

DIGITAL SIGNAL PROCESSING

A Computer-Based Approach

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Errata List *(Last updated on October 23, 1998)*

1. Page xii, Line 17: Replace “Short-term” with “Short-time”.
2. Page xiv, Line 4: Replace “ece.ucsb.edu” with “iplserv.ece.ucsb.edu”.
3. Page xvi, Line 6: Replace “5.5” with “8.5”.
4. Page 13, Line 2: Replace “ $A \sin(\Omega_{0t})$ ” with “ $A \sin(\Omega_0 t)$ ”.
5. Page 25, Interchange Figure 1.22 (a) and Figure 1.22 (b).
6. Page 70, Program 2_3 and Program 2_4: Replace “ $2*m.*(0.9^m)$ ” with “ $2*m.*(0.9.^m)$ ”.
7. Page 125, Eq. (3.10): Replace “ $\sum_{n = \text{mult of } L}$ ” with “ $\sum_{n = \text{mult of } L}$ ”.
8. Page 127, Table 3.2, First line: Replace “**Length-N sequence**” with “**Sequence**” and replace “**N-point DFT**” with “**DTFT**”.
9. Page 127, Table 3.2, Line 5 from top: Replace “ $e^{-j\omega n_0} G(j\omega)$ ” with “ $e^{-j\omega n_0} G(e^{j\omega})$ ”.
10. Page 131, Eq. (3.13) Replace “ $e^{-2\pi kn/N}$ ” with “ $e^{-j2\pi kn/N}$ ”.
11. Page 140, Table 3.5, Replace “G[K]” with “G[k]”.
12. Page 141, Table 3.6, Replace “X[k]” with “X[k]”.
13. Page 145, Example 3.11, Replace “Figure 3.8” with “Figure 3.9”.
14. Page 148, Eq. (3.75) and Eq. (3.76): Replace “ L ” with “ $L - 1$ ”.
15. Page 155, Eq. (3.88) Replace “ $(N - M)$ ” with “ $(N - M + 1)$ ”.
16. Page 175, Line 13 from bottom: Replace “ $\frac{-1}{3} / \left(1 + \frac{1}{3}z^{-1}\right)$ ” with “ $\frac{-1}{3}z^{-1} / \left(1 + \frac{1}{3}z^{-1}\right)$ ”.
17. Page 175, Line 12 from bottom: Replace “ $-3n\left(\frac{-1}{3}\right)^n \mu[n]$ ” with “ $-3(n-1)\left(\frac{-1}{3}\right)^{(n-1)} \mu[n-1]$ ”.
18. Page 175, Line 10 from bottom: Replace the equation with
“ $g[n] = \left[0.24\left(\frac{-1}{3}\right)^n + 0.36\left(\frac{1}{2}\right)^n\right]\mu[n] + 0.36(n-1)\left(\frac{-1}{3}\right)^n \mu[n-1]$ ”.
19. Page 183, Eq. (3.149): Replace “ $\tilde{h}[k]$ ” with “ $\tilde{h}[n]$ ”.
20. Page 184, Replace “Figure P3.2 shows four” with “Figure P3.2 shows two”.
21. Page 184, Line 3 from bottom: Replace “length-sequence” with “length-N sequence”.
22. Page 197, Problem M3.3: In the numerator of expression in (a), replace “ $0.1915e^{j\omega}$ ” with “ $0.1915e^{-j\omega}$ ”, and “ $0.1915e^{-j\omega}$ ” with “ $0.1915e^{-3j\omega}$ ”.
23. Page 198, Problem M3.17: Part (iii) - Replace “ $|z| > 0.4$ ” with “ $|z| > 0.9486833$ ”.
24. Page 198, Problem M3.17: Part (iv) - Replace “ $|z| > 0.4$ ” with “ $|z| > 0.5$ ”.

25. Page 211, Line below Eq. (4.48) Replace “ $e^{j2\pi kM}$ ” with “ $e^{j2\pi k/M}$ ”.
26. Page 211, Line 2 from bottom: Replace “3.20” with “3.21”.
27. Page 219, Line 8 from bottom: Replace “ $H_{LP}[n]$ ” with “ $h_{LP}[n]$ ”.
28. Page 220, Line 8 from bottom: Replace “ $\log_{10}|H_1(e^{j0})|$ ” with “ $\log_{10}|H_0(e^{j0})|$ ”.
29. Page 222, Eq. (4.68): Insert a “ j ” in front of “ $e^{-j\omega/2 \sin(\frac{\omega}{2})}$ ”.
30. Page 230, Figure 4.19: Replace “ $v[\pm n]$ ” with “ $v[-n]$ ” and replace “ $w[\pm n]$ ” with “ $w[-n]$ ”.
31. Page 247, Eq. (4.139b): Replace “ $A_0(z) + A_1(z)$ ” with “ $A_0(z) - A_1(z)$ ”.
32. Page 252, Line 5 from the beginning of section 4.8: Replace “zero locations” with “pole locations”.
33. Page 254 After Line 4: Replace “ $\prod_{i=1}^M \lambda_i$ ” with “ $(-1)^M \prod_{i=1}^M \lambda_i$ ”.
34. Page 266 Problem 4.28 (b) Replace “ $x[n] = 0.4^n \mu[n] + (0.2)^{n-1} \mu[-n-1]$ ” with “ $x[n] = (0.4)^n \mu[n] - (0.2)^{n-1} \mu[n]$ ”.
35. Page 271 Problem 4.61 (b) line 3: Replace “ $(4\pi + \omega_s)/M$ ” with “ $(2\pi + \omega_s)/M$ ”.
36. Page 274 Problem 4.67 (c) Replace “ $\widehat{G}(\omega)$ ” with “ $\widehat{H}(\omega)$ ”.
37. Page 275 Problem 4.76 (a), (b) and (c): Replace “ H_{BS} ” with “ $H_{BS}(z)$ ”.
38. Page 276 Problem 4.82 (d) Replace “ H_3 ” with “ $H_3(z)$ ”.
39. Page 277, Problem 4.88: Replace “ H_a ” with “ $H_a(z)$ ”, and “ H_b ” with “ $H_b(z)$ ”.
40. Page 277, Problem 4.88 (b): Replace “ $6(1 + z^{-1})^3$ ” in the numerator with “ $3(1.5 + 6.5z^{-1} + 6.5z^{-2} + 1.5z^{-3})$ ”.
41. Page 280, Line 5 from bottom: Replace “4.84” with “4.83”.
42. Page 280, Line 2 from bottom: Replace “4.97” with “4.96”.
43. Page 281, M4.18, Replace “4.97” with “4.96”.
44. Page 281, M4.19, Replace “4.98” with “4.97”.
45. Page 290, Last Line of Figure caption: Replace “ $\cos(2\pi t)$ ” with “ $\cos(26\pi t)$ ”.
46. Page 340, Eq. (6.3b): Replace “ d ” with “ D ”.
47. Page 314, Line 12 from bottom: Replace “9.4” with “6.4”.
48. Page 327, Eq. (5.65): Replace “ $2R_L + R$ ” in the denominator by “ $2(R_L + R)$ ”.
49. Page 374, Line 3 from bottom: Replace “ $A_m(z)$ ” with “ $A_M(z)$ ”.
50. Page 384, Line 15 from bottom: Replace “ d_1 ” with “ d_1' ”.
51. Page 393, Line 1: Replace “0.39” by “ 0.3π ”.
52. Page 415, Problem M 6.2 (b) and Problem M 6.3 (b) : Replace “four” by “two”.
53. Page 415, Problem M 6.8 (c) Replace numerator of $G(z)$ with “ $0.04934436(1 + 1.3z^{-1} + 2.21z^{-2} + 2.21z^{-3} + 1.3z^{-4} + z^{-5})$ ”.
54. Page 464, Replace “ $H_d(e^{j\omega})$ ” with “ $H_d(e^{j\omega_k})$ ”.
55. Page 547, Example 8.20: Replace “ $A = -0.325_{10}$ ” with “ $A = -0.375_{10}$ ”.

56. Page 557, Line 5 from bottom: Replace “Eq. (8.84)” with “Eq.(8.88)”.

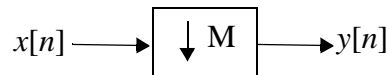
57. Page 568, Problem 8.44: Replace “ $\sum_{i=1}^b a_{-i} 2^{-i}$ ” with “ $\sum_{i=1}^b a_{-i} 2^{-i}$ ”.

58. Page 570, Figure P8.5(a): Replace “ $\frac{1+z^{-1}}{2}$ ” with “ $\frac{1+z^{-2}}{2}$ ”.

59. Page 577, Line 2 from top: Replace $\sum_{i=1}^p a_{-i} 2^{-1}$ with $\sum_{i=1}^p a_{-i} 2^{-i}$.

60. Page 579, Last Line: Replace “[Mit74a]” with “[Mit74c]”.

61. Page 659, Figure 10.4: Replace the figure here with the figure shown below:



62. Page 669, Figure 10.15(b): Replace “L” with “M”.

63. Page 678, Example 10.7 line 5: Replace “ $f_1 = 0.31$ ” with “ $f_2 = 0.31$ ”.

64. Page 695, Lines 1-3 below Eq. (10.61): Replace this sentence with “As a result, $y[Ln + k] = \alpha x[n]$, i.e., the input samples appear at the output without any distortion at all values of n, whereas the in-between $(L - 1)$ samples are determined by interpolation.”

65. Page 707, Equation 10.109 and the equation two lines below: Replace “ $(1 - |H_0(e^{j\omega})|^2 - |H_1(e^{j\omega})|^2)$ ” with “ $(1 - |H_0(e^{j\omega})|^2 - |H_1(e^{j\omega})|^2)^2$ ”.

66. Page 731, Problem 10.14 (b), (c): In the denominator, replace “ $0.8z^{-1}$ ” with “ $0.8z^{-2}$ ”.

67. Page 732, Problem 10.19: Replace “ $\sum_{k=0}^{M-1} |H_k(e^{j\omega} W^k)|$ ” with “ $\sum_{k=0}^{M-1} |H_k(e^{j\omega})|$ ”.

68. Page 736, Problem 10.40(b): Replace “ $\frac{1}{2}\{H(z) - H(-z)\}$ ” with “ $\frac{1}{2}\{H(z) - H(-z)\}z$ ”.

69. Page 755, Section 11.5 Title: Replace “Short-Term” with “Short-Time”.

70. Page 755, Line 10 from bottom: Replace “ $\omega_0 n$ ” with “ $2\omega_0 n$ ”.

71. Page 798, Lines 11, 13, and 15: Replace “ z^{-3} ” with “ z^{-1} ”, and “[n-3]” with “[n-1]”.

72. Page 829, Lines 4 and 5: Replace “ $f_1 = 0.68$ ” with “ $f_1 = 0.18$ ” and “ $f_2 = 0.8$ ” with “ $f_2 = 0.3$ ”.

73. Page 829, Lines 7 and 8: Replace “ $f_1 = 0.68$ ” with “ $f_1 = 0.18$ ” and “ $f_2 = 0.8, 0.77, 0.74$ and 0.71 ” with “ $f_2 = 0.3, 0.27, 0.24$ and 0.21 ”.

74. Page 829, Line 11: Replace “ $f_1 = 0.68$ ” with “ $f_1 = 0.18$ ” and “ $f_2 = 0.71$ ” with “ $f_2 = 0.21$ ”.

75. Page 829, Problem M11.11, line 2: Replace “0.46” with “0.36”.

76. Page 830, Problem M11.13, line 2: Replace “Program 11_4” with “Program 11_5”.

77. Page 830, Problem M11.14, line 2: Replace “Program 11_5” with “Program 11_6”.

78. Page 830, Problem M11.15, line 2: Replace “Program 11_6” with “Program 11_7”.