

Contents

Introductory Lecture	
By B. Tocquet	1
1. Power Limitations of Piezoelectric Length Expander Transducers	
By O.B. Wilson (With 3 Figures)	3
2. The Material for Piezoelectric Power Transducers	
By L. Eyraud (With 13 Figures)	10
3. Characterization of Piezoelectric Ceramics for High Power Transducers	
By P. Gonnard, P. Champ, and L. Eyraud (With 14 Figures)	25
4. Highly Magnetostrictive Rare Earth Compounds for High Power Acoustic Projectors. By A.E. Clark (With 46 Figures)	41
5. Trends and Problems in Low Frequency Sonar Projectors Design	
By D. Boucher (With 18 Figures)	100
6. Frequency, Power and Depth Performances of Class IV Flexensional Transducers	
By J. Oswin and J. Dunn (With 10 Figures)	121
7. Opportunities and Challenges in the Use of Terfenol for Sonar Transducers. By J.M. Sewell and P.M. Kuhn (With 3 Figures)	134
8. Application of the Finite Element Method to the Design of Power Piezoelectric Sonar Transducers. By B. Hamonic (With 16 Figures)	143
9. Determination of the Power Limits of a High Frequency Transducer Using the Finite Element Method	
By W. Steichen, G. Vanderborck, and Y. Lagier (With 15 Figures) .	160
10. High Power Ultrasonic Transducers for Use in Gases and Interphases. By J.A. Gallego-Juarez (With 10 Figures)	175
11. Design of High Power Ultrasonic Transducers for Use in Macrosonics. By P. Tierce and J.N. Decarpigny (With 21 Figures) .	185
12. Power Electronic Devices for Sonar Systems	
By C. Pohlentz (With 36 Figures)	208

13. The Electronic Driving Sources for Ultrasonic Machining By B. Thirion (With 17 Figures)	230
Subject Index	245