GE Medical Systems

Kretz Ultrasound

DICOM
Conformance Statement

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Revision 1.03

VOLUSON® 730

CE 0366

GE Medical Systems

Kretz Ultrasound

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Table of Contents

0 Introduction

This document describes the Kretztechnik Voluson 730 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 Voluson 730 system is an ultrasound imaging device. The SonoView option of the Voluson 730 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 Kretztechnik Voluson 730 via its SonoView feature.

This document is written with respect to the ACR-NEMA Digital Imaging and Communications in Medicine (DICOM) version number 3.0. For complete definitions of terms and acronyms in this document, please refer to the Digital Imaging and Communications in Medicine (DICOM) Standard.

1 Implementation Model

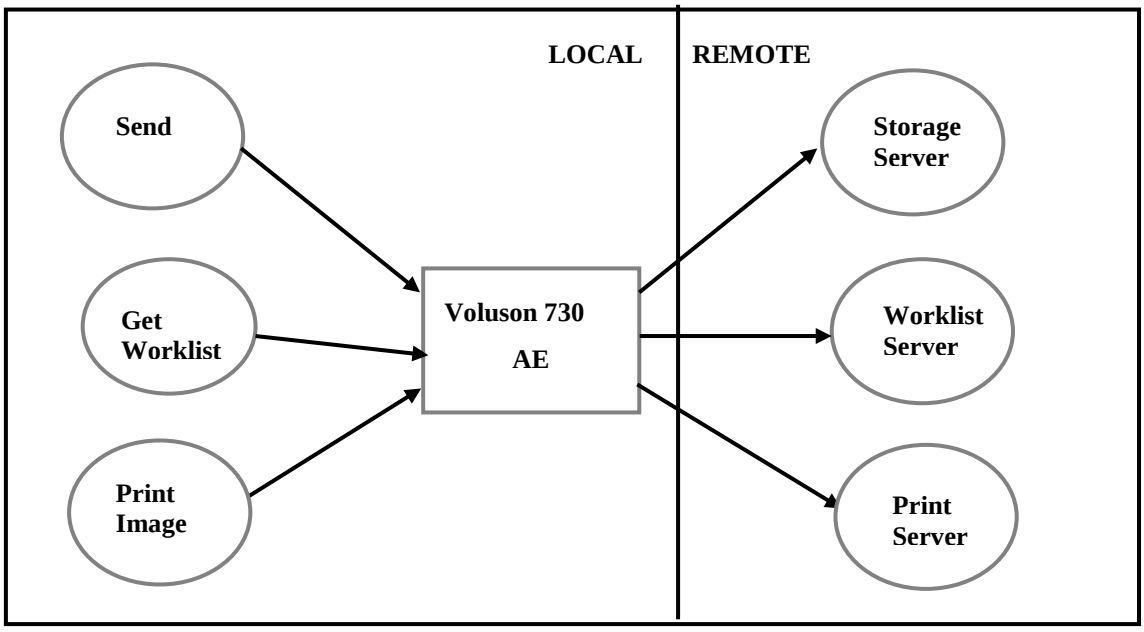
The Voluson 730 SonoView feature incorporates the DICOM 3.0 standard for networked image printing and image store functions. Images are transferred from the Voluson 730 ultrasound system using standard network connections to be processed on a centralized printer or stored on a DICOM compliant file server.

1.1 Application Data Flow Diagram

The diagram below represents the SonoView'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).

There are two local real-world activities that occur in the Voluson 730 system – Image Send and Image Print. When a user changes operation mode to image filing system from a live scanning session, the system will provide the menu to send images to a network archiving server or print images to a DICOM compliant printer.

Figure 1.1-1 Implementation Model



1.2 Functional Definitions of AE's

Printing AE

This AE handles all aspects of the Print Management SCU.

Storing AE

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

Worklist AE

This AE supports the DICOM Basic Worklist Management Service as an SCU.

1.3 Sequencing of Real-world Activities

In order for any of the remote processes to be able to provide the Real World Activity SCP services which the Voluson 730 system, an SCU, has requested, the appropriate association must have been previously opened. This initiation occurs with the "Send" command in SonoView for image store operations or "Print" in SonoView for image print operations. There are no other sequencing requirements.

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

Association Establishment Policies

The Printing AE will initiate an association when the user invokes the "Print" command in SonoView.

2.1.1.1 General

Maximum PDU size offered: 28,672 bytes

Minimum PDU size accepted: 1,024 bytes

Number of Associations
The maximum number of simultaneous associations for the Printing AE is 2.

2.1.1.2 Asynchronous Nature

The Printing AE will not use asynchronous operations window negotiation.

2.1.1.3 Implementation Identifying Information

Implementation Class UID: "1.2.276.0.26.20010718.240"

Implementation Version name: "KRETZDICOM_240"

Notes: Version name above will be used initially but is subject to change with versions.

Association Initiation by Real-world Activity

The Printing AE will open associations to the Print Server when the real-world activity occurs corresponding to the user invocation of "Print" command in SonoView. All images in the selected exams from SonoView will be sent to the Print Server. After all images are printed, the association will be closed.

2.1.1.4 Association Initiation by: "Print" in SonoView

The user invocation of "Print" in SonoView will cause an association to be initiated to Print Server.

2.1.1.4.1 Proposed Presentation Context to a Gray Print Server

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 Managment 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

2.1.1.4.1.1 SOP Specific Conformance to Verification SOP Class

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

2.1.1.4.1.2 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 is described in the paragraphs to follow.

2.1.1.4.1.2.1 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 99	Number of requested copies of film
Print Priority	U	HIGH, MED, LOW	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

2.1.1.4.1.2.2 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 \2,2 Standard \2,3 Standard \3.3 Standard \3,4 Standard \3,5 Standard \4,4 Standard \4,5 Standard \4,6	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 24 cm X 24 cm 10 in X 12 in 24 cm X 30 cm 10 in X 14 in 11 in X 14 in 14 in X 14 in 14 in X 17 in	Range may be further restricted by printer.
Magnification Type	U	REPLICATE, BILINEAR, CUBIC, NONE	Used
Max Density	U	Limited by printer	Used
Configuration Information	U		Used
Annotation Display Format Id	U		Not used
Smoothing Type	U		Not used
Border Density	U	Black, White	Used
Empty Image Density	U	Black, White	Used
Min Density	U	Limited by printer	Used
Trim	U		Not used

2.1.1.4.1.2.3 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 that 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	600	Pixels
Columns	M	800	Pixels
Pixel Aspect Ratio	M		Not used
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	Replicate, Bilinear, Cubic, None	Used
Smoothing Type	U		Not used
Requested Image Size	U		Not used

2.1.1.4.1.2.4 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

2.1.1.4.2 Proposed Presentation Context to a Color Print Server

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

2.1.1.4.2.1 SOP Specific Conformance to Verification SOP Class

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

2.1.1.4.2.2 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

Similarly, the Basic Grayscale Print Management Met SOP Class uses:

Basic Film Session SOP Class

Basic Film Box SOP Class

Basic Grayscale Image Box SOP Class

Printer SOP Class

The SOP classes are described in the sections to follow.

2.1.1.4.2.3 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 - red plane first, then green, and blue.
Rows	M	600	Pixels
Columns	M	800	Pixels
Pixel Aspect Ratio	M		Not used
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	Replicate, Bilinear, Cubic, None	Used
Smoothing Type	U		Not used
Requested Image Size	U		Not used

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
Ultrasound Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.6.1	Standard Extended

Association Establishment Policies

The Storing AE will open an association when the user invokes the "Send" command in SonoView.

2.1.1.5 General

Maximum PDU size offered: 28,672 bytes

Minimum PDU size accepted: 1,024 bytes

2.1.1.6 Number of Associations

The maximum number of simultaneous associations for the Storing AE is 4.

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

2.1.1.7 Asynchronous Nature

The Storing AE will not use asynchronous operations window negotiation.

2.1.1.8 Implementation Identifying Information

Implementation Class UID: "1.2.276.0.26.20010718.240"

Implementation Version name: " KRETZDICOM_240"

Notes: " Version name above will be used initially but is subject to change with versions.

Association Initiation by Real-world Activity

The Storing AE will open associations to the Storage Server when the real-world activity occurs corresponding to the user invocation of "Send" command in SonoView. All images in Selected exams from SonoView will be sent to the Storage Server. After all images are transferred, the association will be closed.

2.1.1.9 Association Initiation by: "Send" in SonoView

The user invocation of "Send" in SonoView will cause an association to be initiated to a Storage Server.

2.1.1.9.1 Proposed Presentation Context to a Storage Server

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		
Ultrasound Image	1.2.840.10008.5.1.4.1.1.6.1	Implicit VR Little Endian	1.2.840.10008.1.2	SC U	None
Multi-frame Ultrasound Image	1.2.840.10008.5.1.4.1.1.3.1	JPEG Baseline	1.2.840.10008.1.2.4.50	SC U	None

2.1.1.9.1.1 SOP Specific Conformance to Verification SOP Class

The Storing AE dose not use the Verification SOP Class as an SCU.

2.1.1.9.1.2 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	Used
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	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	xx	Used
Patient Sex	2	0010, 0040	CS	xx	Used
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		Used
Study ID	2	0020, 0010	SH	xx	Zero Length
Accession Number	2	0008, 0050	SH	xx	Used
Study Description	3				Not used
Name of Reading Physician(s)	3	0008,1060	PN		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	Series number in exam
Laterality	2C	0020, 0060			Not used
Series Date	3	0008, 0021	DA	yyyymmdd	Used
Series Time	3	0008, 0031	TM	hhmmss	Used
Performing Physician's Name	3	0008, 1050			Not used
Protocol Name	3	0018, 1030			Not used
Series Description	3	0008,103E			Not used
Operator's Name	3	0008, 1070	PN		Used
Referenced Study Component Seq.	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	Kretztechnik	Used
Institution Name	3	0008,0080	LO		Used
Institution Address	3				Not used
Station Name	3	0008,1010	SH		Used
Institutional Department Name	3				Not used
Manufacturer's Model Name	3	0008, 1090	LO	VOLUSON 730	Used
Device Serial Number	3	0018,1000	LO	0	Used
Software Version	3				Not 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	1-n	Image number in exam
Patient Orientation	2C	0020,0020	CS		Zero length
Image Date	2C				Not used
Image Time	2C				Not used

Image Type	3	0008,0008	CS	Xxx	Used
Acquisition Number	3				Not used
Acquisition Date	3				Not used
Acquisition Time	3				Not used
Referenced Image Sequence	3				Not used
Derivation Description	3	0028,2111			Not used
Source Image Sequence	3				Not used
Images in Acquisition	3				Not used
Image Comments	3	0020,4000	LT	Xxx	Used
Lossy Image Compression	3	0028,2110	CS	01	for lossy compressed image

Image Pixel Module Elements

Name	Use	Tag	Type	Range	Description
Samples Per Pixel	1	0028, 0002	US	3	Used
Photometric Interpretation	1	0028, 0004	CS	RGB	Used
Rows	1	0028, 0010	US	600	Used
Columns	1	0028, 0011	US	800	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 int
Pixel Data	1	7FE0, 0010	OB		Used
Planar Configuration	1C	0028, 0006	US	0	Used
Aspect Ratio	1C	0028, 0034			Not used
Smallest Image Pixel Value	3	0028, 0106			Not used
Largest Image Pixel Value	3	0028, 0107			Not used

US Image Module Elements

Name	Use	Tag	Type	Range	Description
Photometric Interpretation	1	0028, 0004	CS	RGB	Used
Pixel Representation	1	0028, 0103	US	0	Unsigned int
Frame Increment Pointer	1C				Not used
Lossy Image Compression	1C	0028, 2110	CS	01	for lossy compressed image
Number Stages	2C				Not used
Number Views in Stage	2C				Not used
Referenced Overlay Sequence	3				Not used
Referenced Curve Sequence	3				Not used
Stage Name	3				Not used
Stage Number	3				Not used
View Number	3				Not used
Number of Event Timers	3				Not used
Event Elapsed Times	3				Not used
Event Timer Name	3				Not used
Transducer Position	3				Not used
Transducer Orientation	3				Not used
Anatomic Structure	3				Not used
Trigger Time	3				Not used
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				Not used
Output Power	3				Not used
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				Not used

US Region Calibration Module elements

Name	Use	Tag	Type	Range	Description
Sequence of Ultrasound Regions	1	0018,6011	SQ		Used
>Region Spatial Format	1	0018,6012	US	1,2,3	Used
>Region Data Type	1	0018,6014	US	1	Used
>Region Flags	1	0018,6016	UL	0	Used
>Region Location MinX0	1	0018,6018	UL	0-799	Used
>Region Location MinY0	1	0018,601a	UL	0-599	Used
>Region Location Max X1	1	0018,601c	UL	0-799	Used
>Region Location Max Y1	1	0018,601e	UL	0-599	Used
>Reference Pixel X0	3	0018,6020	SL	0	Used if =3
>Reference Pixel Y0	3	0018,6022	SL	0-xxx	Used if =3
>Physical Units X Direction	1	0018,6024	US	3,4	Used
>Physical Units Y Direction	1	0018,6026	US	3,7	Used
>Physical Delta X	1	0018,602c	FD		Used
>Physical Delta Y	1	0018,602e	FD		Used

SOP Common Module Elements

Name	Use	Tag	Type	Range	Description
SOP Class UID Image Storage.	1	0008, 0016	UI	1.2.840.10008.5.1.4.1.1.6.1	Used
SOP Instance UID	1	0008, 0018	UI	xxx	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 Worklist AE - Specification

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

SOP Class Name	SOP Class UID	Conformance Level
Modality Worklist Information Model - FIND	1.2.840.10008.5.1.4.31	Standard Extended

Association Establishment Policies

The Worklist AE will initiate an association when the user invokes the Search command.

2.2.1.1 General

Maximum PDU size offered: 28,672 bytes

Minimum PDU size accepted: 1,024 bytes

2.2.1.2 Number of Associations

Maximum number of simultaneous associations: 1

2.2.1.3 Asynchronous Nature

The Worklist AE will not use asynchronous operations window negotiation.

2.2.1.4 Implementation Identifying Information

Implementation Class UID: "1.2.276.0.26.20010718.240"

Implementation Version name: " KRETZDICOM_240"

Notes: Version name above will be used initially but is subject to change with versions.

Association Initiation by Real-world Activity

The Worklist AE will open association to the Worklist Server when the real-world activity occurs corresponding to the user invocation of Search. The association is closed at completion of the query.

2.2.1.5 Association Initiation by: "Search"

The user invocation of "Search" will cause an association to be initiated to an Worklist server.

2.2.1.5.1 Proposed Presentation Context to an Worklist Server

Worklist AE Proposed Presentation Contexts to a Worklist Server

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
Modality Worklist Information Model – FIND	1.2.840.10008.5.1.4.31	DICOM Implicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2	SCU	None

2.2.1.5.1.1 SOP Specific Conformance Statement to Modality Worklist Service SOP Class

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

Scheduled Procedure Step Module Elements

Name	Tag	Type	Return Type	Mapped into image	Description
Scheduled Procedure Step Sequence	0040, 0100	SQ	1	No	Used
>Scheduled Station AE Title	0040, 0001	AE	1	No	Used
>Scheduled Procedure Step Start Date	0040, 0002	DA	1	No	Used
>Scheduled Procedure Step Start Time	0040, 0003	TM	1	No	Used
>Modality	0008, 0060	CS	1	Yes	"US" or zero length
>Scheduled Performing Physician's Name	0040, 0006	PN	2	Yes	Used
>Scheduled Procedure Step Description	0040, 0007	LO	1C	No	Used
>Scheduled Procedure Step ID	0040, 0009	SH	1	No	Used

Requested Procedure Module Elements

Name	Tag	Type	Return Type	Mapped into image	Description
Requested Procedure ID	0040, 1001	SH	1	No	Used
Requested Procedure Description	0032, 1060	LO	1C	No	Used for Exam Type
Study Instance UID	0020, 000D	UI	1	No	Used

Imaging Service Request Module Elements

Name	Tag	Type	Return Type	Mapped into image	Description
Accession Number	0008, 0050	SH	2	Yes	Used
Referring Physician's Name	0008, 0090	PN	2	Yes	Used

Patient Identification Module Elements

Name	Tag	Type	Return Type	Mapped into image	Description
Patient's Name	0010, 0010	PN	1	Yes	Used
Patient ID	0010, 0020	LO	1	Yes	Used

Patient Demographic Module Elements

Name	Tag	Type	Return Type	Mapped into image	Description
Patient's Birth Date	0010, 0030	DA	2	Yes	Used
Patient's Sex	0010, 0040	CS	2	Yes	Used
Patient's Size	0010,0020				

3 Communication Profiles

3.1 TCP/IP Stack Supported

The TCP/IP protocol is used. The port address is configurable as stated elsewhere in the spec DCS.

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.