

***DICOM
Conformance
Specifications for
the HDI[®] 3000
Ultrasound System
NetLink Capability***





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0 Introduction

This document describes the ATL HDI® 3000 Ultrasound System's conformance to the ACR-NEMA DICOM (Digital Imaging and Communications in Medicine) standard and satisfies the DICOM requirement for a vendor conformance specification.

The HDI 3000 system is an ultrasound imaging device. The NetLink option of the HDI 3000 system provides a means to select images and send them via DICOM to storage servers and printers.

0.1 DICOM Background

The DICOM information exchange specification provides a definitive structure of commands and information that allow for the intercommunication of medical imaging devices. Developed by the American College of Radiology (ACR) and the National Electrical Manufacturers Association (NEMA), the DICOM standard strives to promote communication of image information through the use of a standardized set of command classes and information semantics.

The DICOM standard defines classes of information that are common to many modalities of medical imaging. However, to meet the specific needs of information content for such a diverse range of information, the DICOM specification defines structures for a multitude of medical data. To alleviate the need for applications to implement every aspect of the DICOM specification, a list of conformance tables for every modality was created to define the minimum set of information necessary for data exchanges. A requirement of the DICOM specification is to maintain a compliance document that outlines a subset of DICOM services and data classes that are supported by an application. The purpose of this document is to define a subset of DICOM for the exchange of information with the ATL HDI 3000 via its NetLink feature.

This document is written with respect to the ACR-NEMA Digital Imaging and Communications in Medicine (DICOM) version number 3.0.



1 Implementation Model

The HDI 3000 NetLink feature incorporates the DICOM 3.0 standard for networked image printing and image storage functions. Images are transferred from the HDI 3000 ultrasound system using standard network connections to be processed on a centralized printer or stored on a DICOM compatible file server.

1.1 Application Data Flow Diagram

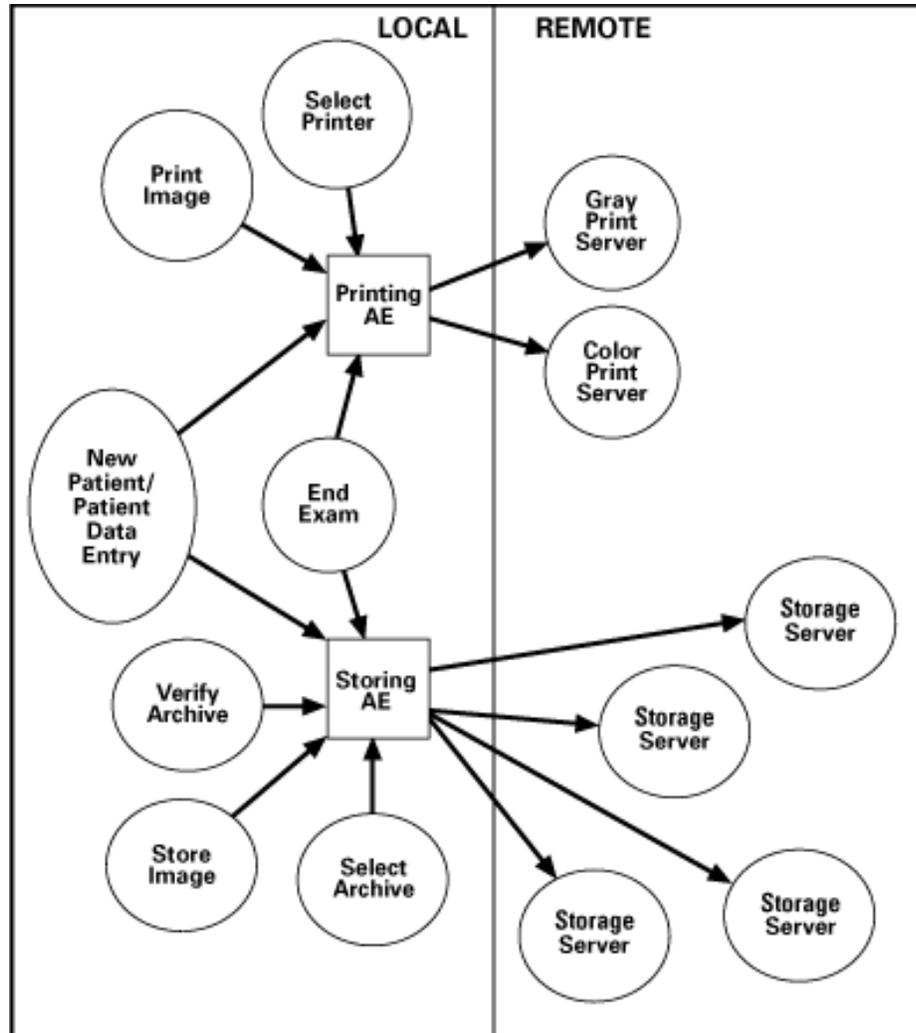
The diagram below represents the NetLink device's Application Entities (AE) (in the boxes) and depicts the relationship of the Application Entity's use of DICOM to invoke real-world activities (shown on the right side).

When the user selects a New Patient via the Patient Data Entry facility, the Printing AE will initiate separate associations to the print servers to verify their on-line status. These associations remain open during the examination. When Print is commanded (and depending upon the system configuration), the Printing AE will send an image to the appropriate printer. The N_Get Printer SOP is used to ensure that the print servers remain on-line during this time. When the End Exam command is invoked any partially filled sheet of film will be forced to be printed and then the associations are closed.

Also, when the user selects a New Patient via the Patient Data Entry facility, the Storing AE will initiate a separate association to each selected archive server to verify its on-line status. The associations remain open during the exam. When the user selects Store Image, the Storing AE sends the image to the server. The Verify Service Class is used to ensure that the server remains on-line during this time assuming that the Verification SOP Presentation Context was accepted during the association negotiations. When the End Exam command is invoked the association is closed.



Figure 1.1-1 Implementation Model



Note: The Print and Store AEs share the same AE Title

1.2 Functional Definitions of AE's

Printing AE

This AE handles all aspects of the Print Management SCU. The Verification SCU is also used if supported by the print server.

Storing AE

This AE handles sending ultrasound images to a storage server using the DICOM Store SCU Services.



1.3 Sequencing of Real-world Activities

For printing and storing using the Print Gray Image, Print Color Image, and Store Image commands, an association must have been previously opened using the New Patient command. An association is also initiated in certain circumstances upon system power up or connection to the network.

2 AE Specifications

2.1 Printing AE - Specification

The Printing AE provides conformance to the following DICOM SOP Classes as an SCU:

SOP Class Name	SOP Class UID	Conformance Level
Basic Grayscale Print Management Meta SOP Class	1.2.840.10008.5.1.1.9	Standard
Basic Color Print Management Meta SOP Class	1.2.840.10008.5.1.1.18	Standard
Basic Film Session SOP Class	1.2.840.10008.5.1.1.1	Standard
Basic Film Box SOP Class	1.2.840.10008.5.1.1.2	Standard
Basic Gray Image Box SOP Class	1.2.840.10008.5.1.1.4	Standard
Basic Color Image Box SOP Class	1.2.840.10008.5.1.1.4.1	Standard
Printer SOP Class	1.2.840.10008.5.1.1.16	Standard

2.1.1 Association Establishment Policies

The Printing AE will initiate an association when the user invokes the New Patient / Patient Data Entry command.

Due to the options in the DICOM specification, the Gray and Color SOP Print Management Service Class connections will be done on separate associations. The N_Get Printer SOP will be used to verify that an association is still active even though no printing is taking place. This is necessary since echoing on a separate association to a server will not detect a disconnected socket for printing.

2.1.1.1 General

Maximum PDU size offered: 32,768 bytes

Minimum PDU size accepted: 1,024 bytes



2.1.1.2 Number of Associations

Number of simultaneous associations for the Printing AE:

1 for Gray Print Management

1 for Color Print Management

Note that the other Application Entities in this device may be simultaneously active and thus other associations may be open simultaneously with these.

2.1.1.3 Asynchronous Nature

The Printing AE will not use asynchronous operations window negotiation.

2.1.1.4 Implementation Identifying Information

Implementation Class UID: "1.2.840.113663.1"

Implementation Version name: "Tiller_v100a"

Notes: "113663" is registered by ATL with ANSI. Version name above will be used initially but is subject to change with versions.

2.1.2 Association Initiation by Real-world Activity

The Printing AE will open associations to the Gray Print Server and to the Color Print Server when the real-world activity occurs corresponding to the user invocation of New Patient or Select Printer.

2.1.2.1 Association Initiation by: New Patient

The user invocation of New Patient will cause separate associations to be initiated to a Gray Print Server and a Color Print Server. These two associations may actually be handled by one device but are managed separately by the Printing AE.



2.1.2.1.1 Proposed Presentation Context to a Gray Print Server

Table 2.1.2.1.1-1 Printing AE Proposed Presentation Contexts to a Gray Print Server

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
Basic Gray Print Management Meta SOP Class	1.2.840.10008.5.1.1.9	DICOM Implicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2	SCU	None

2.1.2.1.1.1 SOP Specific Conformance to Verification SOP Class

The Printing AE does not use the Verification SOP Class as an SCU.

2.1.2.1.1.2 SOP Specific Conformance to Basic Gray Print Management Meta SOP Class

The Printing AE provides Standard Conformance to the Basic Gray Print Management Meta SOP Class as an SCU. This implies standard conformance for the

- Basic Film Session SOP Class,
- Basic Film Box SOP Class,
- Basic Grayscale Image Box SOP Class,
- Printer SOP Class.

Each of these SOP classes are described in the paragraphs to follow.

2.1.2.1.1.2.1 SOP Specific Conformance to Basic Film Session SOP Class

DICOM specified usage: M = mandatory, U = User option

Supported DIMSE Services

Name	Usage	Description
N-Create	M	Creates the film session
N-Set	U	Not used
N-Delete	U	Deletes the film session
N-Action	U	Not used



Supported SOP Class Elements

Name	Usage	Range	Description
Number of Copies	U	1 to many	Number of requested copies of film
Print Priority	U	MED	Used
Medium Type	U	Paper Clear Film Blue Film	Range may be further restricted by printer.
Film Destination	U	Magazine Processor	Range may be further restricted by printer.
Film Session Label	U	—	Not used
Memory Allocation	U	—	Not used

2.1.2.1.1.2.2 SOP Specific Conformance to Basic Film Box SOP Class

Supported DIMSE Services

Name	Usage	Description
N-Create	M	Creates the film box.
N-Set	U	Not used
N-Delete	U	Deletes the film box. Used after each film is printed.
N-Action	M	PRINT. Sent after each filling of a film box and also at the end of the exam if one or more images have been transferred into the film box.



Supported SOP Class Elements

Name	Usage	Range	Description
Image Display Format	M	Standard \ 1,1 Standard \ 1,2 Standard \ 2,3 Standard \ 3,4 Standard \ 3,5	Range may be further restricted by printer.
Referenced Film Session Sequence	M		Used
Referenced SOP Class UID	M	1.2.840.10008.5.1.1.1	Film Session SOP Class UID
Referenced SOP Instance UID	M		Referenced Film Session SOP
Film Orientation	U	Portrait Landscape	Range may be further restricted by printer.
Film Size ID	U	8 in X 10 in 10 in X 12 in 10 in X 14 in 11 in X 14 in 11 in X 17 in 14 in X 14 in 14 in X 17 in	Range may be further restricted by printer.
Magnification Type	U		Not used
Max Density	U	Limited by printer	Used
Configuration Information	U	Limited by printer	Used
Annotation Display Format Id	U		Not used
Smoothing Type	U		Not used
Border Density	U	Dmin to Dmax	Used
Empty Image Density	U	Dmin to Dmax	Used
Min Density	U	Limited by printer	Used
Trim	U		Not used

2.1.2.1.1.2.3 SOP Specific Conformance to Basic Grayscale Image Box SOP Class

Supported DIMSE Services

Name	Usage	Description
N-Set	M	An image box instance is created by the SCP for each potential image of the film box. Only the instances which will actually contain images will be updated with the N_SET message.



Supported SOP Class Elements

Name	Usage	Range	Description
Image Position	M	1-n	Used
Pre-formatted Grayscale Image Sequence	M		Used
Samples/pixel	M	1	Used
Photometric Interpretation	M	MONOCHROME2	0 = black, 255 = white
Rows	M	476, 576	pixels
Columns	M	640, 768	pixels
Pixel Aspect Ratio	M	1	column value/row value
Bits Allocated	M	8	8 bits per sample
Bits Stored	M	8	Used
High bit	M	7	Bit 7 is MSB
Pixel Representation	M	0	Unsigned pixel values
Pixel Data	M		gray pixel data
Polarity	U		Not used
Referenced Overlay Sequence	U		Not used
>SOP Class UID	U		Not used
>SOP Instance UID	U		Not used
Magnification Type	U		Not used
Smoothing Type	U		Not used
Requested Image Size	U		Not used

2.1.2.1.1.2.4 SOP Specific Conformance to Printer SOP Class

Supported DIMSE Services

Name	Usage	Description
N-Event-Report	M	Handled but always ignored. Asynchronous input from the printer to this AE used to report changes in printer status. It may be received any time after association establishment and before association release or abort.
N-Get	U	May be issued by this device at any time to get printer status. The Attribute Identifier List will always be empty indicating that all attributes are to be returned.



Supported SOP Class Elements

Note: These attributes are not set by this device. The attribute description here indicates which attributes are used by this device when they are returned by the printer.

Name	Usage	Range	Description
Printer Status	U	NORMAL WARNING FAILURE	Warning and Failure are reported to user.
Print Status Info	U		Reported to user.
Printer Name	U		Ignored
Manufacturer	U		Ignored
Model Name	U		Not used
Serial Number	U		Not used
Software Version	U		Not used
Calibration Date	U		Not used
Calibration Time	U		Not used

2.1.2.1.2 Proposed Presentation Context to a Color Print Server

Table 2.1.2.1.2-1 Printing AE Proposed Presentation Contexts to a Color Print Server

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
Basic Color Print Management Meta SOP Class	1.2.840.10008.5.1.1.18	DICOM Implicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2	SCU	None

2.1.2.1.2.1 SOP Specific Conformance to Verification SOP Class

The Printing AE does not use the Verification SOP Class as an SCU.

2.1.2.1.2.2 SOP Specific Conformance to Basic Color Print Management Meta SOP Class

The Printing AE provides Standard Conformance to the Basic Color Print Management Meta SOP Class as an SCU. This implies standard conformance for the following SOP classes.

- Basic Film Session SOP Class
- Basic Film Box SOP Class
- Basic Color Image Box SOP Class
- Printer SOP Class



The Basic Color Print Management use of the
 Basic Film Session SOP Class,
 Basic Film Box SOP Class,
 and Printer SOP Class,

are identical to its use in the Basic Grayscale Print Management class. The other SOP classes are described in the paragraphs to follow.

2.1.2.1.2.2.3 SOP Specific Conformance to Basic Color Image Box SOP Class

Supported DIMSE Services

Name	Usage	Description
N-Set	M	An image box instance is created by the SCP for each potential image of the film box. Only the instances which will actually contain images will be updated with the N_SET message.

Supported SOP Class Elements

Name	Usage	Range	Description
Image Position	M	1-n	Used
Pre-formatted Color Image Sequence	M		Used
Samples/pixel	M	3	Used
Photometric Interpretation	M	RGB	Used
Planar Configuration		1	Planar. All red plane first, then green, and blue.
Rows	M	476, 576	pixels
Columns	M	640, 768	pixels
Pixel Aspect Ratio	M	1	column value/row value
Bits Allocated	M	8	8 bits per sample
Bits Stored	M	8	Used
High bit	M	7	Bit 7 is MSB
Pixel Representation	M	0	Unsigned pixel values
Pixel Data	M		color pixel planes data
Polarity	U		Not used
Referenced Overlay Sequence	U		Not used
>SOP Class UID	U		Not used
>SOP Instance UID	U		Not used
Magnification Type	U		Not used
Smoothing Type	U		Not used
Requested Image Size	U		Not used



2.1.2.2 Association Initiation by: Select Printer

The user invocation of Select Printer will cause an association to be initiated to a Print Server and send an N-GET for printer status.

2.1.2.2.1 Proposed Presentation Context to a Print Server

Table 2.1.2.2.1-1 Printing AE Proposed Presentation Contexts to a Print Server

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
Printer SOP Class	1.2.840.10008.1.1	DICOM Implicit VR Little Endian Transfer Syntax	1.2.840.10018.1.2	SCU	None

2.1.2.2.1.1 SOP Specific Conformance to Verification SOP Class

The Printing AE provides standard conformance to the Verification SOP Class as an SCU.

2.2 Storing AE - Specification

The Storing AE provides conformance to the following DICOM SOP Classes as an SCU:

SOP Class Name	SOP Class UID	Conformance Level
Verification SOP Class	1.2.840.10008.1.1	Standard
Ultrasound Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.6	Standard Extended

Note: The implementation option of Message Sets is not supported.

2.2.1 Association Establishment Policies

The Storing AE will initiate an association when the user invokes the New patient command.

The lack of the Verification Service is tolerated, but it is strongly recommended that the SCP use Verification Service to maximize robustness. The HDI 3000 will verify that an association is still active when no C-STORE is active. This is necessary since echoing on a separate association will not detect a disconnected socket for an SCP. An SCP could power down, disconnect the association, power up, and establish a separate verification association successfully.



2.2.1.1 General

Maximum PDU size offered: 32,768 bytes

Minimum PDU size accepted: 1,024 bytes

2.2.1.2 Number of Associations

Number of simultaneous associations: 4

Note that the other Application Entities in this device may also be simultaneously active.

2.2.1.3 Asynchronous Nature

The Storing AE will not use asynchronous operations window negotiation.

2.2.1.4 Implementation Identifying Information

Implementation Class UID: "1.2.840.113663.1"

Implementation Version name: "Tiller_v100a"

Notes: "113663" is registered by ATL with ANSI. Version name above will be used initially but is subject to change with versions.

2.2.2 Association Initiation by Real-world Activity

The Storing AE will open an association to the Storage Server when the real-world activity occurs corresponding to the user invocation of New Patient or Select Archive.

2.2.2.1 Association Initiation by: New Patient

The user invocation of New Patient will cause an association to be initiated to an Storage server.

2.2.2.1.1 Proposed Presentation Context to an Storage Server

Table 2.2.2.1.1-1 Storing AE Proposed Presentation Contexts to an Storage Server

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
Verification SOP Class	1.2.840.10008.1.1	DICOM Implicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2	SCU	None
Ultrasound Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.6	DICOM Implicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2	SCU	None



2.2.2.1.1.1 SOP Specific Conformance to Verification SOP Class

The Storing AE provides standard conformance to the Verification SOP Class as an SCU.

2.2.2.1.1.2 SOP Specific Conformance Statement to Ultrasound Image Storage SOP Class

The Ultrasound Image Storage SOP uses the Ultrasound Image IOD Modules as follows:

Ultrasound Image Storage Modules Used

Module	Usage	Description
Patient	M	Used
General Study	M	Used
Patient Study	U	Unused
General Series	M	Used
Frame of Reference	U	Not used
US Frame of Reference	C	Not used
General Equipment	M	Used
General Image	M	Used
Image Pixel	M	Used
Contrast/bolus	C	Not used
US Region Calibration	U	Not used
US Image	M	Used
Overlay Plane	U	Not used.
VOI LUT	U	Not used
SOP Common	M	Used
Curve Identification	M	Not used since the Curve IE is mutually exclusive with the Image IE.
Curve	M	Not used since the Curve IE is mutually exclusive with the Image IE.
Audio	U	Not used since the Curve IE is mutually exclusive with the Image IE.
Curve SOP Common	M	Not used since the Curve IE is mutually exclusive with the Image IE.



Each module which is used by the Storing AE has a table below which indicates the elements supported.

Patient Module Elements

Name	Use	Tag	Type	Range	Description
Patient's Name	2	0010, 0010	PN	xx	Patient name with ^ delimiters
Patient ID	2	0010, 0020	LO	xx	64 char max
Birth Date	2	0010, 0030	DA		Zero length
Patient Sex	2	0010, 0040	CS		Zero length
Referenced Patient Sequence	3				Not used
Patient's Birth Time	3				Not used
Other Patient ID	3				Not used
Other Patient Names	3				Not used
Ethnic Group	3				Not used
Patient Comments	3				Not used

General Study Module Elements

Name	Use	Tag	Type	Range	Description
Study Instance UID	1	0020, 000D	UI	xx	Used
Study Date	2	0008, 0020	DA	yyyymmdd	Exam date
Study Time	2	0008, 0030	TM	hhmmss	Exam time
Referring Physician Name	2	0008, 0090	PN		Zero length
Study ID	2	0020, 0010	SH	xx	Code number of exam
Accession Number	2	0008, 0050	SH	xx	Used
Study Description	3	0008, 1030	LO	xx	Zero length
Name of Reading Physician(s)	3				Not used
Referenced Study Sequence	3				Not used



General Series Module Elements

Name	Use	Tag	Type	Range	Description
Modality	1	0008, 0060	CS	US	Always US for ultrasound.
Series Instance UID	1	0020, 000E	UI	xx	Used
Series Number	2	0020, 0011	IS	xx	Scanhead number in exam
Laterality	2C	0020, 0060			Not used
Series Date	3	0008, 0021	DA	yyyymmdd	Zero length if unknown
Series Time	3	0008, 0031	TM	hhmmss	Zero length if unknown
Performing Physician's Name	3	0008, 1050			Not used
Protocol Name	3	0018, 1030	LO	xx	Zero length
Series Description	3	0008,103E	LO	xx	name of Tissue Specific Preset
Operator's Name	3	0008, 1070			Not used
Referenced Study Component Sequence	3	0008, 1111			Not used
Body Part Examined	3	0018, 0015			Not used
Patient Position	2C	0018, 5100			Not used
Smallest Pixel Value in Series	3	0028, 0108			Not used
Largest Pixel Value in Series	3	0028, 0109			Not used



General Equipment Module Elements

Name	Use	Tag	Type	Range	Description
Manufacturer	2	0008, 0070	LO	ATL	Used
Institution Name	3				Not used
Institution Address	3				Not used
Station Name	3				Not used
Institutional Department Name	3				Not used
Manufacturer's Model Name	3	0008, 1090	LO	8500-0030-01 (HDI 3000)	Used
Device Serial Number	3				Not used
Software Version	3	0018, 1020	LO	xx	Used
Spatial Resolution	3				Not used
Date of Last Calibration	3				Not used
Time of Last Calibration	3				Not used
Pixel Padding Value	3				Not used

General Image Module Elements

Name	Use	Tag	Type	Range	Description
Image Number	2	0020,0013	IS	xx	Image number in exam
Patient Orientation	2C	0020,0020	CS		Zero length
Image Date	2C	0008,0023	DA	yyyymmdd	Used
Image Time	2C	0008,0033	TM	hhmmss	Used
Image Type	3	0008,0008	CS		Zero length
Acquisition Number	3				Not used
Acquisition Date	3				Not used
Acquisition Time	3				Not used
Referenced Image Sequence	3				Not used
Derivation Description	3				Not used
Source Image Sequence	3				Not used
Images in Acquisition	3				Not used
Image Comments	3	0020,4000	LT	xx	Image description



Image Pixel Module Elements

Name	Use	Tag	Type	Range	Description
Samples/ Pixel	1	0028, 0002	US	1, 3	for Gray for Color
Photometric Interpretation	1	0028, 0004	CS	MONOCHROME2, RGB	for Gray for Color
Rows	1	0028, 0010	US	xx	Used
Columns	1	0028, 0011	US	xx	Used
Bits Allocated	1	0028, 0100	US	8	Used
Bits Stored	1	0028, 0101	US	8	Used
High Bit	1	0028, 0102	US	7	Used
Pixel Representation	1	0028, 0103	US	0	Unsigned ints
Pixel Data	1	7FE0, 0010	OB		Used
Planar Configuration	1C	0028, 0006	US	1	planar
Pixel Aspect Ratio	1C	0028, 0034	IS	xx/xx	column/row aspect ratio
Smallest Image Pixel Value	3	0028, 0106			Not used
Largest Image Pixel Value	3	0028, 0107			Not used
Red Palette Color Lookup Table Descriptor	1C	0028, 1101	US		Not used
Green Palette Color Lookup Table Descriptor	1C	0028, 1102	US		Not used
Blue Palette Color Lookup Table Descriptor	1C	0028, 1103	US		Not used
Red Palette Color Lookup Table Data	1C	0028, 1201	US		Not used
Green Palette Color Lookup Table Data	1C	0028, 1202	US		Not used
Blue Palette Color Lookup Table Data	1C	0028, 1203	US		Not used



US Image Module Elements

Name	Use	Tag	Type	Range	Description
Photometric Interpretation	1	0028, 0004	CS	MONOCHROME2 RGB	for Gray for Color
Pixel Representation	1	0028, 0103	US	0	Unsigned ints
Frame Increment Pointer	1C				Not Used
Image Type	2	0008, 0008	CS		Zero length
Number Stages	2C	0008, 2124	IS	0	Present, always zero
Number Views in Stage	2C	0008, 212A	IS	0	Present, always zero
Referenced Overlay Sequence	3				Not used
Referenced Curve Sequence	3				Not used
Stage Name	3	0008, 2120	SH		Zero length
Stage Number	3	0008, 2122	IS	0	Present, always zero
View Number	3	0008, 2128	IS	0	Present, always zero
Number of Event Timers	3	0008, 2129	IS	0	Present, always zero
Event Elapsed Times	3	0008, 2130	DS		Zero length
Event Timer Name	3				Not used
Transducer Position	3				Not used
Transducer Orientation	3				Not used
Anatomic Structure	3				Not used
Trigger Time	3	0018, 1060	DS	0000	Present, always zero
Nominal Interval	3				Not used
Beat Rejection Flag	3				Not used
Low R-R Value	3				Not used
High R-R Value	3				Not used
Heart Rate	3	0018, 1088	IS	0	Present, always zero
Output Power	3				Not used



US Image Module Elements - continued

Name	Use	Tag	Type	Range	Description
Transducer Data	3				Not used
Transducer Type	3				Not used
Focus Depth	3				Not used
Preprocessing Function	3				Not used
Mechanical Index	3				Not used
Bone Thermal Index	3				Not used
Cranial Thermal Index	3				Not used
Soft Tissue Thermal Index	3				Not used
Soft Tissue-focus Thermal Index	3				Not used
Soft Tissue-surface Thermal Index	3				Not used
Depth of Scan Field	3				Not used
Image Transformation Matrix	3				Not used
Image Translation Vector	3				Not used
Ultrasound color data present	3	0028, 0014	US	0 1	for Gray for Color

SOP Common Module Elements

Name	Use	Tag	Type	Range	Description
SOP Class UID Image Storage.	1	0008, 0016	UI	1.2.840. 10008. 5.1.4.1.1.6	First value for Ultrasound
SOP Instance UID	1	0008, 0018	UI	xx	Same as in Command Set
Specific Character Set	1C				Not used
Instance Creation Date	3				Not used
Instance Creation Time	3				Not used
Instance Creator ID	3				Not used



2.2.2.2 Association Initiation by: Select Storage Server

The user invocation of Select Archive will cause an association to be initiated to a Storage Server.

2.2.2.2.1 Proposed Presentation Context to an Storage Server

Table 2.2.2.2.1-1 Storing AE Proposed Presentation Contexts to a Storage Server

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
Verification SOP Class	1.2.840.10008.1.1	DICOM Implicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2	SCU	None

2.2.2.2.1.1 SOP Specific Conformance to Verification SOP Class

The Storing AE provides standard conformance to the Verification SOP Class as an SCU.

2.2.3 Storing AE Behavior to SCP Status

Storing AE Behavior to Status Returned from SCP

Status Value	Meaning	Description	Storing AE Behaviour
0000	Success		Upon successfully storing data to an storage server, the Storing AE will continue operation without user notification. The source data may or may not be deleted at this time or in the future.
A7xx	Refused	Out of resources	Upon a failure to store the data to the storage server, the user will be notified. The source data will be deleted only at user discretion.
A9xx	Error	Data set does not match SOP class	Same as A7xx.
Cxxx	Error	Cannot understand	Same as A7xx.
B000	Warning	Coercion of data elements	Ignored.
B007	Warning	Data set does not match SOP class	Ignored
B006	Warning	Elements discarded	Ignored.



3 Communication Profiles

3.1 TCP/IP Stack Supported

The TCP/IP protocol is used.

3.1.1 Physical Media Supported

Standard IEEE 802 (Ethernet) 10BaseT (twisted pair), 10Base2 (thin coax) and 10BaseFL (Fiber Optic Link) are supported.

Destination Ethernet address shall be acquired using the Address Resolution Protocol (ARP).

Internet Protocol (IP) address shall be acquired manually and pre-loaded into the device.

4 Extensions/Specializations/Privatizations

4.1 Standard Extended/Specialized/Private SOPs

None

4.2 Private Transfer Syntaxes

None.

5 Configuration

This device obtains configuration information at the time of installation to provide the following.

- mapping from Application Entity Title to Presentation Address

- device configuration information

5.1 AE Title/Presentation Address Mapping

The translation from AE Title to Presentation Address is to be performed using a look up table loaded at installation or some other time.

5.2 Configurable Parameters

A lookup table contains the following configuration parameters.

- Application Entity Title

- IP Address

- Port number

6 Support of Extended Character Sets

Extended character sets are not supported.



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