ERRATA
Discrete-Time Signal Processing, 3e
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The following were corrected in the second printing; i.e., they are errors found only in the first printing.

Chapter 1

Chapter 2

Chapter 3

Chapter 4

p.181 In the third text line, replace "square brackets" with "curly braces".

p.182 Figure 4.20(e). The label of the y-axis should read $X_d(e^{j\Omega T_d})$.

p.191 In the legend of the top part of Figure 4.28, replace "a = -5" with "a = -.".

p.199 At the bottom of the page, the equation in the next to the last text line that reads $(\frac{N}{M} - 1) + (M - 1)$ should read $(\frac{N}{M} - 1) + \frac{1}{M}(M - 1)$.

p.224 Delete the leading T in both Eqs. (4.155) and (4.157). Also change P_{e_a} to $\Phi_{e_a e_a}$ in Eq. (4.156).

p.245 The four parts of Problem 4.24 should be labeled (a), (b), (c), (d).

p.269 In Problem 4.63(d) replace "Eq. (4.57)" with "Eq. (P4.63-1)".

p.273 In problem 4.68, the second "(a)" should be replaced by "(b)".

Chapter 5

p.358 In Figure P5.45(A), the multiplicity of the pole at $z = 0$ should be indicated as (11). Likewise in Figure P5.45(E), the pole at $z = 0$ should have multiplicity indicated as (6).

Chapter 6

Chapter 7

p.559 First sentence in Section 7.7.1 the equation number should be (7.95).

p.581 Just below the middle of the page, change **Elliptic lter design:** to **Elliptic filter design:**.

Chapter 8

p.639 Remove the "is" at the end of the fifth line on this page.

p.644 Change $X[n]$ to $x[n]$ on the last line before Example 8.7.

p.698 Problem 8.40 the equation has an extra k in the exponent; i.e.,

$$X_i[k] = A_i[k]e^{-j(2\pi k/7)\alpha_i} \quad k = 0, 1, \dots, 6$$

p.703 Problem 8.51: Replace the first two lines of text and the two equations with the following text:

Consider two finite-duration sequences $x[n]$ and $y[n]$. The sequence $x[n]$ can be non-zero only for $0 \le n \le 9$ and $30 \le n \le 39$. The sequence $y[n]$ can be non-zero only for $10 \le n \le 19$. (A sketch of a "typical" $x[n]$ and $y[n]$ could be helpful.)

Let $w[n] = x[n] * y[n]$ denote the linear convolution of $x[n]$ and $y[n]$, and let $g[n] = x[n]\circledast y[n]$ denote the 40-point circular convolution of $x[n]$ and $y[n]$.

Chapter 9

p.725 ")" missing in exponent on second line of Eq.(9.17a); i.e. $\displaystyle\sum_{n=0}^{N/2-1} x[2n]e^{-j(2\pi/(N/2))n}$

Chapter 10

p.810 On second line, delete 54 in the sequence $L = 32, 42, 54,$ and 64 with $\beta = 5.48$.

p.829 In Figure 10.20, the axis labels $\pi/16$ and $\pi/8$ have italic numbers, which should be changed to roman.

p.832 Four lines up from Example 10.11, change "We saw this before in Example 10.9" to "We saw this before in Example 10.10".

Chapter 11

p.891 In the footnote change "Thierrien" to "Therrien".

p.892 In footnote at bottom of page, "Rabner" should be changed to "Rabiner."

p.894 In Eq.(11.14) too much is included in the [ ]s. Should read

$$\frac{\partial \mathcal{E}}{\partial a_i} = \frac{\partial}{\partial a_i}\left[\left\langle e^2[n]\right\rangle\right] - 2G\left\langle v[n]s[n-i]\right\rangle = 0, \quad i = 1, 2, \dots, p,$$

p.902 Equation (11.46) needs three | | signs. It should read

$$\mathcal{E}^{(p)} = \left\langle |e[n]|^2 \right\rangle = \sum_{n=-\infty}^{\infty} |e[n]|^2 = \sum_{n=0}^{M+p} |e[n]|^2,$$

p.913 The lower limit on the second summation in Eq. (11.63) should be k=0; i.e.,

$$s[n] - \sum_{k=1}^{4} a_k s[n-k] = \sum_{k=0}^{3} b_k \delta[n-k]$$

p.936 Problem 11.20(e): change "Use Eq. (11.37)" to "Use Eq. (11.38)".

Chapter 12

Appendix A

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Index

The following are errors found after the second printing was made; i.e., they are errors found in both the first and second printings.

Chapter 1

Chapter 2

Chapter 3

Chapter 4

p.201 "... require NL multiplications and $(NL-1)$ additions per unit time." should read " $(N-1)L$ additions per unit time."

p.242 $X(j\Omega)$ in Fig. P4.20 should be $X_c(j\Omega)$.

p.267 In Problem 4.61(b) the equation should read

$$2\pi \times 10^5 \leq |\Omega| \leq 2\pi \times 10^5 + 2\Omega_N$$

Chapter 5

p.280 In Figure 5.3, the caption under the upper figure should be
(a) Principal Value of Phase Response.

Chapter 6

p.425 In Table 6.2, the column heading $\angle d_{1k}$ should be changed to $\angle d_k$.

Chapter 7

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Index

The following are errors found after the third printing was made; i.e., they are errors found in any printings before April 20, 2015.

Chapter 1

Chapter 2

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Chapter 5

> pp.278-283 The scales on Figures 5.4(b) and 5.6 are off by a factor of $1/0.3231=3.095$. This can be fixed in copies of the book with this error by multiplying the scales in the two figures by 3.095. This problem is the result of a gain constant of 0.3231 that was omitted from Eq. (5.15). Unfortunately that constant cannot be squeezed into Eq. (5.15). To correct the problem, we provide separately two new figures 5.4 and 5.6 that are made without the gain constant. These are correct for Eq. (5.15) as it stands. These figures will have to be relabeled with fonts to match the other figures.

Chapter 6

Chapter 7

> p.496 On line 19, change -0.873 to -0.0873.
>
> p.563 In Equation (7.114), change the lower limit of the sum to $k = 1$.

Chapter 8

> p.665 third line should read "all but one of the sequence values ..."

Chapter 9

Chapter 10

Chapter 11

> Eq 11.14 $+2G$

Chapter 12

Appendix A

> p.1046 Equation (A.17): The subscript of $p_{\mathbf{X}_n, \mathbf{x}_m}(\ldots$ should be lower case; i.e., $p_{\mathbf{x}_n, \mathbf{x}_m}(\ldots$

Appendix B

Appendix C

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Date of last update: April 20, 2015