

Preface

The Handbook of Hearing and the Effects of Noise presents the methods and the results of research for quantitatively describing the major attributes of hearing and the effects of sound and noise on people. This book is intended for students, researchers, and professionals in the fields of experimental psychology, physiology, audiology, otolaryngology, and public health. It contains information of interest to government decision makers, architects, and engineers concerned with criteria, guidelines, and standards for acceptable and safe levels of sound and noise.

Chapters 1–3 cover the basic nature and measurement of sound, the structure and functioning of the ear, and auditory sensations and perceptions. Chapters 4–7 are devoted to research methods and findings pertaining to noise-induced hearing loss, speech communications in noise, assessments of hearing handicaps, compensation for hearing loss, and the conservation of hearing. Chapters 8–10 review and evaluate research findings and theoretical concepts related to: (1) mental and psychomotor work performance in noise, (2) nonauditory system physiological reactions, and sensations in nonauditory sense modalities, from exposure to sound and noise, and (3) psychologi-

cal reactions and stress-related health disorders in noisy work and residential areas.

This book is dedicated to J. C. R. Licklider, S. S. Stevens, L. L. Beranek, and Halloway Davis, men who are responsible for much of the science of psychological and physiological acoustics, and, as colleagues, greatly influenced my own research interests and career. Since 1939, the author has been engaged in research and teaching related to the neurology of hearing, and psychological and physiological acoustics at: the University of Rochester; Harvard University; Washington University; Bolt, Beranek, and Newman, Inc.; Stanford Research Institute; and during the preparation of this book, as an adjunct professor and lecturer at San Diego State University.

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