

TABLE OF CONTENTS

Page

Preface — <i>Stanley S. Ballard</i>	iii
Foreword — <i>Robert Heath Brown</i>	v
Introduction — <i>J. W. Gebhard</i>	1

SESSION I — OPERATIONAL REQUIREMENTS FOR CATHODE-RAY TUBES AND DISPLAYS IN RELATION TO ILLUMINATION PROBLEMS

Factors Affecting the Design of a Lighting System for Sage <i>R. T. Mitchell</i>	5
Lighting, Building Design, and Human Factors in Systems Engineering <i>Samuel A. Francis</i>	9
Operational Aspects of Radar Displays Used for Air Traffic Control <i>Robert L. Sorenson and Fred S. McKnight</i>	14
Operational Requirements for Illumination and Visibility of Radar Displays in Air Force Radar Approach Control Centers <i>James C. McGuire</i>	19
Operational Requirements for Illumination in Combat Information Centers <i>Albert Van Acker</i>	25
Sonar Displays <i>Matthew Flato</i>	27

SESSION II — METHODS FOR CONTROLLING AMBIENT ILLUMINATION

The Rationale for Use of Controlled White Light in Radar and Sonar Spaces <i>Carroll T. White</i>	34
Some Applications of Controlled White Lighting <i>Fred G. Henry</i>	38
A Broad-Band-Blue Lighting System for Radar Approach Control Centers: Evaluations and Refinements Based on Three Years of Operational Use <i>Conrad L. Kraft</i>	44
Relations among Dark Adaptation, the Spectral Character of Illumination, and the Visual Task <i>John L. Brown</i>	55
Effects of Certain Pre-exposure Variables on Dark Adaptation <i>John A. Hanson</i>	65
Making Radar Indicators Useful in High Ambient Illumination <i>J. R. Roeder</i>	71

SESSION III — DISPLAY REQUIREMENTS IMPOSED BY VISUAL FACTORS

The Interpretation of Simulated, Achromatic, Radar-Scope Targets <i>Harold P. Bishop</i>	78
The Discrimination of Simulated, Chromatic, Radar Targets <i>Mason N. Crook</i>	84

Some Effects of Grid Bias and Video Input Levels on Detection with an Intensity-Modulated Cathode-Ray Tube <i>Paul M. Hamilton</i>	01
The Effect of Number of Signal Pulses upon Signal Detectability with PPI Scopes <i>Robert L. Erdmann and Robert D. Myers</i>	07
Target Detection as a Function of Signal-To-Noise Ratio, Pulse Repetition Frequency, and Scan Rate <i>J. L. Piazza and I. B. Goodman</i>	109
Effects of Rate and Prolonged Viewing of Radar Signal Flicker <i>Anthony Debons and Charles Fried</i>	17
Target Detectability as a Function of the Area of Search with Various Degrees of Noise Present <i>M. Harold Weasner</i>	125
The Perception of Space in a Three-Dimensional Display <i>Walter C. Gogel</i>	31

SESSION IV NEW TECHNIQUES UNDER DEVELOPMENT

The Presentation of Alphanumeric Information <i>S. H. Boyd and C. W. Johnson</i>	142
Target Intensity on a Radar Indicator as a Function of the Radar Parameters <i>J. W. Oglund</i>	149
Bright Displays via Scan Conversion <i>Thomas S. Wonnell and William E. Miller</i>	159
The Army-Navy Aircraft Instrumentation Program <i>George W. Hoover</i>	165
Transparent Phosphors for Cathode-Ray Tubes <i>Charles Feldman</i>	169
Direct-View Storage Tubes <i>George F. Smith</i>	177
Bright-Steady Electroluminescent Displays under Development <i>W. L. Gardner</i>	189

SESSION V — DISCUSSION

Panel Discussion.....	198
<i>C. L. Crouch, J. W. Gebhard, and Robert H. Brown</i>	
General Discussion.....	
Glossary.....	205
Roster and Index.....	207