Engineering Circuit Analysis, Sixth Edition
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Errata

Chapter 3: Voltage and Current Laws

10 Oct 2002 p. 60: The right-most current source of Fig. 3.71*b* should be labelled 3.5 A.

Chapter 4: Basic Nodal and Mesh Analysis

10 Oct 2002 p. 76: In Figure 4.4, the left-most node should be labelled v_1, not v_{-1}.

Chapter 5: Useful Circuit Analysis Techniques

10 Oct 2002 p. 122: In Figure 5.30*b*, the voltage across the 1-A source should be labelled v_{test}.

p. 132: In Figure 5.47, the current through the 20-Ω resistor should be labelled I_1 (not i_1), for the sake of consistency.

p. 134: In Fig. 5.55, a DC voltage source symbol should be used for the 2-V source. (Delete the "~").

p. 139: The circuit discussed in exercise 45 is actually a common-collector transistor amplifier, not a common-emitter amplifer as stated.

p. 145: Exercise 68 should read:

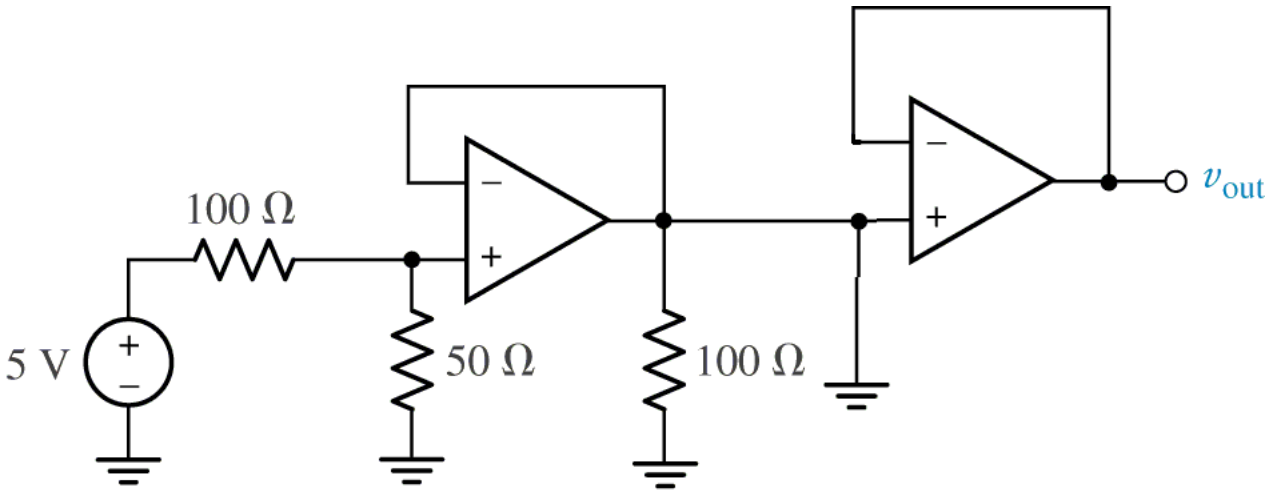
> The human ear can detect sound waves in the frequency range of about 20 Hz to 20 kHz. If each 8-Ω resistor in Fig. 5.102 is a loudspeaker, which of the signal generators (modeled as practical voltage sources) produces the most sound? (Take "loudness" as proportional to power delivered to a speaker.)

Chapter 6: The Operational Amplifer

10 Oct 2002 p. 157: The solution to Practice 6.3 is
$-AR_iR_f / [R_iR_f + R_1R_f + (1 + A)R_1R_i]$

p. 165: In Figure 6.28, the sinusoidal source should be labelled $2\sin 3t$ V, not $2\sin 3t$ mV.

p. 169: Figure 6.42, corrected circuit diagram



p. 170: In exercise 38, use an LF411 instead of an LM 324.

Chapter 7: Capacitors and Inductors

10 Oct 2002 p. 177: Under **Energy Storage**, the upper limit of the third integral is incorrect. The correct integral expression is:

$$C\int_{v(t_0)}^{v(t)} v\,dv$$

p. 186: Under **Energy Storage**, the second integral is missing a term. The correct expression should read:

$$L\int_{t_0}^{t} i\frac{di}{dt'}\,dt'$$

p. 199: In the solution to Practice 7.8, the second answer should have units of mV.

p. 203: In Figure 7.40, the *y*-axis label should be 1 mA, not 2 mA.

p. 206: In Figure 7.52, label each resistor *R*, each inductor *L*, and each capacitor *C*.

p. 210: Exercise 50 should read, "… obtain an expression for i_{out} in terms of i_S."

Chapter 8: Basic *RL* and *RC* Circuits

10 Oct 2002 p. 247: The second half of exercise 12 should read:

> At a shutter speed of 2 s, no *further intensity increase is observed*. At a speed of 1 s, a *more intense* image is seen. At a speed of 150 ms, the image appears to be about 14 percent of the intensity obtained at the *slowest* camera speed. Estimate the Thévenin equivalent resistance of the circuitry connected to the receiver's power supply.
> *(changes in italic font)*

p. 256: Exercise 61(*a*) and (b) should refer to Exer. 39.

Chapter 9: The *RLC* Circuit

10 Oct 2002 p. 296: Exercise 12 should be modified to read:
"… of Fig. 9.33, (a) what value …"

p. 296: In Figure 9.35, the inductor should have a value of 4.444 H, not 5/3 H.

p. 301: In Figure 9.55, the inductor should have a value of 10 H and the capacitor should be a 2-F capacitor. Define a current $i(t)$ flowing left through the inductor. The initial conditions are $v(0) = 0$ and $i(0) = 1$ mA.

Chapter 10: Sinusoidal Steady-State Analysis

10 Oct 2002 p. 326: For Practice 10.11, the second answer should read $1.25 + j2$ mS, and the last answer should read $801 - j10^6$ pS.

p. 344: In Figure 10.53, the voltage source should be labelled $\mathbf{V}_S$, not $\mathbf{V}_S(t)$.

p. 350: Exercise 74 should refer to a $j5$-Ω impedance.

p. 351: Exercise 78 part (a) should read:
"(a) Show that the maximum amplitude of the voltage gain $\mathbf{V}_o/\mathbf{V}_S$ of the amplifer circuit is $+g_m(R_C \parallel R_L)$."

Chapter 11: AC Circuit Power Analysis

10 Oct 2002 p. 359: In the blue margin note, the symbol τ should be an *f*.
Thus, $T = 1/f = 2\pi/\omega$.

p. 369: In Practice 11.7, the last answer should be 8.775 V.

p. 384: In Exercise 26, assume the source operates at 60 Hz.

Chapter 13: Magnetically Coupled Circuits

10 Oct 2002 p. 458: In Exercise 45, the speakers are 8 Ω and 10 Ω, not 8 W and 10 W.

Chapter 14: Complex Frequency and the Laplace Transform

10 Oct 2002 p. 491: In Exercise 36(c), the denominator of the second term is incorrect. The correct equation is:

$$\frac{d\Delta n_p}{dt} = -\frac{\Delta n_p}{\tau} + G_L$$

Chapter 15: Circuit Analysis in the s-Domain

10 Oct 2002 p. 509: The denominator of the impedance expression is incorrect. The correct expression is:

$$\mathbf{Z}_S = \frac{72\mathbf{s}^2 + 252\mathbf{s}}{18\mathbf{s}^3 + 63\mathbf{s}^2 + 12\mathbf{s} + 28}\ \Omega$$

p. 536: For the solution to Practice 15.15, the feedback resistor of the first two stages should be 1 MΩ, not 100 kΩ; the feedback resistor for the last stage should be 5 MΩ, not 50 kΩ.

p. 539: In Exercise 13, replace "time domain expressions" with "a time domain expression"

p. 541: Exercise 24 should read, "… by first performing appropriate …"

p. 544: In Figure 15.70, the 6-H inductor has been incorrectly represented with a resistor symbol.

Chapter 16: Frequency Response

10 Oct 2002 pp. 550-551: The term $\mathbf{I}_m$ should not be bold, as it is a magnitude only.

p. 563: There are two solutions to Practice 16.5. Either 9.997 mH or 2.534 μH will lead to the desired resonant frequency.

p. 596: Exercise 5: Last time we checked, the correct spelling is "parallel."

p. 601: Punction errors in Exercise 39. It should read, "… and phase plots for the transfer function $\mathbf{H(s)} = \mathbf{V}_C/\mathbf{I}_S$.

p. 603: Exercise 50, part (b) should read, "Simulate the frequency response of your circuit *at maximum gain*."

Chapter 17: Two-Port Networks

10 Oct 2002 p. 616: The correct answer to Practice 17.5 is $\begin{bmatrix} 0.8 & 0 \\ -0.2 & 0.2 \end{bmatrix}$.

Appendix 8: Answers to Odd-Numbered Problems

10 Oct 2002 p. 751: Answer to [3] is 10.8 V.

p. 752: Answer to [49] is (a) 15 Ω, 65 V; (b) 70.42 W.
Answer to [63] is –13 V ("+" on top), 26.7 W.

p. 756: Answer to [75] is $1.0e^{-0.1t}\,u(t)$ V.

p. 757: Answer to [13] is (b) –2 A; (e) 1.96 ms
Answer to [15] is R < 160 Ω using $\varepsilon_R = 88$
Answer to [19] is R = 160 Ω using $\varepsilon_R = 88$

p. 758: Answer to [11] is $743 \cos (500t - 21.8^o)$ mA.
Answer to [15] is $12.5 \cos(500t - 0.107^o)$ mA.

p. 759: Answer to [45] is (a) *ab* open circuited: $10.56 - j1.92$ Ω
(b) *ab* short-circuited: $9.969 + j0.2462$ Ω

p. 760: Answer to [79] is

$$v_1(t) = 3.22\times10^{-3} \cos (2\times10^4 t - 87^o) + 313\times10^{-12} \cos (2\times10^5 t + 177^o) \text{ V}$$

$$v_2(t) = 31.3\times10^{-9} \cos(2\times10^4 t - 177^o) + 116\times10^{-12} \cos(2\times10^5 t - 93^o) \text{ V}$$

p. 761: Answer to [5] is (b) $189.8 \angle 34.95^o$ V.

p. 762: Answer to [33] is -186 W. (Need to swap the potential leads.)

p. 764: The angle in [5] part (b) should be 56.31^o.
[7], part (b) the units should be mA.

p. 765: The angle in [13] should be -99.3^o.