



Infrared System Engineering

By Richard D. Hudson

Wiley-Interscience, 1969. Book Condition: New. Brand New, Unread Copy in Perfect Condition. A+ Customer Service! Summary: Part I The Elements of the Infrared System Chapter 1 Introduction to Infrared System Engineering 1.1 The Development of the Infrared Portion of the Spectrum 1.2 The Market for Infrared Devices 1.3 System Engineering 1.4 The System Engineer 1.5 The Infrared System and the Organization of This Book 1.6 The Literature of the Infrared 1.7 The Symbols and Abbreviations Used in This Book Chapter 2 Infrared Radiation 2.1 The Electromagnetic Spectrum 2.2 Terminology Used in the Measurement of Radiant Energy 2.3 The Measurement of Radiant Flux 2.4 Thermal Radiation Thermal Radiation Laws 2.5 Emissivity and Kirchoff's Law 2.6 Selective Radiators Absorption Spectra of Gases Absorption Spectra of Liquids and Solids Molecular Emission Spectra 2.7 Aids for Radiation Calculations Radiation Slide Rules Charts and Monographs Tables of Blackbody Functions 2.8 Other Blackbody Relationships Efficiency of Radiation Production Radiation Contrast Chapter 3 Sources of Infrared Radiation 3.1 Blackbody-Type Sources Theoretical Principles Construction of a Blackbody-Type Source 3.2 Standards for Sources of Radiant Energy 3.3 General-Purpose Sources of Infrared The Nernst Glower The Globar The Carbon Arc The Tungsten Lamp The Xenon Arc Lamp The Laser The...

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HGH Infrared Systems develops high end optronic systems, for applications in wide area surveillance, industrial thermography, and IR test and measurement. HGH: IR systems for 360-degree surveillance. HGH: A wide range of IR test equipment. HGH: Expert in industrial thermography. Richard D. Hudson. This classic opens with a history of the development of the infrared portion of the spectrum, probes the system engineering process, and then examines the characteristics of the successful system engineer. The next eleven chapters delve deeply into the elements of infrared technology. Chapter 13 explains the functional relationships between the various system elements and the effects of their interactions when assembled into a system.

Part I The Elements of the Infrared System

Chapter 1 Introduction to Infrared System Engineering

1.1 The Development of the Infrared Portion of the Spectrum

1.2 The Market for Infrared Devices

1.3 System Engineering

1.4 The System Engineer

1.5 The Infrared System and the Organization of This Book

1.6 The Literature of the Infrared

1.7 The Symbols and Abbreviations Used in This Book

Chapter 2 Infrared Radiation

2.1 The Electromagnetic Spectrum

2.2 Terminology Used in the Measurement of Radiant

Electro-optical and infrared systems are fundamental in the military, medical, commercial, industrial, and private sectors. Systems Engineering and Analysis of Electro-Optical and Infrared Systems integrates solid fundamental systems engineering principles, methods, and techniques with the technical focus of contemporary electro-optical and infrared optics, imaging, and detection methodologies and systems. It explores the benefits of a solid systems engineering-oriented approach focused on electro-optical and infrared systems. Infrared thermography has applications in assessment of properties of building materials and structures in civil engineering and construction. In the civil engineering construction field, it is not only necessary to built up structures as per plan, but also to Infrared systems involve imaging outside of the visible spectrum to reveal properties of an object or an environment that are not apparent to the eye. We provide structural inspections, circuit board failure analysis, remote temperature measurement, inspection of powerline components and corrosion measurement. We have extensive experience in sensor and sensor system.