



CONTENTS

Picture Archiving and Communication Systems— An Overview	1
Larry J. Filipow, D.Phil.	
Nuclear Medicine Imaging Technology	25
David A. Weber, Ph.D. and Marijana Ivanovic, Ph.D.	
Computed Tomography: Technology Update on Multiple Detector Array Scanners and PACS Considerations	37
John M. Boone, Ph.D.	
Magnetic Resonance Imaging and PACS	67
John D. Hazle, Ph.D. and Edward F. Jackson, Ph.D.	
Digital Angiography and Fluoroscopy: An Overview	91
Robert G. Gould, Sc.D.	
Film Digitizers and Laser Printers	107
J. Anthony Seibert, Ph.D.	
Computed Radiography Overview	135
Katherine P. Andriole, Ph.D.	
Computed Radiography: QA/QC	157
Charles E. Willis, Ph.D., DABR	
Digital Mammography	177
Martin J. Yaffe, Ph.D.	
Image Quality and Dose	225
Ian A. Cunningham, Ph.D.	
Networks, Pipes, and Connectivity	259
Brent K. Stewart, Ph.D., DABMP	
Introduction to DICOM	287
Richard L. Kennedy, Mark H. Oskin, J. Anthony Seibert, Stephen T. Hecht	

Diagnostics and Acceptance Testing for DICOM Networks	317
Mark Oskin, J. Anthony Seibert, Richard L. Kennedy	
PACS Brokers: The RIS and HIS	351
Richard L. Morin, Ph.D.	
Integrated Medical Imaging: Web Browsers and the Future of Image Distribution	361
Amit Mehta, M.D., Keith J. Dreyer, D.O., Ph.D., James Thrall, M.D.	
Image Compression and Encryption	369
Nicholas J Hangiandreou, Ph.D.	
Teleradiology	403
Brent K. Stewart, Ph.D., DABMP	
The Radiologist's Workbench—Critical Features for Image Review and Reporting	433
K. M. Spicer, M.D., Ph.D. and Ehsan Samei, Ph.D.	
Workstations: Acceptance Testing and Quality Control Considerations	445
Janice C. Honeyman, Ph.D.	
PACS Economic Issues and Justifications	459
David Avrin, M.D., Ph.D.	
An RFP for a PACS (or) A Request for Proposal for a Picture Archiving and Communication System	465
Larry J. Filipow, D.Phil.	
A PACS Case Study PACS Development at the University of South Carolina	523
G. Donald Frey	
Data Management and Archive Systems	541
Douglas M. Tucker, Ph.D.	
Basic Ultrasound Imaging	555
James A. Zagzebski, Ph.D.	