



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 Kirchhoff'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

Infrared System Engineering JUDD AND WYSZECKI. Color in Business, Science, and Industry. Third Edition KAFRI AND GLATT. Fiber Optic Sensors: An Introduction for Engineers and Scientists UDD. Fiber Optic Smart Structures VANDERLUGT. Optical Signal Processing VEST. Holographic Interferometry VINCENT. Fundamentals of Infrared Detector Operation and Testing WILLIAMS AND BECKLUND. Introduction to the Optical Transfer Function WYSZECKI AND STILES. Therefore IR systems are the systems employing IR radiation. There are a great number of systems used in industry, military, science, medicine, environmental protection that can be called "infrared systems" on the basis of the criterion mentioned above. Infrared imaging system of spectral sensitivity bands located in MWIR or LWIR regions (thermal imagers) use the emitted radiation; while imaging systems of spectral bands located in NIR range (image intensifier systems (IIS), low light level television cameras (LLLTV)).