_LL_Ls^2 + 1\right)}{C_3C_LL_3L_Ls^4 + C_3C_LL_3R_3s^3 + C_3C_LL_LR_3s^3 + C_3L_3s^2 + C_3R_3s + C_LL_Ls^2 + C_LR_3s + 1}$$

10.612 INVALID-ORDER-612
$$Z(s) = \left(\infty, \ \frac{R_2\left(L_2s + \frac{1}{C_2s}\right)}{L_2s + R_2 + \frac{1}{C_2s}}, \ \frac{R_3\left(L_3s + \frac{1}{C_3s}\right)}{L_3s + R_3 + \frac{1}{C_3s}}, \ \infty, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2 + 1}\right)$$

$$H(s) = \frac{L_LR_3s\left(C_3L_3s^2 + 1\right)}{C_3C_LL_3L_LR_3s^4 + C_3L_3L_Ls^3 + C_3L_3R_3s^2 + C_LL_LR_3s^2 + L_Ls + R_3}$$

$$\textbf{10.613} \quad \textbf{INVALID-ORDER-613} \ Z(s) = \left(\infty, \ \frac{R_2 \left(L_2 s + \frac{1}{C_2 s} \right)}{L_2 s + R_2 + \frac{1}{C_2 s}}, \ \frac{R_3 \left(L_3 s + \frac{1}{C_3 s} \right)}{L_3 s + R_3 + \frac{1}{C_3 s}}, \ \infty, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$$

$$H(s) = \frac{R_3 \left(C_3 L_3 s^2 + 1 \right) \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{C_3 C_L L_3 L_L s^4 + C_3 C_L L_3 R_3 s^3 + C_3 C_L L_3 R_L s^3 + C_3 C_L L_2 R_3 R_L s^2 + C_3 R_3 s + C_L L_L s^2 + C_L R_3 s + C_L R_L s + 1}$$