Filter Summary Report: TIA,simple,Z1,Z4,ZL

Generated by MacAnalog-Symbolix

December 10, 2024

Contents

1 Examined $H(z)$ for TIA simple Z1 Z4 ZL: $\frac{Z_1 Z_4 Z_L g_m}{Z_1 Z_4 g_m + 2Z_1 Z_L g_m + Z_4 + 2Z_L}$

$$H(z) = \frac{Z_1 Z_4 Z_L g_m}{Z_1 Z_4 g_m + 2Z_1 Z_L g_m + Z_4 + 2Z_L}$$

2 HP

3 BP

3.1 BP-1 $Z(s) = \left(R_1, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L R_1 R_4 g_m s}{(R_1 g_m + 1)\left(C_L L_L R_4 s^2 + 2L_L s + R_4\right)}$$

Parameters:

Q: $\frac{C_L R_4 \sqrt{\frac{1}{C_L L_L}}}{2}$

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

bandwidth: $\frac{2}{C_L R_4}$

K-LP: 0

K-HP: 0

K-BP: $\frac{R_1 R_4 g_m}{2(R_1 g_m + 1)}$

Qz: 0

Wz: None

3.2 BP-2 $Z(s) = \left(R_1, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_1 R_4 R_L g_m s}{(R_1 g_m + 1)\left(C_L L_L R_4 R_L s^2 + L_L R_4 s + 2L_L R_L s + R_4 R_L\right)}$$

Parameters:

Q: $\frac{C_L R_4 R_L \sqrt{\frac{1}{C_L L_L}}}{R_4 + 2R_L}$

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

bandwidth: $\frac{R_4 + 2R_L}{C_L R_4 R_L}$

K-LP: 0

K-HP: 0

K-BP: $\frac{R_1 R_4 R_L g_m}{(R_4 + 2R_L)(R_1 g_m + 1)}$

Qz: 0

Wz: None

3.3 BP-3 $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

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

Parameters:

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

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

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

K-LP: 0

K-HP: 0

K-BP: $\frac{R_1 R_L g_m}{R_1 g_m + 1}$

Qz: 0

3.4 BP-4 $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L R_1 R_4 g_m s}{(R_1 g_m + 1)\left(2 C_4 L_L R_4 s^2 + C_L L_L R_4 s^2 + 2 L_L s + R_4\right)}$$

Parameters:

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

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

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

K-LP: 0

K-HP: 0

K-BP: $\frac{R_1 R_4 g_m}{2(R_1 g_m + 1)}$

Qz: 0

Wz: None

3.5 BP-5 $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_1 R_4 R_L g_m s}{(R_1 g_m + 1)\left(2 C_4 L_L R_4 R_L s^2 + C_L L_L R_4 R_L s^2 + L_L R_4 s + 2 L_L R_L s + R_4 R_L\right)}$$

Parameters:

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

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

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

K-LP: 0

K-HP: 0

K-BP: $\frac{R_1 R_4 R_L g_m}{R_1 R_4 g_m + 2R_1 R_L g_m + R_4 + 2R_L}$

Qz: 0

Wz: None

3.6 BP-6 $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ R_L \right)$

$$H(s) = \frac{L_4 R_1 R_L g_m s}{(R_1 g_m + 1)\left(2 C_4 L_4 R_L s^2 + L_4 s + 2 R_L\right)}$$

Parameters:

Q: $2 C_4 R_L \sqrt{\frac{1}{C_4 L_4}}$

wo: $\sqrt{\frac{1}{C_4 L_4}}$

bandwidth: $\frac{1}{2 C_4 R_L}$

K-LP: 0

K-HP: 0

K-BP: $\frac{R_1 R_L g_m}{R_1 g_m + 1}$

Qz: 0

Wz: None

3.7 BP-7 $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$

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

Parameters:

Q: $\sqrt{2} R_L \sqrt{\frac{1}{L_4(2C_4 + C_L)}} (2C_4 + C_L)$

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

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

K-LP: 0

K-HP: 0

K-BP: $\frac{R_1 R_L g_m}{R_1 g_m + 1}$

Qz: 0

Wz: None

3.8 BP-8 $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L}\right)$

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

Parameters:

Q: $R_L \sqrt{\frac{L_4 + 2 L_L}{L_4 L_L (2C_4 + C_L)}} (2C_4 + C_L)$

wo: $\sqrt{\frac{L_4 + 2 L_L}{L_4 L_L (2C_4 + C_L)}}$

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

K-LP: 0

K-HP: 0

K-BP: $\frac{R_1 R_L g_m}{R_1 g_m + 1}$

Qz: 0

Wz: None

3.9 BP-9 $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ R_L\right)$

$$H(s) = \frac{L_4 R_1 R_4 R_L g_m s}{(R_1 g_m + 1)\left(2 C_4 L_4 R_4 R_L s^2 + L_4 R_4 s + 2 L_4 R_L s + 2 R_4 R_L\right)}$$

Parameters:

Q: $\frac{2 C_4 R_4 R_L \sqrt{\frac{1}{C_4 L_4}}}{R_4 + 2 R_L}$

wo: $\sqrt{\frac{1}{C_4 L_4}}$

bandwidth: $\frac{R_4 + 2 R_L}{2 C_4 R_4 R_L}$

K-LP: 0

K-HP: 0

K-BP: $\frac{R_1 R_4 R_L g_m}{(R_4 + 2 R_L)(R_1 g_m + 1)}$

Qz: 0

Wz: None

3.10 BP-10 $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_4 R_1 R_4 g_m s}{(R_1 g_m + 1)\left(2 C_4 L_4 R_4 s^2 + C_L L_4 R_4 s^2 + 2 L_4 s + 2 R_4\right)}$$

Parameters:

Q: $\frac{\sqrt{2} R_4 \sqrt{\frac{1}{L_4(2C_4 + C_L)}} (2C_4 + C_L)}{2}$

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

bandwidth: $\frac{2}{R_4(2C_4+C_L)}$
K-LP: 0
K-HP: 0
K-BP: $\frac{R_1R_4g_m}{2(R_1g_m+1)}$
Qz: 0
Wz: None

3.11 BP-11 $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{L_4R_4s}{C_4L_4R_4s^2+L_4s+R_4}, \ \infty, \ \frac{R_L}{C_LR_Ls+1}\right)$

$$H(s) = \frac{L_4R_1R_4R_Lg_ms}{(R_1g_m+1)\left(2C_4L_4R_4R_Ls^2 + C_LL_4R_4R_Ls^2 + L_4R_4s + 2L_4R_Ls + 2R_4R_L\right)}$$

Parameters:

Q: $\frac{\sqrt{2}R_4R_L\sqrt{\frac{1}{L_4(2C_4+C_L)}}(2C_4+C_L)}{R_4+2R_L}$

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

bandwidth: $\frac{R_4+2R_L}{R_4R_L(2C_4+C_L)}$
K-LP: 0
K-HP: 0
K-BP: $\frac{R_1R_4R_Lg_m}{R_1R_4g_m+2R_1R_Lg_m+R_4+2R_L}$
Qz: 0
Wz: None

3.12 BP-12 $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{L_4R_4s}{C_4L_4R_4s^2+L_4s+R_4}, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1}\right)$

$$H(s) = \frac{L_4L_LR_1R_4g_ms}{(R_1g_m+1)\left(2C_4L_4L_LR_4s^2 + C_LL_4L_LR_4s^2 + 2L_4L_Ls + L_4R_4 + 2L_LR_4\right)}$$

Parameters:

Q: $\frac{R_4\sqrt{\frac{L_4+2L_L}{L_4L_L(2C_4+C_L)}}(2C_4+C_L)}{2}$

wo: $\sqrt{\frac{L_4+2L_L}{L_4L_L(2C_4+C_L)}}$

bandwidth: $\frac{2}{R_4(2C_4+C_L)}$
K-LP: 0
K-HP: 0
K-BP: $\frac{R_1R_4g_m}{2(R_1g_m+1)}$
Qz: 0
Wz: None

3.13 BP-13 $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{L_4R_4s}{C_4L_4R_4s^2+L_4s+R_4}, \ \infty, \ \frac{L_LR_Ls}{C_LL_LR_Ls^2+L_Ls+R_L}\right)$

$$H(s) = \frac{L_4L_LR_1R_4R_Lg_ms}{(R_1g_m+1)\left(2C_4L_4L_LR_4R_Ls^2 + C_LL_4L_LR_4R_Ls^2 + L_4L_LR_4s + 2L_4L_LR_Ls + L_4R_4R_L + 2L_LR_4R_L\right)}$$

Parameters:

Q: $\frac{R_4R_L\sqrt{\frac{L_4+2L_L}{L_4L_L(2C_4+C_L)}}(2C_4+C_L)}{R_4+2R_L}$

wo: $\sqrt{\frac{L_4+2L_L}{L_4L_L(2C_4+C_L)}}$

bandwidth: $\frac{R_4+2R_L}{R_4R_L(2C_4+C_L)}$
K-LP: 0
K-HP: 0
K-BP: $\frac{R_1R_4R_Lg_m}{R_1R_4g_m+2R_1R_Lg_m+R_4+2R_L}$
Qz: 0
Wz: None

3.14 BP-14 $Z(s) = \left(L_1 s, \; \infty, \; \infty, \; R_4, \; \infty, \; \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_1 R_4 g_m s}{\left(C_L R_4 s + 2\right)\left(L_1 g_m s + 1\right)}$$

Parameters:

Q: $\frac{\sqrt{2} C_L L_1 R_4 g_m \sqrt{\frac{1}{C_L L_1 R_4 g_m}}}{C_L R_4 + 2 L_1 g_m}$

wo: $\sqrt{2}\sqrt{\frac{1}{C_L L_1 R_4 g_m}}$

bandwidth: $\frac{C_L R_4 + 2 L_1 g_m}{C_L L_1 R_4 g_m}$

K-LP: 0

K-HP: 0

K-BP: $\frac{L_1 R_4 g_m}{C_L R_4 + 2 L_1 g_m}$

Qz: 0

Wz: None

3.15 BP-15 $Z(s) = \left(L_1 s, \; \infty, \; \infty, \; R_4, \; \infty, \; \frac{R_L}{C_L R_L s + 1}\right)$

$$H(s) = \frac{L_1 R_4 R_L g_m s}{\left(L_1 g_m s + 1\right)\left(C_L R_4 R_L s + R_4 + 2 R_L\right)}$$

Parameters:

Q: $\frac{C_L L_1 R_4 R_L g_m \sqrt{\frac{R_4 + 2 R_L}{C_L L_1 R_4 R_L g_m}}}{C_L R_4 R_L + L_1 R_4 g_m + 2 L_1 R_L g_m}$

wo: $\sqrt{\frac{R_4 + 2 R_L}{C_L L_1 R_4 R_L g_m}}$

bandwidth: $\frac{C_L R_4 R_L + L_1 R_4 g_m + 2 L_1 R_L g_m}{C_L L_1 R_4 R_L g_m}$

K-LP: 0

K-HP: 0

K-BP: $\frac{L_1 R_4 R_L g_m}{C_L R_4 R_L + L_1 R_4 g_m + 2 L_1 R_L g_m}$

Qz: 0

Wz: None

3.16 BP-16 $Z(s) = \left(L_1 s, \; \infty, \; \infty, \; \frac{1}{C_4 s}, \; \infty, \; R_L\right)$

$$H(s) = \frac{L_1 R_L g_m s}{\left(2 C_4 R_L s + 1\right)\left(L_1 g_m s + 1\right)}$$

Parameters:

Q: $\frac{\sqrt{2} C_4 L_1 R_L g_m \sqrt{\frac{1}{C_4 L_1 R_L g_m}}}{2 C_4 R_L + L_1 g_m}$

wo: $\frac{\sqrt{2}\sqrt{\frac{1}{C_4 L_1 R_L g_m}}}{2}$

bandwidth: $\frac{2 C_4 R_L + L_1 g_m}{2 C_4 L_1 R_L g_m}$

K-LP: 0

K-HP: 0

K-BP: $\frac{L_1 R_L g_m}{2 C_4 R_L + L_1 g_m}$

Qz: 0

Wz: None

3.17 BP-17 $Z(s) = \left(L_1 s, \; \infty, \; \infty, \; \frac{1}{C_4 s}, \; \infty, \; \frac{R_L}{C_L R_L s + 1}\right)$

$$H(s) = \frac{L_1 R_L g_m s}{\left(L_1 g_m s + 1\right)\left(2 C_4 R_L s + C_L R_L s + 1\right)}$$

Parameters:

Q: $\frac{L_1 R_L g_m \sqrt{\frac{1}{L_1 R_L g_m \left(2 C_4 + C_L\right)}} \left(2 C_4 + C_L\right)}{2 C_4 R_L + C_L R_L + L_1 g_m}$

wo: $\sqrt{\frac{1}{L_1 R_L g_m (2C_4 + C_L)}}$

bandwidth: $\frac{2C_4 R_L + C_L R_L + L_1 g_m}{L_1 R_L g_m (2C_4 + C_L)}$

K-LP: 0

K-HP: 0

K-BP: $\frac{L_1 R_L g_m}{2C_4 R_L + C_L R_L + L_1 g_m}$

Qz: 0

Wz: None

3.18   BP-18 $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ R_L\right)$

$$H(s) = \frac{L_1 R_4 R_L g_m s}{(L_1 g_m s + 1)(2C_4 R_4 R_L s + R_4 + 2R_L)}$$

Parameters:

Q: $\frac{\sqrt{2} C_4 L_1 R_4 R_L g_m \sqrt{\frac{R_4 + 2R_L}{C_4 L_1 R_4 R_L g_m}}}{2C_4 R_4 R_L + L_1 R_4 g_m + 2L_1 R_L g_m}$

wo: $\sqrt{\frac{\frac{R_4}{2} + R_L}{C_4 L_1 R_4 R_L g_m}}$

bandwidth: $\frac{\sqrt{2}\sqrt{\frac{\frac{R_4}{2} + R_L}{C_4 L_1 R_4 R_L g_m}}(2C_4 R_4 R_L + L_1 R_4 g_m + 2L_1 R_L g_m)}{2C_4 L_1 R_4 R_L g_m \sqrt{\frac{R_4 + 2R_L}{C_4 L_1 R_4 R_L g_m}}}$

K-LP: 0

K-HP: 0

K-BP: $\frac{L_1 R_4 R_L g_m}{2C_4 R_4 R_L + L_1 R_4 g_m + 2L_1 R_L g_m}$

Qz: 0

Wz: None

3.19   BP-19 $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_1 R_4 g_m s}{(L_1 g_m s + 1)(2C_4 R_4 s + C_L R_4 s + 2)}$$

Parameters:

Q: $\frac{\sqrt{2} L_1 R_4 g_m \sqrt{\frac{1}{L_1 R_4 g_m (2C_4 + C_L)}}(2C_4 + C_L)}{2C_4 R_4 + C_L R_4 + 2L_1 g_m}$

wo: $\sqrt{2}\sqrt{\frac{1}{L_1 R_4 g_m (2C_4 + C_L)}}$

bandwidth: $\frac{2C_4 R_4 + C_L R_4 + 2L_1 g_m}{L_1 R_4 g_m (2C_4 + C_L)}$

K-LP: 0

K-HP: 0

K-BP: $\frac{L_1 R_4 g_m}{2C_4 R_4 + C_L R_4 + 2L_1 g_m}$

Qz: 0

Wz: None

3.20   BP-20 $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$

$$H(s) = \frac{L_1 R_4 R_L g_m s}{(L_1 g_m s + 1)(2C_4 R_4 R_L s + C_L R_4 R_L s + R_4 + 2R_L)}$$

Parameters:

Q: $\frac{L_1 R_4 R_L g_m \sqrt{\frac{R_4 + 2R_L}{L_1 R_4 R_L g_m (2C_4 + C_L)}}(2C_4 + C_L)}{2C_4 R_4 R_L + C_L R_4 R_L + L_1 R_4 g_m + 2L_1 R_L g_m}$

wo: $\sqrt{\frac{R_4 + 2R_L}{L_1 R_4 R_L g_m (2C_4 + C_L)}}$

bandwidth: $\frac{2C_4 R_4 R_L + C_L R_4 R_L + L_1 R_4 g_m + 2L_1 R_L g_m}{L_1 R_4 R_L g_m (2C_4 + C_L)}$

K-LP: 0

K-HP: 0

K-BP: $\frac{L_1 R_4 R_L g_m}{2C_4 R_4 R_L + C_L R_4 R_L + L_1 R_4 g_m + 2L_1 R_L g_m}$

Qz: 0

Wz: None

3.21 BP-21 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ R_4, \ \infty, \ R_L \right)$

$$H(s) = \frac{L_1 R_4 R_L g_m s}{(R_4 + 2R_L)(C_1 L_1 s^2 + L_1 g_m s + 1)}$$

Parameters:

Q: $\frac{C_1 \sqrt{\frac{1}{C_1 L_1}}}{g_m}$

wo: $\sqrt{\frac{1}{C_1 L_1}}$

bandwidth: $\frac{g_m}{C_1}$

K-LP: 0

K-HP: 0

K-BP: $\frac{R_4 R_L}{R_4 + 2R_L}$

Qz: 0

Wz: None

3.22 BP-22 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ R_4, \ \infty, \ R_L \right)$

$$H(s) = \frac{L_1 R_1 R_4 R_L g_m s}{(R_4 + 2R_L)(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1)}$$

Parameters:

Q: $\frac{C_1 R_1 \sqrt{\frac{1}{C_1 L_1}}}{R_1 g_m + 1}$

wo: $\sqrt{\frac{1}{C_1 L_1}}$

bandwidth: $\frac{R_1 g_m + 1}{C_1 R_1}$

K-LP: 0

K-HP: 0

K-BP: $\frac{R_1 R_4 R_L g_m}{(R_4 + 2R_L)(R_1 g_m + 1)}$

Qz: 0

Wz: None

4 LP

4.1 LP-1 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_4 g_m}{(C_1 s + g_m)(C_L R_4 s + 2)}$$

Parameters:

Q: $\frac{\sqrt{2} C_1 C_L R_4 \sqrt{\frac{g_m}{C_1 C_L R_4}}}{2C_1 + C_L R_4 g_m}$

wo: $\sqrt{2}\sqrt{\frac{g_m}{C_1 C_L R_4}}$

bandwidth: $\frac{2C_1 + C_L R_4 g_m}{C_1 C_L R_4}$

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

K-HP: 0

K-BP: 0

Qz: None

Wz: None

4.2 LP-2 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{R_4 R_L g_m}{(C_1 s + g_m)(C_L R_4 R_L s + R_4 + 2R_L)}$$

Parameters:

Q: $\dfrac{C_1 C_L R_4 R_L \sqrt{\frac{g_m(R_4 + 2R_L)}{C_1 C_L R_4 R_L}}}{C_1 R_4 + 2C_1 R_L + C_L R_4 R_L g_m}$

wo: $\sqrt{\dfrac{g_m(R_4 + 2R_L)}{C_1 C_L R_4 R_L}}$

bandwidth: $\dfrac{C_1 R_4 + 2C_1 R_L + C_L R_4 R_L g_m}{C_1 C_L R_4 R_L}$

K-LP: $\dfrac{R_4 R_L}{R_4 + 2R_L}$

K-HP: 0

K-BP: 0

Qz: None

Wz: None

4.3 LP-3 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ R_L \right)$

$$H(s) = \frac{R_L g_m}{(C_1 s + g_m)(2C_4 R_L s + 1)}$$

Parameters:

Q: $\dfrac{\sqrt{2} C_1 C_4 R_L \sqrt{\frac{g_m}{C_1 C_4 R_L}}}{C_1 + 2C_4 R_L g_m}$

wo: $\dfrac{\sqrt{2}\sqrt{\frac{g_m}{C_1 C_4 R_L}}}{2}$

bandwidth: $\dfrac{C_1 + 2C_4 R_L g_m}{2C_1 C_4 R_L}$

K-LP: R_L

K-HP: 0

K-BP: 0

Qz: None

Wz: None

4.4 LP-4 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{R_L g_m}{(C_1 s + g_m)(2C_4 R_L s + C_L R_L s + 1)}$$

Parameters:

Q: $\dfrac{C_1 R_L \sqrt{\frac{g_m}{C_1 R_L(2C_4 + C_L)}}(2C_4 + C_L)}{C_1 + 2C_4 R_L g_m + C_L R_L g_m}$

wo: $\sqrt{\dfrac{g_m}{C_1 R_L(2C_4 + C_L)}}$

bandwidth: $\dfrac{C_1 + 2C_4 R_L g_m + C_L R_L g_m}{C_1 R_L(2C_4 + C_L)}$

K-LP: R_L

K-HP: 0

K-BP: 0

Qz: None

Wz: None

4.5 LP-5 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ R_L \right)$

$$H(s) = \frac{R_4 R_L g_m}{(C_1 s + g_m)(2C_4 R_4 R_L s + R_4 + 2R_L)}$$

Parameters:

Q: $\dfrac{\sqrt{2} C_1 C_4 R_4 R_L \sqrt{\frac{g_m(R_4 + 2R_L)}{C_1 C_4 R_4 R_L}}}{C_1 R_4 + 2C_1 R_L + 2C_4 R_4 R_L g_m}$

bandwidth: $\frac{C_1R_4+2C_1R_L+2C_4R_4R_Lg_m}{2C_1C_4R_4R_L}$

K-LP: $\frac{R_4R_L}{R_4+2R_L}$

K-HP: 0

K-BP: 0

Qz: None

Wz: None

4.6 LP-6 $Z(s) = \left(\frac{1}{C_1s}, \ \infty, \ \infty, \ \frac{R_4}{C_4R_4s+1}, \ \infty, \ \frac{1}{C_Ls} \right)$

$$H(s) = \frac{R_4g_m}{(C_1s+g_m)(2C_4R_4s+C_LR_4s+2)}$$

Parameters:

Q: $\frac{\sqrt{2}C_1R_4\sqrt{\frac{g_m}{C_1R_4(2C_4+C_L)}}(2C_4+C_L)}{2C_1+2C_4R_4g_m+C_LR_4g_m}$

wo: $\sqrt{2}\sqrt{\frac{g_m}{C_1R_4(2C_4+C_L)}}$

bandwidth: $\frac{2C_1+2C_4R_4g_m+C_LR_4g_m}{C_1R_4(2C_4+C_L)}$

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

K-HP: 0

K-BP: 0

Qz: None

Wz: None

4.7 LP-7 $Z(s) = \left(\frac{1}{C_1s}, \ \infty, \ \infty, \ \frac{R_4}{C_4R_4s+1}, \ \infty, \ \frac{R_L}{C_LR_Ls+1} \right)$

$$H(s) = \frac{R_4R_Lg_m}{(C_1s+g_m)(2C_4R_4R_Ls+C_LR_4R_Ls+R_4+2R_L)}$$

Parameters:

Q: $\frac{C_1R_4R_L\sqrt{\frac{g_m(R_4+2R_L)}{C_1R_4R_L(2C_4+C_L)}}(2C_4+C_L)}{C_1R_4+2C_1R_L+2C_4R_4R_Lg_m+C_LR_4R_Lg_m}$

wo: $\sqrt{\frac{g_m(R_4+2R_L)}{C_1R_4R_L(2C_4+C_L)}}$

bandwidth: $\frac{C_1R_4+2C_1R_L+2C_4R_4R_Lg_m+C_LR_4R_Lg_m}{C_1R_4R_L(2C_4+C_L)}$

K-LP: $\frac{R_4R_L}{R_4+2R_L}$

K-HP: 0

K-BP: 0

Qz: None

Wz: None

4.8 LP-8 $Z(s) = \left(\frac{R_1}{C_1R_1s+1}, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{1}{C_Ls} \right)$

$$H(s) = \frac{R_1R_4g_m}{(C_LR_4s+2)(C_1R_1s+R_1g_m+1)}$$

Parameters:

Q: $\frac{\sqrt{2}C_1C_LR_1R_4\sqrt{\frac{R_1g_m+1}{C_1C_LR_1R_4}}}{2C_1R_1+C_LR_1R_4g_m+C_LR_4}$

wo: $\sqrt{2}\sqrt{\frac{R_1g_m+1}{C_1C_LR_1R_4}}$

bandwidth: $\frac{2C_1R_1+C_LR_1R_4g_m+C_LR_4}{C_1C_LR_1R_4}$

K-LP: $\frac{R_1R_4g_m}{2(R_1g_m+1)}$

K-HP: 0

K-BP: 0

Qz: None

Wz: None

4.9 LP-9 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{R_1 R_4 R_L g_m}{(C_1 R_1 s + R_1 g_m + 1)(C_L R_4 R_L s + R_4 + 2R_L)}$$

Parameters:

Q: $\frac{C_1 C_L R_1 R_4 R_L \sqrt{\frac{R_1 R_4 g_m + 2R_1 R_L g_m + R_4 + 2R_L}{C_1 C_L R_1 R_4 R_L}}}{C_1 R_1 R_4 + 2C_1 R_1 R_L + C_L R_1 R_4 R_L g_m + C_L R_4 R_L}$

wo: $\sqrt{\frac{R_1 R_4 g_m + 2R_1 R_L g_m + R_4 + 2R_L}{C_1 C_L R_1 R_4 R_L}}$

bandwidth: $\frac{C_1 R_1 R_4 + 2C_1 R_1 R_L + C_L R_1 R_4 R_L g_m + C_L R_4 R_L}{C_1 C_L R_1 R_4 R_L}$

K-LP: $\frac{R_1 R_4 R_L g_m}{R_1 R_4 g_m + 2R_1 R_L g_m + R_4 + 2R_L}$

K-HP: 0

K-BP: 0

Qz: None

Wz: None

4.10 LP-10 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ R_L \right)$

$$H(s) = \frac{R_1 R_L g_m}{(2C_4 R_L s + 1)(C_1 R_1 s + R_1 g_m + 1)}$$

Parameters:

Q: $\frac{\sqrt{2} C_1 C_4 R_1 R_L \sqrt{\frac{R_1 g_m + 1}{C_1 C_4 R_1 R_L}}}{C_1 R_1 + 2C_4 R_1 R_L g_m + 2C_4 R_L}$

wo: $\frac{\sqrt{2} \sqrt{\frac{R_1 g_m + 1}{C_1 C_4 R_1 R_L}}}{2}$

bandwidth: $\frac{C_1 R_1 + 2C_4 R_1 R_L g_m + 2C_4 R_L}{2C_1 C_4 R_1 R_L}$

K-LP: $\frac{R_1 R_L g_m}{R_1 g_m + 1}$

K-HP: 0

K-BP: 0

Qz: None

Wz: None

4.11 LP-11 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{R_1 R_L g_m}{(C_1 R_1 s + R_1 g_m + 1)(2C_4 R_L s + C_L R_L s + 1)}$$

Parameters:

Q: $\frac{C_1 R_1 R_L \sqrt{\frac{R_1 g_m + 1}{C_1 R_1 R_L (2C_4 + C_L)}} (2C_4 + C_L)}{C_1 R_1 + 2C_4 R_1 R_L g_m + 2C_4 R_L + C_L R_1 R_L g_m + C_L R_L}$

wo: $\sqrt{\frac{R_1 g_m + 1}{C_1 R_1 R_L (2C_4 + C_L)}}$

bandwidth: $\frac{C_1 R_1 + 2C_4 R_1 R_L g_m + 2C_4 R_L + C_L R_1 R_L g_m + C_L R_L}{C_1 R_1 R_L (2C_4 + C_L)}$

K-LP: $\frac{R_1 R_L g_m}{R_1 g_m + 1}$

K-HP: 0

K-BP: 0

Qz: None

Wz: None

4.12 LP-12 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ R_L \right)$

$$H(s) = \frac{R_1 R_4 R_L g_m}{(C_1 R_1 s + R_1 g_m + 1)(2C_4 R_4 R_L s + R_4 + 2R_L)}$$

Parameters:

Q: $\frac{\sqrt{2} C_1 C_4 R_1 R_4 R_L \sqrt{\frac{R_1 R_4 g_m + 2R_1 R_L g_m + R_4 + 2R_L}{C_1 C_4 R_1 R_4 R_L}}}{C_1 R_1 R_4 + 2C_1 R_1 R_L + 2C_4 R_1 R_4 R_L g_m + 2C_4 R_4 R_L}$

wo: $\sqrt{\dfrac{\frac{R_1R_4g_m}{2}+R_1R_Lg_m+\frac{R_4}{2}+R_L}{C_1C_4R_1R_4R_L}}$

bandwidth: $\dfrac{\sqrt{2}\sqrt{\frac{\frac{R_1R_4g_m}{2}+R_1R_Lg_m+\frac{R_4}{2}+R_L}{C_1C_4R_1R_4R_L}}(C_1R_1R_4+2C_1R_1R_L+2C_4R_1R_4R_Lg_m+2C_4R_4R_L)}{2C_1C_4R_1R_4R_L\sqrt{\frac{R_1R_4g_m+2R_1R_Lg_m+R_4+2R_L}{C_1C_4R_1R_4R_L}}}$

K-LP: $\dfrac{R_1R_4R_Lg_m}{R_1R_4g_m+2R_1R_Lg_m+R_4+2R_L}$

K-HP: 0

K-BP: 0

Qz: None

Wz: None

4.13 LP-13 $Z(s)=\left(\dfrac{R_1}{C_1R_1s+1},\ \infty,\ \infty,\ \dfrac{R_4}{C_4R_4s+1},\ \infty,\ \dfrac{1}{C_Ls}\right)$

$$H(s)=\dfrac{R_1R_4g_m}{(C_1R_1s+R_1g_m+1)(2C_4R_4s+C_LR_4s+2)}$$

Parameters:

Q: $\dfrac{\sqrt{2}C_1R_1R_4\sqrt{\frac{R_1g_m+1}{C_1R_1R_4(2C_4+C_L)}}(2C_4+C_L)}{2C_1R_1+2C_4R_1R_4g_m+2C_4R_4+C_LR_1R_4g_m+C_LR_4}$

wo: $\sqrt{2}\sqrt{\dfrac{R_1g_m+1}{C_1R_1R_4(2C_4+C_L)}}$

bandwidth: $\dfrac{2C_1R_1+2C_4R_1R_4g_m+2C_4R_4+C_LR_1R_4g_m+C_LR_4}{C_1R_1R_4(2C_4+C_L)}$

K-LP: $\dfrac{R_1R_4g_m}{2(R_1g_m+1)}$

K-HP: 0

K-BP: 0

Qz: None

Wz: None

4.14 LP-14 $Z(s)=\left(\dfrac{R_1}{C_1R_1s+1},\ \infty,\ \infty,\ \dfrac{R_4}{C_4R_4s+1},\ \infty,\ \dfrac{R_L}{C_LR_Ls+1}\right)$

$$H(s)=\dfrac{R_1R_4R_Lg_m}{(C_1R_1s+R_1g_m+1)(2C_4R_4R_Ls+C_LR_4R_Ls+R_4+2R_L)}$$

Parameters:

Q: $\dfrac{C_1R_1R_4R_L\sqrt{\frac{R_1R_4g_m+2R_1R_Lg_m+R_4+2R_L}{C_1R_1R_4R_L(2C_4+C_L)}}(2C_4+C_L)}{C_1R_1R_4+2C_1R_1R_L+2C_4R_4R_Lg_m+2C_4R_4R_L+C_LR_1R_4R_Lg_m+C_LR_4R_L}$

wo: $\sqrt{\dfrac{R_1R_4g_m+2R_1R_Lg_m+R_4+2R_L}{C_1R_1R_4R_L(2C_4+C_L)}}$

bandwidth: $\dfrac{C_1R_1R_4+2C_1R_1R_L+2C_4R_1R_4R_Lg_m+2C_4R_4R_L+C_LR_1R_4R_Lg_m+C_LR_4R_L}{C_1R_1R_4R_L(2C_4+C_L)}$

K-LP: $\dfrac{R_1R_4R_Lg_m}{R_1R_4g_m+2R_1R_Lg_m+R_4+2R_L}$

K-HP: 0

K-BP: 0

Qz: None

Wz: None

4.15 LP-15 $Z(s)=\left(\dfrac{L_1s}{C_1L_1s^2+1},\ \infty,\ \infty,\ \dfrac{1}{C_4s},\ \infty,\ \dfrac{1}{C_Ls}\right)$

$$H(s)=\dfrac{L_1g_m}{(2C_4+C_L)(C_1L_1s^2+L_1g_ms+1)}$$

Parameters:

Q: $\dfrac{C_1\sqrt{\frac{1}{C_1L_1}}}{g_m}$

wo: $\sqrt{\dfrac{1}{C_1L_1}}$

bandwidth: $\dfrac{g_m}{C_1}$

K-LP: $\dfrac{L_1g_m}{2C_4+C_L}$

K-HP: 0

K-BP: 0

Qz: None
Wz: None

4.16 LP-16 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_1 g_m}{(2C_4 + C_L)\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1\right)}$$

Parameters:

Q: $\frac{C_1 R_1 \sqrt{\frac{1}{C_1 L_1}}}{R_1 g_m + 1}$

wo: $\sqrt{\frac{1}{C_1 L_1}}$

bandwidth: $\frac{R_1 g_m + 1}{C_1 R_1}$

K-LP: $\frac{L_1 g_m}{2C_4 + C_L}$

K-HP: 0

K-BP: 0

Qz: None

Wz: None

5 BS

5.1 BS-1 $Z(s) = \left(R_1, \ \infty, \ \infty, \ R_4, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 R_4 g_m \left(C_L L_L s^2 + 1\right)}{(R_1 g_m + 1)\left(2C_L L_L s^2 + C_L R_4 s + 2\right)}$$

Parameters:

Q: $\frac{2L_L \sqrt{\frac{1}{C_L L_L}}}{R_4}$

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

bandwidth: $\frac{R_4}{2L_L}$

K-LP: $\frac{R_1 R_4 g_m}{2(R_1 g_m + 1)}$

K-HP: $\frac{R_1 R_4 g_m}{2(R_1 g_m + 1)}$

K-BP: 0

Qz: None

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

5.2 BS-2 $Z(s) = \left(R_1, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_1 R_4 R_L g_m \left(C_L L_L s^2 + 1\right)}{(R_1 g_m + 1)\left(C_L L_L R_4 s^2 + 2C_L L_L R_L s^2 + C_L R_4 R_L s + R_4 + 2R_L\right)}$$

Parameters:

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

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

bandwidth: $\frac{R_4 R_L}{L_L(R_4 + 2R_L)}$

K-LP: $\frac{R_1 R_4 R_L g_m}{R_1 R_4 g_m + 2R_1 R_L g_m + R_4 + 2R_L}$

K-HP: $\frac{R_1 R_4 R_L g_m}{R_1 R_4 g_m + 2R_1 R_L g_m + R_4 + 2R_L}$

K-BP: 0

Qz: None

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

5.3 **BS-3** $Z(s) = \left(R_1, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ R_L \right)$

$$H(s) = \frac{R_1 R_L g_m \left(C_4 L_4 s^2 + 1 \right)}{\left(R_1 g_m + 1 \right) \left(C_4 L_4 s^2 + 2 C_4 R_L s + 1 \right)}$$

Parameters:

Q: $\frac{L_4 \sqrt{\frac{1}{C_4 L_4}}}{2 R_L}$

wo: $\sqrt{\frac{1}{C_4 L_4}}$

bandwidth: $\frac{2 R_L}{L_4}$

K-LP: $\frac{R_1 R_L g_m}{R_1 g_m + 1}$

K-HP: $\frac{R_1 R_L g_m}{R_1 g_m + 1}$

K-BP: 0

Qz: None

Wz: $\sqrt{\frac{1}{C_4 L_4}}$

5.4 **BS-4** $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{R_4 \left(C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ R_L \right)$

$$H(s) = \frac{R_1 R_4 R_L g_m \left(C_4 L_4 s^2 + 1 \right)}{\left(R_1 g_m + 1 \right) \left(C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + 2 C_4 R_4 R_L s + R_4 + 2 R_L \right)}$$

Parameters:

Q: $\frac{L_4 \sqrt{\frac{1}{C_4 L_4}} \left(R_4 + 2 R_L \right)}{2 R_4 R_L}$

wo: $\sqrt{\frac{1}{C_4 L_4}}$

bandwidth: $\frac{2 R_4 R_L}{L_4 \left(R_4 + 2 R_L \right)}$

K-LP: $\frac{R_1 R_4 R_L g_m}{R_1 R_4 g_m + 2 R_1 R_L g_m + R_4 + 2 R_L}$

K-HP: $\frac{R_1 R_4 R_L g_m}{R_1 R_4 g_m + 2 R_1 R_L g_m + R_4 + 2 R_L}$

K-BP: 0

Qz: None

Wz: $\sqrt{\frac{1}{C_4 L_4}}$

5.5 **BS-5** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4, \ \infty, \ R_L \right)$

$$H(s) = \frac{R_4 R_L g_m \left(C_1 L_1 s^2 + 1 \right)}{\left(R_4 + 2 R_L \right) \left(C_1 L_1 g_m s^2 + C_1 s + g_m \right)}$$

Parameters:

Q: $L_1 g_m \sqrt{\frac{1}{C_1 L_1}}$

wo: $\sqrt{\frac{1}{C_1 L_1}}$

bandwidth: $\frac{1}{L_1 g_m}$

K-LP: $\frac{R_4 R_L}{R_4 + 2 R_L}$

K-HP: $\frac{R_4 R_L}{R_4 + 2 R_L}$

K-BP: 0

Qz: None

Wz: $\sqrt{\frac{1}{C_1 L_1}}$

5.6 **BS-6** $Z(s) = \left(\frac{R_1 \left(C_1 L_1 s^2 + 1 \right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ R_4, \ \infty, \ R_L \right)$

$$H(s) = \frac{R_1 R_4 R_L g_m \left(C_1 L_1 s^2 + 1 \right)}{\left(R_4 + 2 R_L \right) \left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1 \right)}$$

Parameters:

Q: $\frac{L_1\sqrt{\frac{1}{C_1 L_1}}(R_1 g_m + 1)}{R_1}$

wo: $\sqrt{\frac{1}{C_1 L_1}}$

bandwidth: $\frac{R_1}{L_1(R_1 g_m + 1)}$

K-LP: $\frac{R_1 R_4 R_L g_m}{R_1 R_4 g_m + 2R_1 R_L g_m + R_4 + 2R_L}$

K-HP: $\frac{R_1 R_4 R_L g_m}{R_1 R_4 g_m + 2R_1 R_L g_m + R_4 + 2R_L}$

K-BP: 0

Qz: None

Wz: $\sqrt{\frac{1}{C_1 L_1}}$

6 GE

6.1 GE-1 $Z(s) = \left(R_1,\ \infty,\ \infty,\ R_4,\ \infty,\ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 R_4 g_m \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{(R_1 g_m + 1)\left(2C_L L_L s^2 + C_L R_4 s + 2C_L R_L s + 2 \right)}$$

Parameters:

Q: $\frac{2L_L \sqrt{\frac{1}{C_L L_L}}}{R_4 + 2R_L}$

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

bandwidth: $\frac{R_4 + 2R_L}{2L_L}$

K-LP: $\frac{R_1 R_4 g_m}{2(R_1 g_m + 1)}$

K-HP: $\frac{R_1 R_4 g_m}{2(R_1 g_m + 1)}$

K-BP: $\frac{R_1 R_4 R_L g_m}{(R_4 + 2R_L)(R_1 g_m + 1)}$

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

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

6.2 GE-2 $Z(s) = \left(R_1,\ \infty,\ \infty,\ R_4,\ \infty,\ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{R_1 R_4 g_m \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{(R_1 g_m + 1)\left(C_L L_L R_4 s^2 + 2C_L L_L R_L s^2 + 2L_L s + R_4 + 2R_L \right)}$$

Parameters:

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

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

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

K-LP: $\frac{R_1 R_4 R_L g_m}{R_1 R_4 g_m + 2R_1 R_L g_m + R_4 + 2R_L}$

K-HP: $\frac{R_1 R_4 R_L g_m}{R_1 R_4 g_m + 2R_1 R_L g_m + R_4 + 2R_L}$

K-BP: $\frac{R_1 R_4 g_m}{2(R_1 g_m + 1)}$

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

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

6.3 GE-3 $Z(s) = \left(R_1,\ \infty,\ \infty,\ L_4 s + R_4 + \frac{1}{C_4 s},\ \infty,\ R_L\right)$

$$H(s) = \frac{R_1 R_L g_m \left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{(R_1 g_m + 1)\left(C_4 L_4 s^2 + C_4 R_4 s + 2 C_4 R_L s + 1\right)}$$

Parameters:

Q: $\frac{L_4 \sqrt{\frac{1}{C_4 L_4}}}{R_4 + 2 R_L}$

wo: $\sqrt{\frac{1}{C_4 L_4}}$

bandwidth: $\frac{R_4 + 2 R_L}{L_4}$

K-LP: $\frac{R_1 R_L g_m}{R_1 g_m + 1}$

K-HP: $\frac{R_1 R_L g_m}{R_1 g_m + 1}$

K-BP: $\frac{R_1 R_4 R_L g_m}{(R_4 + 2 R_L)(R_1 g_m + 1)}$

Qz: $\frac{L_4 \sqrt{\frac{1}{C_4 L_4}}}{R_4}$

Wz: $\sqrt{\frac{1}{C_4 L_4}}$

6.4 GE-4 $Z(s) = \left(R_1,\ \infty,\ \infty,\ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4,\ \infty,\ R_L\right)$

$$H(s) = \frac{R_1 R_L g_m \left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{(R_1 g_m + 1)\left(C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + L_4 s + R_4 + 2 R_L\right)}$$

Parameters:

Q: $C_4 \sqrt{\frac{1}{C_4 L_4}}\left(R_4 + 2 R_L\right)$

wo: $\sqrt{\frac{1}{C_4 L_4}}$

bandwidth: $\frac{1}{C_4(R_4 + 2 R_L)}$

K-LP: $\frac{R_1 R_4 R_L g_m}{R_1 R_4 g_m + 2 R_1 R_L g_m + R_4 + 2 R_L}$

K-HP: $\frac{R_1 R_4 R_L g_m}{R_1 R_4 g_m + 2 R_1 R_L g_m + R_4 + 2 R_L}$

K-BP: $\frac{R_1 R_L g_m}{R_1 g_m + 1}$

Qz: $C_4 R_4 \sqrt{\frac{1}{C_4 L_4}}$

Wz: $\sqrt{\frac{1}{C_4 L_4}}$

6.5 GE-5 $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ R_4,\ \infty,\ R_L\right)$

$$H(s) = \frac{R_4 R_L g_m \left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{(R_4 + 2 R_L)\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)}$$

Parameters:

Q: $\frac{L_1 g_m \sqrt{\frac{1}{C_1 L_1}}}{R_1 g_m + 1}$

wo: $\sqrt{\frac{1}{C_1 L_1}}$

bandwidth: $\frac{R_1 g_m + 1}{L_1 g_m}$

K-LP: $\frac{R_4 R_L}{R_4 + 2 R_L}$

K-HP: $\frac{R_4 R_L}{R_4 + 2 R_L}$

K-BP: $\frac{R_1 R_4 R_L g_m}{(R_4 + 2 R_L)(R_1 g_m + 1)}$

Qz: $\frac{L_1 \sqrt{\frac{1}{C_1 L_1}}}{R_1}$

Wz: $\sqrt{\frac{1}{C_1 L_1}}$

6.6 GE-6 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ R_4, \ \infty, \ R_L \right)$

$$H(s) = \frac{R_4 R_L g_m \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{(R_4 + 2R_L) \left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right)}$$

Parameters:

Q: $\frac{C_1 \sqrt{\frac{1}{C_1 L_1}} (R_1 g_m + 1)}{g_m}$

wo: $\sqrt{\frac{1}{C_1 L_1}}$

bandwidth: $\frac{g_m}{C_1 (R_1 g_m + 1)}$

K-LP: $\frac{R_1 R_4 R_L g_m}{R_1 R_4 g_m + 2 R_1 R_L g_m + R_4 + 2 R_L}$

K-HP: $\frac{R_1 R_4 R_L g_m}{R_1 R_4 g_m + 2 R_1 R_L g_m + R_4 + 2 R_L}$

K-BP: $\frac{R_4 R_L}{R_4 + 2 R_L}$

Qz: $C_1 R_1 \sqrt{\frac{1}{C_1 L_1}}$

Wz: $\sqrt{\frac{1}{C_1 L_1}}$

7 AP

8 INVALID-NUMER

8.1 INVALID-NUMER-1 $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 R_4 g_m \left(C_L R_L s + 1 \right)}{(R_1 g_m + 1) \left(2 C_4 C_L R_4 R_L s^2 + 2 C_4 R_4 s + C_L R_4 s + 2 C_L R_L s + 2 \right)}$$

Parameters:

Q: $\frac{2 C_4 C_L R_4 R_L \sqrt{\frac{1}{C_4 C_L R_4 R_L}}}{2 C_4 R_4 + C_L R_4 + 2 C_L R_L}$

wo: $\sqrt{\frac{1}{C_4 C_L R_4 R_L}}$

bandwidth: $\frac{2 C_4 R_4 + C_L R_4 + 2 C_L R_L}{2 C_4 C_L R_4 R_L}$

K-LP: $\frac{R_1 R_4 g_m}{2 (R_1 g_m + 1)}$

K-HP: 0

K-BP: $\frac{C_L R_1 R_4 R_L g_m}{(R_1 g_m + 1)(2 C_4 R_4 + C_L R_4 + 2 C_L R_L)}$

Qz: 0

Wz: None

8.2 INVALID-NUMER-2 $Z(s) = \left(R_1, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{R_1 R_L g_m \left(C_4 R_4 s + 1 \right)}{(R_1 g_m + 1) \left(C_4 C_L R_4 R_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L R_L s + 1 \right)}$$

Parameters:

Q: $\frac{C_4 C_L R_4 R_L \sqrt{\frac{1}{C_4 C_L R_4 R_L}}}{C_4 R_4 + 2 C_4 R_L + C_L R_L}$

wo: $\sqrt{\frac{1}{C_4 C_L R_4 R_L}}$

bandwidth: $\frac{C_4 R_4 + 2 C_4 R_L + C_L R_L}{C_4 C_L R_4 R_L}$

K-LP: $\frac{R_1 R_L g_m}{R_1 g_m + 1}$

K-HP: 0

K-BP: $\frac{C_4 R_1 R_4 R_L g_m}{(R_1 g_m + 1)(C_4 R_4 + 2 C_4 R_L + C_L R_L)}$

Qz: 0

Wz: None

8.3 INVALID-NUMER-3 $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ R_4, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_4 g_m s \left(C_L R_L s + 1 \right)}{\left(L_1 g_m s + 1 \right) \left(C_L R_4 s + 2 C_L R_L s + 2 \right)}$$

Parameters:

Q: $\dfrac{\sqrt{2} C_L L_1 g_m \sqrt{\frac{1}{C_L L_1 g_m (R_4 + 2 R_L)}} (R_4 + 2 R_L)}{C_L R_4 + 2 C_L R_L + 2 L_1 g_m}$

wo: $\sqrt{2} \sqrt{\dfrac{1}{C_L L_1 g_m (R_4 + 2 R_L)}}$

bandwidth: $\dfrac{C_L R_4 + 2 C_L R_L + 2 L_1 g_m}{C_L L_1 g_m (R_4 + 2 R_L)}$

K-LP: 0

K-HP: $\dfrac{R_4 R_L}{R_4 + 2 R_L}$

K-BP: $\dfrac{L_1 R_4 g_m}{C_L R_4 + 2 C_L R_L + 2 L_1 g_m}$

Qz: $\sqrt{2} C_L R_L \sqrt{\dfrac{1}{C_L L_1 g_m (R_4 + 2 R_L)}}$

Wz: None

8.4 INVALID-NUMER-4 $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 g_m \left(C_L R_L s + 1 \right)}{\left(L_1 g_m s + 1 \right) \left(2 C_4 C_L R_L s + 2 C_4 + C_L \right)}$$

Parameters:

Q: $\dfrac{\sqrt{2} C_4 C_L L_1 R_L g_m \sqrt{\frac{2 C_4 + C_L}{C_4 C_L L_1 R_L g_m}}}{2 C_4 C_L R_L + 2 C_4 L_1 g_m + C_L L_1 g_m}$

wo: $\sqrt{\dfrac{C_4 + \frac{C_L}{2}}{C_4 C_L L_1 R_L g_m}}$

bandwidth: $\dfrac{\sqrt{2} \sqrt{\frac{C_4 + \frac{C_L}{2}}{C_4 C_L L_1 R_L g_m}} (2 C_4 C_L R_L + 2 C_4 L_1 g_m + C_L L_1 g_m)}{2 C_4 C_L L_1 R_L g_m \sqrt{\frac{2 C_4 + C_L}{C_4 C_L L_1 R_L g_m}}}$

K-LP: $\dfrac{L_1 g_m}{2 C_4 + C_L}$

K-HP: 0

K-BP: $\dfrac{C_L L_1 R_L g_m}{2 C_4 C_L R_L + 2 C_4 L_1 g_m + C_L L_1 g_m}$

Qz: 0

Wz: None

8.5 INVALID-NUMER-5 $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L \right)$

$$H(s) = \frac{L_1 R_L g_m s \left(C_4 R_4 s + 1 \right)}{\left(L_1 g_m s + 1 \right) \left(C_4 R_4 s + 2 C_4 R_L s + 1 \right)}$$

Parameters:

Q: $\dfrac{C_4 L_1 g_m \sqrt{\frac{1}{C_4 L_1 g_m (R_4 + 2 R_L)}} (R_4 + 2 R_L)}{C_4 R_4 + 2 C_4 R_L + L_1 g_m}$

wo: $\sqrt{\dfrac{1}{C_4 L_1 g_m (R_4 + 2 R_L)}}$

bandwidth: $\dfrac{C_4 R_4 + 2 C_4 R_L + L_1 g_m}{C_4 L_1 g_m (R_4 + 2 R_L)}$

K-LP: 0

K-HP: $\dfrac{R_4 R_L}{R_4 + 2 R_L}$

K-BP: $\dfrac{L_1 R_L g_m}{C_4 R_4 + 2 C_4 R_L + L_1 g_m}$

Qz: $C_4 R_4 \sqrt{\dfrac{1}{C_4 L_1 g_m (R_4 + 2 R_L)}}$

Wz: None

8.6 INVALID-NUMER-6 $Z(s) = \left(L_1 s,\ \infty,\ \infty,\ R_4 + \frac{1}{C_4 s},\ \infty,\ \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_1 g_m\left(C_4 R_4 s + 1\right)}{\left(L_1 g_m s + 1\right)\left(C_4 C_L R_4 s + 2C_4 + C_L\right)}$$

Parameters:

Q: $\frac{C_4 C_L L_1 R_4 g_m \sqrt{\frac{2C_4 + C_L}{C_4 C_L L_1 R_4 g_m}}}{C_4 C_L R_4 + 2C_4 L_1 g_m + C_L L_1 g_m}$

wo: $\sqrt{\frac{2C_4 + C_L}{C_4 C_L L_1 R_4 g_m}}$

bandwidth: $\frac{C_4 C_L R_4 + 2C_4 L_1 g_m + C_L L_1 g_m}{C_4 C_L L_1 R_4 g_m}$

K-LP: $\frac{L_1 g_m}{2C_4 + C_L}$

K-HP: 0

K-BP: $\frac{C_4 L_1 R_4 g_m}{C_4 C_L R_4 + 2C_4 L_1 g_m + C_L L_1 g_m}$

Qz: 0

Wz: None

8.7 INVALID-NUMER-7 $Z(s) = \left(\frac{1}{C_1 s},\ \infty,\ \infty,\ R_4,\ \infty,\ R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{R_4 g_m\left(C_L R_L s + 1\right)}{\left(C_1 s + g_m\right)\left(C_L R_4 s + 2C_L R_L s + 2\right)}$$

Parameters:

Q: $\frac{\sqrt{2} C_1 C_L \sqrt{\frac{g_m}{C_1 C_L (R_4 + 2R_L)}}(R_4 + 2R_L)}{2C_1 + C_L R_4 g_m + 2C_L R_L g_m}$

wo: $\sqrt{2}\sqrt{\frac{g_m}{C_1 C_L (R_4 + 2R_L)}}$

bandwidth: $\frac{2C_1 + C_L R_4 g_m + 2C_L R_L g_m}{C_1 C_L (R_4 + 2R_L)}$

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

K-HP: 0

K-BP: $\frac{C_L R_4 R_L g_m}{2C_1 + C_L R_4 g_m + 2C_L R_L g_m}$

Qz: 0

Wz: None

8.8 INVALID-NUMER-8 $Z(s) = \left(\frac{1}{C_1 s},\ \infty,\ \infty,\ R_4 + \frac{1}{C_4 s},\ \infty,\ R_L\right)$

$$H(s) = \frac{R_L g_m\left(C_4 R_4 s + 1\right)}{\left(C_1 s + g_m\right)\left(C_4 R_4 s + 2C_4 R_L s + 1\right)}$$

Parameters:

Q: $\frac{C_1 C_4 \sqrt{\frac{g_m}{C_1 C_4 (R_4 + 2R_L)}}(R_4 + 2R_L)}{C_1 + C_4 R_4 g_m + 2C_4 R_L g_m}$

wo: $\sqrt{\frac{g_m}{C_1 C_4 (R_4 + 2R_L)}}$

bandwidth: $\frac{C_1 + C_4 R_4 g_m + 2C_4 R_L g_m}{C_1 C_4 (R_4 + 2R_L)}$

K-LP: R_L

K-HP: 0

K-BP: $\frac{C_4 R_4 R_L g_m}{C_1 + C_4 R_4 g_m + 2C_4 R_L g_m}$

Qz: 0

Wz: None

8.9 INVALID-NUMER-9 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1},\ \infty,\ \infty,\ R_4,\ \infty,\ R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{R_1 R_4 g_m\left(C_L R_L s + 1\right)}{\left(C_1 R_1 s + R_1 g_m + 1\right)\left(C_L R_4 s + 2C_L R_L s + 2\right)}$$

Parameters:

Q: $\frac{\sqrt{2} C_1 C_L R_1 \sqrt{\frac{R_1 g_m + 1}{C_1 C_L R_1 (R_4 + 2R_L)}}(R_4 + 2R_L)}{2C_1 R_1 + C_L R_1 R_4 g_m + 2C_L R_1 R_L g_m + C_L R_4 + 2C_L R_L}$

wo: $\sqrt{2}\sqrt{\frac{R_1 g_m+1}{C_1 C_L R_1 (R_4+2R_L)}}$

bandwidth: $\frac{2C_1 R_1+C_L R_1 R_4 g_m+2C_L R_1 R_L g_m+C_L R_4+2C_L R_L}{C_1 C_L R_1 (R_4+2R_L)}$

K-LP: $\frac{R_1 R_4 g_m}{2(R_1 g_m+1)}$

K-HP: 0

K-BP: $\frac{C_L R_1 R_4 R_L g_m}{2C_1 R_1+C_L R_1 R_4 g_m+2C_L R_1 R_L g_m+C_L R_4+2C_L R_L}$

Qz: 0

Wz: None

8.10   INVALID-NUMER-10 $Z(s) = \left(\frac{R_1}{C_1 R_1 s+1},\ \infty,\ \infty,\ R_4+\frac{1}{C_4 s},\ \infty,\ R_L\right)$

$$H(s) = \frac{R_1 R_L g_m \left(C_4 R_4 s+1\right)}{\left(C_1 R_1 s+R_1 g_m+1\right)\left(C_4 R_4 s+2C_4 R_L s+1\right)}$$

Parameters:

Q: $\frac{C_1 C_4 R_1 \sqrt{\frac{R_1 g_m+1}{C_1 C_4 R_1 (R_4+2R_L)}}(R_4+2R_L)}{C_1 R_1+C_4 R_1 R_4 g_m+2C_4 R_1 R_L g_m+C_4 R_4+2C_4 R_L}$

wo: $\sqrt{\frac{R_1 g_m+1}{C_1 C_4 R_1 (R_4+2R_L)}}$

bandwidth: $\frac{C_1 R_1+C_4 R_1 R_4 g_m+2C_4 R_1 R_L g_m+C_4 R_4+2C_4 R_L}{C_1 C_4 R_1 (R_4+2R_L)}$

K-LP: $\frac{R_1 R_L g_m}{R_1 g_m+1}$

K-HP: 0

K-BP: $\frac{C_4 R_1 R_4 R_L g_m}{C_1 R_1+C_4 R_1 R_4 g_m+2C_4 R_1 R_L g_m+C_4 R_4+2C_4 R_L}$

Qz: 0

Wz: None

8.11   INVALID-NUMER-11 $Z(s) = \left(R_1+\frac{1}{C_1 s},\ \infty,\ \infty,\ R_4,\ \infty,\ \frac{1}{C_L s}\right)$

$$H(s) = \frac{R_4 g_m \left(C_1 R_1 s+1\right)}{\left(C_L R_4 s+2\right)\left(C_1 R_1 g_m s+C_1 s+g_m\right)}$$

Parameters:

Q: $\frac{\sqrt{2}C_1 C_L R_4 \sqrt{\frac{g_m}{C_1 C_L R_4 (R_1 g_m+1)}}(R_1 g_m+1)}{2C_1 R_1 g_m+2C_1+C_L R_4 g_m}$

wo: $\sqrt{2}\sqrt{\frac{g_m}{C_1 C_L R_4 (R_1 g_m+1)}}$

bandwidth: $\frac{2C_1 R_1 g_m+2C_1+C_L R_4 g_m}{C_1 C_L R_4 (R_1 g_m+1)}$

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

K-HP: 0

K-BP: $\frac{C_1 R_1 R_4 g_m}{2C_1 R_1 g_m+2C_1+C_L R_4 g_m}$

Qz: 0

Wz: None

8.12   INVALID-NUMER-12 $Z(s) = \left(R_1+\frac{1}{C_1 s},\ \infty,\ \infty,\ R_4,\ \infty,\ \frac{R_L}{C_L R_L s+1}\right)$

$$H(s) = \frac{R_4 R_L g_m \left(C_1 R_1 s+1\right)}{\left(C_1 R_1 g_m s+C_1 s+g_m\right)\left(C_L R_4 R_L s+R_4+2R_L\right)}$$

Parameters:

Q: $\frac{C_1 C_L R_4 R_L \sqrt{\frac{g_m (R_4+2R_L)}{C_1 C_L R_4 R_L (R_1 g_m+1)}}(R_1 g_m+1)}{C_1 R_1 R_4 g_m+2C_1 R_1 R_L g_m+C_1 R_4+2C_1 R_L+C_L R_4 R_L g_m}$

wo: $\sqrt{\frac{g_m (R_4+2R_L)}{C_1 C_L R_4 R_L (R_1 g_m+1)}}$

bandwidth: $\frac{C_1 R_1 R_4 g_m+2C_1 R_1 R_L g_m+C_1 R_4+2C_1 R_L+C_L R_4 R_L g_m}{C_1 C_L R_4 R_L (R_1 g_m+1)}$

K-LP: $\frac{R_4 R_L}{R_4+2R_L}$

K-HP: 0

K-BP: $\frac{C_1 R_1 R_4 R_L g_m}{C_1 R_1 R_4 g_m+2C_1 R_1 R_L g_m+C_1 R_4+2C_1 R_L+C_L R_4 R_L g_m}$

Qz: 0

Wz: None

8.13 INVALID-NUMER-13 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ R_L\right)$

$$H(s) = \frac{R_L g_m \left(C_1 R_1 s + 1\right)}{\left(2 C_4 R_L s + 1\right)\left(C_1 R_1 g_m s + C_1 s + g_m\right)}$$

Parameters:

Q: $\dfrac{\sqrt{2} C_1 C_4 R_L \sqrt{\frac{g_m}{C_1 C_4 R_L (R_1 g_m + 1)}} (R_1 g_m + 1)}{C_1 R_1 g_m + C_1 + 2 C_4 R_L g_m}$

wo: $\dfrac{\sqrt{2}\sqrt{\frac{g_m}{C_1 C_4 R_L (R_1 g_m + 1)}}}{2}$

bandwidth: $\dfrac{C_1 R_1 g_m + C_1 + 2 C_4 R_L g_m}{2 C_1 C_4 R_L (R_1 g_m + 1)}$

K-LP: R_L

K-HP: 0

K-BP: $\dfrac{C_1 R_1 R_L g_m}{C_1 R_1 g_m + C_1 + 2 C_4 R_L g_m}$

Qz: 0

Wz: None

8.14 INVALID-NUMER-14 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$

$$H(s) = \frac{R_L g_m \left(C_1 R_1 s + 1\right)}{\left(2 C_4 R_L s + C_L R_L s + 1\right)\left(C_1 R_1 g_m s + C_1 s + g_m\right)}$$

Parameters:

Q: $\dfrac{C_1 R_L \sqrt{\frac{g_m}{C_1 R_L (2 C_4 R_1 g_m + 2 C_4 + C_L R_1 g_m + C_L)}} (2 C_4 R_1 g_m + 2 C_4 + C_L R_1 g_m + C_L)}{C_1 R_1 g_m + C_1 + 2 C_4 R_L g_m + C_L R_L g_m}$

wo: $\sqrt{\dfrac{g_m}{C_1 R_L (2 C_4 R_1 g_m + 2 C_4 + C_L R_1 g_m + C_L)}}$

bandwidth: $\dfrac{C_1 R_1 g_m + C_1 + 2 C_4 R_L g_m + C_L R_L g_m}{C_1 R_L (2 C_4 R_1 g_m + 2 C_4 + C_L R_1 g_m + C_L)}$

K-LP: R_L

K-HP: 0

K-BP: $\dfrac{C_1 R_1 R_L g_m}{C_1 R_1 g_m + C_1 + 2 C_4 R_L g_m + C_L R_L g_m}$

Qz: 0

Wz: None

8.15 INVALID-NUMER-15 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ R_L\right)$

$$H(s) = \frac{R_4 R_L g_m \left(C_1 R_1 s + 1\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(2 C_4 R_4 R_L s + R_4 + 2 R_L\right)}$$

Parameters:

Q: $\dfrac{\sqrt{2} C_1 C_4 R_4 R_L \sqrt{\frac{g_m (R_4 + 2 R_L)}{C_1 C_4 R_4 R_L (R_1 g_m + 1)}} (R_1 g_m + 1)}{C_1 R_1 R_4 g_m + 2 C_1 R_1 R_L g_m + C_1 R_4 + 2 C_1 R_L + 2 C_4 R_4 R_L g_m}$

wo: $\dfrac{\sqrt{2}\sqrt{\frac{g_m (R_4 + 2 R_L)}{C_1 C_4 R_4 R_L (R_1 g_m + 1)}}}{2}$

bandwidth: $\dfrac{C_1 R_1 R_4 g_m + 2 C_1 R_1 R_L g_m + C_1 R_4 + 2 C_1 R_L + 2 C_4 R_4 R_L g_m}{2 C_1 C_4 R_4 R_L (R_1 g_m + 1)}$

K-LP: $\dfrac{R_4 R_L}{R_4 + 2 R_L}$

K-HP: 0

K-BP: $\dfrac{C_1 R_1 R_4 R_L g_m}{C_1 R_1 R_4 g_m + 2 C_1 R_1 R_L g_m + C_1 R_4 + 2 C_1 R_L + 2 C_4 R_4 R_L g_m}$

Qz: 0

Wz: None

8.16 INVALID-NUMER-16 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_4 g_m \left(C_1 R_1 s + 1 \right)}{\left(2 C_4 R_4 s + C_L R_4 s + 2 \right) \left(C_1 R_1 g_m s + C_1 s + g_m \right)}$$

Parameters:

Q: $\dfrac{\sqrt{2} C_1 R_4 \sqrt{\frac{g_m}{C_1 R_4 (2 C_4 R_1 g_m + 2 C_4 + C_L R_1 g_m + C_L)}} (2 C_4 R_1 g_m + 2 C_4 + C_L R_1 g_m + C_L)}{2 C_1 R_1 g_m + 2 C_1 + 2 C_4 R_4 g_m + C_L R_4 g_m}$

wo: $\sqrt{2} \sqrt{\dfrac{g_m}{C_1 R_4 (2 C_4 R_1 g_m + 2 C_4 + C_L R_1 g_m + C_L)}}$

bandwidth: $\dfrac{2 C_1 R_1 g_m + 2 C_1 + 2 C_4 R_4 g_m + C_L R_4 g_m}{C_1 R_4 (2 C_4 R_1 g_m + 2 C_4 + C_L R_1 g_m + C_L)}$

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

K-HP: 0

K-BP: $\dfrac{C_1 R_1 R_4 g_m}{2 C_1 R_1 g_m + 2 C_1 + 2 C_4 R_4 g_m + C_L R_4 g_m}$

Qz: 0

Wz: None

8.17 INVALID-NUMER-17 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{R_4 R_L g_m \left(C_1 R_1 s + 1 \right)}{\left(C_1 R_1 g_m s + C_1 s + g_m \right) \left(2 C_4 R_4 R_L s + C_L R_4 R_L s + R_4 + 2 R_L \right)}$$

Parameters:

Q: $\dfrac{C_1 R_4 R_L \sqrt{\frac{g_m (R_4 + 2 R_L)}{C_1 R_4 R_L (2 C_4 R_1 g_m + 2 C_4 + C_L R_1 g_m + C_L)}} (2 C_4 R_1 g_m + 2 C_4 + C_L R_1 g_m + C_L)}{C_1 R_1 R_4 g_m + 2 C_1 R_1 R_L g_m + C_1 R_4 + 2 C_1 R_L + 2 C_4 R_4 R_L g_m + C_L R_4 R_L g_m}$

wo: $\sqrt{\dfrac{g_m (R_4 + 2 R_L)}{C_1 R_4 R_L (2 C_4 R_1 g_m + 2 C_4 + C_L R_1 g_m + C_L)}}$

bandwidth: $\dfrac{C_1 R_1 R_4 g_m + 2 C_1 R_1 R_L g_m + C_1 R_4 + 2 C_1 R_L + 2 C_4 R_4 R_L g_m + C_L R_4 R_L g_m}{C_1 R_4 R_L (2 C_4 R_1 g_m + 2 C_4 + C_L R_1 g_m + C_L)}$

K-LP: $\frac{R_4 R_L}{R_4 + 2 R_L}$

K-HP: 0

K-BP: $\dfrac{C_1 R_1 R_4 R_L g_m}{C_1 R_1 R_4 g_m + 2 C_1 R_1 R_L g_m + C_1 R_4 + 2 C_1 R_L + 2 C_4 R_4 R_L g_m + C_L R_4 R_L g_m}$

Qz: 0

Wz: None

9 INVALID-WZ

9.1 INVALID-WZ-1 $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 g_m \left(C_4 R_4 s + 1 \right) \left(C_L R_L s + 1 \right)}{\left(L_1 g_m s + 1 \right) \left(C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L \right)}$$

Parameters:

Q: $\dfrac{C_4 C_L L_1 g_m \sqrt{\frac{2 C_4 + C_L}{C_4 C_L L_1 g_m (R_4 + 2 R_L)}} (R_4 + 2 R_L)}{C_4 C_L R_4 + 2 C_4 C_L R_L + 2 C_4 L_1 g_m + C_L L_1 g_m}$

wo: $\sqrt{\dfrac{2 C_4 + C_L}{C_4 C_L L_1 g_m (R_4 + 2 R_L)}}$

bandwidth: $\dfrac{C_4 C_L R_4 + 2 C_4 C_L R_L + 2 C_4 L_1 g_m + C_L L_1 g_m}{C_4 C_L L_1 g_m (R_4 + 2 R_L)}$

K-LP: $\frac{L_1 g_m}{2 C_4 + C_L}$

K-HP: $\frac{R_4 R_L}{R_4 + 2 R_L}$

K-BP: $\dfrac{L_1 g_m (C_4 R_4 + C_L R_L)}{C_4 C_L R_4 + 2 C_4 C_L R_L + 2 C_4 L_1 g_m + C_L L_1 g_m}$

Qz: $\dfrac{C_4 C_L R_4 R_L \sqrt{\frac{2 C_4 + C_L}{C_4 C_L L_1 g_m (R_4 + 2 R_L)}}}{C_4 R_4 + C_L R_L}$

Wz: $\sqrt{\dfrac{1}{C_4 C_L R_4 R_L}}$

9.2 INVALID-WZ-2 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4, \ \infty, \ R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{R_4 g_m \left(C_1 R_1 s + 1\right)\left(C_L R_L s + 1\right)}{\left(C_L R_4 s + 2 C_L R_L s + 2\right)\left(C_1 R_1 g_m s + C_1 s + g_m\right)}$$

Parameters:

Q: $\dfrac{\sqrt{2} C_1 C_L \sqrt{\frac{g_m}{C_1 C_L \left(R_1 R_4 g_m + 2 R_1 R_L g_m + R_4 + 2 R_L\right)}} \left(R_1 R_4 g_m + 2 R_1 R_L g_m + R_4 + 2 R_L\right)}{2 C_1 R_1 g_m + 2 C_1 + C_L R_4 g_m + 2 C_L R_L g_m}$

wo: $\sqrt{2} \sqrt{\dfrac{g_m}{C_1 C_L \left(R_1 R_4 g_m + 2 R_1 R_L g_m + R_4 + 2 R_L\right)}}$

bandwidth: $\dfrac{2 C_1 R_1 g_m + 2 C_1 + C_L R_4 g_m + 2 C_L R_L g_m}{C_1 C_L \left(R_1 R_4 g_m + 2 R_1 R_L g_m + R_4 + 2 R_L\right)}$

K-LP: $\dfrac{R_4}{2}$

K-HP: $\dfrac{R_1 R_4 R_L g_m}{R_1 R_4 g_m + 2 R_1 R_L g_m + R_4 + 2 R_L}$

K-BP: $\dfrac{R_4 g_m \left(C_1 R_1 + C_L R_L\right)}{2 C_1 R_1 g_m + 2 C_1 + C_L R_4 g_m + 2 C_L R_L g_m}$

Qz: $\dfrac{\sqrt{2} C_1 C_L R_1 R_L \sqrt{\frac{g_m}{C_1 C_L \left(R_1 R_4 g_m + 2 R_1 R_L g_m + R_4 + 2 R_L\right)}}}{C_1 R_1 + C_L R_L}$

Wz: $\sqrt{\dfrac{1}{C_1 C_L R_1 R_L}}$

9.3 INVALID-WZ-3 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L\right)$

$$H(s) = \frac{R_L g_m \left(C_1 R_1 s + 1\right)\left(C_4 R_4 s + 1\right)}{\left(C_4 R_4 s + 2 C_4 R_L s + 1\right)\left(C_1 R_1 g_m s + C_1 s + g_m\right)}$$

Parameters:

Q: $\dfrac{C_1 C_4 \sqrt{\frac{g_m}{C_1 C_4 \left(R_1 R_4 g_m + 2 R_1 R_L g_m + R_4 + 2 R_L\right)}} \left(R_1 R_4 g_m + 2 R_1 R_L g_m + R_4 + 2 R_L\right)}{C_1 R_1 g_m + C_1 + C_4 R_4 g_m + 2 C_4 R_L g_m}$

wo: $\sqrt{\dfrac{g_m}{C_1 C_4 \left(R_1 R_4 g_m + 2 R_1 R_L g_m + R_4 + 2 R_L\right)}}$

bandwidth: $\dfrac{C_1 R_1 g_m + C_1 + C_4 R_4 g_m + 2 C_4 R_L g_m}{C_1 C_4 \left(R_1 R_4 g_m + 2 R_1 R_L g_m + R_4 + 2 R_L\right)}$

K-LP: R_L

K-HP: $\dfrac{R_1 R_4 R_L g_m}{R_1 R_4 g_m + 2 R_1 R_L g_m + R_4 + 2 R_L}$

K-BP: $\dfrac{R_L g_m \left(C_1 R_1 + C_4 R_4\right)}{C_1 R_1 g_m + C_1 + C_4 R_4 g_m + 2 C_4 R_L g_m}$

Qz: $\dfrac{C_1 C_4 R_1 R_4 \sqrt{\frac{g_m}{C_1 C_4 \left(R_1 R_4 g_m + 2 R_1 R_L g_m + R_4 + 2 R_L\right)}}}{C_1 R_1 + C_4 R_4}$

Wz: $\sqrt{\dfrac{1}{C_1 C_4 R_1 R_4}}$

10 INVALID-ORDER

10.1 INVALID-ORDER-1 $Z(s) = \left(R_1, \ \infty, \ \infty, \ R_4, \ \infty, \ R_L\right)$

$$H(s) = \frac{R_1 R_4 R_L g_m}{\left(R_4 + 2 R_L\right)\left(R_1 g_m + 1\right)}$$

10.2 INVALID-ORDER-2 $Z(s) = \left(R_1, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{1}{C_L s}\right)$

$$H(s) = \frac{R_1 R_4 g_m}{\left(R_1 g_m + 1\right)\left(C_L R_4 s + 2\right)}$$

10.3 INVALID-ORDER-3 $Z(s) = \left(R_1, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$

$$H(s) = \frac{R_1 R_4 R_L g_m}{\left(R_1 g_m + 1\right)\left(C_L R_4 R_L s + R_4 + 2 R_L\right)}$$

10.4 INVALID-ORDER-4 $Z(s) = \left(R_1, \ \infty, \ \infty, \ R_4, \ \infty, \ R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{R_1 R_4 g_m \left(C_L R_L s + 1\right)}{\left(R_1 g_m + 1\right)\left(C_L R_4 s + 2C_L R_L s + 2\right)}$$

10.5 INVALID-ORDER-5 $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ R_L\right)$

$$H(s) = \frac{R_1 R_L g_m}{\left(R_1 g_m + 1\right)\left(2C_4 R_L s + 1\right)}$$

10.6 INVALID-ORDER-6 $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{1}{C_L s}\right)$

$$H(s) = \frac{R_1 g_m}{s\left(2C_4 + C_L\right)\left(R_1 g_m + 1\right)}$$

10.7 INVALID-ORDER-7 $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$

$$H(s) = \frac{R_1 R_L g_m}{\left(R_1 g_m + 1\right)\left(2C_4 R_L s + C_L R_L s + 1\right)}$$

10.8 INVALID-ORDER-8 $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{R_1 g_m \left(C_L R_L s + 1\right)}{s\left(R_1 g_m + 1\right)\left(2C_4 C_L R_L s + 2C_4 + C_L\right)}$$

10.9 INVALID-ORDER-9 $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$

$$H(s) = \frac{R_1 g_m \left(C_L L_L s^2 + 1\right)}{s\left(R_1 g_m + 1\right)\left(2C_4 C_L L_L s^2 + 2C_4 + C_L\right)}$$

10.10 INVALID-ORDER-10 $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right)$

$$H(s) = \frac{L_L R_1 g_m s}{\left(R_1 g_m + 1\right)\left(2C_4 L_L s^2 + C_L L_L s^2 + 1\right)}$$

10.11 INVALID-ORDER-11 $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$

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

10.12 INVALID-ORDER-12 $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$

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

10.13 INVALID-ORDER-13 $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{R_L\left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1}\right)$

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

10.14 INVALID-ORDER-14 $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ R_L\right)$

$$H(s) = \frac{R_1 R_4 R_L g_m}{(R_1 g_m + 1)(2 C_4 R_4 R_L s + R_4 + 2 R_L)}$$

10.15 INVALID-ORDER-15 $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{1}{C_L s}\right)$

$$H(s) = \frac{R_1 R_4 g_m}{(R_1 g_m + 1)(2 C_4 R_4 s + C_L R_4 s + 2)}$$

10.16 INVALID-ORDER-16 $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$

$$H(s) = \frac{R_1 R_4 R_L g_m}{(R_1 g_m + 1)(2 C_4 R_4 R_L s + C_L R_4 R_L s + R_4 + 2 R_L)}$$

10.17 INVALID-ORDER-17 $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$

$$H(s) = \frac{R_1 R_4 g_m \left(C_L L_L s^2 + 1\right)}{(R_1 g_m + 1)(2 C_4 C_L L_L R_4 s^3 + 2 C_4 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2)}$$

10.18 INVALID-ORDER-18 $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{R_1 R_4 g_m \left(C_L L_L s^2 + C_L R_L s + 1\right)}{(R_1 g_m + 1)(2 C_4 C_L L_L R_4 s^3 + 2 C_4 C_L R_4 R_L s^2 + 2 C_4 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2 C_L R_L s + 2)}$$

10.19 INVALID-ORDER-19 $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$

$$H(s) = \frac{R_1 R_4 g_m \left(C_L L_L R_L s^2 + L_L s + R_L\right)}{(R_1 g_m + 1)(2 C_4 C_L L_L R_4 R_L s^3 + 2 C_4 L_L R_4 s^2 + 2 C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + 2 L_L s + R_4 + 2 R_L)}$$

10.20 INVALID-ORDER-20 $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1}\right)$

$$H(s) = \frac{R_1 R_4 R_L g_m \left(C_L L_L s^2 + 1\right)}{(R_1 g_m + 1)(2 C_4 C_L L_L R_4 R_L s^3 + 2 C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + C_L R_4 R_L s + R_4 + 2 R_L)}$$

10.21 INVALID-ORDER-21 $Z(s) = \left(R_1, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L\right)$

$$H(s) = \frac{R_1 R_L g_m \left(C_4 R_4 s + 1\right)}{(R_1 g_m + 1)(C_4 R_4 s + 2 C_4 R_L s + 1)}$$

10.22 INVALID-ORDER-22 $Z(s) = \left(R_1, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{1}{C_L s}\right)$

$$H(s) = \frac{R_1 g_m \left(C_4 R_4 s + 1\right)}{s (R_1 g_m + 1)(C_4 C_L R_4 s + 2 C_4 + C_L)}$$

10.23 INVALID-ORDER-23 $Z(s) = \left(R_1, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{R_1 g_m \left(C_4 R_4 s + 1\right)\left(C_L R_L s + 1\right)}{s (R_1 g_m + 1)(C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L)}$$

10.24 **INVALID-ORDER-24** $Z(s) = \left(R_1, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 g_m \left(C_4 R_4 s + 1 \right) \left(C_L L_L s^2 + 1 \right)}{s \left(R_1 g_m + 1 \right) \left(2 C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2 C_4 + C_L \right)}$$

10.25 **INVALID-ORDER-25** $Z(s) = \left(R_1, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L R_1 g_m s \left(C_4 R_4 s + 1 \right)}{\left(R_1 g_m + 1 \right) \left(C_4 C_L L_L R_4 s^3 + 2 C_4 L_L s^2 + C_4 R_4 s + C_L L_L s^2 + 1 \right)}$$

10.26 **INVALID-ORDER-26** $Z(s) = \left(R_1, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 g_m \left(C_4 R_4 s + 1 \right) \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{s \left(R_1 g_m + 1 \right) \left(2 C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L \right)}$$

10.27 **INVALID-ORDER-27** $Z(s) = \left(R_1, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_1 R_L g_m s \left(C_4 R_4 s + 1 \right)}{\left(R_1 g_m + 1 \right) \left(C_4 C_L L_L R_4 R_L s^3 + C_4 L_L R_4 s^2 + 2 C_4 L_L R_L s^2 + C_4 R_4 R_L s + C_L L_L R_L s^2 + L_L s + R_L \right)}$$

10.28 **INVALID-ORDER-28** $Z(s) = \left(R_1, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{R_1 g_m \left(C_4 R_4 s + 1 \right) \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{\left(R_1 g_m + 1 \right) \left(C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + 2 C_4 L_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + 1 \right)}$$

10.29 **INVALID-ORDER-29** $Z(s) = \left(R_1, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_1 R_L g_m \left(C_4 R_4 s + 1 \right) \left(C_L L_L s^2 + 1 \right)}{\left(R_1 g_m + 1 \right) \left(C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + C_4 C_L R_4 R_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1 \right)}$$

10.30 **INVALID-ORDER-30** $Z(s) = \left(R_1, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 g_m \left(C_4 L_4 s^2 + 1 \right)}{s \left(R_1 g_m + 1 \right) \left(C_4 C_L L_4 s^2 + 2 C_4 + C_L \right)}$$

10.31 **INVALID-ORDER-31** $Z(s) = \left(R_1, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

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

10.32 **INVALID-ORDER-32** $Z(s) = \left(R_1, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

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

10.33 INVALID-ORDER-33 $Z(s) = \left(R_1, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

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

10.34 INVALID-ORDER-34 $Z(s) = \left(R_1, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

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

10.35 INVALID-ORDER-35 $Z(s) = \left(R_1, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

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

10.36 INVALID-ORDER-36 $Z(s) = \left(R_1, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

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

10.37 INVALID-ORDER-37 $Z(s) = \left(R_1, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

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

10.38 INVALID-ORDER-38 $Z(s) = \left(R_1, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

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

10.39 INVALID-ORDER-39 $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_4 R_1 g_m s}{\left(R_1 g_m + 1 \right) \left(2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 \right)}$$

10.40 INVALID-ORDER-40 $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

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

10.41 INVALID-ORDER-41 $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

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

10.42 **INVALID-ORDER-42** $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

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

10.43 **INVALID-ORDER-43** $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

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

10.44 **INVALID-ORDER-44** $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

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

10.45 **INVALID-ORDER-45** $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{R_L\left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

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

10.46 **INVALID-ORDER-46** $Z(s) = \left(R_1, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 g_m\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{s\left(R_1 g_m + 1\right)\left(C_4 C_L L_4 s^2 + C_4 C_L R_4 s + 2 C_4 + C_L\right)}$$

10.47 **INVALID-ORDER-47** $Z(s) = \left(R_1, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{R_1 R_L g_m\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{(R_1 g_m + 1)\left(C_4 C_L L_4 R_L s^3 + C_4 C_L R_4 R_L s^2 + C_4 L_4 s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L R_L s + 1\right)}$$

10.48 **INVALID-ORDER-48** $Z(s) = \left(R_1, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 g_m\left(C_L R_L s + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{s\left(R_1 g_m + 1\right)\left(C_4 C_L L_4 s^2 + C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L\right)}$$

10.49 **INVALID-ORDER-49** $Z(s) = \left(R_1, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 g_m\left(C_L L_L s^2 + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{s\left(R_1 g_m + 1\right)\left(C_4 C_L L_4 s^2 + 2 C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2 C_4 + C_L\right)}$$

10.50 **INVALID-ORDER-50** $Z(s) = \left(R_1, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L R_1 g_m s\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{(R_1 g_m + 1)\left(C_4 C_L L_4 L_L s^4 + C_4 C_L L_L R_4 s^3 + C_4 L_4 s^2 + 2 C_4 L_L s^2 + C_4 R_4 s + C_L L_L s^2 + 1\right)}$$

10.51 **INVALID-ORDER-51** $Z(s) = \left(R_1, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{R_1 g_m \left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)\left(C_L L_L s^2 + C_L R_L s + 1\right)}{s\left(R_1 g_m + 1\right)\left(C_4 C_L L_4 s^2 + 2 C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L\right)}$$

10.52 **INVALID-ORDER-52** $Z(s) = \left(R_1, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L}\right)$

$$H(s) = \frac{L_L R_1 R_L g_m s \left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{\left(R_1 g_m + 1\right)\left(C_4 C_L L_4 L_L R_L s^4 + C_4 C_L L_L R_4 R_L s^3 + C_4 L_4 L_L s^3 + C_4 L_4 R_L s^2 + C_4 L_L R_4 s^2 + 2 C_4 L_L R_L s^2 + C_4 R_4 R_L s + C_L L_L R_L s^2 + L_L s + R_L\right)}$$

10.53 **INVALID-ORDER-53** $Z(s) = \left(R_1, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$

$$H(s) = \frac{R_1 g_m \left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)\left(C_L L_L R_L s^2 + L_L s + R_L\right)}{\left(R_1 g_m + 1\right)\left(C_4 C_L L_4 L_L s^4 + C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + C_4 L_4 s^2 + 2 C_4 L_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + 1\right)}$$

10.54 **INVALID-ORDER-54** $Z(s) = \left(R_1, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L\left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1}\right)$

$$H(s) = \frac{R_1 R_L g_m \left(C_L L_L s^2 + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{\left(R_1 g_m + 1\right)\left(C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_L s^3 + C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + C_4 C_L R_4 R_L s^2 + C_4 L_4 s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1\right)}$$

10.55 **INVALID-ORDER-55** $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_4 R_1 R_4 g_m s \left(C_L R_L s + 1\right)}{\left(R_1 g_m + 1\right)\left(2 C_4 C_L L_4 R_4 R_L s^3 + 2 C_4 L_4 R_4 s^2 + C_L L_4 R_4 s^2 + 2 C_L L_4 R_L s^2 + 2 C_L R_4 R_L s + 2 L_4 s + 2 R_4\right)}$$

10.56 **INVALID-ORDER-56** $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_4 R_1 R_4 g_m s \left(C_L L_L s^2 + 1\right)}{\left(R_1 g_m + 1\right)\left(2 C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 L_4 R_4 s^2 + 2 C_L L_4 L_L s^3 + C_L L_4 R_4 s^2 + 2 C_L L_L R_4 s^2 + 2 L_4 s + 2 R_4\right)}$$

10.57 **INVALID-ORDER-57** $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_4 R_1 R_4 g_m s \left(C_L L_L s^2 + C_L R_L s + 1\right)}{\left(R_1 g_m + 1\right)\left(2 C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 R_4 R_L s^3 + 2 C_4 L_4 R_4 s^2 + 2 C_L L_4 L_L s^3 + C_L L_4 R_4 s^2 + 2 C_L L_4 R_L s^2 + 2 C_L L_L R_4 s^2 + 2 C_L R_4 R_L s + 2 L_4 s + 2 R_4\right)}$$

10.58 **INVALID-ORDER-58** $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$

$$H(s) = \frac{L_4 R_1 R_4 g_m s \left(C_L L_L R_L s^2 + L_L s + R_L\right)}{\left(R_1 g_m + 1\right)\left(2 C_4 C_L L_4 L_L R_4 R_L s^4 + 2 C_4 L_4 L_L R_4 s^3 + 2 C_4 L_4 R_4 R_L s^2 + C_L L_4 L_L R_4 s^3 + 2 C_L L_4 L_L R_L s^3 + 2 C_L L_L R_4 R_L s^2 + 2 L_4 L_L s^2 + L_4 R_4 s + 2 L_4 R_L s + 2 L_L R_4 s + 2 R_4 R_L\right)}$$

10.59 **INVALID-ORDER-59** $Z(s) = \left(R_1, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{R_L\left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1}\right)$

$$H(s) = \frac{L_4 R_1 R_4 R_L g_m s \left(C_L L_L s^2 + 1\right)}{\left(R_1 g_m + 1\right)\left(2 C_4 C_L L_4 L_L R_4 R_L s^4 + 2 C_4 L_4 R_4 R_L s^2 + C_L L_4 L_L R_4 s^3 + 2 C_L L_4 L_L R_L s^3 + C_L L_4 R_4 R_L s^2 + 2 C_L L_L R_4 R_L s^2 + L_4 R_4 s + 2 L_4 R_L s + 2 R_4 R_L\right)}$$

10.60 **INVALID-ORDER-60** $Z(s) = \left(R_1,\ \infty,\ \infty,\ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4,\ \infty,\ \frac{1}{C_L s}\right)$

$$H(s) = \frac{R_1 g_m \left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{(R_1 g_m + 1)\left(C_4 C_L L_4 R_4 s^3 + 2C_4 L_4 s^2 + C_L L_4 s^2 + C_L R_4 s + 2\right)}$$

10.61 **INVALID-ORDER-61** $Z(s) = \left(R_1,\ \infty,\ \infty,\ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4,\ \infty,\ \frac{R_L}{C_L R_L s + 1}\right)$

$$H(s) = \frac{R_1 R_L g_m \left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{(R_1 g_m + 1)\left(C_4 C_L L_4 R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2C_4 L_4 R_L s^2 + C_L L_4 R_L s^2 + C_L R_4 R_L s + L_4 s + R_4 + 2R_L\right)}$$

10.62 **INVALID-ORDER-62** $Z(s) = \left(R_1,\ \infty,\ \infty,\ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4,\ \infty,\ R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{R_1 g_m \left(C_L R_L s + 1\right)\left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{(R_1 g_m + 1)\left(C_4 C_L L_4 R_4 s^3 + 2C_4 C_L L_4 R_L s^3 + 2C_4 L_4 s^2 + C_L L_4 s^2 + C_L R_4 s + 2C_L R_L s + 2\right)}$$

10.63 **INVALID-ORDER-63** $Z(s) = \left(R_1,\ \infty,\ \infty,\ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4,\ \infty,\ L_L s + \frac{1}{C_L s}\right)$

$$H(s) = \frac{R_1 g_m \left(C_L L_L s^2 + 1\right)\left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{(R_1 g_m + 1)\left(2C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2C_4 L_4 s^2 + C_L L_4 s^2 + 2C_L L_L s^2 + C_L R_4 s + 2\right)}$$

10.64 **INVALID-ORDER-64** $Z(s) = \left(R_1,\ \infty,\ \infty,\ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4,\ \infty,\ \frac{L_L s}{C_L L_L s^2 + 1}\right)$

$$H(s) = \frac{L_L R_1 g_m s \left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{(R_1 g_m + 1)\left(C_4 C_L L_4 L_L R_4 s^4 + 2C_4 L_4 L_L s^3 + C_4 L_4 R_4 s^2 + C_L L_4 L_L s^3 + C_L L_L R_4 s^2 + L_4 s + 2L_L s + R_4\right)}$$

10.65 **INVALID-ORDER-65** $Z(s) = \left(R_1,\ \infty,\ \infty,\ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4,\ \infty,\ L_L s + R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{R_1 g_m \left(C_L L_L s^2 + C_L R_L s + 1\right)\left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{(R_1 g_m + 1)\left(2C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2C_4 C_L L_4 R_L s^3 + 2C_4 L_4 s^2 + C_L L_4 s^2 + 2C_L L_L s^2 + C_L R_4 s + 2C_L R_L s + 2\right)}$$

10.66 **INVALID-ORDER-66** $Z(s) = \left(R_1,\ \infty,\ \infty,\ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4,\ \infty,\ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L}\right)$

$$H(s) = \frac{L_L R_1 R_L g_m s \left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{(R_1 g_m + 1)\left(C_4 C_L L_4 L_L R_4 R_L s^4 + C_4 L_4 L_L R_4 s^3 + 2C_4 L_4 L_L R_L s^3 + C_4 L_4 R_4 R_L s^2 + C_L L_4 L_L R_L s^3 + C_L L_L R_4 R_L s^2 + L_4 L_L s^2 + L_4 R_L s + L_L R_4 s + 2L_L R_L s + R_4 R_L\right)}$$

10.67 **INVALID-ORDER-67** $Z(s) = \left(R_1,\ \infty,\ \infty,\ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4,\ \infty,\ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$

$$H(s) = \frac{R_1 g_m \left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)\left(C_L L_L R_L s^2 + L_L s + R_L\right)}{(R_1 g_m + 1)\left(C_4 C_L L_4 L_L R_4 s^4 + 2C_4 C_L L_4 L_L R_L s^4 + 2C_4 L_4 L_L s^3 + C_4 L_4 R_4 s^2 + 2C_4 L_4 R_L s^2 + C_L L_4 L_L s^3 + C_L L_L R_4 s^2 + 2C_L L_L R_L s^2 + L_4 s + 2L_L s + R_4 + 2R_L\right)}$$

10.68 **INVALID-ORDER-68** $Z(s) = \left(R_1,\ \infty,\ \infty,\ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4,\ \infty,\ \frac{R_L \left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1}\right)$

$$H(s) = \frac{R_1 R_L g_m \left(C_L L_L s^2 + 1\right)\left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{(R_1 g_m + 1)\left(C_4 C_L L_4 L_L R_4 s^4 + 2C_4 C_L L_4 L_L R_L s^4 + C_4 C_L L_4 R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2C_4 L_4 R_L s^2 + C_L L_4 L_L s^3 + C_L L_4 R_L s^2 + C_L L_L R_4 s^2 + 2C_L L_L R_L s^2 + C_L R_4 R_L s + L_4 s + R_4 + 2R_L\right)}$$

10.69 **INVALID-ORDER-69** $Z(s) = \left(R_1,\ \infty,\ \infty,\ \frac{R_4\left(C_4L_4s^2+1\right)}{C_4L_4s^2+C_4R_4s+1},\ \infty,\ \frac{1}{C_Ls}\right)$

$$H(s) = \frac{R_1R_4g_m\left(C_4L_4s^2+1\right)}{(R_1g_m+1)\left(C_4C_LL_4R_4s^3+2C_4L_4s^2+2C_4R_4s+C_LR_4s+2\right)}$$

10.70 **INVALID-ORDER-70** $Z(s) = \left(R_1,\ \infty,\ \infty,\ \frac{R_4\left(C_4L_4s^2+1\right)}{C_4L_4s^2+C_4R_4s+1},\ \infty,\ \frac{R_L}{C_LR_Ls+1}\right)$

$$H(s) = \frac{R_1R_4R_Lg_m\left(C_4L_4s^2+1\right)}{(R_1g_m+1)\left(C_4C_LL_4R_4R_Ls^3+C_4L_4R_4s^2+2C_4L_4R_Ls^2+2C_4R_4R_Ls+C_LR_4R_Ls+R_4+2R_L\right)}$$

10.71 **INVALID-ORDER-71** $Z(s) = \left(R_1,\ \infty,\ \infty,\ \frac{R_4\left(C_4L_4s^2+1\right)}{C_4L_4s^2+C_4R_4s+1},\ \infty,\ R_L+\frac{1}{C_Ls}\right)$

$$H(s) = \frac{R_1R_4g_m\left(C_4L_4s^2+1\right)\left(C_LR_Ls+1\right)}{(R_1g_m+1)\left(C_4C_LL_4R_4s^3+2C_4C_LL_4R_Ls^3+2C_4C_LR_4R_Ls^2+2C_4L_4s^2+2C_4R_4s+C_LR_4s+2C_LR_Ls+2\right)}$$

10.72 **INVALID-ORDER-72** $Z(s) = \left(R_1,\ \infty,\ \infty,\ \frac{R_4\left(C_4L_4s^2+1\right)}{C_4L_4s^2+C_4R_4s+1},\ \infty,\ L_Ls+\frac{1}{C_Ls}\right)$

$$H(s) = \frac{R_1R_4g_m\left(C_4L_4s^2+1\right)\left(C_LL_Ls^2+1\right)}{(R_1g_m+1)\left(2C_4C_LL_4L_Ls^4+C_4C_LL_4R_4s^3+2C_4C_LL_LR_4s^3+2C_4L_4s^2+2C_4R_4s+2C_LL_Ls^2+C_LR_4s+2\right)}$$

10.73 **INVALID-ORDER-73** $Z(s) = \left(R_1,\ \infty,\ \infty,\ \frac{R_4\left(C_4L_4s^2+1\right)}{C_4L_4s^2+C_4R_4s+1},\ \infty,\ \frac{L_Ls}{C_LL_Ls^2+1}\right)$

$$H(s) = \frac{L_LR_1R_4g_ms\left(C_4L_4s^2+1\right)}{(R_1g_m+1)\left(C_4C_LL_4L_LR_4s^4+2C_4L_4L_Ls^3+C_4L_4R_4s^2+2C_4L_LR_4s^2+C_LL_LR_4s^2+2L_Ls+R_4\right)}$$

10.74 **INVALID-ORDER-74** $Z(s) = \left(R_1,\ \infty,\ \infty,\ \frac{R_4\left(C_4L_4s^2+1\right)}{C_4L_4s^2+C_4R_4s+1},\ \infty,\ L_Ls+R_L+\frac{1}{C_Ls}\right)$

$$H(s) = \frac{R_1R_4g_m\left(C_4L_4s^2+1\right)\left(C_LL_Ls^2+C_LR_Ls+1\right)}{(R_1g_m+1)\left(2C_4C_LL_4L_Ls^4+C_4C_LL_4R_4s^3+2C_4C_LL_4R_Ls^3+2C_4C_LL_LR_4s^3+2C_4C_LR_4R_Ls^2+2C_4L_4s^2+2C_4R_4s+2C_LL_Ls^2+C_LR_4s+2C_LR_Ls+2\right)}$$

10.75 **INVALID-ORDER-75** $Z(s) = \left(R_1,\ \infty,\ \infty,\ \frac{R_4\left(C_4L_4s^2+1\right)}{C_4L_4s^2+C_4R_4s+1},\ \infty,\ \frac{L_LR_Ls}{C_LL_LR_Ls^2+L_Ls+R_L}\right)$

$$H(s) = \frac{L_LR_1R_4R_Lg_ms\left(C_4L_4s^2+1\right)}{(R_1g_m+1)\left(C_4C_LL_4L_LR_4R_Ls^4+C_4L_4L_LR_4s^3+2C_4L_4L_LR_Ls^3+C_4L_4R_4R_Ls^2+2C_4L_LR_4R_Ls^2+C_LL_LR_4R_Ls^2+L_LR_4s+2L_LR_Ls+R_4R_L\right)}$$

10.76 **INVALID-ORDER-76** $Z(s) = \left(R_1,\ \infty,\ \infty,\ \frac{R_4\left(C_4L_4s^2+1\right)}{C_4L_4s^2+C_4R_4s+1},\ \infty,\ \frac{L_Ls}{C_LL_Ls^2+1}+R_L\right)$

$$H(s) = \frac{R_1R_4g_m\left(C_4L_4s^2+1\right)\left(C_LL_LR_Ls^2+L_Ls+R_L\right)}{(R_1g_m+1)\left(C_4C_LL_4L_LR_4s^4+2C_4C_LL_4L_LR_Ls^4+2C_4C_LL_LR_4R_Ls^3+2C_4L_4L_Ls^3+C_4L_4R_4s^2+2C_4L_4R_Ls^2+2C_4L_LR_4s^2+2C_4R_4R_Ls+C_LL_LR_4s^2+2C_LL_LR_Ls^2+2L_Ls+R_4+2R_L\right)}$$

10.77 **INVALID-ORDER-77** $Z(s) = \left(R_1,\ \infty,\ \infty,\ \frac{R_4\left(C_4L_4s^2+1\right)}{C_4L_4s^2+C_4R_4s+1},\ \infty,\ \frac{R_L\left(C_LL_Ls^2+1\right)}{C_LL_Ls^2+C_LR_Ls+1}\right)$

$$H(s) = \frac{R_1R_4R_Lg_m\left(C_4L_4s^2+1\right)\left(C_LL_Ls^2+1\right)}{(R_1g_m+1)\left(C_4C_LL_4L_LR_4s^4+2C_4C_LL_4L_LR_Ls^4+C_4C_LL_4R_4R_Ls^3+2C_4C_LL_LR_4R_Ls^3+C_4L_4R_4s^2+2C_4L_4R_Ls^2+2C_4R_4R_Ls+C_LL_LR_4s^2+2C_LL_LR_Ls^2+C_LR_4R_Ls+R_4+2R_L\right)}$$

10.78 INVALID-ORDER-78 $Z(s) = (L_1 s, \ \infty, \ \infty, \ R_4, \ \infty, \ R_L)$

$$H(s) = \frac{L_1 R_4 R_L g_m s}{(R_4 + 2R_L)(L_1 g_m s + 1)}$$

10.79 INVALID-ORDER-79 $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ R_4, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_1 R_4 g_m s \left(C_L L_L s^2 + 1\right)}{(L_1 g_m s + 1)\left(2C_L L_L s^2 + C_L R_4 s + 2\right)}$$

10.80 INVALID-ORDER-80 $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right)$

$$H(s) = \frac{L_1 L_L R_4 g_m s^2}{(L_1 g_m s + 1)\left(C_L L_L R_4 s^2 + 2L_L s + R_4\right)}$$

10.81 INVALID-ORDER-81 $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ R_4, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_1 R_4 g_m s \left(C_L L_L s^2 + C_L R_L s + 1\right)}{(L_1 g_m s + 1)\left(2C_L L_L s^2 + C_L R_4 s + 2C_L R_L s + 2\right)}$$

10.82 INVALID-ORDER-82 $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L}\right)$

$$H(s) = \frac{L_1 L_L R_4 R_L g_m s^2}{(L_1 g_m s + 1)\left(C_L L_L R_4 R_L s^2 + L_L R_4 s + 2L_L R_L s + R_4 R_L\right)}$$

10.83 INVALID-ORDER-83 $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$

$$H(s) = \frac{L_1 R_4 g_m s \left(C_L L_L R_L s^2 + L_L s + R_L\right)}{(L_1 g_m s + 1)\left(C_L L_L R_4 s^2 + 2C_L L_L R_L s^2 + 2L_L s + R_4 + 2R_L\right)}$$

10.84 INVALID-ORDER-84 $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1}\right)$

$$H(s) = \frac{L_1 R_4 R_L g_m s \left(C_L L_L s^2 + 1\right)}{(L_1 g_m s + 1)\left(C_L L_L R_4 s^2 + 2C_L L_L R_L s^2 + C_L R_4 R_L s + R_4 + 2R_L\right)}$$

10.85 INVALID-ORDER-85 $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_1 g_m}{(2C_4 + C_L)(L_1 g_m s + 1)}$$

10.86 INVALID-ORDER-86 $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_1 g_m \left(C_L L_L s^2 + 1\right)}{(L_1 g_m s + 1)\left(2C_4 C_L L_L s^2 + 2C_4 + C_L\right)}$$

10.87 INVALID-ORDER-87 $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right)$

$$H(s) = \frac{L_1 L_L g_m s^2}{(L_1 g_m s + 1)\left(2C_4 L_L s^2 + C_L L_L s^2 + 1\right)}$$

10.88 **INVALID-ORDER-88** $Z(s) = \left(L_1 s,\ \infty,\ \infty,\ \frac{1}{C_4 s},\ \infty,\ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 g_m \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{\left(L_1 g_m s + 1 \right)\left(2C_4 C_L L_L s^2 + 2C_4 C_L R_L s + 2C_4 + C_L \right)}$$

10.89 **INVALID-ORDER-89** $Z(s) = \left(L_1 s,\ \infty,\ \infty,\ \frac{1}{C_4 s},\ \infty,\ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_1 L_L R_L g_m s^2}{\left(L_1 g_m s + 1 \right)\left(2C_4 L_L R_L s^2 + C_L L_L R_L s^2 + L_L s + R_L \right)}$$

10.90 **INVALID-ORDER-90** $Z(s) = \left(L_1 s,\ \infty,\ \infty,\ \frac{1}{C_4 s},\ \infty,\ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{L_1 g_m s \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{\left(L_1 g_m s + 1 \right)\left(2C_4 C_L L_L R_L s^3 + 2C_4 L_L s^2 + 2C_4 R_L s + C_L L_L s^2 + 1 \right)}$$

10.91 **INVALID-ORDER-91** $Z(s) = \left(L_1 s,\ \infty,\ \infty,\ \frac{1}{C_4 s},\ \infty,\ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 R_L g_m s \left(C_L L_L s^2 + 1 \right)}{\left(L_1 g_m s + 1 \right)\left(2C_4 C_L L_L R_L s^3 + 2C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1 \right)}$$

10.92 **INVALID-ORDER-92** $Z(s) = \left(L_1 s,\ \infty,\ \infty,\ \frac{R_4}{C_4 R_4 s + 1},\ \infty,\ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_4 g_m s \left(C_L R_L s + 1 \right)}{\left(L_1 g_m s + 1 \right)\left(2C_4 C_L R_4 R_L s^2 + 2C_4 R_4 s + C_L R_4 s + 2C_L R_L s + 2 \right)}$$

10.93 **INVALID-ORDER-93** $Z(s) = \left(L_1 s,\ \infty,\ \infty,\ \frac{R_4}{C_4 R_4 s + 1},\ \infty,\ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_4 g_m s \left(C_L L_L s^2 + 1 \right)}{\left(L_1 g_m s + 1 \right)\left(2C_4 C_L L_L R_4 s^3 + 2C_4 R_4 s + 2C_L L_L s^2 + C_L R_4 s + 2 \right)}$$

10.94 **INVALID-ORDER-94** $Z(s) = \left(L_1 s,\ \infty,\ \infty,\ \frac{R_4}{C_4 R_4 s + 1},\ \infty,\ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_1 L_L R_4 g_m s^2}{\left(L_1 g_m s + 1 \right)\left(2C_4 L_L R_4 s^2 + C_L L_L R_4 s^2 + 2L_L s + R_4 \right)}$$

10.95 **INVALID-ORDER-95** $Z(s) = \left(L_1 s,\ \infty,\ \infty,\ \frac{R_4}{C_4 R_4 s + 1},\ \infty,\ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_4 g_m s \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{\left(L_1 g_m s + 1 \right)\left(2C_4 C_L L_L R_4 s^3 + 2C_4 C_L R_4 R_L s^2 + 2C_4 R_4 s + 2C_L L_L s^2 + C_L R_4 s + 2C_L R_L s + 2 \right)}$$

10.96 **INVALID-ORDER-96** $Z(s) = \left(L_1 s,\ \infty,\ \infty,\ \frac{R_4}{C_4 R_4 s + 1},\ \infty,\ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_1 L_L R_4 R_L g_m s^2}{\left(L_1 g_m s + 1 \right)\left(2C_4 L_L R_4 R_L s^2 + C_L L_L R_4 R_L s^2 + L_L R_4 s + 2L_L R_L s + R_4 R_L \right)}$$

10.97 **INVALID-ORDER-97** $Z(s) = \left(L_1 s,\ \infty,\ \infty,\ \frac{R_4}{C_4 R_4 s + 1},\ \infty,\ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$

$$H(s) = \frac{L_1 R_4 g_m s \left(C_L L_L R_L s^2 + L_L s + R_L\right)}{(L_1 g_m s + 1)\left(2C_4 C_L L_L R_4 R_L s^3 + 2C_4 L_L R_4 s^2 + 2C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2C_L L_L R_L s^2 + 2L_L s + R_4 + 2R_L\right)}$$

10.98 **INVALID-ORDER-98** $Z(s) = \left(L_1 s,\ \infty,\ \infty,\ \frac{R_4}{C_4 R_4 s + 1},\ \infty,\ \frac{R_L\left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1}\right)$

$$H(s) = \frac{L_1 R_4 R_L g_m s \left(C_L L_L s^2 + 1\right)}{(L_1 g_m s + 1)\left(2C_4 C_L L_L R_4 R_L s^3 + 2C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2C_L L_L R_L s^2 + C_L R_4 R_L s + R_4 + 2R_L\right)}$$

10.99 **INVALID-ORDER-99** $Z(s) = \left(L_1 s,\ \infty,\ \infty,\ R_4 + \frac{1}{C_4 s},\ \infty,\ \frac{R_L}{C_L R_L s + 1}\right)$

$$H(s) = \frac{L_1 R_L g_m s \left(C_4 R_4 s + 1\right)}{(L_1 g_m s + 1)\left(C_4 C_L R_4 R_L s^2 + C_4 R_4 s + 2C_4 R_L s + C_L R_L s + 1\right)}$$

10.100 **INVALID-ORDER-100** $Z(s) = \left(L_1 s,\ \infty,\ \infty,\ R_4 + \frac{1}{C_4 s},\ \infty,\ L_L s + \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_1 g_m \left(C_4 R_4 s + 1\right)\left(C_L L_L s^2 + 1\right)}{(L_1 g_m s + 1)\left(2C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2C_4 + C_L\right)}$$

10.101 **INVALID-ORDER-101** $Z(s) = \left(L_1 s,\ \infty,\ \infty,\ R_4 + \frac{1}{C_4 s},\ \infty,\ \frac{L_L s}{C_L L_L s^2 + 1}\right)$

$$H(s) = \frac{L_1 L_L g_m s^2 \left(C_4 R_4 s + 1\right)}{(L_1 g_m s + 1)\left(C_4 C_L L_L R_4 s^3 + 2C_4 L_L s^2 + C_4 R_4 s + C_L L_L s^2 + 1\right)}$$

10.102 **INVALID-ORDER-102** $Z(s) = \left(L_1 s,\ \infty,\ \infty,\ R_4 + \frac{1}{C_4 s},\ \infty,\ L_L s + R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_1 g_m \left(C_4 R_4 s + 1\right)\left(C_L L_L s^2 + C_L R_L s + 1\right)}{(L_1 g_m s + 1)\left(2C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2C_4 C_L R_L s + 2C_4 + C_L\right)}$$

10.103 **INVALID-ORDER-103** $Z(s) = \left(L_1 s,\ \infty,\ \infty,\ R_4 + \frac{1}{C_4 s},\ \infty,\ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L}\right)$

$$H(s) = \frac{L_1 L_L R_L g_m s^2 \left(C_4 R_4 s + 1\right)}{(L_1 g_m s + 1)\left(C_4 C_L L_L R_4 R_L s^3 + C_4 L_L R_4 s^2 + 2C_4 L_L R_L s^2 + C_4 R_4 R_L s + C_L L_L R_L s^2 + L_L s + R_L\right)}$$

10.104 **INVALID-ORDER-104** $Z(s) = \left(L_1 s,\ \infty,\ \infty,\ R_4 + \frac{1}{C_4 s},\ \infty,\ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$

$$H(s) = \frac{L_1 g_m s \left(C_4 R_4 s + 1\right)\left(C_L L_L R_L s^2 + L_L s + R_L\right)}{(L_1 g_m s + 1)\left(C_4 C_L L_L R_4 s^3 + 2C_4 C_L L_L R_L s^3 + 2C_4 L_L s^2 + C_4 R_4 s + 2C_4 R_L s + C_L L_L s^2 + 1\right)}$$

10.105 **INVALID-ORDER-105** $Z(s) = \left(L_1 s,\ \infty,\ \infty,\ R_4 + \frac{1}{C_4 s},\ \infty,\ \frac{R_L\left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1}\right)$

$$H(s) = \frac{L_1 R_L g_m s \left(C_4 R_4 s + 1\right)\left(C_L L_L s^2 + 1\right)}{(L_1 g_m s + 1)\left(C_4 C_L L_L R_4 s^3 + 2C_4 C_L L_L R_L s^3 + C_4 C_L R_4 R_L s^2 + C_4 R_4 s + 2C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1\right)}$$

10.106 **INVALID-ORDER-106** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ R_L\right)$

$$H(s) = \frac{L_1 R_L g_m s \left(C_4 L_4 s^2 + 1\right)}{\left(L_1 g_m s + 1\right)\left(C_4 L_4 s^2 + 2C_4 R_L s + 1\right)}$$

10.107 **INVALID-ORDER-107** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_1 g_m \left(C_4 L_4 s^2 + 1\right)}{\left(L_1 g_m s + 1\right)\left(C_4 C_L L_4 s^2 + 2C_4 + C_L\right)}$$

10.108 **INVALID-ORDER-108** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$

$$H(s) = \frac{L_1 R_L g_m s \left(C_4 L_4 s^2 + 1\right)}{\left(L_1 g_m s + 1\right)\left(C_4 C_L L_4 R_L s^3 + C_4 L_4 s^2 + 2C_4 R_L s + C_L R_L s + 1\right)}$$

10.109 **INVALID-ORDER-109** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_1 g_m \left(C_4 L_4 s^2 + 1\right)\left(C_L R_L s + 1\right)}{\left(L_1 g_m s + 1\right)\left(C_4 C_L L_4 s^2 + 2C_4 C_L R_L s + 2C_4 + C_L\right)}$$

10.110 **INVALID-ORDER-110** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_1 g_m \left(C_4 L_4 s^2 + 1\right)\left(C_L L_L s^2 + 1\right)}{\left(L_1 g_m s + 1\right)\left(C_4 C_L L_4 s^2 + 2C_4 C_L L_L s^2 + 2C_4 + C_L\right)}$$

10.111 **INVALID-ORDER-111** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right)$

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

10.112 **INVALID-ORDER-112** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_1 g_m \left(C_4 L_4 s^2 + 1\right)\left(C_L L_L s^2 + C_L R_L s + 1\right)}{\left(L_1 g_m s + 1\right)\left(C_4 C_L L_4 s^2 + 2C_4 C_L L_L s^2 + 2C_4 C_L R_L s + 2C_4 + C_L\right)}$$

10.113 **INVALID-ORDER-113** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L}\right)$

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

10.114 **INVALID-ORDER-114** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$

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

10.115 **INVALID-ORDER-115** $Z(s) = \left(L_1 s,\ \infty,\ \infty,\ L_4 s + \frac{1}{C_4 s},\ \infty,\ \frac{R_L\left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1}\right)$

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

10.116 **INVALID-ORDER-116** $Z(s) = \left(L_1 s,\ \infty,\ \infty,\ \frac{L_4 s}{C_4 L_4 s^2 + 1},\ \infty,\ R_L\right)$

$$H(s) = \frac{L_1 L_4 R_L g_m s^2}{\left(L_1 g_m s + 1\right)\left(2 C_4 L_4 R_L s^2 + L_4 s + 2 R_L\right)}$$

10.117 **INVALID-ORDER-117** $Z(s) = \left(L_1 s,\ \infty,\ \infty,\ \frac{L_4 s}{C_4 L_4 s^2 + 1},\ \infty,\ \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_1 L_4 g_m s^2}{\left(L_1 g_m s + 1\right)\left(2 C_4 L_4 s^2 + C_L L_4 s^2 + 2\right)}$$

10.118 **INVALID-ORDER-118** $Z(s) = \left(L_1 s,\ \infty,\ \infty,\ \frac{L_4 s}{C_4 L_4 s^2 + 1},\ \infty,\ \frac{R_L}{C_L R_L s + 1}\right)$

$$H(s) = \frac{L_1 L_4 R_L g_m s^2}{\left(L_1 g_m s + 1\right)\left(2 C_4 L_4 R_L s^2 + C_L L_4 R_L s^2 + L_4 s + 2 R_L\right)}$$

10.119 **INVALID-ORDER-119** $Z(s) = \left(L_1 s,\ \infty,\ \infty,\ \frac{L_4 s}{C_4 L_4 s^2 + 1},\ \infty,\ R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_1 L_4 g_m s^2\left(C_L R_L s + 1\right)}{\left(L_1 g_m s + 1\right)\left(2 C_4 C_L L_4 R_L s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L R_L s + 2\right)}$$

10.120 **INVALID-ORDER-120** $Z(s) = \left(L_1 s,\ \infty,\ \infty,\ \frac{L_4 s}{C_4 L_4 s^2 + 1},\ \infty,\ L_L s + \frac{1}{C_L s}\right)$

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

10.121 **INVALID-ORDER-121** $Z(s) = \left(L_1 s,\ \infty,\ \infty,\ \frac{L_4 s}{C_4 L_4 s^2 + 1},\ \infty,\ \frac{L_L s}{C_L L_L s^2 + 1}\right)$

$$H(s) = \frac{L_1 L_4 L_L g_m s^2}{\left(L_1 g_m s + 1\right)\left(2 C_4 L_4 L_L s^2 + C_L L_4 L_L s^2 + L_4 + 2 L_L\right)}$$

10.122 **INVALID-ORDER-122** $Z(s) = \left(L_1 s,\ \infty,\ \infty,\ \frac{L_4 s}{C_4 L_4 s^2 + 1},\ \infty,\ L_L s + R_L + \frac{1}{C_L s}\right)$

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

10.123 **INVALID-ORDER-123** $Z(s) = \left(L_1 s,\ \infty,\ \infty,\ \frac{L_4 s}{C_4 L_4 s^2 + 1},\ \infty,\ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L}\right)$

$$H(s) = \frac{L_1 L_4 L_L R_L g_m s^2}{\left(L_1 g_m s + 1\right)\left(2 C_4 L_4 L_L R_L s^2 + C_L L_4 L_L R_L s^2 + L_4 L_L s + L_4 R_L + 2 L_L R_L\right)}$$

10.124 **INVALID-ORDER-124** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$

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

10.125 **INVALID-ORDER-125** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1}\right)$

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

10.126 **INVALID-ORDER-126** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L\right)$

$$H(s) = \frac{L_1 R_L g_m s \left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{(L_1 g_m s + 1)\left(C_4 L_4 s^2 + C_4 R_4 s + 2 C_4 R_L s + 1\right)}$$

10.127 **INVALID-ORDER-127** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_1 g_m \left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{(L_1 g_m s + 1)\left(C_4 C_L L_4 s^2 + C_4 C_L R_4 s + 2 C_4 + C_L\right)}$$

10.128 **INVALID-ORDER-128** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$

$$H(s) = \frac{L_1 R_L g_m s \left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{(L_1 g_m s + 1)\left(C_4 C_L L_4 R_L s^3 + C_4 C_L R_4 R_L s^2 + C_4 L_4 s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L R_L s + 1\right)}$$

10.129 **INVALID-ORDER-129** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_1 g_m \left(C_L R_L s + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{(L_1 g_m s + 1)\left(C_4 C_L L_4 s^2 + C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L\right)}$$

10.130 **INVALID-ORDER-130** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_1 g_m \left(C_L L_L s^2 + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{(L_1 g_m s + 1)\left(C_4 C_L L_4 s^2 + 2 C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2 C_4 + C_L\right)}$$

10.131 **INVALID-ORDER-131** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right)$

$$H(s) = \frac{L_1 L_L g_m s^2 \left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{(L_1 g_m s + 1)\left(C_4 C_L L_4 L_L s^4 + C_4 C_L L_L R_4 s^3 + C_4 L_4 s^2 + 2 C_4 L_L s^2 + C_4 R_4 s + C_L L_L s^2 + 1\right)}$$

10.132 **INVALID-ORDER-132** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_1 g_m \left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)\left(C_L L_L s^2 + C_L R_L s + 1\right)}{(L_1 g_m s + 1)\left(C_4 C_L L_4 s^2 + 2 C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L\right)}$$

10.133 **INVALID-ORDER-133** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_1 L_L R_L g_m s^2 \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{(L_1 g_m s + 1)\left(C_4 C_L L_4 L_L R_L s^4 + C_4 C_L L_L R_4 R_L s^3 + C_4 L_4 L_L s^3 + C_4 L_4 R_L s^2 + C_4 L_L R_4 s^2 + 2 C_4 L_L R_L s^2 + C_4 R_4 R_L s + C_L L_L R_L s^2 + L_L s + R_L \right)}$$

10.134 **INVALID-ORDER-134** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{L_1 g_m s \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right) \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{(L_1 g_m s + 1)\left(C_4 C_L L_4 L_L s^4 + C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + C_4 L_4 s^2 + 2 C_4 L_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + 1 \right)}$$

10.135 **INVALID-ORDER-135** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 R_L g_m s \left(C_L L_L s^2 + 1 \right) \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{(L_1 g_m s + 1)\left(C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_L s^3 + C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + C_4 C_L R_4 R_L s^2 + C_4 L_4 s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1 \right)}$$

10.136 **INVALID-ORDER-136** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ R_L \right)$

$$H(s) = \frac{L_1 L_4 R_4 R_L g_m s^2}{(L_1 g_m s + 1)\left(2 C_4 L_4 R_4 R_L s^2 + L_4 R_4 s + 2 L_4 R_L s + 2 R_4 R_L \right)}$$

10.137 **INVALID-ORDER-137** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 L_4 R_4 g_m s^2}{(L_1 g_m s + 1)\left(2 C_4 L_4 R_4 s^2 + C_L L_4 R_4 s^2 + 2 L_4 s + 2 R_4 \right)}$$

10.138 **INVALID-ORDER-138** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 L_4 R_4 R_L g_m s^2}{(L_1 g_m s + 1)\left(2 C_4 L_4 R_4 R_L s^2 + C_L L_4 R_4 R_L s^2 + L_4 R_4 s + 2 L_4 R_L s + 2 R_4 R_L \right)}$$

10.139 **INVALID-ORDER-139** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 L_4 R_4 g_m s^2 \left(C_L R_L s + 1 \right)}{(L_1 g_m s + 1)\left(2 C_4 C_L L_4 R_4 R_L s^3 + 2 C_4 L_4 R_4 s^2 + C_L L_4 R_4 s^2 + 2 C_L L_4 R_L s^2 + 2 C_L R_4 R_L s + 2 L_4 s + 2 R_4 \right)}$$

10.140 **INVALID-ORDER-140** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 L_4 R_4 g_m s^2 \left(C_L L_L s^2 + 1 \right)}{(L_1 g_m s + 1)\left(2 C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 L_4 R_4 s^2 + 2 C_L L_4 L_L s^3 + C_L L_4 R_4 s^2 + 2 C_L L_L R_4 s^2 + 2 L_4 s + 2 R_4 \right)}$$

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

$$H(s) = \frac{L_1 L_4 L_L R_4 g_m s^2}{(L_1 g_m s + 1)\left(2 C_4 L_4 L_L R_4 s^2 + C_L L_4 L_L R_4 s^2 + 2 L_4 L_L s + L_4 R_4 + 2 L_L R_4 \right)}$$

10.142 **INVALID-ORDER-142** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_1 L_4 R_4 g_m s^2 \left(C_L L_L s^2 + C_L R_L s + 1\right)}{(L_1 g_m s + 1)\left(2C_4 C_L L_4 L_L R_4 s^4 + 2C_4 C_L L_4 R_4 R_L s^3 + 2C_4 L_4 R_4 s^2 + 2C_L L_4 L_L s^3 + C_L L_4 R_4 s^2 + 2C_L L_4 R_L s^2 + 2C_L L_L R_4 s^2 + 2C_L R_4 R_L s + 2L_4 s + 2R_4\right)}$$

10.143 **INVALID-ORDER-143** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L}\right)$

$$H(s) = \frac{L_1 L_4 L_L R_4 R_L g_m s^2}{(L_1 g_m s + 1)\left(2C_4 L_4 L_L R_4 R_L s^2 + C_L L_4 L_L R_4 R_L s^2 + L_4 L_L R_4 s + 2L_4 L_L R_L s + L_4 R_4 R_L + 2L_L R_4 R_L\right)}$$

10.144 **INVALID-ORDER-144** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$

$$H(s) = \frac{L_1 L_4 R_4 g_m s^2 \left(C_L L_L R_L s^2 + L_L s + R_L\right)}{(L_1 g_m s + 1)\left(2C_4 C_L L_4 L_L R_4 R_L s^4 + 2C_4 L_4 L_L R_4 s^3 + 2C_4 L_4 R_4 R_L s^2 + C_L L_4 L_L R_4 s^3 + 2C_L L_4 L_L R_L s^3 + 2C_L L_L R_4 R_L s^2 + 2L_4 L_L s^2 + L_4 R_4 s + 2L_4 R_L s + 2L_L R_4 s + 2R_4 R_L\right)}$$

10.145 **INVALID-ORDER-145** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1}\right)$

$$H(s) = \frac{L_1 L_4 R_4 R_L g_m s^2 \left(C_L L_L s^2 + 1\right)}{(L_1 g_m s + 1)\left(2C_4 C_L L_4 L_L R_4 R_L s^4 + 2C_4 L_4 R_4 R_L s^2 + C_L L_4 L_L R_4 s^3 + 2C_L L_4 L_L R_L s^3 + C_L L_4 R_4 R_L s^2 + 2C_L L_L R_4 R_L s^2 + L_4 R_4 s + 2L_4 R_L s + 2R_4 R_L\right)}$$

10.146 **INVALID-ORDER-146** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ R_L\right)$

$$H(s) = \frac{L_1 R_L g_m s \left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{(L_1 g_m s + 1)\left(C_4 L_4 R_4 s^2 + 2C_4 L_4 R_L s^2 + L_4 s + R_4 + 2R_L\right)}$$

10.147 **INVALID-ORDER-147** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_1 g_m s \left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{(L_1 g_m s + 1)\left(C_4 C_L L_4 R_4 s^3 + 2C_4 L_4 s^2 + C_L L_4 s^2 + C_L R_4 s + 2\right)}$$

10.148 **INVALID-ORDER-148** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$

$$H(s) = \frac{L_1 R_L g_m s \left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{(L_1 g_m s + 1)\left(C_4 C_L L_4 R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2C_4 L_4 R_L s^2 + C_L L_4 R_L s^2 + C_L R_4 R_L s + L_4 s + R_4 + 2R_L\right)}$$

10.149 **INVALID-ORDER-149** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_1 g_m s \left(C_L R_L s + 1\right)\left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{(L_1 g_m s + 1)\left(C_4 C_L L_4 R_4 s^3 + 2C_4 C_L L_4 R_L s^3 + 2C_4 L_4 s^2 + C_L L_4 s^2 + C_L R_4 s + 2C_L R_L s + 2\right)}$$

10.150 **INVALID-ORDER-150** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_1 g_m s \left(C_L L_L s^2 + 1\right)\left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{(L_1 g_m s + 1)\left(2C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2C_4 L_4 s^2 + C_L L_4 s^2 + 2C_L L_L s^2 + C_L R_4 s + 2\right)}$$

10.151 **INVALID-ORDER-151** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right)$

$$H(s) = \frac{L_1 L_L g_m s^2 \left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{\left(L_1 g_m s + 1\right)\left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 L_4 L_L s^3 + C_4 L_4 R_4 s^2 + C_L L_4 L_L s^3 + C_L L_L R_4 s^2 + L_4 s + 2 L_L s + R_4\right)}$$

10.152 **INVALID-ORDER-152** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_1 g_m s \left(C_L L_L s^2 + C_L R_L s + 1\right)\left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{\left(L_1 g_m s + 1\right)\left(2 C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L L_L s^2 + C_L R_4 s + 2 C_L R_L s + 2\right)}$$

10.153 **INVALID-ORDER-153** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L}\right)$

$$H(s) = \frac{L_1 L_L R_L g_m s^2 \left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{\left(L_1 g_m s + 1\right)\left(C_4 C_L L_4 L_L R_4 R_L s^4 + C_4 L_4 L_L R_4 s^3 + 2 C_4 L_4 L_L R_L s^3 + C_4 L_4 R_4 R_L s^2 + C_L L_4 L_L R_L s^3 + C_L L_L R_4 R_L s^2 + L_4 L_L s^2 + L_4 R_L s + L_L R_4 s + 2 L_L R_L s + R_4 R_L\right)}$$

10.154 **INVALID-ORDER-154** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$

$$H(s) = \frac{L_1 g_m s \left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)\left(C_L L_L R_L s^2 + L_L s + R_L\right)}{\left(L_1 g_m s + 1\right)\left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_L R_L s^4 + 2 C_4 L_4 L_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + C_L L_4 L_L s^3 + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + L_4 s + 2 L_L s + R_4 + 2 R_L\right)}$$

10.155 **INVALID-ORDER-155** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1}\right)$

$$H(s) = \frac{L_1 R_L g_m s \left(C_L L_L s^2 + 1\right)\left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{\left(L_1 g_m s + 1\right)\left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_L R_L s^4 + C_4 C_L L_4 R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + C_L L_4 L_L s^3 + C_L L_4 R_L s^2 + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + C_L R_4 R_L s + L_4 s + R_4 + 2 R_L\right)}$$

10.156 **INVALID-ORDER-156** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ \frac{R_4 \left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ R_L\right)$

$$H(s) = \frac{L_1 R_4 R_L g_m s \left(C_4 L_4 s^2 + 1\right)}{\left(L_1 g_m s + 1\right)\left(C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + 2 C_4 R_4 R_L s + R_4 + 2 R_L\right)}$$

10.157 **INVALID-ORDER-157** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ \frac{R_4 \left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_1 R_4 g_m s \left(C_4 L_4 s^2 + 1\right)}{\left(L_1 g_m s + 1\right)\left(C_4 C_L L_4 R_4 s^3 + 2 C_4 L_4 s^2 + 2 C_4 R_4 s + C_L R_4 s + 2\right)}$$

10.158 **INVALID-ORDER-158** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ \frac{R_4 \left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$

$$H(s) = \frac{L_1 R_4 R_L g_m s \left(C_4 L_4 s^2 + 1\right)}{\left(L_1 g_m s + 1\right)\left(C_4 C_L L_4 R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + 2 C_4 R_4 R_L s + C_L R_4 R_L s + R_4 + 2 R_L\right)}$$

10.159 **INVALID-ORDER-159** $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ \frac{R_4 \left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_1 R_4 g_m s \left(C_4 L_4 s^2 + 1\right)\left(C_L R_L s + 1\right)}{\left(L_1 g_m s + 1\right)\left(C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 C_L R_4 R_L s^2 + 2 C_4 L_4 s^2 + 2 C_4 R_4 s + C_L R_4 s + 2 C_L R_L s + 2\right)}$$

10.160   INVALID-ORDER-160 $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_4 g_m s \left(C_4 L_4 s^2 + 1\right)\left(C_L L_L s^2 + 1\right)}{\left(L_1 g_m s + 1\right)\left(2 C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_L R_4 s^3 + 2 C_4 L_4 s^2 + 2 C_4 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2\right)}$$

10.161   INVALID-ORDER-161 $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_1 L_L R_4 g_m s^2 \left(C_4 L_4 s^2 + 1\right)}{\left(L_1 g_m s + 1\right)\left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 L_4 L_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_L R_4 s^2 + C_L L_L R_4 s^2 + 2 L_L s + R_4\right)}$$

10.162   INVALID-ORDER-162 $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_4 g_m s \left(C_4 L_4 s^2 + 1\right)\left(C_L L_L s^2 + C_L R_L s + 1\right)}{\left(L_1 g_m s + 1\right)\left(2 C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 C_L L_L R_4 s^3 + 2 C_4 C_L R_4 R_L s^2 + 2 C_4 L_4 s^2 + 2 C_4 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2 C_L R_L s + 2\right)}$$

10.163   INVALID-ORDER-163 $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_1 L_L R_4 R_L g_m s^2 \left(C_4 L_4 s^2 + 1\right)}{\left(L_1 g_m s + 1\right)\left(C_4 C_L L_4 L_L R_4 R_L s^4 + C_4 L_4 L_L R_4 s^3 + 2 C_4 L_4 L_L R_L s^3 + C_4 L_4 R_4 R_L s^2 + 2 C_4 L_L R_4 R_L s^2 + C_L L_L R_4 R_L s^2 + L_L R_4 s + 2 L_L R_L s + R_4 R_L\right)}$$

10.164   INVALID-ORDER-164 $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{L_1 R_4 g_m s \left(C_4 L_4 s^2 + 1\right)\left(C_L L_L R_L s^2 + L_L s + R_L\right)}{\left(L_1 g_m s + 1\right)\left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_L R_L s^4 + 2 C_4 C_L L_L R_4 R_L s^3 + 2 C_4 L_4 L_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + 2 C_4 L_L R_4 s^2 + 2 C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + 2 L_L s + R_4 + 2 R_L\right)}$$

10.165   INVALID-ORDER-165 $Z(s) = \left(L_1 s, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{R_L\left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 R_4 R_L g_m s \left(C_4 L_4 s^2 + 1\right)\left(C_L L_L s^2 + 1\right)}{\left(L_1 g_m s + 1\right)\left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_L R_L s^4 + C_4 C_L L_4 R_4 R_L s^3 + 2 C_4 C_L L_L R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + 2 C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + C_L R_4 R_L s + R_4 + 2 R_L\right)}$$

10.166   INVALID-ORDER-166 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4, \ \infty, \ R_L \right)$

$$H(s) = \frac{R_4 R_L g_m}{\left(R_4 + 2 R_L\right)\left(C_1 s + g_m\right)}$$

10.167   INVALID-ORDER-167 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_4 g_m \left(C_L L_L s^2 + 1\right)}{\left(C_1 s + g_m\right)\left(2 C_L L_L s^2 + C_L R_4 s + 2\right)}$$

10.168   INVALID-ORDER-168 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L R_4 g_m s}{\left(C_1 s + g_m\right)\left(C_L L_L R_4 s^2 + 2 L_L s + R_4\right)}$$

10.169 **INVALID-ORDER-169** $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_4 g_m \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{(C_1 s + g_m) \left(2 C_L L_L s^2 + C_L R_4 s + 2 C_L R_L s + 2 \right)}$$

10.170 **INVALID-ORDER-170** $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_4 R_L g_m s}{(C_1 s + g_m) \left(C_L L_L R_4 R_L s^2 + L_L R_4 s + 2 L_L R_L s + R_4 R_L \right)}$$

10.171 **INVALID-ORDER-171** $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{R_4 g_m \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{(C_1 s + g_m) \left(C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + 2 L_L s + R_4 + 2 R_L \right)}$$

10.172 **INVALID-ORDER-172** $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_4 R_L g_m \left(C_L L_L s^2 + 1 \right)}{(C_1 s + g_m) \left(C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + C_L R_4 R_L s + R_4 + 2 R_L \right)}$$

10.173 **INVALID-ORDER-173** $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m}{s \left(2 C_4 + C_L \right) \left(C_1 s + g_m \right)}$$

10.174 **INVALID-ORDER-174** $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_L R_L s + 1 \right)}{s \left(C_1 s + g_m \right) \left(2 C_4 C_L R_L s + 2 C_4 + C_L \right)}$$

10.175 **INVALID-ORDER-175** $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_L L_L s^2 + 1 \right)}{s \left(C_1 s + g_m \right) \left(2 C_4 C_L L_L s^2 + 2 C_4 + C_L \right)}$$

10.176 **INVALID-ORDER-176** $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L g_m s}{(C_1 s + g_m) \left(2 C_4 L_L s^2 + C_L L_L s^2 + 1 \right)}$$

10.177 **INVALID-ORDER-177** $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{s \left(C_1 s + g_m \right) \left(2 C_4 C_L L_L s^2 + 2 C_4 C_L R_L s + 2 C_4 + C_L \right)}$$

10.178 **INVALID-ORDER-178** $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_L g_m s}{(C_1 s + g_m) \left(2 C_4 L_L R_L s^2 + C_L L_L R_L s^2 + L_L s + R_L \right)}$$

10.179 INVALID-ORDER-179 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{g_m \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{(C_1 s + g_m)\left(2 C_4 C_L L_L R_L s^3 + 2 C_4 L_L s^2 + 2 C_4 R_L s + C_L L_L s^2 + 1 \right)}$$

10.180 INVALID-ORDER-180 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_L g_m \left(C_L L_L s^2 + 1 \right)}{(C_1 s + g_m)\left(2 C_4 C_L L_L R_L s^3 + 2 C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1 \right)}$$

10.181 INVALID-ORDER-181 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_4 g_m \left(C_L R_L s + 1 \right)}{(C_1 s + g_m)\left(2 C_4 C_L R_4 R_L s^2 + 2 C_4 R_4 s + C_L R_4 s + 2 C_L R_L s + 2 \right)}$$

10.182 INVALID-ORDER-182 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_4 g_m \left(C_L L_L s^2 + 1 \right)}{(C_1 s + g_m)\left(2 C_4 C_L L_L R_4 s^3 + 2 C_4 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2 \right)}$$

10.183 INVALID-ORDER-183 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L R_4 g_m s}{(C_1 s + g_m)\left(2 C_4 L_L R_4 s^2 + C_L L_L R_4 s^2 + 2 L_L s + R_4 \right)}$$

10.184 INVALID-ORDER-184 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_4 g_m \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{(C_1 s + g_m)\left(2 C_4 C_L L_L R_4 s^3 + 2 C_4 C_L R_4 R_L s^2 + 2 C_4 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2 C_L R_L s + 2 \right)}$$

10.185 INVALID-ORDER-185 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_4 R_L g_m s}{(C_1 s + g_m)\left(2 C_4 L_L R_4 R_L s^2 + C_L L_L R_4 R_L s^2 + L_L R_4 s + 2 L_L R_L s + R_4 R_L \right)}$$

10.186 INVALID-ORDER-186 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{R_4 g_m \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{(C_1 s + g_m)\left(2 C_4 C_L L_L R_4 R_L s^3 + 2 C_4 L_L R_4 s^2 + 2 C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + 2 L_L s + R_4 + 2 R_L \right)}$$

10.187 INVALID-ORDER-187 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_4 R_L g_m \left(C_L L_L s^2 + 1 \right)}{(C_1 s + g_m)\left(2 C_4 C_L L_L R_4 R_L s^3 + 2 C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + C_L R_4 R_L s + R_4 + 2 R_L \right)}$$

10.188 INVALID-ORDER-188 $Z(s) = \left(\frac{1}{C_1 s},\ \infty,\ \infty,\ R_4 + \frac{1}{C_4 s},\ \infty,\ \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_4 R_4 s + 1 \right)}{s \left(C_1 s + g_m \right) \left(C_4 C_L R_4 s + 2 C_4 + C_L \right)}$$

10.189 INVALID-ORDER-189 $Z(s) = \left(\frac{1}{C_1 s},\ \infty,\ \infty,\ R_4 + \frac{1}{C_4 s},\ \infty,\ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{R_L g_m \left(C_4 R_4 s + 1 \right)}{\left(C_1 s + g_m \right) \left(C_4 C_L R_4 R_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L R_L s + 1 \right)}$$

10.190 INVALID-ORDER-190 $Z(s) = \left(\frac{1}{C_1 s},\ \infty,\ \infty,\ R_4 + \frac{1}{C_4 s},\ \infty,\ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_4 R_4 s + 1 \right) \left(C_L R_L s + 1 \right)}{s \left(C_1 s + g_m \right) \left(C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L \right)}$$

10.191 INVALID-ORDER-191 $Z(s) = \left(\frac{1}{C_1 s},\ \infty,\ \infty,\ R_4 + \frac{1}{C_4 s},\ \infty,\ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_4 R_4 s + 1 \right) \left(C_L L_L s^2 + 1 \right)}{s \left(C_1 s + g_m \right) \left(2 C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2 C_4 + C_L \right)}$$

10.192 INVALID-ORDER-192 $Z(s) = \left(\frac{1}{C_1 s},\ \infty,\ \infty,\ R_4 + \frac{1}{C_4 s},\ \infty,\ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L g_m s \left(C_4 R_4 s + 1 \right)}{\left(C_1 s + g_m \right) \left(C_4 C_L L_L R_4 s^3 + 2 C_4 L_L s^2 + C_4 R_4 s + C_L L_L s^2 + 1 \right)}$$

10.193 INVALID-ORDER-193 $Z(s) = \left(\frac{1}{C_1 s},\ \infty,\ \infty,\ R_4 + \frac{1}{C_4 s},\ \infty,\ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_4 R_4 s + 1 \right) \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{s \left(C_1 s + g_m \right) \left(2 C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L \right)}$$

10.194 INVALID-ORDER-194 $Z(s) = \left(\frac{1}{C_1 s},\ \infty,\ \infty,\ R_4 + \frac{1}{C_4 s},\ \infty,\ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_L g_m s \left(C_4 R_4 s + 1 \right)}{\left(C_1 s + g_m \right) \left(C_4 C_L L_L R_4 R_L s^3 + C_4 L_L R_4 s^2 + 2 C_4 L_L R_L s^2 + C_4 R_4 R_L s + C_L L_L R_L s^2 + L_L s + R_L \right)}$$

10.195 INVALID-ORDER-195 $Z(s) = \left(\frac{1}{C_1 s},\ \infty,\ \infty,\ R_4 + \frac{1}{C_4 s},\ \infty,\ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{g_m \left(C_4 R_4 s + 1 \right) \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{\left(C_1 s + g_m \right) \left(C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + 2 C_4 L_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + 1 \right)}$$

10.196 INVALID-ORDER-196 $Z(s) = \left(\frac{1}{C_1 s},\ \infty,\ \infty,\ R_4 + \frac{1}{C_4 s},\ \infty,\ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_L g_m \left(C_4 R_4 s + 1 \right) \left(C_L L_L s^2 + 1 \right)}{\left(C_1 s + g_m \right) \left(C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + C_4 C_L R_4 R_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1 \right)}$$

10.197 INVALID-ORDER-197 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ R_L \right)$

$$H(s) = \frac{R_L g_m \left(C_4 L_4 s^2 + 1 \right)}{\left(C_1 s + g_m \right) \left(C_4 L_4 s^2 + 2 C_4 R_L s + 1 \right)}$$

10.198 INVALID-ORDER-198 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_4 L_4 s^2 + 1 \right)}{s \left(C_1 s + g_m \right) \left(C_4 C_L L_4 s^2 + 2 C_4 + C_L \right)}$$

10.199 INVALID-ORDER-199 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{R_L g_m \left(C_4 L_4 s^2 + 1 \right)}{\left(C_1 s + g_m \right) \left(C_4 C_L L_4 R_L s^3 + C_4 L_4 s^2 + 2 C_4 R_L s + C_L R_L s + 1 \right)}$$

10.200 INVALID-ORDER-200 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_4 L_4 s^2 + 1 \right) \left(C_L R_L s + 1 \right)}{s \left(C_1 s + g_m \right) \left(C_4 C_L L_4 s^2 + 2 C_4 C_L R_L s + 2 C_4 + C_L \right)}$$

10.201 INVALID-ORDER-201 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_4 L_4 s^2 + 1 \right) \left(C_L L_L s^2 + 1 \right)}{s \left(C_1 s + g_m \right) \left(C_4 C_L L_4 s^2 + 2 C_4 C_L L_L s^2 + 2 C_4 + C_L \right)}$$

10.202 INVALID-ORDER-202 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L g_m s \left(C_4 L_4 s^2 + 1 \right)}{\left(C_1 s + g_m \right) \left(C_4 C_L L_4 L_L s^4 + C_4 L_4 s^2 + 2 C_4 L_L s^2 + C_L L_L s^2 + 1 \right)}$$

10.203 INVALID-ORDER-203 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_4 L_4 s^2 + 1 \right) \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{s \left(C_1 s + g_m \right) \left(C_4 C_L L_4 s^2 + 2 C_4 C_L L_L s^2 + 2 C_4 C_L R_L s + 2 C_4 + C_L \right)}$$

10.204 INVALID-ORDER-204 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_L g_m s \left(C_4 L_4 s^2 + 1 \right)}{\left(C_1 s + g_m \right) \left(C_4 C_L L_4 L_L R_L s^4 + C_4 L_4 L_L s^3 + C_4 L_4 R_L s^2 + 2 C_4 L_L R_L s^2 + C_L L_L R_L s^2 + L_L s + R_L \right)}$$

10.205 INVALID-ORDER-205 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{g_m \left(C_4 L_4 s^2 + 1 \right) \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{\left(C_1 s + g_m \right) \left(C_4 C_L L_4 L_L s^4 + 2 C_4 C_L L_L R_L s^3 + C_4 L_4 s^2 + 2 C_4 L_L s^2 + 2 C_4 R_L s + C_L L_L s^2 + 1 \right)}$$

10.206 INVALID-ORDER-206 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L\left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_L g_m \left(C_4 L_4 s^2 + 1\right)\left(C_L L_L s^2 + 1\right)}{(C_1 s + g_m)\left(C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_L s^3 + 2C_4 C_L L_L R_L s^3 + C_4 L_4 s^2 + 2C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1\right)}$$

10.207 INVALID-ORDER-207 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ R_L \right)$

$$H(s) = \frac{L_4 R_L g_m s}{(C_1 s + g_m)\left(2 C_4 L_4 R_L s^2 + L_4 s + 2 R_L\right)}$$

10.208 INVALID-ORDER-208 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_4 g_m s}{(C_1 s + g_m)\left(2 C_4 L_4 s^2 + C_L L_4 s^2 + 2\right)}$$

10.209 INVALID-ORDER-209 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{L_4 R_L g_m s}{(C_1 s + g_m)\left(2 C_4 L_4 R_L s^2 + C_L L_4 R_L s^2 + L_4 s + 2 R_L\right)}$$

10.210 INVALID-ORDER-210 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_4 g_m s \left(C_L R_L s + 1\right)}{(C_1 s + g_m)\left(2 C_4 C_L L_4 R_L s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L R_L s + 2\right)}$$

10.211 INVALID-ORDER-211 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_4 g_m s \left(C_L L_L s^2 + 1\right)}{(C_1 s + g_m)\left(2 C_4 C_L L_4 L_L s^4 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L L_L s^2 + 2\right)}$$

10.212 INVALID-ORDER-212 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_4 L_L g_m s}{(C_1 s + g_m)\left(2 C_4 L_4 L_L s^2 + C_L L_4 L_L s^2 + L_4 + 2 L_L\right)}$$

10.213 INVALID-ORDER-213 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_4 g_m s \left(C_L L_L s^2 + C_L R_L s + 1\right)}{(C_1 s + g_m)\left(2 C_4 C_L L_4 L_L s^4 + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L L_L s^2 + 2 C_L R_L s + 2\right)}$$

10.214 INVALID-ORDER-214 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_4 L_L R_L g_m s}{(C_1 s + g_m)\left(2 C_4 L_4 L_L R_L s^2 + C_L L_4 L_L R_L s^2 + L_4 L_L s + L_4 R_L + 2 L_L R_L\right)}$$

10.215 INVALID-ORDER-215 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{L_4 g_m s \left(C_L L_L R_L s^2 + L_L s + R_L\right)}{(C_1 s + g_m)\left(2 C_4 C_L L_4 L_L R_L s^4 + 2 C_4 L_4 L_L s^3 + 2 C_4 L_4 R_L s^2 + C_L L_4 L_L s^3 + 2 C_L L_L R_L s^2 + L_4 s + 2 L_L s + 2 R_L\right)}$$

10.216 **INVALID-ORDER-216** $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{L_4 R_L g_m s \left(C_L L_L s^2 + 1 \right)}{\left(C_1 s + g_m \right) \left(2 C_4 C_L L_4 L_L R_L s^4 + 2 C_4 L_4 R_L s^2 + C_L L_4 L_L s^3 + C_L L_4 R_L s^2 + 2 C_L L_L R_L s^2 + L_4 s + 2 R_L \right)}$$

10.217 **INVALID-ORDER-217** $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L \right)$

$$H(s) = \frac{R_L g_m \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{\left(C_1 s + g_m \right) \left(C_4 L_4 s^2 + C_4 R_4 s + 2 C_4 R_L s + 1 \right)}$$

10.218 **INVALID-ORDER-218** $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{s \left(C_1 s + g_m \right) \left(C_4 C_L L_4 s^2 + C_4 C_L R_4 s + 2 C_4 + C_L \right)}$$

10.219 **INVALID-ORDER-219** $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{R_L g_m \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{\left(C_1 s + g_m \right) \left(C_4 C_L L_4 R_L s^3 + C_4 C_L R_4 R_L s^2 + C_4 L_4 s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L R_L s + 1 \right)}$$

10.220 **INVALID-ORDER-220** $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_L R_L s + 1 \right) \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{s \left(C_1 s + g_m \right) \left(C_4 C_L L_4 s^2 + C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L \right)}$$

10.221 **INVALID-ORDER-221** $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_L L_L s^2 + 1 \right) \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{s \left(C_1 s + g_m \right) \left(C_4 C_L L_4 s^2 + 2 C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2 C_4 + C_L \right)}$$

10.222 **INVALID-ORDER-222** $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L g_m s \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{\left(C_1 s + g_m \right) \left(C_4 C_L L_4 L_L s^4 + C_4 C_L L_L R_4 s^3 + C_4 L_4 s^2 + 2 C_4 L_L s^2 + C_4 R_4 s + C_L L_L s^2 + 1 \right)}$$

10.223 **INVALID-ORDER-223** $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right) \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{s \left(C_1 s + g_m \right) \left(C_4 C_L L_4 s^2 + 2 C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L \right)}$$

10.224 **INVALID-ORDER-224** $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_L g_m s \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{\left(C_1 s + g_m \right) \left(C_4 C_L L_4 L_L R_L s^4 + C_4 C_L L_L R_4 R_L s^3 + C_4 L_4 L_L s^3 + C_4 L_4 R_L s^2 + C_4 L_L R_4 s^2 + 2 C_4 L_L R_L s^2 + C_4 R_4 R_L s + C_L L_L R_L s^2 + L_L s + R_L \right)}$$

10.225 INVALID-ORDER-225 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{g_m \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right) \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{(C_1 s + g_m) \left(C_4 C_L L_4 L_L s^4 + C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + C_4 L_4 s^2 + 2 C_4 L_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + 1 \right)}$$

10.226 INVALID-ORDER-226 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_L g_m \left(C_L L_L s^2 + 1 \right) \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{(C_1 s + g_m) \left(C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_L s^3 + C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + C_4 C_L R_4 R_L s^2 + C_4 L_4 s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1 \right)}$$

10.227 INVALID-ORDER-227 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ R_L \right)$

$$H(s) = \frac{L_4 R_4 R_L g_m s}{(C_1 s + g_m) \left(2 C_4 L_4 R_4 R_L s^2 + L_4 R_4 s + 2 L_4 R_L s + 2 R_4 R_L \right)}$$

10.228 INVALID-ORDER-228 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_4 R_4 g_m s}{(C_1 s + g_m) \left(2 C_4 L_4 R_4 s^2 + C_L L_4 R_4 s^2 + 2 L_4 s + 2 R_4 \right)}$$

10.229 INVALID-ORDER-229 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{L_4 R_4 R_L g_m s}{(C_1 s + g_m) \left(2 C_4 L_4 R_4 R_L s^2 + C_L L_4 R_4 R_L s^2 + L_4 R_4 s + 2 L_4 R_L s + 2 R_4 R_L \right)}$$

10.230 INVALID-ORDER-230 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_4 R_4 g_m s \left(C_L R_L s + 1 \right)}{(C_1 s + g_m) \left(2 C_4 C_L L_4 R_4 R_L s^3 + 2 C_4 L_4 R_4 s^2 + C_L L_4 R_4 s^2 + 2 C_L L_4 R_L s^2 + 2 C_L R_4 R_L s + 2 L_4 s + 2 R_4 \right)}$$

10.231 INVALID-ORDER-231 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_4 R_4 g_m s \left(C_L L_L s^2 + 1 \right)}{(C_1 s + g_m) \left(2 C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 L_4 R_4 s^2 + 2 C_L L_4 L_L s^3 + C_L L_4 R_4 s^2 + 2 C_L L_L R_4 s^2 + 2 L_4 s + 2 R_4 \right)}$$

10.232 INVALID-ORDER-232 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_4 L_L R_4 g_m s}{(C_1 s + g_m) \left(2 C_4 L_4 L_L R_4 s^2 + C_L L_4 L_L R_4 s^2 + 2 L_4 L_L s + L_4 R_4 + 2 L_L R_4 \right)}$$

10.233 INVALID-ORDER-233 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_4 R_4 g_m s \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{(C_1 s + g_m) \left(2 C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 R_4 R_L s^3 + 2 C_4 L_4 R_4 s^2 + 2 C_L L_4 L_L s^3 + C_L L_4 R_4 s^2 + 2 C_L L_4 R_L s^2 + 2 C_L L_L R_4 s^2 + 2 C_L R_4 R_L s + 2 L_4 s + 2 R_4 \right)}$$

10.234 INVALID-ORDER-234 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_4 L_L R_4 R_L g_m s}{(C_1 s + g_m) \left(2 C_4 L_4 L_L R_4 R_L s^2 + C_L L_4 L_L R_4 R_L s^2 + L_4 L_L R_4 s + 2 L_4 L_L R_L s + L_4 R_4 R_L + 2 L_L R_4 R_L \right)}$$

10.235 INVALID-ORDER-235 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{L_4 R_4 g_m s \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{(C_1 s + g_m) \left(2 C_4 C_L L_4 L_L R_4 R_L s^4 + 2 C_4 L_4 L_L R_4 s^3 + 2 C_4 L_4 R_4 R_L s^2 + C_L L_4 L_L R_4 s^3 + 2 C_L L_4 L_L R_L s^3 + 2 C_L L_L R_4 R_L s^2 + 2 L_4 L_L s^2 + L_4 R_4 s + 2 L_4 R_L s + 2 L_L R_4 s + 2 R_4 R_L \right)}$$

10.236 INVALID-ORDER-236 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{L_4 R_4 R_L g_m s \left(C_L L_L s^2 + 1 \right)}{(C_1 s + g_m) \left(2 C_4 C_L L_4 L_L R_4 R_L s^4 + 2 C_4 L_4 R_4 R_L s^2 + C_L L_4 L_L R_4 s^3 + 2 C_L L_4 L_L R_L s^3 + C_L L_4 R_4 R_L s^2 + 2 C_L L_L R_4 R_L s^2 + L_4 R_4 s + 2 L_4 R_L s + 2 R_4 R_L \right)}$$

10.237 INVALID-ORDER-237 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ R_L \right)$

$$H(s) = \frac{R_L g_m \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{(C_1 s + g_m) \left(C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + L_4 s + R_4 + 2 R_L \right)}$$

10.238 INVALID-ORDER-238 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{(C_1 s + g_m) \left(C_4 C_L L_4 R_4 s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + C_L R_4 s + 2 \right)}$$

10.239 INVALID-ORDER-239 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{R_L g_m \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{(C_1 s + g_m) \left(C_4 C_L L_4 R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + C_L L_4 R_L s^2 + C_L R_4 R_L s + L_4 s + R_4 + 2 R_L \right)}$$

10.240 INVALID-ORDER-240 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_L R_L s + 1 \right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{(C_1 s + g_m) \left(C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + C_L R_4 s + 2 C_L R_L s + 2 \right)}$$

10.241 INVALID-ORDER-241 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_L L_L s^2 + 1 \right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{(C_1 s + g_m) \left(2 C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L L_L s^2 + C_L R_4 s + 2 \right)}$$

10.242 INVALID-ORDER-242 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L g_m s \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{(C_1 s + g_m) \left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 L_4 L_L s^3 + C_4 L_4 R_4 s^2 + C_L L_4 L_L s^3 + C_L L_L R_4 s^2 + L_4 s + 2 L_L s + R_4 \right)}$$

10.243 INVALID-ORDER-243 $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_L L_L s^2 + C_L R_L s + 1 \right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{(C_1 s + g_m) \left(2 C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L L_L s^2 + C_L R_4 s + 2 C_L R_L s + 2 \right)}$$

10.244 INVALID-ORDER-244 $Z(s) = \left(\frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4,\ \infty,\ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_L g_m s \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{(C_1 s + g_m)\left(C_4 C_L L_4 L_L R_4 R_L s^4 + C_4 L_4 L_L R_4 s^3 + 2 C_4 L_4 L_L R_L s^3 + C_4 L_4 R_4 R_L s^2 + C_L L_4 L_L R_L s^3 + C_L L_L R_4 R_L s^2 + L_4 L_L s^2 + L_4 R_L s + L_L R_4 s + 2 L_L R_L s + R_4 R_L \right)}$$

10.245 INVALID-ORDER-245 $Z(s) = \left(\frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4,\ \infty,\ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{g_m \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right) \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{(C_1 s + g_m)\left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_L R_L s^4 + 2 C_4 L_4 L_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + C_L L_4 L_L s^3 + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + L_4 s + 2 L_L s + R_4 + 2 R_L \right)}$$

10.246 INVALID-ORDER-246 $Z(s) = \left(\frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4,\ \infty,\ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_L g_m \left(C_L L_L s^2 + 1 \right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{(C_1 s + g_m)\left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_L R_L s^4 + C_4 C_L L_4 R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + C_L L_4 L_L s^3 + C_L L_4 R_L s^2 + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + C_L R_4 R_L s + L_4 s + R_4 + 2 R_L \right)}$$

10.247 INVALID-ORDER-247 $Z(s) = \left(\frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{R_4 \left(C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1},\ \infty,\ R_L \right)$

$$H(s) = \frac{R_4 R_L g_m \left(C_4 L_4 s^2 + 1 \right)}{(C_1 s + g_m)\left(C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + 2 C_4 R_4 R_L s + R_4 + 2 R_L \right)}$$

10.248 INVALID-ORDER-248 $Z(s) = \left(\frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{R_4 \left(C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1},\ \infty,\ \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_4 g_m \left(C_4 L_4 s^2 + 1 \right)}{(C_1 s + g_m)\left(C_4 C_L L_4 R_4 s^3 + 2 C_4 L_4 s^2 + 2 C_4 R_4 s + C_L R_4 s + 2 \right)}$$

10.249 INVALID-ORDER-249 $Z(s) = \left(\frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{R_4 \left(C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1},\ \infty,\ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{R_4 R_L g_m \left(C_4 L_4 s^2 + 1 \right)}{(C_1 s + g_m)\left(C_4 C_L L_4 R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + 2 C_4 R_4 R_L s + C_L R_4 R_L s + R_4 + 2 R_L \right)}$$

10.250 INVALID-ORDER-250 $Z(s) = \left(\frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{R_4 \left(C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1},\ \infty,\ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_4 g_m \left(C_4 L_4 s^2 + 1 \right) \left(C_L R_L s + 1 \right)}{(C_1 s + g_m)\left(C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 C_L R_4 R_L s^2 + 2 C_4 L_4 s^2 + 2 C_4 R_4 s + C_L R_4 s + 2 C_L R_L s + 2 \right)}$$

10.251 INVALID-ORDER-251 $Z(s) = \left(\frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{R_4 \left(C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1},\ \infty,\ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_4 g_m \left(C_4 L_4 s^2 + 1 \right) \left(C_L L_L s^2 + 1 \right)}{(C_1 s + g_m)\left(2 C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_L R_4 s^3 + 2 C_4 L_4 s^2 + 2 C_4 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2 \right)}$$

10.252 INVALID-ORDER-252 $Z(s) = \left(\frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{R_4 \left(C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1},\ \infty,\ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L R_4 g_m s \left(C_4 L_4 s^2 + 1 \right)}{(C_1 s + g_m)\left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 L_4 L_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_L R_4 s^2 + C_L L_L R_4 s^2 + 2 L_L s + R_4 \right)}$$

10.253 **INVALID-ORDER-253** $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_4 g_m \left(C_4 L_4 s^2 + 1\right)\left(C_L L_L s^2 + C_L R_L s + 1\right)}{(C_1 s + g_m)\left(2 C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 C_L L_L R_4 s^3 + 2 C_4 C_L R_4 R_L s^2 + 2 C_4 L_4 s^2 + 2 C_4 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2 C_L R_L s + 2\right)}$$

10.254 **INVALID-ORDER-254** $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_4 R_L g_m s \left(C_4 L_4 s^2 + 1\right)}{(C_1 s + g_m)\left(C_4 C_L L_4 L_L R_4 R_L s^4 + C_4 L_4 L_L R_4 s^3 + 2 C_4 L_4 L_L R_L s^3 + C_4 L_4 R_4 R_L s^2 + 2 C_4 L_L R_4 R_L s^2 + C_L L_L R_4 R_L s^2 + L_L R_4 s + 2 L_L R_L s + R_4 R_L\right)}$$

10.255 **INVALID-ORDER-255** $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{R_4 g_m \left(C_4 L_4 s^2 + 1\right)\left(C_L L_L R_L s^2 + L_L s + R_L\right)}{(C_1 s + g_m)\left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_L R_L s^4 + 2 C_4 C_L L_L R_4 R_L s^3 + 2 C_4 L_4 L_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + 2 C_4 L_L R_4 s^2 + 2 C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + 2 L_L s + R_4 + 2 R_L\right)}$$

10.256 **INVALID-ORDER-256** $Z(s) = \left(\frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{R_L\left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_4 R_L g_m \left(C_4 L_4 s^2 + 1\right)\left(C_L L_L s^2 + 1\right)}{(C_1 s + g_m)\left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_L R_L s^4 + C_4 C_L L_4 R_4 R_L s^3 + 2 C_4 C_L L_L R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + 2 C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + C_L R_4 R_L s + R_4 + 2 R_L\right)}$$

10.257 **INVALID-ORDER-257** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ R_4, \ \infty, \ R_L \right)$

$$H(s) = \frac{R_1 R_4 R_L g_m}{(R_4 + 2 R_L)(C_1 R_1 s + R_1 g_m + 1)}$$

10.258 **INVALID-ORDER-258** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ R_4, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 R_4 g_m \left(C_L L_L s^2 + 1\right)}{(C_1 R_1 s + R_1 g_m + 1)\left(2 C_L L_L s^2 + C_L R_4 s + 2\right)}$$

10.259 **INVALID-ORDER-259** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L R_1 R_4 g_m s}{(C_1 R_1 s + R_1 g_m + 1)\left(C_L L_L R_4 s^2 + 2 L_L s + R_4\right)}$$

10.260 **INVALID-ORDER-260** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ R_4, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 R_4 g_m \left(C_L L_L s^2 + C_L R_L s + 1\right)}{(C_1 R_1 s + R_1 g_m + 1)\left(2 C_L L_L s^2 + C_L R_4 s + 2 C_L R_L s + 2\right)}$$

10.261 **INVALID-ORDER-261** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_1 R_4 R_L g_m s}{(C_1 R_1 s + R_1 g_m + 1)\left(C_L L_L R_4 R_L s^2 + L_L R_4 s + 2 L_L R_L s + R_4 R_L\right)}$$

10.262 INVALID-ORDER-262 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{R_1 R_4 g_m \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{\left(C_1 R_1 s + R_1 g_m + 1 \right) \left(C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + 2 L_L s + R_4 + 2 R_L \right)}$$

10.263 INVALID-ORDER-263 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_1 R_4 R_L g_m \left(C_L L_L s^2 + 1 \right)}{\left(C_1 R_1 s + R_1 g_m + 1 \right) \left(C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + C_L R_4 R_L s + R_4 + 2 R_L \right)}$$

10.264 INVALID-ORDER-264 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 g_m}{s \left(2 C_4 + C_L \right) \left(C_1 R_1 s + R_1 g_m + 1 \right)}$$

10.265 INVALID-ORDER-265 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 g_m \left(C_L R_L s + 1 \right)}{s \left(C_1 R_1 s + R_1 g_m + 1 \right) \left(2 C_4 C_L R_L s + 2 C_4 + C_L \right)}$$

10.266 INVALID-ORDER-266 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 g_m \left(C_L L_L s^2 + 1 \right)}{s \left(C_1 R_1 s + R_1 g_m + 1 \right) \left(2 C_4 C_L L_L s^2 + 2 C_4 + C_L \right)}$$

10.267 INVALID-ORDER-267 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L R_1 g_m s}{\left(C_1 R_1 s + R_1 g_m + 1 \right) \left(2 C_4 L_L s^2 + C_L L_L s^2 + 1 \right)}$$

10.268 INVALID-ORDER-268 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 g_m \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{s \left(C_1 R_1 s + R_1 g_m + 1 \right) \left(2 C_4 C_L L_L s^2 + 2 C_4 C_L R_L s + 2 C_4 + C_L \right)}$$

10.269 INVALID-ORDER-269 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_1 R_L g_m s}{\left(C_1 R_1 s + R_1 g_m + 1 \right) \left(2 C_4 L_L R_L s^2 + C_L L_L R_L s^2 + L_L s + R_L \right)}$$

10.270 INVALID-ORDER-270 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{R_1 g_m \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{\left(C_1 R_1 s + R_1 g_m + 1 \right) \left(2 C_4 C_L L_L R_L s^3 + 2 C_4 L_L s^2 + 2 C_4 R_L s + C_L L_L s^2 + 1 \right)}$$

10.271 INVALID-ORDER-271 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{R_L(C_L L_L s^2 + 1)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_1 R_L g_m \left(C_L L_L s^2 + 1 \right)}{\left(C_1 R_1 s + R_1 g_m + 1 \right) \left(2 C_4 C_L L_L R_L s^3 + 2 C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1 \right)}$$

10.272 INVALID-ORDER-272 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 R_4 g_m \left(C_L R_L s + 1 \right)}{\left(C_1 R_1 s + R_1 g_m + 1 \right) \left(2 C_4 C_L R_4 R_L s^2 + 2 C_4 R_4 s + C_L R_4 s + 2 C_L R_L s + 2 \right)}$$

10.273 INVALID-ORDER-273 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 R_4 g_m \left(C_L L_L s^2 + 1 \right)}{\left(C_1 R_1 s + R_1 g_m + 1 \right) \left(2 C_4 C_L L_L R_4 s^3 + 2 C_4 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2 \right)}$$

10.274 INVALID-ORDER-274 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L R_1 R_4 g_m s}{\left(C_1 R_1 s + R_1 g_m + 1 \right) \left(2 C_4 L_L R_4 s^2 + C_L L_L R_4 s^2 + 2 L_L s + R_4 \right)}$$

10.275 INVALID-ORDER-275 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 R_4 g_m \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{\left(C_1 R_1 s + R_1 g_m + 1 \right) \left(2 C_4 C_L L_L R_4 s^3 + 2 C_4 C_L R_4 R_L s^2 + 2 C_4 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2 C_L R_L s + 2 \right)}$$

10.276 INVALID-ORDER-276 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_1 R_4 R_L g_m s}{\left(C_1 R_1 s + R_1 g_m + 1 \right) \left(2 C_4 L_L R_4 R_L s^2 + C_L L_L R_4 R_L s^2 + L_L R_4 s + 2 L_L R_L s + R_4 R_L \right)}$$

10.277 INVALID-ORDER-277 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{R_1 R_4 g_m \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{\left(C_1 R_1 s + R_1 g_m + 1 \right) \left(2 C_4 C_L L_L R_4 R_L s^3 + 2 C_4 L_L R_4 s^2 + 2 C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + 2 L_L s + R_4 + 2 R_L \right)}$$

10.278 INVALID-ORDER-278 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{R_L(C_L L_L s^2 + 1)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_1 R_4 R_L g_m \left(C_L L_L s^2 + 1 \right)}{\left(C_1 R_1 s + R_1 g_m + 1 \right) \left(2 C_4 C_L L_L R_4 R_L s^3 + 2 C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + C_L R_4 R_L s + R_4 + 2 R_L \right)}$$

10.279 INVALID-ORDER-279 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 g_m \left(C_4 R_4 s + 1 \right)}{s \left(C_1 R_1 s + R_1 g_m + 1 \right) \left(C_4 C_L R_4 s + 2 C_4 + C_L \right)}$$

10.280 INVALID-ORDER-280 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{R_1 R_L g_m \left(C_4 R_4 s + 1 \right)}{\left(C_1 R_1 s + R_1 g_m + 1 \right) \left(C_4 C_L R_4 R_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L R_L s + 1 \right)}$$

10.281 INVALID-ORDER-281 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 g_m \left(C_4 R_4 s + 1 \right) \left(C_L R_L s + 1 \right)}{s \left(C_1 R_1 s + R_1 g_m + 1 \right) \left(C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L \right)}$$

10.282 INVALID-ORDER-282 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 g_m \left(C_4 R_4 s + 1 \right) \left(C_L L_L s^2 + 1 \right)}{s \left(C_1 R_1 s + R_1 g_m + 1 \right) \left(2 C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2 C_4 + C_L \right)}$$

10.283 INVALID-ORDER-283 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L R_1 g_m s \left(C_4 R_4 s + 1 \right)}{\left(C_1 R_1 s + R_1 g_m + 1 \right) \left(C_4 C_L L_L R_4 s^3 + 2 C_4 L_L s^2 + C_4 R_4 s + C_L L_L s^2 + 1 \right)}$$

10.284 INVALID-ORDER-284 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 g_m \left(C_4 R_4 s + 1 \right) \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{s \left(C_1 R_1 s + R_1 g_m + 1 \right) \left(2 C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L \right)}$$

10.285 INVALID-ORDER-285 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_1 R_L g_m s \left(C_4 R_4 s + 1 \right)}{\left(C_1 R_1 s + R_1 g_m + 1 \right) \left(C_4 C_L L_L R_4 R_L s^3 + C_4 L_L R_4 s^2 + 2 C_4 L_L R_L s^2 + C_4 R_4 R_L s + C_L L_L R_L s^2 + L_L s + R_L \right)}$$

10.286 INVALID-ORDER-286 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{R_1 g_m \left(C_4 R_4 s + 1 \right) \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{\left(C_1 R_1 s + R_1 g_m + 1 \right) \left(C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + 2 C_4 L_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + 1 \right)}$$

10.287 INVALID-ORDER-287 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_1 R_L g_m \left(C_4 R_4 s + 1 \right) \left(C_L L_L s^2 + 1 \right)}{\left(C_1 R_1 s + R_1 g_m + 1 \right) \left(C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + C_4 C_L R_4 R_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1 \right)}$$

10.288 INVALID-ORDER-288 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ R_L \right)$

$$H(s) = \frac{R_1 R_L g_m \left(C_4 L_4 s^2 + 1 \right)}{\left(C_1 R_1 s + R_1 g_m + 1 \right) \left(C_4 L_4 s^2 + 2 C_4 R_L s + 1 \right)}$$

10.289 INVALID-ORDER-289 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 g_m \left(C_4 L_4 s^2 + 1 \right)}{s \left(C_1 R_1 s + R_1 g_m + 1 \right) \left(C_4 C_L L_4 s^2 + 2C_4 + C_L \right)}$$

10.290 INVALID-ORDER-290 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{R_1 R_L g_m \left(C_4 L_4 s^2 + 1 \right)}{\left(C_1 R_1 s + R_1 g_m + 1 \right) \left(C_4 C_L L_4 R_L s^3 + C_4 L_4 s^2 + 2C_4 R_L s + C_L R_L s + 1 \right)}$$

10.291 INVALID-ORDER-291 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 g_m \left(C_4 L_4 s^2 + 1 \right) \left(C_L R_L s + 1 \right)}{s \left(C_1 R_1 s + R_1 g_m + 1 \right) \left(C_4 C_L L_4 s^2 + 2C_4 C_L R_L s + 2C_4 + C_L \right)}$$

10.292 INVALID-ORDER-292 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 g_m \left(C_4 L_4 s^2 + 1 \right) \left(C_L L_L s^2 + 1 \right)}{s \left(C_1 R_1 s + R_1 g_m + 1 \right) \left(C_4 C_L L_4 s^2 + 2C_4 C_L L_L s^2 + 2C_4 + C_L \right)}$$

10.293 INVALID-ORDER-293 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L R_1 g_m s \left(C_4 L_4 s^2 + 1 \right)}{\left(C_1 R_1 s + R_1 g_m + 1 \right) \left(C_4 C_L L_4 L_L s^4 + C_4 L_4 s^2 + 2C_4 L_L s^2 + C_L L_L s^2 + 1 \right)}$$

10.294 INVALID-ORDER-294 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 g_m \left(C_4 L_4 s^2 + 1 \right) \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{s \left(C_1 R_1 s + R_1 g_m + 1 \right) \left(C_4 C_L L_4 s^2 + 2C_4 C_L L_L s^2 + 2C_4 C_L R_L s + 2C_4 + C_L \right)}$$

10.295 INVALID-ORDER-295 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_1 R_L g_m s \left(C_4 L_4 s^2 + 1 \right)}{\left(C_1 R_1 s + R_1 g_m + 1 \right) \left(C_4 C_L L_4 L_L R_L s^4 + C_4 L_4 L_L s^3 + C_4 L_4 R_L s^2 + 2C_4 L_L R_L s^2 + C_L L_L R_L s^2 + L_L s + R_L \right)}$$

10.296 INVALID-ORDER-296 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{R_1 g_m \left(C_4 L_4 s^2 + 1 \right) \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{\left(C_1 R_1 s + R_1 g_m + 1 \right) \left(C_4 C_L L_4 L_L s^4 + 2C_4 C_L L_L R_L s^3 + C_4 L_4 s^2 + 2C_4 L_L s^2 + 2C_4 R_L s + C_L L_L s^2 + 1 \right)}$$

10.297 INVALID-ORDER-297 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_1 R_L g_m \left(C_4 L_4 s^2 + 1 \right) \left(C_L L_L s^2 + 1 \right)}{\left(C_1 R_1 s + R_1 g_m + 1 \right) \left(C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_L s^3 + 2C_4 C_L L_L R_L s^3 + C_4 L_4 s^2 + 2C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1 \right)}$$

10.298 **INVALID-ORDER-298** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ R_L \right)$

$$H(s) = \frac{L_4 R_1 R_L g_m s}{(C_1 R_1 s + R_1 g_m + 1)(2C_4 L_4 R_L s^2 + L_4 s + 2R_L)}$$

10.299 **INVALID-ORDER-299** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_4 R_1 g_m s}{(C_1 R_1 s + R_1 g_m + 1)(2C_4 L_4 s^2 + C_L L_4 s^2 + 2)}$$

10.300 **INVALID-ORDER-300** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{L_4 R_1 R_L g_m s}{(C_1 R_1 s + R_1 g_m + 1)(2C_4 L_4 R_L s^2 + C_L L_4 R_L s^2 + L_4 s + 2R_L)}$$

10.301 **INVALID-ORDER-301** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_4 R_1 g_m s (C_L R_L s + 1)}{(C_1 R_1 s + R_1 g_m + 1)(2C_4 C_L L_4 R_L s^3 + 2C_4 L_4 s^2 + C_L L_4 s^2 + 2C_L R_L s + 2)}$$

10.302 **INVALID-ORDER-302** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_4 R_1 g_m s (C_L L_L s^2 + 1)}{(C_1 R_1 s + R_1 g_m + 1)(2C_4 C_L L_4 L_L s^4 + 2C_4 L_4 s^2 + C_L L_4 s^2 + 2C_L L_L s^2 + 2)}$$

10.303 **INVALID-ORDER-303** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_4 L_L R_1 g_m s}{(C_1 R_1 s + R_1 g_m + 1)(2C_4 L_4 L_L s^2 + C_L L_4 L_L s^2 + L_4 + 2L_L)}$$

10.304 **INVALID-ORDER-304** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_4 R_1 g_m s (C_L L_L s^2 + C_L R_L s + 1)}{(C_1 R_1 s + R_1 g_m + 1)(2C_4 C_L L_4 L_L s^4 + 2C_4 C_L L_4 R_L s^3 + 2C_4 L_4 s^2 + C_L L_4 s^2 + 2C_L L_L s^2 + 2C_L R_L s + 2)}$$

10.305 **INVALID-ORDER-305** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_4 L_L R_1 R_L g_m s}{(C_1 R_1 s + R_1 g_m + 1)(2C_4 L_4 L_L R_L s^2 + C_L L_4 L_L R_L s^2 + L_4 L_L s + L_4 R_L + 2L_L R_L)}$$

10.306 **INVALID-ORDER-306** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{L_4 R_1 g_m s (C_L L_L R_L s^2 + L_L s + R_L)}{(C_1 R_1 s + R_1 g_m + 1)(2C_4 C_L L_4 L_L R_L s^4 + 2C_4 L_4 L_L s^3 + 2C_4 L_4 R_L s^2 + C_L L_4 L_L s^3 + 2C_L L_L R_L s^2 + L_4 s + 2L_L s + 2R_L)}$$

10.307 **INVALID-ORDER-307** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{R_L (C_L L_L s^2 + 1)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{L_4 R_1 R_L g_m s (C_L L_L s^2 + 1)}{(C_1 R_1 s + R_1 g_m + 1)(2C_4 C_L L_4 L_L R_L s^4 + 2C_4 L_4 R_L s^2 + C_L L_4 L_L s^3 + C_L L_4 R_L s^2 + 2C_L L_L R_L s^2 + L_4 s + 2R_L)}$$

10.308 **INVALID-ORDER-308** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L \right)$

$$H(s) = \frac{R_1 R_L g_m \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{\left(C_1 R_1 s + R_1 g_m + 1 \right) \left(C_4 L_4 s^2 + C_4 R_4 s + 2 C_4 R_L s + 1 \right)}$$

10.309 **INVALID-ORDER-309** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 g_m \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{s \left(C_1 R_1 s + R_1 g_m + 1 \right) \left(C_4 C_L L_4 s^2 + C_4 C_L R_4 s + 2 C_4 + C_L \right)}$$

10.310 **INVALID-ORDER-310** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{R_1 R_L g_m \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{\left(C_1 R_1 s + R_1 g_m + 1 \right) \left(C_4 C_L L_4 R_L s^3 + C_4 C_L R_4 R_L s^2 + C_4 L_4 s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L R_L s + 1 \right)}$$

10.311 **INVALID-ORDER-311** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 g_m \left(C_L R_L s + 1 \right) \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{s \left(C_1 R_1 s + R_1 g_m + 1 \right) \left(C_4 C_L L_4 s^2 + C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L \right)}$$

10.312 **INVALID-ORDER-312** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 g_m \left(C_L L_L s^2 + 1 \right) \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{s \left(C_1 R_1 s + R_1 g_m + 1 \right) \left(C_4 C_L L_4 s^2 + 2 C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2 C_4 + C_L \right)}$$

10.313 **INVALID-ORDER-313** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L R_1 g_m \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{\left(C_1 R_1 s + R_1 g_m + 1 \right) \left(C_4 C_L L_4 L_L s^4 + C_4 C_L L_L R_4 s^3 + C_4 L_4 s^2 + 2 C_4 L_L s^2 + C_4 R_4 s + C_L L_L s^2 + 1 \right)}$$

10.314 **INVALID-ORDER-314** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 g_m \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right) \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{s \left(C_1 R_1 s + R_1 g_m + 1 \right) \left(C_4 C_L L_4 s^2 + 2 C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L \right)}$$

10.315 **INVALID-ORDER-315** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_1 R_L g_m s \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{\left(C_1 R_1 s + R_1 g_m + 1 \right) \left(C_4 C_L L_4 L_L R_L s^4 + C_4 C_L L_L R_4 R_L s^3 + C_4 L_4 L_L s^3 + C_4 L_4 R_L s^2 + C_4 L_L R_4 s^2 + 2 C_4 L_L R_L s^2 + C_4 R_4 R_L s + C_L L_L R_L s^2 + L_L s + R_L \right)}$$

10.316 **INVALID-ORDER-316** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{R_1 g_m \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right) \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{\left(C_1 R_1 s + R_1 g_m + 1 \right) \left(C_4 C_L L_4 L_L s^4 + C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + C_4 L_4 s^2 + 2 C_4 L_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + 1 \right)}$$

10.317 INVALID-ORDER-317 $Z(s) = \left(\frac{R_1}{C_1R_1s+1}, \ \infty, \ \infty, \ L_4s + R_4 + \frac{1}{C_4s}, \ \infty, \ \frac{R_L(C_LL_Ls^2+1)}{C_LL_Ls^2+C_LR_Ls+1} \right)$

$$H(s) = \frac{R_1R_Lg_m\left(C_LL_Ls^2+1\right)\left(C_4L_4s^2+C_4R_4s+1\right)}{(C_1R_1s+R_1g_m+1)\left(C_4C_LL_4L_Ls^4+C_4C_LL_4R_Ls^3+C_4C_LL_LR_4s^3+2C_4C_LL_LR_Ls^3+C_4C_LR_4R_Ls^2+C_4L_4s^2+C_4R_4s+2C_4R_Ls+C_LL_Ls^2+C_LR_Ls+1\right)}$$

10.318 INVALID-ORDER-318 $Z(s) = \left(\frac{R_1}{C_1R_1s+1}, \ \infty, \ \infty, \ \frac{L_4R_4s}{C_4L_4R_4s^2+L_4s+R_4}, \ \infty, \ R_L \right)$

$$H(s) = \frac{L_4R_1R_4R_Lg_ms}{(C_1R_1s+R_1g_m+1)\left(2C_4L_4R_4R_Ls^2+L_4R_4s+2L_4R_Ls+2R_4R_L\right)}$$

10.319 INVALID-ORDER-319 $Z(s) = \left(\frac{R_1}{C_1R_1s+1}, \ \infty, \ \infty, \ \frac{L_4R_4s}{C_4L_4R_4s^2+L_4s+R_4}, \ \infty, \ \frac{1}{C_Ls} \right)$

$$H(s) = \frac{L_4R_1R_4g_ms}{(C_1R_1s+R_1g_m+1)\left(2C_4L_4R_4s^2+C_LL_4R_4s^2+2L_4s+2R_4\right)}$$

10.320 INVALID-ORDER-320 $Z(s) = \left(\frac{R_1}{C_1R_1s+1}, \ \infty, \ \infty, \ \frac{L_4R_4s}{C_4L_4R_4s^2+L_4s+R_4}, \ \infty, \ \frac{R_L}{C_LR_Ls+1} \right)$

$$H(s) = \frac{L_4R_1R_4R_Lg_ms}{(C_1R_1s+R_1g_m+1)\left(2C_4L_4R_4R_Ls^2+C_LL_4R_4R_Ls^2+L_4R_4s+2L_4R_Ls+2R_4R_L\right)}$$

10.321 INVALID-ORDER-321 $Z(s) = \left(\frac{R_1}{C_1R_1s+1}, \ \infty, \ \infty, \ \frac{L_4R_4s}{C_4L_4R_4s^2+L_4s+R_4}, \ \infty, \ R_L + \frac{1}{C_Ls} \right)$

$$H(s) = \frac{L_4R_1R_4g_ms(C_LR_Ls+1)}{(C_1R_1s+R_1g_m+1)\left(2C_4C_LL_4R_4R_Ls^3+2C_4L_4R_4s^2+C_LL_4R_4s^2+2C_LL_4R_Ls^2+2C_LR_4R_Ls+2L_4s+2R_4\right)}$$

10.322 INVALID-ORDER-322 $Z(s) = \left(\frac{R_1}{C_1R_1s+1}, \ \infty, \ \infty, \ \frac{L_4R_4s}{C_4L_4R_4s^2+L_4s+R_4}, \ \infty, \ L_Ls + \frac{1}{C_Ls} \right)$

$$H(s) = \frac{L_4R_1R_4g_ms\left(C_LL_Ls^2+1\right)}{(C_1R_1s+R_1g_m+1)\left(2C_4C_LL_4L_LR_4s^4+2C_4L_4R_4s^2+2C_LL_4L_Ls^3+C_LL_4R_4s^2+2C_LL_LR_4s^2+2L_4s+2R_4\right)}$$

10.323 INVALID-ORDER-323 $Z(s) = \left(\frac{R_1}{C_1R_1s+1}, \ \infty, \ \infty, \ \frac{L_4R_4s}{C_4L_4R_4s^2+L_4s+R_4}, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1} \right)$

$$H(s) = \frac{L_4L_LR_1R_4g_ms}{(C_1R_1s+R_1g_m+1)\left(2C_4L_4L_LR_4s^2+C_LL_4L_LR_4s^2+2L_4L_Ls+L_4R_4+2L_LR_4\right)}$$

10.324 INVALID-ORDER-324 $Z(s) = \left(\frac{R_1}{C_1R_1s+1}, \ \infty, \ \infty, \ \frac{L_4R_4s}{C_4L_4R_4s^2+L_4s+R_4}, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls} \right)$

$$H(s) = \frac{L_4R_1R_4g_ms\left(C_LL_Ls^2+C_LR_Ls+1\right)}{(C_1R_1s+R_1g_m+1)\left(2C_4C_LL_4L_LR_4s^4+2C_4C_LL_4R_4R_Ls^3+2C_4L_4R_4s^2+2C_LL_4L_Ls^3+C_LL_4R_4s^2+2C_LL_4R_Ls^2+2C_LL_LR_4s^2+2C_LR_4R_Ls+2L_4s+2R_4\right)}$$

10.325 INVALID-ORDER-325 $Z(s) = \left(\frac{R_1}{C_1R_1s+1}, \ \infty, \ \infty, \ \frac{L_4R_4s}{C_4L_4R_4s^2+L_4s+R_4}, \ \infty, \ \frac{L_LR_Ls}{C_LL_LR_Ls^2+L_Ls+R_L} \right)$

$$H(s) = \frac{L_4L_LR_1R_4R_Lg_ms}{(C_1R_1s+R_1g_m+1)\left(2C_4L_4L_LR_4R_Ls^2+C_LL_4L_LR_4R_Ls^2+L_4L_LR_4s+2L_4L_LR_Ls+L_4R_4R_L+2L_LR_4R_L\right)}$$

10.326 INVALID-ORDER-326 $Z(s) = \left(\frac{R_1}{C_1R_1s+1}, \ \infty, \ \infty, \ \frac{L_4R_4s}{C_4L_4R_4s^2+L_4s+R_4}, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1} + R_L \right)$

$$H(s) = \frac{L_4R_1R_4g_ms\left(C_LL_LR_Ls^2+L_Ls+R_L\right)}{(C_1R_1s+R_1g_m+1)\left(2C_4C_LL_4L_LR_4R_Ls^4+2C_4L_4L_LR_4s^3+2C_4L_4R_4R_Ls^2+C_LL_4L_LR_4s^3+2C_LL_4L_LR_Ls^3+2C_LL_LR_4R_Ls^2+2L_4L_Ls^2+L_4R_4s+2L_4R_Ls+2L_LR_4s+2R_4R_L\right)}$$

10.327 **INVALID-ORDER-327** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{L_4 R_1 R_4 R_L g_m s \left(C_L L_L s^2 + 1 \right)}{(C_1 R_1 s + R_1 g_m + 1) \left(2 C_4 C_L L_4 L_L R_4 R_L s^4 + 2 C_4 L_4 R_4 R_L s^2 + C_L L_4 L_L R_4 s^3 + 2 C_L L_4 L_L R_L s^3 + C_L L_4 R_4 R_L s^2 + 2 C_L L_L R_4 R_L s^2 + L_4 R_4 s + 2 L_4 R_L s + 2 R_4 R_L \right)}$$

10.328 **INVALID-ORDER-328** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ R_L \right)$

$$H(s) = \frac{R_1 R_L g_m \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{(C_1 R_1 s + R_1 g_m + 1) \left(C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + L_4 s + R_4 + 2 R_L \right)}$$

10.329 **INVALID-ORDER-329** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 g_m \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{(C_1 R_1 s + R_1 g_m + 1) \left(C_4 C_L L_4 R_4 s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + C_L R_4 s + 2 \right)}$$

10.330 **INVALID-ORDER-330** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{R_1 R_L g_m \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{(C_1 R_1 s + R_1 g_m + 1) \left(C_4 C_L L_4 R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + C_L L_4 R_L s^2 + C_L R_4 R_L s + L_4 s + R_4 + 2 R_L \right)}$$

10.331 **INVALID-ORDER-331** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 g_m \left(C_L R_L s + 1 \right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{(C_1 R_1 s + R_1 g_m + 1) \left(C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + C_L R_4 s + 2 C_L R_L s + 2 \right)}$$

10.332 **INVALID-ORDER-332** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 g_m \left(C_L L_L s^2 + 1 \right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{(C_1 R_1 s + R_1 g_m + 1) \left(2 C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L L_L s^2 + C_L R_4 s + 2 \right)}$$

10.333 **INVALID-ORDER-333** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L R_1 g_m s \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{(C_1 R_1 s + R_1 g_m + 1) \left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 L_4 L_L s^3 + C_4 L_4 R_4 s^2 + C_L L_4 L_L s^3 + C_L L_L R_4 s^2 + L_4 s + 2 L_L s + R_4 \right)}$$

10.334 **INVALID-ORDER-334** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 g_m \left(C_L L_L s^2 + C_L R_L s + 1 \right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{(C_1 R_1 s + R_1 g_m + 1) \left(2 C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L L_L s^2 + C_L R_4 s + 2 C_L R_L s + 2 \right)}$$

10.335 **INVALID-ORDER-335** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_1 R_L g_m s \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{(C_1 R_1 s + R_1 g_m + 1) \left(C_4 C_L L_4 L_L R_4 R_L s^4 + C_4 L_4 L_L R_4 s^3 + 2 C_4 L_4 L_L R_L s^3 + C_4 L_4 R_4 R_L s^2 + C_L L_4 L_L R_L s^3 + C_L L_L R_4 R_L s^2 + L_4 L_L s^2 + L_4 R_L s + L_L R_4 s + 2 L_L R_L s + R_4 R_L \right)}$$

10.336 **INVALID-ORDER-336** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{R_1 g_m \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right) \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{(C_1 R_1 s + R_1 g_m + 1)(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_L R_L s^4 + 2 C_4 L_4 L_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + C_L L_4 L_L s^3 + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + L_4 s + 2 L_L s + R_4 + 2 R_L)}$$

10.337 **INVALID-ORDER-337** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_1 R_L g_m \left(C_L L_L s^2 + 1 \right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{(C_1 R_1 s + R_1 g_m + 1)(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_L R_L s^4 + C_4 C_L L_4 R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + C_L L_4 L_L s^3 + C_L L_4 R_L s^2 + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + C_L R_4 R_L s + L_4 s + R_4 + 2 R_L)}$$

10.338 **INVALID-ORDER-338** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{R_4 \left(C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ R_L \right)$

$$H(s) = \frac{R_1 R_4 R_L g_m \left(C_4 L_4 s^2 + 1 \right)}{(C_1 R_1 s + R_1 g_m + 1)(C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + 2 C_4 R_4 R_L s + R_4 + 2 R_L)}$$

10.339 **INVALID-ORDER-339** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{R_4 \left(C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 R_4 g_m \left(C_4 L_4 s^2 + 1 \right)}{(C_1 R_1 s + R_1 g_m + 1)(C_4 C_L L_4 R_4 s^3 + 2 C_4 L_4 s^2 + 2 C_4 R_4 s + C_L R_4 s + 2)}$$

10.340 **INVALID-ORDER-340** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{R_4 \left(C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{R_1 R_4 R_L g_m \left(C_4 L_4 s^2 + 1 \right)}{(C_1 R_1 s + R_1 g_m + 1)(C_4 C_L L_4 R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + 2 C_4 R_4 R_L s + C_L R_4 R_L s + R_4 + 2 R_L)}$$

10.341 **INVALID-ORDER-341** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{R_4 \left(C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 R_4 g_m \left(C_4 L_4 s^2 + 1 \right) \left(C_L R_L s + 1 \right)}{(C_1 R_1 s + R_1 g_m + 1)(C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 C_L R_4 R_L s^2 + 2 C_4 L_4 s^2 + 2 C_4 R_4 s + C_L R_4 s + 2 C_L R_L s + 2)}$$

10.342 **INVALID-ORDER-342** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{R_4 \left(C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 R_4 g_m \left(C_4 L_4 s^2 + 1 \right) \left(C_L L_L s^2 + 1 \right)}{(C_1 R_1 s + R_1 g_m + 1)(2 C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_L R_4 s^3 + 2 C_4 L_4 s^2 + 2 C_4 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2)}$$

10.343 **INVALID-ORDER-343** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{R_4 \left(C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L R_1 R_4 g_m s \left(C_4 L_4 s^2 + 1 \right)}{(C_1 R_1 s + R_1 g_m + 1)(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 L_4 L_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_L R_4 s^2 + C_L L_L R_4 s^2 + 2 L_L s + R_4)}$$

10.344 **INVALID-ORDER-344** $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{R_4 \left(C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 R_4 g_m \left(C_4 L_4 s^2 + 1 \right) \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{(C_1 R_1 s + R_1 g_m + 1)(2 C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 C_L L_L R_4 s^3 + 2 C_4 C_L R_4 R_L s^2 + 2 C_4 L_4 s^2 + 2 C_4 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2 C_L R_L s + 2)}$$

10.345 INVALID-ORDER-345 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_1 R_4 R_L g_m s \left(C_4 L_4 s^2 + 1\right)}{(C_1 R_1 s + R_1 g_m + 1)\left(C_4 C_L L_4 L_L R_4 R_L s^4 + C_4 L_4 L_L R_4 s^3 + 2 C_4 L_4 L_L R_L s^3 + C_4 L_4 R_4 R_L s^2 + 2 C_4 L_L R_4 R_L s^2 + C_L L_L R_4 R_L s^2 + L_L R_4 s + 2 L_L R_L s + R_4 R_L \right)}$$

10.346 INVALID-ORDER-346 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{R_1 R_4 g_m \left(C_4 L_4 s^2 + 1\right)\left(C_L L_L R_L s^2 + L_L s + R_L\right)}{(C_1 R_1 s + R_1 g_m + 1)\left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_L R_L s^4 + 2 C_4 C_L L_L R_4 R_L s^3 + 2 C_4 L_4 L_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + 2 C_4 L_L R_4 s^2 + 2 C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + 2 L_L s + R_4 + 2 R_L \right)}$$

10.347 INVALID-ORDER-347 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{R_L\left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_1 R_4 R_L g_m \left(C_4 L_4 s^2 + 1\right)\left(C_L L_L s^2 + 1\right)}{(C_1 R_1 s + R_1 g_m + 1)\left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_L R_L s^4 + C_4 C_L L_4 R_4 R_L s^3 + 2 C_4 C_L L_L R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + 2 C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + C_L R_4 R_L s + R_4 + 2 R_L \right)}$$

10.348 INVALID-ORDER-348 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4, \ \infty, \ R_L \right)$

$$H(s) = \frac{R_4 R_L g_m \left(C_1 R_1 s + 1\right)}{(R_4 + 2 R_L)\left(C_1 R_1 g_m s + C_1 s + g_m\right)}$$

10.349 INVALID-ORDER-349 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_4 g_m \left(C_1 R_1 s + 1\right)\left(C_L L_L s^2 + 1\right)}{(2 C_L L_L s^2 + C_L R_4 s + 2)\left(C_1 R_1 g_m s + C_1 s + g_m\right)}$$

10.350 INVALID-ORDER-350 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L R_4 g_m s \left(C_1 R_1 s + 1\right)}{(C_1 R_1 g_m s + C_1 s + g_m)\left(C_L L_L R_4 s^2 + 2 L_L s + R_4\right)}$$

10.351 INVALID-ORDER-351 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_4 g_m \left(C_1 R_1 s + 1\right)\left(C_L L_L s^2 + C_L R_L s + 1\right)}{(C_1 R_1 g_m s + C_1 s + g_m)\left(2 C_L L_L s^2 + C_L R_4 s + 2 C_L R_L s + 2\right)}$$

10.352 INVALID-ORDER-352 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_4 R_L g_m s \left(C_1 R_1 s + 1\right)}{(C_1 R_1 g_m s + C_1 s + g_m)\left(C_L L_L R_4 R_L s^2 + L_L R_4 s + 2 L_L R_L s + R_4 R_L\right)}$$

10.353 INVALID-ORDER-353 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{R_4 g_m \left(C_1 R_1 s + 1\right)\left(C_L L_L R_L s^2 + L_L s + R_L\right)}{(C_1 R_1 g_m s + C_1 s + g_m)\left(C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + 2 L_L s + R_4 + 2 R_L\right)}$$

10.354 **INVALID-ORDER-354** $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ R_4,\ \infty,\ \frac{R_L\left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1}\right)$

$$H(s) = \frac{R_4 R_L g_m \left(C_1 R_1 s + 1\right)\left(C_L L_L s^2 + 1\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_L L_L R_4 s^2 + 2C_L L_L R_L s^2 + C_L R_4 R_L s + R_4 + 2R_L\right)}$$

10.355 **INVALID-ORDER-355** $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{1}{C_4 s},\ \infty,\ \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m \left(C_1 R_1 s + 1\right)}{s\left(2C_4 + C_L\right)\left(C_1 R_1 g_m s + C_1 s + g_m\right)}$$

10.356 **INVALID-ORDER-356** $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{1}{C_4 s},\ \infty,\ R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m \left(C_1 R_1 s + 1\right)\left(C_L R_L s + 1\right)}{s\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(2C_4 C_L R_L s + 2C_4 + C_L\right)}$$

10.357 **INVALID-ORDER-357** $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{1}{C_4 s},\ \infty,\ L_L s + \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m \left(C_1 R_1 s + 1\right)\left(C_L L_L s^2 + 1\right)}{s\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(2C_4 C_L L_L s^2 + 2C_4 + C_L\right)}$$

10.358 **INVALID-ORDER-358** $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{1}{C_4 s},\ \infty,\ \frac{L_L s}{C_L L_L s^2 + 1}\right)$

$$H(s) = \frac{L_L g_m s \left(C_1 R_1 s + 1\right)}{\left(2C_4 L_L s^2 + C_L L_L s^2 + 1\right)\left(C_1 R_1 g_m s + C_1 s + g_m\right)}$$

10.359 **INVALID-ORDER-359** $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{1}{C_4 s},\ \infty,\ L_L s + R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m \left(C_1 R_1 s + 1\right)\left(C_L L_L s^2 + C_L R_L s + 1\right)}{s\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(2C_4 C_L L_L s^2 + 2C_4 C_L R_L s + 2C_4 + C_L\right)}$$

10.360 **INVALID-ORDER-360** $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{1}{C_4 s},\ \infty,\ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L}\right)$

$$H(s) = \frac{L_L R_L g_m s \left(C_1 R_1 s + 1\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(2C_4 L_L R_L s^2 + C_L L_L R_L s^2 + L_L s + R_L\right)}$$

10.361 **INVALID-ORDER-361** $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{1}{C_4 s},\ \infty,\ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$

$$H(s) = \frac{g_m \left(C_1 R_1 s + 1\right)\left(C_L L_L R_L s^2 + L_L s + R_L\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(2C_4 C_L L_L R_L s^3 + 2C_4 L_L s^2 + 2C_4 R_L s + C_L L_L s^2 + 1\right)}$$

10.362 **INVALID-ORDER-362** $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{1}{C_4 s},\ \infty,\ \frac{R_L\left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1}\right)$

$$H(s) = \frac{R_L g_m \left(C_1 R_1 s + 1\right)\left(C_L L_L s^2 + 1\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(2C_4 C_L L_L R_L s^3 + 2C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1\right)}$$

10.363 INVALID-ORDER-363 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \; \infty, \; \infty, \; \frac{R_4}{C_4 R_4 s + 1}, \; \infty, \; R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{R_4 g_m \left(C_1 R_1 s + 1\right)\left(C_L R_L s + 1\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(2 C_4 C_L R_4 R_L s^2 + 2 C_4 R_4 s + C_L R_4 s + 2 C_L R_L s + 2\right)}$$

10.364 INVALID-ORDER-364 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \; \infty, \; \infty, \; \frac{R_4}{C_4 R_4 s + 1}, \; \infty, \; L_L s + \frac{1}{C_L s}\right)$

$$H(s) = \frac{R_4 g_m \left(C_1 R_1 s + 1\right)\left(C_L L_L s^2 + 1\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(2 C_4 C_L L_L R_4 s^3 + 2 C_4 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2\right)}$$

10.365 INVALID-ORDER-365 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \; \infty, \; \infty, \; \frac{R_4}{C_4 R_4 s + 1}, \; \infty, \; \frac{L_L s}{C_L L_L s^2 + 1}\right)$

$$H(s) = \frac{L_L R_4 g_m s \left(C_1 R_1 s + 1\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(2 C_4 L_L R_4 s^2 + C_L L_L R_4 s^2 + 2 L_L s + R_4\right)}$$

10.366 INVALID-ORDER-366 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \; \infty, \; \infty, \; \frac{R_4}{C_4 R_4 s + 1}, \; \infty, \; L_L s + R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{R_4 g_m \left(C_1 R_1 s + 1\right)\left(C_L L_L s^2 + C_L R_L s + 1\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(2 C_4 C_L L_L R_4 s^3 + 2 C_4 C_L R_4 R_L s^2 + 2 C_4 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2 C_L R_L s + 2\right)}$$

10.367 INVALID-ORDER-367 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \; \infty, \; \infty, \; \frac{R_4}{C_4 R_4 s + 1}, \; \infty, \; \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L}\right)$

$$H(s) = \frac{L_L R_4 R_L g_m s \left(C_1 R_1 s + 1\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(2 C_4 L_L R_4 R_L s^2 + C_L L_L R_4 R_L s^2 + L_L R_4 s + 2 L_L R_L s + R_4 R_L\right)}$$

10.368 INVALID-ORDER-368 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \; \infty, \; \infty, \; \frac{R_4}{C_4 R_4 s + 1}, \; \infty, \; \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$

$$H(s) = \frac{R_4 g_m \left(C_1 R_1 s + 1\right)\left(C_L L_L R_L s^2 + L_L s + R_L\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(2 C_4 C_L L_L R_4 R_L s^3 + 2 C_4 L_L R_4 s^2 + 2 C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + 2 L_L s + R_4 + 2 R_L\right)}$$

10.369 INVALID-ORDER-369 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \; \infty, \; \infty, \; \frac{R_4}{C_4 R_4 s + 1}, \; \infty, \; \frac{R_L \left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1}\right)$

$$H(s) = \frac{R_4 R_L g_m \left(C_1 R_1 s + 1\right)\left(C_L L_L s^2 + 1\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(2 C_4 C_L L_L R_4 R_L s^3 + 2 C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + C_L R_4 R_L s + R_4 + 2 R_L\right)}$$

10.370 INVALID-ORDER-370 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \; \infty, \; \infty, \; R_4 + \frac{1}{C_4 s}, \; \infty, \; \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m \left(C_1 R_1 s + 1\right)\left(C_4 R_4 s + 1\right)}{s \left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 C_L R_4 s + 2 C_4 + C_L\right)}$$

10.371 INVALID-ORDER-371 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \; \infty, \; \infty, \; R_4 + \frac{1}{C_4 s}, \; \infty, \; \frac{R_L}{C_L R_L s + 1}\right)$

$$H(s) = \frac{R_L g_m \left(C_1 R_1 s + 1\right)\left(C_4 R_4 s + 1\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 C_L R_4 R_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L R_L s + 1\right)}$$

10.372 **INVALID-ORDER-372** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_1 R_1 s + 1 \right) \left(C_4 R_4 s + 1 \right) \left(C_L R_L s + 1 \right)}{s \left(C_1 R_1 g_m s + C_1 s + g_m \right) \left(C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L \right)}$$

10.373 **INVALID-ORDER-373** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_1 R_1 s + 1 \right) \left(C_4 R_4 s + 1 \right) \left(C_L L_L s^2 + 1 \right)}{s \left(C_1 R_1 g_m s + C_1 s + g_m \right) \left(2 C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2 C_4 + C_L \right)}$$

10.374 **INVALID-ORDER-374** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L g_m s \left(C_1 R_1 s + 1 \right) \left(C_4 R_4 s + 1 \right)}{\left(C_1 R_1 g_m s + C_1 s + g_m \right) \left(C_4 C_L L_L R_4 s^3 + 2 C_4 L_L s^2 + C_4 R_4 s + C_L L_L s^2 + 1 \right)}$$

10.375 **INVALID-ORDER-375** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_1 R_1 s + 1 \right) \left(C_4 R_4 s + 1 \right) \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{s \left(C_1 R_1 g_m s + C_1 s + g_m \right) \left(2 C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L \right)}$$

10.376 **INVALID-ORDER-376** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_L g_m s \left(C_1 R_1 s + 1 \right) \left(C_4 R_4 s + 1 \right)}{\left(C_1 R_1 g_m s + C_1 s + g_m \right) \left(C_4 C_L L_L R_4 R_L s^3 + C_4 L_L R_4 s^2 + 2 C_4 L_L R_L s^2 + C_4 R_4 R_L s + C_L L_L R_L s^2 + L_L s + R_L \right)}$$

10.377 **INVALID-ORDER-377** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{g_m \left(C_1 R_1 s + 1 \right) \left(C_4 R_4 s + 1 \right) \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{\left(C_1 R_1 g_m s + C_1 s + g_m \right) \left(C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + 2 C_4 L_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + 1 \right)}$$

10.378 **INVALID-ORDER-378** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_L g_m \left(C_1 R_1 s + 1 \right) \left(C_4 R_4 s + 1 \right) \left(C_L L_L s^2 + 1 \right)}{\left(C_1 R_1 g_m s + C_1 s + g_m \right) \left(C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + C_4 C_L R_4 R_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1 \right)}$$

10.379 **INVALID-ORDER-379** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ R_L \right)$

$$H(s) = \frac{R_L g_m \left(C_1 R_1 s + 1 \right) \left(C_4 L_4 s^2 + 1 \right)}{\left(C_4 L_4 s^2 + 2 C_4 R_L s + 1 \right) \left(C_1 R_1 g_m s + C_1 s + g_m \right)}$$

10.380 **INVALID-ORDER-380** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_1 R_1 s + 1 \right) \left(C_4 L_4 s^2 + 1 \right)}{s \left(C_1 R_1 g_m s + C_1 s + g_m \right) \left(C_4 C_L L_4 s^2 + 2 C_4 + C_L \right)}$$

10.381 INVALID-ORDER-381 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$

$$H(s) = \frac{R_L g_m \left(C_1 R_1 s + 1\right) \left(C_4 L_4 s^2 + 1\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right) \left(C_4 C_L L_4 R_L s^3 + C_4 L_4 s^2 + 2 C_4 R_L s + C_L R_L s + 1\right)}$$

10.382 INVALID-ORDER-382 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m \left(C_1 R_1 s + 1\right) \left(C_4 L_4 s^2 + 1\right) \left(C_L R_L s + 1\right)}{s \left(C_1 R_1 g_m s + C_1 s + g_m\right) \left(C_4 C_L L_4 s^2 + 2 C_4 C_L R_L s + 2 C_4 + C_L\right)}$$

10.383 INVALID-ORDER-383 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m \left(C_1 R_1 s + 1\right) \left(C_4 L_4 s^2 + 1\right) \left(C_L L_L s^2 + 1\right)}{s \left(C_1 R_1 g_m s + C_1 s + g_m\right) \left(C_4 C_L L_4 s^2 + 2 C_4 C_L L_L s^2 + 2 C_4 + C_L\right)}$$

10.384 INVALID-ORDER-384 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right)$

$$H(s) = \frac{L_L g_m s \left(C_1 R_1 s + 1\right) \left(C_4 L_4 s^2 + 1\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right) \left(C_4 C_L L_4 L_L s^4 + C_4 L_4 s^2 + 2 C_4 L_L s^2 + C_L L_L s^2 + 1\right)}$$

10.385 INVALID-ORDER-385 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m \left(C_1 R_1 s + 1\right) \left(C_4 L_4 s^2 + 1\right) \left(C_L L_L s^2 + C_L R_L s + 1\right)}{s \left(C_1 R_1 g_m s + C_1 s + g_m\right) \left(C_4 C_L L_4 s^2 + 2 C_4 C_L L_L s^2 + 2 C_4 C_L R_L s + 2 C_4 + C_L\right)}$$

10.386 INVALID-ORDER-386 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L}\right)$

$$H(s) = \frac{L_L R_L g_m s \left(C_1 R_1 s + 1\right) \left(C_4 L_4 s^2 + 1\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right) \left(C_4 C_L L_4 L_L R_L s^4 + C_4 L_4 L_L s^3 + C_4 L_4 R_L s^2 + 2 C_4 L_L R_L s^2 + C_L L_L R_L s^2 + L_L s + R_L\right)}$$

10.387 INVALID-ORDER-387 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$

$$H(s) = \frac{g_m \left(C_1 R_1 s + 1\right) \left(C_4 L_4 s^2 + 1\right) \left(C_L L_L R_L s^2 + L_L s + R_L\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right) \left(C_4 C_L L_4 L_L s^4 + 2 C_4 C_L L_L R_L s^3 + C_4 L_4 s^2 + 2 C_4 L_L s^2 + 2 C_4 R_L s + C_L L_L s^2 + 1\right)}$$

10.388 INVALID-ORDER-388 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1}\right)$

$$H(s) = \frac{R_L g_m \left(C_1 R_1 s + 1\right) \left(C_4 L_4 s^2 + 1\right) \left(C_L L_L s^2 + 1\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right) \left(C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_L s^3 + 2 C_4 C_L L_L R_L s^3 + C_4 L_4 s^2 + 2 C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1\right)}$$

10.389 INVALID-ORDER-389 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ R_L\right)$

$$H(s) = \frac{L_4 R_L g_m s \left(C_1 R_1 s + 1\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right) \left(2 C_4 L_4 R_L s^2 + L_4 s + 2 R_L\right)}$$

10.390 INVALID-ORDER-390 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_4 g_m s \left(C_1 R_1 s + 1\right)}{\left(2C_4 L_4 s^2 + C_L L_4 s^2 + 2\right)\left(C_1 R_1 g_m s + C_1 s + g_m\right)}$$

10.391 INVALID-ORDER-391 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$

$$H(s) = \frac{L_4 R_L g_m s \left(C_1 R_1 s + 1\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(2C_4 L_4 R_L s^2 + C_L L_4 R_L s^2 + L_4 s + 2R_L\right)}$$

10.392 INVALID-ORDER-392 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_4 g_m s \left(C_1 R_1 s + 1\right)\left(C_L R_L s + 1\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(2C_4 C_L L_4 R_L s^3 + 2C_4 L_4 s^2 + C_L L_4 s^2 + 2C_L R_L s + 2\right)}$$

10.393 INVALID-ORDER-393 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_4 g_m s \left(C_1 R_1 s + 1\right)\left(C_L L_L s^2 + 1\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(2C_4 C_L L_4 L_L s^4 + 2C_4 L_4 s^2 + C_L L_4 s^2 + 2C_L L_L s^2 + 2\right)}$$

10.394 INVALID-ORDER-394 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right)$

$$H(s) = \frac{L_4 L_L g_m s \left(C_1 R_1 s + 1\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(2C_4 L_4 L_L s^2 + C_L L_4 L_L s^2 + L_4 + 2L_L\right)}$$

10.395 INVALID-ORDER-395 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_4 g_m s \left(C_1 R_1 s + 1\right)\left(C_L L_L s^2 + C_L R_L s + 1\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(2C_4 C_L L_4 L_L s^4 + 2C_4 C_L L_4 R_L s^3 + 2C_4 L_4 s^2 + C_L L_4 s^2 + 2C_L L_L s^2 + 2C_L R_L s + 2\right)}$$

10.396 INVALID-ORDER-396 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L}\right)$

$$H(s) = \frac{L_4 L_L R_L g_m s \left(C_1 R_1 s + 1\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(2C_4 L_4 L_L R_L s^2 + C_L L_4 L_L R_L s^2 + L_4 L_L s + L_4 R_L + 2L_L R_L\right)}$$

10.397 INVALID-ORDER-397 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$

$$H(s) = \frac{L_4 g_m s \left(C_1 R_1 s + 1\right)\left(C_L L_L R_L s^2 + L_L s + R_L\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(2C_4 C_L L_4 L_L R_L s^4 + 2C_4 L_4 L_L s^3 + 2C_4 L_4 R_L s^2 + C_L L_4 L_L s^3 + 2C_L L_L R_L s^2 + L_4 s + 2L_L s + 2R_L\right)}$$

10.398 INVALID-ORDER-398 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1}\right)$

$$H(s) = \frac{L_4 R_L g_m s \left(C_1 R_1 s + 1\right)\left(C_L L_L s^2 + 1\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(2C_4 C_L L_4 L_L R_L s^4 + 2C_4 L_4 R_L s^2 + C_L L_4 L_L s^3 + C_L L_4 R_L s^2 + 2C_L L_L R_L s^2 + L_4 s + 2R_L\right)}$$

10.399 **INVALID-ORDER-399** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L\right)$

$$H(s) = \frac{R_L g_m \left(C_1 R_1 s + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 2 C_4 R_L s + 1\right)}$$

10.400 **INVALID-ORDER-400** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m \left(C_1 R_1 s + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{s\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 C_L L_4 s^2 + C_4 C_L R_4 s + 2 C_4 + C_L\right)}$$

10.401 **INVALID-ORDER-401** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$

$$H(s) = \frac{R_L g_m \left(C_1 R_1 s + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 C_L L_4 R_L s^3 + C_4 C_L R_4 R_L s^2 + C_4 L_4 s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L R_L s + 1\right)}$$

10.402 **INVALID-ORDER-402** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m \left(C_1 R_1 s + 1\right)\left(C_L R_L s + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{s\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 C_L L_4 s^2 + C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L\right)}$$

10.403 **INVALID-ORDER-403** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m \left(C_1 R_1 s + 1\right)\left(C_L L_L s^2 + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{s\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 C_L L_4 s^2 + 2 C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2 C_4 + C_L\right)}$$

10.404 **INVALID-ORDER-404** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right)$

$$H(s) = \frac{L_L g_m s \left(C_1 R_1 s + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 C_L L_4 L_L s^4 + C_4 C_L L_L R_4 s^3 + C_4 L_4 s^2 + 2 C_4 L_L s^2 + C_4 R_4 s + C_L L_L s^2 + 1\right)}$$

10.405 **INVALID-ORDER-405** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m \left(C_1 R_1 s + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)\left(C_L L_L s^2 + C_L R_L s + 1\right)}{s\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 C_L L_4 s^2 + 2 C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L\right)}$$

10.406 **INVALID-ORDER-406** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L}\right)$

$$H(s) = \frac{L_L R_L g_m s \left(C_1 R_1 s + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 C_L L_4 L_L R_L s^4 + C_4 C_L L_L R_4 R_L s^3 + C_4 L_4 L_L s^3 + C_4 L_4 R_L s^2 + C_4 L_L R_4 s^2 + 2 C_4 L_L R_L s^2 + C_4 R_4 R_L s + C_L L_L R_L s^2 + L_L s + R_L\right)}$$

10.407 **INVALID-ORDER-407** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$

$$H(s) = \frac{g_m \left(C_1 R_1 s + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)\left(C_L L_L R_L s^2 + L_L s + R_L\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 C_L L_4 L_L s^4 + C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + C_4 L_4 s^2 + 2 C_4 L_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + 1\right)}$$

10.408 **INVALID-ORDER-408** $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ L_4 s + R_4 + \frac{1}{C_4 s},\ \infty,\ \frac{R_L\left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1}\right)$

$$H(s) = \frac{R_L g_m \left(C_1 R_1 s + 1\right)\left(C_L L_L s^2 + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_L s^3 + C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + C_4 C_L R_4 R_L s^2 + C_4 L_4 s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1\right)}$$

10.409 **INVALID-ORDER-409** $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4},\ \infty,\ R_L\right)$

$$H(s) = \frac{L_4 R_4 R_L g_m s \left(C_1 R_1 s + 1\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(2 C_4 L_4 R_4 R_L s^2 + L_4 R_4 s + 2 L_4 R_L s + 2 R_4 R_L\right)}$$

10.410 **INVALID-ORDER-410** $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4},\ \infty,\ \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_4 R_4 g_m s \left(C_1 R_1 s + 1\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(2 C_4 L_4 R_4 s^2 + C_L L_4 R_4 s^2 + 2 L_4 s + 2 R_4\right)}$$

10.411 **INVALID-ORDER-411** $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4},\ \infty,\ \frac{R_L}{C_L R_L s + 1}\right)$

$$H(s) = \frac{L_4 R_4 R_L g_m s \left(C_1 R_1 s + 1\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(2 C_4 L_4 R_4 R_L s^2 + C_L L_4 R_4 R_L s^2 + L_4 R_4 s + 2 L_4 R_L s + 2 R_4 R_L\right)}$$

10.412 **INVALID-ORDER-412** $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4},\ \infty,\ R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_4 R_4 g_m s \left(C_1 R_1 s + 1\right)\left(C_L R_L s + 1\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(2 C_4 C_L L_4 R_4 R_L s^3 + 2 C_4 L_4 R_4 s^2 + C_L L_4 R_4 s^2 + 2 C_L L_4 R_L s^2 + 2 C_L R_4 R_L s + 2 L_4 s + 2 R_4\right)}$$

10.413 **INVALID-ORDER-413** $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4},\ \infty,\ L_L s + \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_4 R_4 g_m s \left(C_1 R_1 s + 1\right)\left(C_L L_L s^2 + 1\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(2 C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 L_4 R_4 s^2 + 2 C_L L_4 L_L s^3 + C_L L_4 R_4 s^2 + 2 C_L L_L R_4 s^2 + 2 L_4 s + 2 R_4\right)}$$

10.414 **INVALID-ORDER-414** $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4},\ \infty,\ \frac{L_L s}{C_L L_L s^2 + 1}\right)$

$$H(s) = \frac{L_4 L_L R_4 g_m s \left(C_1 R_1 s + 1\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(2 C_4 L_4 L_L R_4 s^2 + C_L L_4 L_L R_4 s^2 + 2 L_4 L_L s + L_4 R_4 + 2 L_L R_4\right)}$$

10.415 **INVALID-ORDER-415** $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4},\ \infty,\ L_L s + R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_4 R_4 g_m s \left(C_1 R_1 s + 1\right)\left(C_L L_L s^2 + C_L R_L s + 1\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(2 C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 R_4 R_L s^3 + 2 C_4 L_4 R_4 s^2 + 2 C_L L_4 L_L s^3 + C_L L_4 R_4 s^2 + 2 C_L L_4 R_L s^2 + 2 C_L L_L R_4 s^2 + 2 C_L R_4 R_L s + 2 L_4 s + 2 R_4\right)}$$

10.416 **INVALID-ORDER-416** $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4},\ \infty,\ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L}\right)$

$$H(s) = \frac{L_4 L_L R_4 R_L g_m s \left(C_1 R_1 s + 1\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(2 C_4 L_4 L_L R_4 R_L s^2 + C_L L_4 L_L R_4 R_L s^2 + L_4 L_L R_4 s + 2 L_4 L_L R_L s + L_4 R_4 R_L + 2 L_L R_4 R_L\right)}$$

10.417 **INVALID-ORDER-417** $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4},\ \infty,\ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$

$$H(s) = \frac{L_4 R_4 g_m s \left(C_1 R_1 s + 1\right)\left(C_L L_L R_L s^2 + L_L s + R_L\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(2 C_4 C_L L_4 L_L R_4 R_L s^4 + 2 C_4 L_4 L_L R_4 s^3 + 2 C_4 L_4 R_4 R_L s^2 + C_L L_4 L_L R_4 s^3 + 2 C_L L_4 L_L R_L s^3 + 2 C_L L_L R_4 R_L s^2 + 2 L_4 L_L s^2 + L_4 R_4 s + 2 L_4 R_L s + 2 L_L R_4 s + 2 R_4 R_L\right)}$$

10.418 **INVALID-ORDER-418** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{R_L(C_L L_L s^2 + 1)}{C_L L_L s^2 + C_L R_L s + 1}\right)$

$$H(s) = \frac{L_4 R_4 R_L g_m s (C_1 R_1 s + 1)(C_L L_L s^2 + 1)}{(C_1 R_1 g_m s + C_1 s + g_m)(2C_4 C_L L_4 L_L R_4 R_L s^4 + 2C_4 L_4 R_4 R_L s^2 + C_L L_4 L_L R_4 s^3 + 2C_L L_4 L_L R_L s^3 + C_L L_4 R_4 R_L s^2 + 2C_L L_L R_4 R_L s^2 + L_4 R_4 s + 2L_4 R_L s + 2R_4 R_L)}$$

10.419 **INVALID-ORDER-419** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ R_L\right)$

$$H(s) = \frac{R_L g_m (C_1 R_1 s + 1)(C_4 L_4 R_4 s^2 + L_4 s + R_4)}{(C_1 R_1 g_m s + C_1 s + g_m)(C_4 L_4 R_4 s^2 + 2C_4 L_4 R_L s^2 + L_4 s + R_4 + 2R_L)}$$

10.420 **INVALID-ORDER-420** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m (C_1 R_1 s + 1)(C_4 L_4 R_4 s^2 + L_4 s + R_4)}{(C_1 R_1 g_m s + C_1 s + g_m)(C_4 C_L L_4 R_4 s^3 + 2C_4 L_4 s^2 + C_L L_4 s^2 + C_L R_4 s + 2)}$$

10.421 **INVALID-ORDER-421** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$

$$H(s) = \frac{R_L g_m (C_1 R_1 s + 1)(C_4 L_4 R_4 s^2 + L_4 s + R_4)}{(C_1 R_1 g_m s + C_1 s + g_m)(C_4 C_L L_4 R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2C_4 L_4 R_L s^2 + C_L L_4 R_L s^2 + C_L R_4 R_L s + L_4 s + R_4 + 2R_L)}$$

10.422 **INVALID-ORDER-422** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m (C_1 R_1 s + 1)(C_L R_L s + 1)(C_4 L_4 R_4 s^2 + L_4 s + R_4)}{(C_1 R_1 g_m s + C_1 s + g_m)(C_4 C_L L_4 R_4 s^3 + 2C_4 C_L L_4 R_L s^3 + 2C_4 L_4 s^2 + C_L L_4 s^2 + C_L R_4 s + 2C_L R_L s + 2)}$$

10.423 **INVALID-ORDER-423** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m (C_1 R_1 s + 1)(C_L L_L s^2 + 1)(C_4 L_4 R_4 s^2 + L_4 s + R_4)}{(C_1 R_1 g_m s + C_1 s + g_m)(2C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2C_4 L_4 s^2 + C_L L_4 s^2 + 2C_L L_L s^2 + C_L R_4 s + 2)}$$

10.424 **INVALID-ORDER-424** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right)$

$$H(s) = \frac{L_L g_m s (C_1 R_1 s + 1)(C_4 L_4 R_4 s^2 + L_4 s + R_4)}{(C_1 R_1 g_m s + C_1 s + g_m)(C_4 C_L L_4 L_L R_4 s^4 + 2C_4 L_4 L_L s^3 + C_4 L_4 R_4 s^2 + C_L L_4 L_L s^3 + C_L L_L R_4 s^2 + L_4 s + 2L_L s + R_4)}$$

10.425 **INVALID-ORDER-425** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m (C_1 R_1 s + 1)(C_L L_L s^2 + C_L R_L s + 1)(C_4 L_4 R_4 s^2 + L_4 s + R_4)}{(C_1 R_1 g_m s + C_1 s + g_m)(2C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2C_4 C_L L_4 R_L s^3 + 2C_4 L_4 s^2 + C_L L_4 s^2 + 2C_L L_L s^2 + C_L R_4 s + 2C_L R_L s + 2)}$$

10.426 **INVALID-ORDER-426** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L}\right)$

$$H(s) = \frac{L_L R_L g_m s (C_1 R_1 s + 1)(C_4 L_4 R_4 s^2 + L_4 s + R_4)}{(C_1 R_1 g_m s + C_1 s + g_m)(C_4 C_L L_4 L_L R_4 R_L s^4 + C_4 L_4 L_L R_4 s^3 + 2C_4 L_4 L_L R_L s^3 + C_4 L_4 R_4 R_L s^2 + C_L L_4 L_L R_L s^3 + C_L L_L R_4 R_L s^2 + L_4 L_L s^2 + L_4 R_L s + L_L R_4 s + 2L_L R_L s + R_4 R_L)}$$

10.427 INVALID-ORDER-427 $Z(s) = \left(R_1 + \frac{1}{C_1s}, \ \infty, \ \infty, \ \frac{L_4s}{C_4L_4s^2+1} + R_4, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1} + R_L\right)$

$$H(s) = \frac{g_m\left(C_1R_1s+1\right)\left(C_4L_4R_4s^2+L_4s+R_4\right)\left(C_LL_LR_Ls^2+L_Ls+R_L\right)}{(C_1R_1g_ms+C_1s+g_m)\left(C_4C_LL_4L_LR_4s^4+2C_4C_LL_4L_LR_Ls^4+2C_4L_4L_Ls^3+C_4L_4R_4s^2+2C_4L_4R_Ls^2+C_LL_4L_Ls^3+C_LL_LR_4s^2+2C_LL_LR_Ls^2+L_4s+2L_Ls+R_4+2R_L\right)}$$

10.428 INVALID-ORDER-428 $Z(s) = \left(R_1 + \frac{1}{C_1s}, \ \infty, \ \infty, \ \frac{L_4s}{C_4L_4s^2+1} + R_4, \ \infty, \ \frac{R_L\left(C_LL_Ls^2+1\right)}{C_LL_Ls^2+C_LR_Ls+1}\right)$

$$H(s) = \frac{R_Lg_m\left(C_1R_1s+1\right)\left(C_LL_Ls^2+1\right)\left(C_4L_4R_4s^2+L_4s+R_4\right)}{(C_1R_1g_ms+C_1s+g_m)\left(C_4C_LL_4L_LR_4s^4+2C_4C_LL_4L_LR_Ls^4+C_4C_LL_4R_4R_Ls^3+C_4L_4R_4s^2+2C_4L_4R_Ls^2+C_LL_4L_Ls^3+C_LL_4R_Ls^2+C_LL_LR_4s^2+2C_LL_LR_Ls^2+C_LR_4R_Ls+L_4s+R_4+2R_L\right)}$$

10.429 INVALID-ORDER-429 $Z(s) = \left(R_1 + \frac{1}{C_1s}, \ \infty, \ \infty, \ \frac{R_4\left(C_4L_4s^2+1\right)}{C_4L_4s^2+C_4R_4s+1}, \ \infty, \ R_L\right)$

$$H(s) = \frac{R_4R_Lg_m\left(C_1R_1s+1\right)\left(C_4L_4s^2+1\right)}{(C_1R_1g_ms+C_1s+g_m)\left(C_4L_4R_4s^2+2C_4L_4R_Ls^2+2C_4R_4R_Ls+R_4+2R_L\right)}$$

10.430 INVALID-ORDER-430 $Z(s) = \left(R_1 + \frac{1}{C_1s}, \ \infty, \ \infty, \ \frac{R_4\left(C_4L_4s^2+1\right)}{C_4L_4s^2+C_4R_4s+1}, \ \infty, \ \frac{1}{C_Ls}\right)$

$$H(s) = \frac{R_4g_m\left(C_1R_1s+1\right)\left(C_4L_4s^2+1\right)}{(C_1R_1g_ms+C_1s+g_m)\left(C_4C_LL_4R_4s^3+2C_4L_4s^2+2C_4R_4s+C_LR_4s+2\right)}$$

10.431 INVALID-ORDER-431 $Z(s) = \left(R_1 + \frac{1}{C_1s}, \ \infty, \ \infty, \ \frac{R_4\left(C_4L_4s^2+1\right)}{C_4L_4s^2+C_4R_4s+1}, \ \infty, \ \frac{R_L}{C_LR_Ls+1}\right)$

$$H(s) = \frac{R_4R_Lg_m\left(C_1R_1s+1\right)\left(C_4L_4s^2+1\right)}{(C_1R_1g_ms+C_1s+g_m)\left(C_4C_LL_4R_4R_Ls^3+C_4L_4R_4s^2+2C_4L_4R_Ls^2+2C_4R_4R_Ls+C_LR_4R_Ls+R_4+2R_L\right)}$$

10.432 INVALID-ORDER-432 $Z(s) = \left(R_1 + \frac{1}{C_1s}, \ \infty, \ \infty, \ \frac{R_4\left(C_4L_4s^2+1\right)}{C_4L_4s^2+C_4R_4s+1}, \ \infty, \ R_L + \frac{1}{C_Ls}\right)$

$$H(s) = \frac{R_4g_m\left(C_1R_1s+1\right)\left(C_4L_4s^2+1\right)\left(C_LR_Ls+1\right)}{(C_1R_1g_ms+C_1s+g_m)\left(C_4C_LL_4R_4s^3+2C_4C_LL_4R_Ls^3+2C_4C_LR_4R_Ls^2+2C_4L_4s^2+2C_4R_4s+C_LR_4s+2C_LR_Ls+2\right)}$$

10.433 INVALID-ORDER-433 $Z(s) = \left(R_1 + \frac{1}{C_1s}, \ \infty, \ \infty, \ \frac{R_4\left(C_4L_4s^2+1\right)}{C_4L_4s^2+C_4R_4s+1}, \ \infty, \ L_Ls + \frac{1}{C_Ls}\right)$

$$H(s) = \frac{R_4g_m\left(C_1R_1s+1\right)\left(C_4L_4s^2+1\right)\left(C_LL_Ls^2+1\right)}{(C_1R_1g_ms+C_1s+g_m)\left(2C_4C_LL_4L_Ls^4+C_4C_LL_4R_4s^3+2C_4C_LL_LR_4s^3+2C_4L_4s^2+2C_4R_4s+2C_LL_Ls^2+C_LR_4s+2\right)}$$

10.434 INVALID-ORDER-434 $Z(s) = \left(R_1 + \frac{1}{C_1s}, \ \infty, \ \infty, \ \frac{R_4\left(C_4L_4s^2+1\right)}{C_4L_4s^2+C_4R_4s+1}, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1}\right)$

$$H(s) = \frac{L_LR_4g_ms\left(C_1R_1s+1\right)\left(C_4L_4s^2+1\right)}{(C_1R_1g_ms+C_1s+g_m)\left(C_4C_LL_4L_LR_4s^4+2C_4L_4L_Ls^3+C_4L_4R_4s^2+2C_4L_LR_4s^2+C_LL_LR_4s^2+2L_Ls+R_4\right)}$$

10.435 INVALID-ORDER-435 $Z(s) = \left(R_1 + \frac{1}{C_1s}, \ \infty, \ \infty, \ \frac{R_4\left(C_4L_4s^2+1\right)}{C_4L_4s^2+C_4R_4s+1}, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls}\right)$

$$H(s) = \frac{R_4g_m\left(C_1R_1s+1\right)\left(C_4L_4s^2+1\right)\left(C_LL_Ls^2+C_LR_Ls+1\right)}{(C_1R_1g_ms+C_1s+g_m)\left(2C_4C_LL_4L_Ls^4+C_4C_LL_4R_4s^3+2C_4C_LL_4R_Ls^3+2C_4C_LL_LR_4s^3+2C_4C_LR_4R_Ls^2+2C_4L_4s^2+2C_4R_4s+2C_LL_Ls^2+C_LR_4s+2C_LR_Ls+2\right)}$$

10.436 **INVALID-ORDER-436** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_4 R_L g_m s \left(C_1 R_1 s + 1\right)\left(C_4 L_4 s^2 + 1\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 C_L L_4 L_L R_4 R_L s^4 + C_4 L_4 L_L R_4 s^3 + 2 C_4 L_4 L_L R_L s^3 + C_4 L_4 R_4 R_L s^2 + 2 C_4 L_L R_4 R_L s^2 + C_L L_L R_4 R_L s^2 + L_L R_4 s + 2 L_L R_L s + R_4 R_L\right)}$$

10.437 **INVALID-ORDER-437** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{R_4 g_m \left(C_1 R_1 s + 1\right)\left(C_4 L_4 s^2 + 1\right)\left(C_L L_L R_L s^2 + L_L s + R_L\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_L R_L s^4 + 2 C_4 C_L L_L R_4 R_L s^3 + 2 C_4 L_4 L_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + 2 C_4 L_L R_4 s^2 + 2 C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + 2 L_L s + R_4 + 2 R_L\right)}$$

10.438 **INVALID-ORDER-438** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{R_L\left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_4 R_L g_m \left(C_1 R_1 s + 1\right)\left(C_4 L_4 s^2 + 1\right)\left(C_L L_L s^2 + 1\right)}{\left(C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_L R_L s^4 + C_4 C_L L_4 R_4 R_L s^3 + 2 C_4 C_L L_L R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + 2 C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + C_L R_4 R_L s + R_4 + 2 R_L\right)}$$

10.439 **INVALID-ORDER-439** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_4 g_m \left(C_1 L_1 s^2 + 1\right)}{\left(C_L R_4 s + 2\right)\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)}$$

10.440 **INVALID-ORDER-440** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{R_4 R_L g_m \left(C_1 L_1 s^2 + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(C_L R_4 R_L s + R_4 + 2 R_L\right)}$$

10.441 **INVALID-ORDER-441** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_4 g_m \left(C_1 L_1 s^2 + 1\right)\left(C_L R_L s + 1\right)}{\left(C_L R_4 s + 2 C_L R_L s + 2\right)\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)}$$

10.442 **INVALID-ORDER-442** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_4 g_m \left(C_1 L_1 s^2 + 1\right)\left(C_L L_L s^2 + 1\right)}{\left(2 C_L L_L s^2 + C_L R_4 s + 2\right)\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)}$$

10.443 **INVALID-ORDER-443** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L R_4 g_m s \left(C_1 L_1 s^2 + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(C_L L_L R_4 s^2 + 2 L_L s + R_4\right)}$$

10.444 **INVALID-ORDER-444** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_4 g_m \left(C_1 L_1 s^2 + 1\right)\left(C_L L_L s^2 + C_L R_L s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(2 C_L L_L s^2 + C_L R_4 s + 2 C_L R_L s + 2\right)}$$

10.445 **INVALID-ORDER-445** $Z(s) = \left(L_1 s + \frac{1}{C_1 s},\ \infty,\ \infty,\ R_4,\ \infty,\ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L}\right)$

$$H(s) = \frac{L_L R_4 R_L g_m s \left(C_1 L_1 s^2 + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(C_L L_L R_4 R_L s^2 + L_L R_4 s + 2L_L R_L s + R_4 R_L\right)}$$

10.446 **INVALID-ORDER-446** $Z(s) = \left(L_1 s + \frac{1}{C_1 s},\ \infty,\ \infty,\ R_4,\ \infty,\ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$

$$H(s) = \frac{R_4 g_m \left(C_1 L_1 s^2 + 1\right)\left(C_L L_L R_L s^2 + L_L s + R_L\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(C_L L_L R_4 s^2 + 2C_L L_L R_L s^2 + 2L_L s + R_4 + 2R_L\right)}$$

10.447 **INVALID-ORDER-447** $Z(s) = \left(L_1 s + \frac{1}{C_1 s},\ \infty,\ \infty,\ R_4,\ \infty,\ \frac{R_L\left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1}\right)$

$$H(s) = \frac{R_4 R_L g_m \left(C_1 L_1 s^2 + 1\right)\left(C_L L_L s^2 + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(C_L L_L R_4 s^2 + 2C_L L_L R_L s^2 + C_L R_4 R_L s + R_4 + 2R_L\right)}$$

10.448 **INVALID-ORDER-448** $Z(s) = \left(L_1 s + \frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{1}{C_4 s},\ \infty,\ R_L\right)$

$$H(s) = \frac{R_L g_m \left(C_1 L_1 s^2 + 1\right)}{\left(2C_4 R_L s + 1\right)\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)}$$

10.449 **INVALID-ORDER-449** $Z(s) = \left(L_1 s + \frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{1}{C_4 s},\ \infty,\ \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m \left(C_1 L_1 s^2 + 1\right)}{s\left(2C_4 + C_L\right)\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)}$$

10.450 **INVALID-ORDER-450** $Z(s) = \left(L_1 s + \frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{1}{C_4 s},\ \infty,\ \frac{R_L}{C_L R_L s + 1}\right)$

$$H(s) = \frac{R_L g_m \left(C_1 L_1 s^2 + 1\right)}{\left(2C_4 R_L s + C_L R_L s + 1\right)\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)}$$

10.451 **INVALID-ORDER-451** $Z(s) = \left(L_1 s + \frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{1}{C_4 s},\ \infty,\ R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m \left(C_1 L_1 s^2 + 1\right)\left(C_L R_L s + 1\right)}{s\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(2C_4 C_L R_L s + 2C_4 + C_L\right)}$$

10.452 **INVALID-ORDER-452** $Z(s) = \left(L_1 s + \frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{1}{C_4 s},\ \infty,\ L_L s + \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m \left(C_1 L_1 s^2 + 1\right)\left(C_L L_L s^2 + 1\right)}{s\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(2C_4 C_L L_L s^2 + 2C_4 + C_L\right)}$$

10.453 **INVALID-ORDER-453** $Z(s) = \left(L_1 s + \frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{1}{C_4 s},\ \infty,\ \frac{L_L s}{C_L L_L s^2 + 1}\right)$

$$H(s) = \frac{L_L g_m s \left(C_1 L_1 s^2 + 1\right)}{\left(2C_4 L_L s^2 + C_L L_L s^2 + 1\right)\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)}$$

10.454 **INVALID-ORDER-454** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m \left(C_1 L_1 s^2 + 1\right) \left(C_L L_L s^2 + C_L R_L s + 1\right)}{s \left(C_1 L_1 g_m s^2 + C_1 s + g_m\right) \left(2 C_4 C_L L_L s^2 + 2 C_4 C_L R_L s + 2 C_4 + C_L\right)}$$

10.455 **INVALID-ORDER-455** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L}\right)$

$$H(s) = \frac{L_L R_L g_m s \left(C_1 L_1 s^2 + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right) \left(2 C_4 L_L R_L s^2 + C_L L_L R_L s^2 + L_L s + R_L\right)}$$

10.456 **INVALID-ORDER-456** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$

$$H(s) = \frac{g_m \left(C_1 L_1 s^2 + 1\right) \left(C_L L_L R_L s^2 + L_L s + R_L\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right) \left(2 C_4 C_L L_L R_L s^3 + 2 C_4 L_L s^2 + 2 C_4 R_L s + C_L L_L s^2 + 1\right)}$$

10.457 **INVALID-ORDER-457** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1}\right)$

$$H(s) = \frac{R_L g_m \left(C_1 L_1 s^2 + 1\right) \left(C_L L_L s^2 + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right) \left(2 C_4 C_L L_L R_L s^3 + 2 C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1\right)}$$

10.458 **INVALID-ORDER-458** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ R_L\right)$

$$H(s) = \frac{R_4 R_L g_m \left(C_1 L_1 s^2 + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right) \left(2 C_4 R_4 R_L s + R_4 + 2 R_L\right)}$$

10.459 **INVALID-ORDER-459** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{1}{C_L s}\right)$

$$H(s) = \frac{R_4 g_m \left(C_1 L_1 s^2 + 1\right)}{\left(2 C_4 R_4 s + C_L R_4 s + 2\right) \left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)}$$

10.460 **INVALID-ORDER-460** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$

$$H(s) = \frac{R_4 R_L g_m \left(C_1 L_1 s^2 + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right) \left(2 C_4 R_4 R_L s + C_L R_4 R_L s + R_4 + 2 R_L\right)}$$

10.461 **INVALID-ORDER-461** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{R_4 g_m \left(C_1 L_1 s^2 + 1\right) \left(C_L R_L s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right) \left(2 C_4 C_L R_4 R_L s^2 + 2 C_4 R_4 s + C_L R_4 s + 2 C_L R_L s + 2\right)}$$

10.462 **INVALID-ORDER-462** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$

$$H(s) = \frac{R_4 g_m \left(C_1 L_1 s^2 + 1\right) \left(C_L L_L s^2 + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right) \left(2 C_4 C_L L_L R_4 s^3 + 2 C_4 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2\right)}$$

10.463 INVALID-ORDER-463 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L R_4 g_m s \left(C_1 L_1 s^2 + 1 \right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m \right) \left(2 C_4 L_L R_4 s^2 + C_L L_L R_4 s^2 + 2 L_L s + R_4 \right)}$$

10.464 INVALID-ORDER-464 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_4 g_m \left(C_1 L_1 s^2 + 1 \right) \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m \right) \left(2 C_4 C_L L_L R_4 s^3 + 2 C_4 C_L R_4 R_L s^2 + 2 C_4 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2 C_L R_L s + 2 \right)}$$

10.465 INVALID-ORDER-465 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_4 R_L g_m s \left(C_1 L_1 s^2 + 1 \right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m \right) \left(2 C_4 L_L R_4 R_L s^2 + C_L L_L R_4 R_L s^2 + L_L R_4 s + 2 L_L R_L s + R_4 R_L \right)}$$

10.466 INVALID-ORDER-466 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{R_4 g_m \left(C_1 L_1 s^2 + 1 \right) \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m \right) \left(2 C_4 C_L L_L R_4 R_L s^3 + 2 C_4 L_L R_4 s^2 + 2 C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + 2 L_L s + R_4 + 2 R_L \right)}$$

10.467 INVALID-ORDER-467 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_4 R_L g_m \left(C_1 L_1 s^2 + 1 \right) \left(C_L L_L s^2 + 1 \right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m \right) \left(2 C_4 C_L L_L R_4 R_L s^3 + 2 C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + C_L R_4 R_L s + R_4 + 2 R_L \right)}$$

10.468 INVALID-ORDER-468 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L \right)$

$$H(s) = \frac{R_L g_m \left(C_1 L_1 s^2 + 1 \right) \left(C_4 R_4 s + 1 \right)}{\left(C_4 R_4 s + 2 C_4 R_L s + 1 \right) \left(C_1 L_1 g_m s^2 + C_1 s + g_m \right)}$$

10.469 INVALID-ORDER-469 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_1 L_1 s^2 + 1 \right) \left(C_4 R_4 s + 1 \right)}{s \left(C_1 L_1 g_m s^2 + C_1 s + g_m \right) \left(C_4 C_L R_4 s + 2 C_4 + C_L \right)}$$

10.470 INVALID-ORDER-470 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{R_L g_m \left(C_1 L_1 s^2 + 1 \right) \left(C_4 R_4 s + 1 \right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m \right) \left(C_4 C_L R_4 R_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L R_L s + 1 \right)}$$

10.471 INVALID-ORDER-471 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_1 L_1 s^2 + 1 \right) \left(C_4 R_4 s + 1 \right) \left(C_L R_L s + 1 \right)}{s \left(C_1 L_1 g_m s^2 + C_1 s + g_m \right) \left(C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L \right)}$$

10.472 INVALID-ORDER-472 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m \left(C_1 L_1 s^2 + 1\right)\left(C_4 R_4 s + 1\right)\left(C_L L_L s^2 + 1\right)}{s \left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(2 C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2 C_4 + C_L\right)}$$

10.473 INVALID-ORDER-473 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right)$

$$H(s) = \frac{L_L g_m s \left(C_1 L_1 s^2 + 1\right)\left(C_4 R_4 s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(C_4 C_L L_L R_4 s^3 + 2 C_4 L_L s^2 + C_4 R_4 s + C_L L_L s^2 + 1\right)}$$

10.474 INVALID-ORDER-474 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m \left(C_1 L_1 s^2 + 1\right)\left(C_4 R_4 s + 1\right)\left(C_L L_L s^2 + C_L R_L s + 1\right)}{s \left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(2 C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L\right)}$$

10.475 INVALID-ORDER-475 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L}\right)$

$$H(s) = \frac{L_L R_L g_m s \left(C_1 L_1 s^2 + 1\right)\left(C_4 R_4 s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(C_4 C_L L_L R_4 R_L s^3 + C_4 L_L R_4 s^2 + 2 C_4 L_L R_L s^2 + C_4 R_4 R_L s + C_L L_L R_L s^2 + L_L s + R_L\right)}$$

10.476 INVALID-ORDER-476 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$

$$H(s) = \frac{g_m \left(C_1 L_1 s^2 + 1\right)\left(C_4 R_4 s + 1\right)\left(C_L L_L R_L s^2 + L_L s + R_L\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + 2 C_4 L_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + 1\right)}$$

10.477 INVALID-ORDER-477 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L\left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1}\right)$

$$H(s) = \frac{R_L g_m \left(C_1 L_1 s^2 + 1\right)\left(C_4 R_4 s + 1\right)\left(C_L L_L s^2 + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + C_4 C_L R_4 R_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1\right)}$$

10.478 INVALID-ORDER-478 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ R_L\right)$

$$H(s) = \frac{R_L g_m \left(C_1 L_1 s^2 + 1\right)\left(C_4 L_4 s^2 + 1\right)}{\left(C_4 L_4 s^2 + 2 C_4 R_L s + 1\right)\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)}$$

10.479 INVALID-ORDER-479 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m \left(C_1 L_1 s^2 + 1\right)\left(C_4 L_4 s^2 + 1\right)}{s \left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(C_4 C_L L_4 s^2 + 2 C_4 + C_L\right)}$$

10.480 INVALID-ORDER-480 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$

$$H(s) = \frac{R_L g_m \left(C_1 L_1 s^2 + 1\right)\left(C_4 L_4 s^2 + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(C_4 C_L L_4 R_L s^3 + C_4 L_4 s^2 + 2 C_4 R_L s + C_L R_L s + 1\right)}$$

10.481 INVALID-ORDER-481 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_1 L_1 s^2 + 1 \right) \left(C_4 L_4 s^2 + 1 \right) \left(C_L R_L s + 1 \right)}{s \left(C_1 L_1 g_m s^2 + C_1 s + g_m \right) \left(C_4 C_L L_4 s^2 + 2 C_4 C_L R_L s + 2 C_4 + C_L \right)}$$

10.482 INVALID-ORDER-482 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_1 L_1 s^2 + 1 \right) \left(C_4 L_4 s^2 + 1 \right) \left(C_L L_L s^2 + 1 \right)}{s \left(C_1 L_1 g_m s^2 + C_1 s + g_m \right) \left(C_4 C_L L_4 s^2 + 2 C_4 C_L L_L s^2 + 2 C_4 + C_L \right)}$$

10.483 INVALID-ORDER-483 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L g_m s \left(C_1 L_1 s^2 + 1 \right) \left(C_4 L_4 s^2 + 1 \right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m \right) \left(C_4 C_L L_4 L_L s^4 + C_4 L_4 s^2 + 2 C_4 L_L s^2 + C_L L_L s^2 + 1 \right)}$$

10.484 INVALID-ORDER-484 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_1 L_1 s^2 + 1 \right) \left(C_4 L_4 s^2 + 1 \right) \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{s \left(C_1 L_1 g_m s^2 + C_1 s + g_m \right) \left(C_4 C_L L_4 s^2 + 2 C_4 C_L L_L s^2 + 2 C_4 C_L R_L s + 2 C_4 + C_L \right)}$$

10.485 INVALID-ORDER-485 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_L g_m s \left(C_1 L_1 s^2 + 1 \right) \left(C_4 L_4 s^2 + 1 \right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m \right) \left(C_4 C_L L_4 L_L R_L s^4 + C_4 L_4 L_L s^3 + C_4 L_4 R_L s^2 + 2 C_4 L_L R_L s^2 + C_L L_L R_L s^2 + L_L s + R_L \right)}$$

10.486 INVALID-ORDER-486 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{g_m \left(C_1 L_1 s^2 + 1 \right) \left(C_4 L_4 s^2 + 1 \right) \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m \right) \left(C_4 C_L L_4 L_L s^4 + 2 C_4 C_L L_L R_L s^3 + C_4 L_4 s^2 + 2 C_4 L_L s^2 + 2 C_4 R_L s + C_L L_L s^2 + 1 \right)}$$

10.487 INVALID-ORDER-487 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_L g_m \left(C_1 L_1 s^2 + 1 \right) \left(C_4 L_4 s^2 + 1 \right) \left(C_L L_L s^2 + 1 \right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m \right) \left(C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_L s^3 + 2 C_4 C_L L_L R_L s^3 + C_4 L_4 s^2 + 2 C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1 \right)}$$

10.488 INVALID-ORDER-488 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ R_L \right)$

$$H(s) = \frac{L_4 R_L g_m s \left(C_1 L_1 s^2 + 1 \right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m \right) \left(2 C_4 L_4 R_L s^2 + L_4 s + 2 R_L \right)}$$

10.489 INVALID-ORDER-489 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_4 g_m s \left(C_1 L_1 s^2 + 1 \right)}{\left(2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 \right) \left(C_1 L_1 g_m s^2 + C_1 s + g_m \right)}$$

10.490 **INVALID-ORDER-490** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$

$$H(s) = \frac{L_4 R_L g_m s \left(C_1 L_1 s^2 + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(2 C_4 L_4 R_L s^2 + C_L L_4 R_L s^2 + L_4 s + 2 R_L\right)}$$

10.491 **INVALID-ORDER-491** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_4 g_m s \left(C_1 L_1 s^2 + 1\right)\left(C_L R_L s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(2 C_4 C_L L_4 R_L s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L R_L s + 2\right)}$$

10.492 **INVALID-ORDER-492** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_4 g_m s \left(C_1 L_1 s^2 + 1\right)\left(C_L L_L s^2 + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(2 C_4 C_L L_4 L_L s^4 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L L_L s^2 + 2\right)}$$

10.493 **INVALID-ORDER-493** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right)$

$$H(s) = \frac{L_4 L_L g_m s \left(C_1 L_1 s^2 + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(2 C_4 L_4 L_L s^2 + C_L L_4 L_L s^2 + L_4 + 2 L_L\right)}$$

10.494 **INVALID-ORDER-494** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_4 g_m s \left(C_1 L_1 s^2 + 1\right)\left(C_L L_L s^2 + C_L R_L s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(2 C_4 C_L L_4 L_L s^4 + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L L_L s^2 + 2 C_L R_L s + 2\right)}$$

10.495 **INVALID-ORDER-495** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L}\right)$

$$H(s) = \frac{L_4 L_L R_L g_m s \left(C_1 L_1 s^2 + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(2 C_4 L_4 L_L R_L s^2 + C_L L_4 L_L R_L s^2 + L_4 L_L s + L_4 R_L + 2 L_L R_L\right)}$$

10.496 **INVALID-ORDER-496** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$

$$H(s) = \frac{L_4 g_m s \left(C_1 L_1 s^2 + 1\right)\left(C_L L_L R_L s^2 + L_L s + R_L\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(2 C_4 C_L L_4 L_L R_L s^4 + 2 C_4 L_4 L_L s^3 + 2 C_4 L_4 R_L s^2 + C_L L_4 L_L s^3 + 2 C_L L_L R_L s^2 + L_4 s + 2 L_L s + 2 R_L\right)}$$

10.497 **INVALID-ORDER-497** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{R_L\left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1}\right)$

$$H(s) = \frac{L_4 R_L g_m s \left(C_1 L_1 s^2 + 1\right)\left(C_L L_L s^2 + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(2 C_4 C_L L_4 L_L R_L s^4 + 2 C_4 L_4 R_L s^2 + C_L L_4 L_L s^3 + C_L L_4 R_L s^2 + 2 C_L L_L R_L s^2 + L_4 s + 2 R_L\right)}$$

10.498 **INVALID-ORDER-498** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L\right)$

$$H(s) = \frac{R_L g_m \left(C_1 L_1 s^2 + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 2 C_4 R_L s + 1\right)}$$

10.499 INVALID-ORDER-499 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m \left(C_1 L_1 s^2 + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{s\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(C_4 C_L L_4 s^2 + C_4 C_L R_4 s + 2 C_4 + C_L\right)}$$

10.500 INVALID-ORDER-500 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$

$$H(s) = \frac{R_L g_m \left(C_1 L_1 s^2 + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(C_4 C_L L_4 R_L s^3 + C_4 C_L R_4 R_L s^2 + C_4 L_4 s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L R_L s + 1\right)}$$

10.501 INVALID-ORDER-501 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m \left(C_1 L_1 s^2 + 1\right)\left(C_L R_L s + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{s\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(C_4 C_L L_4 s^2 + C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L\right)}$$

10.502 INVALID-ORDER-502 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m \left(C_1 L_1 s^2 + 1\right)\left(C_L L_L s^2 + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{s\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(C_4 C_L L_4 s^2 + 2 C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2 C_4 + C_L\right)}$$

10.503 INVALID-ORDER-503 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right)$

$$H(s) = \frac{L_L g_m s \left(C_1 L_1 s^2 + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(C_4 C_L L_4 L_L s^4 + C_4 C_L L_L R_4 s^3 + C_4 L_4 s^2 + 2 C_4 L_L s^2 + C_4 R_4 s + C_L L_L s^2 + 1\right)}$$

10.504 INVALID-ORDER-504 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m \left(C_1 L_1 s^2 + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)\left(C_L L_L s^2 + C_L R_L s + 1\right)}{s\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(C_4 C_L L_4 s^2 + 2 C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L\right)}$$

10.505 INVALID-ORDER-505 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L}\right)$

$$H(s) = \frac{L_L R_L g_m s \left(C_1 L_1 s^2 + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(C_4 C_L L_4 L_L R_L s^4 + C_4 C_L L_L R_4 R_L s^3 + C_4 L_4 L_L s^3 + C_4 L_4 R_L s^2 + C_4 L_L R_4 s^2 + 2 C_4 L_L R_L s^2 + C_4 R_4 R_L s + C_L L_L R_L s^2 + L_L s + R_L\right)}$$

10.506 INVALID-ORDER-506 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$

$$H(s) = \frac{g_m \left(C_1 L_1 s^2 + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)\left(C_L L_L R_L s^2 + L_L s + R_L\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(C_4 C_L L_4 L_L s^4 + C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + C_4 L_4 s^2 + 2 C_4 L_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + 1\right)}$$

10.507 INVALID-ORDER-507 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1}\right)$

$$H(s) = \frac{R_L g_m \left(C_1 L_1 s^2 + 1\right)\left(C_L L_L s^2 + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_L s^3 + C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + C_4 C_L R_4 R_L s^2 + C_4 L_4 s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1\right)}$$

10.508 **INVALID-ORDER-508** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ R_L \right)$

$$H(s) = \frac{L_4 R_4 R_L g_m s \left(C_1 L_1 s^2 + 1 \right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m \right) \left(2 C_4 L_4 R_4 R_L s^2 + L_4 R_4 s + 2 L_4 R_L s + 2 R_4 R_L \right)}$$

10.509 **INVALID-ORDER-509** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_4 R_4 g_m s \left(C_1 L_1 s^2 + 1 \right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m \right) \left(2 C_4 L_4 R_4 s^2 + C_L L_4 R_4 s^2 + 2 L_4 s + 2 R_4 \right)}$$

10.510 **INVALID-ORDER-510** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{L_4 R_4 R_L g_m s \left(C_1 L_1 s^2 + 1 \right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m \right) \left(2 C_4 L_4 R_4 R_L s^2 + C_L L_4 R_4 R_L s^2 + L_4 R_4 s + 2 L_4 R_L s + 2 R_4 R_L \right)}$$

10.511 **INVALID-ORDER-511** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_4 R_4 g_m s \left(C_1 L_1 s^2 + 1 \right) \left(C_L R_L s + 1 \right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m \right) \left(2 C_4 C_L L_4 R_4 R_L s^3 + 2 C_4 L_4 R_4 s^2 + C_L L_4 R_4 s^2 + 2 C_L L_4 R_L s^2 + 2 C_L R_4 R_L s + 2 L_4 s + 2 R_4 \right)}$$

10.512 **INVALID-ORDER-512** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_4 R_4 g_m s \left(C_1 L_1 s^2 + 1 \right) \left(C_L L_L s^2 + 1 \right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m \right) \left(2 C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 L_4 R_4 s^2 + 2 C_L L_4 L_L s^3 + C_L L_4 R_4 s^2 + 2 C_L L_L R_4 s^2 + 2 L_4 s + 2 R_4 \right)}$$

10.513 **INVALID-ORDER-513** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_4 L_L R_4 g_m s \left(C_1 L_1 s^2 + 1 \right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m \right) \left(2 C_4 L_4 L_L R_4 s^2 + C_L L_4 L_L R_4 s^2 + 2 L_4 L_L s + L_4 R_4 + 2 L_L R_4 \right)}$$

10.514 **INVALID-ORDER-514** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_4 R_4 g_m s \left(C_1 L_1 s^2 + 1 \right) \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m \right) \left(2 C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 R_4 R_L s^3 + 2 C_4 L_4 R_4 s^2 + 2 C_L L_4 L_L s^3 + C_L L_4 R_4 s^2 + 2 C_L L_4 R_L s^2 + 2 C_L L_L R_4 s^2 + 2 C_L R_4 R_L s + 2 L_4 s + 2 R_4 \right)}$$

10.515 **INVALID-ORDER-515** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_4 L_L R_4 R_L g_m s \left(C_1 L_1 s^2 + 1 \right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m \right) \left(2 C_4 L_4 L_L R_4 R_L s^2 + C_L L_4 L_L R_4 R_L s^2 + L_4 L_L R_4 s + 2 L_4 L_L R_L s + L_4 R_4 R_L + 2 L_L R_4 R_L \right)}$$

10.516 **INVALID-ORDER-516** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{L_4 R_4 g_m s \left(C_1 L_1 s^2 + 1 \right) \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m \right) \left(2 C_4 C_L L_4 L_L R_4 R_L s^4 + 2 C_4 L_4 L_L R_4 s^3 + 2 C_4 L_4 R_4 R_L s^2 + C_L L_4 L_L R_4 s^3 + 2 C_L L_4 L_L R_L s^3 + 2 C_L L_L R_4 R_L s^2 + 2 L_4 L_L s^2 + L_4 R_4 s + 2 L_4 R_L s + 2 L_L R_4 s + 2 R_4 R_L \right)}$$

10.517 INVALID-ORDER-517 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1}\right)$

$$H(s) = \frac{L_4 R_4 R_L g_m s \left(C_1 L_1 s^2 + 1\right)\left(C_L L_L s^2 + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(2C_4 C_L L_4 L_L R_4 R_L s^4 + 2C_4 L_4 R_4 R_L s^2 + C_L L_4 L_L R_4 s^3 + 2C_L L_4 L_L R_L s^3 + C_L L_4 R_4 R_L s^2 + 2C_L L_L R_4 R_L s^2 + L_4 R_4 s + 2L_4 R_L s + 2R_4 R_L\right)}$$

10.518 INVALID-ORDER-518 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ R_L\right)$

$$H(s) = \frac{R_L g_m \left(C_1 L_1 s^2 + 1\right)\left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(C_4 L_4 R_4 s^2 + 2C_4 L_4 R_L s^2 + L_4 s + R_4 + 2R_L\right)}$$

10.519 INVALID-ORDER-519 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m \left(C_1 L_1 s^2 + 1\right)\left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(C_4 C_L L_4 R_4 s^3 + 2C_4 L_4 s^2 + C_L L_4 s^2 + C_L R_4 s + 2\right)}$$

10.520 INVALID-ORDER-520 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$

$$H(s) = \frac{R_L g_m \left(C_1 L_1 s^2 + 1\right)\left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(C_4 C_L L_4 R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2C_4 L_4 R_L s^2 + C_L L_4 R_L s^2 + C_L R_4 R_L s + L_4 s + R_4 + 2R_L\right)}$$

10.521 INVALID-ORDER-521 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m \left(C_1 L_1 s^2 + 1\right)\left(C_L R_L s + 1\right)\left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(C_4 C_L L_4 R_4 s^3 + 2C_4 C_L L_4 R_L s^3 + 2C_4 L_4 s^2 + C_L L_4 s^2 + C_L R_4 s + 2C_L R_L s + 2\right)}$$

10.522 INVALID-ORDER-522 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m \left(C_1 L_1 s^2 + 1\right)\left(C_L L_L s^2 + 1\right)\left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(2C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2C_4 L_4 s^2 + C_L L_4 s^2 + 2C_L L_L s^2 + C_L R_4 s + 2\right)}$$

10.523 INVALID-ORDER-523 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right)$

$$H(s) = \frac{L_L g_m s \left(C_1 L_1 s^2 + 1\right)\left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(C_4 C_L L_4 L_L R_4 s^4 + 2C_4 L_4 L_L s^3 + C_4 L_4 R_4 s^2 + C_L L_4 L_L s^3 + C_L L_L R_4 s^2 + L_4 s + 2L_L s + R_4\right)}$$

10.524 INVALID-ORDER-524 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m \left(C_1 L_1 s^2 + 1\right)\left(C_L L_L s^2 + C_L R_L s + 1\right)\left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(2C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2C_4 C_L L_4 R_L s^3 + 2C_4 L_4 s^2 + C_L L_4 s^2 + 2C_L L_L s^2 + C_L R_4 s + 2C_L R_L s + 2\right)}$$

10.525 INVALID-ORDER-525 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L}\right)$

$$H(s) = \frac{L_L R_L g_m s \left(C_1 L_1 s^2 + 1\right)\left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(C_4 C_L L_4 L_L R_4 R_L s^4 + C_4 L_4 L_L R_4 s^3 + 2C_4 L_4 L_L R_L s^3 + C_4 L_4 R_4 R_L s^2 + C_L L_4 L_L R_L s^3 + C_L L_L R_4 R_L s^2 + L_4 L_L s^2 + L_4 R_L s + L_L R_4 s + 2L_L R_L s + R_4 R_L\right)}$$

10.526 INVALID-ORDER-526 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$

$$H(s) = \frac{g_m \left(C_1 L_1 s^2 + 1\right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right) \left(C_L L_L R_L s^2 + L_L s + R_L\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right) \left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_L R_L s^4 + 2 C_4 L_4 L_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + C_L L_4 L_L s^3 + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + L_4 s + 2 L_L s + R_4 + 2 R_L\right)}$$

10.527 INVALID-ORDER-527 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{R_L\left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1}\right)$

$$H(s) = \frac{R_L g_m \left(C_1 L_1 s^2 + 1\right) \left(C_L L_L s^2 + 1\right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right) \left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_L R_L s^4 + C_4 C_L L_4 R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + C_L L_4 L_L s^3 + C_L L_4 R_L s^2 + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + C_L R_4 R_L s + L_4 s + R_4 + 2 R_L\right)}$$

10.528 INVALID-ORDER-528 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ R_L\right)$

$$H(s) = \frac{R_4 R_L g_m \left(C_1 L_1 s^2 + 1\right) \left(C_4 L_4 s^2 + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right) \left(C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + 2 C_4 R_4 R_L s + R_4 + 2 R_L\right)}$$

10.529 INVALID-ORDER-529 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{1}{C_L s}\right)$

$$H(s) = \frac{R_4 g_m \left(C_1 L_1 s^2 + 1\right) \left(C_4 L_4 s^2 + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right) \left(C_4 C_L L_4 R_4 s^3 + 2 C_4 L_4 s^2 + 2 C_4 R_4 s + C_L R_4 s + 2\right)}$$

10.530 INVALID-ORDER-530 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$

$$H(s) = \frac{R_4 R_L g_m \left(C_1 L_1 s^2 + 1\right) \left(C_4 L_4 s^2 + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right) \left(C_4 C_L L_4 R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + 2 C_4 R_4 R_L s + C_L R_4 R_L s + R_4 + 2 R_L\right)}$$

10.531 INVALID-ORDER-531 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{R_4 g_m \left(C_1 L_1 s^2 + 1\right) \left(C_4 L_4 s^2 + 1\right) \left(C_L R_L s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right) \left(C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 C_L R_4 R_L s^2 + 2 C_4 L_4 s^2 + 2 C_4 R_4 s + C_L R_4 s + 2 C_L R_L s + 2\right)}$$

10.532 INVALID-ORDER-532 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$

$$H(s) = \frac{R_4 g_m \left(C_1 L_1 s^2 + 1\right) \left(C_4 L_4 s^2 + 1\right) \left(C_L L_L s^2 + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right) \left(2 C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_L R_4 s^3 + 2 C_4 L_4 s^2 + 2 C_4 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2\right)}$$

10.533 INVALID-ORDER-533 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right)$

$$H(s) = \frac{L_L R_4 g_m s \left(C_1 L_1 s^2 + 1\right) \left(C_4 L_4 s^2 + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right) \left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 L_4 L_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_L R_4 s^2 + C_L L_L R_4 s^2 + 2 L_L s + R_4\right)}$$

10.534 INVALID-ORDER-534 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{R_4 g_m \left(C_1 L_1 s^2 + 1\right) \left(C_4 L_4 s^2 + 1\right) \left(C_L L_L s^2 + C_L R_L s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right) \left(2 C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + 2 C_4 C_L R_4 R_L s^2 + 2 C_4 L_4 s^2 + 2 C_4 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2 C_L R_L s + 2\right)}$$

10.535 INVALID-ORDER-535 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_4 R_L g_m s \left(C_1 L_1 s^2 + 1\right)\left(C_4 L_4 s^2 + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(C_4 C_L L_4 L_L R_4 R_L s^4 + C_4 L_4 L_L R_4 s^3 + 2 C_4 L_4 L_L R_L s^3 + C_4 L_4 R_4 R_L s^2 + 2 C_4 L_L R_4 R_L s^2 + C_L L_L R_4 R_L s^2 + L_L R_4 s + 2 L_L R_L s + R_4 R_L\right)}$$

10.536 INVALID-ORDER-536 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{R_4 g_m \left(C_1 L_1 s^2 + 1\right)\left(C_4 L_4 s^2 + 1\right)\left(C_L L_L R_L s^2 + L_L s + R_L\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_L R_L s^4 + 2 C_4 C_L L_L R_4 R_L s^3 + 2 C_4 L_4 L_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + 2 C_4 L_L R_4 s^2 + 2 C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + 2 L_L s + R_4 + 2 R_L\right)}$$

10.537 INVALID-ORDER-537 $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{R_L\left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_4 R_L g_m \left(C_1 L_1 s^2 + 1\right)\left(C_4 L_4 s^2 + 1\right)\left(C_L L_L s^2 + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 s + g_m\right)\left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_L R_L s^4 + C_4 C_L L_4 R_4 R_L s^3 + 2 C_4 C_L L_L R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + 2 C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + C_L R_4 R_L s + R_4 + 2 R_L\right)}$$

10.538 INVALID-ORDER-538 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_4 g_m s}{\left(C_L R_4 s + 2\right)\left(C_1 L_1 s^2 + L_1 g_m s + 1\right)}$$

10.539 INVALID-ORDER-539 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 R_4 R_L g_m s}{\left(C_1 L_1 s^2 + L_1 g_m s + 1\right)\left(C_L R_4 R_L s + R_4 + 2 R_L\right)}$$

10.540 INVALID-ORDER-540 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ R_4, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_4 g_m s \left(C_L R_L s + 1\right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1\right)\left(C_L R_4 s + 2 C_L R_L s + 2\right)}$$

10.541 INVALID-ORDER-541 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ R_4, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_4 g_m s \left(C_L L_L s^2 + 1\right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1\right)\left(2 C_L L_L s^2 + C_L R_4 s + 2\right)}$$

10.542 INVALID-ORDER-542 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_1 L_L R_4 g_m s^2}{\left(C_1 L_1 s^2 + L_1 g_m s + 1\right)\left(C_L L_L R_4 s^2 + 2 L_L s + R_4\right)}$$

10.543 INVALID-ORDER-543 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ R_4, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_4 g_m s \left(C_L L_L s^2 + C_L R_L s + 1\right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1\right)\left(2 C_L L_L s^2 + C_L R_4 s + 2 C_L R_L s + 2\right)}$$

10.544 INVALID-ORDER-544 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_1 L_L R_4 R_L g_m s^2}{\left(C_1 L_1 s^2 + L_1 g_m s + 1\right)\left(C_L L_L R_4 R_L s^2 + L_L R_4 s + 2 L_L R_L s + R_4 R_L\right)}$$

10.545 INVALID-ORDER-545 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{L_1 R_4 g_m s \left(C_L L_L R_L s^2 + L_L s + R_L\right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1\right)\left(C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + 2 L_L s + R_4 + 2 R_L\right)}$$

10.546 INVALID-ORDER-546 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 R_4 R_L g_m s \left(C_L L_L s^2 + 1\right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1\right)\left(C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + C_L R_4 R_L s + R_4 + 2 R_L\right)}$$

10.547 INVALID-ORDER-547 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ R_L \right)$

$$H(s) = \frac{L_1 R_L g_m s}{\left(2 C_4 R_L s + 1\right)\left(C_1 L_1 s^2 + L_1 g_m s + 1\right)}$$

10.548 INVALID-ORDER-548 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 R_L g_m s}{\left(C_1 L_1 s^2 + L_1 g_m s + 1\right)\left(2 C_4 R_L s + C_L R_L s + 1\right)}$$

10.549 INVALID-ORDER-549 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 g_m \left(C_L R_L s + 1\right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1\right)\left(2 C_4 C_L R_L s + 2 C_4 + C_L\right)}$$

10.550 INVALID-ORDER-550 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 g_m \left(C_L L_L s^2 + 1\right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1\right)\left(2 C_4 C_L L_L s^2 + 2 C_4 + C_L\right)}$$

10.551 INVALID-ORDER-551 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_1 L_L g_m s^2}{\left(C_1 L_1 s^2 + L_1 g_m s + 1\right)\left(2 C_4 L_L s^2 + C_L L_L s^2 + 1\right)}$$

10.552 INVALID-ORDER-552 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 g_m \left(C_L L_L s^2 + C_L R_L s + 1\right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1\right)\left(2 C_4 C_L L_L s^2 + 2 C_4 C_L R_L s + 2 C_4 + C_L\right)}$$

10.553 **INVALID-ORDER-553** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_1 L_L R_L g_m s^2}{(C_1 L_1 s^2 + L_1 g_m s + 1)(2 C_4 L_L R_L s^2 + C_L L_L R_L s^2 + L_L s + R_L)}$$

10.554 **INVALID-ORDER-554** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{L_1 g_m s \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{(C_1 L_1 s^2 + L_1 g_m s + 1)(2 C_4 C_L L_L R_L s^3 + 2 C_4 L_L s^2 + 2 C_4 R_L s + C_L L_L s^2 + 1)}$$

10.555 **INVALID-ORDER-555** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 R_L g_m s \left(C_L L_L s^2 + 1 \right)}{(C_1 L_1 s^2 + L_1 g_m s + 1)(2 C_4 C_L L_L R_L s^3 + 2 C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1)}$$

10.556 **INVALID-ORDER-556** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ R_L \right)$

$$H(s) = \frac{L_1 R_4 R_L g_m s}{(C_1 L_1 s^2 + L_1 g_m s + 1)(2 C_4 R_4 R_L s + R_4 + 2 R_L)}$$

10.557 **INVALID-ORDER-557** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_4 g_m s}{(C_1 L_1 s^2 + L_1 g_m s + 1)(2 C_4 R_4 s + C_L R_4 s + 2)}$$

10.558 **INVALID-ORDER-558** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 R_4 R_L g_m s}{(C_1 L_1 s^2 + L_1 g_m s + 1)(2 C_4 R_4 R_L s + C_L R_4 R_L s + R_4 + 2 R_L)}$$

10.559 **INVALID-ORDER-559** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_4 g_m s \left(C_L R_L s + 1 \right)}{(C_1 L_1 s^2 + L_1 g_m s + 1)(2 C_4 C_L R_4 R_L s^2 + 2 C_4 R_4 s + C_L R_4 s + 2 C_L R_L s + 2)}$$

10.560 **INVALID-ORDER-560** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_4 g_m s \left(C_L L_L s^2 + 1 \right)}{(C_1 L_1 s^2 + L_1 g_m s + 1)(2 C_4 C_L L_L R_4 s^3 + 2 C_4 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2)}$$

10.561 **INVALID-ORDER-561** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_1 L_L R_4 g_m s^2}{(C_1 L_1 s^2 + L_1 g_m s + 1)(2 C_4 L_L R_4 s^2 + C_L L_L R_4 s^2 + 2 L_L s + R_4)}$$

10.562 INVALID-ORDER-562 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_4 g_m s \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(2 C_4 C_L L_L R_4 s^3 + 2 C_4 C_L R_4 R_L s^2 + 2 C_4 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2 C_L R_L s + 2 \right)}$$

10.563 INVALID-ORDER-563 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_1 L_L R_4 R_L g_m s^2}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(2 C_4 L_L R_4 R_L s^2 + C_L L_L R_4 R_L s^2 + L_L R_4 s + 2 L_L R_L s + R_4 R_L \right)}$$

10.564 INVALID-ORDER-564 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{L_1 R_4 g_m s \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(2 C_4 C_L L_L R_4 R_L s^3 + 2 C_4 L_L R_4 s^2 + 2 C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + 2 L_L s + R_4 + 2 R_L \right)}$$

10.565 INVALID-ORDER-565 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 R_4 R_L g_m s \left(C_L L_L s^2 + 1 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(2 C_4 C_L L_L R_4 R_L s^3 + 2 C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + C_L R_4 R_L s + R_4 + 2 R_L \right)}$$

10.566 INVALID-ORDER-566 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L \right)$

$$H(s) = \frac{L_1 R_L g_m s \left(C_4 R_4 s + 1 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(C_4 R_4 s + 2 C_4 R_L s + 1 \right)}$$

10.567 INVALID-ORDER-567 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 g_m \left(C_4 R_4 s + 1 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(C_4 C_L R_4 s + 2 C_4 + C_L \right)}$$

10.568 INVALID-ORDER-568 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 R_L g_m s \left(C_4 R_4 s + 1 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(C_4 C_L R_4 R_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L R_L s + 1 \right)}$$

10.569 INVALID-ORDER-569 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 g_m \left(C_4 R_4 s + 1 \right) \left(C_L R_L s + 1 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L \right)}$$

10.570 INVALID-ORDER-570 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 g_m \left(C_4 R_4 s + 1 \right) \left(C_L L_L s^2 + 1 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(2 C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2 C_4 + C_L \right)}$$

10.571 **INVALID-ORDER-571** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_1 L_L g_m s^2 \left(C_4 R_4 s + 1 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(C_4 C_L L_L R_4 s^3 + 2 C_4 L_L s^2 + C_4 R_4 s + C_L L_L s^2 + 1 \right)}$$

10.572 **INVALID-ORDER-572** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 g_m \left(C_4 R_4 s + 1 \right) \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(2 C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L \right)}$$

10.573 **INVALID-ORDER-573** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_1 L_L R_L g_m s^2 \left(C_4 R_4 s + 1 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(C_4 C_L L_L R_4 R_L s^3 + C_4 L_L R_4 s^2 + 2 C_4 L_L R_L s^2 + C_4 R_4 R_L s + C_L L_L R_L s^2 + L_L s + R_L \right)}$$

10.574 **INVALID-ORDER-574** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{L_1 g_m s \left(C_4 R_4 s + 1 \right) \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + 2 C_4 L_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + 1 \right)}$$

10.575 **INVALID-ORDER-575** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 R_L g_m s \left(C_4 R_4 s + 1 \right) \left(C_L L_L s^2 + 1 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + C_4 C_L R_4 R_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1 \right)}$$

10.576 **INVALID-ORDER-576** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ R_L \right)$

$$H(s) = \frac{L_1 R_L g_m s \left(C_4 L_4 s^2 + 1 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(C_4 L_4 s^2 + 2 C_4 R_L s + 1 \right)}$$

10.577 **INVALID-ORDER-577** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 g_m \left(C_4 L_4 s^2 + 1 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(C_4 C_L L_4 s^2 + 2 C_4 + C_L \right)}$$

10.578 **INVALID-ORDER-578** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 R_L g_m s \left(C_4 L_4 s^2 + 1 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(C_4 C_L L_4 R_L s^3 + C_4 L_4 s^2 + 2 C_4 R_L s + C_L R_L s + 1 \right)}$$

10.579 **INVALID-ORDER-579** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 g_m \left(C_4 L_4 s^2 + 1 \right) \left(C_L R_L s + 1 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(C_4 C_L L_4 s^2 + 2 C_4 C_L R_L s + 2 C_4 + C_L \right)}$$

10.580 **INVALID-ORDER-580** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 g_m \left(C_4 L_4 s^2 + 1 \right) \left(C_L L_L s^2 + 1 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(C_4 C_L L_4 s^2 + 2 C_4 C_L L_L s^2 + 2 C_4 + C_L \right)}$$

10.581 **INVALID-ORDER-581** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_1 L_L g_m s^2 \left(C_4 L_4 s^2 + 1 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(C_4 C_L L_4 L_L s^4 + C_4 L_4 s^2 + 2 C_4 L_L s^2 + C_L L_L s^2 + 1 \right)}$$

10.582 **INVALID-ORDER-582** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 g_m \left(C_4 L_4 s^2 + 1 \right) \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(C_4 C_L L_4 s^2 + 2 C_4 C_L L_L s^2 + 2 C_4 C_L R_L s + 2 C_4 + C_L \right)}$$

10.583 **INVALID-ORDER-583** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_1 L_L R_L g_m s^2 \left(C_4 L_4 s^2 + 1 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(C_4 C_L L_4 L_L R_L s^4 + C_4 L_4 L_L s^3 + C_4 L_4 R_L s^2 + 2 C_4 L_L R_L s^2 + C_L L_L R_L s^2 + L_L s + R_L \right)}$$

10.584 **INVALID-ORDER-584** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{L_1 g_m \left(C_4 L_4 s^2 + 1 \right) \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(C_4 C_L L_4 L_L s^4 + 2 C_4 C_L L_L R_L s^3 + C_4 L_4 s^2 + 2 C_4 L_L s^2 + 2 C_4 R_L s + C_L L_L s^2 + 1 \right)}$$

10.585 **INVALID-ORDER-585** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 R_L g_m s \left(C_4 L_4 s^2 + 1 \right) \left(C_L L_L s^2 + 1 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_L s^3 + 2 C_4 C_L L_L R_L s^3 + C_4 L_4 s^2 + 2 C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1 \right)}$$

10.586 **INVALID-ORDER-586** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ R_L \right)$

$$H(s) = \frac{L_1 L_4 R_L g_m s^2}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(2 C_4 L_4 R_L s^2 + L_4 s + 2 R_L \right)}$$

10.587 **INVALID-ORDER-587** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 L_4 g_m s^2}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 \right)}$$

10.588 **INVALID-ORDER-588** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 L_4 R_L g_m s^2}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(2 C_4 L_4 R_L s^2 + C_L L_4 R_L s^2 + L_4 s + 2 R_L \right)}$$

10.589 **INVALID-ORDER-589** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 L_4 g_m s^2 \left(C_L R_L s + 1 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(2 C_4 C_L L_4 R_L s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L R_L s + 2 \right)}$$

10.590 **INVALID-ORDER-590** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 L_4 g_m s^2 \left(C_L L_L s^2 + 1 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(2 C_4 C_L L_4 L_L s^4 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L L_L s^2 + 2 \right)}$$

10.591 **INVALID-ORDER-591** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_1 L_4 L_L g_m s^2}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(2 C_4 L_4 L_L s^2 + C_L L_4 L_L s^2 + L_4 + 2 L_L \right)}$$

10.592 **INVALID-ORDER-592** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 L_4 g_m s^2 \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(2 C_4 C_L L_4 L_L s^4 + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L L_L s^2 + 2 C_L R_L s + 2 \right)}$$

10.593 **INVALID-ORDER-593** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_1 L_4 L_L R_L g_m s^2}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(2 C_4 L_4 L_L R_L s^2 + C_L L_4 L_L R_L s^2 + L_4 L_L s + L_4 R_L + 2 L_L R_L \right)}$$

10.594 **INVALID-ORDER-594** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{L_1 L_4 g_m s^2 \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(2 C_4 C_L L_4 L_L R_L s^4 + 2 C_4 L_4 L_L s^3 + 2 C_4 L_4 R_L s^2 + C_L L_4 L_L s^3 + 2 C_L L_L R_L s^2 + L_4 s + 2 L_L s + 2 R_L \right)}$$

10.595 **INVALID-ORDER-595** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 L_4 R_L g_m s^2 \left(C_L L_L s^2 + 1 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(2 C_4 C_L L_4 L_L R_L s^4 + 2 C_4 L_4 R_L s^2 + C_L L_4 L_L s^3 + C_L L_4 R_L s^2 + 2 C_L L_L R_L s^2 + L_4 s + 2 R_L \right)}$$

10.596 **INVALID-ORDER-596** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L \right)$

$$H(s) = \frac{L_1 R_L g_m s \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(C_4 L_4 s^2 + C_4 R_4 s + 2 C_4 R_L s + 1 \right)}$$

10.597 **INVALID-ORDER-597** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 g_m \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(C_4 C_L L_4 s^2 + C_4 C_L R_4 s + 2 C_4 + C_L \right)}$$

10.598 **INVALID-ORDER-598** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 R_L g_m s \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(C_4 C_L L_4 R_L s^3 + C_4 C_L R_4 R_L s^2 + C_4 L_4 s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L R_L s + 1 \right)}$$

10.599 **INVALID-ORDER-599** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 g_m \left(C_L R_L s + 1 \right) \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(C_4 C_L L_4 s^2 + C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L \right)}$$

10.600 **INVALID-ORDER-600** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 g_m \left(C_L L_L s^2 + 1 \right) \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(C_4 C_L L_4 s^2 + 2 C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2 C_4 + C_L \right)}$$

10.601 **INVALID-ORDER-601** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_1 L_L g_m s^2 \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(C_4 C_L L_4 L_L s^4 + C_4 C_L L_L R_4 s^3 + C_4 L_4 s^2 + 2 C_4 L_L s^2 + C_4 R_4 s + C_L L_L s^2 + 1 \right)}$$

10.602 **INVALID-ORDER-602** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 g_m \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right) \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(C_4 C_L L_4 s^2 + 2 C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L \right)}$$

10.603 **INVALID-ORDER-603** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_1 L_L R_L g_m s^2 \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(C_4 C_L L_4 L_L R_L s^4 + C_4 C_L L_L R_4 R_L s^3 + C_4 L_4 L_L s^3 + C_4 L_4 R_L s^2 + C_4 L_L R_4 s^2 + 2 C_4 L_L R_L s^2 + C_4 R_4 R_L s + C_L L_L R_L s^2 + L_L s + R_L \right)}$$

10.604 **INVALID-ORDER-604** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{L_1 g_m s \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right) \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(C_4 C_L L_4 L_L s^4 + C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + C_4 L_4 s^2 + 2 C_4 L_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + 1 \right)}$$

10.605 **INVALID-ORDER-605** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 R_L g_m s \left(C_L L_L s^2 + 1 \right) \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_L s^3 + C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + C_4 C_L R_4 R_L s^2 + C_4 L_4 s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1 \right)}$$

10.606 **INVALID-ORDER-606** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ R_L \right)$

$$H(s) = \frac{L_1 L_4 R_4 R_L g_m s^2}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(2 C_4 L_4 R_4 R_L s^2 + L_4 R_4 s + 2 L_4 R_L s + 2 R_4 R_L \right)}$$

10.607 **INVALID-ORDER-607** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 L_4 R_4 g_m s^2}{(C_1 L_1 s^2 + L_1 g_m s + 1)(2C_4 L_4 R_4 s^2 + C_L L_4 R_4 s^2 + 2L_4 s + 2R_4)}$$

10.608 **INVALID-ORDER-608** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 L_4 R_4 R_L g_m s^2}{(C_1 L_1 s^2 + L_1 g_m s + 1)(2C_4 L_4 R_4 R_L s^2 + C_L L_4 R_4 R_L s^2 + L_4 R_4 s + 2L_4 R_L s + 2R_4 R_L)}$$

10.609 **INVALID-ORDER-609** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 L_4 R_4 g_m s^2 (C_L R_L s + 1)}{(C_1 L_1 s^2 + L_1 g_m s + 1)(2C_4 C_L L_4 R_4 R_L s^3 + 2C_4 L_4 R_4 s^2 + C_L L_4 R_4 s^2 + 2C_L L_4 R_L s^2 + 2C_L R_4 R_L s + 2L_4 s + 2R_4)}$$

10.610 **INVALID-ORDER-610** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 L_4 R_4 g_m s^2 (C_L L_L s^2 + 1)}{(C_1 L_1 s^2 + L_1 g_m s + 1)(2C_4 C_L L_4 L_L R_4 s^4 + 2C_4 L_4 R_4 s^2 + 2C_L L_4 L_L s^3 + C_L L_4 R_4 s^2 + 2C_L L_L R_4 s^2 + 2L_4 s + 2R_4)}$$

10.611 **INVALID-ORDER-611** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_1 L_4 L_L R_4 g_m s^2}{(C_1 L_1 s^2 + L_1 g_m s + 1)(2C_4 L_4 L_L R_4 s^2 + C_L L_4 L_L R_4 s^2 + 2L_4 L_L s + L_4 R_4 + 2L_L R_4)}$$

10.612 **INVALID-ORDER-612** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 L_4 R_4 g_m s^2 (C_L L_L s^2 + C_L R_L s + 1)}{(C_1 L_1 s^2 + L_1 g_m s + 1)(2C_4 C_L L_4 L_L R_4 s^4 + 2C_4 C_L L_4 R_4 R_L s^3 + 2C_4 L_4 R_4 s^2 + 2C_L L_4 L_L s^3 + C_L L_4 R_4 s^2 + 2C_L L_4 R_L s^2 + 2C_L L_L R_4 s^2 + 2C_L R_4 R_L s + 2L_4 s + 2R_4)}$$

10.613 **INVALID-ORDER-613** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_1 L_4 L_L R_4 R_L g_m s^2}{(C_1 L_1 s^2 + L_1 g_m s + 1)(2C_4 L_4 L_L R_4 R_L s^2 + C_L L_4 L_L R_4 R_L s^2 + L_4 L_L R_4 s + 2L_4 L_L R_L s + L_4 R_4 R_L + 2L_L R_4 R_L)}$$

10.614 **INVALID-ORDER-614** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{L_1 L_4 R_4 g_m s^2 (C_L L_L R_L s^2 + L_L s + R_L)}{(C_1 L_1 s^2 + L_1 g_m s + 1)(2C_4 C_L L_4 L_L R_4 R_L s^4 + 2C_4 L_4 L_L R_4 s^3 + 2C_4 L_4 R_4 R_L s^2 + C_L L_4 L_L R_4 s^3 + 2C_L L_4 L_L R_L s^3 + 2C_L L_L R_4 R_L s^2 + 2L_4 L_L s^2 + L_4 R_4 s + 2L_4 R_L s + 2L_L R_4 s + 2R_4 R_L)}$$

10.615 **INVALID-ORDER-615** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{R_L (C_L L_L s^2 + 1)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 L_4 R_4 R_L g_m s^2 (C_L L_L s^2 + 1)}{(C_1 L_1 s^2 + L_1 g_m s + 1)(2C_4 C_L L_4 L_L R_4 R_L s^4 + 2C_4 L_4 R_4 R_L s^2 + C_L L_4 L_L R_4 s^3 + 2C_L L_4 L_L R_L s^3 + C_L L_4 R_4 R_L s^2 + 2C_L L_L R_4 R_L s^2 + L_4 R_4 s + 2L_4 R_L s + 2R_4 R_L)}$$

10.616 **INVALID-ORDER-616** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ R_L \right)$

$$H(s) = \frac{L_1 R_L g_m s \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + L_4 s + R_4 + 2 R_L \right)}$$

10.617 **INVALID-ORDER-617** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 g_m s \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(C_4 C_L L_4 R_4 s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + C_L R_4 s + 2 \right)}$$

10.618 **INVALID-ORDER-618** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 R_L g_m s \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(C_4 C_L L_4 R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + C_L L_4 R_L s^2 + C_L R_4 R_L s + L_4 s + R_4 + 2 R_L \right)}$$

10.619 **INVALID-ORDER-619** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 g_m s \left(C_L R_L s + 1 \right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + C_L R_4 s + 2 C_L R_L s + 2 \right)}$$

10.620 **INVALID-ORDER-620** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 g_m s \left(C_L L_L s^2 + 1 \right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(2 C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L L_L s^2 + C_L R_4 s + 2 \right)}$$

10.621 **INVALID-ORDER-621** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_1 L_L g_m s^2 \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 L_4 L_L s^3 + C_4 L_4 R_4 s^2 + C_L L_4 L_L s^3 + C_L L_L R_4 s^2 + L_4 s + 2 L_L s + R_4 \right)}$$

10.622 **INVALID-ORDER-622** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 g_m s \left(C_L L_L s^2 + C_L R_L s + 1 \right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(2 C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L L_L s^2 + C_L R_4 s + 2 C_L R_L s + 2 \right)}$$

10.623 **INVALID-ORDER-623** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_1 L_L R_L g_m s^2 \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(C_4 C_L L_4 L_L R_4 R_L s^4 + C_4 L_4 L_L R_4 s^3 + 2 C_4 L_4 L_L R_L s^3 + C_4 L_4 R_4 R_L s^2 + C_L L_4 L_L R_L s^3 + C_L L_L R_4 R_L s^2 + L_4 L_L s^2 + L_4 R_L s + L_L R_4 s + 2 L_L R_L s + R_4 R_L \right)}$$

10.624 **INVALID-ORDER-624** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{L_1 g_m s \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right) \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_L R_L s^4 + 2 C_4 L_4 L_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + C_L L_4 L_L s^3 + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + L_4 s + 2 L_L s + R_4 + 2 R_L \right)}$$

10.625 **INVALID-ORDER-625** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{R_L (C_L L_L s^2 + 1)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 R_L g_m s (C_L L_L s^2 + 1)(C_4 L_4 R_4 s^2 + L_4 s + R_4)}{(C_1 L_1 s^2 + L_1 g_m s + 1)(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_L R_L s^4 + C_4 C_L L_4 R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + C_L L_4 L_L s^3 + C_L L_4 R_L s^2 + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + C_L R_4 R_L s + L_4 s + R_4 + 2 R_L)}$$

10.626 **INVALID-ORDER-626** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{R_4 (C_4 L_4 s^2 + 1)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ R_L \right)$

$$H(s) = \frac{L_1 R_4 R_L g_m s (C_4 L_4 s^2 + 1)}{(C_1 L_1 s^2 + L_1 g_m s + 1)(C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + 2 C_4 R_4 R_L s + R_4 + 2 R_L)}$$

10.627 **INVALID-ORDER-627** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{R_4 (C_4 L_4 s^2 + 1)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_4 g_m s (C_4 L_4 s^2 + 1)}{(C_1 L_1 s^2 + L_1 g_m s + 1)(C_4 C_L L_4 R_4 s^3 + 2 C_4 L_4 s^2 + 2 C_4 R_4 s + C_L R_4 s + 2)}$$

10.628 **INVALID-ORDER-628** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{R_4 (C_4 L_4 s^2 + 1)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 R_4 R_L g_m s (C_4 L_4 s^2 + 1)}{(C_1 L_1 s^2 + L_1 g_m s + 1)(C_4 C_L L_4 R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + 2 C_4 R_4 R_L s + C_L R_4 R_L s + R_4 + 2 R_L)}$$

10.629 **INVALID-ORDER-629** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{R_4 (C_4 L_4 s^2 + 1)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_4 g_m s (C_4 L_4 s^2 + 1)(C_L R_L s + 1)}{(C_1 L_1 s^2 + L_1 g_m s + 1)(C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 C_L R_4 R_L s^2 + 2 C_4 L_4 s^2 + 2 C_4 R_4 s + C_L R_4 s + 2 C_L R_L s + 2)}$$

10.630 **INVALID-ORDER-630** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{R_4 (C_4 L_4 s^2 + 1)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_4 g_m s (C_4 L_4 s^2 + 1)(C_L L_L s^2 + 1)}{(C_1 L_1 s^2 + L_1 g_m s + 1)(2 C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_L R_4 s^3 + 2 C_4 L_4 s^2 + 2 C_4 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2)}$$

10.631 **INVALID-ORDER-631** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{R_4 (C_4 L_4 s^2 + 1)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_1 L_L R_4 g_m s^2 (C_4 L_4 s^2 + 1)}{(C_1 L_1 s^2 + L_1 g_m s + 1)(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 L_4 L_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_L R_4 s^2 + C_L L_L R_4 s^2 + 2 L_L s + R_4)}$$

10.632 **INVALID-ORDER-632** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{R_4 (C_4 L_4 s^2 + 1)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_4 g_m s (C_4 L_4 s^2 + 1)(C_L L_L s^2 + C_L R_L s + 1)}{(C_1 L_1 s^2 + L_1 g_m s + 1)(2 C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + 2 C_4 C_L R_4 R_L s^2 + 2 C_4 L_4 s^2 + 2 C_4 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2 C_L R_L s + 2)}$$

10.633 **INVALID-ORDER-633** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{R_4 (C_4 L_4 s^2 + 1)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_1 L_L R_4 R_L g_m s^2 (C_4 L_4 s^2 + 1)}{(C_1 L_1 s^2 + L_1 g_m s + 1)(C_4 C_L L_4 L_L R_4 R_L s^4 + C_4 L_4 L_L R_4 s^3 + 2 C_4 L_4 L_L R_L s^3 + C_4 L_4 R_4 R_L s^2 + 2 C_4 L_L R_4 R_L s^2 + C_L L_L R_4 R_L s^2 + L_L R_4 s + 2 L_L R_L s + R_4 R_L)}$$

10.634 INVALID-ORDER-634 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{R_4 \left(C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{L_1 R_4 g_m s \left(C_4 L_4 s^2 + 1 \right) \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_L R_L s^4 + 2 C_4 C_L L_L R_4 R_L s^3 + 2 C_4 L_4 L_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + 2 C_4 L_L R_4 s^2 + 2 C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + 2 L_L s + R_4 + 2 R_L \right)}$$

10.635 INVALID-ORDER-635 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \infty, \ \frac{R_4 \left(C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 R_4 R_L g_m s \left(C_4 L_4 s^2 + 1 \right) \left(C_L L_L s^2 + 1 \right)}{\left(C_1 L_1 s^2 + L_1 g_m s + 1 \right) \left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_L R_L s^4 + C_4 C_L L_4 R_4 R_L s^3 + 2 C_4 C_L L_L R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + 2 C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + C_L R_4 R_L s + R_4 + 2 R_L \right)}$$

10.636 INVALID-ORDER-636 $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_4 g_m \left(C_1 L_1 s^2 + C_1 R_1 s + 1 \right)}{\left(C_L R_4 s + 2 \right) \left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m \right)}$$

10.637 INVALID-ORDER-637 $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{R_4 R_L g_m \left(C_1 L_1 s^2 + C_1 R_1 s + 1 \right)}{\left(C_L R_4 R_L s + R_4 + 2 R_L \right) \left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m \right)}$$

10.638 INVALID-ORDER-638 $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_4 g_m \left(C_L R_L s + 1 \right) \left(C_1 L_1 s^2 + C_1 R_1 s + 1 \right)}{\left(C_L R_4 s + 2 C_L R_L s + 2 \right) \left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m \right)}$$

10.639 INVALID-ORDER-639 $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_4 g_m \left(C_L L_L s^2 + 1 \right) \left(C_1 L_1 s^2 + C_1 R_1 s + 1 \right)}{\left(2 C_L L_L s^2 + C_L R_4 s + 2 \right) \left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m \right)}$$

10.640 INVALID-ORDER-640 $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L R_4 g_m s \left(C_1 L_1 s^2 + C_1 R_1 s + 1 \right)}{\left(C_L L_L R_4 s^2 + 2 L_L s + R_4 \right) \left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m \right)}$$

10.641 INVALID-ORDER-641 $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_4 g_m \left(C_1 L_1 s^2 + C_1 R_1 s + 1 \right) \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{\left(2 C_L L_L s^2 + C_L R_4 s + 2 C_L R_L s + 2 \right) \left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m \right)}$$

10.642 INVALID-ORDER-642 $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_4 R_L g_m s \left(C_1 L_1 s^2 + C_1 R_1 s + 1 \right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m \right) \left(C_L L_L R_4 R_L s^2 + L_L R_4 s + 2 L_L R_L s + R_4 R_L \right)}$$

10.643 **INVALID-ORDER-643** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ R_4,\ \infty,\ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{R_4 g_m \left(C_1 L_1 s^2 + C_1 R_1 s + 1 \right) \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m \right) \left(C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + 2 L_L s + R_4 + 2 R_L \right)}$$

10.644 **INVALID-ORDER-644** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ R_4,\ \infty,\ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_4 R_L g_m \left(C_L L_L s^2 + 1 \right) \left(C_1 L_1 s^2 + C_1 R_1 s + 1 \right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m \right) \left(C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + C_L R_4 R_L s + R_4 + 2 R_L \right)}$$

10.645 **INVALID-ORDER-645** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{1}{C_4 s},\ \infty,\ R_L \right)$

$$H(s) = \frac{R_L g_m \left(C_1 L_1 s^2 + C_1 R_1 s + 1 \right)}{\left(2 C_4 R_L s + 1 \right) \left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m \right)}$$

10.646 **INVALID-ORDER-646** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{1}{C_4 s},\ \infty,\ \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_1 L_1 s^2 + C_1 R_1 s + 1 \right)}{s \left(2 C_4 + C_L \right) \left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m \right)}$$

10.647 **INVALID-ORDER-647** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{1}{C_4 s},\ \infty,\ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{R_L g_m \left(C_1 L_1 s^2 + C_1 R_1 s + 1 \right)}{\left(2 C_4 R_L s + C_L R_L s + 1 \right) \left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m \right)}$$

10.648 **INVALID-ORDER-648** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{1}{C_4 s},\ \infty,\ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_L R_L s + 1 \right) \left(C_1 L_1 s^2 + C_1 R_1 s + 1 \right)}{s \left(2 C_4 C_L R_L s + 2 C_4 + C_L \right) \left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m \right)}$$

10.649 **INVALID-ORDER-649** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{1}{C_4 s},\ \infty,\ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_L L_L s^2 + 1 \right) \left(C_1 L_1 s^2 + C_1 R_1 s + 1 \right)}{s \left(2 C_4 C_L L_L s^2 + 2 C_4 + C_L \right) \left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m \right)}$$

10.650 **INVALID-ORDER-650** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{1}{C_4 s},\ \infty,\ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L g_m s \left(C_1 L_1 s^2 + C_1 R_1 s + 1 \right)}{\left(2 C_4 L_L s^2 + C_L L_L s^2 + 1 \right) \left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m \right)}$$

10.651 **INVALID-ORDER-651** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \frac{1}{C_4 s},\ \infty,\ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_1 L_1 s^2 + C_1 R_1 s + 1 \right) \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{s \left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m \right) \left(2 C_4 C_L L_L s^2 + 2 C_4 C_L R_L s + 2 C_4 + C_L \right)}$$

10.652 **INVALID-ORDER-652** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L}\right)$

$$H(s) = \frac{L_L R_L g_m s \left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(2C_4 L_L R_L s^2 + C_L L_L R_L s^2 + L_L s + R_L\right)}$$

10.653 **INVALID-ORDER-653** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$

$$H(s) = \frac{g_m \left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)\left(C_L L_L R_L s^2 + L_L s + R_L\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(2C_4 C_L L_L R_L s^3 + 2C_4 L_L s^2 + 2C_4 R_L s + C_L L_L s^2 + 1\right)}$$

10.654 **INVALID-ORDER-654** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1}\right)$

$$H(s) = \frac{R_L g_m \left(C_L L_L s^2 + 1\right)\left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(2C_4 C_L L_L R_L s^3 + 2C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1\right)}$$

10.655 **INVALID-ORDER-655** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ R_L\right)$

$$H(s) = \frac{R_4 R_L g_m \left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{\left(2C_4 R_4 R_L s + R_4 + 2R_L\right)\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)}$$

10.656 **INVALID-ORDER-656** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{1}{C_L s}\right)$

$$H(s) = \frac{R_4 g_m \left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{\left(2C_4 R_4 s + C_L R_4 s + 2\right)\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)}$$

10.657 **INVALID-ORDER-657** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$

$$H(s) = \frac{R_4 R_L g_m \left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(2C_4 R_4 R_L s + C_L R_4 R_L s + R_4 + 2R_L\right)}$$

10.658 **INVALID-ORDER-658** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{R_4 g_m \left(C_L R_L s + 1\right)\left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(2C_4 C_L R_4 R_L s^2 + 2C_4 R_4 s + C_L R_4 s + 2C_L R_L s + 2\right)}$$

10.659 **INVALID-ORDER-659** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$

$$H(s) = \frac{R_4 g_m \left(C_L L_L s^2 + 1\right)\left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(2C_4 C_L L_L R_4 s^3 + 2C_4 R_4 s + 2C_L L_L s^2 + C_L R_4 s + 2\right)}$$

10.660 **INVALID-ORDER-660** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right)$

$$H(s) = \frac{L_L R_4 g_m s \left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(2C_4 L_L R_4 s^2 + C_L L_L R_4 s^2 + 2L_L s + R_4\right)}$$

10.661 INVALID-ORDER-661 $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{R_4 g_m \left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)\left(C_L L_L s^2 + C_L R_L s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(2C_4 C_L L_L R_4 s^3 + 2C_4 C_L R_4 R_L s^2 + 2C_4 R_4 s + 2C_L L_L s^2 + C_L R_4 s + 2C_L R_L s + 2\right)}$$

10.662 INVALID-ORDER-662 $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L}\right)$

$$H(s) = \frac{L_L R_4 R_L g_m \left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(2C_4 L_L R_4 R_L s^2 + C_L L_L R_4 R_L s^2 + L_L R_4 s + 2L_L R_L s + R_4 R_L\right)}$$

10.663 INVALID-ORDER-663 $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$

$$H(s) = \frac{R_4 g_m \left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)\left(C_L L_L R_L s^2 + L_L s + R_L\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(2C_4 C_L L_L R_4 R_L s^3 + 2C_4 L_L R_4 s^2 + 2C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2C_L L_L R_L s^2 + 2L_L s + R_4 + 2R_L\right)}$$

10.664 INVALID-ORDER-664 $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{R_L\left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1}\right)$

$$H(s) = \frac{R_4 R_L g_m \left(C_L L_L s^2 + 1\right)\left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(2C_4 C_L L_L R_4 R_L s^3 + 2C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2C_L L_L R_L s^2 + C_L R_4 R_L s + R_4 + 2R_L\right)}$$

10.665 INVALID-ORDER-665 $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L\right)$

$$H(s) = \frac{R_L g_m \left(C_4 R_4 s + 1\right)\left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{\left(C_4 R_4 s + 2C_4 R_L s + 1\right)\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)}$$

10.666 INVALID-ORDER-666 $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m \left(C_4 R_4 s + 1\right)\left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{s\left(C_4 C_L R_4 s + 2C_4 + C_L\right)\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)}$$

10.667 INVALID-ORDER-667 $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$

$$H(s) = \frac{R_L g_m \left(C_4 R_4 s + 1\right)\left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 C_L R_4 R_L s^2 + C_4 R_4 s + 2C_4 R_L s + C_L R_L s + 1\right)}$$

10.668 INVALID-ORDER-668 $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m \left(C_4 R_4 s + 1\right)\left(C_L R_L s + 1\right)\left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{s\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 C_L R_4 s + 2C_4 C_L R_L s + 2C_4 + C_L\right)}$$

10.669 INVALID-ORDER-669 $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m \left(C_4 R_4 s + 1\right)\left(C_L L_L s^2 + 1\right)\left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{s\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(2C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2C_4 + C_L\right)}$$

10.670 **INVALID-ORDER-670** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \; \infty, \; \infty, \; R_4 + \frac{1}{C_4 s}, \; \infty, \; \frac{L_L s}{C_L L_L s^2 + 1}\right)$

$$H(s) = \frac{L_L g_m s \left(C_4 R_4 s + 1\right)\left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 C_L L_L R_4 s^3 + 2 C_4 L_L s^2 + C_4 R_4 s + C_L L_L s^2 + 1\right)}$$

10.671 **INVALID-ORDER-671** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \; \infty, \; \infty, \; R_4 + \frac{1}{C_4 s}, \; \infty, \; L_L s + R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m \left(C_4 R_4 s + 1\right)\left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)\left(C_L L_L s^2 + C_L R_L s + 1\right)}{s \left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(2 C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L\right)}$$

10.672 **INVALID-ORDER-672** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \; \infty, \; \infty, \; R_4 + \frac{1}{C_4 s}, \; \infty, \; \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L}\right)$

$$H(s) = \frac{L_L R_L g_m s \left(C_4 R_4 s + 1\right)\left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 C_L L_L R_4 R_L s^3 + C_4 L_L R_4 s^2 + 2 C_4 L_L R_L s^2 + C_4 R_4 R_L s + C_L L_L R_L s^2 + L_L s + R_L\right)}$$

10.673 **INVALID-ORDER-673** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \; \infty, \; \infty, \; R_4 + \frac{1}{C_4 s}, \; \infty, \; \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$

$$H(s) = \frac{g_m \left(C_4 R_4 s + 1\right)\left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)\left(C_L L_L R_L s^2 + L_L s + R_L\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + 2 C_4 L_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + 1\right)}$$

10.674 **INVALID-ORDER-674** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \; \infty, \; \infty, \; R_4 + \frac{1}{C_4 s}, \; \infty, \; \frac{R_L \left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1}\right)$

$$H(s) = \frac{R_L g_m \left(C_4 R_4 s + 1\right)\left(C_L L_L s^2 + 1\right)\left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + C_4 C_L R_4 R_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1\right)}$$

10.675 **INVALID-ORDER-675** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \; \infty, \; \infty, \; L_4 s + \frac{1}{C_4 s}, \; \infty, \; R_L\right)$

$$H(s) = \frac{R_L g_m \left(C_4 L_4 s^2 + 1\right)\left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{\left(C_4 L_4 s^2 + 2 C_4 R_L s + 1\right)\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)}$$

10.676 **INVALID-ORDER-676** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \; \infty, \; \infty, \; L_4 s + \frac{1}{C_4 s}, \; \infty, \; \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m \left(C_4 L_4 s^2 + 1\right)\left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{s \left(C_4 C_L L_4 s^2 + 2 C_4 + C_L\right)\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)}$$

10.677 **INVALID-ORDER-677** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \; \infty, \; \infty, \; L_4 s + \frac{1}{C_4 s}, \; \infty, \; \frac{R_L}{C_L R_L s + 1}\right)$

$$H(s) = \frac{R_L g_m \left(C_4 L_4 s^2 + 1\right)\left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 C_L L_4 R_L s^3 + C_4 L_4 s^2 + 2 C_4 R_L s + C_L R_L s + 1\right)}$$

10.678 **INVALID-ORDER-678** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \; \infty, \; \infty, \; L_4 s + \frac{1}{C_4 s}, \; \infty, \; R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m \left(C_4 L_4 s^2 + 1\right)\left(C_L R_L s + 1\right)\left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{s \left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 C_L L_4 s^2 + 2 C_4 C_L R_L s + 2 C_4 + C_L\right)}$$

10.679 **INVALID-ORDER-679** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m \left(C_4 L_4 s^2 + 1\right)\left(C_L L_L s^2 + 1\right)\left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{s\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 C_L L_4 s^2 + 2 C_4 C_L L_L s^2 + 2 C_4 + C_L\right)}$$

10.680 **INVALID-ORDER-680** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right)$

$$H(s) = \frac{L_L g_m s \left(C_4 L_4 s^2 + 1\right)\left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 C_L L_4 L_L s^4 + C_4 L_4 s^2 + 2 C_4 L_L s^2 + C_L L_L s^2 + 1\right)}$$

10.681 **INVALID-ORDER-681** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m \left(C_4 L_4 s^2 + 1\right)\left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)\left(C_L L_L s^2 + C_L R_L s + 1\right)}{s\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 C_L L_4 s^2 + 2 C_4 C_L L_L s^2 + 2 C_4 C_L R_L s + 2 C_4 + C_L\right)}$$

10.682 **INVALID-ORDER-682** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L}\right)$

$$H(s) = \frac{L_L R_L g_m s \left(C_4 L_4 s^2 + 1\right)\left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 C_L L_4 L_L R_L s^4 + C_4 L_4 L_L s^3 + C_4 L_4 R_L s^2 + 2 C_4 L_L R_L s^2 + C_L L_L R_L s^2 + L_L s + R_L\right)}$$

10.683 **INVALID-ORDER-683** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$

$$H(s) = \frac{g_m \left(C_4 L_4 s^2 + 1\right)\left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)\left(C_L L_L R_L s^2 + L_L s + R_L\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 C_L L_4 L_L s^4 + 2 C_4 C_L L_L R_L s^3 + C_4 L_4 s^2 + 2 C_4 L_L s^2 + 2 C_4 R_L s + C_L L_L s^2 + 1\right)}$$

10.684 **INVALID-ORDER-684** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L\left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1}\right)$

$$H(s) = \frac{R_L g_m \left(C_4 L_4 s^2 + 1\right)\left(C_L L_L s^2 + 1\right)\left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_L s^3 + 2 C_4 C_L L_L R_L s^3 + C_4 L_4 s^2 + 2 C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1\right)}$$

10.685 **INVALID-ORDER-685** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ R_L\right)$

$$H(s) = \frac{L_4 R_L g_m s \left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{\left(2 C_4 L_4 R_L s^2 + L_4 s + 2 R_L\right)\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)}$$

10.686 **INVALID-ORDER-686** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_4 g_m s \left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{\left(2 C_4 L_4 s^2 + C_L L_4 s^2 + 2\right)\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)}$$

10.687 **INVALID-ORDER-687** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$

$$H(s) = \frac{L_4 R_L g_m s \left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(2 C_4 L_4 R_L s^2 + C_L L_4 R_L s^2 + L_4 s + 2 R_L\right)}$$

10.688 **INVALID-ORDER-688** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_4 g_m s \left(C_L R_L s + 1 \right) \left(C_1 L_1 s^2 + C_1 R_1 s + 1 \right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m \right) \left(2 C_4 C_L L_4 R_L s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L R_L s + 2 \right)}$$

10.689 **INVALID-ORDER-689** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_4 g_m s \left(C_L L_L s^2 + 1 \right) \left(C_1 L_1 s^2 + C_1 R_1 s + 1 \right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m \right) \left(2 C_4 C_L L_4 L_L s^4 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L L_L s^2 + 2 \right)}$$

10.690 **INVALID-ORDER-690** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_4 L_L g_m s \left(C_1 L_1 s^2 + C_1 R_1 s + 1 \right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m \right) \left(2 C_4 L_4 L_L s^2 + C_L L_4 L_L s^2 + L_4 + 2 L_L \right)}$$

10.691 **INVALID-ORDER-691** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_4 g_m s \left(C_1 L_1 s^2 + C_1 R_1 s + 1 \right) \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m \right) \left(2 C_4 C_L L_4 L_L s^4 + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L L_L s^2 + 2 C_L R_L s + 2 \right)}$$

10.692 **INVALID-ORDER-692** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_4 L_L R_L g_m s \left(C_1 L_1 s^2 + C_1 R_1 s + 1 \right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m \right) \left(2 C_4 L_4 L_L R_L s^2 + C_L L_4 L_L R_L s^2 + L_4 L_L s + L_4 R_L + 2 L_L R_L \right)}$$

10.693 **INVALID-ORDER-693** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{L_4 g_m s \left(C_1 L_1 s^2 + C_1 R_1 s + 1 \right) \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m \right) \left(2 C_4 C_L L_4 L_L R_L s^4 + 2 C_4 L_4 L_L s^3 + 2 C_4 L_4 R_L s^2 + C_L L_4 L_L s^3 + 2 C_L L_L R_L s^2 + L_4 s + 2 L_L s + 2 R_L \right)}$$

10.694 **INVALID-ORDER-694** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{L_4 R_L g_m s \left(C_L L_L s^2 + 1 \right) \left(C_1 L_1 s^2 + C_1 R_1 s + 1 \right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m \right) \left(2 C_4 C_L L_4 L_L R_L s^4 + 2 C_4 L_4 R_L s^2 + C_L L_4 L_L s^3 + C_L L_4 R_L s^2 + 2 C_L L_L R_L s^2 + L_4 s + 2 R_L \right)}$$

10.695 **INVALID-ORDER-695** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L \right)$

$$H(s) = \frac{R_L g_m \left(C_1 L_1 s^2 + C_1 R_1 s + 1 \right) \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{\left(C_4 L_4 s^2 + C_4 R_4 s + 2 C_4 R_L s + 1 \right) \left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m \right)}$$

10.696 **INVALID-ORDER-696** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_1 L_1 s^2 + C_1 R_1 s + 1 \right) \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{s \left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m \right) \left(C_4 C_L L_4 s^2 + C_4 C_L R_4 s + 2 C_4 + C_L \right)}$$

10.697 **INVALID-ORDER-697** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$

$$H(s) = \frac{R_L g_m \left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 C_L L_4 R_L s^3 + C_4 C_L R_4 R_L s^2 + C_4 L_4 s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L R_L s + 1\right)}$$

10.698 **INVALID-ORDER-698** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m \left(C_L R_L s + 1\right)\left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{s\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 C_L L_4 s^2 + C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L\right)}$$

10.699 **INVALID-ORDER-699** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m \left(C_L L_L s^2 + 1\right)\left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{s\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 C_L L_4 s^2 + 2 C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2 C_4 + C_L\right)}$$

10.700 **INVALID-ORDER-700** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right)$

$$H(s) = \frac{L_L g_m s \left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 C_L L_4 L_L s^4 + C_4 C_L L_L R_4 s^3 + C_4 L_4 s^2 + 2 C_4 L_L s^2 + C_4 R_4 s + C_L L_L s^2 + 1\right)}$$

10.701 **INVALID-ORDER-701** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{g_m \left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)\left(C_L L_L s^2 + C_L R_L s + 1\right)}{s\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 C_L L_4 s^2 + 2 C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L\right)}$$

10.702 **INVALID-ORDER-702** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L}\right)$

$$H(s) = \frac{L_L R_L g_m s \left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 C_L L_4 L_L R_L s^4 + C_4 C_L L_L R_4 R_L s^3 + C_4 L_4 L_L s^3 + C_4 L_4 R_L s^2 + C_4 L_L R_4 s^2 + 2 C_4 L_L R_L s^2 + C_4 R_4 R_L s + C_L L_L R_L s^2 + L_L s + R_L\right)}$$

10.703 **INVALID-ORDER-703** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$

$$H(s) = \frac{g_m \left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)\left(C_L L_L R_L s^2 + L_L s + R_L\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 C_L L_4 L_L s^4 + C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + C_4 L_4 s^2 + 2 C_4 L_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + 1\right)}$$

10.704 **INVALID-ORDER-704** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1}\right)$

$$H(s) = \frac{R_L g_m \left(C_L L_L s^2 + 1\right)\left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_L s^3 + C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + C_4 C_L R_4 R_L s^2 + C_4 L_4 s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1\right)}$$

10.705 **INVALID-ORDER-705** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ R_L\right)$

$$H(s) = \frac{L_4 R_4 R_L g_m s \left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(2 C_4 L_4 R_4 R_L s^2 + L_4 R_4 s + 2 L_4 R_L s + 2 R_4 R_L\right)}$$

10.706 **INVALID-ORDER-706** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_4 R_4 g_m s \left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(2 C_4 L_4 R_4 s^2 + C_L L_4 R_4 s^2 + 2 L_4 s + 2 R_4\right)}$$

10.707 **INVALID-ORDER-707** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{R_L}{C_L R_L s + 1}\right)$

$$H(s) = \frac{L_4 R_4 R_L g_m s \left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(2 C_4 L_4 R_4 R_L s^2 + C_L L_4 R_4 R_L s^2 + L_4 R_4 s + 2 L_4 R_L s + 2 R_4 R_L\right)}$$

10.708 **INVALID-ORDER-708** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_4 R_4 g_m s \left(C_L R_L s + 1\right)\left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(2 C_4 C_L L_4 R_4 R_L s^3 + 2 C_4 L_4 R_4 s^2 + C_L L_4 R_4 s^2 + 2 C_L L_4 R_L s^2 + 2 C_L R_4 R_L s + 2 L_4 s + 2 R_4\right)}$$

10.709 **INVALID-ORDER-709** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ L_L s + \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_4 R_4 g_m s \left(C_L L_L s^2 + 1\right)\left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(2 C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 L_4 R_4 s^2 + 2 C_L L_4 L_L s^3 + C_L L_4 R_4 s^2 + 2 C_L L_L R_4 s^2 + 2 L_4 s + 2 R_4\right)}$$

10.710 **INVALID-ORDER-710** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1}\right)$

$$H(s) = \frac{L_4 L_L R_4 g_m s \left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(2 C_4 L_4 L_L R_4 s^2 + C_L L_4 L_L R_4 s^2 + 2 L_4 L_L s + L_4 R_4 + 2 L_L R_4\right)}$$

10.711 **INVALID-ORDER-711** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s}\right)$

$$H(s) = \frac{L_4 R_4 g_m s \left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)\left(C_L L_L s^2 + C_L R_L s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(2 C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 R_4 R_L s^3 + 2 C_4 L_4 R_4 s^2 + 2 C_L L_4 L_L s^3 + C_L L_4 R_4 s^2 + 2 C_L L_4 R_L s^2 + 2 C_L L_L R_4 s^2 + 2 C_L R_4 R_L s + 2 L_4 s + 2 R_4\right)}$$

10.712 **INVALID-ORDER-712** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L}\right)$

$$H(s) = \frac{L_4 L_L R_4 R_L g_m s \left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(2 C_4 L_4 L_L R_4 R_L s^2 + C_L L_4 L_L R_4 R_L s^2 + L_4 L_L R_4 s + 2 L_4 L_L R_L s + L_4 R_4 R_L + 2 L_L R_4 R_L\right)}$$

10.713 **INVALID-ORDER-713** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L\right)$

$$H(s) = \frac{L_4 R_4 g_m s \left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)\left(C_L L_L R_L s^2 + L_L s + R_L\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(2 C_4 C_L L_4 L_L R_4 R_L s^4 + 2 C_4 L_4 L_L R_4 s^3 + 2 C_4 L_4 R_4 R_L s^2 + C_L L_4 L_L R_4 s^3 + 2 C_L L_4 L_L R_L s^3 + 2 C_L L_L R_4 R_L s^2 + 2 L_4 L_L s^2 + L_4 R_4 s + 2 L_4 R_L s + 2 L_L R_4 s + 2 R_4 R_L\right)}$$

10.714 **INVALID-ORDER-714** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{R_L\left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1}\right)$

$$H(s) = \frac{L_4 R_4 R_L g_m s \left(C_L L_L s^2 + 1\right)\left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(2 C_4 C_L L_4 L_L R_4 R_L s^4 + 2 C_4 L_4 R_4 R_L s^2 + C_L L_4 L_L R_4 s^3 + 2 C_L L_4 L_L R_L s^3 + C_L L_4 R_4 R_L s^2 + 2 C_L L_L R_4 R_L s^2 + L_4 R_4 s + 2 L_4 R_L s + 2 R_4 R_L\right)}$$

10.715 **INVALID-ORDER-715** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ R_L \right)$

$$H(s) = \frac{R_L g_m \left(C_1 L_1 s^2 + C_1 R_1 s + 1 \right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m \right) \left(C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + L_4 s + R_4 + 2 R_L \right)}$$

10.716 **INVALID-ORDER-716** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_1 L_1 s^2 + C_1 R_1 s + 1 \right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m \right) \left(C_4 C_L L_4 R_4 s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + C_L R_4 s + 2 \right)}$$

10.717 **INVALID-ORDER-717** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{R_L g_m \left(C_1 L_1 s^2 + C_1 R_1 s + 1 \right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m \right) \left(C_4 C_L L_4 R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + C_L L_4 R_L s^2 + C_L R_4 R_L s + L_4 s + R_4 + 2 R_L \right)}$$

10.718 **INVALID-ORDER-718** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_L R_L s + 1 \right) \left(C_1 L_1 s^2 + C_1 R_1 s + 1 \right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m \right) \left(C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + C_L R_4 s + 2 C_L R_L s + 2 \right)}$$

10.719 **INVALID-ORDER-719** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_L L_L s^2 + 1 \right) \left(C_1 L_1 s^2 + C_1 R_1 s + 1 \right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m \right) \left(2 C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L L_L s^2 + C_L R_4 s + 2 \right)}$$

10.720 **INVALID-ORDER-720** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L g_m s \left(C_1 L_1 s^2 + C_1 R_1 s + 1 \right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m \right) \left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 L_4 L_L s^3 + C_4 L_4 R_4 s^2 + C_L L_4 L_L s^3 + C_L L_L R_4 s^2 + L_4 s + 2 L_L s + R_4 \right)}$$

10.721 **INVALID-ORDER-721** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_1 L_1 s^2 + C_1 R_1 s + 1 \right) \left(C_L L_L s^2 + C_L R_L s + 1 \right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m \right) \left(2 C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L L_L s^2 + C_L R_4 s + 2 C_L R_L s + 2 \right)}$$

10.722 **INVALID-ORDER-722** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_L g_m s \left(C_1 L_1 s^2 + C_1 R_1 s + 1 \right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m \right) \left(C_4 C_L L_4 L_L R_4 R_L s^4 + C_4 L_4 L_L R_4 s^3 + 2 C_4 L_4 L_L R_L s^3 + C_4 L_4 R_4 R_L s^2 + C_L L_4 L_L R_L s^3 + C_L L_L R_4 R_L s^2 + L_4 L_L s^2 + L_4 R_L s + L_L R_4 s + 2 L_L R_L s + R_4 R_L \right)}$$

10.723 **INVALID-ORDER-723** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{g_m \left(C_1 L_1 s^2 + C_1 R_1 s + 1 \right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right) \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m \right) \left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_L R_L s^4 + 2 C_4 L_4 L_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + C_L L_4 L_L s^3 + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + L_4 s + 2 L_L s + R_4 + 2 R_L \right)}$$

10.724 **INVALID-ORDER-724** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{R_L(C_L L_L s^2 + 1)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_L g_m (C_L L_L s^2 + 1)(C_1 L_1 s^2 + C_1 R_1 s + 1)(C_4 L_4 R_4 s^2 + L_4 s + R_4)}{(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m)(C_4 C_L L_4 L_L R_4 s^4 + 2C_4 C_L L_4 L_L R_L s^4 + C_4 C_L L_4 R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2C_4 L_4 R_L s^2 + C_L L_4 L_L s^3 + C_L L_4 R_L s^2 + C_L L_L R_4 s^2 + 2C_L L_L R_L s^2 + C_L R_4 R_L s + L_4 s + R_4 + 2R_L)}$$

10.725 **INVALID-ORDER-725** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4(C_4 L_4 s^2 + 1)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ R_L \right)$

$$H(s) = \frac{R_4 R_L g_m (C_4 L_4 s^2 + 1)(C_1 L_1 s^2 + C_1 R_1 s + 1)}{(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m)(C_4 L_4 R_4 s^2 + 2C_4 L_4 R_L s^2 + 2C_4 R_4 R_L s + R_4 + 2R_L)}$$

10.726 **INVALID-ORDER-726** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4(C_4 L_4 s^2 + 1)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_4 g_m (C_4 L_4 s^2 + 1)(C_1 L_1 s^2 + C_1 R_1 s + 1)}{(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m)(C_4 C_L L_4 R_4 s^3 + 2C_4 L_4 s^2 + 2C_4 R_4 s + C_L R_4 s + 2)}$$

10.727 **INVALID-ORDER-727** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4(C_4 L_4 s^2 + 1)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{R_4 R_L g_m (C_4 L_4 s^2 + 1)(C_1 L_1 s^2 + C_1 R_1 s + 1)}{(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m)(C_4 C_L L_4 R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2C_4 L_4 R_L s^2 + 2C_4 R_4 R_L s + C_L R_4 R_L s + R_4 + 2R_L)}$$

10.728 **INVALID-ORDER-728** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4(C_4 L_4 s^2 + 1)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_4 g_m (C_4 L_4 s^2 + 1)(C_L R_L s + 1)(C_1 L_1 s^2 + C_1 R_1 s + 1)}{(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m)(C_4 C_L L_4 R_4 s^3 + 2C_4 C_L L_4 R_L s^3 + 2C_4 C_L R_4 R_L s^2 + 2C_4 L_4 s^2 + 2C_4 R_4 s + C_L R_4 s + 2C_L R_L s + 2)}$$

10.729 **INVALID-ORDER-729** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4(C_4 L_4 s^2 + 1)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_4 g_m (C_4 L_4 s^2 + 1)(C_L L_L s^2 + 1)(C_1 L_1 s^2 + C_1 R_1 s + 1)}{(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m)(2C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2C_4 C_L L_L R_4 s^3 + 2C_4 L_4 s^2 + 2C_4 R_4 s + 2C_L L_L s^2 + C_L R_4 s + 2)}$$

10.730 **INVALID-ORDER-730** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4(C_4 L_4 s^2 + 1)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L R_4 g_m s (C_4 L_4 s^2 + 1)(C_1 L_1 s^2 + C_1 R_1 s + 1)}{(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m)(C_4 C_L L_4 L_L R_4 s^4 + 2C_4 L_4 L_L s^3 + C_4 L_4 R_4 s^2 + 2C_4 L_L R_4 s^2 + C_L L_L R_4 s^2 + 2L_L s + R_4)}$$

10.731 **INVALID-ORDER-731** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4(C_4 L_4 s^2 + 1)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_4 g_m (C_4 L_4 s^2 + 1)(C_1 L_1 s^2 + C_1 R_1 s + 1)(C_L L_L s^2 + C_L R_L s + 1)}{(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m)(2C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2C_4 C_L L_4 R_L s^3 + 2C_4 C_L L_L R_4 s^3 + 2C_4 C_L R_4 R_L s^2 + 2C_4 L_4 s^2 + 2C_4 R_4 s + 2C_L L_L s^2 + C_L R_4 s + 2C_L R_L s + 2)}$$

10.732 **INVALID-ORDER-732** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4(C_4 L_4 s^2 + 1)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_4 R_L g_m s (C_4 L_4 s^2 + 1)(C_1 L_1 s^2 + C_1 R_1 s + 1)}{(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m)(C_4 C_L L_4 L_L R_4 R_L s^4 + C_4 L_4 L_L R_4 s^3 + 2C_4 L_4 L_L R_L s^3 + C_4 L_4 R_4 R_L s^2 + 2C_4 L_L R_4 R_L s^2 + C_L L_L R_4 R_L s^2 + L_L R_4 s + 2L_L R_L s + R_4 R_L)}$$

10.733 **INVALID-ORDER-733** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{R_4 g_m \left(C_4 L_4 s^2 + 1\right)\left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)\left(C_L L_L R_L s^2 + L_L s + R_L\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_L R_L s^4 + 2 C_4 C_L L_L R_4 R_L s^3 + 2 C_4 L_4 L_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + 2 C_4 L_L R_4 s^2 + 2 C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + 2 L_L s + R_4 + 2 R_L\right)}$$

10.734 **INVALID-ORDER-734** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{R_L\left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_4 R_L g_m \left(C_4 L_4 s^2 + 1\right)\left(C_L L_L s^2 + 1\right)\left(C_1 L_1 s^2 + C_1 R_1 s + 1\right)}{\left(C_1 L_1 g_m s^2 + C_1 R_1 g_m s + C_1 s + g_m\right)\left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_L R_L s^4 + C_4 C_L L_4 R_4 R_L s^3 + 2 C_4 C_L L_L R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + 2 C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + C_L R_4 R_L s + R_4 + 2 R_L\right)}$$

10.735 **INVALID-ORDER-735** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_1 R_4 g_m s}{\left(C_L R_4 s + 2\right)\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1\right)}$$

10.736 **INVALID-ORDER-736** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 R_1 R_4 R_L g_m s}{\left(C_L R_4 R_L s + R_4 + 2 R_L\right)\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1\right)}$$

10.737 **INVALID-ORDER-737** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ R_4, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_1 R_4 g_m s\left(C_L R_L s + 1\right)}{\left(C_L R_4 s + 2 C_L R_L s + 2\right)\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1\right)}$$

10.738 **INVALID-ORDER-738** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ R_4, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_1 R_4 g_m s\left(C_L L_L s^2 + 1\right)}{\left(2 C_L L_L s^2 + C_L R_4 s + 2\right)\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1\right)}$$

10.739 **INVALID-ORDER-739** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_1 L_L R_1 R_4 g_m s^2}{\left(C_L L_L R_4 s^2 + 2 L_L s + R_4\right)\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1\right)}$$

10.740 **INVALID-ORDER-740** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ R_4, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_1 R_4 g_m s\left(C_L L_L s^2 + C_L R_L s + 1\right)}{\left(2 C_L L_L s^2 + C_L R_4 s + 2 C_L R_L s + 2\right)\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1\right)}$$

10.741 **INVALID-ORDER-741** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_1 L_L R_1 R_4 R_L g_m s^2}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1\right)\left(C_L L_L R_4 R_L s^2 + L_L R_4 s + 2 L_L R_L s + R_4 R_L\right)}$$

10.742 **INVALID-ORDER-742** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{L_1 R_1 R_4 g_m s \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + 2 L_L s + R_4 + 2 R_L \right)}$$

10.743 **INVALID-ORDER-743** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 R_1 R_4 R_L g_m s \left(C_L L_L s^2 + 1 \right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + C_L R_4 R_L s + R_4 + 2 R_L \right)}$$

10.744 **INVALID-ORDER-744** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ R_L \right)$

$$H(s) = \frac{L_1 R_1 R_L g_m s}{\left(2 C_4 R_L s + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right)}$$

10.745 **INVALID-ORDER-745** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 R_1 R_L g_m s}{\left(2 C_4 R_L s + C_L R_L s + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right)}$$

10.746 **INVALID-ORDER-746** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_1 g_m \left(C_L R_L s + 1 \right)}{\left(2 C_4 C_L R_L s + 2 C_4 + C_L \right) \left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right)}$$

10.747 **INVALID-ORDER-747** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_1 g_m \left(C_L L_L s^2 + 1 \right)}{\left(2 C_4 C_L L_L s^2 + 2 C_4 + C_L \right) \left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right)}$$

10.748 **INVALID-ORDER-748** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_1 L_L R_1 g_m s^2}{\left(2 C_4 L_L s^2 + C_L L_L s^2 + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right)}$$

10.749 **INVALID-ORDER-749** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_1 g_m \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(2 C_4 C_L L_L s^2 + 2 C_4 C_L R_L s + 2 C_4 + C_L \right)}$$

10.750 **INVALID-ORDER-750** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_1 L_L R_1 R_L g_m s^2}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(2 C_4 L_L R_L s^2 + C_L L_L R_L s^2 + L_L s + R_L \right)}$$

10.751 **INVALID-ORDER-751** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{L_1 R_1 g_m s \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(2 C_4 C_L L_L R_L s^3 + 2 C_4 L_L s^2 + 2 C_4 R_L s + C_L L_L s^2 + 1 \right)}$$

10.752 **INVALID-ORDER-752** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 R_1 R_L g_m s \left(C_L L_L s^2 + 1 \right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(2 C_4 C_L L_L R_L s^3 + 2 C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1 \right)}$$

10.753 **INVALID-ORDER-753** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ R_L \right)$

$$H(s) = \frac{L_1 R_1 R_4 R_L g_m s}{\left(2 C_4 R_4 R_L s + R_4 + 2 R_L \right) \left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right)}$$

10.754 **INVALID-ORDER-754** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_1 R_4 g_m s}{\left(2 C_4 R_4 s + C_L R_4 s + 2 \right) \left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right)}$$

10.755 **INVALID-ORDER-755** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 R_1 R_4 R_L g_m s}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(2 C_4 R_4 R_L s + C_L R_4 R_L s + R_4 + 2 R_L \right)}$$

10.756 **INVALID-ORDER-756** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_1 R_4 g_m s \left(C_L R_L s + 1 \right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(2 C_4 C_L R_4 R_L s^2 + 2 C_4 R_4 s + C_L R_4 s + 2 C_L R_L s + 2 \right)}$$

10.757 **INVALID-ORDER-757** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_1 R_4 g_m s \left(C_L L_L s^2 + 1 \right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(2 C_4 C_L L_L R_4 s^3 + 2 C_4 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2 \right)}$$

10.758 **INVALID-ORDER-758** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_1 L_L R_1 R_4 g_m s^2}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(2 C_4 L_L R_4 s^2 + C_L L_L R_4 s^2 + 2 L_L s + R_4 \right)}$$

10.759 **INVALID-ORDER-759** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_1 R_4 g_m s \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(2 C_4 C_L L_L R_4 s^3 + 2 C_4 C_L R_4 R_L s^2 + 2 C_4 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2 C_L R_L s + 2 \right)}$$

10.760 INVALID-ORDER-760 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_1 L_L R_1 R_4 R_L g_m s^2}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(2 C_4 L_L R_4 R_L s^2 + C_L L_L R_4 R_L s^2 + L_L R_4 s + 2 L_L R_L s + R_4 R_L \right)}$$

10.761 INVALID-ORDER-761 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{L_1 R_1 R_4 g_m s \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(2 C_4 C_L L_L R_4 R_L s^3 + 2 C_4 L_L R_4 s^2 + 2 C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + 2 L_L s + R_4 + 2 R_L \right)}$$

10.762 INVALID-ORDER-762 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 R_1 R_4 R_L g_m s \left(C_L L_L s^2 + 1 \right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(2 C_4 C_L L_L R_4 R_L s^3 + 2 C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + C_L R_4 R_L s + R_4 + 2 R_L \right)}$$

10.763 INVALID-ORDER-763 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L \right)$

$$H(s) = \frac{L_1 R_1 R_L g_m s \left(C_4 R_4 s + 1 \right)}{\left(C_4 R_4 s + 2 C_4 R_L s + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right)}$$

10.764 INVALID-ORDER-764 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_1 g_m \left(C_4 R_4 s + 1 \right)}{\left(C_4 C_L R_4 s + 2 C_4 + C_L \right) \left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right)}$$

10.765 INVALID-ORDER-765 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 R_1 R_L g_m s \left(C_4 R_4 s + 1 \right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(C_4 C_L R_4 R_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L R_L s + 1 \right)}$$

10.766 INVALID-ORDER-766 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_1 g_m \left(C_4 R_4 s + 1 \right) \left(C_L R_L s + 1 \right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L \right)}$$

10.767 INVALID-ORDER-767 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_1 g_m \left(C_4 R_4 s + 1 \right) \left(C_L L_L s^2 + 1 \right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(2 C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2 C_4 + C_L \right)}$$

10.768 INVALID-ORDER-768 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_1 L_L R_1 g_m s^2 \left(C_4 R_4 s + 1 \right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(C_4 C_L L_L R_4 s^3 + 2 C_4 L_L s^2 + C_4 R_4 s + C_L L_L s^2 + 1 \right)}$$

10.769 **INVALID-ORDER-769** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_1 g_m \left(C_4 R_4 s + 1 \right) \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(2 C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L \right)}$$

10.770 **INVALID-ORDER-770** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_1 L_L R_1 R_L g_m s^2 \left(C_4 R_4 s + 1 \right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(C_4 C_L L_L R_4 R_L s^3 + C_4 L_L R_4 s^2 + 2 C_4 L_L R_L s^2 + C_4 R_4 R_L s + C_L L_L R_L s^2 + L_L s + R_L \right)}$$

10.771 **INVALID-ORDER-771** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{L_1 R_1 g_m s \left(C_4 R_4 s + 1 \right) \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + 2 C_4 L_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + 1 \right)}$$

10.772 **INVALID-ORDER-772** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 R_1 R_L g_m s \left(C_4 R_4 s + 1 \right) \left(C_L L_L s^2 + 1 \right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + C_4 C_L R_4 R_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1 \right)}$$

10.773 **INVALID-ORDER-773** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ R_L \right)$

$$H(s) = \frac{L_1 R_1 R_L g_m s \left(C_4 L_4 s^2 + 1 \right)}{\left(C_4 L_4 s^2 + 2 C_4 R_L s + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right)}$$

10.774 **INVALID-ORDER-774** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_1 g_m \left(C_4 L_4 s^2 + 1 \right)}{\left(C_4 C_L L_4 s^2 + 2 C_4 + C_L \right) \left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right)}$$

10.775 **INVALID-ORDER-775** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 R_1 R_L g_m s \left(C_4 L_4 s^2 + 1 \right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(C_4 C_L L_4 R_L s^3 + C_4 L_4 s^2 + 2 C_4 R_L s + C_L R_L s + 1 \right)}$$

10.776 **INVALID-ORDER-776** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_1 g_m \left(C_4 L_4 s^2 + 1 \right) \left(C_L R_L s + 1 \right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(C_4 C_L L_4 s^2 + 2 C_4 C_L R_L s + 2 C_4 + C_L \right)}$$

10.777 **INVALID-ORDER-777** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_1 g_m \left(C_4 L_4 s^2 + 1 \right) \left(C_L L_L s^2 + 1 \right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(C_4 C_L L_4 s^2 + 2 C_4 C_L L_L s^2 + 2 C_4 + C_L \right)}$$

10.778 **INVALID-ORDER-778** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_1 L_L R_1 g_m s^2 \left(C_4 L_4 s^2 + 1 \right)}{(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1)(C_4 C_L L_4 L_L s^4 + C_4 L_4 s^2 + 2 C_4 L_L s^2 + C_L L_L s^2 + 1)}$$

10.779 **INVALID-ORDER-779** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_1 g_m \left(C_4 L_4 s^2 + 1 \right) \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1)(C_4 C_L L_4 s^2 + 2 C_4 C_L L_L s^2 + 2 C_4 C_L R_L s + 2 C_4 + C_L)}$$

10.780 **INVALID-ORDER-780** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_1 L_L R_1 R_L g_m s^2 \left(C_4 L_4 s^2 + 1 \right)}{(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1)(C_4 C_L L_4 L_L R_L s^4 + C_4 L_4 L_L s^3 + C_4 L_4 R_L s^2 + 2 C_4 L_L R_L s^2 + C_L L_L R_L s^2 + L_L s + R_L)}$$

10.781 **INVALID-ORDER-781** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{L_1 R_1 g_m s \left(C_4 L_4 s^2 + 1 \right) \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1)(C_4 C_L L_4 L_L s^4 + 2 C_4 C_L L_L R_L s^3 + C_4 L_4 s^2 + 2 C_4 L_L s^2 + 2 C_4 R_L s + C_L L_L s^2 + 1)}$$

10.782 **INVALID-ORDER-782** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 R_1 R_L g_m s \left(C_4 L_4 s^2 + 1 \right) \left(C_L L_L s^2 + 1 \right)}{(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1)(C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_L s^3 + 2 C_4 C_L L_L R_L s^3 + C_4 L_4 s^2 + 2 C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1)}$$

10.783 **INVALID-ORDER-783** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ R_L \right)$

$$H(s) = \frac{L_1 L_4 R_1 R_L g_m s^2}{(2 C_4 L_4 R_L s^2 + L_4 s + 2 R_L)(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1)}$$

10.784 **INVALID-ORDER-784** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 L_4 R_1 g_m s^2}{(2 C_4 L_4 s^2 + C_L L_4 s^2 + 2)(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1)}$$

10.785 **INVALID-ORDER-785** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 L_4 R_1 R_L g_m s^2}{(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1)(2 C_4 L_4 R_L s^2 + C_L L_4 R_L s^2 + L_4 s + 2 R_L)}$$

10.786 **INVALID-ORDER-786** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 L_4 R_1 g_m s^2 \left(C_L R_L s + 1 \right)}{(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1)(2 C_4 C_L L_4 R_L s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L R_L s + 2)}$$

10.787 **INVALID-ORDER-787** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 L_4 R_1 g_m s^2 \left(C_L L_L s^2 + 1 \right)}{(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1)(2 C_4 C_L L_4 L_L s^4 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L L_L s^2 + 2)}$$

10.788 **INVALID-ORDER-788** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_1 L_4 L_L R_1 g_m s^2}{(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1)(2 C_4 L_4 L_L s^2 + C_L L_4 L_L s^2 + L_4 + 2 L_L)}$$

10.789 **INVALID-ORDER-789** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 L_4 R_1 g_m s^2 \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1)(2 C_4 C_L L_4 L_L s^4 + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L L_L s^2 + 2 C_L R_L s + 2)}$$

10.790 **INVALID-ORDER-790** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_1 L_4 L_L R_1 R_L g_m s^2}{(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1)(2 C_4 L_4 L_L R_L s^2 + C_L L_4 L_L R_L s^2 + L_4 L_L s + L_4 R_L + 2 L_L R_L)}$$

10.791 **INVALID-ORDER-791** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{L_1 L_4 R_1 g_m s^2 \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1)(2 C_4 C_L L_4 L_L R_L s^4 + 2 C_4 L_4 L_L s^3 + 2 C_4 L_4 R_L s^2 + C_L L_4 L_L s^3 + 2 C_L L_L R_L s^2 + L_4 s + 2 L_L s + 2 R_L)}$$

10.792 **INVALID-ORDER-792** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 L_4 R_1 R_L g_m s^2 \left(C_L L_L s^2 + 1 \right)}{(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1)(2 C_4 C_L L_4 L_L R_L s^4 + 2 C_4 L_4 R_L s^2 + C_L L_4 L_L s^3 + C_L L_4 R_L s^2 + 2 C_L L_L R_L s^2 + L_4 s + 2 R_L)}$$

10.793 **INVALID-ORDER-793** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L \right)$

$$H(s) = \frac{L_1 R_1 R_L g_m s \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{(C_4 L_4 s^2 + C_4 R_4 s + 2 C_4 R_L s + 1)(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1)}$$

10.794 **INVALID-ORDER-794** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_1 g_m \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1)(C_4 C_L L_4 s^2 + C_4 C_L R_4 s + 2 C_4 + C_L)}$$

10.795 **INVALID-ORDER-795** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 R_1 R_L g_m s \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1)(C_4 C_L L_4 R_L s^3 + C_4 C_L R_4 R_L s^2 + C_4 L_4 s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L R_L s + 1)}$$

10.796 INVALID-ORDER-796 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_1 g_m \left(C_L R_L s + 1 \right) \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(C_4 C_L L_4 s^2 + C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L \right)}$$

10.797 INVALID-ORDER-797 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_1 g_m \left(C_L L_L s^2 + 1 \right) \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(C_4 C_L L_4 s^2 + 2 C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2 C_4 + C_L \right)}$$

10.798 INVALID-ORDER-798 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_1 L_L R_1 g_m s^2 \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(C_4 C_L L_4 L_L s^4 + C_4 C_L L_L R_4 s^3 + C_4 L_4 s^2 + 2 C_4 L_L s^2 + C_4 R_4 s + C_L L_L s^2 + 1 \right)}$$

10.799 INVALID-ORDER-799 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_1 g_m \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right) \left(C_L L_L s^2 + C_L R_L s + 1 \right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(C_4 C_L L_4 s^2 + 2 C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L \right)}$$

10.800 INVALID-ORDER-800 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_1 L_L R_1 R_L g_m s^2 \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(C_4 C_L L_4 L_L R_L s^4 + C_4 C_L L_L R_4 R_L s^3 + C_4 L_4 L_L s^3 + C_4 L_4 R_L s^2 + C_4 L_L R_4 s^2 + 2 C_4 L_L R_L s^2 + C_4 R_4 R_L s + C_L L_L R_L s^2 + L_L s + R_L \right)}$$

10.801 INVALID-ORDER-801 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{L_1 R_1 g_m s \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right) \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(C_4 C_L L_4 L_L s^4 + C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + C_4 L_4 s^2 + 2 C_4 L_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + 1 \right)}$$

10.802 INVALID-ORDER-802 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 R_1 R_L g_m s \left(C_L L_L s^2 + 1 \right) \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_L s^3 + C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + C_4 C_L R_4 R_L s^2 + C_4 L_4 s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1 \right)}$$

10.803 INVALID-ORDER-803 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ R_L \right)$

$$H(s) = \frac{L_1 L_4 R_1 R_4 R_L g_m s^2}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(2 C_4 L_4 R_4 R_L s^2 + L_4 R_4 s + 2 L_4 R_L s + 2 R_4 R_L \right)}$$

10.804 INVALID-ORDER-804 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 L_4 R_1 R_4 g_m s^2}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(2 C_4 L_4 R_4 s^2 + C_L L_4 R_4 s^2 + 2 L_4 s + 2 R_4 \right)}$$

10.805 **INVALID-ORDER-805** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 L_4 R_1 R_4 R_L g_m s^2}{(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1)(2 C_4 L_4 R_4 R_L s^2 + C_L L_4 R_4 R_L s^2 + L_4 R_4 s + 2 L_4 R_L s + 2 R_4 R_L)}$$

10.806 **INVALID-ORDER-806** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 L_4 R_1 R_4 g_m s^2 (C_L R_L s + 1)}{(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1)(2 C_4 C_L L_4 R_4 R_L s^3 + 2 C_4 L_4 R_4 s^2 + C_L L_4 R_4 s^2 + 2 C_L L_4 R_L s^2 + 2 C_L R_4 R_L s + 2 L_4 s + 2 R_4)}$$

10.807 **INVALID-ORDER-807** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 L_4 R_1 R_4 g_m s^2 (C_L L_L s^2 + 1)}{(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1)(2 C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 L_4 R_4 s^2 + 2 C_L L_4 L_L s^3 + C_L L_4 R_4 s^2 + 2 C_L L_L R_4 s^2 + 2 L_4 s + 2 R_4)}$$

10.808 **INVALID-ORDER-808** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_1 L_4 L_L R_1 R_4 g_m s^2}{(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1)(2 C_4 L_4 L_L R_4 s^2 + C_L L_4 L_L R_4 s^2 + 2 L_4 L_L s + L_4 R_4 + 2 L_L R_4)}$$

10.809 **INVALID-ORDER-809** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 L_4 R_1 R_4 g_m s^2 (C_L L_L s^2 + C_L R_L s + 1)}{(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1)(2 C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 R_4 R_L s^3 + 2 C_4 L_4 R_4 s^2 + 2 C_L L_4 L_L s^3 + C_L L_4 R_4 s^2 + 2 C_L L_4 R_L s^2 + 2 C_L L_L R_4 s^2 + 2 C_L R_4 R_L s + 2 L_4 s + 2 R_4)}$$

10.810 **INVALID-ORDER-810** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_1 L_4 L_L R_1 R_4 R_L g_m s^2}{(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1)(2 C_4 L_4 L_L R_4 R_L s^2 + C_L L_4 L_L R_4 R_L s^2 + L_4 L_L R_4 s + 2 L_4 L_L R_L s + L_4 R_4 R_L + 2 L_L R_4 R_L)}$$

10.811 **INVALID-ORDER-811** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{L_1 L_4 R_1 R_4 g_m s^2 (C_L L_L R_L s^2 + L_L s + R_L)}{(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1)(2 C_4 C_L L_4 L_L R_4 R_L s^4 + 2 C_4 L_4 L_L R_4 s^3 + 2 C_4 L_4 R_4 R_L s^2 + C_L L_4 L_L R_4 s^3 + 2 C_L L_4 L_L R_L s^3 + 2 C_L L_L R_4 R_L s^2 + 2 L_4 L_L s^2 + L_4 R_4 s + 2 L_4 R_L s + 2 L_L R_4 s + 2 R_4 R_L)}$$

10.812 **INVALID-ORDER-812** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{R_L (C_L L_L s^2 + 1)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 L_4 R_1 R_4 R_L g_m s^2 (C_L L_L s^2 + 1)}{(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1)(2 C_4 C_L L_4 L_L R_4 R_L s^4 + 2 C_4 L_4 R_4 R_L s^2 + C_L L_4 L_L R_4 s^3 + 2 C_L L_4 L_L R_L s^3 + C_L L_4 R_4 R_L s^2 + 2 C_L L_L R_4 R_L s^2 + L_4 R_4 s + 2 L_4 R_L s + 2 R_4 R_L)}$$

10.813 **INVALID-ORDER-813** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ R_L \right)$

$$H(s) = \frac{L_1 R_1 R_L g_m s (C_4 L_4 R_4 s^2 + L_4 s + R_4)}{(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1)(C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + L_4 s + R_4 + 2 R_L)}$$

10.814 INVALID-ORDER-814 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_1 g_m s \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(C_4 C_L L_4 R_4 s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + C_L R_4 s + 2 \right)}$$

10.815 INVALID-ORDER-815 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 R_1 R_L g_m s \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(C_4 C_L L_4 R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + C_L L_4 R_L s^2 + C_L R_4 R_L s + L_4 s + R_4 + 2 R_L \right)}$$

10.816 INVALID-ORDER-816 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_1 g_m s \left(C_L R_L s + 1 \right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + C_L R_4 s + 2 C_L R_L s + 2 \right)}$$

10.817 INVALID-ORDER-817 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_1 g_m s \left(C_L L_L s^2 + 1 \right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(2 C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L L_L s^2 + C_L R_4 s + 2 \right)}$$

10.818 INVALID-ORDER-818 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_1 L_L R_1 g_m s^2 \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 L_4 L_L s^3 + C_4 L_4 R_4 s^2 + C_L L_4 L_L s^3 + C_L L_L R_4 s^2 + L_4 s + 2 L_L s + R_4 \right)}$$

10.819 INVALID-ORDER-819 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_1 g_m s \left(C_L L_L s^2 + C_L R_L s + 1 \right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(2 C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L L_L s^2 + C_L R_4 s + 2 C_L R_L s + 2 \right)}$$

10.820 INVALID-ORDER-820 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_1 L_L R_1 R_L g_m s^2 \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(C_4 C_L L_4 L_L R_4 R_L s^4 + C_4 L_4 L_L R_4 s^3 + 2 C_4 L_4 L_L R_L s^3 + C_4 L_4 R_4 R_L s^2 + C_L L_4 L_L R_L s^3 + C_L L_L R_4 R_L s^2 + L_4 L_L s^2 + L_4 R_L s + L_L R_4 s + 2 L_L R_L s + R_4 R_L \right)}$$

10.821 INVALID-ORDER-821 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{L_1 R_1 g_m s \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right) \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_L R_L s^4 + 2 C_4 L_4 L_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + C_L L_4 L_L s^3 + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + L_4 s + 2 L_L s + R_4 + 2 R_L \right)}$$

10.822 INVALID-ORDER-822 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 R_1 R_L g_m s \left(C_L L_L s^2 + 1 \right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1 \right) \left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_L R_L s^4 + C_4 C_L L_4 R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + C_L L_4 L_L s^3 + C_L L_4 R_L s^2 + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + C_L R_4 R_L s + L_4 s + R_4 + 2 R_L \right)}$$

10.823 **INVALID-ORDER-823** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ R_L \right)$

$$H(s) = \frac{L_1 R_1 R_4 R_L g_m s \left(C_4 L_4 s^2 + 1\right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1\right)\left(C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + 2 C_4 R_4 R_L s + R_4 + 2 R_L\right)}$$

10.824 **INVALID-ORDER-824** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_1 R_4 g_m s \left(C_4 L_4 s^2 + 1\right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1\right)\left(C_4 C_L L_4 R_4 s^3 + 2 C_4 L_4 s^2 + 2 C_4 R_4 s + C_L R_4 s + 2\right)}$$

10.825 **INVALID-ORDER-825** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 R_1 R_4 R_L g_m s \left(C_4 L_4 s^2 + 1\right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1\right)\left(C_4 C_L L_4 R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + 2 C_4 R_4 R_L s + C_L R_4 R_L s + R_4 + 2 R_L\right)}$$

10.826 **INVALID-ORDER-826** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_1 R_4 g_m s \left(C_4 L_4 s^2 + 1\right)\left(C_L R_L s + 1\right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1\right)\left(C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 C_L R_4 R_L s^2 + 2 C_4 L_4 s^2 + 2 C_4 R_4 s + C_L R_4 s + 2 C_L R_L s + 2\right)}$$

10.827 **INVALID-ORDER-827** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_1 R_4 g_m s \left(C_4 L_4 s^2 + 1\right)\left(C_L L_L s^2 + 1\right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1\right)\left(2 C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_L R_4 s^3 + 2 C_4 L_4 s^2 + 2 C_4 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2\right)}$$

10.828 **INVALID-ORDER-828** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_1 L_L R_1 R_4 g_m s^2 \left(C_4 L_4 s^2 + 1\right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1\right)\left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 L_4 L_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_L R_4 s^2 + C_L L_L R_4 s^2 + 2 L_L s + R_4\right)}$$

10.829 **INVALID-ORDER-829** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_1 R_1 R_4 g_m s \left(C_4 L_4 s^2 + 1\right)\left(C_L L_L s^2 + C_L R_L s + 1\right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1\right)\left(2 C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 C_L L_L R_4 s^3 + 2 C_4 C_L R_4 R_L s^2 + 2 C_4 L_4 s^2 + 2 C_4 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2 C_L R_L s + 2\right)}$$

10.830 **INVALID-ORDER-830** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_1 L_L R_1 R_4 R_L g_m s^2 \left(C_4 L_4 s^2 + 1\right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1\right)\left(C_4 C_L L_4 L_L R_4 R_L s^4 + C_4 L_4 L_L R_4 s^3 + 2 C_4 L_4 L_L R_L s^3 + C_4 L_4 R_4 R_L s^2 + 2 C_4 L_L R_4 R_L s^2 + C_L L_L R_4 R_L s^2 + L_L R_4 s + 2 L_L R_L s + R_4 R_L\right)}$$

10.831 **INVALID-ORDER-831** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{L_1 R_1 R_4 g_m s \left(C_4 L_4 s^2 + 1\right)\left(C_L L_L R_L s^2 + L_L s + R_L\right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1\right)\left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_L R_L s^4 + 2 C_4 C_L L_L R_4 R_L s^3 + 2 C_4 L_4 L_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + 2 C_4 L_L R_4 s^2 + 2 C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + 2 L_L s + R_4 + 2 R_L\right)}$$

10.832 **INVALID-ORDER-832** $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{R_L\left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{L_1 R_1 R_4 R_L g_m s \left(C_4 L_4 s^2 + 1\right)\left(C_L L_L s^2 + 1\right)}{\left(C_1 L_1 R_1 s^2 + L_1 R_1 g_m s + L_1 s + R_1\right)\left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_L R_L s^4 + C_4 C_L L_4 R_4 R_L s^3 + 2 C_4 C_L L_L R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + 2 C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + C_L R_4 R_L s + R_4 + 2 R_L\right)}$$

10.833 **INVALID-ORDER-833** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_4 g_m \left(C_1 L_1 R_1 s^2 + L_1 s + R_1\right)}{\left(C_L R_4 s + 2\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1\right)}$$

10.834 **INVALID-ORDER-834** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{R_4 R_L g_m \left(C_1 L_1 R_1 s^2 + L_1 s + R_1\right)}{\left(C_L R_4 R_L s + R_4 + 2 R_L\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1\right)}$$

10.835 **INVALID-ORDER-835** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ R_4, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_4 g_m \left(C_L R_L s + 1\right)\left(C_1 L_1 R_1 s^2 + L_1 s + R_1\right)}{\left(C_L R_4 s + 2 C_L R_L s + 2\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1\right)}$$

10.836 **INVALID-ORDER-836** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ R_4, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_4 g_m \left(C_L L_L s^2 + 1\right)\left(C_1 L_1 R_1 s^2 + L_1 s + R_1\right)}{\left(2 C_L L_L s^2 + C_L R_4 s + 2\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1\right)}$$

10.837 **INVALID-ORDER-837** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L R_4 g_m s \left(C_1 L_1 R_1 s^2 + L_1 s + R_1\right)}{\left(C_L L_L R_4 s^2 + 2 L_L s + R_4\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1\right)}$$

10.838 **INVALID-ORDER-838** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ R_4, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_4 g_m \left(C_L L_L s^2 + C_L R_L s + 1\right)\left(C_1 L_1 R_1 s^2 + L_1 s + R_1\right)}{\left(2 C_L L_L s^2 + C_L R_4 s + 2 C_L R_L s + 2\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1\right)}$$

10.839 **INVALID-ORDER-839** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_4 R_L g_m s \left(C_1 L_1 R_1 s^2 + L_1 s + R_1\right)}{\left(C_L L_L R_4 R_L s^2 + L_L R_4 s + 2 L_L R_L s + R_4 R_L\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1\right)}$$

10.840 **INVALID-ORDER-840** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{R_4 g_m \left(C_1 L_1 R_1 s^2 + L_1 s + R_1\right)\left(C_L L_L R_L s^2 + L_L s + R_L\right)}{\left(C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + 2 L_L s + R_4 + 2 R_L\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1\right)}$$

10.841 INVALID-ORDER-841 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1,\ \infty,\ \infty,\ R_4,\ \infty,\ \frac{R_L\left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_4 R_L g_m \left(C_L L_L s^2 + 1\right)\left(C_1 L_1 R_1 s^2 + L_1 s + R_1\right)}{\left(C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + C_L R_4 R_L s + R_4 + 2 R_L\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1\right)}$$

10.842 INVALID-ORDER-842 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1,\ \infty,\ \infty,\ \frac{1}{C_4 s},\ \infty,\ R_L \right)$

$$H(s) = \frac{R_L g_m \left(C_1 L_1 R_1 s^2 + L_1 s + R_1\right)}{\left(2 C_4 R_L s + 1\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1\right)}$$

10.843 INVALID-ORDER-843 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1,\ \infty,\ \infty,\ \frac{1}{C_4 s},\ \infty,\ \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_1 L_1 R_1 s^2 + L_1 s + R_1\right)}{s \left(2 C_4 + C_L\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1\right)}$$

10.844 INVALID-ORDER-844 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1,\ \infty,\ \infty,\ \frac{1}{C_4 s},\ \infty,\ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{R_L g_m \left(C_1 L_1 R_1 s^2 + L_1 s + R_1\right)}{\left(2 C_4 R_L s + C_L R_L s + 1\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1\right)}$$

10.845 INVALID-ORDER-845 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1,\ \infty,\ \infty,\ \frac{1}{C_4 s},\ \infty,\ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_L R_L s + 1\right)\left(C_1 L_1 R_1 s^2 + L_1 s + R_1\right)}{s \left(2 C_4 C_L R_L s + 2 C_4 + C_L\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1\right)}$$

10.846 INVALID-ORDER-846 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1,\ \infty,\ \infty,\ \frac{1}{C_4 s},\ \infty,\ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_L L_L s^2 + 1\right)\left(C_1 L_1 R_1 s^2 + L_1 s + R_1\right)}{s \left(2 C_4 C_L L_L s^2 + 2 C_4 + C_L\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1\right)}$$

10.847 INVALID-ORDER-847 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1,\ \infty,\ \infty,\ \frac{1}{C_4 s},\ \infty,\ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L g_m s \left(C_1 L_1 R_1 s^2 + L_1 s + R_1\right)}{\left(2 C_4 L_L s^2 + C_L L_L s^2 + 1\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1\right)}$$

10.848 INVALID-ORDER-848 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1,\ \infty,\ \infty,\ \frac{1}{C_4 s},\ \infty,\ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_L L_L s^2 + C_L R_L s + 1\right)\left(C_1 L_1 R_1 s^2 + L_1 s + R_1\right)}{s \left(2 C_4 C_L L_L s^2 + 2 C_4 C_L R_L s + 2 C_4 + C_L\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1\right)}$$

10.849 INVALID-ORDER-849 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1,\ \infty,\ \infty,\ \frac{1}{C_4 s},\ \infty,\ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_L g_m s \left(C_1 L_1 R_1 s^2 + L_1 s + R_1\right)}{\left(2 C_4 L_L R_L s^2 + C_L L_L R_L s^2 + L_L s + R_L\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1\right)}$$

10.850 **INVALID-ORDER-850** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{g_m \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right) \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(2 C_4 C_L L_L R_L s^3 + 2 C_4 L_L s^2 + 2 C_4 R_L s + C_L L_L s^2 + 1 \right)}$$

10.851 **INVALID-ORDER-851** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_L g_m \left(C_L L_L s^2 + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(2 C_4 C_L L_L R_L s^3 + 2 C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1 \right)}$$

10.852 **INVALID-ORDER-852** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ R_L \right)$

$$H(s) = \frac{R_4 R_L g_m \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(2 C_4 R_4 R_L s + R_4 + 2 R_L \right) \left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right)}$$

10.853 **INVALID-ORDER-853** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_4 g_m \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(2 C_4 R_4 s + C_L R_4 s + 2 \right) \left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right)}$$

10.854 **INVALID-ORDER-854** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{R_4 R_L g_m \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(2 C_4 R_4 R_L s + C_L R_4 R_L s + R_4 + 2 R_L \right) \left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right)}$$

10.855 **INVALID-ORDER-855** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_4 g_m \left(C_L R_L s + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(2 C_4 C_L R_4 R_L s^2 + 2 C_4 R_4 s + C_L R_4 s + 2 C_L R_L s + 2 \right)}$$

10.856 **INVALID-ORDER-856** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_4 g_m \left(C_L L_L s^2 + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(2 C_4 C_L L_L R_4 s^3 + 2 C_4 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2 \right)}$$

10.857 **INVALID-ORDER-857** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L R_4 g_m s \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(2 C_4 L_L R_4 s^2 + C_L L_L R_4 s^2 + 2 L_L s + R_4 \right) \left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right)}$$

10.858 **INVALID-ORDER-858** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_4 g_m \left(C_L L_L s^2 + C_L R_L s + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(2 C_4 C_L L_L R_4 s^3 + 2 C_4 C_L R_4 R_L s^2 + 2 C_4 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2 C_L R_L s + 2 \right)}$$

10.859 **INVALID-ORDER-859** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_4 R_L g_m s \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(2 C_4 L_L R_4 R_L s^2 + C_L L_L R_4 R_L s^2 + L_L R_4 s + 2 L_L R_L s + R_4 R_L \right)}$$

10.860 **INVALID-ORDER-860** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{R_4 g_m \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right) \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(2 C_4 C_L L_L R_4 R_L s^3 + 2 C_4 L_L R_4 s^2 + 2 C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + 2 L_L s + R_4 + 2 R_L \right)}$$

10.861 **INVALID-ORDER-861** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_4 R_L g_m \left(C_L L_L s^2 + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(2 C_4 C_L L_L R_4 R_L s^3 + 2 C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + C_L R_4 R_L s + R_4 + 2 R_L \right)}$$

10.862 **INVALID-ORDER-862** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L \right)$

$$H(s) = \frac{R_L g_m \left(C_4 R_4 s + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(C_4 R_4 s + 2 C_4 R_L s + 1 \right) \left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right)}$$

10.863 **INVALID-ORDER-863** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_4 R_4 s + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{s \left(C_4 C_L R_4 s + 2 C_4 + C_L \right) \left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right)}$$

10.864 **INVALID-ORDER-864** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{R_L g_m \left(C_4 R_4 s + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(C_4 C_L R_4 R_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L R_L s + 1 \right)}$$

10.865 **INVALID-ORDER-865** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_4 R_4 s + 1 \right) \left(C_L R_L s + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{s \left(C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L \right) \left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right)}$$

10.866 **INVALID-ORDER-866** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_4 R_4 s + 1 \right) \left(C_L L_L s^2 + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{s \left(2 C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2 C_4 + C_L \right) \left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right)}$$

10.867 **INVALID-ORDER-867** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L g_m s \left(C_4 R_4 s + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(C_4 C_L L_L R_4 s^3 + 2 C_4 L_L s^2 + C_4 R_4 s + C_L L_L s^2 + 1 \right)}$$

10.868 **INVALID-ORDER-868** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_4 R_4 s + 1 \right) \left(C_L L_L s^2 + C_L R_L s + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{s \left(2 C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L \right) \left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right)}$$

10.869 **INVALID-ORDER-869** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_L g_m s \left(C_4 R_4 s + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(C_4 C_L L_L R_4 R_L s^3 + C_4 L_L R_4 s^2 + 2 C_4 L_L R_L s^2 + C_4 R_4 R_L s + C_L L_L R_L s^2 + L_L s + R_L \right)}$$

10.870 **INVALID-ORDER-870** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{g_m \left(C_4 R_4 s + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right) \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + 2 C_4 L_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + 1 \right)}$$

10.871 **INVALID-ORDER-871** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_L g_m \left(C_4 R_4 s + 1 \right) \left(C_L L_L s^2 + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + C_4 C_L R_4 R_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1 \right)}$$

10.872 **INVALID-ORDER-872** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ R_L \right)$

$$H(s) = \frac{R_L g_m \left(C_4 L_4 s^2 + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(C_4 L_4 s^2 + 2 C_4 R_L s + 1 \right) \left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right)}$$

10.873 **INVALID-ORDER-873** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_4 L_4 s^2 + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{s \left(C_4 C_L L_4 s^2 + 2 C_4 + C_L \right) \left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right)}$$

10.874 **INVALID-ORDER-874** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{R_L g_m \left(C_4 L_4 s^2 + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(C_4 C_L L_4 R_L s^3 + C_4 L_4 s^2 + 2 C_4 R_L s + C_L R_L s + 1 \right)}$$

10.875 **INVALID-ORDER-875** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_4 L_4 s^2 + 1 \right) \left(C_L R_L s + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{s \left(C_4 C_L L_4 s^2 + 2 C_4 C_L R_L s + 2 C_4 + C_L \right) \left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right)}$$

10.876 **INVALID-ORDER-876** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_4 L_4 s^2 + 1 \right) \left(C_L L_L s^2 + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{s \left(C_4 C_L L_4 s^2 + 2 C_4 C_L L_L s^2 + 2 C_4 + C_L \right) \left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right)}$$

10.877 INVALID-ORDER-877 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L g_m s \left(C_4 L_4 s^2 + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(C_4 C_L L_4 L_L s^4 + C_4 L_4 s^2 + 2 C_4 L_L s^2 + C_L L_L s^2 + 1 \right)}$$

10.878 INVALID-ORDER-878 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_4 L_4 s^2 + 1 \right) \left(C_L L_L s^2 + C_L R_L s + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{s \left(C_4 C_L L_4 s^2 + 2 C_4 C_L L_L s^2 + 2 C_4 C_L R_L s + 2 C_4 + C_L \right) \left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right)}$$

10.879 INVALID-ORDER-879 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_L g_m s \left(C_4 L_4 s^2 + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(C_4 C_L L_4 L_L R_L s^4 + C_4 L_4 L_L s^3 + C_4 L_4 R_L s^2 + 2 C_4 L_L R_L s^2 + C_L L_L R_L s^2 + L_L s + R_L \right)}$$

10.880 INVALID-ORDER-880 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{g_m \left(C_4 L_4 s^2 + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right) \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(C_4 C_L L_4 L_L s^4 + 2 C_4 C_L L_L R_L s^3 + C_4 L_4 s^2 + 2 C_4 L_L s^2 + 2 C_4 R_L s + C_L L_L s^2 + 1 \right)}$$

10.881 INVALID-ORDER-881 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_L g_m \left(C_4 L_4 s^2 + 1 \right) \left(C_L L_L s^2 + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_L s^3 + 2 C_4 C_L L_L R_L s^3 + C_4 L_4 s^2 + 2 C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1 \right)}$$

10.882 INVALID-ORDER-882 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ R_L \right)$

$$H(s) = \frac{L_4 R_L g_m s \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(2 C_4 L_4 R_L s^2 + L_4 s + 2 R_L \right) \left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right)}$$

10.883 INVALID-ORDER-883 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_4 g_m s \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 \right) \left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right)}$$

10.884 INVALID-ORDER-884 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{L_4 R_L g_m s \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(2 C_4 L_4 R_L s^2 + C_L L_4 R_L s^2 + L_4 s + 2 R_L \right) \left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right)}$$

10.885 INVALID-ORDER-885 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_4 g_m s \left(C_L R_L s + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(2 C_4 C_L L_4 R_L s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L R_L s + 2 \right)}$$

10.886 **INVALID-ORDER-886** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_4 g_m s \left(C_L L_L s^2 + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(2 C_4 C_L L_4 L_L s^4 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L L_L s^2 + 2 \right)}$$

10.887 **INVALID-ORDER-887** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_4 L_L g_m s \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(2 C_4 L_4 L_L s^2 + C_L L_4 L_L s^2 + L_4 + 2 L_L \right) \left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right)}$$

10.888 **INVALID-ORDER-888** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_4 g_m s \left(C_L L_L s^2 + C_L R_L s + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(2 C_4 C_L L_4 L_L s^4 + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L L_L s^2 + 2 C_L R_L s + 2 \right)}$$

10.889 **INVALID-ORDER-889** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_4 L_L R_L g_m s \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(2 C_4 L_4 L_L R_L s^2 + C_L L_4 L_L R_L s^2 + L_4 L_L s + L_4 R_L + 2 L_L R_L \right)}$$

10.890 **INVALID-ORDER-890** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{L_4 g_m s \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right) \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(2 C_4 C_L L_4 L_L R_L s^4 + 2 C_4 L_4 L_L s^3 + 2 C_4 L_4 R_L s^2 + C_L L_4 L_L s^3 + 2 C_L L_L R_L s^2 + L_4 s + 2 L_L s + 2 R_L \right)}$$

10.891 **INVALID-ORDER-891** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{L_4 R_L g_m s \left(C_L L_L s^2 + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(2 C_4 C_L L_4 L_L R_L s^4 + 2 C_4 L_4 R_L s^2 + C_L L_4 L_L s^3 + C_L L_4 R_L s^2 + 2 C_L L_L R_L s^2 + L_4 s + 2 R_L \right)}$$

10.892 **INVALID-ORDER-892** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L \right)$

$$H(s) = \frac{R_L g_m \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(C_4 L_4 s^2 + C_4 R_4 s + 2 C_4 R_L s + 1 \right) \left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right)}$$

10.893 **INVALID-ORDER-893** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{s \left(C_4 C_L L_4 s^2 + C_4 C_L R_4 s + 2 C_4 + C_L \right) \left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right)}$$

10.894 **INVALID-ORDER-894** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{R_L g_m \left(C_4 L_4 s^2 + C_4 R_4 s + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(C_4 C_L L_4 R_L s^3 + C_4 C_L R_4 R_L s^2 + C_4 L_4 s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L R_L s + 1 \right)}$$

10.895 INVALID-ORDER-895 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m (C_L R_L s + 1)(C_4 L_4 s^2 + C_4 R_4 s + 1)(C_1 L_1 R_1 s^2 + L_1 s + R_1)}{s(C_4 C_L L_4 s^2 + C_4 C_L R_4 s + 2C_4 C_L R_L s + 2C_4 + C_L)(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1)}$$

10.896 INVALID-ORDER-896 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m (C_L L_L s^2 + 1)(C_4 L_4 s^2 + C_4 R_4 s + 1)(C_1 L_1 R_1 s^2 + L_1 s + R_1)}{s(C_4 C_L L_4 s^2 + 2C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2C_4 + C_L)(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1)}$$

10.897 INVALID-ORDER-897 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L g_m s (C_4 L_4 s^2 + C_4 R_4 s + 1)(C_1 L_1 R_1 s^2 + L_1 s + R_1)}{(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1)(C_4 C_L L_4 L_L s^4 + C_4 C_L L_L R_4 s^3 + C_4 L_4 s^2 + 2C_4 L_L s^2 + C_4 R_4 s + C_L L_L s^2 + 1)}$$

10.898 INVALID-ORDER-898 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m (C_4 L_4 s^2 + C_4 R_4 s + 1)(C_L L_L s^2 + C_L R_L s + 1)(C_1 L_1 R_1 s^2 + L_1 s + R_1)}{s(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1)(C_4 C_L L_4 s^2 + 2C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2C_4 C_L R_L s + 2C_4 + C_L)}$$

10.899 INVALID-ORDER-899 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_L g_m s (C_4 L_4 s^2 + C_4 R_4 s + 1)(C_1 L_1 R_1 s^2 + L_1 s + R_1)}{(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1)(C_4 C_L L_4 L_L R_L s^4 + C_4 C_L L_L R_4 R_L s^3 + C_4 L_4 L_L s^3 + C_4 L_4 R_L s^2 + C_4 L_L R_4 s^2 + 2C_4 L_L R_L s^2 + C_4 R_4 R_L s + C_L L_L R_L s^2 + L_L s + R_L)}$$

10.900 INVALID-ORDER-900 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{g_m (C_4 L_4 s^2 + C_4 R_4 s + 1)(C_1 L_1 R_1 s^2 + L_1 s + R_1)(C_L L_L R_L s^2 + L_L s + R_L)}{(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1)(C_4 C_L L_4 L_L s^4 + C_4 C_L L_L R_L s^3 + 2C_4 C_L L_L R_L s^3 + C_4 L_4 s^2 + 2C_4 L_L s^2 + C_4 R_4 s + 2C_4 R_L s + C_L L_L s^2 + 1)}$$

10.901 INVALID-ORDER-901 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L (C_L L_L s^2 + 1)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_L g_m (C_L L_L s^2 + 1)(C_4 L_4 s^2 + C_4 R_4 s + 1)(C_1 L_1 R_1 s^2 + L_1 s + R_1)}{(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1)(C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_L s^3 + C_4 C_L L_L R_4 s^3 + 2C_4 C_L L_L R_L s^3 + C_4 C_L R_4 R_L s^2 + C_4 L_4 s^2 + C_4 R_4 s + 2C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1)}$$

10.902 INVALID-ORDER-902 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ R_L \right)$

$$H(s) = \frac{L_4 R_4 R_L g_m s (C_1 L_1 R_1 s^2 + L_1 s + R_1)}{(2C_4 L_4 R_4 R_L s^2 + L_4 R_4 s + 2L_4 R_L s + 2R_4 R_L)(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1)}$$

10.903 INVALID-ORDER-903 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_4 R_4 g_m s (C_1 L_1 R_1 s^2 + L_1 s + R_1)}{(2C_4 L_4 R_4 s^2 + C_L L_4 R_4 s^2 + 2L_4 s + 2R_4)(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1)}$$

10.904 **INVALID-ORDER-904** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{L_4 R_4 R_L g_m s \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(2 C_4 L_4 R_4 R_L s^2 + C_L L_4 R_4 R_L s^2 + L_4 R_4 s + 2 L_4 R_L s + 2 R_4 R_L \right)}$$

10.905 **INVALID-ORDER-905** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_4 R_4 g_m s \left(C_L R_L s + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(2 C_4 C_L L_4 R_4 R_L s^3 + 2 C_4 L_4 R_4 s^2 + C_L L_4 R_4 s^2 + 2 C_L L_4 R_L s^2 + 2 C_L R_4 R_L s + 2 L_4 s + 2 R_4 \right)}$$

10.906 **INVALID-ORDER-906** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_4 R_4 g_m s \left(C_L L_L s^2 + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(2 C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 L_4 R_4 s^2 + 2 C_L L_4 L_L s^3 + C_L L_4 R_4 s^2 + 2 C_L L_L R_4 s^2 + 2 L_4 s + 2 R_4 \right)}$$

10.907 **INVALID-ORDER-907** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_4 L_L R_4 g_m s \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(2 C_4 L_4 L_L R_4 s^2 + C_L L_4 L_L R_4 s^2 + 2 L_4 L_L s + L_4 R_4 + 2 L_L R_4 \right)}$$

10.908 **INVALID-ORDER-908** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_4 R_4 g_m s \left(C_L L_L s^2 + C_L R_L s + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(2 C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 R_4 R_L s^3 + 2 C_4 L_4 R_4 s^2 + 2 C_L L_4 L_L s^3 + C_L L_4 R_4 s^2 + 2 C_L L_4 R_L s^2 + 2 C_L L_L R_4 s^2 + 2 C_L R_4 R_L s + 2 L_4 s + 2 R_4 \right)}$$

10.909 **INVALID-ORDER-909** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_4 L_L R_4 R_L g_m s \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(2 C_4 L_4 L_L R_4 R_L s^2 + C_L L_4 L_L R_4 R_L s^2 + L_4 L_L R_4 s + 2 L_4 L_L R_L s + L_4 R_4 R_L + 2 L_L R_4 R_L \right)}$$

10.910 **INVALID-ORDER-910** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{L_4 R_4 g_m s \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right) \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(2 C_4 C_L L_4 L_L R_4 R_L s^4 + 2 C_4 L_4 L_L R_4 s^3 + 2 C_4 L_4 R_4 R_L s^2 + C_L L_4 L_L R_4 s^3 + 2 C_L L_4 L_L R_L s^3 + 2 C_L L_L R_4 R_L s^2 + 2 L_4 L_L s^2 + L_4 R_4 s + 2 L_4 R_L s + 2 L_L R_4 s + 2 R_4 R_L \right)}$$

10.911 **INVALID-ORDER-911** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{L_4 R_4 R_L g_m s \left(C_L L_L s^2 + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(2 C_4 C_L L_4 L_L R_4 R_L s^4 + 2 C_4 L_4 R_4 R_L s^2 + C_L L_4 L_L R_4 s^3 + 2 C_L L_4 L_L R_L s^3 + C_L L_4 R_4 R_L s^2 + 2 C_L L_L R_4 R_L s^2 + L_4 R_4 s + 2 L_4 R_L s + 2 R_4 R_L \right)}$$

10.912 **INVALID-ORDER-912** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ R_L \right)$

$$H(s) = \frac{R_L g_m \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{\left(C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + L_4 s + R_4 + 2 R_L \right) \left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right)}$$

10.913 **INVALID-ORDER-913** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(C_4 C_L L_4 R_4 s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + C_L R_4 s + 2 \right)}$$

10.914 **INVALID-ORDER-914** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{R_L g_m \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(C_4 C_L L_4 R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + C_L L_4 R_L s^2 + C_L R_4 R_L s + L_4 s + R_4 + 2 R_L \right)}$$

10.915 **INVALID-ORDER-915** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_L R_L s + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + C_L R_4 s + 2 C_L R_L s + 2 \right)}$$

10.916 **INVALID-ORDER-916** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_L L_L s^2 + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(2 C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L L_L s^2 + C_L R_4 s + 2 \right)}$$

10.917 **INVALID-ORDER-917** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L g_m s \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 L_4 L_L s^3 + C_4 L_4 R_4 s^2 + C_L L_4 L_L s^3 + C_L L_L R_4 s^2 + L_4 s + 2 L_L s + R_4 \right)}$$

10.918 **INVALID-ORDER-918** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{g_m \left(C_L L_L s^2 + C_L R_L s + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(2 C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L L_L s^2 + C_L R_4 s + 2 C_L R_L s + 2 \right)}$$

10.919 **INVALID-ORDER-919** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_L g_m s \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(C_4 C_L L_4 L_L R_4 R_L s^4 + C_4 L_4 L_L R_4 s^3 + 2 C_4 L_4 L_L R_L s^3 + C_4 L_4 R_4 R_L s^2 + C_L L_4 L_L R_L s^3 + C_L L_L R_4 R_L s^2 + L_4 L_L s^2 + L_4 R_L s + L_L R_4 s + 2 L_L R_L s + R_4 R_L \right)}$$

10.920 **INVALID-ORDER-920** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{g_m \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right) \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_L R_L s^4 + 2 C_4 L_4 L_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + C_L L_4 L_L s^3 + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + L_4 s + 2 L_L s + R_4 + 2 R_L \right)}$$

10.921 **INVALID-ORDER-921** $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{R_L \left(C_L L_L s^2 + 1 \right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_L g_m \left(C_L L_L s^2 + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right) \left(C_4 L_4 R_4 s^2 + L_4 s + R_4 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_L R_L s^4 + C_4 C_L L_4 R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + C_L L_4 L_L s^3 + C_L L_4 R_L s^2 + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + C_L R_4 R_L s + L_4 s + R_4 + 2 R_L \right)}$$

10.922 INVALID-ORDER-922 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{R_4 \left(C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ R_L \right)$

$$H(s) = \frac{R_4 R_L g_m \left(C_4 L_4 s^2 + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + 2 C_4 R_4 R_L s + R_4 + 2 R_L \right) \left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right)}$$

10.923 INVALID-ORDER-923 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{R_4 \left(C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_4 g_m \left(C_4 L_4 s^2 + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(C_4 C_L L_4 R_4 s^3 + 2 C_4 L_4 s^2 + 2 C_4 R_4 s + C_L R_4 s + 2 \right)}$$

10.924 INVALID-ORDER-924 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{R_4 \left(C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{R_4 R_L g_m \left(C_4 L_4 s^2 + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(C_4 C_L L_4 R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + 2 C_4 R_4 R_L s + C_L R_4 R_L s + R_4 + 2 R_L \right)}$$

10.925 INVALID-ORDER-925 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{R_4 \left(C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_4 g_m \left(C_4 L_4 s^2 + 1 \right) \left(C_L R_L s + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 C_L R_4 R_L s^2 + 2 C_4 L_4 s^2 + 2 C_4 R_4 s + C_L R_4 s + 2 C_L R_L s + 2 \right)}$$

10.926 INVALID-ORDER-926 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{R_4 \left(C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_4 g_m \left(C_4 L_4 s^2 + 1 \right) \left(C_L L_L s^2 + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(2 C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_L R_4 s^3 + 2 C_4 L_4 s^2 + 2 C_4 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2 \right)}$$

10.927 INVALID-ORDER-927 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{R_4 \left(C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L R_4 g_m s \left(C_4 L_4 s^2 + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 L_4 L_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_L R_4 s^2 + C_L L_L R_4 s^2 + 2 L_L s + R_4 \right)}$$

10.928 INVALID-ORDER-928 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{R_4 \left(C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_4 g_m \left(C_4 L_4 s^2 + 1 \right) \left(C_L L_L s^2 + C_L R_L s + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(2 C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 C_L L_L R_4 s^3 + 2 C_4 C_L R_4 R_L s^2 + 2 C_4 L_4 s^2 + 2 C_4 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2 C_L R_L s + 2 \right)}$$

10.929 INVALID-ORDER-929 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{R_4 \left(C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_4 R_L g_m s \left(C_4 L_4 s^2 + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(C_4 C_L L_4 L_L R_4 R_L s^4 + C_4 L_4 L_L R_4 s^3 + 2 C_4 L_4 L_L R_L s^3 + C_4 L_4 R_4 R_L s^2 + 2 C_4 L_L R_4 R_L s^2 + C_L L_L R_4 R_L s^2 + L_L R_4 s + 2 L_L R_L s + R_4 R_L \right)}$$

10.930 INVALID-ORDER-930 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \frac{R_4 \left(C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{R_4 g_m \left(C_4 L_4 s^2 + 1 \right) \left(C_1 L_1 R_1 s^2 + L_1 s + R_1 \right) \left(C_L L_L R_L s^2 + L_L s + R_L \right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1 \right) \left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_L R_L s^4 + 2 C_4 C_L L_L R_4 R_L s^3 + 2 C_4 L_4 L_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + 2 C_4 L_L R_4 s^2 + 2 C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + 2 L_L s + R_4 + 2 R_L \right)}$$

10.931 INVALID-ORDER-931 $Z(s) = \left(\dfrac{L_1 s}{C_1 L_1 s^2 + 1} + R_1, \ \infty, \ \infty, \ \dfrac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \dfrac{R_L\left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_4 R_L g_m \left(C_4 L_4 s^2 + 1\right)\left(C_L L_L s^2 + 1\right)\left(C_1 L_1 R_1 s^2 + L_1 s + R_1\right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + L_1 g_m s + R_1 g_m + 1\right)\left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_L R_L s^4 + C_4 C_L L_4 R_4 R_L s^3 + 2 C_4 C_L L_L R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + 2 C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + C_L R_4 R_L s + R_4 + 2 R_L\right)}$$

10.932 INVALID-ORDER-932 $Z(s) = \left(\dfrac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ R_4, \ \infty, \ \dfrac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 R_4 g_m \left(C_1 L_1 s^2 + 1\right)}{\left(C_L R_4 s + 2\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)}$$

10.933 INVALID-ORDER-933 $Z(s) = \left(\dfrac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ R_4, \ \infty, \ \dfrac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{R_1 R_4 R_L g_m \left(C_1 L_1 s^2 + 1\right)}{\left(C_L R_4 R_L s + R_4 + 2 R_L\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)}$$

10.934 INVALID-ORDER-934 $Z(s) = \left(\dfrac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ R_4, \ \infty, \ R_L + \dfrac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 R_4 g_m \left(C_1 L_1 s^2 + 1\right)\left(C_L R_L s + 1\right)}{\left(C_L R_4 s + 2 C_L R_L s + 2\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)}$$

10.935 INVALID-ORDER-935 $Z(s) = \left(\dfrac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ R_4, \ \infty, \ L_L s + \dfrac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 R_4 g_m \left(C_1 L_1 s^2 + 1\right)\left(C_L L_L s^2 + 1\right)}{\left(2 C_L L_L s^2 + C_L R_4 s + 2\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)}$$

10.936 INVALID-ORDER-936 $Z(s) = \left(\dfrac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ R_4, \ \infty, \ \dfrac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L R_1 R_4 g_m s \left(C_1 L_1 s^2 + 1\right)}{\left(C_L L_L R_4 s^2 + 2 L_L s + R_4\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)}$$

10.937 INVALID-ORDER-937 $Z(s) = \left(\dfrac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ R_4, \ \infty, \ L_L s + R_L + \dfrac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 R_4 g_m \left(C_1 L_1 s^2 + 1\right)\left(C_L L_L s^2 + C_L R_L s + 1\right)}{\left(2 C_L L_L s^2 + C_L R_4 s + 2 C_L R_L s + 2\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)}$$

10.938 INVALID-ORDER-938 $Z(s) = \left(\dfrac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ R_4, \ \infty, \ \dfrac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_1 R_4 R_L g_m s \left(C_1 L_1 s^2 + 1\right)}{\left(C_L L_L R_4 R_L s^2 + L_L R_4 s + 2 L_L R_L s + R_4 R_L\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)}$$

10.939 INVALID-ORDER-939 $Z(s) = \left(\dfrac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ R_4, \ \infty, \ \dfrac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{R_1 R_4 g_m \left(C_1 L_1 s^2 + 1\right)\left(C_L L_L R_L s^2 + L_L s + R_L\right)}{\left(C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + 2 L_L s + R_4 + 2 R_L\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)}$$

10.940   INVALID-ORDER-940 $Z(s) = \left(\frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \infty, \ R_4, \ \infty, \ \frac{R_L\left(C_LL_Ls^2+1\right)}{C_LL_Ls^2+C_LR_Ls+1} \right)$

$$H(s) = \frac{R_1R_4R_Lg_m\left(C_1L_1s^2+1\right)\left(C_LL_Ls^2+1\right)}{\left(C_LL_LR_4s^2 + 2C_LL_LR_Ls^2 + C_LR_4R_Ls + R_4 + 2R_L\right)\left(C_1L_1R_1g_ms^2 + C_1L_1s^2 + C_1R_1s + R_1g_m + 1\right)}$$

10.941   INVALID-ORDER-941 $Z(s) = \left(\frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \infty, \ \frac{1}{C_4s}, \ \infty, \ R_L \right)$

$$H(s) = \frac{R_1R_Lg_m\left(C_1L_1s^2+1\right)}{\left(2C_4R_Ls+1\right)\left(C_1L_1R_1g_ms^2 + C_1L_1s^2 + C_1R_1s + R_1g_m + 1\right)}$$

10.942   INVALID-ORDER-942 $Z(s) = \left(\frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \infty, \ \frac{1}{C_4s}, \ \infty, \ \frac{1}{C_Ls} \right)$

$$H(s) = \frac{R_1g_m\left(C_1L_1s^2+1\right)}{s\left(2C_4+C_L\right)\left(C_1L_1R_1g_ms^2 + C_1L_1s^2 + C_1R_1s + R_1g_m + 1\right)}$$

10.943   INVALID-ORDER-943 $Z(s) = \left(\frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \infty, \ \frac{1}{C_4s}, \ \infty, \ \frac{R_L}{C_LR_Ls+1} \right)$

$$H(s) = \frac{R_1R_Lg_m\left(C_1L_1s^2+1\right)}{\left(2C_4R_Ls + C_LR_Ls + 1\right)\left(C_1L_1R_1g_ms^2 + C_1L_1s^2 + C_1R_1s + R_1g_m + 1\right)}$$

10.944   INVALID-ORDER-944 $Z(s) = \left(\frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \infty, \ \frac{1}{C_4s}, \ \infty, \ R_L + \frac{1}{C_Ls} \right)$

$$H(s) = \frac{R_1g_m\left(C_1L_1s^2+1\right)\left(C_LR_Ls+1\right)}{s\left(2C_4C_LR_Ls + 2C_4 + C_L\right)\left(C_1L_1R_1g_ms^2 + C_1L_1s^2 + C_1R_1s + R_1g_m + 1\right)}$$

10.945   INVALID-ORDER-945 $Z(s) = \left(\frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \infty, \ \frac{1}{C_4s}, \ \infty, \ L_Ls + \frac{1}{C_Ls} \right)$

$$H(s) = \frac{R_1g_m\left(C_1L_1s^2+1\right)\left(C_LL_Ls^2+1\right)}{s\left(2C_4C_LL_Ls^2 + 2C_4 + C_L\right)\left(C_1L_1R_1g_ms^2 + C_1L_1s^2 + C_1R_1s + R_1g_m + 1\right)}$$

10.946   INVALID-ORDER-946 $Z(s) = \left(\frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \infty, \ \frac{1}{C_4s}, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1} \right)$

$$H(s) = \frac{L_LR_1g_ms\left(C_1L_1s^2+1\right)}{\left(2C_4L_Ls^2 + C_LL_Ls^2 + 1\right)\left(C_1L_1R_1g_ms^2 + C_1L_1s^2 + C_1R_1s + R_1g_m + 1\right)}$$

10.947   INVALID-ORDER-947 $Z(s) = \left(\frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \infty, \ \frac{1}{C_4s}, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls} \right)$

$$H(s) = \frac{R_1g_m\left(C_1L_1s^2+1\right)\left(C_LL_Ls^2 + C_LR_Ls + 1\right)}{s\left(2C_4C_LL_Ls^2 + 2C_4C_LR_Ls + 2C_4 + C_L\right)\left(C_1L_1R_1g_ms^2 + C_1L_1s^2 + C_1R_1s + R_1g_m + 1\right)}$$

10.948   INVALID-ORDER-948 $Z(s) = \left(\frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \infty, \ \frac{1}{C_4s}, \ \infty, \ \frac{L_LR_Ls}{C_LL_LR_Ls^2+L_Ls+R_L} \right)$

$$H(s) = \frac{L_LR_1R_Lg_ms\left(C_1L_1s^2+1\right)}{\left(2C_4L_LR_Ls^2 + C_LL_LR_Ls^2 + L_Ls + R_L\right)\left(C_1L_1R_1g_ms^2 + C_1L_1s^2 + C_1R_1s + R_1g_m + 1\right)}$$

10.949 INVALID-ORDER-949 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{R_1 g_m \left(C_1 L_1 s^2 + 1\right)\left(C_L L_L R_L s^2 + L_L s + R_L\right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)\left(2 C_4 C_L L_L R_L s^3 + 2 C_4 L_L s^2 + 2 C_4 R_L s + C_L L_L s^2 + 1\right)}$$

10.950 INVALID-ORDER-950 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{1}{C_4 s}, \ \infty, \ \frac{R_L\left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_1 R_L g_m \left(C_1 L_1 s^2 + 1\right)\left(C_L L_L s^2 + 1\right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)\left(2 C_4 C_L L_L R_L s^3 + 2 C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1\right)}$$

10.951 INVALID-ORDER-951 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ R_L \right)$

$$H(s) = \frac{R_1 R_4 R_L g_m \left(C_1 L_1 s^2 + 1\right)}{\left(2 C_4 R_4 R_L s + R_4 + 2 R_L\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)}$$

10.952 INVALID-ORDER-952 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 R_4 g_m \left(C_1 L_1 s^2 + 1\right)}{\left(2 C_4 R_4 s + C_L R_4 s + 2\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)}$$

10.953 INVALID-ORDER-953 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{R_1 R_4 R_L g_m \left(C_1 L_1 s^2 + 1\right)}{\left(2 C_4 R_4 R_L s + C_L R_4 R_L s + R_4 + 2 R_L\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)}$$

10.954 INVALID-ORDER-954 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 R_4 g_m \left(C_1 L_1 s^2 + 1\right)\left(C_L R_L s + 1\right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)\left(2 C_4 C_L R_4 R_L s^2 + 2 C_4 R_4 s + C_L R_4 s + 2 C_L R_L s + 2\right)}$$

10.955 INVALID-ORDER-955 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 R_4 g_m \left(C_1 L_1 s^2 + 1\right)\left(C_L L_L s^2 + 1\right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)\left(2 C_4 C_L L_L R_4 s^3 + 2 C_4 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2\right)}$$

10.956 INVALID-ORDER-956 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L R_1 R_4 g_m s \left(C_1 L_1 s^2 + 1\right)}{\left(2 C_4 L_L R_4 s^2 + C_L L_L R_4 s^2 + 2 L_L s + R_4\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)}$$

10.957 INVALID-ORDER-957 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 R_4 g_m \left(C_1 L_1 s^2 + 1\right)\left(C_L L_L s^2 + C_L R_L s + 1\right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)\left(2 C_4 C_L L_L R_4 s^3 + 2 C_4 C_L R_4 R_L s^2 + 2 C_4 R_4 s + 2 C_L L_L s^2 + C_L R_4 s + 2 C_L R_L s + 2\right)}$$

10.958 INVALID-ORDER-958 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2+1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1},\ \infty,\ \infty,\ \frac{R_4}{C_4 R_4 s + 1},\ \infty,\ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_1 R_4 R_L g_m s \left(C_1 L_1 s^2 + 1\right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)\left(2C_4 L_L R_4 R_L s^2 + C_L L_L R_4 R_L s^2 + L_L R_4 s + 2L_L R_L s + R_4 R_L\right)}$$

10.959 INVALID-ORDER-959 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2+1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1},\ \infty,\ \infty,\ \frac{R_4}{C_4 R_4 s + 1},\ \infty,\ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{R_1 R_4 g_m \left(C_1 L_1 s^2 + 1\right)\left(C_L L_L R_L s^2 + L_L s + R_L\right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)\left(2C_4 C_L L_L R_4 R_L s^3 + 2C_4 L_L R_4 s^2 + 2C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2C_L L_L R_L s^2 + 2L_L s + R_4 + 2R_L\right)}$$

10.960 INVALID-ORDER-960 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2+1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1},\ \infty,\ \infty,\ \frac{R_4}{C_4 R_4 s + 1},\ \infty,\ \frac{R_L\left(C_L L_L s^2+1\right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_1 R_4 R_L g_m \left(C_1 L_1 s^2 + 1\right)\left(C_L L_L s^2 + 1\right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)\left(2C_4 C_L L_L R_4 R_L s^3 + 2C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2C_L L_L R_L s^2 + C_L R_4 R_L s + R_4 + 2R_L\right)}$$

10.961 INVALID-ORDER-961 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2+1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1},\ \infty,\ \infty,\ R_4 + \frac{1}{C_4 s},\ \infty,\ R_L \right)$

$$H(s) = \frac{R_1 R_L g_m \left(C_1 L_1 s^2 + 1\right)\left(C_4 R_4 s + 1\right)}{\left(C_4 R_4 s + 2C_4 R_L s + 1\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)}$$

10.962 INVALID-ORDER-962 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2+1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1},\ \infty,\ \infty,\ R_4 + \frac{1}{C_4 s},\ \infty,\ \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 g_m \left(C_1 L_1 s^2 + 1\right)\left(C_4 R_4 s + 1\right)}{s\left(C_4 C_L R_4 s + 2C_4 + C_L\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)}$$

10.963 INVALID-ORDER-963 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2+1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1},\ \infty,\ \infty,\ R_4 + \frac{1}{C_4 s},\ \infty,\ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{R_1 R_L g_m \left(C_1 L_1 s^2 + 1\right)\left(C_4 R_4 s + 1\right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)\left(C_4 C_L R_4 R_L s^2 + C_4 R_4 s + 2C_4 R_L s + C_L R_L s + 1\right)}$$

10.964 INVALID-ORDER-964 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2+1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1},\ \infty,\ \infty,\ R_4 + \frac{1}{C_4 s},\ \infty,\ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 g_m \left(C_1 L_1 s^2 + 1\right)\left(C_4 R_4 s + 1\right)\left(C_L R_L s + 1\right)}{s\left(C_4 C_L R_4 s + 2C_4 C_L R_L s + 2C_4 + C_L\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)}$$

10.965 INVALID-ORDER-965 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2+1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1},\ \infty,\ \infty,\ R_4 + \frac{1}{C_4 s},\ \infty,\ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 g_m \left(C_1 L_1 s^2 + 1\right)\left(C_4 R_4 s + 1\right)\left(C_L L_L s^2 + 1\right)}{s\left(2C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2C_4 + C_L\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)}$$

10.966 INVALID-ORDER-966 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2+1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1},\ \infty,\ \infty,\ R_4 + \frac{1}{C_4 s},\ \infty,\ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L R_1 g_m s \left(C_1 L_1 s^2 + 1\right)\left(C_4 R_4 s + 1\right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)\left(C_4 C_L L_L R_4 s^3 + 2C_4 L_L s^2 + C_4 R_4 s + C_L L_L s^2 + 1\right)}$$

10.967 **INVALID-ORDER-967** $Z(s) = \left(\frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4s}, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls} \right)$

$$H(s) = \frac{R_1g_m\left(C_1L_1s^2+1\right)\left(C_4R_4s+1\right)\left(C_LL_Ls^2+C_LR_Ls+1\right)}{s\left(2C_4C_LL_Ls^2+C_4C_LR_4s+2C_4C_LR_Ls+2C_4+C_L\right)\left(C_1L_1R_1g_ms^2+C_1L_1s^2+C_1R_1s+R_1g_m+1\right)}$$

10.968 **INVALID-ORDER-968** $Z(s) = \left(\frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4s}, \ \infty, \ \frac{L_LR_Ls}{C_LL_LR_Ls^2+L_Ls+R_L} \right)$

$$H(s) = \frac{L_LR_1R_Lg_ms\left(C_1L_1s^2+1\right)\left(C_4R_4s+1\right)}{\left(C_1L_1R_1g_ms^2+C_1L_1s^2+C_1R_1s+R_1g_m+1\right)\left(C_4C_LL_LR_4R_Ls^3+C_4L_LR_4s^2+2C_4L_LR_Ls^2+C_4R_4R_Ls+C_LL_LR_Ls^2+L_Ls+R_L\right)}$$

10.969 **INVALID-ORDER-969** $Z(s) = \left(\frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4s}, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1} + R_L \right)$

$$H(s) = \frac{R_1g_m\left(C_1L_1s^2+1\right)\left(C_4R_4s+1\right)\left(C_LL_LR_Ls^2+L_Ls+R_L\right)}{\left(C_1L_1R_1g_ms^2+C_1L_1s^2+C_1R_1s+R_1g_m+1\right)\left(C_4C_LL_LR_4s^3+2C_4C_LL_LR_Ls^3+2C_4L_Ls^2+C_4R_4s+2C_4R_Ls+C_LL_Ls^2+1\right)}$$

10.970 **INVALID-ORDER-970** $Z(s) = \left(\frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \infty, \ R_4 + \frac{1}{C_4s}, \ \infty, \ \frac{R_L\left(C_LL_Ls^2+1\right)}{C_LL_Ls^2+C_LR_Ls+1} \right)$

$$H(s) = \frac{R_1R_Lg_m\left(C_1L_1s^2+1\right)\left(C_4R_4s+1\right)\left(C_LL_Ls^2+1\right)}{\left(C_1L_1R_1g_ms^2+C_1L_1s^2+C_1R_1s+R_1g_m+1\right)\left(C_4C_LL_LR_4s^3+2C_4C_LL_LR_Ls^3+C_4C_LR_4R_Ls^2+C_4R_4s+2C_4R_Ls+C_LL_Ls^2+C_LR_Ls+1\right)}$$

10.971 **INVALID-ORDER-971** $Z(s) = \left(\frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \infty, \ L_4s + \frac{1}{C_4s}, \ \infty, \ R_L \right)$

$$H(s) = \frac{R_1R_Lg_m\left(C_1L_1s^2+1\right)\left(C_4L_4s^2+1\right)}{\left(C_4L_4s^2+2C_4R_Ls+1\right)\left(C_1L_1R_1g_ms^2+C_1L_1s^2+C_1R_1s+R_1g_m+1\right)}$$

10.972 **INVALID-ORDER-972** $Z(s) = \left(\frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \infty, \ L_4s + \frac{1}{C_4s}, \ \infty, \ \frac{1}{C_Ls} \right)$

$$H(s) = \frac{R_1g_m\left(C_1L_1s^2+1\right)\left(C_4L_4s^2+1\right)}{s\left(C_4C_LL_4s^2+2C_4+C_L\right)\left(C_1L_1R_1g_ms^2+C_1L_1s^2+C_1R_1s+R_1g_m+1\right)}$$

10.973 **INVALID-ORDER-973** $Z(s) = \left(\frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \infty, \ L_4s + \frac{1}{C_4s}, \ \infty, \ \frac{R_L}{C_LR_Ls+1} \right)$

$$H(s) = \frac{R_1R_Lg_m\left(C_1L_1s^2+1\right)\left(C_4L_4s^2+1\right)}{\left(C_1L_1R_1g_ms^2+C_1L_1s^2+C_1R_1s+R_1g_m+1\right)\left(C_4C_LL_4R_Ls^3+C_4L_4s^2+2C_4R_Ls+C_LR_Ls+1\right)}$$

10.974 **INVALID-ORDER-974** $Z(s) = \left(\frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \infty, \ L_4s + \frac{1}{C_4s}, \ \infty, \ R_L + \frac{1}{C_Ls} \right)$

$$H(s) = \frac{R_1g_m\left(C_1L_1s^2+1\right)\left(C_4L_4s^2+1\right)\left(C_LR_Ls+1\right)}{s\left(C_4C_LL_4s^2+2C_4C_LR_Ls+2C_4+C_L\right)\left(C_1L_1R_1g_ms^2+C_1L_1s^2+C_1R_1s+R_1g_m+1\right)}$$

10.975 **INVALID-ORDER-975** $Z(s) = \left(\frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \infty, \ L_4s + \frac{1}{C_4s}, \ \infty, \ L_Ls + \frac{1}{C_Ls} \right)$

$$H(s) = \frac{R_1g_m\left(C_1L_1s^2+1\right)\left(C_4L_4s^2+1\right)\left(C_LL_Ls^2+1\right)}{s\left(C_4C_LL_4s^2+2C_4C_LL_Ls^2+2C_4+C_L\right)\left(C_1L_1R_1g_ms^2+C_1L_1s^2+C_1R_1s+R_1g_m+1\right)}$$

10.976 INVALID-ORDER-976 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L R_1 g_m s \left(C_1 L_1 s^2 + 1\right)\left(C_4 L_4 s^2 + 1\right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)\left(C_4 C_L L_4 L_L s^4 + C_4 L_4 s^2 + 2 C_4 L_L s^2 + C_L L_L s^2 + 1\right)}$$

10.977 INVALID-ORDER-977 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 g_m \left(C_1 L_1 s^2 + 1\right)\left(C_4 L_4 s^2 + 1\right)\left(C_L L_L s^2 + C_L R_L s + 1\right)}{s \left(C_4 C_L L_4 s^2 + 2 C_4 C_L L_L s^2 + 2 C_4 C_L R_L s + 2 C_4 + C_L\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)}$$

10.978 INVALID-ORDER-978 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_1 R_L g_m s \left(C_1 L_1 s^2 + 1\right)\left(C_4 L_4 s^2 + 1\right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)\left(C_4 C_L L_4 L_L R_L s^4 + C_4 L_4 L_L s^3 + C_4 L_4 R_L s^2 + 2 C_4 L_L R_L s^2 + C_L L_L R_L s^2 + L_L s + R_L\right)}$$

10.979 INVALID-ORDER-979 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{R_1 g_m \left(C_1 L_1 s^2 + 1\right)\left(C_4 L_4 s^2 + 1\right)\left(C_L L_L R_L s^2 + L_L s + R_L\right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)\left(C_4 C_L L_4 L_L s^4 + 2 C_4 C_L L_L R_L s^3 + C_4 L_4 s^2 + 2 C_4 L_L s^2 + 2 C_4 R_L s + C_L L_L s^2 + 1\right)}$$

10.980 INVALID-ORDER-980 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L\left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_1 R_L g_m \left(C_1 L_1 s^2 + 1\right)\left(C_4 L_4 s^2 + 1\right)\left(C_L L_L s^2 + 1\right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)\left(C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_L s^3 + 2 C_4 C_L L_L R_L s^3 + C_4 L_4 s^2 + 2 C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1\right)}$$

10.981 INVALID-ORDER-981 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ R_L \right)$

$$H(s) = \frac{L_4 R_1 R_L g_m s \left(C_1 L_1 s^2 + 1\right)}{\left(2 C_4 L_4 R_L s^2 + L_4 s + 2 R_L\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)}$$

10.982 INVALID-ORDER-982 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_4 R_1 g_m s \left(C_1 L_1 s^2 + 1\right)}{\left(2 C_4 L_4 s^2 + C_L L_4 s^2 + 2\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)}$$

10.983 INVALID-ORDER-983 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{L_4 R_1 R_L g_m s \left(C_1 L_1 s^2 + 1\right)}{\left(2 C_4 L_4 R_L s^2 + C_L L_4 R_L s^2 + L_4 s + 2 R_L\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)}$$

10.984 INVALID-ORDER-984 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_4 R_1 g_m s \left(C_1 L_1 s^2 + 1\right)\left(C_L R_L s + 1\right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)\left(2 C_4 C_L L_4 R_L s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L R_L s + 2\right)}$$

10.985 INVALID-ORDER-985 $Z(s) = \left(\frac{R_1(C_1L_1s^2+1)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \infty, \ \frac{L_4s}{C_4L_4s^2+1}, \ \infty, \ L_Ls + \frac{1}{C_Ls} \right)$

$$H(s) = \frac{L_4R_1g_ms\left(C_1L_1s^2+1\right)\left(C_LL_Ls^2+1\right)}{\left(C_1L_1R_1g_ms^2+C_1L_1s^2+C_1R_1s+R_1g_m+1\right)\left(2C_4C_LL_4L_Ls^4+2C_4L_4s^2+C_LL_4s^2+2C_LL_Ls^2+2\right)}$$

10.986 INVALID-ORDER-986 $Z(s) = \left(\frac{R_1(C_1L_1s^2+1)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \infty, \ \frac{L_4s}{C_4L_4s^2+1}, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1} \right)$

$$H(s) = \frac{L_4L_LR_1g_ms\left(C_1L_1s^2+1\right)}{\left(2C_4L_4L_Ls^2+C_LL_4L_Ls^2+L_4+2L_L\right)\left(C_1L_1R_1g_ms^2+C_1L_1s^2+C_1R_1s+R_1g_m+1\right)}$$

10.987 INVALID-ORDER-987 $Z(s) = \left(\frac{R_1(C_1L_1s^2+1)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \infty, \ \frac{L_4s}{C_4L_4s^2+1}, \ \infty, \ L_Ls + R_L + \frac{1}{C_Ls} \right)$

$$H(s) = \frac{L_4R_1g_ms\left(C_1L_1s^2+1\right)\left(C_LL_Ls^2+C_LR_Ls+1\right)}{\left(C_1L_1R_1g_ms^2+C_1L_1s^2+C_1R_1s+R_1g_m+1\right)\left(2C_4C_LL_4L_Ls^4+2C_4C_LL_4R_Ls^3+2C_4L_4s^2+C_LL_4s^2+2C_LL_Ls^2+2C_LR_Ls+2\right)}$$

10.988 INVALID-ORDER-988 $Z(s) = \left(\frac{R_1(C_1L_1s^2+1)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \infty, \ \frac{L_4s}{C_4L_4s^2+1}, \ \infty, \ \frac{L_LR_Ls}{C_LL_LR_Ls^2+L_Ls+R_L} \right)$

$$H(s) = \frac{L_4L_LR_Lg_ms\left(C_1L_1s^2+1\right)}{\left(C_1L_1R_1g_ms^2+C_1L_1s^2+C_1R_1s+R_1g_m+1\right)\left(2C_4L_4L_LR_Ls^2+C_LL_4L_LR_Ls^2+L_4L_Ls+L_4R_L+2L_LR_L\right)}$$

10.989 INVALID-ORDER-989 $Z(s) = \left(\frac{R_1(C_1L_1s^2+1)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \infty, \ \frac{L_4s}{C_4L_4s^2+1}, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1} + R_L \right)$

$$H(s) = \frac{L_4R_1g_ms\left(C_1L_1s^2+1\right)\left(C_LL_LR_Ls^2+L_Ls+R_L\right)}{\left(C_1L_1R_1g_ms^2+C_1L_1s^2+C_1R_1s+R_1g_m+1\right)\left(2C_4C_LL_4L_LR_Ls^4+2C_4L_4L_Ls^3+2C_4L_4R_Ls^2+C_LL_4L_Ls^3+2C_LL_LR_Ls^2+L_4s+2L_Ls+2R_L\right)}$$

10.990 INVALID-ORDER-990 $Z(s) = \left(\frac{R_1(C_1L_1s^2+1)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \infty, \ \frac{L_4s}{C_4L_4s^2+1}, \ \infty, \ \frac{R_L(C_LL_Ls^2+1)}{C_LL_Ls^2+C_LR_Ls+1} \right)$

$$H(s) = \frac{L_4R_1R_Lg_ms\left(C_1L_1s^2+1\right)\left(C_LL_Ls^2+1\right)}{\left(C_1L_1R_1g_ms^2+C_1L_1s^2+C_1R_1s+R_1g_m+1\right)\left(2C_4C_LL_4L_LR_Ls^4+2C_4L_4R_Ls^2+C_LL_4L_Ls^3+C_LL_4R_Ls^2+2C_LL_LR_Ls^2+L_4s+2R_L\right)}$$

10.991 INVALID-ORDER-991 $Z(s) = \left(\frac{R_1(C_1L_1s^2+1)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \infty, \ L_4s+R_4+\frac{1}{C_4s}, \ \infty, \ R_L \right)$

$$H(s) = \frac{R_1R_Lg_m\left(C_1L_1s^2+1\right)\left(C_4L_4s^2+C_4R_4s+1\right)}{\left(C_4L_4s^2+C_4R_4s+2C_4R_Ls+1\right)\left(C_1L_1R_1g_ms^2+C_1L_1s^2+C_1R_1s+R_1g_m+1\right)}$$

10.992 INVALID-ORDER-992 $Z(s) = \left(\frac{R_1(C_1L_1s^2+1)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \infty, \ L_4s+R_4+\frac{1}{C_4s}, \ \infty, \ \frac{1}{C_Ls} \right)$

$$H(s) = \frac{R_1g_m\left(C_1L_1s^2+1\right)\left(C_4L_4s^2+C_4R_4s+1\right)}{s\left(C_4C_LL_4s^2+C_4C_LR_4s+2C_4+C_L\right)\left(C_1L_1R_1g_ms^2+C_1L_1s^2+C_1R_1s+R_1g_m+1\right)}$$

10.993 INVALID-ORDER-993 $Z(s) = \left(\frac{R_1(C_1L_1s^2+1)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \infty, \ L_4s+R_4+\frac{1}{C_4s}, \ \infty, \ \frac{R_L}{C_LR_Ls+1} \right)$

$$H(s) = \frac{R_1R_Lg_m\left(C_1L_1s^2+1\right)\left(C_4L_4s^2+C_4R_4s+1\right)}{\left(C_1L_1R_1g_ms^2+C_1L_1s^2+C_1R_1s+R_1g_m+1\right)\left(C_4C_LL_4R_Ls^3+C_4C_LR_4R_Ls^2+C_4L_4s^2+C_4R_4s+2C_4R_Ls+C_LR_Ls+1\right)}$$

10.994 **INVALID-ORDER-994** $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2+1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 g_m \left(C_1 L_1 s^2 + 1\right)\left(C_L R_L s + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{s\left(C_4 C_L L_4 s^2 + C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)}$$

10.995 **INVALID-ORDER-995** $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2+1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 g_m \left(C_1 L_1 s^2 + 1\right)\left(C_L L_L s^2 + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{s\left(C_4 C_L L_4 s^2 + 2 C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2 C_4 + C_L\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)}$$

10.996 **INVALID-ORDER-996** $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2+1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L R_1 g_m s \left(C_1 L_1 s^2 + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)\left(C_4 C_L L_4 L_L s^4 + C_4 C_L L_L R_4 s^3 + C_4 L_4 s^2 + 2 C_4 L_L s^2 + C_4 R_4 s + C_L L_L s^2 + 1\right)}$$

10.997 **INVALID-ORDER-997** $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2+1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 g_m \left(C_1 L_1 s^2 + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)\left(C_L L_L s^2 + C_L R_L s + 1\right)}{s\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)\left(C_4 C_L L_4 s^2 + 2 C_4 C_L L_L s^2 + C_4 C_L R_4 s + 2 C_4 C_L R_L s + 2 C_4 + C_L\right)}$$

10.998 **INVALID-ORDER-998** $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2+1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_1 R_L g_m s \left(C_1 L_1 s^2 + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)\left(C_4 C_L L_4 L_L R_L s^4 + C_4 C_L L_L R_4 R_L s^3 + C_4 L_4 L_L s^3 + C_4 L_4 R_L s^2 + C_4 L_L R_4 s^2 + 2 C_4 L_L R_L s^2 + C_4 R_4 R_L s + C_L L_L R_L s^2 + L_L s + R_L\right)}$$

10.999 **INVALID-ORDER-999** $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2+1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{R_1 g_m \left(C_1 L_1 s^2 + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)\left(C_L L_L R_L s^2 + L_L s + R_L\right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)\left(C_4 C_L L_4 L_L s^4 + C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + C_4 L_4 s^2 + 2 C_4 L_L s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + 1\right)}$$

10.1000 **INVALID-ORDER-1000** $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2+1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \frac{R_L\left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_1 R_L g_m \left(C_1 L_1 s^2 + 1\right)\left(C_L L_L s^2 + 1\right)\left(C_4 L_4 s^2 + C_4 R_4 s + 1\right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)\left(C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_L s^3 + C_4 C_L L_L R_4 s^3 + 2 C_4 C_L L_L R_L s^3 + C_4 L_4 R_L s^2 + C_4 L_4 s^2 + C_4 R_4 s + 2 C_4 R_L s + C_L L_L s^2 + C_L R_L s + 1\right)}$$

10.1001 **INVALID-ORDER-1001** $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2+1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ R_L \right)$

$$H(s) = \frac{L_4 R_1 R_4 R_L g_m s \left(C_1 L_1 s^2 + 1\right)}{\left(2 C_4 L_4 R_4 R_L s^2 + L_4 R_4 s + 2 L_4 R_L s + 2 R_4 R_L\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)}$$

10.1002 **INVALID-ORDER-1002** $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2+1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_4 R_1 R_4 g_m s \left(C_1 L_1 s^2 + 1\right)}{\left(2 C_4 L_4 R_4 s^2 + C_L L_4 R_4 s^2 + 2 L_4 s + 2 R_4\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)}$$

10.1003 **INVALID-ORDER-1003** $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{L_4 R_1 R_4 R_L g_m s \left(C_1 L_1 s^2 + 1\right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)\left(2C_4 L_4 R_4 R_L s^2 + C_L L_4 R_4 R_L s^2 + L_4 R_4 s + 2L_4 R_L s + 2R_4 R_L\right)}$$

10.1004 **INVALID-ORDER-1004** $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_4 R_1 R_4 g_m s \left(C_1 L_1 s^2 + 1\right)\left(C_L R_L s + 1\right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)\left(2C_4 C_L L_4 R_4 R_L s^3 + 2C_4 L_4 R_4 s^2 + C_L L_4 R_4 s^2 + 2C_L L_4 R_L s^2 + 2C_L R_4 R_L s + 2L_4 s + 2R_4\right)}$$

10.1005 **INVALID-ORDER-1005** $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_4 R_1 R_4 g_m s \left(C_1 L_1 s^2 + 1\right)\left(C_L L_L s^2 + 1\right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)\left(2C_4 C_L L_4 L_L R_4 s^4 + 2C_4 L_4 R_4 s^2 + 2C_L L_4 L_L s^3 + C_L L_4 R_4 s^2 + 2C_L L_L R_4 s^2 + 2L_4 s + 2R_4\right)}$$

10.1006 **INVALID-ORDER-1006** $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_4 L_L R_1 R_4 g_m s \left(C_1 L_1 s^2 + 1\right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)\left(2C_4 L_4 L_L R_4 s^2 + C_L L_4 L_L R_4 s^2 + 2L_4 L_L s + L_4 R_4 + 2L_L R_4\right)}$$

10.1007 **INVALID-ORDER-1007** $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{L_4 R_1 R_4 g_m s \left(C_1 L_1 s^2 + 1\right)\left(C_L L_L s^2 + C_L R_L s + 1\right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)\left(2C_4 C_L L_4 L_L R_4 s^4 + 2C_4 C_L L_4 R_4 R_L s^3 + 2C_4 L_4 R_4 s^2 + 2C_L L_4 L_L s^3 + C_L L_4 R_4 s^2 + 2C_L L_4 R_L s^2 + 2C_L L_L R_4 s^2 + 2C_L R_4 R_L s + 2L_4 s + 2R_4\right)}$$

10.1008 **INVALID-ORDER-1008** $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_4 L_L R_1 R_4 R_L g_m s \left(C_1 L_1 s^2 + 1\right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)\left(2C_4 L_4 L_L R_4 R_L s^2 + C_L L_4 L_L R_4 R_L s^2 + L_4 L_L R_4 s + 2L_4 L_L R_L s + L_4 R_4 R_L + 2L_L R_4 R_L\right)}$$

10.1009 **INVALID-ORDER-1009** $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{L_4 R_1 R_4 g_m s \left(C_1 L_1 s^2 + 1\right)\left(C_L L_L R_L s^2 + L_L s + R_L\right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)\left(2C_4 C_L L_4 L_L R_4 R_L s^4 + 2C_4 L_4 L_L R_4 s^3 + 2C_4 L_4 R_4 R_L s^2 + C_L L_4 L_L R_4 s^3 + 2C_L L_4 L_L R_L s^3 + 2C_L L_L R_4 R_L s^2 + 2L_4 L_L s^2 + L_4 R_4 s + 2L_4 R_L s + 2L_L R_4 s + 2R_4 R_L\right)}$$

10.1010 **INVALID-ORDER-1010** $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \frac{R_L\left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{L_4 R_1 R_4 R_L g_m s \left(C_1 L_1 s^2 + 1\right)\left(C_L L_L s^2 + 1\right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)\left(2C_4 C_L L_4 L_L R_4 R_L s^4 + 2C_4 L_4 R_4 R_L s^2 + C_L L_4 L_L R_4 s^3 + 2C_L L_4 L_L R_L s^3 + C_L L_4 R_4 R_L s^2 + 2C_L L_L R_4 R_L s^2 + L_4 R_4 s + 2L_4 R_L s + 2R_4 R_L\right)}$$

10.1011 **INVALID-ORDER-1011** $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ R_L \right)$

$$H(s) = \frac{R_1 R_L g_m \left(C_1 L_1 s^2 + 1\right)\left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{\left(C_4 L_4 R_4 s^2 + 2C_4 L_4 R_L s^2 + L_4 s + R_4 + 2R_L\right)\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)}$$

10.1012 INVALID-ORDER-1012 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 g_m \left(C_1 L_1 s^2 + 1\right)\left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)\left(C_4 C_L L_4 R_4 s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + C_L R_4 s + 2\right)}$$

10.1013 INVALID-ORDER-1013 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{R_L}{C_L R_L s + 1} \right)$

$$H(s) = \frac{R_1 R_L g_m \left(C_1 L_1 s^2 + 1\right)\left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)\left(C_4 C_L L_4 R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + C_L L_4 R_L s^2 + C_L R_4 R_L s + L_4 s + R_4 + 2 R_L\right)}$$

10.1014 INVALID-ORDER-1014 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 g_m \left(C_1 L_1 s^2 + 1\right)\left(C_L R_L s + 1\right)\left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)\left(C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + C_L R_4 s + 2 C_L R_L s + 2\right)}$$

10.1015 INVALID-ORDER-1015 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ L_L s + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 g_m \left(C_1 L_1 s^2 + 1\right)\left(C_L L_L s^2 + 1\right)\left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)\left(2 C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L L_L s^2 + C_L R_4 s + 2\right)}$$

10.1016 INVALID-ORDER-1016 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} \right)$

$$H(s) = \frac{L_L R_1 g_m s \left(C_1 L_1 s^2 + 1\right)\left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)\left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 L_4 L_L s^3 + C_4 L_4 R_4 s^2 + C_L L_4 L_L s^3 + C_L L_L R_4 s^2 + L_4 s + 2 L_L s + R_4\right)}$$

10.1017 INVALID-ORDER-1017 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ L_L s + R_L + \frac{1}{C_L s} \right)$

$$H(s) = \frac{R_1 g_m \left(C_1 L_1 s^2 + 1\right)\left(C_L L_L s^2 + C_L R_L s + 1\right)\left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)\left(2 C_4 C_L L_4 L_L s^4 + C_4 C_L L_4 R_4 s^3 + 2 C_4 C_L L_4 R_L s^3 + 2 C_4 L_4 s^2 + C_L L_4 s^2 + 2 C_L L_L s^2 + C_L R_4 s + 2 C_L R_L s + 2\right)}$$

10.1018 INVALID-ORDER-1018 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{L_L R_L s}{C_L L_L R_L s^2 + L_L s + R_L} \right)$

$$H(s) = \frac{L_L R_1 R_L g_m s \left(C_1 L_1 s^2 + 1\right)\left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)\left(C_4 C_L L_4 L_L R_4 R_L s^4 + C_4 L_4 L_L R_4 s^3 + 2 C_4 L_4 L_L R_L s^3 + C_4 L_4 R_4 R_L s^2 + C_L L_4 L_L R_L s^3 + C_L L_L R_4 R_L s^2 + L_4 L_L s^2 + L_4 R_L s + L_L R_4 s + 2 L_L R_L s + R_4 R_L\right)}$$

10.1019 INVALID-ORDER-1019 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{L_L s}{C_L L_L s^2 + 1} + R_L \right)$

$$H(s) = \frac{R_1 g_m \left(C_1 L_1 s^2 + 1\right)\left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)\left(C_L L_L R_L s^2 + L_L s + R_L\right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)\left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_L R_L s^4 + 2 C_4 L_4 L_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + C_L L_4 L_L s^3 + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + L_4 s + 2 L_L s + R_4 + 2 R_L\right)}$$

10.1020 INVALID-ORDER-1020 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{L_4 s}{C_4 L_4 s^2 + 1} + R_4, \ \infty, \ \frac{R_L\left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_1 R_L g_m \left(C_1 L_1 s^2 + 1\right)\left(C_L L_L s^2 + 1\right)\left(C_4 L_4 R_4 s^2 + L_4 s + R_4\right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)\left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_L R_L s^4 + C_4 C_L L_4 R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + C_L L_4 L_L s^3 + C_L L_4 R_L s^2 + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + C_L R_4 R_L s + L_4 s + R_4 + 2 R_L\right)}$$

10.1021 INVALID-ORDER-1021 $Z(s) = \left(\frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \infty, \ \frac{R_4\left(C_4L_4s^2+1\right)}{C_4L_4s^2+C_4R_4s+1}, \ \infty, \ R_L \right)$

$$H(s) = \frac{R_1R_4R_Lg_m\left(C_1L_1s^2+1\right)\left(C_4L_4s^2+1\right)}{\left(C_4L_4R_4s^2+2C_4L_4R_Ls^2+2C_4R_4R_Ls+R_4+2R_L\right)\left(C_1L_1R_1g_ms^2+C_1L_1s^2+C_1R_1s+R_1g_m+1\right)}$$

10.1022 INVALID-ORDER-1022 $Z(s) = \left(\frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \infty, \ \frac{R_4\left(C_4L_4s^2+1\right)}{C_4L_4s^2+C_4R_4s+1}, \ \infty, \ \frac{1}{C_Ls} \right)$

$$H(s) = \frac{R_1R_4g_m\left(C_1L_1s^2+1\right)\left(C_4L_4s^2+1\right)}{\left(C_1L_1R_1g_ms^2+C_1L_1s^2+C_1R_1s+R_1g_m+1\right)\left(C_4C_LL_4R_4s^3+2C_4L_4s^2+2C_4R_4s+C_LR_4s+2\right)}$$

10.1023 INVALID-ORDER-1023 $Z(s) = \left(\frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \infty, \ \frac{R_4\left(C_4L_4s^2+1\right)}{C_4L_4s^2+C_4R_4s+1}, \ \infty, \ \frac{R_L}{C_LR_Ls+1} \right)$

$$H(s) = \frac{R_1R_4R_Lg_m\left(C_1L_1s^2+1\right)\left(C_4L_4s^2+1\right)}{\left(C_1L_1R_1g_ms^2+C_1L_1s^2+C_1R_1s+R_1g_m+1\right)\left(C_4C_LL_4R_4R_Ls^3+C_4L_4R_4s^2+2C_4L_4R_Ls^2+2C_4R_4R_Ls+C_LR_4R_Ls+R_4+2R_L\right)}$$

10.1024 INVALID-ORDER-1024 $Z(s) = \left(\frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \infty, \ \frac{R_4\left(C_4L_4s^2+1\right)}{C_4L_4s^2+C_4R_4s+1}, \ \infty, \ R_L+\frac{1}{C_Ls} \right)$

$$H(s) = \frac{R_1R_4g_m\left(C_1L_1s^2+1\right)\left(C_4L_4s^2+1\right)\left(C_LR_Ls+1\right)}{\left(C_1L_1R_1g_ms^2+C_1L_1s^2+C_1R_1s+R_1g_m+1\right)\left(C_4C_LL_4R_4s^3+2C_4C_LL_4R_Ls^3+2C_4C_LR_4R_Ls^2+2C_4L_4s^2+2C_4R_4s+C_LR_4s+2C_LR_Ls+2\right)}$$

10.1025 INVALID-ORDER-1025 $Z(s) = \left(\frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \infty, \ \frac{R_4\left(C_4L_4s^2+1\right)}{C_4L_4s^2+C_4R_4s+1}, \ \infty, \ L_Ls+\frac{1}{C_Ls} \right)$

$$H(s) = \frac{R_1R_4g_m\left(C_1L_1s^2+1\right)\left(C_4L_4s^2+1\right)\left(C_LL_Ls^2+1\right)}{\left(C_1L_1R_1g_ms^2+C_1L_1s^2+C_1R_1s+R_1g_m+1\right)\left(2C_4C_LL_4L_Ls^4+C_4C_LL_4R_4s^3+2C_4C_LL_LR_4s^3+2C_4L_4s^2+2C_4R_4s+2C_LL_Ls^2+C_LR_4s+2\right)}$$

10.1026 INVALID-ORDER-1026 $Z(s) = \left(\frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \infty, \ \frac{R_4\left(C_4L_4s^2+1\right)}{C_4L_4s^2+C_4R_4s+1}, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1} \right)$

$$H(s) = \frac{L_LR_1R_4g_ms\left(C_1L_1s^2+1\right)\left(C_4L_4s^2+1\right)}{\left(C_1L_1R_1g_ms^2+C_1L_1s^2+C_1R_1s+R_1g_m+1\right)\left(C_4C_LL_4L_LR_4s^4+2C_4L_4L_Ls^3+C_4L_4R_4s^2+2C_4L_LR_4s^2+C_LL_LR_4s^2+2L_Ls+R_4\right)}$$

10.1027 INVALID-ORDER-1027 $Z(s) = \left(\frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \infty, \ \frac{R_4\left(C_4L_4s^2+1\right)}{C_4L_4s^2+C_4R_4s+1}, \ \infty, \ L_Ls+R_L+\frac{1}{C_Ls} \right)$

$$H(s) = \frac{R_1R_4g_m\left(C_1L_1s^2+1\right)\left(C_4L_4s^2+1\right)\left(C_LL_Ls^2+C_LR_Ls+1\right)}{\left(C_1L_1R_1g_ms^2+C_1L_1s^2+C_1R_1s+R_1g_m+1\right)\left(2C_4C_LL_4L_Ls^4+C_4C_LL_4R_4s^3+2C_4C_LL_4R_Ls^3+2C_4C_LL_LR_4s^3+2C_4C_LR_4R_Ls^2+2C_4L_4s^2+2C_4R_4s+2C_LL_Ls^2+C_LR_4s+2C_LR_Ls+2\right)}$$

10.1028 INVALID-ORDER-1028 $Z(s) = \left(\frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \infty, \ \frac{R_4\left(C_4L_4s^2+1\right)}{C_4L_4s^2+C_4R_4s+1}, \ \infty, \ \frac{L_LR_Ls}{C_LL_LR_Ls^2+L_Ls+R_L} \right)$

$$H(s) = \frac{L_LR_1R_4R_Lg_ms\left(C_1L_1s^2+1\right)\left(C_4L_4s^2+1\right)}{\left(C_1L_1R_1g_ms^2+C_1L_1s^2+C_1R_1s+R_1g_m+1\right)\left(C_4C_LL_4L_LR_4R_Ls^4+C_4L_4L_LR_4s^3+2C_4L_4L_LR_Ls^3+C_4L_4R_4R_Ls^2+2C_4L_LR_4R_Ls^2+C_LL_LR_4R_Ls^2+L_LR_4s+2L_LR_Ls+R_4R_L\right)}$$

10.1029 INVALID-ORDER-1029 $Z(s) = \left(\frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \infty, \ \frac{R_4\left(C_4L_4s^2+1\right)}{C_4L_4s^2+C_4R_4s+1}, \ \infty, \ \frac{L_Ls}{C_LL_Ls^2+1}+R_L \right)$

$$H(s) = \frac{R_1R_4g_m\left(C_1L_1s^2+1\right)\left(C_4L_4s^2+1\right)\left(C_LL_LR_Ls^2+L_Ls+R_L\right)}{\left(C_1L_1R_1g_ms^2+C_1L_1s^2+C_1R_1s+R_1g_m+1\right)\left(C_4C_LL_4L_LR_4s^4+2C_4C_LL_4L_LR_Ls^4+2C_4C_LL_LR_4R_Ls^3+2C_4L_4L_Ls^3+C_4L_4R_4s^2+2C_4L_4R_Ls^2+2C_4L_LR_4s^2+2C_4R_4R_Ls+C_LL_LR_4s^2+2C_LL_LR_Ls^2+2L_Ls+R_4+2R_L\right)}$$

10.1030   INVALID-ORDER-1030 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \infty, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \frac{R_L\left(C_L L_L s^2 + 1\right)}{C_L L_L s^2 + C_L R_L s + 1} \right)$

$$H(s) = \frac{R_1 R_4 R_L g_m \left(C_1 L_1 s^2 + 1\right)\left(C_4 L_4 s^2 + 1\right)\left(C_L L_L s^2 + 1\right)}{\left(C_1 L_1 R_1 g_m s^2 + C_1 L_1 s^2 + C_1 R_1 s + R_1 g_m + 1\right)\left(C_4 C_L L_4 L_L R_4 s^4 + 2 C_4 C_L L_4 L_L R_L s^4 + C_4 C_L L_4 R_4 R_L s^3 + 2 C_4 C_L L_L R_4 R_L s^3 + C_4 L_4 R_4 s^2 + 2 C_4 L_4 R_L s^2 + 2 C_4 R_4 R_L s + C_L L_L R_4 s^2 + 2 C_L L_L R_L s^2 + C_L R_4 R_L s + R_4 + 2 R_L\right)}$$

11   PolynomialError