Errata for Acoustics: Sound Fields and Transducers by Leo Beranek & Tim Mellow, September 2017 onwards.

Updated January 24, 2024

P. 38: Replace Eq. (2.56) with $\Gamma = \dfrac{\tilde{p}_+}{\tilde{p}_-} = \dfrac{Z_T - \rho_0 c}{Z_T + \rho_0 c}$.

P. 38: Replace Eq. (2.57) with $SWR = \dfrac{1 + |\Gamma|}{1 - |\Gamma|}$.

P. 47, 1st line: Replace "Sec. 6.6" with "Section 7.6".

P. 47, Last line before Heading 2.6: Replace "Secs. 3.22 and 3.23" with "Sections 4.22 and 4.23".

P. 81, 2nd line from top: Replace "$Y_M = \dfrac{\tilde{u}}{\tilde{f}} + \dfrac{\tilde{u}}{\tilde{f}_1 + \tilde{f}_2}$" with "$Y_M = \dfrac{\tilde{u}}{\tilde{f}} = \dfrac{\tilde{u}}{\tilde{f}_1 + \tilde{f}_2}$".

P. 97, 4th line from bottom: Between "permittivity of the" and "piezoelectric dielectric" insert "free (non-blocked)".

P. 97: At end of 3rd line from bottom add "with electrical short-circuited".

P. 99, 4th line of last paragraph: Replace "driving force blocked" with "motion blocked".

P. 100, Eqs. (3.39a) to (3.40b): Replace "d_{33}" with "d_{31}".

P. 102, Example 3.6: Replace "1.414 T" with "1.414 T·m"

P. 104, Example 3.8: Replace "acoustic impedance of $300 + j300$ N·s/m^5" with "acoustic impedance of $(300 + j300)$ N·s/m^5" and replace "$= 1.92 + 1.92$ Ns/m" with "$= (1.92 + j1.92)$ N·s/m".

P. 106, Caption to Fig. 3.42: Replace "Fig. 3.40" with "Fig. 3.41".

P. 121, after Eq. (4.2), replace "If $\ell' < 16$, the second term" with "If $\ell' < \lambda/16$, the second term".

P. 121, 1st line after heading 4.3: Replace "$(\ell = 0)$" with "$(x = 0)$".

P. 129, in Eq. (4.24): Replace "kg/m^2" with "kg/m^4".

P. 130, caption to Fig. 4.8: Replace "length l" with "length t".

P. 139, 9th line after Heading 4.10: Replace "$\tilde{p}_+$" with "$\tilde{A}_+$".

P. 140, Eq. (4.70): Replace "$\boldsymbol{R}_s$" with "$\boldsymbol{R}_M$".

P. 176, In 5th and 10th rows of Table 4.5: Replace "Resistance R" and "Conductance G" with "Resistance R, R_2" and "Conductance G, G_2" respectively.

P. 179, 4th row of Table 4.6: Replace " $R_{S2} = \pi a^2 \rho_0 c \qquad R_{S2} = \rho_0 c \qquad R_{S2} = \dfrac{\rho_0 c}{\pi a^2}$ "

with " $R_{M2} = \pi a^2 \rho_0 c \qquad R_{S2} = \rho_0 c \qquad R_{A2} = \dfrac{\rho_0 c}{\pi a^2}$ ".

P. 187, Eq. (4.227): Replace both instances of "z_{11}" with "$z_{11} - z_{12}$".

P. 187, Eq. (4.228) and P. 188, Eq. (4.229): Replace "$\mathbf{1}$" with "1".

P. 194, Between Eqs. (4.253) and (4.254), in Eq. (4.254) and 1st line after Eq. (2.54): Replace "δ_V" with "δ_{visc}".

P. 198, 1st line after Eq. (4.263): Replace "(6×10^7)" with "(6×10^6)".

P. 211, Last line of 1st paragraph: Replace "Chapter 6" with "Chapter 7".

P.216, Fig. 5.18 (a): Replace " $\tilde{\eta}(w) \;\updownarrow$ " with " $\downarrow \eta$ "

P. 219, Eq. (5.40): Replace " $\tilde{e}$ " with " $-\tilde{e}$ ".

P. 220, Figs. 5.20 and 5.21: Replace " $\uparrow \tilde{e}$ " with " $\downarrow \tilde{e}$ ".

P. 236, 2nd line after Eq. (5.95): Replace "Fig. 533" with "Fig. 5.34".

P. 306, 5th line from end of last paragraph: Replace "bass-will reflex" with "bass-reflex".

P. 313, Eqs. (7.36) and (7.37): Replace "=" with "≈".

P. 314, Eqs. (7.38) and (7.39): Replace "=" with "≈".

P.337, After Eq. (7.85): Replace " $\omega_S^2 = P_4 / \omega_B^2$ " with " $\omega_S^2 = P_0 / \omega_B^2$ ".

P. 360, 4th line after "Summary of transmission-line design": Replace "acts as a high-pass filter" with "acts as a low-pass filter".

P. 381, 2nd line after Eq. (7.171): Replace "frequency f_0 if *below*" with "frequency f_0 is *below*".

P. 445, equation preceding heading "6. *Horn*": Replace "4.99×10^{-12}" with "9.99×10^{-12}".

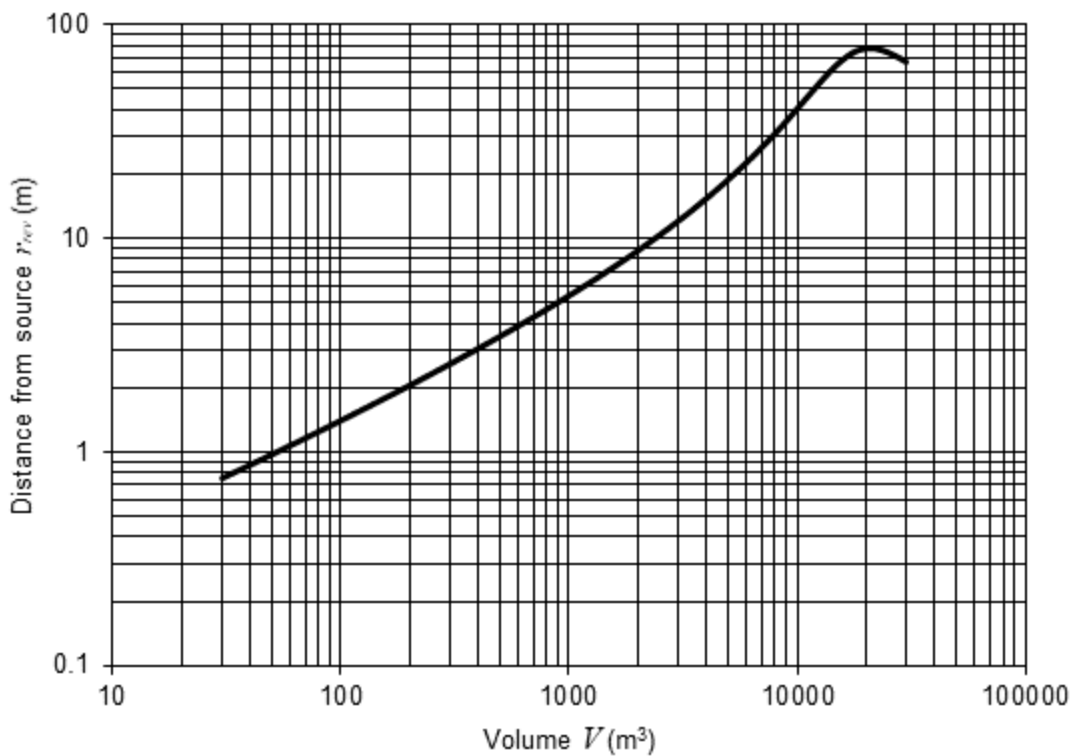P. 459, Eq. (10.23): Replace " $\dfrac{n\pi c}{1/\sqrt{\gamma}}$ " with " $\dfrac{n\pi c}{l\sqrt{\gamma}}$ ".

P. 461, Eq. (10.33): Replace "$\dfrac{n\pi c}{1/\sqrt{\gamma}}$" with "$\dfrac{n\pi c}{l\sqrt{\gamma}}$".

P. 470, Eqs. (10.45) and (10.46): Replace "cs" with "cS".

P. 477: Replace Fig. 10.16.

P. 477: Replace Eq. (10.70) with $\alpha_{tot} = \dfrac{0.161V}{S_{tot}T}$, $\qquad \alpha_{ey} = 1 - e^{-0.161V/(S_{tot}T)}$

P. 477: Replace Fig. 10.16 with

P.493, Fig. 12.5: Exchange "$D(\pi)$" and "$D(0)$".

P. 494, 2nd line after Eq. (12.24): Replace "Eq. (13.68)" with "Eq. (13.62)".

P. 501, 1st line after Eq. (12.46): Replace "$20\log_{10}(D(\theta)/D(0))$" with "$20\log_{10}(|D(\theta)|/|D(0)|)$".

P. 503, Caption to Fig. 12.15 and 1st line after Eq. (12.47): Replace "$20\log_{10}(D(0))$" with "$20\log_{10}|D(0)|$" and replace "$20\log_{10}(D(\pi))$" with "$20\log_{10}|D(\pi)|$".

P. 503, 4th line after Heading 12.6: Replace "the next problem" with "Section 12.8".

P. 506, last line before Fig. 12.17: Replace "$20\log_{10}(D(\theta)/D(0))$" with "$20\log_{10}(|D(\theta)|/|D(0)|)$".

P. 507, 1st line after Eq. (12.61) and caption to Fig. 12.18: Replace "20log$_{10}$(D(0))" with "20log$_{10}$|D(0)|".

P. 508, Replace Eq. (12.63) with

$$Z_s = \frac{\tilde{F}}{\tilde{U}_0} = j\rho_0 c \left(\frac{\sin^2\alpha \; h_0^{(2)}(kR)}{4h_1^{(2)}(kR)} - \frac{(1-\cos^3\alpha)^2 h_1^{(2)}(kR)}{\sin^2\alpha \left(h_0^{(2)}(kR) - 2h_2^{(2)}(kR) \right)} \right.$$

$$\left. -\sum_{n=2}^{\infty} \frac{(2n+1)^2 \left(\sin\alpha \; P_n(\cos\alpha) + \cos\alpha \; P_n^1(\cos\alpha) \right)^2 h_n^{(2)}(kR)}{(n-1)^2(n+2)^2 \left(nh_{n-1}^{(2)}(kR) - (n+1)h_{n+1}^{(2)}(kR) \right)} \right)$$

P. 513, 1st line after Eq. (12.85): Replace "20log$_{10}$(D(0,0))" with "20log$_{10}$|D(0,0)|".

P. 514, Caption to Fig. 12.21: Replace "20log$_{10}$(D(0,0))" with "20log$_{10}$|D(0,0)|".

P. 518, 1st line after Eq. (12.111): Replace "20log$_{10}$(D(θ)/D(0))" with "20log$_{10}$(|D(θ)|/|D(0)|)".

P. 518, 1st line after Eq. (12.112): Replace "20log$_{10}$(D(0))" with "20log$_{10}$|D(0)|".

P. 519, Caption to Fig. 12.24: Replace "20log$_{10}$(D(0))" with "20log$_{10}$|D(0)|".

P. 524, Eq. (12.138): Replace "(2n − 1)(2n + 1)" with "(2n − 1)(2n + 2)".

P. 524, 1st line after Eq. (12.138): Replace "20log$_{10}$(D(θ)/D(0))" with "20log$_{10}$(|D(θ)|/|D(0)|)".

P. 525, Caption to Fig. 12.28 and 1st line after Eq. (12.139): Replace "20log$_{10}$(D(0))" with "20log$_{10}$|D(0)|".

P. 531, 1st line after Eq. (12.167): Replace "20log$_{10}$(D(θ)/D(0))" with "20log$_{10}$(|D(θ)|/|D(0)|)".

P. 531, 1st line after Eq. (12.168) and caption to Fig. 12.32: Replace "20log$_{10}$(D(0))" with "20log$_{10}$|D(0)|".

P. 543, After Eq. (13.40): Replace "an Fourier" with "a Fourier".

P. 553, 4th line before *Boundary conditions*: Replace "non-integral" with "Euclidean".

P. 553, 2nd line before *Boundary conditions*: Replace "integral" with "Fourier".

P. 555, Eq. (13.100): After "=" insert "−".

P. 555, Eq. (13.101): After "=" delete "−".

P. 556, Eq. (13.104): After "=" delete "−".

P. 563, Eq. (13.125): After "=" delete "−".

P. 564, Eq. (13.130): After "=", delete "−".

P. 566, 1st line after Eq. (13.141): Replace "integral" with "Fourier".

P. 576: Replace 3rd equation from top with " $D(0) = ka\rho_0 c(G_S + jB_S)$ ".

P. 576, caption to Fig. 13.15: Replace "Plot of $20 \log_{10}(D(0))$" with "Plot of $20 \log_{10}(\pi|D(0)|/4)$"

P. 586, Eqs. (13.219) and (13.221): Replace "N" with "∞".

P. 588, Eqs. (13.234) and (13.237): After "=" delete "−".

P. 605, Eq. (13.258): Replace "i" with "j".

P. 606, Eq. (13.260): Replace "i" with "j".

P. 607, Eq. (13.265): Replace "i" with "j".

P. 609, Eqs. (13.267) and (13.268): Replace "i" with "j".

P. 610. 1st line: Replace "impedance" with "resistance".

P. 619, after Eq. (13.318): Replace "θ_1 is the angle between the normal to the surface of the piston and the projection of the line joining the middle of the surface and the observation point on the plane normal to the surface and parallel to d_1. θ_2 is the same as θ_1 with d_2 substituted for d_1." with "θ_1 is the angle between the line joining the middle of the surface of the piston to the observation point and the projection of this line on the plane normal to the surface and parallel to d_2. θ_2 is the same as θ_1 with d_1 substituted for d_2."

P. 623, Eq. (13.334): Replace "$J_1(ka)$" with "$J_1(2ka)$" and "$\mathbf{H}_1(ka)$" with "$\mathbf{H}_1(2ka)$".

P. 682, Eq. (87): Replace "$\dfrac{\Gamma(\nu)}{\pi}\left(\dfrac{z}{2}\right)^{\nu}$" with "$-\dfrac{\Gamma(\nu)}{\pi}\left(\dfrac{2}{z}\right)^{\nu}$"

P. 684, Eq. (102): Replace "α_m" with "α_{km}" and "α_n" with "α_{kn}".

P. 684, Eq. (108): Replace "$J_0\left(z\sqrt{1-t^2}\right)2$" with "$J_0\left(z\sqrt{1-t^2}\right)=$".

P. 685, Eq. (110): Insert "2" before summation sign.