Filter Summary Report: TIA,simple,Z1,Z5

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Contents

1 Examined $H(z)$ for TIA simple Z1 Z5: $\frac{Z_1(Z_5 g_m - 1)}{2Z_1 g_m + 1}$

$$H(z) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2Z_1 g_m + 1}$$

2 HP

3 BP

4 LP

5 BS

6 GE

7 AP

8 INVALID-NUMER

9 INVALID-WZ

10 INVALID-ORDER

10.1 INVALID-ORDER-1 $Z(s) = (R_1,\ \infty,\ \infty,\ \infty,\ R_5,\ \infty)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2Z_1 g_m + 1}$$

10.2 INVALID-ORDER-2 $Z(s) = \left(R_1,\ \infty,\ \infty,\ \infty,\ \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2Z_1 g_m + 1}$$

10.3 INVALID-ORDER-3 $Z(s) = \left(R_1,\ \infty,\ \infty,\ \infty,\ \frac{R_5}{C_5 R_5 s + 1},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2Z_1 g_m + 1}$$

10.4 INVALID-ORDER-4 $Z(s) = \left(R_1,\ \infty,\ \infty,\ \infty,\ R_5 + \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2Z_1 g_m + 1}$$

10.5 INVALID-ORDER-5 $Z(s) = \left(R_1,\ \infty,\ \infty,\ \infty,\ L_5 s + \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.6 INVALID-ORDER-6 $Z(s) = \left(R_1,\ \infty,\ \infty,\ \infty,\ \frac{L_5 s}{C_5 L_5 s^2 + 1},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.7 INVALID-ORDER-7 $Z(s) = \left(R_1,\ \infty,\ \infty,\ \infty,\ L_5 s + R_5 + \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.8 INVALID-ORDER-8 $Z(s) = \left(R_1,\ \infty,\ \infty,\ \infty,\ \frac{L_5 R_5 s}{C_5 L_5 R_5 s^2 + L_5 s + R_5},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.9 INVALID-ORDER-9 $Z(s) = \left(R_1,\ \infty,\ \infty,\ \infty,\ \frac{L_5 s}{C_5 L_5 s^2 + 1} + R_5,\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.10 INVALID-ORDER-10 $Z(s) = \left(R_1,\ \infty,\ \infty,\ \infty,\ \frac{R_5\left(C_5 L_5 s^2 + 1\right)}{C_5 L_5 s^2 + C_5 R_5 s + 1},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.11 INVALID-ORDER-11 $Z(s) = \left(L_1 s,\ \infty,\ \infty,\ \infty,\ R_5,\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.12 INVALID-ORDER-12 $Z(s) = \left(L_1 s,\ \infty,\ \infty,\ \infty,\ \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.13 INVALID-ORDER-13 $Z(s) = \left(L_1 s,\ \infty,\ \infty,\ \infty,\ \frac{R_5}{C_5 R_5 s + 1},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.14 INVALID-ORDER-14 $Z(s) = \left(L_1 s,\ \infty,\ \infty,\ \infty,\ R_5 + \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.15 INVALID-ORDER-15 $Z(s) = \left(L_1 s,\ \infty,\ \infty,\ \infty,\ L_5 s + \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.16 INVALID-ORDER-16 $Z(s) = \left(L_1 s,\ \infty,\ \infty,\ \infty,\ \frac{L_5 s}{C_5 L_5 s^2 + 1},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.17 INVALID-ORDER-17 $Z(s) = \left(L_1 s,\ \infty,\ \infty,\ \infty,\ L_5 s + R_5 + \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.18 INVALID-ORDER-18 $Z(s) = \left(L_1 s,\ \infty,\ \infty,\ \infty,\ \frac{L_5 R_5 s}{C_5 L_5 R_5 s^2 + L_5 s + R_5},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.19 INVALID-ORDER-19 $Z(s) = \left(L_1 s,\ \infty,\ \infty,\ \infty,\ \frac{L_5 s}{C_5 L_5 s^2 + 1} + R_5,\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.20 INVALID-ORDER-20 $Z(s) = \left(L_1 s,\ \infty,\ \infty,\ \infty,\ \frac{R_5\left(C_5 L_5 s^2 + 1\right)}{C_5 L_5 s^2 + C_5 R_5 s + 1},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.21 INVALID-ORDER-21 $Z(s) = \left(\frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ R_5,\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.22 INVALID-ORDER-22 $Z(s) = \left(\frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.23 INVALID-ORDER-23 $Z(s) = \left(\frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ \frac{R_5}{C_5 R_5 s + 1},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.24 INVALID-ORDER-24 $Z(s) = \left(\frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ R_5 + \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.25 INVALID-ORDER-25 $Z(s) = \left(\frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ L_5 s + \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.26 INVALID-ORDER-26 $Z(s) = \left(\frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ \frac{L_5 s}{C_5 L_5 s^2 + 1},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.27 INVALID-ORDER-27 $Z(s) = \left(\frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ L_5 s + R_5 + \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.28 INVALID-ORDER-28 $Z(s) = \left(\frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ \frac{L_5 R_5 s}{C_5 L_5 R_5 s^2 + L_5 s + R_5},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.29 INVALID-ORDER-29 $Z(s) = \left(\frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ \frac{L_5 s}{C_5 L_5 s^2 + 1} + R_5,\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.30 INVALID-ORDER-30 $Z(s) = \left(\frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ \frac{R_5\left(C_5 L_5 s^2 + 1\right)}{C_5 L_5 s^2 + C_5 R_5 s + 1},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.31 INVALID-ORDER-31 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1},\ \infty,\ \infty,\ \infty,\ R_5,\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.32 INVALID-ORDER-32 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1},\ \infty,\ \infty,\ \infty,\ \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.33 INVALID-ORDER-33 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1},\ \infty,\ \infty,\ \infty,\ \frac{R_5}{C_5 R_5 s + 1},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.34 INVALID-ORDER-34 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1},\ \infty,\ \infty,\ \infty,\ R_5 + \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.35 INVALID-ORDER-35 $Z(s) = \left(\frac{R_1}{C_1 R_1 s+1},\ \infty,\ \infty,\ \infty,\ L_5 s + \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.36 INVALID-ORDER-36 $Z(s) = \left(\frac{R_1}{C_1 R_1 s+1},\ \infty,\ \infty,\ \infty,\ \frac{L_5 s}{C_5 L_5 s^2+1},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.37 INVALID-ORDER-37 $Z(s) = \left(\frac{R_1}{C_1 R_1 s+1},\ \infty,\ \infty,\ \infty,\ L_5 s + R_5 + \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.38 INVALID-ORDER-38 $Z(s) = \left(\frac{R_1}{C_1 R_1 s+1},\ \infty,\ \infty,\ \infty,\ \frac{L_5 R_5 s}{C_5 L_5 R_5 s^2+L_5 s+R_5},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.39 INVALID-ORDER-39 $Z(s) = \left(\frac{R_1}{C_1 R_1 s+1},\ \infty,\ \infty,\ \infty,\ \frac{L_5 s}{C_5 L_5 s^2+1} + R_5,\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.40 INVALID-ORDER-40 $Z(s) = \left(\frac{R_1}{C_1 R_1 s+1},\ \infty,\ \infty,\ \infty,\ \frac{R_5\left(C_5 L_5 s^2+1\right)}{C_5 L_5 s^2+C_5 R_5 s+1},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.41 INVALID-ORDER-41 $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ R_5,\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.42 INVALID-ORDER-42 $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.43 INVALID-ORDER-43 $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ \frac{R_5}{C_5 R_5 s+1},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.44 INVALID-ORDER-44 $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ R_5 + \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.45 INVALID-ORDER-45 $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ L_5 s + \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.46 INVALID-ORDER-46 $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ \frac{L_5 s}{C_5 L_5 s^2 + 1},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.47 INVALID-ORDER-47 $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ L_5 s + R_5 + \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.48 INVALID-ORDER-48 $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ \frac{L_5 R_5 s}{C_5 L_5 R_5 s^2 + L_5 s + R_5},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.49 INVALID-ORDER-49 $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ \frac{L_5 s}{C_5 L_5 s^2 + 1} + R_5,\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.50 INVALID-ORDER-50 $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ \frac{R_5\left(C_5 L_5 s^2 + 1\right)}{C_5 L_5 s^2 + C_5 R_5 s + 1},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.51 INVALID-ORDER-51 $Z(s) = \left(L_1 s + \frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ R_5,\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.52 INVALID-ORDER-52 $Z(s) = \left(L_1 s + \frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.53 INVALID-ORDER-53 $Z(s) = \left(L_1 s + \frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ \frac{R_5}{C_5 R_5 s + 1},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.54 INVALID-ORDER-54 $Z(s) = \left(L_1 s + \frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ R_5 + \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.55 INVALID-ORDER-55 $Z(s) = \left(L_1 s + \frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ L_5 s + \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.56 INVALID-ORDER-56 $Z(s) = \left(L_1 s + \frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ \frac{L_5 s}{C_5 L_5 s^2 + 1},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.57 INVALID-ORDER-57 $Z(s) = \left(L_1 s + \frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ L_5 s + R_5 + \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.58 INVALID-ORDER-58 $Z(s) = \left(L_1 s + \frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ \frac{L_5 R_5 s}{C_5 L_5 R_5 s^2 + L_5 s + R_5},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.59 INVALID-ORDER-59 $Z(s) = \left(L_1 s + \frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ \frac{L_5 s}{C_5 L_5 s^2 + 1} + R_5,\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.60 INVALID-ORDER-60 $Z(s) = \left(L_1 s + \frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ \frac{R_5\left(C_5 L_5 s^2 + 1\right)}{C_5 L_5 s^2 + C_5 R_5 s + 1},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.61 INVALID-ORDER-61 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1},\ \infty,\ \infty,\ \infty,\ R_5,\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.62 INVALID-ORDER-62 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1},\ \infty,\ \infty,\ \infty,\ \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.63 INVALID-ORDER-63 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1},\ \infty,\ \infty,\ \infty,\ \frac{R_5}{C_5 R_5 s + 1},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.64 INVALID-ORDER-64 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2 + 1},\ \infty,\ \infty,\ \infty,\ R_5 + \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.65 INVALID-ORDER-65 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2+1},\ \infty,\ \infty,\ \infty,\ L_5 s + \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.66 INVALID-ORDER-66 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2+1},\ \infty,\ \infty,\ \infty,\ \frac{L_5 s}{C_5 L_5 s^2+1},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.67 INVALID-ORDER-67 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2+1},\ \infty,\ \infty,\ \infty,\ L_5 s + R_5 + \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.68 INVALID-ORDER-68 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2+1},\ \infty,\ \infty,\ \infty,\ \frac{L_5 R_5 s}{C_5 L_5 R_5 s^2+L_5 s+R_5},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.69 INVALID-ORDER-69 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2+1},\ \infty,\ \infty,\ \infty,\ \frac{L_5 s}{C_5 L_5 s^2+1} + R_5,\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.70 INVALID-ORDER-70 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2+1},\ \infty,\ \infty,\ \infty,\ \frac{R_5\left(C_5 L_5 s^2+1\right)}{C_5 L_5 s^2+C_5 R_5 s+1},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.71 INVALID-ORDER-71 $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ R_5,\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.72 INVALID-ORDER-72 $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.73 INVALID-ORDER-73 $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ \frac{R_5}{C_5 R_5 s+1},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.74 INVALID-ORDER-74 $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ R_5 + \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.75 INVALID-ORDER-75 $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ L_5 s + \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.76 INVALID-ORDER-76 $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ \frac{L_5 s}{C_5 L_5 s^2+1},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.77 INVALID-ORDER-77 $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ L_5 s + R_5 + \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.78 INVALID-ORDER-78 $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ \frac{L_5 R_5 s}{C_5 L_5 R_5 s^2+L_5 s+R_5},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.79 INVALID-ORDER-79 $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ \frac{L_5 s}{C_5 L_5 s^2+1} + R_5,\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.80 INVALID-ORDER-80 $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s},\ \infty,\ \infty,\ \infty,\ \frac{R_5\left(C_5 L_5 s^2+1\right)}{C_5 L_5 s^2+C_5 R_5 s+1},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.81 INVALID-ORDER-81 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2+L_1 s+R_1},\ \infty,\ \infty,\ \infty,\ R_5,\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.82 INVALID-ORDER-82 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2+L_1 s+R_1},\ \infty,\ \infty,\ \infty,\ \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.83 INVALID-ORDER-83 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2+L_1 s+R_1},\ \infty,\ \infty,\ \infty,\ \frac{R_5}{C_5 R_5 s+1},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.84 INVALID-ORDER-84 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2+L_1 s+R_1},\ \infty,\ \infty,\ \infty,\ R_5 + \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.85 INVALID-ORDER-85 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2+L_1 s+R_1},\ \infty,\ \infty,\ \infty,\ L_5 s + \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.86 INVALID-ORDER-86 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2+L_1 s+R_1},\ \infty,\ \infty,\ \infty,\ \frac{L_5 s}{C_5 L_5 s^2+1},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.87 INVALID-ORDER-87 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2+L_1 s+R_1},\ \infty,\ \infty,\ \infty,\ L_5 s + R_5 + \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.88 INVALID-ORDER-88 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2+L_1 s+R_1},\ \infty,\ \infty,\ \infty,\ \frac{L_5 R_5 s}{C_5 L_5 R_5 s^2+L_5 s+R_5},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.89 INVALID-ORDER-89 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2+L_1 s+R_1},\ \infty,\ \infty,\ \infty,\ \frac{L_5 s}{C_5 L_5 s^2+1} + R_5,\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.90 INVALID-ORDER-90 $Z(s) = \left(\frac{L_1 R_1 s}{C_1 L_1 R_1 s^2+L_1 s+R_1},\ \infty,\ \infty,\ \infty,\ \frac{R_5\left(C_5 L_5 s^2+1\right)}{C_5 L_5 s^2+C_5 R_5 s+1},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.91 INVALID-ORDER-91 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2+1} + R_1,\ \infty,\ \infty,\ \infty,\ R_5,\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.92 INVALID-ORDER-92 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2+1} + R_1,\ \infty,\ \infty,\ \infty,\ \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.93 INVALID-ORDER-93 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2+1} + R_1,\ \infty,\ \infty,\ \infty,\ \frac{R_5}{C_5 R_5 s+1},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.94 INVALID-ORDER-94 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2+1} + R_1,\ \infty,\ \infty,\ \infty,\ R_5 + \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.95 INVALID-ORDER-95 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2+1} + R_1,\ \infty,\ \infty,\ \infty,\ L_5 s + \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.96 INVALID-ORDER-96 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2+1} + R_1,\ \infty,\ \infty,\ \infty,\ \frac{L_5 s}{C_5 L_5 s^2+1},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.97 INVALID-ORDER-97 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2+1} + R_1,\ \infty,\ \infty,\ \infty,\ L_5 s + R_5 + \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.98 INVALID-ORDER-98 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2+1} + R_1,\ \infty,\ \infty,\ \infty,\ \frac{L_5 R_5 s}{C_5 L_5 R_5 s^2+L_5 s+R_5},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.99 INVALID-ORDER-99 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2+1} + R_1,\ \infty,\ \infty,\ \infty,\ \frac{L_5 s}{C_5 L_5 s^2+1} + R_5,\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.100 INVALID-ORDER-100 $Z(s) = \left(\frac{L_1 s}{C_1 L_1 s^2+1} + R_1,\ \infty,\ \infty,\ \infty,\ \frac{R_5\left(C_5 L_5 s^2+1\right)}{C_5 L_5 s^2+C_5 R_5 s+1},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.101 INVALID-ORDER-101 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2+1\right)}{C_1 L_1 s^2+C_1 R_1 s+1},\ \infty,\ \infty,\ \infty,\ R_5,\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.102 INVALID-ORDER-102 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2+1\right)}{C_1 L_1 s^2+C_1 R_1 s+1},\ \infty,\ \infty,\ \infty,\ \frac{1}{C_5 s},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.103 INVALID-ORDER-103 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2+1\right)}{C_1 L_1 s^2+C_1 R_1 s+1},\ \infty,\ \infty,\ \infty,\ \frac{R_5}{C_5 R_5 s+1},\ \infty\right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.104 INVALID-ORDER-104 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2+1\right)}{C_1 L_1 s^2+C_1 R_1 s+1},\ \infty,\ \infty,\ \infty,\ R_5 + \frac{1}{C_5 s},\ \infty \right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.105 INVALID-ORDER-105 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2+1\right)}{C_1 L_1 s^2+C_1 R_1 s+1},\ \infty,\ \infty,\ \infty,\ L_5 s + \frac{1}{C_5 s},\ \infty \right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.106 INVALID-ORDER-106 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2+1\right)}{C_1 L_1 s^2+C_1 R_1 s+1},\ \infty,\ \infty,\ \infty,\ \frac{L_5 s}{C_5 L_5 s^2+1},\ \infty \right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.107 INVALID-ORDER-107 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2+1\right)}{C_1 L_1 s^2+C_1 R_1 s+1},\ \infty,\ \infty,\ \infty,\ L_5 s + R_5 + \frac{1}{C_5 s},\ \infty \right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.108 INVALID-ORDER-108 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2+1\right)}{C_1 L_1 s^2+C_1 R_1 s+1},\ \infty,\ \infty,\ \infty,\ \frac{L_5 R_5 s}{C_5 L_5 R_5 s^2+L_5 s+R_5},\ \infty \right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.109 INVALID-ORDER-109 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2+1\right)}{C_1 L_1 s^2+C_1 R_1 s+1},\ \infty,\ \infty,\ \infty,\ \frac{L_5 s}{C_5 L_5 s^2+1} + R_5,\ \infty \right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$

10.110 INVALID-ORDER-110 $Z(s) = \left(\frac{R_1\left(C_1 L_1 s^2+1\right)}{C_1 L_1 s^2+C_1 R_1 s+1},\ \infty,\ \infty,\ \infty,\ \frac{R_5\left(C_5 L_5 s^2+1\right)}{C_5 L_5 s^2+C_5 R_5 s+1},\ \infty \right)$

$$H(s) = \frac{Z_1\left(Z_5 g_m - 1\right)}{2 Z_1 g_m + 1}$$