RLE Progress Report

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Submitted by

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The RESEARCH LABORATORY of ELECTRONICS

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Cover and title page:

Graduate student Julie E. Greenberg places the fingers and thumb of her left hand on the mouth and neck of Research Specialist Joyce Manzella to demonstrate use of the Tadoma method of speechreading. This natural method of tactual communication is employed by deaf-blind individuals who have received special training in its use. In Tadoma, the hand of the "receiver" is placed on the face and neck of the "sender" so that the thumb rests lightly on the lips, and the fingers fan out over the face and neck. By monitoring various actions associated with speech production (e.g., lip and jaw movements, airflow at the mouth, and vibrations on the neck), an experienced Tadoma user is able to comprehend conversational speech with a high degree of accuracy. Research on the Tadoma method has provided valuable background information for the development of synthetic tactile devices for the deaf and deaf-blind. See page 293 for a further description of this research which is being carried out in RLE’s Sensory Communication Group.

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Introduction

The Research Laboratory of Electronics

The Research Laboratory of Electronics (RLE) was established in 1946 as the Institute’s first interdepartmental laboratory. Originally organized under the joint sponsorship of the Departments of Physics and Electrical Engineering, RLE has broadened its interests to cover a wide range of research.

The RLE environment provides both the freedom of action essential in an academic institution and the availability of large-scale laboratory facilities and services required by researchers. RLE’s interdisciplinary setting offers many opportunities for creative and collaborative research. By fostering this powerful combination of research and education, RLE effectively penetrates beyond the horizon of new ideas and information.

RLE Progress Report

RLE Progress Report Number 135 describes research programs at RLE for the period January 1 through December 31, 1992. Each chapter of the Progress Report contains both a statement of research objectives and a summary of research efforts for research projects listed. Faculty, research staff, students and others who participated in these projects are identified at the beginning of each project, along with sources of funding.

There are four appendices at the end of the report: Appendix A is a bibliography of RLE publications and papers presented by RLE staff during 1992; Appendix B is a roster of current RLE staff; Appendix C is a list of RLE faculty and staff milestones and honors received during 1992; and Appendix D is an index of RLE sponsors. In addition, the Project Staff and Subject Index provides access to the information in this report.

RLE Progress Report Number 135 was produced by the RLE Communications Office. Further inquiries may be addressed to:

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