Synopsis

Holographic Data Storage: From Theory to Practical Systems is a primer on the design and building of a holographic data storage system covering the physics, Servo, Data Channel, Recording Materials, and optics behind holographic storage, the requirements of a functioning system, and its integration into "real-life" systems. Later chapters highlight recent developments in holographic storage which have enabled readiness for commercial implementation and discuss the general outlook for the technology, including the transition from professional to consumer markets and the possibilities for mass reproduction.

Book Information

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Customer Reviews

This truly unique book documents how a problem that has been extant since the advent of holography (Dennis Gabor received the 1971 Nobel Prize for Holography, and in his Nobel Lecture showed holograms stored in media in a lab in 1964) has finally been reduced to commercial product, packaged in a variety of ways. One of the things that is deceptive about this book is how straightforward and easy it all seems; for over fifty years, many others around the globe have struggled to do what this team did, and failed (and not for lack of intellectual capable individuals and patient funding). One of the many reasons why this team succeeded when all others to date failed is that the team had both a digital storage media and a digital reader/writer (drive): when there were problems with the media, the drive could be changed to fix it, and when there were problems with the drive, the media changed to fix it. There is no other book like this book, it will be the standard
reference for years to come. One should contrast this work with the IBM Random Access Method for Accounting and Control (RAMAC) which was the original magnetic disk drive that IBM commercialized in 1956; it could store five megabytes, 60 inches x 68 inches x 29 inches, and could barely fit in the freight bay of a cargo airplane; at the time magnetic tape was in widespread use, was far less expensive, and had far greater capacity, and now fifty years later the situation has entirely flipped. When Thomas J. Watson, Jr., announced RAMAC he said: "Today is the greatest new product day in the history of IBM and, I believe, in the history of the office equipment industry. These products provide the most significant advancement toward business control and operation by electronics to be made thus far."

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