

Errata for Acoustics: Sound Fields and Transducers by Leo Beranek & Tim Mellow, Jan 2017 to August 2017.

Updated April 13, 2019

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

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

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 “ $Y_M = \frac{\tilde{u}}{\tilde{f}} + \frac{\tilde{u}}{\tilde{f}_1 + \tilde{f}_2}$ ” with “ $Y_M = \frac{\tilde{u}}{\tilde{f}} = \frac{\tilde{u}}{\tilde{f}_1 + \tilde{f}_2}$ ”.

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/m⁵” with “acoustic impedance of $(300 + j300)$ N·s/m⁵” and replace “= 1.92 + 1.92 Ns/m” with “= $(1.92 + j1.92)$ N·s/m”.

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/m²” with “kg/m⁴”.

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

P. 140, Eq. (4.70): Replace “ \mathbf{R}_s ” with “ \mathbf{R}_M ”.

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

with “ $R_{M2} = \pi a^2 \rho_0 c$ $R_{S2} = \rho_0 c$ $R_{A2} = \frac{\rho_0 c}{\pi a^2}$ ”.

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 “ I ” 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 “ \approx ”.

P. 314, Eqs. (7.38) and (7.39): Replace “=” with “ \approx ”.

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

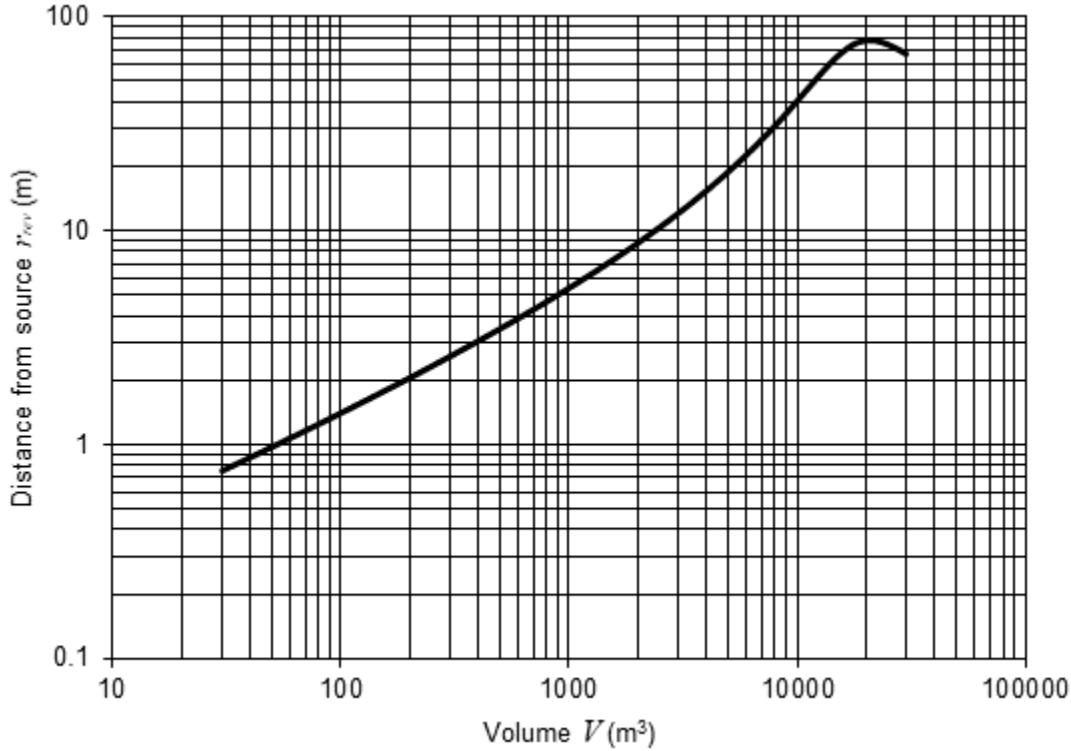
P. 360, 4th line after “Summary of transmission-line design”: Replace “acts as a high-pass filter” with “acts as a low-pass filter”.

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

P. 477: Replace Fig. 10.16.

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

P. 477: Replace Fig. 10.16 with



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

P. 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 “ $20\log_{10}(D(0))$ ” with “ $20\log_{10}|D(0)|$ ”.

P. 508, Replace Eq. (12.63) with

$$Z_s = \frac{\tilde{F}}{\tilde{U}_0} = j\rho_0 c \left(\frac{\sin^2 \alpha h_0^{(2)}(kR)}{4h_1^{(2)}(kR)} - \frac{(1 - \cos^3 \alpha)^2 h_1^{(2)}(kR)}{\sin^2 \alpha (h_0^{(2)}(kR) - 2h_2^{(2)}(kR))} \right) - \sum_{n=2}^{\infty} \frac{(2n+1)^2 (\sin \alpha P_n(\cos \alpha) + \cos \alpha P_n^1(\cos \alpha))^2 h_n^{(2)}(kR)}{(n-1)^2 (n+2)^2 (nh_{n-1}^{(2)}(kR) - (n+1)h_{n+1}^{(2)}(kR))}$$

P. 513, 1st line after Eq. (12.85): Replace “ $20\log_{10}(D(0,0))$ ” with “ $20\log_{10}|D(0,0)|$ ”.

P. 514, Caption to Fig. 12.21: Replace “ $20\log_{10}(D(0,0))$ ” with “ $20\log_{10}|D(0,0)|$ ”.

P. 516, Eq. (12.98): After “=” delete “-”.

- P. 518, 1st line after Eq. (12.111): Replace “ $20\log_{10}(D(\theta)/D(0))$ ” with “ $20\log_{10}(|D(\theta)|/|D(0)|)$ ”.
- P. 518, 1st line after Eq. (12.112): Replace “ $20\log_{10}(D(0))$ ” with “ $20\log_{10}|D(0)|$ ”.
- P. 519, Caption to Fig. 12.24: Replace “ $20\log_{10}(D(0))$ ” with “ $20\log_{10}|D(0)|$ ”.
- P. 524, 1st line after Eq. (12.138): Replace “ $20\log_{10}(D(\theta)/D(0))$ ” with “ $20\log_{10}(|D(\theta)|/|D(0)|)$ ”.
- P. 525, Caption to Fig. 12.28 and 1st line after Eq. (12.139): Replace “ $20\log_{10}(D(0))$ ” with “ $20\log_{10}|D(0)|$ ”.
- P. 531, 1st line after Eq. (12.167): Replace “ $20\log_{10}(D(\theta)/D(0))$ ” with “ $20\log_{10}(|D(\theta)|/|D(0)|)$ ”.
- P. 531, 1st line after Eq. (12.168) and caption to Fig. 12.32: Replace “ $20\log_{10}(D(0))$ ” with “ $20\log_{10}|D(0)|$ ”.
- P. 543, After Eq. (13.40): Replace “an Fourier” with “a 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. 576: Replace 3rd equation from top with “ $D(0) = ka\rho_0c(\mathbf{G}_S + j\mathbf{B}_S)$ ”.
- 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. 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. 684, Eq. (102): Replace “ α_m ” with “ α_{km} ” and “ α_n ” with “ α_{kn} ”.