



PACS Scan

DICOM Conformance Statement

ENG-PS-DCS-RE VH

Date: November 2023

## Documentation Notice

Information in this document is subject to change without notice. The software described in this document is furnished only under a separate license agreement and may only be used or copied according to the terms of such agreement. It is against the law to copy the software except as specifically allowed in the license agreement. This document or accompanying materials may contain certain information which is confidential information of Hyland Software, Inc. and its affiliates, and which may be subject to the confidentiality provisions agreed to by you.

Complying with all applicable copyright laws is the responsibility of the user. Without limiting the rights under copyright law, no part of this document may be reproduced, stored in or introduced into a retrieval system, or transmitted in any form or by any means (electronic, mechanical, photocopying, recording, or otherwise), or for any purpose, without the express written permission of Hyland Software, Inc. or one of its affiliates.

Hyland, HXP, OnBase, Alfresco, Nuxeo, and product names are registered and/or unregistered trademarks of Hyland Software, Inc. and its affiliates in the United States and other countries. All other trademarks, service marks, trade names and products of other companies are the property of their respective owners.

© 2023 Hyland Software, Inc. and its affiliates.

The information in this document may contain technology as defined by the Export Administration Regulations (EAR) and could be subject to the Export Control Laws of the U.S. Government including for the EAR and trade and economic sanctions maintained by the Office of Foreign Assets Control as well as the export controls laws of your entity's local jurisdiction. Transfer of such technology by any means to a foreign person, whether in the United States or abroad, could require export licensing or other approval from the U.S. Government and the export authority of your entity's jurisdiction. You are responsible for ensuring that you have any required approvals prior to export.

## Revision History

Date	Revision	Authors	Description
23-SEP-2002	A	Brian Cavanaugh	Created
25-SEP-2002	B	Chris Barnett	Updated
01-SEP-2007	C	Chris Barnett	Updated for version 3.x
08-SEP-2008	D	Chris Barnett	Added Multi-frame support
01-NOV-2012	E	Brian Cavanaugh	General updates reflecting version 5.0 Corrected part number, changing "DCMCS" to "DCS"
15-MAY-2016	F	Lev Weisfeiler	-Merged PACS Scan and PACS Scan Film into single Document for all versions of PACS Scan -Re-branding from PacsGear to Lexmark.
03-OCT--2018	G	Andrew Robinson	Rebranded with new corporate identity (Lexmark -> PACSGear by Hyland LLC)
23-OCT-2023	H	Tammy Matthews	Rebranded for Hyland Software, Inc. Minor formatting updates.

## Table of Contents

<b>Documentation Notice.....</b>	<b>2</b>
<b>Revision History .....</b>	<b>3</b>
<b>List of Figures.....</b>	<b>5</b>
<b>Introduction .....</b>	<b>6</b>
<b>Implementation Model.....</b>	<b>6</b>
Application Data Flow Diagram .....	6
Functional Definitions of AE's.....	7
Sequencing of Real-World Activities .....	7
<b>AE Specifications .....</b>	<b>7</b>
PACS Scan AE Specifications.....	7
<i>Association Establishment Policies .....</i>	<i>8</i>
<i>Association Initiation by Real-World Activity.....</i>	<i>8</i>
<i>Association Acceptance Policy.....</i>	<i>13</i>
<b>Communication Profiles.....</b>	<b>13</b>
Supported Communication Stacks.....	13
TCP/IP Stack .....	13
<i>Physical Media Support .....</i>	<i>13</i>
<b>Extension/Specialization/Privatization .....</b>	<b>13</b>
<b>Configuration.....</b>	<b>13</b>
<b>Extended Character Sets .....</b>	<b>14</b>
<b>Appendix A: Attribute List for DICOM Storage SCU .....</b>	<b>14</b>
<b>Appendix B: Attribute List for DICOM Storage SCU for Encapsulated Images .....</b>	<b>15</b>
<b>Appendix C: Attribute List for DICOM Storage SC Image Storage SCU for Encapsulated PDF Images.....</b>	<b>17</b>
<b>Appendix D: Attribute List for DICOM Digital Mammography X-Ray Image Storage for Presentation .....</b>	<b>19</b>
<b>Appendix E: Attribute List for DICOM Modality Worklist Management Requests .....</b>	<b>22</b>
<b>Appendix F: Attribute List for DICOM Q/R C-FIND Requests .....</b>	<b>24</b>

## List of Figures

Figure 1.	PACS Scan Implementation Model .....	6
Figure 2.	PACS Scan SOP Classes.....	8
Figure 3.	Implementation Identifying Information.....	8
Figure 4.	Proposed Presentation Context – Transmit Images.....	9
Figure 5.	Presentation Context – Worklist Lookup.....	10
Figure 6.	Presentation Context – Query Lookup.....	11
Figure 7.	Presentation Context – Print Images .....	11
Figure 8.	Supported Attributes for Basic Film Session SOP Class.....	11
Figure 9.	Supported Attributes for Basic Film Box SOP Class .....	12
Figure 10.	Basic Grayscale Image Box SOP Class .....	12
Figure 11.	DICOM Storage SCU Attribute List (Secondary Capture and Multi-frame) .....	15
Figure 12.	DICOM Storage SCU Attribute List (Encapsulated PDF) .....	17
Figure 13.	DICOM Encapsulated PDF Image Storage SCU Attribute List.....	19
Figure 14.	DICOM Digital Mammography X-Ray Image Storage for Presentation SCU Attribute List..	22
Figure 15.	DICOM Modality Worklist Attribute List.....	23
Figure 16.	DICOM Q.R C-FIND Attribute List .....	24

## Introduction

This conformance statement is designed to communicate technical information about the PACS Scan product and its compliance to the DICOM 3.0 standard. PACS Scan is designed to scan documents, create electronic forms, capture video, import JPEG/AVI/MPEG, import DICOM CDs/DVDs, or import film using an off the shelf film-digitizer from any department to any PACS via DICOM. Patient demographics are either entered by the user, or can be selected using DICOM Modality Worklist functionality or DICOM Study Root Query/Retrieve- Find functionality.

## Implementation Model

### Application Data Flow Diagram

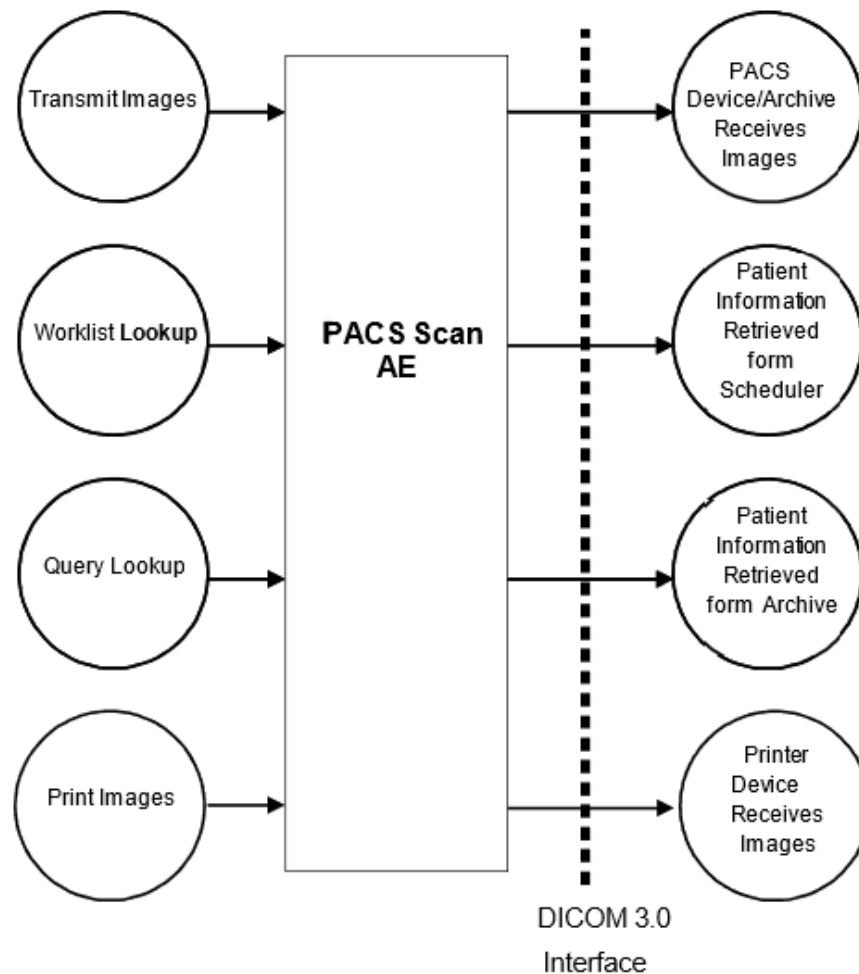


Figure 1. PACS Scan Implementation Model

PACS Scan is typically used to acquire an image from film digitizer or paper scanner or other non-DICOM source, and transmit it to a PACS device via DICOM. Patient demographic information can be entered manually, or it can be downloaded from an external scheduling system via DICOM Modality Worklist or an archive via DICOM Study Root Query/Retrieve (Q/R) - Find requests.

## Functional Definitions of AE's

The PACS Scan Application Entity supports the following three SCU functions (one at a time):

- **Transmit Images**

This AE is responsible for the management of DICOM Storage SCU activities.

- **Worklist Lookup**

This AE provides patient demographic and study information lookups utilizing DICOM Modality Worklist requests as an SCU.

- **Query Lookup**

This AE provides patient demographic and study information lookups utilizing DICOM Study Root Q/R-Find requests as an SCU.

- **Print Images**

This AE is responsible for the management of DICOM Print SCU activities.

## Sequencing of Real-World Activities

Not applicable.

## AE Specifications

### PACS Scan AE Specifications

The PACS Scan AE provides Standard Conformance to the following DICOM 3.0 SOP Classes as an SCU.

SOP Class Name	SOP Class UID
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7
Digital Mammography X-Ray Image Storage – for Presentation	1.2.840.10008.5.1.4.1.1.1.2
Encapsulated PDF Storage SOP Class	1.2.840.10008.5.1.4.1.1.104.1
Multi-frame True Color Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.4
Multi-frame Grayscale Byte Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.2

SOP Class Name	SOP Class UID
Modality Worklist	1.2.840.10008.5.1.4.31
Study Root Q/R Information Model – Find	1.2.840.10008.5.1.4.1.2.2.1
Basic Grayscale Print Management Meta	1.2.840.10008.5.1.1.9
Basic Film Session SOP Class	1.2.840.10008.5.1.1.1
Basic Film Box SOP Class	1.2.840.10008.5.1.1.2
Basic Gray Image Box SOP Class	1.2.840.10008.5.1.1.4

**Figure 2.** PACS Scan SOP Classes

When importing DICOM CD's or other DICOM media PACS Scan will provide standard conformance as an SCU to the SOP Class defined by the DICOM image being imported.

## Association Establishment Policies

### General

The maximum PDU size for any association establishment that is offered is 16 Kbytes.

### Number of Associations

The PACS Scan AE will only establish one association at a time.

### Asynchronous Nature

The PACS Scan AE does not support asynchronous communication.

## Implementation Identifying Information

The implementation identifying information for this DICOM 3.0 implementation is:

<b>Implementation Class UID</b>	1.3.6.1.4.1.23849.1
<b>Version Name</b>	PACSGEAR_v3

**Figure 3.** Implementation Identifying Information

## Association Initiation by Real-World Activity

### Real-World Activity – Transmit Images

#### Associated Real-World Activity

After a user has scanned, imported, acquired one or more images into the PACS Scan system, the user will then select the Send Button. The PACS Scan AE will request an association with a single configured

AE. PACS Scan will then transmit all of the images over this association, and will request an association release.

#### Proposed Presentation Context

Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name	UID		
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
		JPEG 2000 Lossless	1.2.840.10008.1.2.4.90		
		JPEG 2000 Lossy	1.2.840.10008.1.2.4.91		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
Multi-frame True Color Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.4	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
		JPEG 2000 Lossless	1.2.840.10008.1.2.4.90		
		JPEG 2000 Lossy	1.2.840.10008.1.2.4.91		
Multi-frame Grayscale Byte Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.2	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
		JPEG 2000 Lossless	1.2.840.10008.1.2.4.90		
		JPEG 2000 Lossy	1.2.840.10008.1.2.4.91		
Digital Mammography X-Ray Image Storage – For Presentation	1.2.840.10008.5.1.4.1.1.1.2	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
Encapsulated PDF Storage SOP Class	1.2.840.10008.5.1.4.1.1.104.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None

**Figure 4.** Proposed Presentation Context – Transmit Images

### SOP Specific Conformance for Image Storage

Standard conformance is provided to for the supported SOP Classes. For specific attributes utilized during the storage operation please refer to Appendix C.

### SOP Specific Conformance for Digital Mammography X-Ray Image Storage – for Presentation

Standard conformance is provided to the DICOM Digital Mammography X-Ray Image Storage – for Presentation Service class. For specific attributes utilized during this operation please refer to Appendix B.

## Real-World Activity – Worklist Lookup

### Associated Real-World Activity

A user may query a DICOM Modality Worklist SCP and select a Worklist entry from which to populate the patient demographics within one or more images. When the user selects the Lookup button from within PACS Scan, the PACS Scan AE requests an association with a configured Worklist AE. PACS Scan will then issue a C-Find request that contains any of the search attributes entered by the user. The results are then presented to the user for selection. Once a patient is selected the corresponding worklist attributes are downloaded into the patient entry form.

### Presentation Context

Abstract Syntax		Transfer Syntax	Role	Extended Negotiation
Name	UID			
Modality Worklist Management	1.2.840.10008.5.1.4.31	Implicit VR Little Endian	SCU	None

Figure 5. Presentation Context – Worklist Lookup

### SOP Specific Conformance for Modality Worklist Management

Standard conformance is provided to the DICOM Modality Worklist Management Service Class. For specific fields that are issued during the Modality Worklist C- Find request please refer to Appendix B.

## Real-World Activity – Query Lookup

### Associated Real-World Activity

A user may query a DICOM Query/Retrieve SCP and select a patient from which to populate the patient demographics within one or more images. When the user selects the Lookup button from within PACS Scan, the PACS Scan AE requests an association with a configured Q/R SCP AE. PACS Scan will then issue a C- Find request that contains any of the search attributes entered by the user. The results are then presented to the user for selection. Once a patient is selected the corresponding attributes are downloaded into the patient entry form.

### Presentation Context

Abstract Syntax	Transfer Syntax	Role	
-----------------	-----------------	------	--

Name	UID			Extended Negotiation
Study Root Query/Retrieve Information Model – Find	1.2.840.10008.5.1.4.1.2.2.1	Implicit VR Little Endian	SCU	None

Figure 6. Presentation Context – Query Lookup

### SOP Specific Conformance for Study Root Query/Retrieve

Standard conformance is provided to the DICOM Study Root Q/R Service Class. For specific fields that are issued during the C-Find request please refer to Appendix C.

## Real-World Activity – Print Images

### Associated Real-World Activity

After a user has scanned one or more films into the PACS Scan system, the user will then click the Send Button. The PACS Scan AE will request an association with a single configured AE. If the AE represents a print device PACS Scan will then print all of the images over this association, and will request an association release.

### Presentation Context

Abstract Syntax		Transfer Syntax	Role	Extended Negotiation
Name	UID			
Basic Grayscale Print Management Meta	1.2.840.10008.5.1.1.9	Implicit VR Little Endian	SCU	None

Figure 7. Presentation Context – Print Images

### SOP Specific Conformance for Basic Film Session SOP Class

The PACS Scan AE issues the N-CREATE command for the Basic Film Box SOP class with the following attributes supported. Please note the default values for each attribute are in bold type within the description field.

Basic Film Session SOP Class – N-Create		
Attribute Name	Tag	Description
Number of Copies	(2000,0010)	Configurable (1-99)

Figure 8. Supported Attributes for Basic Film Session SOP Class

### SOP Specific Conformance for Basic Film Box SOP Class

The PACS Scan AE utilizes the following attributes when issuing a DIMSE\_N command for the Basic Film Box SOP class.

<b>Basic Film Session SOP Class – N-Create</b>		
<b>Attribute Name</b>	<b>Tag</b>	<b>Description</b>
Image Display Format	(2010,0010)	STANDARD//1,1 – 1 UP
Referenced Film Session Sequence	(2010,0500)	
>Referenced SOP Class UID	(0008,1150)	
>Referenced SOP Instance UID	(0008,1155)	
Film Size ID	(2010,0050)	Configurable via UI (8INx10IN, 14INx17IN, etc)
Magnification Type	(2010,0060)	Configurable via UI
Max Density	(2010,0130)	Configurable via UI (0-400)

**Figure 9.** Supported Attributes for Basic Film Box SOP Class

#### SOP Specific Conformance for Basic Grayscale Image Box SOP Class

The PACS Scan AE issues the N-SET command for the Basic Grayscale Image Box SOP class utilizing the following attributes.

<b>Basic Grayscale Image Box SOP Class – N-Set</b>		
<b>Attribute Name</b>	<b>Tag</b>	<b>Description</b>
Image Position	(2020,0010)	
Basic Grayscale Image Sequence	(2020,0110)	
>Samples Per Pixel	(0028,0002)	Always set to 1
>Photometric Interpretation	(0028,0004)	Always set to MONOCHROME2
>Rows	(0028,0010)	
>Columns	(0028,0011)	
>Bits Allocated	(0028,0100)	
>Bits Stored	(0028,0101)	
>High Bit	(0028,0102)	
>Pixel Representation	(0028,0103)	Always set to 0x0000
>Pixel Data	(7FE0,0010)	

**Figure 10.** Basic Grayscale Image Box SOP Class

## Association Acceptance Policy

The PACS Scan product does not accept incoming associations.

## Communication Profiles

### Supported Communication Stacks

The PACS Scan AE provides DICOM 3.0 TCP/IP Network Communication Support as defined in PS 3.8.

### TCP/IP Stack

The PACS Scan AE implements DICOM 3.0 on top of the Windows TCP/IP stack.

### Physical Media Support

The PACS Scan AE is indifferent to the physical medium over which TCP/IP executes.

## Extension/Specialization/Privatization

Not Applicable.

## Configuration

The following fields are configurable for the PACS Scan AE:

- Local AE Title
- Remote Storage AE Title
- Remote Storage IP Address
- Remote Storage Port
- Field that determines if the Lookup operation utilizes DICOM Worklist Management or Query/Retrieve services.
- Lookup Provider AE Title
- Lookup Provider IP Address
- Lookup Provider Port
- Lookup Study Date Range
- Institution
- Department
- Station Name
- Manufacturer
- Model

- Serial #
- Version #
- Series Number
- Compression support

Note that one or more remote storage locations may be configured.

## Extended Character Sets

Not Applicable.

## Appendix A: Attribute List for DICOM Storage SCU

This list contains the DICOM attributes that are used by the PACS Scan AE when issuing a DICOM Storage request as an SCU for both Secondary Capture, and Multiframe Secondary Capture datasets.

DICOM Attribute	Comment
(0008,0008) Image Type	ORIGINAL\SECONDARY
(0008,0016) SOP Class UID	1.2.840.10008.5.1.4.1.1.7 (Secondary Capture)
(0008,0018) SOP Instance UID	
(0008,0020) Study Date	
(0008,0022) Acquisition Date	
(0008,0030) Study Time	
(0008,0032) Acquisition Time	
(0008,0050) Accession Number	
(0008,0060) Modality	Selected by the user or set with Modality Worklist value
(0008,0064) Conversion Type	WSD
(0008,0070) Manufacturer	Configurable
(0008,0080) Institution	Configurable
(0008,0090) Referring Physician	Set when received via worklist or cfind query
(0008,1010) Station Name	Configurable
(0008,1030) Study Description	Entered/Selected by the PACS Scan user

DICOM Attribute	Comment
(0008,103e) Series Description	Entered/Selected by the PACS Scan user
(0008,1040) Institutional Department Name	Configurable
(0008,1070) Operators Name	
(0008,1090) Manufacturer Model Name	Configurable
(0010,0010) Patient Name	
(0010,0020) Patient ID	Image may not be sent without this value
(0010,0030) Patient Birthdate	
(0010,0040) Patient Sex	
(0018,0015) Body Part Examined	
(0018,1000) Acq. Device Serial Number	Configurable

**Figure 11.** DICOM Storage SCU Attribute List (Secondary Capture and Multi-frame)

## Appendix B: Attribute List for DICOM Storage SCU for Encapsulated Images

This list contains the DICOM attributes that are used by the PACS Scan AE when issuing a DICOM Storage request as an SCU for Encapsulated PDF images.

DICOM Attribute	Comment
(0008,0008) Image Type	ORIGINAL\SECONDARY
(0008,0016) SOP Class UID	1.2.840.10008.5.1.4.1.1.7 (Secondary Capture)
(0008,0018) SOP Instance UID	
(0008,0020) Study Date	
(0008,0022) Acquisition Date	
(0008,002A) Acquisition Datetime	
(0008,0030) Study Time	
(0008,0032) Acquisition Time	
(0008,0033) Content Time	

DICOM Attribute	Comment
(0008,0050) Accession Number	
(0008,0060) Modality	Selected by the user or set with Modality Worklist value
(0008,0064) Conversion Type	WSD
(0008,0070) Manufacturer	Configurable
(0008,0080) Institution	Configurable
(0008,0090) Referring Physician	Set when received via worklist or cfind query
(0008,1010) Station Name	Configurable
(0008,1030) Study Description	Entered/Selected by the PACS Scan user
(0008,103e) Series Description	Entered/Selected by the PACS Scan user
(0008,1040) Institutional Department Name	Configurable
(0008,1070) Operators Name	
(0008,1090) Manufacturer Model Name	Configurable
(0010,0010) Patient Name	
(0010,0020) Patient ID	Image may not be sent without this value
(0010,0030) Patient Birthdate	
(0010,0040) Patient Sex	
(0018,0015) Body Part Examined	
(0018,1000) Acq. Device Serial Number	Configurable
(0018,1012) Date of Secondary Capture	
(0018,1014) Time of Secondary Capture	
(0018,1016) Secondary Capture Device Manufacturer	PACSGEAR
(0018,1018) Secondary Capture Device Model Name	PACSSCAN
(0018,1019) Secondary Capture	5.2.1

DICOM Attribute	Comment
Device Software Version	
(0018,1020) Acq. Software Version	Configurable
(0018,1023) Digital Image Format Acquired	
(0020,000D) Study Instance UID	
(0020,000E) Series Instance UID	
(0020,0010) Study ID	
(0020,0011) Series Number	Configurable
(0020,0013) Image Number	
(0020,0020) Patient Orientation	
(0042,0010) Document Title	
(0042, 001) Encapsulated Document	
(0042,0012) MIME Type of Encapsulated Document	application/pdf

**Figure 12.** DICOM Storage SCU Attribute List (Encapsulated PDF)

## Appendix C: Attribute List for DICOM Storage SC Image Storage SCU for Encapsulated PDF Images

This list contains the DICOM attributes that are used by the PACS Scan AE when issuing a DICOM Storage request as an SCU for Encapsulated PDF images.

DICOM Attribute	Comment
(0008,0008) Image Type	ORIGINAL\SECONDARY
(0008,0016) SOP Class UID	1.2.840.10008.5.1.4.1.1.7 (Secondary Capture)
(0008,0018) SOP Instance UID	
(0008,0020) Study Date	
(0008,0022) Acquisition Date	
(0008,002A) Acquisition Datetime	

DICOM Attribute	Comment
(0008,0030) Study Time	
(0008,0032) Acquisition Time	
(0008,0033) Content Time	
(0008,0050) Accession Number	
(0008,0060) Modality	Selected by the user or set with Modality Worklist value
(0008,0064) Conversion Type	WSD
(0008,0070) Manufacturer	Configurable
(0008,0080) Institution	Configurable
(0008,0090) Referring Physician	Set when received via worklist or cfind query
(0008,1010) Station Name	Configurable
(0008,1030) Study Description	Entered/Selected by the PacsSCAN user
(0008,103e) Series Description	Entered/Selected by the PacsSCAN user
(0008,1040) Institutional Department Name	Configurable
(0008,1070) Operators Name	
(0008,1090) Manufacturer Model Name	Configurable
(0010,0010) Patient Name	
(0010,0020) Patient ID	Image may not be sent without this value
(0010,0030) Patient Birthdate	
(0010,0040) Patient Sex	
(0018,0015) Body Part Examined	
(0018,1000) Acq. Device Serial Number	Configurable
(0018,1012) Date of Secondary Capture	
(0018,1014) Time of Secondary Capture	
(0018,1016) Secondary Capture Device Manufacturer	PACSGEAR

DICOM Attribute	Comment
(0018,1018) Secondary Capture Device Model Name	PACSSCAN
(0018,1019) Secondary Capture Device Software Version	5.2.1
(0018,1020) Acq. Software Version	Configurable
(0018,1023) Digital Image Format Acquired	
(0020,000D) Study Instance UID	
(0020,000E) Series Instance UID	
(0020,0010) Study ID	
(0020,0011) Series Number	Configurable
(0020,0013) Image Number	
(0020,0020) Patient Orientation	
(0042,0010) Document Title	
(0042, 001) Encapsulated Document	
(0042,0012) MIME Type of Encapsulated Document	application/pdf

**Figure 13.** DICOM Encapsulated PDF Image Storage SCU Attribute List

## Appendix D: Attribute List for DICOM Digital Mammography X-Ray Image Storage for Presentation

This list contains the DICOM attributes that are used by the PACS Scan AE when issuing a DICOM Digital Mammography X-Ray Image Storage request as an SCU.

DICOM Attribute	Comment
(0008,0008) Image Type	ORIGINAL/SECONDARY
(0008,0016) SOP Class UID	1.2.840.10008.5.1.4.1.1.7 (Secondary Capture)
(0008,0018) SOP Instance UID	
(0008,0020) Study Date	

DICOM Attribute	Comment
(0008,0022) Acquisition Date	
(0008,0030) Study Time	
(0008,0032) Acquisition Time	
(0008,0050) Accession Number	
(0008,0060) Modality MG	
(0008,0064) Conversion Type	WSD
(0008,0068) Presentation Intent Type	FOR PRESENTATION
(0008,0070) Manufacturer	PACSGEAR
(0008,1090) Operators Name	
(0008,0080) Institution Name	
(0008,0090) Referring Physician's Name	
(0008,1010) Station Name	
(0008,1030) Study Description	
(0008,103E) Series Description	
(0008,1040) Institutional Department Name	
(0008,1090) Manufacturer Model Name	
(0008,2218) Anatomic Region of Interest Sequence	
> (0008,0100) Code Value	
> (0008,0102) Coding Scheme Designator	
> (0008,0104) Code Meaning	
(0010,0010) Patient Name	
(0010,0020) Patient ID	Image may not be sent without this value
(0010,0030) Patient Birthdate	
(0010,0040) Patient Sex	
(0018,1012) Date of Secondary Capture	

DICOM Attribute	Comment
(0018,1014) Time of Secondary Capture	
(0018,1016) Secondary Capture Device Manufacturer	PACSGEAR
(0018,1018) Secondary Capture Device Model Name	PACSSCAN
(0018,1019) Secondary Capture Device Software Version	5.2.1
(0018,1020) Software Version	
(0018,1023) Digital Image Format Acquired	
(0018,1164) Image Pixel Spacing	
(0018,1508) Positioner Type	MAMMOGRAPHIC
(0018,7004) Detector Type	FILM
(0020,000D) Study Instance UID	
(0020,000E) Series Instance UID	
(0020,0010) Study ID	
(0020,0011) Series Number	
(0020,0013) Image Number	
(0020,0020) Patient Orientation	
(0020,0062) Laterality	
(0020,1040) Position Reference Indicator	
(0028,0002) Samples Per Pixel	1
(0028,0004) Photometric Interpretation	MONOCHROME2
(0028,0006) Planar Configuration	
(0028,0010) Rows	
(0028,0011) Columns	
(0028,0030) Pixel Spacing	Configurable for FILM only
(0028,0100) Bits Allocated	8 or 16
(0028,0101) Bits Stored	8 or 12

DICOM Attribute	Comment
(0028,0102) High Bit	7 or 11
(0028,0103) Pixel Representation	0
(0028,0301) Burned In Annotation	
(0028,1040) Pixel Intensity Relationship	
(0028,1041) Pixel Intensity Relationship Sign	
(0028,1050) Window Center	
(0028,1051) Window Width	
(0028,1052) Rescale Intercept	
(0028,1053) Rescale Slope	
(0028,1054) Rescale Type	
(0028,2110) Lossy Image Compression	00
(0040,0318) Organ Exposed	BREAST
(0040,0555) Acquisition Context Sequence	
(0054,0220) View Code Sequence	
> (0008,0100) Code Value	
> (0008,0102) Coding Scheme Designator	
> (0008,0104) Code Meaning	
(2050,0020) Presentation LUT Shape	IDENTITY
(7FE0,0010) Pixel Data	

**Figure 14.** DICOM Digital Mammography X-Ray Image Storage for Presentation SCU Attribute List

## Appendix E: Attribute List for DICOM Modality Worklist Management Requests

This table contains the DICOM attributes that are utilized by the PACS Scan AE when issuing a DICOM Modality Worklist request.

DICOM Attribute	Comment
(0008,0050) Accession Number	User may attempt an exact match
(0008,0090) Referring Physician's Name	
(0010,0010) Patient Name	User may narrow the search
(0010,0020) Patient ID	User may attempt an exact match
(0010,0030) Patient Birthdate	
(0010,0040) Patient Sex	
(0020,000D) Study Instance UID	
(0032,1064) Requested Procedure Code Sequence	
(0040,0100) Scheduled Procedure Step Sequence	
>(0008,0100) Code Value	
>(0008,0060) Modality	User may search for a specific modality
>(0040,0002) Scheduled Procedure Step Start Date	The product can be configured to always perform a date range query
>(0040,0003) Scheduled Procedure Step Start Time	
>(0040,0007) Scheduled Procedure Step Description	

Figure 15. DICOM Modality Worklist Attribute List

## Appendix F: Attribute List for DICOM Q/R C-FIND Requests

This table contains the DICOM keys that are utilized by the PACS Scan AE when issuing a DICOM Q/R C-FIND request. The C-FIND request will always use the Study Root Information model.

DICOM Attribute	Comment
(0008,0020) Study Date	The product can be configured to always perform a date range query
(0008,0030) Study Time	
(0008,0050) Accession Number	User may attempt an exact match
(0008,0052) Query/Retrieve Level	The value is always "STUDY"
(0008,0060) Modality	User may search for a specific modality (Not sent unless specifically configured)
(0008,0061) Modalities in Study	User may search for a specific modality
(0008,0090) Referring Physician's Name	
(0008,1030) Study Description	
(0010,0010) Patient Name	User may narrow the search
(0010,0020) Patient ID	User may attempt an exact match
(0010,0030) Patient Birth Date	
(0010,0040) Patient Sex	
(0020,000D) Study Instance UID	

Figure 16. DICOM Q.R C-FIND Attribute List

