Errata

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Are there more? Please send feedback to barry@ece.gatech.edu. Thank you.

page 16: The second $-1/2T$ in Fig. 2-4(b) should be $1/2T$.

page 17: The Hilbert transformer gives a $-\pi/2$ phase shift, not a $-\pi$ phase shift.

page 44: Remove the subscript e on the right-hand side of the equation.

page 47: Correct table 2-3: $\text{rect}(t, T/2) \leftrightarrow \frac{\sin(\pi fT)}{\pi fT}$, and $\frac{\sin(Wk)}{WkT} \leftrightarrow \text{rect}(\theta, W)$.

page 60: In equation (3.15), exchange the order of $d\alpha$ and $d\beta$.

page 60: After (3.21), replace "a complex variable s" by "an imaginary variable $s = j\omega$"; replace "Laplace" by "Fourier"; and replace "at $-s$" by "at $-\omega$".

page 73: Third line of (3.79) is missing $d\theta$.

page 81, last line, a "j" is missing: replace "$H(f) = -\text{sign}(f)$" by "$H(f) = -j\cdot\text{sign}(f)$".

page 82, (3.109): the minus sign before $R_{\hat{N}N}(-\tau)$ should be a plus sign.

page 83, second line after (3.114): "X_{k+1}" should be "X_k".

page 92, (3.133): the minus sign before $\lambda q_j(t)$ should be a plus sign.

page 94, (3.144): $p_j(t)$ should be $p^j(t)$.

page 99: The first convolution in (3.163) is missing a factor of s.

page 100, (3.172): there is a factor of "$H(f)$" missing from the right-hand side.

page 103, (3.188): the first summation $\sum_{m=0}^{\infty}$ should be $\sum_{m=-\infty}^{\infty}$.

page 104, (3.194): The factor of $x(t_0)$ is missing a minus sign: it should be $e^{-\Lambda(t)}$.

page 104, (3.196): Replace $e^{-\Lambda(u)}$ inside the integral by $e^{\Lambda(u)}$.

page 107, Problem 3-9: remove the absolute value in $f_a < |f| < f_b$.

page 108, (3.210): Replace a by q.

page 120, (4.21): Remove the lower bound "$0 \le$".

page 121, the right-hand side of (4.23) is missing a minus sign.

page 122: The axis labels at the bottom of Fig. 4-4 were cut off during production; they should be $\{-10, -5, 0, 5, 10, \ldots, 35, 40\}$, as shown in the figure at the end of this document.

page 123, (4.25) is missing a minus sign and a dx.

page 132: The summation $\sum_m$ in (5.1) should be $\sum_k$.

page 139, $\{a_l \neq k\}$ should be $\{a_{l \neq k}\}$.

page 149, the middle term of the second line of (5.33) should be $\text{Re}\{(m-n)^*(E[a]-m)\}$.

page 150, the second line of (5.34) is missing a factor of $1/L$.

page 159: The factor of K in the third line after (5.55) should be conjugated.

page 160, Exercise 5-1, second line, $p(t)$ should be $h(t) * h^*(-t)$.

page 162, in the second line of the second paragraph, "filter" should be "sampler".

page 171, the convolution near the end of the paragraph after (5.77) should be $a_k * m_k$.

page 188, Exercise 5-35 should refer to Fig. 5-34, not Fig. 5-32.

page 189: In the last line of Example 5-36, "4-PAM" should be "4-PSK".

page 190: In (5.113), the second factor of $\left(1-\frac{1}{\sqrt{M}}\right)$ should be squared, yielding:

$$\Pr[\text{error}] = 4\left(1-\frac{1}{\sqrt{M}}\right)Q\left(\sqrt{\frac{3E/N_0}{M-1}}\right) - 4\left(1-\frac{1}{\sqrt{M}}\right)^2 Q^2\left(\sqrt{\frac{3E/N_0}{M-1}}\right) . \tag{E.1}$$

page 194: The label in Fig. 5-38(a) should be 8.4 dB, to match that in part (b).

page 204: After (6.5), insert "assuming that f_cT is an integer".

page 211: The second element of $\boldsymbol{h}_i$ after (6.25) should be $h_{i,2}$.

page 225: The x-axis label of Fig. 6-11 should be $1/\nu$, not $1/b$.

page 235: The center frequency in the top figure should be $15/T$, not $15/2T$.

page 245: The r.h.s. of (6.104) should be $1/N$, as should $|x_m|^2$ at top of p. 245.

page 318: In (7.85) and (7.86), both of the ">" should be "<", so that $\hat{a}_0 = \hat{a}_1 = \hat{a}_2 = 0$.

page 334: Replace in_k by X_k

page 343: In (7.169) V_l should be V_m.

page 532, Prob. 10-4: a factor of e^{-t} is missing from both impulse responses; they should be $h_1(t) = e^{-t}u(t-T)$ and $h_2(t) = e^{-t}u(t-2T)$.

page 532, Prob. 10-5: "single-input double-output" should be "double-input single-output"