

Errata for Acoustics: Sound Fields, Transducers & Vibration (2nd ed.) by Leo Beranek & Tim Mellow, May 2019 to Oct 2020.

Updated February 12, 2024

P. 87, top left corner: After “Transformation Element”, delete “If there are any drug dosages in this chapter, please verify them and indicate that you have done so by initialing this query.”.

P. 117, Replace Eq. (35) with
$$\begin{bmatrix} \tilde{e} \\ \tilde{f} \end{bmatrix} = \begin{bmatrix} \frac{1}{j\omega C'_E} & \frac{1}{j\omega C'_E C'_M} \\ \frac{1}{j\omega C'_E C'_M} & \frac{1}{j\omega C'_M} \end{bmatrix} \begin{bmatrix} \tilde{i} \\ -\tilde{u} \end{bmatrix}$$

P. 125, Caption to Fig. 3.42: Replace “Fig. 3.40” with “Fig. 3.41”.

P. 133, Eq. (3.82): Replace “ C'_M ” with “ C'_E ”.

P. 134, Eq. (3.90): Replace “ C'_{ME} ” with “ C'_E ”.

P. 151, Top of page: Replace heading with “**Tube of small diameter $[0.0005\sqrt{l} < \text{radius } a \text{ (in meters)} < 0.002/\sqrt{f}] [1]$** ”.

P. 154, caption to Fig. 4.8: Replace “length l ” with “length l' ”.

P. 204, In 2nd row of Table 4.5: “ **R** ” in the right-hand analogous circuit should not be bold.

P. 204, In 3rd row of Table 4.5: Delete “Series resistance, R ” but leave “Series resistance **R** ”.

P. 204, In 5th and 10th rows of Table 4.5: Replace “Resistance R_2 ” and “Conductance G_2 ” with “Resistance R , R_2 ” and “Conductance G , G_2 ” respectively.

P. 204, In 9th row of Table 4.5: Replace “ $C_{M1} = \frac{\pi a^3}{\sqrt{6}\rho_0 c^2}$ ” with “ $C_{S1} = \frac{a}{\sqrt{6}\rho_0 c^2}$ ”.

P. 204: Delete 1st sentence after Table 4.5.

P. 206, In 3rd row of Table 4.6: Replace “Series resistance, R ” with “Shunt resistance R ” but leave “Series resistance **R** ”.

P. 263, last line before Eq. (5.62): Replace “Eq. (3.142)” with “Eq. (4.142)”.

P. 307, Eqs. (6.82), (6.84), and (6.87): Replace “ k ” with “ κ ”.

P. 308, Table 6.1, 2nd column heading: Replace “ k ” with “ κ ”.

P. 308, Table 6.1, 4th column heading: Replace “ $k\rho^2 w$ ” with “ $\kappa\rho_w^2$ ”.

P. 308, Eq. (6.88): Replace “ k ” with “ κ ”.

P. 309, Eqs. (6.90), (6.93), and (6.94): Replace “ k ” with “ κ ”.

P. 350: Replace Eq. (7.12) with

$$Z_{AB} = \frac{z_{11}}{(\pi a^2)^2} = -j\rho_0 c \left\{ \frac{1}{L^2} \frac{Z_s}{\rho_0 c} + j \tan\left(\frac{1}{2} kL\right) + \frac{k}{\pi^2 a^2} \sum_{m=0}^{\infty} \sum_{n=0}^{\infty} \frac{(2 - \delta_{m0})(2 - \delta_{n0})}{k_{mn}(n^2 + m^2) + \delta_{m0}\delta_{n0}} \right. \\ \left. \times J_1^2 \left(\frac{2\pi a \sqrt{m^2 + n^2}}{L} \right) \frac{\frac{k_{mn} Z_s}{k \rho_0 c} + j \tan\left(\frac{1}{2} k_{mn} L\right)}{1 + j \frac{k_{mn} Z_s}{k \rho_0 c} \tan\left(\frac{1}{2} k_{mn} L\right)} \right\},$$

P. 393, last line before 2nd equation: Replace “p.334” with “p. 380”.

P. 434, 2nd line after Table 7.6: Replace “frequency f_0 if below” with “frequency f_0 is below”.

P. 449, Eq. (8.3): Replace “1,7” with “1.7”.

P. 490, 2nd line after Eq. (9.74): Replace: “ $x_T = l / (\sqrt{S_M S_T} - 1)$ ” with “ $x_T = l / (\sqrt{S_M / S_T} - 1)$ ”.

P. 506, equation preceding heading “6. Horn”: Replace “ 4.99×10^{-12} ” with “ 9.99×10^{-12} ”.

P. 507, near bottom of page: Replace “Eqs. (12.122) and (12.123)” with “Eqs. (12.87) and (12.88)”.

P. 508, middle of page: Replace “spherical cap from Eq. (12.120)” with “rectangular cap from Eq. (12.85)”.

P. 522, Eq. (10.23): Replace “ $\frac{n\pi c}{1/\sqrt{\gamma}}$ ” with “ $\frac{n\pi c}{l\sqrt{\gamma}}$ ”.

P. 524, Eq. (10.33): Replace “ $\frac{n\pi c}{1/\sqrt{\gamma}}$ ” with “ $\frac{n\pi c}{l\sqrt{\gamma}}$ ”.

P. 561, 2nd line after Eq. (12.24): Replace “Eq. (13.68)” with “Eq. (13.62)”.

P. 573, Eq. (12.59): Replace “ $D(0)$ ” with “ $D(\theta)$ ”.

P. 576, Eq. (12.63): Move 2nd parenthesis to end of equation.

P. 584, Eq. (12.98): After “=”, insert “-”.

P. 592, Eq. (12.138): Replace “ $(2n - 1)(2n + 1)$ ” with “ $(2n - 1)(2n + 2)$ ”.

P. 626, 4th line before *Boundary conditions*: Replace “non-integral” with “Euclidean”.

P. 626, 2nd line before *Boundary conditions*: Replace “integral” with “Fourier”.

P. 643, 1st line after Eq. (13.141): Replace “integral” with “Fourier”.

P. 661, last sentence: Replace “[46-48]” with “[49-51]”.

P. 664, Eqs. (13.219) and (13.221): Replace “ N ” with “ ∞ ”.

P. 664, Eq. (13.222): Replace “ ∞ ” with “ N ”.

P. 664, Eq. (13.226): Replace “ ${}_m \mathbf{B}_q^*(kb)$ ” with “ ${}_m \mathbf{B}_p^*(kb)$ ”.

P. 671, Eq. (13.245): Replace “ j^j ” with “ j^J ”.

P. 680, Eq. (70): Replace “ $m(m + 1) - n(n + 1)$ ” with “ $n(n + 1) - m(m + 1)$ ”.

P. 701, after Eq. (13.318): Replace “ θ_x 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 l_x . θ_y is the same as θ_x with l_y substituted for l_x .” with “ θ_x 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 l_y . θ_y is the same as θ_x with l_x substituted for l_y ."

P. 710, Eqs. (13.339) & (13.340): Replace " $J_1^2(ka_1)$ " with " $J_1(2ka_1)$ " and " $\mathbf{H}_1(ka_1)$ " with " $\mathbf{H}_1(2ka_1)$ ".

P. 713, Eq. (13.353): Replace " $J_1^2(ka_1)$ " with " $J_1(2ka_1)$ " and " $\mathbf{H}_1(ka_1)$ " with " $\mathbf{H}_1(2ka_1)$ ".

P. 727, 2nd line after Heading 14.6: Replace "Eq. (2.147)" with "Eq. (2.160)".

P.732, Eq. (14.50): Replace " $-\omega^2$ " with " $+\omega^2$ ".

P.736, Eq. (14.72): Replace " ${}_m\Psi_n$ " & " ${}_n\Psi_m$ ".

P.763, Eq. (14.207): Replace " $\Gamma\left(\frac{r}{2} + \frac{r}{2}\right)$ " with " $\Gamma\left(\frac{r}{2} + \frac{1}{2}\right)$ ".

P.764, Eq. (14.211): Replace both instances of " α_m^2 " with " β_m^2 ".

P. 837, Eq. (A2.1): Replace " $\binom{n}{m}$ " with " $\binom{n}{m}$ ".

P. 843, Eq. (A2.70): Replace " α " in upper limit of integral with " π ".

P. 843, Eq. (A2.70), replace " $m(m+1) - n(n+1)$ " with " $n(n+1) - m(m+1)$ ".

P. 845, Eq. (A2.87): Replace " $\frac{\Gamma(\nu)}{\pi} \left(\frac{z}{2}\right)^\nu$ " with " $-\frac{\Gamma(\nu)}{\pi} \left(\frac{2}{z}\right)^\nu$ ".

P. 848, Eq. (A2.101): Replace " $J_k(\alpha_{kn}) \neq 0$ " with " $J_k(\alpha_{kn}) = 0$ ".

P. 850, Eq. (A2.108): Replace " $J_0\left(z\sqrt{1-t^2}\right)2$ " with " $J_0\left(z\sqrt{1-t^2}\right)=$ ".

P. 850, Eq. (A2.110): Insert "2" before summation sign.

P. 853, Eqs. (A2.130) & (A2.131): Replace " $\frac{\sqrt{\pi}}{2z}$ " with " $\sqrt{\frac{\pi}{2z}}$ ".