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Nota di contenuto	Introduction -- Electroacoustic Transduction -- Transducer Models -- Transducer Characteristics.-Transducers as Projectors -- Transducers as Hydrophones -- Projector Arrays -- Hydrophone Arrays -- Transducer Evaluation and Measurement -- Acoustic Radiation from Transducers -- Mathematical Models for Acoustic Radiation -- Nonlinear Mechanisms and Their Effects -- Appendix. Glossary of Terms.-Solutions for Odd-Numbered Exercises.-Index.
Sommario/riassunto	This improved and updated second edition covers the theory, development, and design of electro-acoustic transducers for

underwater applications. This highly regarded text discusses the basics of piezoelectric and magnetostrictive transducers that are currently being used as well as promising new designs. It presents the basic acoustics as well as the specific acoustics data needed in transducer design and evaluation. A broad range of designs of projectors and hydrophones are described in detail along with methods of modeling, evaluation, and measurement. Analysis of projector and hydrophone transducer arrays, including the effects of mutual radiation impedance and numerical models for elements and arrays, are also covered. The book includes new advances in transducer design and transducer materials and has been completely reorganized to be suitable for use as a textbook, as well as a reference or handbook. The new edition contains updates to the first edition, end-of-chapter exercises, and solutions to selected exercises. Each chapter includes a short introduction, end-of-chapter summary, and an extensive reference list offering the reader more detailed information and historical context. Offers a highly comprehensive text which is more extensive than the first edition Casts new light on the basics of piezoelectric and magnetostrictive transducers Includes sections on transducer and array advancements, as well as descriptions of legacy and new transducers and materials Presents chapters in a systematic sequence for an improved learning experience Provides a glossary of key terms and an extensive appendix which includes sections on transducer materials, magnetostrictive and piezoelectric coefficients, frequently used formulas, hydrophone noise, relevant mathematics, transducer publications, and much more .