

**DICOM CONFORMANCE
STATEMENT
FOR
M11 Series/M10 Series/M9 Series
/M8 Series
DIAGNOSTIC ULTRASOUND
SYSTEM**

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SHENZHEN MINDRAY BIO-MEDICAL ELECTRONICS CO., LTD.

1 Conformance Statement Overview

This document describes the conformance to the ACR-NEMA DICOM 3.0 Standard by the ultrasound system of M11 Series/ M10 Series/ /M9 Series/M8 Series. We specify ultrasound system generally refer to the products above in this document. The ultrasound system implements the necessary DICOM services to download worklists from an information system, save acquired Ultrasound (US) images and associated Structured Reports to a network storage device and/or removable media, print to a networked hardcopy device, query and retrieve the US images from a networked storage system, and inform the information system about the works actually done. Table 1 provides an overview of the supported network services, Table 2 lists the supported Media Storage Application Profiles, and Table 3 lists the supported Structured Report Templates.

**Table 1
NETWORK SERVICES**

SOP Classes	User of Service (SCU)	Provider of Service (SCP)
Transfer (Storage)		
Verification	Yes	Yes
Ultrasound Image Storage	Yes	Yes
Ultrasound Multi-frame Image Storage	Yes	Yes
Secondary Capture Image Storage	Yes	Yes
Encapsulated PDF Storage	Yes	Yes
Raw Data Storage	Yes	Yes
Enhanced US Volume Storage	Yes	No
Query/Retrieve		
Study Root Query/Retrieve Information Model FIND	Yes	No
Study Root Query/Retrieve Information Model MOVE	Yes	No
Workflow Management		
Modality Worklist Information Model Find	Yes	No
Modality Performed Procedure Step	Yes	No
Storage Commitment Push Model	Yes	No

SOP Classes	User of Service (SCU)	Provider of Service (SCP)
Print Management		
Basic Color Print Management	Yes	No
Basic Grayscale Print Management	Yes	No
Notes, Reports, Measurements, Transfer		
Comprehensive SR Storage	Yes	Yes
Grayscale Softcopy Presentation State Storage	Yes	No

**Table 2
MEDIA SERVICES**

Media Storage Application Profile	Write Files (FSC / FSU)	Read Files (FSR)
Compact Disk - Recordable		
STD-US-SC-SF&MF-CDR	Yes / Yes ¹	Yes
DVD		
STD-US-SC-SF&MF-DVD STD-US-SC-SF&MF-DVD-RAM	Yes / Yes ¹	Yes
USB Devices		
STD-GEN-USB-JPEG for Ultrasound images, Structured Reports and Encapsulated PDF Storage	Yes / Yes ¹	Yes

Note:

1 Only acts as a FSU for media that may be written to multiple times.

**Table 3
STRUCTURED REPORTS**

Concept Name	Supported
OB-GYN Ultrasound Procedure Report	Yes ¹
Echocardiography Procedure Report	Yes ¹
Vascular Ultrasound Report	Yes ¹
Breast Imaging Report	Yes ¹

Note:

1 structured reports.



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read and understood in conjunction with the DICOM Standard. DICOM by itself does not guarantee interoperability. The Conformance Statement does, however, facilitate a first-level comparison for interoperability between different applications supporting compatible DICOM functionality.

This Conformance Statement is not supposed to replace validation with other DICOM equipment to ensure proper exchange of intended information. In fact, the user should be aware of the following important issues:

- The comparison of different Conformance Statements is the first step towards assessing interconnectivity and interoperability between Mindray medical equipment and other DICOM conformant equipments.
- Test procedures should be defined and executed to validate the required level of interoperability with specific compatible DICOM equipment, as established by the healthcare facility.
- The DICO actively involved in the development of the DICOM standard,. Therefore, Mindray reserves the right to make changes to its products or to discontinue its delivery.
- The Ultrasound System follows the IHE SWF, PDI, ED Profiles.

3.4 Terms and Definitions

- **Abstract Syntax** the information agreed to be exchanged between applications, generally equivalent to a Service/Object Pair (SOP) Class. Examples: Verification SOP Class, Modality Worklist Information Model Find SOP Class, Computed Radiography Image Storage SOP Class.
- **Application Context** the specification of the type of communication used between *App' cat on Ent t es*. Example: DICOM network protocol.
- **Application Entity (AE)** an end point of a DICOM information exchange, including the DICOM network or media interface software; i.e., the software that sends or receives DICOM information objects or messages. A single device may have multiple Application Entities.
- **Application Entity Title** the externally known name of an *App' cat on Ent ty*, used to identify a DICOM application to other DICOM applications on the network. The Called AE Title defines the intended receiver of an Association. Nevertheless, the Calling AE Title defines the requestor of an Association.
- **Application Profile** - A Media Storage Application Profile defines a selection of choices at the various layers of the DICOM Media Storage Model which are applicable to a specific need or context in which the media interchange is intended to be performed.
- **Association** a network communication channel set up between *App' cat on Ent t es*.
- **Association Establishment** - an Association Establishment is the first phase of communication between two DICOM Application Entities. The AEs use the

Association Establishment to negotiate how data will be encoded and the type of data to be exchanged.

- **Attribute** a unit of information in an object definition; a data element identified by a *tag*. The information may be a complex data structure (Sequence), itself composed of lower level data elements. Examples: Patient ID (0010,0020), Accession Number (0008,0050), Photometric Interpretation (0028,0004), Procedure Code Sequence (0008,1032).
- **DICOM File Format** - the DICOM File Format provides a means to encapsulate in a File the Data Set representing a SOP Instance related to a DICOM Information Object.
- **DICOM Message Service Element (DIMSE)** a DIMSE defines the services and protocols utilized by an Application Entity to exchange messages.
- **File** - a File is an ordered string of zero or more bytes, where the first byte is at the beginning of the file and the last byte is at the end of the File. Files are identified by a unique File ID and may be written, read, or deleted.
- **File Meta Information** - the File Meta Information includes identifying information on the encapsulated Data Set. It is a mandatory header at the beginning of every DICOM File.
- **Information Object Definition (IOD)** - the specified set of *Attributes* that comprise a type of data object; does not represent a specific instance of the data object, but rather a class of similar data objects that have the same properties. The *Attributes* may be specified as Mandatory (Type 1), Required but possibly unknown (Type 2), or Optional (Type 3), and there may be conditions associated with the use of an Attribute (Types 1C and 2C). Examples: Print Job IOD.
- **Joint Photographic Experts Group (JPEG)** a set of standardized image compression techniques, available for use by DICOM applications.
- **Module** a set of *Attributes* within an *Information Object Definition* that are logically related to each other. Example: Patient Module includes Patient Name, Patient ID, Patient Birth Date, and Patient Sex.
- **Negotiation** first phase of *Association* establishment that allows *Application Entities* to agree on the types of data to be exchanged and how that data will be encoded.
- **Physical Media** - a piece of material with recording capabilities for streams of bits. Characteristics of a Physical Media include form factor, mechanical characteristics, recording properties and rules for recording and organizing bit streams in accessible structures.
- **Presentation Context** the set of DICOM network services used over an *Association*, as negotiated between *Application Entities*; includes *Abstract Syntaxes* and *Transfer Syntaxes*.
- **Protocol Data Unit (PDU)** a packet (piece) of a DICOM message sent across the network. Devices must specify the maximum size packet they can receive for DICOM messages.

- **Security Profile** a set of mechanisms, such as encryption, user authentication, or digital signatures, used by an *Application Entity* to ensure confidentiality, integrity, and/or availability of exchanged DICOM data
- **Service Class Provider (SCP)** role of an *Application Entity* that provides a DICOM network service; typically, a server that performs operations requested by another *Application Entity (Service Class User)*. Examples: Picture Archiving and Communication System (image storage SCP, and image query/retrieve SCP), Radiology Information System (modality worklist SCP).
- **Service Class User (SCU)** role of an *Application Entity* that uses a DICOM network service; typically, a client. Examples: imaging modality (image storage SCU, and modality worklist SCU), imaging workstation (image query/retrieve SCU)
- **Service/Object Pair (SOP) Class** the specification of the network or media transfer (service) of a particular type of data (object); the fundamental unit of DICOM interoperability specification. Examples: Ultrasound Image Storage Service, Basic Grayscale Print Management.
- **Service/Object Pair (SOP) Instance** an information object; a specific occurrence of information exchanged in a

DIMSE	DICOM Message Service Element
DIMSE-C	DICOM Message Service Element-Composite
FSC	File-Set Creator
FSR	File-Set Reader
FSU	File-Set Updater
HIS	Hospital Information System
IHE	Integrating the Healthcare Enterprise
IOD	Information Object Definition
ISO	International Standard Organization
JPEG	Joint Photographic Experts Group
MODALITY	Ultrasound System
MPPS	Modality Performed Procedure Step
MWL	Modality Worklist
NEMA	National Electrical Manufacturers Association
O	Optional (Key Attribute)
PACS	Picture Archiving and Communication System
PDU	Protocol Data Unit
R	Required (Key Attribute)
RIS	Radiology Information System
SCP	Service Class Provider
SCU	Service Class User
SOP	Service Object Pair
SR	Structured Reporting
TCP/IP	Transmission Control Protocol/Internet Protocol
U	Unique (Key Attribute)
UL	Upper Layer
VR	Value Representation
US	Ultrasound
UID	Unique Identifier
GSPS	Grayscale Softcopy Presentation State

3.6 References

DICOM Quick Guide & FAQ, Revision 7.0 Final Text, Mindray Co. Ltd

Digital Imaging and Communications in Medicine (DICOM), NEMA PS 3, available free at <http://medical.nema.org/>

IHE Technical Framework, available free at <http://www.ihe.net/>

4 Networking

4.1 Implementation Model

4.1.1 Application Data Flow

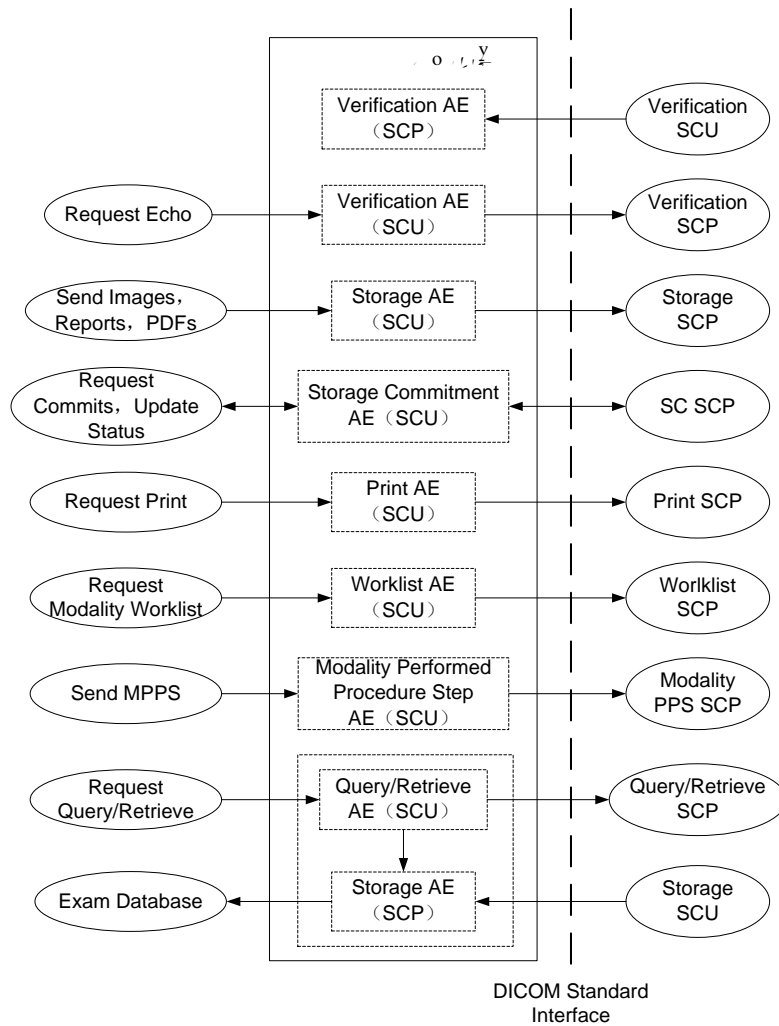


Figure 1
Implementation Model

Note: Storage AE (SCP) only be used in Query/Retrieve

This application entity provides a user interface, internal database and network listener that spawns additional threads as necessary to handle incoming connections.

Conceptually the network services may however, in fact

- Verification AE (as SCU and SCP)

- Storage AE (as SCU and SCP)
- Storage Commitment AE (SCU)
- Print AE (as SCU)
- Worklist AE (as SCU)
- MPPS AE (as SCU)
- Query/Retrieve AE (as SCU)

4.1.2 Functional Definitions of AE's

4.1.2.1 Verification AE

The ultrasound system supports the Verification service as a SCU and SCP.

As a SCU, verification is activated when the verify button is selected on the dicom service configuration page where the verification results will also be showed to the user.

As a SCP, verification AE waits in the background for connections, will accept associations with Presentation Contexts for SOP Class of the Verification Service Class, and will respond successfully to echo requests.

4.1.2.2 Storage AE

As a SCU, the Storage AE originates associations for the transfer of DICOM Ultrasound single frame images, multi-frame images, secondary capture images, GSPS, comprehensive structured reports ,and Encapsulated PDFs to remote AE (selected from a pre-configured list)..

The system supports automatic and manual storage.

The operations for automatic storage service are described below:

- Operation 1

or printing

Step 2: End Exam, the ended exam (maybe include images, GSPS, SRs, PDFs) would automatically send to the default storage service SCPs which are set to be default in the DICOM service preset dialog.

- Operation 2

Step 1: Open the system preset dialog and switch to the "key config" tab page.

Step 2: Set the shortcut key which means saving image to hard disk and combines the key with the function of sending image to the default DICOM storage SCPs.

Step 3: During the examining, the user can press the Send key to send image to default DICOM storage service SCPs.

The operations for manual storage service are described below:

- Operation 1

Step 1: Select the images from thumbnail menu in main UI.

SCPs.

Step 3: Send the images to the DICOM Storage service SCPs and send the comments to the DICOM Storage service SCPs when the comment preset is enabled in DICOM Storage preset.

- Operation 2

Step 1: Select exams in the iStation Dialog.

Step 2: Pr Exam and select DICOM Storage service SCPs.

Step 3: Send the selected exams (maybe include images, GSPS, SRs, PDFs) to the DICOM Storage service SCPs.

- Operation 3

Step 1: Select thumbnail in the iStation Dialog.

Step 2: Storage service SCPs.

Step 3: Send the images to the DICOM Storage service SCPs and send the comments to the DICOM Storage service SCPs when the comment preset is enabled in DICOM Storage preset.

- Operation 4

Step 1: Open the review dialog and select the images.

Step 2: P

Step 3: Send the images to the DICOM Storage service SCPs and send the comments to the DICOM Storage service SCPs when the comment preset is enabled in DICOM Storage preset.

The SR only could be sent in the circumstance as below:

- The exam type is obstetric, gynecology, cardiac, vascular or breast.
- The SR Key for the exam type must be installed in option preset UI.
- Exam is the unit to send.
- The status of the exam is "End", "Paused" or "Cancelled". SR would not be sent when an active exam is selected.
- The DICOM storage service SCPs should be set as "Attach SR when Store Images" or "Only Store SR".

The Encapsulated PDF only could be sent in the circumstance as below:

- Exam is the unit to send.
- The status of the exam is "End", "Paused" or "Cancelled". Encapsulated PDF would not be sent when an active exam is selected.
- The "Encapsulated PDF" should be enabled in DICOM storage service preset.

The Comment only could be sent in the circumstance as below:

- The "comment" should be enabled in DICOM storage service preset.
- The images saved must be with comments.

The status of the exam is "End", "Paused" or "Cancelled". Encapsulated PDF would not be sent when an active exam is selected

3D/4D images could send as pre-configuration form:

Table 4
3D/4D Transfer Option

3D/4D Option	SOP Class	SOP Class UID
Normal	US Image Storage	1.2.840.10008.5.1.4.1.1.6.1
	US Multiframe Image Storage	1.2.840.10008.5.1.4.1.1.3.1
Volume	Enhanced US Volume Storage	1.2.840.10008.5.1.4.1.1.6.2
Rawdata	Raw Data Storage	1.2.840.10008.5.1.4.1.1.66

Transfer with Rawdata form is mainly used for MINDRAY Ultrasonic machine to get the raw data of the image. The Storage SCP received the image could not review it because the image information is coded in private form. 4DViewer or M9/M8 Series Diagnostic Ultrasound System could retrieve the file and review it.

In the event that the ultrasound system is taken off the network as a portable system or when a network failure occurs during a background store, the Storage SCU maintains a queue of failed C-STORE requests. If pre-configured on Preset UI, the failed C-Store requests will be automatically retried specified times. If no pre-configuration, the user can also retry the failed requests manually.

As a SCP, the Storage AE could only be used in Query/Retrieve, otherwise couldn't.

4.1.2.3 Storage Commitment AE

The Storage Commitment AE originates associations to ensure the reliable storage of DICOM composite information objects on remote DICOM device after sending DICOM Storage Service to the device.

The Storage Commitment service will be executed automatically in the circumstance as below:

- The Storage Commitment Service is set to associate with the Storage Service to send.

- The status of the exam is "End". It would not be executed when an "Active", "Paused" or "Cancelled" exam is selected.

4.1.2.4 Print AE

As a SCU, the Print AE originates associations for the print of DICOM Ultrasound single frame images and secondary capture images to remote AE (selected from a pre-configured list).

The system is capable of grayscale (B/W) and color print supporting with automatic and manual print functions.

The operations for automatic print service are described below:

- Operation 1

or printing

Step 2: End Exam, the single frame images and secondary capture images of ended exam would automatically send to the default print service SCPs which are set to be default in the DICOM service preset dialog.

Notes: This

DICOM print will be not active until one page is filled with the images or the exam end. For

be not active until the shortcut key has been pressed 6 times. However, when the exam end, the DICOM print will be active even if one page is not filled.

- Operation 2

Step 1: Open the system preset dialog and switch to the "key config" tab page.

Step 2: Set the shortcut key which which means saving image to hard disk and combines the key with the function of sending image to the default DICOM print SCPs.

Step 3: During the examining, the user can press the print key to send image to default DICOM print service SCPs.

The operations for manual print service are described below:

- Operation 1

Step 1: Select the images from thumbnail menu in main UI.

print service SCPs.

Step 3: Send the images to the DICOM print service SCPs.

- Operation 2

Step 1: Select exams in the iStation Dialog.

Step 2: Pr Exam and select DICOM print service SCPs.

Step 3: Send the single frame images and secondary capture images of the selected exams to the DICOM print service SCPs.

- Operation 3

Step 1: Select thumbnail in the iStation Dialog.

Step 2: _____ print service SCPs.

Step 3: Send the image to the DICOM print service SCPs.

- Operation 4

Step 1: Open the review dialog and select the images.

Step 2: P _____ print SCPs.

Step 3: Send the images to the DICOM print service SCPs.

4.1.2.5 Worklist AE

The Worklist AE is activated through the Worklist UI when the user selects a remote AE to query (from a pre-configured list).The system supports automatic and manual query depending on its configuration on Preset UI. The system supports fuzzy query using ? and * .

- If set one and only one remote AE to be default status. The system can initiate a query with default rules when show the Worklist UI. The Worklist Server is the default server. The Modality Type is US, the Exam Date is today, and the Scheduled Station AE Title is blank.
- Alternatively if the default status is no, the user can specify query rules on Worklist UI. Such as Patient ID, Patient Name, Accession Number, Requested Procedure ID, Worklist Server, Exam Date, Modality Type and Scheduled Station AE Title.

If no matches are found, a dialogue will be presented to the user to indicate so. The possible reasons for this failure are listed to help trouble shooting.

If more than one matching patients found, user can discover lists number on the UI. The user can also change query rules for another query, or for further filter in local database to locate the patients quickly. And the lists can be sorted in ascending or descending order.

4.1.2.6 MPPS AE

MPPS AE sends event transactions that facilitate the transfer of exam procedure status from the ultrasound system to the information system.

MPPS messages are sent from the system under the following circumstances:

- MPPS N-Create, Status = IN PROGRESS. Starting a new exam or reactive an exam

result of an operator action of ending the exam.

- MPPS N-Set, Status = DISCONTINUED. Exam status to be sent. User can select various reasons from the Reason of cancel Exam UI when need to cancel an exam.

4.1.2.7 Query/Retrieve AE

The Query/Retrieve AE supports the Query/Retrieve services as an SCU.

As a Query SCU, the system initiates a C-Find request to the remote SCP if pre-configured on the Preset UI, and then query is invoked directly by the user. The system supports fuzzy query using ? and * .

For remote AE, no matter what the default status is, the user can specify query rules on Query/Retrieve UI. Such as Patient ID, Patient Name, Accession Number, Exam Date and select Search Key. If no matches are found, a dialogue will be presented to the user to indicate so. The user can also change query rules for another query, or for further filter in local database to locate the patients quickly.

As a Move SCU, the system supports the Study Root Query

4.2 AE Specifications

4.2.1 Modality AE

4.2.1.1 SOP Classes

The ultrasound system provides Standard Conformance to the following SOP Class:

Table 5
SOP Class for Modality AE

SOP Class Name	SOP Class UID	SCU	SCP
Registration Class	1.3.6.1.4.1.1.1	Y s	Y s
Storage Storage	1.3.6.1.4.1.1.2	Y s	Y s
Storage Storage	1.3.6.1.4.1.1.3	Y s	Y s
Storage-Copy Storage	1.3.6.1.4.1.1.4	Y s	Y s
Compress Storage-Storage	1.3.6.1.4.1.1.5	Y s	Y s
Encaps Storage	1.3.6.1.4.1.1.6	Y s	Y s
Encaps Storage	1.3.6.1.4.1.1.7	Y s	o
Storage	1.3.6.1.4.1.1.8	Y s	Y s
Storage Compression	1.3.6.1.4.1.1.9	Y s	o
Storage Compression Storage Class	1.3.6.1.4.1.1.10	Y s	o
Storage Encaps Class	1.3.6.1.4.1.1.11	Y s	o
Storage Encaps Class	1.3.6.1.4.1.1.12	Y s	o
Storage Encaps Class	1.3.6.1.4.1.1.13	Y s	o
Storage Class	1.3.6.1.4.1.1.14	Y s	o
Storage Class	1.3.6.1.4.1.1.15	Y s	o
Storage Encaps Class	1.3.6.1.4.1.1.16	Y s	o
Storage Encaps Class	1.3.6.1.4.1.1.17	Y s	o
Storage Encaps Class	1.3.6.1.4.1.1.18	Y s	o
Storage Encaps Class	1.3.6.1.4.1.1.19	Y s	o
Storage Encaps Class	1.3.6.1.4.1.1.20	Y s	o

Note: 1 Yes only used in Query/Retrieve, otherwise No.

4.2.1.2 Association Establishment Policies

4.2.1.2.1 General

The DICOM standard application context name for DICOM 3.0 is always proposed:

Table 6
DICOM Application Context for Modality AE

Application Context Name	1.3.6.1.4.1.1.1.1
--------------------------	-------------------

The PDU size is configurable with a minimum size of 16,384 and a maximum size of 65,536. The default PDU size is 32,768.

4.2.1.2.2 Number of Associations

The system initiates one Association at a time for each destination to which a transfer request is being processed in the active job queue list. Since Storage and Print tasks are executed within a same thread, when they are selected simultaneously, only one job will be active at a time, the other(s) remain pending until the active job is successful or failed.

Table 7
Number of Associations as an Association Initiator

Maximum Number of Simultaneous Associations	1
---	---

Table 8
Number of Associations as an Association Acceptor

Maximum Number of Simultaneous Associations	1
---	---

4.2.1.2.3 Asynchronous Nature

The ultrasound system will only allow a single outstanding operation on an association.

4.2.1.2.4 Implementation Identifying Information

Table 9
DICOM Implementation Class and Version for Modality AE

Implementation Class UID	1.3.6.1.4.1.1.1.1.1
Implementation Version	1.00.0000.0000

4.2.1.3 Association Initiation Policy

4.2.1.3.1 Activity – Request Echo

4.2.1.3.1.1 Description and Sequencing of Activities

The user can verify the existence of a DICOM server on the hospital's network, through a **Service** the ultrasound system will initiate the association.

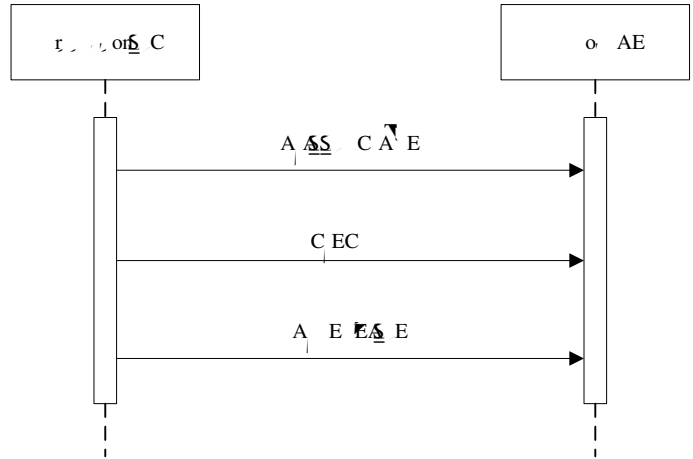


Figure 2
Sequencing of Activity – Send Echo Request

4.2.1.3.1.2 Proposed Presentation Contexts

The Verification AE (as SCU) supports the following Presentation Contexts for Verification.

Table 10
Presentation Contexts for Verification

PROPOSED PRESENTATION CONTEXTS					
Abstract Syntax		Transfer Syntax		Role	Ext. Neg.
Name	UID	Name	UID		
Verification	[...]	presentation	[...]	SC	on
		expression	[...]	SC	on
		expression	[...]	SC	on

4.2.1.3.1.3 SOP Specific Conformance

It summarizes the behavior of Ultrasound System when receiving status codes in a C-ECHO response.

Table 11
Verification C-Echo Response Status Handling Behavior

Service Status	Further Meaning	Error Code	Behavior (as SCU)
Success	Success		Display Success
Unsatisfactory	Unsatisfactory	A_XX	Display Failure
Failure	Failure	CXXX	Display Failure
*	*	Any other	Display Failure

4.2.1.3.2 Activity – Store images, GSPS, SRs, PDFs, 3D/4D images

4.2.1.3.2.1 Description and Sequencing of Activities

For each exam, image selected from the user interface to be transferred, an attempt will be made to transfer it to the selected remote AE. When the storage fails, not only the failed task will automatically retry specific times if configured on Preset UI, but also user can restart the failed task by pressing Retry Button on the ultrasound task management dialog. Besides that, in the event that the ultrasound system is taken off the network or when a network failure occurs during a background store, the Storage SCU maintains a queue of failed C-STORE requests. Once the network is restored, the system will retry automatically.

Structured Reports will contain a part of common used measurements and calculations created by ultrasound system, and custom measurements or calculations will also be sent in SR

If custom measurements or calculations were defined, all custom measurements or calculations will be contained in private elements(M-99999,MRUS, "custom-measurement-name") in SR, where " custom-measurement-name " means the name of user custom measurement in the ultrasound system.

- The OB and Gyn exam types create OB-GYN Ultrasound Procedure Reports.
- The Adult Card exam type creates Adult Echocardiography Reports.
- The Abd, Uro and Vas exam types create Vascular Reports
- The Breast exam types create Breast Imaging Reports.

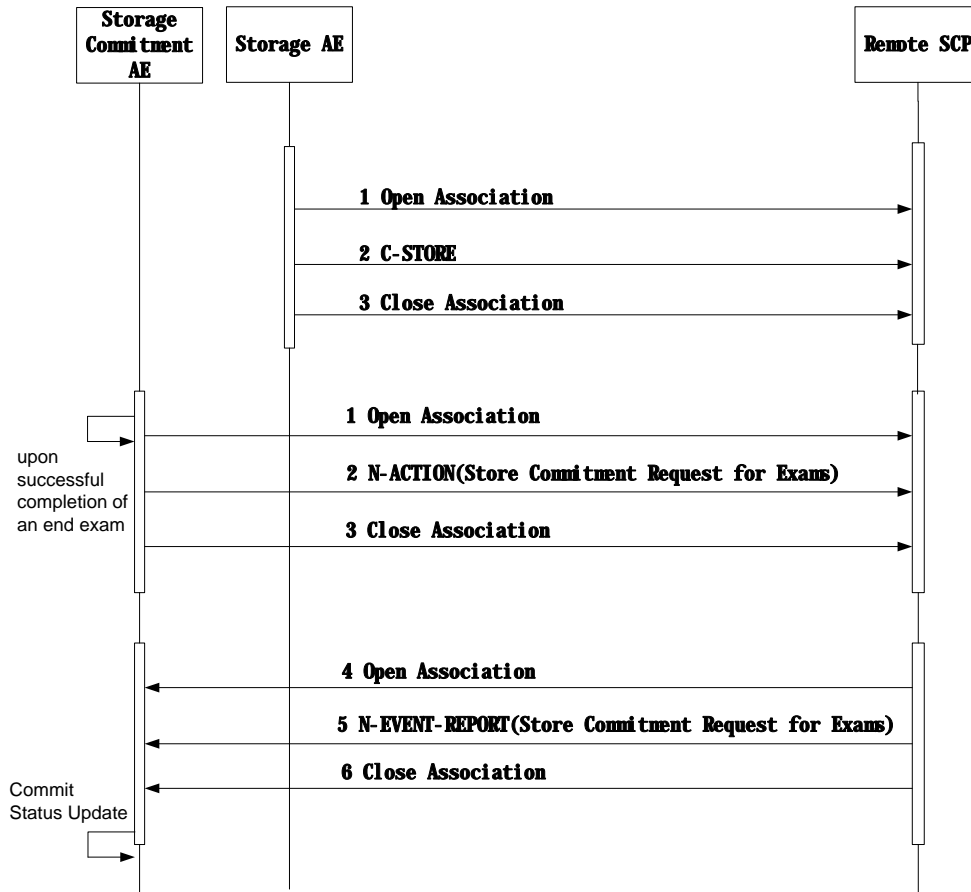


Figure 3
Sequencing of Activity – Send Storage Request

4.2.1.3.2 Proposed Presentation Contexts

If Storage AE is offered a choice of Transfer Syntaxes in the accepted Presentation Contexts, it will apply the first encountered to use for the C-STORE operation. As to Compress Transfer Syntaxes, it will apply the user configured one.

Table 12
Proposed Presentation Contexts for Storage

PROPOSED PRESENTATION CONTEXTS					
Abstract Syntax		Transfer Syntax		Role	Ext. Neg.
Name	UID	Name	UID		
Storage	1.2.840.11361.1.101.1.1	1.2.840.11361.1.101.1.1.1	1.2.840.11361.1.101.1.1.1	SC	on
		1.2.840.11361.1.101.1.1.2	1.2.840.11361.1.101.1.1.2	SC	on
		1.2.840.11361.1.101.1.1.3	1.2.840.11361.1.101.1.1.3	SC	on
		1.2.840.11361.1.101.1.1.4	1.2.840.11361.1.101.1.1.4	SC	on
		1.2.840.11361.1.101.1.1.5	1.2.840.11361.1.101.1.1.5	SC	on

		<p> E₀ BSS₀ SS on r r E rs r r r on ro ss S on u </p>		S C	on
		<p> E₀ BSS₀ SS on r r E rs r r r on ro ss S on u </p>		S C	on
		<p> E₀ g Co pr sş on, BSS₀ SS n^y </p>		S C	on
		<p> E₀ g Co pr sş on </p>		S C	on
<p> S u r g S or g </p>		<p> p En n </p>		S C	on
		<p> E-p En n </p>		S C	on
		<p> E₀ BSS₀ B s n S u q n, n Co ng ro ss </p>		S C	on
		<p> E-p Bg En n </p>		S C	on
		<p> E₀ BSS₀ SS on r r E rs r r r on ro ss S on u </p>		S C	on
		<p> E₀ BSS₀ SS on r r E rs r r r on ro ss S on u </p>		S C	on
		<p> E₀ g Co pr sş on, BSS₀ SS n^y </p>		S C	on
		<p> E₀ g Co pr sş on </p>		S C	on
<p> S on r^y C up r g S or g </p>		<p> p En n </p>		S C	on
		<p> E-p En n </p>		S C	on
		<p> E₀ BSS₀ B s n S u q n, n Co ng ro ss </p>		S C	on
		<p> E-p Bg En n </p>		S C	on
		<p> E₀ BSS₀ SS on r r E rs r r r on </p>		S C	on

		<p> Co pr ss on, ss n^v </p>		<p> C </p>	<p>on</p>
		<p> Co pr ss on </p>		<p> C </p>	<p>on</p>
Enhanced US Volume Storage	1.2.840.10 008.5.1.4.1 .1.6.2	<p> En n </p>		<p> C </p>	<p>on</p>
		<p> En n </p>		<p> C </p>	<p>on</p>
		<p> B s n S n q n^v n Co n^v ro ss </p>		<p> C </p>	<p>on</p>
		<p> Bg En n </p>		<p> C </p>	<p>on</p>
		<p> ss on r r E rs r r r on ro ss, S on n </p>		<p> C </p>	<p>on</p>
		<p> ss </p>		<p> C </p>	<p>on</p>
		<p> Co pr ss on, ss n^v </p>		<p> C </p>	<p>on</p>
		<p> Co pr ss on </p>		<p> C </p>	<p>on</p>
Raw Data Storage	1.2.840.10 008.5.1.4.1 .1.6.6	<p> En n </p>		<p> C </p>	<p>on</p>
		<p> En n </p>		<p> C </p>	<p>on</p>
		<p> B s n S n q n^v n Co n^v ro ss </p>		<p> C </p>	<p>on</p>
		<p> Bg En n </p>		<p> C </p>	<p>on</p>
		<p> ss on r r E rs r r r on ro ss, S on n </p>		<p> C </p>	<p>on</p>
		<p> ss </p>		<p> C </p>	<p>on</p>
		<p> Co pr ss on, ss n^v </p>		<p> C </p>	<p>on</p>
		<p> Co pr ss on </p>		<p> C </p>	<p>on</p>



Grayscale	1.2.840.10	pl	En	n	---	---	<u>S</u>	C	on
Softcopy	008.5.1.4.1								
Presentation	.1.11.1								
State Storage									

			u s r s t s i s t r o n s o r s u r
Fluor	Anz-o r		W s o v v s s n g n-
	u r		Asso on, s or u s n g A AB n
			s n o s r s s r son, s O g g n
			u s r s t s i s t r o n s o r s u r
			W s o v v s s n g n-
Image	Co r, on o	B	g r n s s s on, s ons r u s s s n
	D o E n s		s s n n g, s O g g -
	D s o s	B	g r n s s s on, s ons r u s s s n
	no s r		s s n n g, s O g g -
	C ss		
	E n s	B	g r n s s s on, s ons r u s s s n
	D s r		s s n n g, s O g g -
	Anz-o r s s		Asso on, s or u s n g A AB n
	o -		s n o s r s s r son, s O g g n
			n o u r s r por o u s r v s s n g n-

The behavior during communication failure is summarized in the Table below:

Table 14

Storage Communication Failure Behavior

Exception	Behavior
u o	Asso on, s or u s n g A AB n
	s n o s r s s r son, s O g g n
	r por o u s r v s s n g n-
Asso on or y	s n o s r s s r son, s O g g n
S G or n v or rs	o u r s r por o u s r v s s n g n-

The following tables provide the list of attributes requested in the Storage.

Table 15

US Image IOD

IE	Module
Patient	Patient
Study	General Study
	Patient Study
Series	General Series
Equipment	General Equipment
Image	General Image
	Image Pixel
	US Region Calibration
	US Image
	VOI LUT
	SOP Common

Table 16

US Multi-Frame Image IOD

IE	Module
Patient	Patient
Study	General Study
	Patient Study
Series	General Series
Equipment	General Equipment
Image	General Image
	Image Pixel
	Cine
	Multi-frame
	US Region Calibration
	US Image
	VOI LUT
	SOP Common

Table 17

SC Image IOD

IE	Module
Patient	Patient
Study	General Study
	Patient Study
Series	General Series

Equipment	General Equipment
	SC Equipment
Image	General Image
	Image Pixel
	SC Image
	VOI LUT
	SOP Common

Table 18

Encapsulated PDF IOD

IE	Module
Patient	Patient
Study	General Study
	Patient Study
Series	Encapsulated Document
Equipment	General Equipment
	SC Equipment
Encapsulated Document	Encapsulated Document
	SOP Common

Table 19

Raw Data IOD

IE	Module
Patient	Patient
Study	General Study
	Patient Study
Series	General Series
Equipment	General Equipment
Raw Data	Acquisition Context
	Raw Data
	SOP Common

Table 20

Enhanced US Volume IOD

IE	Module
Patient	Patient
Study	General Study

	Patient Study
Series	General Series
	Enhanced US Series
Frame of Reference	Frame of Reference
	Ultrasound Frame of Reference
	Synchronization
Equipment	General Equipment
	Enhanced General Equipment
Image	General Image
	Image Pixel
	Multi-frame Functional Groups
	Multi-frame Dimension
	Acquisition Context
	Enhanced US Image
	SOP Common

Table 21

Grayscale Softcopy Presentation State IOD

IE	Module
Patient	Patient
Study	General Study
	Patient Study
Series	General Series
	Presentation Series
Equipment	General Equipment
Presentation State	Presentation State Identification
	Presentation State Relationship
	Presentation State Shutter
	Presentation State Mask
	Displayed Area
	Graphic Annotation
	Graphic Layer
	Softcopy Presentation LUT
	SOP Common

Table 22

Patient Module

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS

>			Function D	SE
>	DA		Function B r D	SE
>			Function B r	
>	S		Function S	SE
>			Function Ds	SE
>	S		Function Gro p	
>			Function Co ns	SE
>	S		Function Suq n	
>		C	Function S D	
>		C	Function S D ns n D	

			Sequence	
	S		Continuous	
	S		Continuous Description	
	S	C	Continuous Description	
			Continuous	

Table 24
Patient Study Module

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
			Acquisition Description Description	
	A		Acquisition	Sequence Description Description Description
	S		Acquisition	Sequence Description Description Description
	S		Acquisition	Sequence Description Description Description
	B		Acquisition Description	

Table 25
General Series Module

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
	DA		Series	A
			Series	A
	S		Series	"US"
	E		Series Description	Sequence
			Description	

			D	
>	<u>S</u>		<u>S</u> r s n r	A
>	<u>S</u>	C	<u>S</u> r s n r	<u>S</u> r s n r
>	DA		<u>S</u> r or <u>S</u> r o n r <u>S</u> p <u>S</u> r D	<u>S</u>
>			<u>S</u> r or <u>S</u> r o n r <u>S</u> p <u>S</u> r	<u>S</u>
>			<u>S</u> r or <u>S</u> r o n r <u>S</u> p D s r p, on	<u>S</u>
>	<u>S</u>		<u>S</u> r or <u>S</u> r o o o Co <u>S</u> u q n	<u>S</u>

Table 26

Encapsulated Document Series Module

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
>	<u>S</u>		<u>S</u> r s n r	" <u>S</u> "
>	E		<u>S</u> r s n s, n D	A
>	<u>S</u>		<u>S</u> r s n r	A
>	E		<u>S</u> r s D s r p, on	<u>S</u> E
>	<u>S</u>		u q s A <u>S</u> u q n	
>	<u>S</u>	C	u q s <u>S</u> r o n r D	
>	<u>S</u>	C	<u>S</u> r s n r <u>S</u> r o n r <u>S</u> p D	
>			<u>S</u> r s n r <u>S</u> r o n r <u>S</u> p D s r p, on	
>	<u>S</u>		<u>S</u> r s n r <u>S</u> r o o o Co <u>S</u> u q n	

<p>> <u>S</u></p>	<p>C</p>		<p>Co</p>	<p>▶</p>
<p>> <u>S</u></p>	<p>C</p>		<p>Co, <u>S</u> sign or</p>	<p>▶</p>
<p>> <u>S</u></p>				

Table 29
Ultrasound Frame of Reference Module

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
(0020,9312)	UI	1	Volume Frame of Reference UID	AUTO
(0020,9307)	CS	1	Ultrasound Acquisition Geometry	APEX
(0020,9308)	FD	1C	Apex Position	Position of the apex (or phase center) of the acquisition geometry, encoded as xA, yA, and zA in mm units in the Volume Frame of Reference.
(0020,9309)	FD	1	Volume to Transducer Mapping Matrix	A 4x4 homogeneous transformation matrix that maps the Volume Frame of Reference coordinate system (XV, YV, ZV) to the Transducer Frame of Reference coordinate system (XX, YX, ZX).

Table 30
Synchronization Module

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
(0020,0200)	UI	1	Synchronization Frame of Reference UID	1.2.840.10008.15.1.1
(0018,106A)	CS	1	Synchronization Trigger	EXTERNAL : System is synchronized to the international standard UTC. NO TRIGGER : System is not synchronized.
(0018,1800)	CS	1	Acquisition Time Synchronized	Y : Time Synchronized service is enabled. N : Time Synchronized

				service is not enabled.
(0018,1802)	CS	3	Time Distribution Protocol	SNTP : Time Synchronized service is enabled. Sntp : Time Synchronized service is not enabled.

Table 31

General Equipment Module

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
			duration	"DAY"
			notification	CONF
	S		notification	A
			notification Duration	CONF
			duration code	"9" or "M8"
			Device number	Emergency Alarm
			Source reasons	A

Table 32

SC Equipment Module

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
	S		code	"S"
	S		Conversion type	"SD"
			notification Code Duration	"9" or "M8"
			notification Code duration duration	"DAY"
			notification Code duration code	"9" or "M8"

			S on r Cup r D V S o r r s on s	A
--	--	--	---------------------------------------	---

Table 33

Enhanced General Equipment Module

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
			Manufacturer	" n r y"
			Manufacturer's o f	" " or "M8"
			D V S r u r	E m r A r s s
			S o r r s on s	A

Table 34

General Image Module

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
	DA	C	Con n D r	A
		C	Con n	A
	S		D r V on D s r p on	C F u s s r o r n g
	S		ns n u r	A
	S	C	r n r n on	S r o r n g
			g Co ns	S r o r n g
	S		uB m n Anno on	"YB"

Table 35

US Image Module

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
	S		g y p	" A A Y"
			r ns r D r	r ns r r ns r r ns u n r r ns r A

				Forms
			Processing Function	SE
	SE		Super Resolution	or
	SE		Color Doppler Motion Tracking	<p>“CB” or color gain</p> <p>“Color E” gain</p> <p>“YB F” gain</p> <p>SE</p> <p>“CB” gain</p> <p>SE</p> <p>“YB F” gain</p> <p>E SE</p> <p>“YB C” gain</p> <p>SE</p> <p>“YB C” gain</p> <p>SE</p> <p>SE</p>
	SE	C	Color Compensation	SE
	A	C	Frame Rate	Fr
	SE		Color Depth	or
	SE		Color	r
	SE		Color	r

(0008,2124) IS 2C Number of Stages “ ”

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMME
-----------	----	------	-------------------	--------------------

			Direction	
→	C	FD	→ Y-axis of D ₁₁ X	→ Y-axis of S ₁ S ₂
→	E	FD	→ Y-axis of D ₁₁ Y	→ Y-axis of S ₁ S ₂

Table 41

Cine Module Used for US Multi-Frame Images Only

**ATTRIBUTE VR TYPE ATTRIBUTE
NAME**

> \ \ \ \ \	▶	\	Second Capture Display	“ ” or “M8”
> \ \ \ \ \	▶	\	Second Capture Display Duration	“ D AY”
> \ \ \ \ \	▶	\	Second Capture Display Duration Offset	“ ” or “M8”
> \ \ \ \ \	▶	\	Second Capture Display Source Region	A

Table 44

SC Image Module Used for Second Capture Images Only

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
> \ \ \ \ \	DA	\	Second Capture Date	A
> \ \ \ \ \	\	\	Second Capture Time	A

Table 45

Encapsulated Document Module

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
(0020,0013)	\	1	Instance Number	A
(0008,0023)	DA	2	Content Date	A
(0008,0033)	\	2	Content Time	A
(0008,002A)	D	2	Acquisition DateTime	A
(0028,0301)	\	1	Burned In Annotation	“ ”
(0042,0010)	\	2	Document Title	Document
(0040,A043)	\	2	Concept Name Code Sequence	Concept Name

(0040,A493)	S	3	Verification Flag	A - “ E FED”, o s y g u o n p rson- “ E FED”, A s o s g n r V r V ng s r r or uA n or n n id n V o s u o n or s on n-
(0042,0012)		1	MIME Type of Encapsulated Document	“application/pdf”
(0042,0011)	B	1	Encapsulated Document	PDF Do n

Table 46
Acquisition Context Module

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
(0040,0555)	S	2	Acquisition Context Sequence	S r o r n g

Table 47
Raw Data Module

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
(0020,0013)	SQ	2	Instance Number	100(a 0 811.0118(10.56 0118(

			mapped to (5001,FF13)	
--	--	--	--------------------------	--

Table 48

Multi-frame Functional Groups Module

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
(5200,9229)	SQ	2	Shared Functional Groups Sequence	
(0028,9132)	SQ	1	> Frame VOI LUT Sequence	
(0028,1050)	DS	1	>>Window Center	Set by the system
(0028,1051)	DS	1	>>Window Width	Set by the system
(0020,930F)	SQ	1	>Plane Orientation (Volume) Sequence	
(0020,9302)	FD	1	>>Image Orientation (Volume)	Set by the system
(0018,9806)	SQ	1	>US Image Description Sequence	
(0008,9007)	CS	1	>>Frame Type	ORIGINAL\PRIMARY
(0008,9206)	CS	1	>>Volumetric Properties	VOLUME
(0008,9207)	CS	1	>>Volume Based Calculation Technique	NONE
(5200,9230)	SQ	1	Per-frame Functional Groups Sequence	
(0020,9111)	SQ	1	>Frame Content	

			Sequence	
(0018,9151)	DT	1C	>>Frame Reference DateTime	Set by the system
(0018,9074)	DT	1C	>>Frame Acquisition DateTime	Set by the system
(0018,9220)	FD	1C	>>Frame Acquisition Duration	Set by the system
(0020,9157)	UL	1C	>>Dimension Index Values	Set by the system
(0020,930E)	SQ	1	>Plane Position (Volume) Sequence	

Table 49
Multi-frame Dimension Module

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
(0020,9221)	SQ	1	Dimension Organization Sequence	
(0020,9164)	UI	1	>Dimension Organization UID	AUTO
(0020,9222)	SQ	1	Dimension Index Sequence	Including 3 items.
(0020,9165)	AT	1	>Dimension Index Pointer	Item1: 0x0020930d Item2: 0x00209301 Item3: 0x00189808
(0020,9167)	AT	1C	>Functional Group Pointer	Item1: 0x00209310 Item2: 0x0020930e Item3: 0x00189807
(0020,9164)	UI	1C	>Dimension Organization UID	Item1, Item2, Item3: AUTO
(0020,9421)	LO	3	>Dimension Description Label	Item1: Time Item2: Image position(Z) Item3: Data type

Table 50
Enhanced US Image Module

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
(0008,0008)	CS	1	Image Type	"ORIGINAL/PRIMARY"
(0028,0002)	US	1	Samples Per Pixel	1
(0028,0004)	CS	1	Photometric Interpretation	MONOCHROME2
(0028,0100)	US	1	Bits Allocated	8
(0028,0101)	US	1	Bits Stored	8
(0028,0102)	US	1	High Bit	7

(0028,0103)	US	1	Pixel Representation	0
(0020,9311)	CS	1	Dimension Organization Type	3D or 3D_TEMPORAL :
(0008,002A)	DT	1	Acquisition Datetime	A
(0018,9073)	FD	1	Acquisition Duration	$\frac{S}{Y}$ / $\frac{Y}{S}$ / $\frac{Y}{S}$

(0018,980E)	SQ	1	Transducer Beam Steering Code Sequence	
>(0008,0100)	SH	1	Code Value	125258
>(0008,0102)	SH	1	Coding Scheme Designator	DCM
>(0008,0103)	SH	1	Coding Scheme Version	20090409
>(0008,0104)	LO	1	Code Meaning	Mechanical beam steering
(0018,980F)	SQ	1	Transducer Application Code Sequence	
>(0008,0100)	SH	1	Code Value	125261
>(0008,0102)	SH	1	Coding Scheme Designator	DCM
>(0008,0103)	SH	1	Coding Scheme Version	20090409
>(0008,0104)	LO	1	Code Meaning	External Transducer
(0018,5022)	DS	1	Mechanical Index	\underline{S} , \overline{Y} , \underline{S}
(0018,5024)	DS	1	Bone Thermal Index	\underline{S} , \overline{Y} , \underline{S}
(0018,5026)	DS	1	Cranial Thermal Index	\underline{S} , \overline{Y} , \underline{S}
(0018,5027)	DS	1	Soft Tissue Thermal Index	\underline{S} , \overline{Y} , \underline{S}
(0018,9801)	FD	1	Depth(s) of Focus	\underline{S} , \overline{Y} , \underline{S}
(0018,5050)	IS	1	Depth of Scan Field	\underline{S} , \overline{Y} , \underline{S}

Table 51

Presentation State identification Module

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
(0070,0082)	DA	1	Presentation Creation Date	AUTO
(0070,0083)	TM	1	Presentation Creation Time	AUTO

(0020,0013)	IS	1	Image Number	AUTO
(0070,0080)	CS	1	Content Label	
(0070,0081)	LO	2	Content Description	
(0070,0084)	PN	2	Content Creator's Name	

Table 52

Presentation State Relationship Module

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
(0008,1115)	SQ	1	Referenced Series Sequence	
(0020,000E)	UI	1	>Series Instance UID	MWL
(0008,1140)	SQ	1	>Referenced Image Sequence	
>>(0008,1150)	UI	1C	>>Referenced SOP Class UID	MWL
>>(0008,1155)	UI	1C	>>Referenced SOP Instance UID	MWL

Table 53

Displayed Area Module

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
(0070,005A)	SQ	1	Displayed Area Selection Sequence	
(0008,1140)	SQ	1C	Referenced Image Sequence	
>>(0008,1150)	UI	1C	Referenced SOP Class UID	MWL
>>(0008,1155)	UI	1C	Referenced SOP Instance	MWL



			Hand Corner	
>>(0070,0011)	FL	1C	Bounding Box Bottom Right Hand Corner	CONFIG
>>(0070,0012)	CS	1C	Bounding Box Text Horizontal Justification	

Table 55

Graphic Layer Module

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
(0070,0060)	SQ	1	Graphic Layer Sequence	
(0070,0002)	CS	1	Graphic Layer	
(0070,0062)	IS	1	Graphic Layer Order	
(0070,0066)	US	3	Graphic Layer Recommended Display Grayscale Value	

Table 56

Softcopy Presentation LUT MODULE

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
(2050,0020)	CS	1C	Presentation LUT Shape	DE ^Y Y

Table 57

SOP Common Module

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
(0008,0005)	CS	1C	Specific Character Set	“GB18030”

(0008,0016)	UI	1	SOP Class UID	“-----”
(0008,0018)	UI	1	SOP Instance UID	“-----”
(0008,0012)	D A	3	Instance Creation Date	A
(0008,0013)	T M	3	Instance Creation time	A

Conventions used for the Value(s) and Comments section are:

MWL the attribute value source is from Modality WORKLIST USER

AUTO automatically generated by the MODALITY system

CONFIG - the attribute value source is a configurable parameter

4.2.1.3.3 Activity – Film Images

4.2.1.3.3.1 Description and Sequencing of Activities

A user composes images onto film sheets and requests them to be sent to a specific hardcopy device. The user can select the desired film format and number of copies. Each print-job is forwarded to the job queue and processed individually.

The system is invoked by the user on Send to UI if the print remote AE is pre-configured. Status of the print-job is reported through task management UI. If pre-configured on Preset UI, the failed print task will be automatically retried specified times. If no pre-configuration, the user can also retry manually. Only one task will be active at a time for each separate hardcopy device. The same as Storage, the system could retry automatically the failed task caused by network failure, when the network is restored.

A typical sequence of DIMSE messages sent over an association between Print AE and a Printer is illustrated in Figure 4:

1. Print AE opens an association with the Printer.
2. N-GET on the Printer SOP Class is used to obtain current printer status information.
3. N-CREATE on the Film Session SOP Class creates a Film Session.
4. N-CREATE on the Film Box SOP Class creates a Film Box linked to the Film Session. A single Image Box will be created as the result of this operation (Print AE default uses the format STANDARD1.1, but user can change it on Preset UI).
5. N-SET on the Image Box SOP Class transfers the contents of the film sheet to the printer.
6. N-ACTION on the Film Box SOP Class instructs the printer to print the Film Box.

7. The Printer prints the requested number of film sheets.
8. The Printer asynchronously reports its status via N-EVENT-REPORT notification (Printer SOP Class). The Printer can send this message at any time. Print AE is capable of receiving an N-EVENT-REPORT notification at any time during an association.
9. N-DELETE on the Film Box SOP Class deletes the complete Film box SOP Instance hierarchy.
10. N-DELETE on the Film Session SOP Class deletes the complete Film Session SOP Instance hierarchy.
11. Print AE closes the association with the Printer.

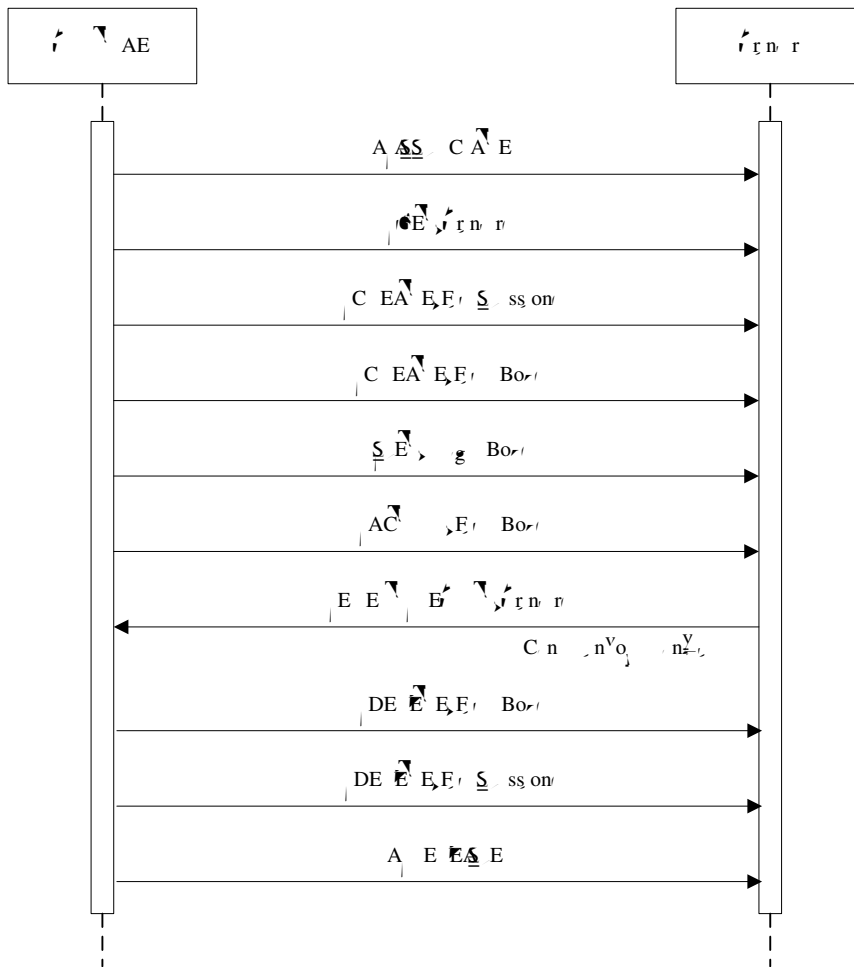


Figure 4
Sequencing of Activity – Film Images

4.2.1.3.3 Proposed Presentation Contexts

Print AE is capable of proposing the Presentation Contexts shown in the Table below:

Table 58
Proposed Presentation Contexts for Activity Film Images

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Ext. Neg.
Name	UID	Name List	UID List		
B s r V s r n n g n		p r E n		S C	on
		E p r E n		S C	on
		E p r B g E n		S C	on
B s C o r r n n g n		p r E n		S C	on
		E p r E n		S C	on
		E p r B g E n		S C	on

4.2.1.3.3 Common SOP Specific Conformance for all Print SOP Classes

The general behavior of Print AE during communication failure is summarized in the Table below. This behavior is common for all SOP Classes supported by Print AE.

Table 59
Print AE Communication Failure Behavior

Exception	Behavior
U O	SSO on, s or u s n A AB n p r n o s r s
Asso on or V S G or n or rs	p r n o s r s r s o n s g n o u r s r p o u s r

Recommended abbreviations to be used for the tables are:

- VNAP Value Not Always Present (attribute sent zero length if no value is present)
- ANAP Attribute Not Always Present
- ALWAYS Always Present with a value
- EMPTY Attribute is sent without a value

Recommended abbreviations to be used for the source of the data values in the tables are:

- USER the attribute value source is from User input
- AUTO the attribute value is generated automatically

CONFIG the attribute value source is a configurable parameter

PRINTER the attribute value is provided by printer

4.2.1.3.3.4 SOP Specific Conformance for the Printer SOP Class

Print AE supports the following DIMSE operations and notifications for the Printer SOP Class:

N-GET

N-EVENT-REPORT

Details of the supported attributes and status handling behavior are described in the following subsections.

4.2.1.3.3.4.1 Printer SOP Class Operations (N-GET)

Print AE uses the Printer SOP Class N-GET operation to obtain information about the current printer status. The attributes excepted via N-GET are listed in the Table below:

Table 60
Printer SOP Class N-GET Request Attribute Identifier List

Attribute Name	Tag
PrinterStatus	0x00000001
PrinterStatusNo	0x00000002
PrinterName	0x00000003
PrinterID	0x00000004
PrinterModel	0x00000005
PrinterManufacturer	0x00000006
PrinterVersion	0x00000007
PrinterSerialNumber	0x00000008
PrinterServiceCode	0x00000009
PrinterServiceCode	0x0000000A

The behavior of Print AE when encountering status codes in a N-GET response is summarized in the Table below:

Table 61
Printer SOP Class N-GET Response Status Handling Behavior

Service Status	Further Meaning	Error Code	Behavior
Success	Success		Printer status is reported successfully.
Failure	Failure	0x00000001	Printer status is not reported.
Failure	Failure	0x00000002	Printer status is not reported.

4.2.1.3.3.4.2 Printer SOP Class Notifications (N-EVENT-REPORT)

Print AE is capable of receiving an N-EVENT-REPORT request at any time during an association. The behavior of Print AE when receiving Event Types within the N-EVENT-REPORT is summarized in the Table .

Table 62

Printer SOP Class N-Event-Report Behavior

Event Type Name	Event Type ID	Behavior
...
...
...
*	*	An... EV... D... s... o... r... n... E E... r spons -

The reasons for returning specific status codes in a N-EVENT-REPORT response are summarized in the Table below:

Table 63

Printer SOP Class N-EVENT-REPORT Response Status Reasons

Service Status	Further Meaning	Error Code	Reasons
...
...	EV... p	...	An... EV... D... s... pp... n... E E... E... n q s-
...	ro... g H... r	...	An... rror... r... g pro... g o... E E... E... -A s... s... p... o... rror... r... n Error Co... n... -

4.2.1.3.3.5SOP Specific Conformance for the Film Session SOP Class

Print AE supports the following DIMSE operations for the Film Session SOP Class:

- N-CREATE
- N-DELETE

Details of the supported attributes and status handling behavior are described in the following subsections.

4.2.1.3.3.5.1 Film Session SOP Class Operations (N-CREATE)

The attributes supplied in an N-CREATE Request are listed in the Table below:

Table 64

Film Session SOP Class N-CREATE Request Attributes

Attribute Name	Tag	VR	Value	Presence of Value	Source
Procedure Code	0000	US	Procedure Code	A A S	C File
Print AE	0000	US	Print AE	A A S	C File
Print AE	0000	US	B EF C EA F A E	A A S	C File
Print AE	0000	US	A AZ E C S	A A S	C File

The behavior of Print AE when encountering status codes in a N-CREATE response is summarized in the Table below:

Table 65
Film Session SOP Class N-CREATE Response Status Handling Behavior

Service Status	Further Meaning	Error Code	Behavior
Success	Success		Successful operation
Warning	Warning	B	Creation operation successful
Warning	Warning	FFFF	Creation operation successful
Failure	Failure	FFFF	Association or printing operation successful

4.2.1.3.3.5.2 Film Session SOP Class Operations (N-DELETE)

The behavior of Print AE when encountering status codes in a N-DELETE response is summarized in the Table below:

Table 66
Printer SOP Class N-DELETE Response Status Handling Behavior

Service Status	Further Meaning	Error Code	Behavior
Success	Success		Successful operation
Warning	Warning	FFFF	DELETION operation successful
Failure	Failure	FFFF	Association or printing operation successful

			Report Source
--	--	--	---------------

4.2.1.3.3.6 SOP Specific Conformance for the Film Box SOP Class

Print AE supports the following DIMSE operations for the Film Box SOP Class:

- N-CREATE
- N-ACTION
- N-DELETE

Details of the supported attributes and status handling behavior are described in the following subsections.

4.2.1.3.3.6.1 Film Box SOP Class Operations (N-CREATE)

The attributes supplied in an N-CREATE Request are listed in the Table below:

Table 67
Film Box SOP Class N-CREATE Request Attributes

Attribute Name	Tag	VR	Value	Presence of Value	Source
----------------	-----	----	-------	-------------------	--------

		S A DA D S A DA D S A DA D S A DA D S A DA D S A DA D S A DA D S A DA D S A DA D S A DA D		
--	--	--	--	--

rn
 Er ss on
 Suq n

A A A

Configuration Information			Serial Number	Address	SE
------------------------------	--	--	---------------	---------	----

The behavior of Print AE when encountering status codes in a N-CREATE response is summarized in the Table below:

Table 68
Film Box SOP Class N-CREATE Response Status Handling Behavior

Service Status	Further Meaning	Error Code	Behavior
Success	Success		Successful operation
Warning	Unacceptable Density or Density outside of printer's operating range	B	Continue operation, success
Warning	Abnormal warning	XXXX	Continue operation, success

Further description of Error Codes:
no print on AC

			AC	op r , on, s
Er	Bo	B	AC	op r , on, s
Er	Bo	B	AC	op r , on, s
Er	Bo	B	AC	op r , on, s
Er	Bo	B A	AC	op r , on, s
Er	An		AC	op r , on, s
Er	n	C	Asso	on, s or u s ng
Er	g s	C	Asso	on, s or u s ng
Er	Co	C	Asso	on, s or u s ng
Er	An		Asso	on, s or u s ng

4.2.1.3.3.6.3 Film Session SOP Class Operations (N-DELETE)

The behavior of Print AE when encountering status codes in a N-DELETE response is summarized in the Table below:

Table 70
Printer SOP Class N-DELETE Response Status Handling Behavior

Service Status	Further Meaning	Error Code	Behavior
Success	Success		The printer successfully deleted the requested objects.
Warning	Annotation	XXXX	The printer deleted the requested objects successfully.
Failure	Annotation	XXXX	The printer failed to delete the requested objects.

4.2.1.3.3.7 SOP Specific Conformance for the Image Box SOP Class

Print AE supports the following DIMSE operations for the Image Box SOP Class:

N-SET

Details of the supported attributes and status handling behavior are described in the following subsections.

4.2.1.3.3.7.1 Image Box SOP Class Operations (N-SET)

The attributes supplied in an N-SET Request are listed in the Table below:

Table 71
Image Box SOP Class N-SET Request Attributes

Attribute Name	Tag	VR	Value	Presence of Value	Source
Image Box ID	0001	US	Image Box ID	A	A
Image Box Description	0002	US	Image Box Description	A	A
Image Box ID	0003	US	Image Box ID	A	A
Image Box Description	0004	US	Image Box Description	A	C, F
Image Box ID	0005	US	Image Box ID	A	A
Image Box Description	0006	US	Image Box Description	A	A
Image Box ID	0007	US	Image Box ID	A	A
Image Box Description	0008	US	Image Box Description	A	A
Image Box ID	0009	US	Image Box ID	A	A
Image Box Description	0010	US	Image Box Description	A	A

 Preset menu				 A A	 A
 Doppler			 B	 A A	 A
 Color Doppler				 Color Doppler	 A
 Preset menu				 A A	 A
 Color Doppler			 B	 A A	 C F
 Preset menu				 A A	 A
 Doppler			 Doppler	 A A	 A
 Doppler			 Doppler	 A A	 A
 Preset menu			 Preset menu	 A	 A
 Preset menu				 A A	 A
 Preset menu				 A A	 A
 Preset menu				 A A	 A

	g n -		
u q s n D ns y-or			

4.2.1.3.4 Activity – Send Find Request

4.2.1.3.4.1 Description and Sequencing of Activities

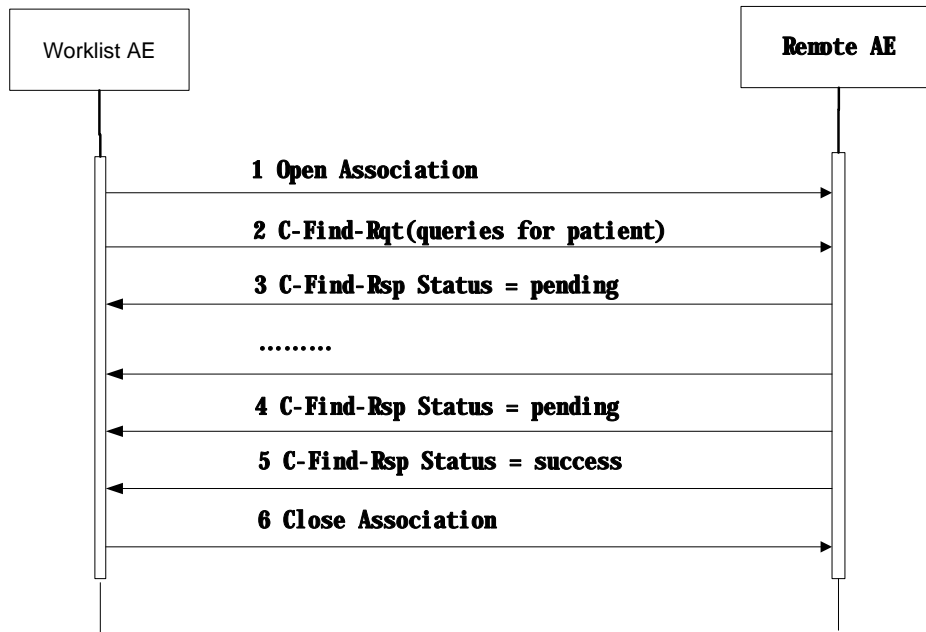


Figure 5
Sequencing of Activity – Send FIND Request

A possible sequence of interactions between the Worklist AE and a remote AE (e.g. a system such as a RIS or HIS; or a PACS) is illustrated in the Figure below:

1. The Worklist AE opens an association with the remote AE
- 2.

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name	UID		
Presentation Context	[Presentation Context UID]	Presentation Context	[Presentation Context UID]	SC	on
		Extended Presentation Context	[Extended Presentation Context UID]	SC	on
		Extended Presentation Context	[Extended Presentation Context UID]	SC	on

Worklist AE will propose Presentation Contexts for the SOP Classes listed above. For these SOP Class, Worklist AE will propose multiple Presentation Contexts, one for each of the supported Transfer Syntaxes.

If Worklist AE is offered a choice of Transfer Syntaxes in the accepted Presentation Contexts, it will apply the first encountered to use for the C-FIND operation.

4.2.1.3.4.3 SOP Specific Conformance

Table 74
C_FIND Response Status Handling Behavior

Service Status	Further Meaning	Error Code	Behavior (as SCU)
Success	Successful	AC	The worklist item is collected for later display or further processing.
Failure	Not a supported SOP Class	AC	
Failure	Not supported	CC	
Content	Content not found	FE	
Success	Successful		The worklist item is collected for later display or further processing.
Failure	Not supported	FF	The worklist item contained in the Identifier is collected for later display or further processing.
Failure	Not supported	FF	The worklist item contained in the Identifier is collected for later display or further processing.

			processing.
*	<p>Asso... on, s... or u... s... ng</p> <p>A AB... n... r... s... r... s...</p> <p>... s... n... s... o... g... n</p> <p>r por... o... u... s... r... n... n... r... V... u... q... r... V...</p> <p>An... V... o... r... rror, n or... o... n, n...</p> <p>spons... V... r... o... g... -</p>	<p>An... V... o... r...</p> <p>... s... o... -</p>	<p>... sso... on, s... or... or... r...</p> <p>... ng A AB... n... r... s...</p> <p>no... V... s... s... g... s...</p> <p>... sp... V... s... o... rrors</p> <p>... pp... n... V... n... q... r... V...</p> <p>... V... or... s... s... r... V... r...</p>

Worklist AE provides Standard Conformance to the Storage Service Class.

Worklist AE will behave as described in the [diagram] in response to the status returned in the C-FIND response command message.

The behavior of Ultrasound System during communication failure is summarized in the Table below.

Table 75
COMMUNICATION FAILURE BEHAVIOR FOR WORKLIST AE

Exception	Behavior
[diagram]	<p>Asso... on, s... or u... s... ng A AB... n... r... s...</p> <p>... r... s... r... son, s... o... g... n r por... o... u... s... r... n</p> <p>... n... r... V... u... q... r... V...</p>
Asso... on, or... V... r... s... G... or n... V... or... V... rs	<p>... u... q... r... s... r... s... r... r... son, s... o... g... n r por... o</p> <p>... u... s... r... n... n... r... V... u... q... r... V...</p>

The Table below provides a description of the Ultrasound system Worklist Request Identifier and specifies the attributes that are copied into the images. Unexpected attributes returned in a C-FIND response are ignored.

Requested return attributes not supported by the SCP are set to have no value. Non-matching responses returned by the SCP due to unsupported optional matching keys are ignored. No attempt is made to filter out possible duplicate entries.

Table 76
Worklist Request Identifier

ATTRIBUTE	VR	ATTRIBUTE NAME	MATCHING KEYS	RETURN KEYS
Module: Patient Identification Module (M)				
[diagram]	[diagram]	[diagram] ncs	only r	X, D
[diagram]	[diagram]	[diagram] n D	only r	X, D
[diagram]	[diagram]	[diagram] r... n Ds		X, D
Module: Patient Demographic Module (M)				
[diagram]	DA	[diagram] ncs B r... D		X, D
[diagram]	[diagram]	[diagram] ncs B r...		X, D

>	☑	Personnel		X, D
>	☑	Personnel		X, D
>	☑	Personnel		X, D
>	☑	Emergency		X, D
>	☑	Personnel		X, D
>	☑	Consent, Information, Privacy, Disposition		X, D
Module: Patient Medical Module (M)				
>	☑	Admission		X, D
>	☑	Consent Admission		X, D
>	☑	Additional Patient's		X, D
>	☑	Registration		X, D
>	DA	Registration		X, D
>	☑	Support		X, D
>	☑	Personnel		X, D
Module: Visit Relationship Module (M)				
>	☑	Personnel		X, D
Module: Visit Identification Module (M)				
>	☑	Admission		X, D
Module: Visit Status Module (M)				
>	☑	Current		X, D

=>	AE	Subtraction AE	Original	X, D
=>	DA	Subtraction Subtraction Date	Original History today's date	X, D
=>		Subtraction Subtraction		X, D
=>	DA	Subtraction Subtraction Date		X, D
=>		Subtraction Subtraction		X, D
=>		Subtraction Registration Versions		X, D
=>		Subtraction Subtraction		X, D
=>		Subtraction Comparison		X, D
=>		Comparison		X, D
=>		Comparison Display		X, D
=>		Comparison Comparison		X, D
=>		Comparison		X, D
=>		Comparison Subtraction		X, D
=>		Comparison Subtraction		X, D
=>		Comparison Subtraction		X, D
=>		Comparison Subtraction		X, D
=>		Comparison Subtraction		X, D
=>		Comparison Subtraction		X, D
=>		Comparison Subtraction		X, D
=>		Comparison Subtraction		X, D
Module: Requested Procedure Module (M)				
>		Comparison Subtraction		X, D

		Subquery		
=>		run subquery Class D		X, D
=>		run subquery ns, n D		X, D
>	D	subquery ns, n D		X, D
>		run subquery Display on		X, D
>		run subquery Coquery		X, D
=>		Coquery		X, D
=>		Coquery Display on		X, D
=>		Coquery rs on		X, D
=>		Coquery		X, D
>		run subquery D	onquery	X, D
>		run subquery for		X, D
>		run subquery Arrangement		X, D
>		run subquery Cons		X, D

Module: Imaging Service Request Module (M)

> run subquery

		Acquisition		X, D
--	--	-------------	--	------

The convention used for Matching Keys is:

X - Return keys. An " X " indicates that MODALITY supplies this attribute as a Return Key with zero length for Universal Matching.

DI - Display to the user.

4.2.1.3.5 Activity – Send MPPS Request

4.2.1.3.5.1 Description and Sequencing of Activities

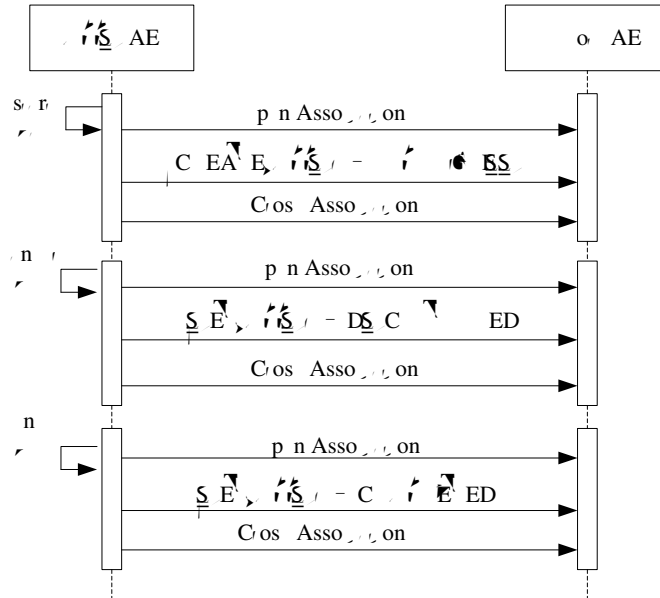


Figure 6
Sequencing of Activity – MPPS progress

A possible sequence of interactions between the MPPS AE and a Remote AE (Departmental Scheduler, e.g. a device such as a RIS or HIS which supports the MPPS SOP Class as an SCP) is illustrated in Figure B.4.2-4:

1. The MPPS AE opens an association with the Remote AE.
2. The MPPS AE sends an N-CREATE request to the Remote AE to create an MPPS

Remote AE acknowledges the MPPS creation with an N-CREATE response (status success).

3. The MPPS AE closes the association with the Remote AE.
4. All images are acquired and stored in the local database.
5. The MPPS AE opens an association with the Remote AE.

6. The MPPS AE sends an N-SET request to the Remote AE to update the MPPS

The

Departmental Scheduler acknowledges the MPPS update with an N-SET response (status success).

7. The MPPS AE closes the association with the Remote AE.

Note: The Cancel and End Exam commands are mutually exclusive. They are both represented here for illustration purposes only. Actual workflow uses one or the other for a given exam.

For each exam step transfer, an attempt will be made to transmit it to the selected remote AE. If it fails, it will automatically retry specific times if configured on

			Response: n... -E... A...
*	*	An... o... s... o...	Association... S... g...

The behavior of MPPS AE during communication failure is summarized in the Table below:

Table 79
MPPS COMMUNICATION FAILURE BEHAVIOR

Exception	Behavior
Timeout	The Association is aborted using A-ABORT and MPPS marked as failed. The reason is logged.
Association aborted by the SCP or network layers	The MPPS is marked as failed. The reason is logged.

Table below provides a description of the MPPS N-CREATE and N-SET request identifiers sent by ultrasound system. Empty cells in the N-CREATE and N-SET columns indicate appropriate value will be sent. A

Table 80
MPPS N-CREATE / N-SET Request Identifier

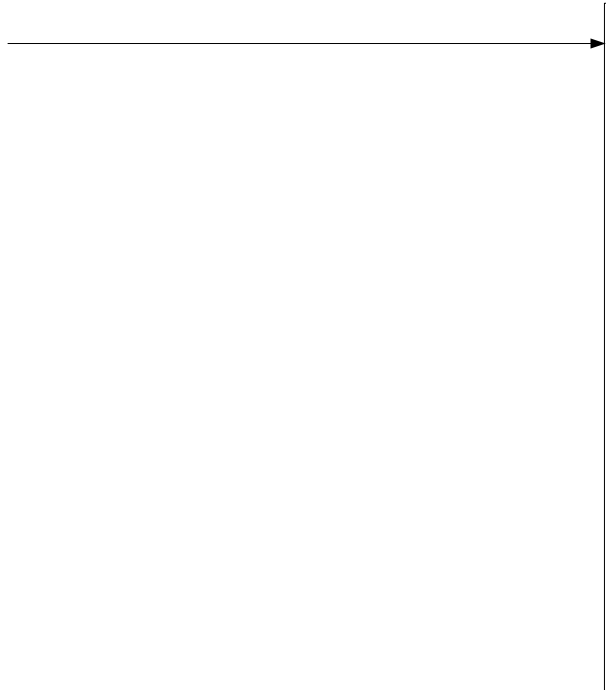
Attribute Name	Tag	Req. Type N-CREATE	Req. Type N-SET
Module: Performed Procedure Step Relationship Module (M)			
...	>		o...V
Patient's Name	>		o...V
...	>		o...V
Patient's Birth Date	>		o...V
Patient's Sex	>		o...V
...	>		o...V
...	>		o...V
...	>		o...V
...	>		o...V

≡ uq s r r o u r D s r p, on	> \ \ \ /		o r r o r V
≡ S u n r r o u r S u p D s r p, on	> \ \ \ /		o r r o r V
≡ S u n r r o o o Co S u q n	> \ \ \ /		o r r o r V
≡ S u n r r o u r S u p D	> \ \ \ /		o r r o r V
≡ uq s r r o u r D	> \ \ \ /		o r r o r V
Module: Image Acquisition Results Module (M)			
o r r o r V	> \ \ \ /		o r r o r V
S u p D	> \ \ \ /		o r r o r V
r r o r r o o o Co S u q n	> \ \ \ /	> Du r r s s r r o n	\
r r o r S r S u q n	> \ \ \ /		\
= r v AE	> \ \ \ /	> Du r r s s r r o n	
≡ S r s D s r p, on	> \ \ \ / E	> Du r r s s r r o n	
>Performing Physician's Name	> \ \ \ /		
>Operators' Name	> \ \ \ /		
= r n g S u q n	> \ \ \ /		
= r o o o	> \ \ \ /		\
≡ S r s n s n D	> \ \ \ / E		\
= r n on g Co pos, S r ns n S u q n	> \ \ \ /	> Du r r s s r r o n	
Module: Billing And Material Management Code Module (M)			
B u n g r r o u r S u p S u q n	> \ \ \ /	\	\
E r Cons p, or S u q n	> \ \ \ /	\	\
B u n g S p p, s n D v s S u q n	> \ \ \ /	\	\
Module: Performed Procedure Step Information Module (M)			
r r o u r Co S u q n	> \ \ \ /	> Du r r s s r r o n	\
r r o r S u p on AE	> \ \ \ /		o r r o r V
r r o r S u p on	> \ \ \ /	> Du r r s s r r o n	o r r o r V
r r o r S u p on	> \ \ \ /	> Du r r s s r r o n	o r r o r V
r r o r r r o u r S u p S u p	> \ \ \ /		o r r o r V

D			
For	For		or
For	For	Dimension	
For	For		
For	For		or
For	For	Dimension	
For	For		
For	For	Dimension	
For	For		
Module: SOP Common Module (M)			
For	For	For	or

4.2.1.3.6 Activity – Query/Retrieve from Remote AE

4.2.1.3.6.1 Description and Sequencing of Activities for SCU



Study	<p>Current study</p> <p>Current study</p> <p>Current study</p> <p>Current study</p> <p>Current study</p>	FF	Study	
	<p>Current study</p> <p>Current study</p> <p>Current study</p> <p>Current study</p> <p>Current study</p>	FF	Study	

The ultrasound system supports the following query levels:

Study

The Query/Retrieve AE interprets following status codes

Table 83
C-Move Response Status Handling Behavior

Service Status	Meaning	Protocol Codes	Related Fields	Behavior (as SCU)
----------------	---------	----------------	----------------	-------------------

>		S	En Group		
>		S	u p on		
>	B		A on r n s or		
>			r n Co ns		
>		S	r n s		
>		S	u r o r n s		
>		S	S r s		
>		S	u r o r n s		
>		S	ns n s		
>		S	u r o r n s		
>		S	S r s		
>		S	u r o r n s		
>		S	ns n s		
>	C		n rpr on A or		
Module: Additional Attributes Module (O)					
>		S	Cr ss s r		

4.2.1.3.6.3.5 Series Level Attributes

Table 85

SERIES LEVEL ATTRIBUTES

ATTRIBUTE	VR	TYP E	ATTRIBUTE NAME	VAL UE	MATCHIN GKEYS
Module: Study Root Information Model (M)					
>	D		r n s n D		S
>	E		S r s ns n D		
>		S	o r		
>		S	S r s r		
>		S	u r o r n s ns n s		
Module: Additional Attributes Module (O)					
>		DA	S r s D		
>			S r s		

4.2.1.3.6.3.6 Composite Object Instance Level

Table 86

COMPOSITE OBJECT INSTANCE LEVEL ATTRIBUTES

ATTRIBUTE	VR	TYP E	ATTRIBUTE NAME	VALUE	MATCHIN GKEYS
Module: Study Root Information Model (M)					
>	D		<u>S</u> r s ns n D		<u>S</u>
>	E		<u>S</u> r s ns n D		<u>S</u>
>			<u>S</u> r ns n D		
>	<u>S</u>		ns n u r		
Module: Additional Attributes Module (O)					
>			<u>S</u> r C ss D		
>	A		r n r <u>S</u> r C ss D		
>		<u>S</u>	A r n r pr s n r or <u>S</u> u q n		
=>			r n <u>S</u> r C ss D		
=>			r n <u>S</u> r ns n D		
=>	E		<u>S</u> r s ns n D		
=>	A	<u>S</u>	r rpos o r n Co <u>S</u> u q n		
==>		<u>S</u>	Co u r		
==>		<u>S</u>	Co n <u>S</u> r D s g n r or		
==>		<u>S</u>	Co n <u>S</u> r rs on		
==>			Co n n n		
>	A	<u>S</u>	Con p r Co <u>S</u> u q n		
=>		<u>S</u>			

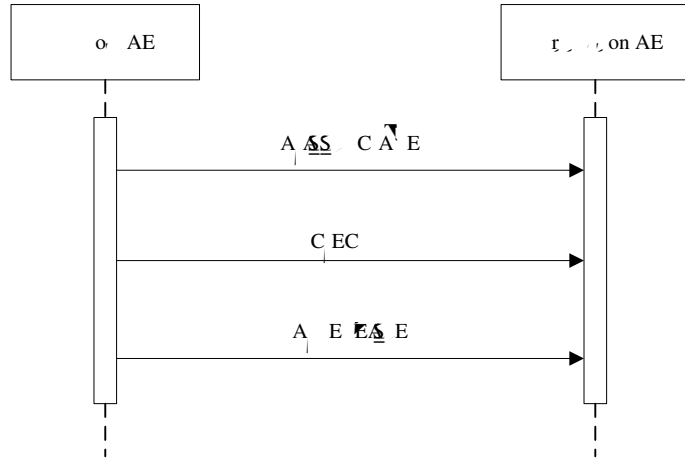


Table 88
Proposed Presentation Contexts for Storage

PROPOSED PRESENTATION CONTEXTS					
Abstract Syntax		Transfer Syntax		Role	Ext. Neg.
Name	UID	Name	UID		
Storage	[...]	presentation Encapsulation	[...]	SG	on
		Encapsulation Encapsulation	[...]	SG	on
		Encapsulation Basic	[...]	SG	on
		Unique Identifier	[...]		
		Configuration	[...]		
		Encapsulation Base Encapsulation	[...]	SG	on
		Encapsulation Base	[...]	SG	on
		Encapsulation Base Encapsulation	[...]		
		Encapsulation Base	[...]	SG	on
Storage	[...]	presentation Encapsulation	[...]	SG	on
		Encapsulation Encapsulation	[...]	SG	on
		Encapsulation Basic	[...]	SG	on
		Unique Identifier	[...]		
		Configuration	[...]		
		Encapsulation Base Encapsulation	[...]	SG	on
		Encapsulation Base	[...]	SG	on
		Encapsulation Base Encapsulation	[...]		
		Encapsulation Base	[...]	SG	on
Storage	[...]	presentation Encapsulation	[...]	SG	on

Cup r g S or g		Er p... En... n	S G	on
		E B s s B s n	S G	on
		Su q n... n		
		Co n... ro s s		
		Er p... B g En... n	S G	on
		E B s s s s	S G	on
		on... r r... Er s... r r r... on ro s s... S... on u...		
E B s s s s	S G	on		
E B s s	S G	on		
Co pr s s on, B s s s				
n...				
E B s s	S G	on		
Co pr s s on				
Co pr... ns V Su... r por S or g		p... En... n	S G	on
		Er p... En... n	S G	on
		E B s s B s n	S G	on
		Su q n... n		
		Co n... ro s s		
		Er p... B g En... n	S G	on
		E B s s s s	S G	on
		on... r r... Er s... r r r... on ro s s... S... on u...		
E B s s s s	S G	on		
E B s s	S G	on		
Co pr s s on, B s s s				
n...				
E B s s	S G	on		
Co pr s s on				
En... ps... D S or g		p... En... n	S G	on
		Er p... En... n	S G	on
		E B s s B s n	S G	on
		Su q n... n		
		Co n... ro s s		
		Er p... B g En... n	S G	on
E B s s s s	S G	on		
on... r r... Er s... r r r... on ro s s... S... on u...				

		Encapsulated PDF	Storage Commitment	on
		Encapsulated PDF Compression	Storage Commitment	on
		Encapsulated PDF Compression	Storage Commitment	on

Note: The system could not support to browser the Encapsulated PDF.

4.2.1.4.2.3 SOP Specific Conformance

The Application conforms to the definition of a Storage SCP in accordance with the DICOM Standard.

4.2.1.4.3 Activity – Receive Storage Commitment

4.2.1.4.3.1 Description and Sequencing of Activities

A possible sequence of interactions between the Storage Commitment AE and a remote AE is illustrated in the Figure 3

Sequencing of Activity Send Storage Request.

4.2.1.4.3.2 Accepted Presentation Contexts

The Storage Commitment AE will accept Presentation Contexts as shown in the Table below.

Table 89
Acceptable Presentation Contexts for
Activity Receive Storage Commitment Response

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Ext. Neg.
Name	UID	Name List	UID List		
Storage Commitment Push Model	1.3.6.1.4.1.1.1	Presentation Encapsulation	1.3.6.1.4.1.1.1	SCU	on
Storage Commitment Push Model	1.3.6.1.4.1.1.1	Presentation Encapsulation	1.3.6.1.4.1.1.1	SCU	on
Storage Commitment Push Model	1.3.6.1.4.1.1.1	Presentation Encapsulation	1.3.6.1.4.1.1.1	SCU	on

The Storage Commitment AE will only accept the SCU role within a Presentation Context for the Storage Commitment Push Model SOP Class.

4.2.1.4.3.3 SOP Specific Conformance

4.2.1.4.3.3.1 Storage Commitment Operations (N-ACTION)

The Storage Commitment AE will request storage commitment for the configured device.

The behavior of Storage Commitment AE when receiving N-Action response status codes

is summarized in the Table below:

Table 90

Storage Commitment N-ACTION Response Status Handling Behavior

Service Status	Further Meaning	Error Code	Behavior
Success	Success		Successful storage commitment.
*	*	Any other	Storage commitment failed.

The behavior of Storage Commitment AE during communication failure is summarized in the Table below:

Table 91

Storage Commitment Communication Failure Behavior

Exception	Behavior
Communication failure	Storage commitment failed.
Association or Storage Commitment error	Storage commitment failed.

4.2.1.4.3.3.2 Storage Commitment Tags (N-ACTION)

The Storage Commitment AE will request storage commitment using the following tags

NOTE: Storage Commitment may only be automatically requested upon successful completion of an end exam storage task,

Table 92

Storage Commitment N-Action-Request Message Contents

Action Type Name	Event Type ID	Attribute	Tag
AC		uq s [] C ss D	[]
		uq s [] ns n D	[]
ID A on		ns n Cr on D	[]
		ns n Cr on	[]
uq s or g Co n		r ns on D	[]
		r n [] suq n	[]
		r n [] C ss D	[]
		r n [] ns n D	[]

4.2.1.4.3.3.3 Storage Commitment Notifications (N-EVENT-REPORT)

The reasons for returning specific status codes in a N-EVENT-REPORT response are

summarized in the Table below.

Table 93

Storage Commitment N-EVENT-REPORT Response Status Reasons

Service Status	Further Meaning	Error Code
Success	Event Report successful	
Failure	Event Report failed	

4.2.1.4.3.3.4 Storage Commitment Tags (N-EVENT- REPORT)

Tags supported for receiving an N-Event-Report message.

Table 94

Storage Commitment N-Event-Report Message Contents

EVENT TYPE NAME	EVENT TYPE ID	ATTRIBUTE	TAG	REQUIREMENT TYPE SCP
Storage Commitment	1	Report ID	1	
		Report Sequence	2	
		Report Class ID	3	
		Report Instance ID	4	
Storage Commitment - Full Report	2	Report ID	1	
		Report Sequence	2	
		Report Class ID	3	
		Report Instance ID	4	
		Full Report Sequence	5	
		Report Class ID	6	
		Report Instance ID	7	
		Full Report Instance	8	

4.3 Network Interface

4.3.1 Supported Communications Stacks

Modality DICOM AEs provide DICOM 3.0 TCP/IP Network Communication Support as defined in Part 8 of the DICOM Standard.

4.3.2 TCP/IP Stack

Modality DICOM AEs inherit their TCP/IP stack from the Windows upon which they execute.

4.3.3 Physical Network Interface

Modality supports a single network interface. One of the following physical network interfaces will be available depending on installed hardware options:

Table 95
Supported Physical Network Interfaces

E E E B A E
E rn s
E rn s

4.3.4 Additional Protocols

Modality does not support additional protocols.

4.4 Configuration

The Configuration Utility allows the service engineer to set and maintain configuration parameters of local and remote DICOM application entities.

4.4.1 AE Title/Presentation Address Mapping

This mapping (including IP and port numbers) is defined during the system Network Configuration procedure.

4.4.2 Configurable Parameters

Localhost DICOM Service Property(Including SCU and SCP):

- AE Title
- Port
- PDU
- TLS Port

Server Setting:

- Device
- IP address

A3

- Copies:1-100
- Max Density: 0-65535
- Min Density:0-65535
- Settings: RGB or MONOCHROME2
- Display Format:

◇ PORTRAIT:

- STANDARD\1,1
- STANDARD\1,2
- STANDARD\1,3
- STANDARD\2,1
- STANDARD\2,2
- STANDARD\2,3
- STANDARD\2,4
- STANDARD\3,3
- STANDARD\3,4
- STANDARD\3,5
- STANDARD\3,6
- STANDARD\4,4
- STANDARD\4,5
- STANDARD\4,6
- STANDARD\4,7
- STANDARD\4,8
- STANDARD\5,5
- STANDARD\5,6
- STANDARD\5,7
- STANDARD\5,8
- STANDARD\6,6
- STANDARD\6,7
- STANDARD\6,8
- STANDARD\6,9
- STANDARD\6,10
- STANDARD\7,7
- STANDARD\7,8
- STANDARD\7,9
- STANDARD\7,10
- STANDARD\8,8

STANDARD\8,9

STANDARD\8,10

◇ LANDSCAPE:

STANDARD\1,1

STANDARD\1,1

STANDARD\2,1

STANDARD\3,1

STANDARD\1,2

STANDARD\2,2

STANDARD\3,2

STANDARD\4,2

STANDARD\3,3

STANDARD\4,3

STANDARD\5,3

STANDARD\6,3

STANDARD\4,4

STANDARD\5,4

STANDARD\6,4

STANDARD\7,4

STANDARD\8,4

STANDARD\5,5

STANDARD\6,5

STANDARD\7,5

STANDARD\8, 5

STANDARD\6,6

STANDARD\7,6

STANDARD\8,6

STANDARD\9,6

STANDARD\10,6

STANDARD\7,7

STANDARD\8,7

STANDARD\9,7

STANDARD\10,7

STANDARD\8,8

STANDARD\9,8

STANDARD\10,8

- Destination: MAGAZINE or PROCESSOR

- Film Orientation: LANDSCAPE or PORTRAIT
- Priority: HIGH, MED, or LOW
- Configuration Info
- Magnification Type: NONE, CUBIC, REPLICATE, or BILINEAR
- Trim: Yes/Not
- Default Status (Y/N)
- TLS.
- Strategy Name

WORKLIST:

- Device, Service name, AE Title and Port .
- Timeout.
- Maximum retries, Interval Time (In this version, these two parameters are not usable.)
- Default Status (Y/N)
- TLS.
- Strategy Name
- Remove Attributes

MPPS:

- Device, Service name, AE Title and Port.
- Timeout,
- Maximum retries (default value is 3)
- Interval Time (In this version, this parameter is not usable.)
- Default Status (Y/N)
- TLS

Storage Commitment:

- Device, Service name, AE Title and Port.
- Timeout.
- Maximum retries, Interval Time (In this version, these two parameters are not usable.)
- Associated Storage Service
- Default Status (Not available)
- TLS

Query/Retrieve

- Device, Service name, AE Title and Port.
- Timeout.

- Maximum retries, Interval Time (In this version, these two parameters are not usable.)
- Default Status (Y/N)
- TLS

5 Media Storage

5.1 Implementation Model

5.1.1 Application Data Flow

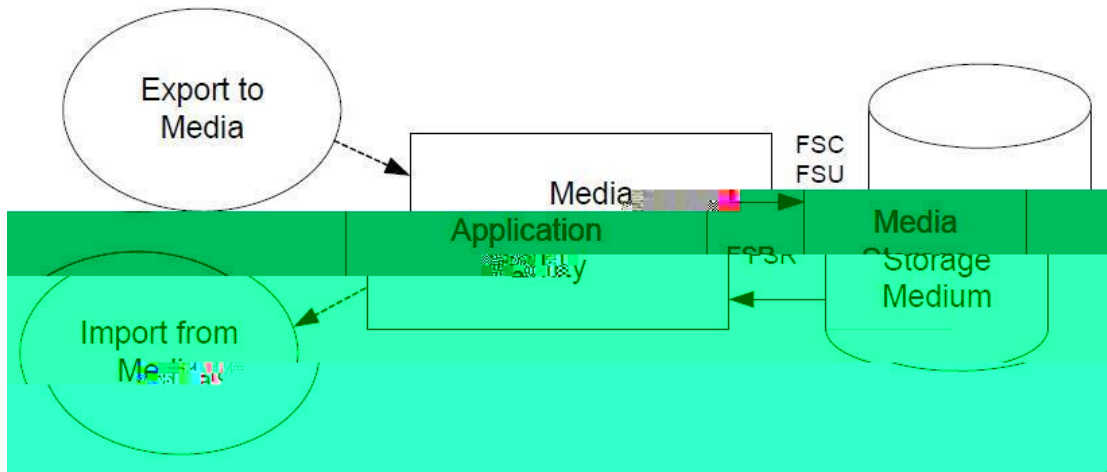


Figure 9

Application Data Flow Diagram for Media Storage

- The Media Application Entity exports Images and Structured Reports to a removable storage medium. It is associated with the local real-configured export selection parameters for selected Structured Reports).

5.1.2 Functional Definition of AE's

5.1.2.1 Functional Definition of Media Application Entity

images to the Media Application Entity. The contents of each export job will be written to the selected media destination. The size of the selected media is used to determine and display the number of media required for the export. When a device is filled to capacity, the system will prompt the user for addition media and continue.

5.1.3 Sequencing of Real-World Activities

At least one image must exist and be selected before the Media Application Entity can be invoked. The operator can insert new media at any time. The Media Application Entity will wait indefinitely for media to be inserted before starting to write to the device.

5.1.4 File Meta Information Options

The implementation information written to the File Meta Header in each file is:

Table 96
DICOM Implementation Class and Version for Media Storage

Implementation Class: DICOM	1.0.0
Implementation Version:	1.0.0

5.2 AE Specifications

5.2.1 Media Application Entity Specification

The Media Application Entity provides standard conformance to the Media Storage Service Class. The Application Profiles and roles are listed below: The available physical media is CD-R, CD-RW, DVD-R, DVD-RW, DVD+R, DVD+RW, DVD-RAM, and USB devices.

Table 97
Application Profiles, Activities and Roles

Application Profiles Supported	Real World Activity	Role
SOP Class: Storage	Export Exams	ECSE
SOP Class: FSC	Export Exams	ECSE
SOP Class: FSC	Export Exams	ECSE
SOP Class: FSC	Export Exams	ECSE

Note: 1 functionality requires DVD+RW, DVD-RW, or USB

5.2.1.1 File Meta Information for the Application Entity

The File Meta Header does not include the Source Application Entity Title.

5.2.1.2 Real-World Activities

5.2.1.2.1 Activity-FSC-Export exams

When system user exports exams, images, SR, or Encapsulated PDF to a media upon which no DICOM data resides, it creates a DICOM file set and writes this DICOM File Set to this media.

The Media Application Entity acts as an FSC using the interchange option when requested to export SOP Instances from the local database to media upon which no DICOM data resides.

5.2.1.2.2 Activity-FSR-Import exams

When system user presents the directory of the media, presses Restore button and the selected exams are transferred from the media to the system for review. Objects transferred to the system retain their original SOP Instance UIDs.

The Media Application Entity acts as an FSR using the interchange option when requested to import SOP Instances from media to the local database.

5.2.1.2.3 Activity-FSU-Export exams

already contains data. The DICOMDIR is updated allowing access to original and new data.

The Media Application Entity acts as an FSU using the interchange option when requested to export SOP Instances from the local database to media upon which DICOM data already resides.

5.2.1.2.3.1 Media Storage Application Profiles



























See Table for supported Application Profiles.

5.2.1.2.3.1.1 Options

The Media Application Entity supports the SOP Classes and Transfer Syntaxes listed in the Table below:

Table 98
IODs, SOP Classes and Transfer Syntaxes

Information Object Definition	SOP Class UID	Transfer Syntax	Transfer Syntax UID
DICOM Storage Directory	1.2.840.10008.1.1.1	Explicit VR Endian	1.2.840.10008.1.1.1
DICOM Storage	1.2.840.10008.1.1.1	Explicit VR Endian	1.2.840.10008.1.1.1
		Explicit VR Big Endian	1.2.840.10008.1.1.1
		Explicit VR Little Endian	1.2.840.10008.1.1.1
		Explicit VR	1.2.840.10008.1.1.1
		Explicit VR	1.2.840.10008.1.1.1

		 E6 g Co pr ss on, $\bar{\text{Oss}}^{\text{ss}}$ n^{V}	
		 E6 g Co pr ss on	
u r r i s o n u r r i g S o r g		E p r e n n	
		 $\bar{\text{Oss}}^{\text{V}}$ B s n S u q n e n C o n g r o s s	
		 $\bar{\text{Oss}}^{\text{ss}}$ o n r r E r s r r r o n r o s s S o n u r r	
		E $\bar{\text{Oss}}^{\text{ss}}$	
		 E6 g Co pr ss on, $\bar{\text{Oss}}^{\text{ss}}$ n^{V}	
		 E6 g Co pr ss on	
S o n r r C u p r g S o r g		E p r e n n	
		 $\bar{\text{Oss}}^{\text{V}}$ B s n S u q n e n C o n g r o s s	
		 $\bar{\text{Oss}}^{\text{ss}}$ o n r r E r s r r r o n r o s s S o n u r r	
		E $\bar{\text{Oss}}^{\text{ss}}$	
		 E6 g Co pr ss on, $\bar{\text{Oss}}^{\text{ss}}$ n^{V}	
		 E6 g Co pr ss on	

Compressed Video Storage	1.2.840.10008.5.1.4.1.1.6.1	Enhanced US	1.2.840.10008.5.1.4.1.1.6.2
Enhanced US Volume Storage	1.2.840.10008.5.1.4.1.1.6.2	Raw Data Storage	1.2.840.10008.5.1.4.1.1.66

5.3 Media Storage Application Profile

See Table for supported Application Profiles.

5.3.1 DICOMDIR Attributes

The DICOMDIR file will contain the following attributes.

Table 99

Common Directory Information Module Attributes

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
> 00080050	CS	U	FileSetID	1
> 00080051	CS	U	SeriesID, FileSetID, or SOP InstanceID or SeriesID, FileSetID, or SOP InstanceID	1
> 00080052	CS	U	SeriesID, FileSetID, or SOP InstanceID or SeriesID, FileSetID, or SOP InstanceID	1
> 00080053	CS	U	FileSetID, ConsistencyFlag	1, FFFF
> 00080054	CS	U	DirectoryID or SequenceID	
=> 00080055	CS	U	SeriesID, FileSetID, or SOP InstanceID	1
=> 00080056	CS	U	or consistencyFlag	1, FFFF
=> 00080057	CS	U	SOP InstanceID, FileSetID, or FileID, DirectoryID, FileSetID, or SOP InstanceID	1
=> 00080058	CS	U	SupplementalConsistencyFlag, FileSetID, DirectoryID, FileSetID, or FileID	1

Table 100

Patient Directory Record

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
> ...	<u>S</u>	\	D_r or ^y or ^y or ^y p	A E
> ...	^	\	n D	S E
> ...	^	\	n s	S E
> ...	DA	\	n s B r D	S E
> ...	<u>S</u>	\	n s	S E
> ...	^	\	r n Ds	S E

Table 101
Study Directory Record

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
> ...	<u>S</u>	\	D_r or ^y or ^y or ^y p	S DY
> ...	DA	\	s ^y D	A
> ...	^	\	s ^y	A
> ...	<u>S</u>	\	s ^y D	^
> ...	D	C	s ^y ns n D	A
> ...	<u>S</u>	\	A s s om r	S E
> ...	^	\	s ^y D s r p on	s s a r s pp ro s a r r ou r s p D s r p on no S E
> ...	^	\	r r s ns	S E



>	DA		Series D	A
>			Series	A
>			Series Description	Series description Description Description
>			Series	Series

Table 103
Image Directory Record

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
>	S		Directory or or p	A/E
>	S	C	Series ID	A
>		C	Series Class ID	A
>		C	Series Instance ID	A
>		C	Series Instance ID	A
>	S		Series Name	A
>	S		Series Description	A, m s or

5.4 Augmented and Private Application Profiles

No augmented/private profile is supported.

5.5 Media Configuration

None.

6 SUPPORT OF CHARACTER SETS

In addition to the default character repertoire, the Defined Terms for Specific Character Set in Table are supported:

Table 104
Supported Specific Character Set Defined Terms

Character Set Description	Defined Term	System Language
Latin 1	Latin 1	English, French, German, Italian, Portuguese, Spanish, Finnish, Danish, Norwegian, or Vietnamese
Latin 2	Latin 2	Polish
Latin 3	Latin 3	Portuguese, Czech, Serbian
Chinese	Chinese	Chinese

If the system language is configured for one of above languages, the corresponding Character Set will be used automatically. Whether or not characters are displayed correctly depends on the operating system. For example, if the system is configured for Polish, the characters of Polish could display correctly.

7 SECURITY

7.1 Security Profiles

M9 supports secure DICOM communication in conformance with the Basic TLS Secure Transport Connection Profile and the AES TLS Secure Transport Connection Profile. At default configuration, the TLS option is deactivated.

Basic TLS Secure Transport Connection Profile and the AES TLS Secure Transport Connection Profile are supported using Transport Layer Security Version 1.2 protocol with the following features:

Supported TLS Feature	Mechanism
Entity Authentication	RS A based certificates
Exchange of Master Secrets	RSA
Data Integrity	SHA
Privacy (Cyphersuite Options)	TLS_RSA_WITH_AES_128_CBC_SHA TLS_RSA_WITH_3DES_EDE_CBC_SHA

7.2 Association level security

None supported.

Any Calling AE Titles and/or IP addresses may open an Association.

7.3 Application level security

DICOM TLS.

8 ANNEXES

8.1 IOD contents

8.1.1 Created SOP Instances

None.

8.1.2 Usage of attributes from received IOD's

No SOP Class specific fields are required.

The local database makes use of the conventional identification attributes to distinguish patients, studies, series and instances. In particular, if two patients have the same value for Patient ID, and Patient's Sex, they will be treated as the same in the browser and the local database.

8.1.3 Attribute Mapping

Not applicable.

8.1.4 Coerced/Modified fields

No coercion is performed.

8.2 Data Dictionary of private attributes

No private attributes are defined.

8.3 Coded terminology and templates

The value for Code Meaning will be displayed for all code sequences. No local lexicon is provided to look up alternative code meanings.

8.4 Grayscale Image Consistency

Modality does not support the Grayscale Standard Display Function.

8.5 Standard extended/specialized/private sop Classes

None.

8.6 Private Transfer Syntaxes

None.

A- Appendix B – OB-GYN Report Reporting Profiles

This appendix lists the DICOM Structured Report (SR) mappings used in the Obstetric and Gynecologic Structured Reports of ultrasound system SR files.

The mappings are organized in a manner similar to the DICOM SR Templates as described in PS 3.16 of the DICOM Standard. The OB-GYN Report mappings follow the DICOM SR Template TID 5000: OB-GYN Ultrasound Procedure Report, except where noted.

All private code values use the Coding Scheme Designator "MRUS".

A.1. TID (300) Measurement

This Template provides a general structure for a numeric measurement, together with evaluations of its normality and/or significance, and the inference source(s) for its value.

NO	NL	Relation with Parent	Value Type	Concept Name	Used in MODALITY	Condition	Value Set Constraint
1			Value	Measurement			Units: Units
2	=	Code	C DE	Entity Class			Code
3	=	Code	C DE	Entity Class DC			DC Code
4	=	Code	C DE	Entity Class			Code
5	==	Code	C DE	Entity Class			DC Code
6	=	Code	C DE	Entity Class DC			
7	=	Code	C DE	DC Code			
8	==	Code	C DE	Entity Class			

A.2. TID 1008 Subject Context, Fetus

NO	NL	Relation with Parent	Value Type	Concept Name	Used in MODALITY	Condition	Value Set Constraint
1			C A E	E DCM, "Mother of fetus")			
2			D EF	E DCM "Subject UID")			
3			EX	E DCM "Subject ID")			
4			EX	E DCM "Fetus ID")			
5				E DCM "Fetuses")			

A.3. TID (5000) OB-GYN Ultrasound Procedure Report

This is the template for the root of the content tree for the OB-GYN ultrasound procedure report.

NO	NL	Relation with Parent	Value Type	Concept Name	Used in MODALITY	Condition	Value Set Constraint
1			C A E	E DCM, "OB-GYN Ultrasound Procedure Report")			
2	=	A C CB D	C DE	D DCM, "OB-GYN Ultrasound Procedure Reports")			
3	=	A B C EX	C DE	D DCM, "OB-GYN Ultrasound Procedure Reports")			
4	=	C A S	C DE	D DCM, "OB-GYN Ultrasound Procedure Reports")			
5	=	C A S	C A E	D DCM, "Image Library")			

	=	C A S	A E	o u p r p o s o r r n			
	=	C A S	C DE	D D B Y r o n r s r s on			
	=	C A S	C DE	D D B o r s s on			
	=	C A S	C DE	D D B o r s s on			
	=	C A S	C DE	D D B o n s s on			
	=	C A S	C DE	D D C m n s s on			
	=	C A S	C DE	D D B o p s r o r s on			
	=	C A S	C DE	D D E n s s on			
	=	C A S	C DE	D D A n o s s on			
	=	C A S	C DE	D D r s n n r s s on			
	=	C A S	C DE	D D v r s on			
	=	C A S	C DE	D D F o l s on			<p>r r s E A101, SRT, "Left") u r E 4, LN, "Number o s n ovary")</p>
	=	C A S	C DE	D D F o l s on			<p>r r s E A100, SRT, "Right") u r E 2, LN, "Number o s n ovary")</p>

	=	C A S	C A E	E DCM, "Findings")			
	=	A C CB D	C DE	E SRT, "Embryonic Site")			E F S "Embryonic Vascular Structure")
	=	C A S	C DE	D D B Y F us r us r n ro p			An o ro p DC D F us r
	=	C A S	C A E	E DCM, "Findings")			
	=	A C CB D	C DE	E SRT, "Finding Site")			E D S "Pelvic Vascular Structure")
	=	C A S	C DE	D D B Y us r us r n ro p			An o ro p DC D us r An o on
	=	C A S	C DE	D D S E F			
	=	C A S	EX	S "s n us r n")			

A.4. TID (SELFTMP-1) Fetal Cardiac Measurement Group

This is a private template referenced by TID (5000).

NO	NL	Relation with Parent	Value Type	Concept Name	Used in MODALITY	Condition	Value Set Constraint
			C A E	E S F C r			
	=	A B C EX	C DE	D D Con F s			
	=	C A S	C DE	D D S E F F C E			S Yp , DC D S E F C D F or D r V on , DC D us r n Yp



A.8. TID (5002) OB-GYN Procedure Summary

NO	NL	Relation with Parent	Value Type	Concept Name	Used in MODALITY	Condition	Value Set Constraint
1			C/A/E	D D Summary DC			
2	=	C/A/S	DATE	(... ,EDD,)			ro no
3	=	C/A/S	DATE	(... ,EDD ro ...)			ro no
4	=	C/A/S	DATE	(... ,EDD ro ...)			ro no
5	=	C/A/S	DATE	(... ,EDD ro ...)			ro no
6	=	C/A/S	DATE	(... ,EDD,)			ro no
7	=	C/A/S	DATE	(... ,EDD,)			ro no
8	=	C/A/S	DATE	(... ,EDD ro ...)			ro no
9	=	C/A/S	DATE	(... ,EDD ro ...)			ro no
10	=	C/A/S	DATE	(... ,EDD ro ...)			ro no
11	=	C/A/S	DATE	(... ,EDD ro ...)			ro no
12	=	C/A/S	C/DE	D D Summary DC			ro no
13	=	C/A/S	EX	E Summary DC			ro no
14	=	C/A/S	EX	(... ,EDD ro ...)			ro no
15	=	C/A/S	EX	(... ,EDD ro ...)			ro no

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
✓	=	C ▾ A ⊆	C ▾ DE	F D			
✓	=	C ▾ A ⊆	C ▾ DE	F D			
✓	=	C ▾ A ⊆	C ▾ DE	F D			
✓	=	C ▾ A ⊆	C ▾ DE	F D			
✓	=	C ▾ A ⊆	C ▾ DE	F D			

A.10. TID (FINDING_1) Fetal Description

This is a private template referenced by TID (5003).

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
✓		C ▾ A ⊆	C ▾ A E	Fetal Description			
=		C ▾ A ⊆	EX	Fetal Description			
✓	=	C ▾ A ⊆	EX	Fetal Description			
✓	=	C ▾ A ⊆	EX	Fetal Description			
=		C ▾ A ⊆	EX	Fetal Description			
=		C ▾ A ⊆	EX	Fetal Description			
=		C ▾ A ⊆	EX	Fetal Description			
✓	=	C ▾ A ⊆	EX	Fetal Description			
=		C ▾ A ⊆	EX	Fetal Description			
✓	=	C ▾ A ⊆	C ▾ A E	Fetal Description			
✓	==	C ▾ A ⊆	EX	Fetal Description			
✓	==	C ▾ A ⊆	EX	Fetal Description			
✓	=	C ▾ A ⊆	EX	Fetal Description			



NL	Rel with	VT	Concept Name	Used	in
----	----------	----	--------------	------	----

Parent

	N L	Rel with Parent	VT	Concept Name	Used in MODALITY	Condi on	Value Set Constrai nt
	=	C A S	EX	Findings of Aortic			
	=	C A S	EX	Findings of Aortic on Arterial			
	=	C A S	EX	Findings of Aortic Aortic			
	=	C A S	EX	Findings of Aortic			
	=	C A S	EX	Findings of Aortic Dissection			
	=	C A S	EX	Findings of Aortic Dissection			
	=	C A S	EX	Findings of Aortic Dissection			
	=	C A S	EX	Findings of Aortic Dissection			

A.13. TID (FINDING_4) Fetal Brain

This is a private template referenced by TID (5003).

	N L	Rel with Parent	VT	Concept Name	Used in MODALITY	Condi on	Value Set Constrai nt
--	--------	-----------------------	----	--------------	------------------------	-------------	--------------------------------

11
11

N L	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
	C A S	C A E	Fetal Environment			
=	C A S	EX	Fetal Environment, Cervix			
\	C A S	EX	Fetal Environment, Chorion			
=	C A S	EX	Fetal Environment, Amnion			
=	C A S	EX	Fetal Environment, Placenta			

A.15. TID (FINDING_6) Fetal Environment

This is a private template referenced by TID (5003).

N L	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
	C A S	C A E	Fetal Environment			
=	C A S	EX	Fetal Environment, Chorion			
\	C A S	EX	Fetal Environment, Amnion			
=	C A S	EX	Fetal Environment, Placenta			

A.16. TID (FINDING_7) Maternal Description

This is a private template referenced by TID (5003).

N L	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
	C A S	C A E	Maternal Description			
=	C A S	C A E	Maternal Description, Amnion			

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
,	=	C A S		C, r C C			
,	=	C A S		C, CD AC,			
,	=	C A S		C,			
,	=	C A S		C p n y C,			

A.18. TID (5005) Fetal Biometry Section

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
,			C A E	D DCM, "Fetal Biometry")			
=		C EX	EX	E "Fetus ID")			
,	=	C EX		E "Number of Fetuses")			
,	=	C A S	C DE	D D F B o r o p			B o r o p DC D F o r B o r o p u s r n s

A.19. TID (5006) Fetal Long Bones Section

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
,			C A E	D DCM, "Fetal Long Bones")			

		C EX	EX	E "Fetus ID")			
		C EX		E Fetuses")			
		C A E	C DE	D D B o			B o DC D F Bon s B o

A.20. TID (5007) Fetal Cranium Section

NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
		C A E	D DCM, "Fetal Cranium")			



M11 Series/ M10 Series/ /M9 Series/M8 Series Diagnostic Ultrasound System

		CAS	CDE	D			usrn Bo Dr DC D usrn v _z p
		CAS	E				



M11 Series/ M10 Series/ /M9 Series/M8 Series Diagnostic Ultrasound System

	=	△ E	EX	DC "Comment")			
	=	C A S		E "Fetal Breathing")			η·s , D ("{0:2}", UCUM, "range 0:2")
	=	△ E	EX	DC "Comment")			
	=	C A S		E "Fetal Tone")			η·s , D ("{0:2}", UCUM, "range 0:2")
	=	△ E	EX	DC "Comment")			
	=	C A S		E "Fetal Heart Reactivity")			η·s , D ("{0:2}", UCUM, "range 0:2")
	=	△ E	EX	DC "Comment")			

	=	C DE	E C B	✓		D F
	=	C DE	E C B	✓		D F
	=	C DE	E C B	✓		D F
	=	C DE	E C B	✓		D F
	=	C DE	E C B	✓		D F
	=	C DE	E C B	✓		D F
	=	C DE	E C B	✓		D F
	=	C DE	E C B	✓		D F

A.24. TID (5011) Early Gestation Section

NL	Relation with Parent	Value Type	Concept Name	Used in MODALITY	Condition	Value Set Constraint
		C A E	D DCM, "Early Gestation")			
=	C EX	EX	E "Fetus ID")			
	C EX		E			

				uterus Fetuses")			
	=	C A E	C DE	D D F B o r ro p			B o r r o DC D E n s on B o r u s r n s

A.25. TID (5012) Ovaries Section

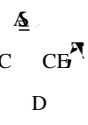
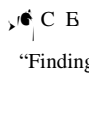
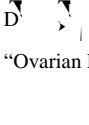
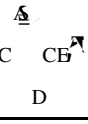
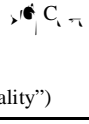
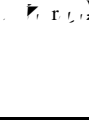
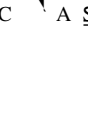
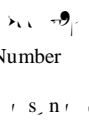

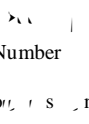
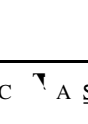
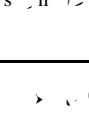
N L	Relation with Parent	Value Type	Concept Name	Used in MODALITY	Condition	Value Set Constraint
		C A E	D DC "Findings")			
=	A C CB D	C DE	E C B SRT, "Finding Site")			D 87000, SRT, "Ovary")
=	C A E	C DE	E SRT, "Ovary")			u s r n , E 87000, SRT, "Ovary")
=	C A E	C DE	D D u s r n			u s r n , E 9, LN, "Left Ovary Width")
=	C A E	C DE	D D u s r n			u s r n , E 6, LN, "Left Ovary Length")
=	C A E	C DE	D D u s r n			u s r n , E 0, LN, "Left Ovary Height")
=	C A E	C DE	D D u s r n			u s r n , E 0, LN, "Left Ovary

						Volume")
		C A S	C DE	E SRT, "Ovary")		Group, E 87000, SRT, "Ovary")
		C A S	C DE	D D usr n		usr n, E 7, LN, "Right Ovary Width")
		C A S	C DE	D D usr n		usr n, E 4, LN, "Right Ovary Length")
		C A S	C DE	D D usr n		usr n, E 8, LN, "Right Ovary Height")
		C A S	C DE	D D usr n		usr n, E 7, LN, "Right Ovary Volume")
		C A S	C DE	E S, "Ovar n C ₂ S")		usr n, E S, "V r n C ₂ S")
		A C CB D	C DE	E S, " r r ")		S on r r, DC D r r
		A C CB D	C DE	E DC, "An o n, r")		
		C A S	C DE	D D usr n		usr n, E S V r n C ₂ S, " r r") r r S on r r V
		C A S	C DE	D D usr n		usr n, E S V r n C ₂ S, " r r") r r S on r r V
		C A S	C DE	D D usr n		usr n, E S V r n

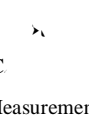
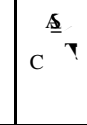
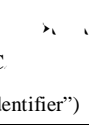
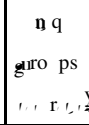

							<p>C^VS₁ (English)</p> <p>... r r l / V S₁ on r r l /</p> <p>V₁</p>
、	==	C ^V A ₁ S ₁	C ^V DE	D ^V D ₁ (English) ... u s r r n			<p>... u s r r n , E</p> <p>... r r l / V S₁ on r r l /</p> <p>C^VS₁ (English)</p> <p>... r r l / V S₁ on r r l /</p> <p>V₁</p>
	==	C ^V A ₁ S ₁	C ^V DE	D ^V D ₁ (English) ... u s r r n			<p>... u s r r n , E</p> <p>... r r l / V S₁ on r r l /</p> <p>C^VS₁ (English)</p> <p>... r r l / V S₁ on r r l /</p> <p>V₁</p>
、	==	C ^V A ₁ S ₁	C ^V DE	D ^V D ₁ (English) ... u s r r n			<p>... u s r r n , E</p> <p>... r r l / V S₁ on r r l /</p> <p>C^VS₁ (English)</p> <p>... r r l / V S₁ on r r l /</p> <p>V₁</p>
	==	C ^V A ₁ S ₁	C ^V DE	D ^V D ₁ (English) ... u s r r n			<p>... u s r r n , E</p> <p>... r r l / V S₁ on r r l /</p> <p>C^VS₁ (English)</p> <p>... r r l / V S₁ on r r l /</p> <p>V₁</p>
、	==	C ^V A ₁ S ₁	C ^V DE	D ^V D ₁ (English) ... u s r r n			<p>... u s r r n , E</p> <p>... r r l / V S₁ on r r l /</p> <p>C^VS₁ (English)</p> <p>... r r l / V S₁ on r r l /</p> <p>V₁</p>
	==	C ^V A ₁ S ₁	C ^V DE	D ^V D ₁ (English) ... u s r r n			<p>... u s r r n , E</p> <p>... r r l / V S₁ on r r l /</p> <p>C^VS₁ (English)</p> <p>... r r l / V S₁ on r r l /</p> <p>V₁</p>

A.26. TID (5013) Follicles Section

NL	Relation with Parent	Value Type	Concept Name	Used in MODALITY	Condition	Value Set Constraint
		C ^V A ₁ E	D ^V (English)			

				DC “Findings”)			
=		C DE	E  SRT, “Finding Site”)			D  “Ovarian Follicle”)	
\		C DE	E  “Laterality”)				
=			E  LN, “Number of follicles in ovary”)				
=			E  LN, “Number of follicles in right ovary”)				
=		C DE	D  Follicle Group				

A.27. TID (5014) Follicle Measurement Group

NL	Relation with Parent	Value Type	Concept Name	Used in MODALITY	Condition	Value Set Constraint
\		C A E	E  DC “Measurement Group”)			
=		EX	E  DC “Identifier”)			n q  guro ps o s 

		C A S	C DE	D D			usrn, E D S "Volume")
		C A S	C DE	D D			usrn, E S "Follicle Length")
		C A S	C DE	D D			usrn, E S "Follicle Width")
		C A S	C DE	D D			usrn, E S "Follicle Thickness")
		C A S	C DE	D D			usrn, E S, "Follicle Diameter")

A.28. TID (5015) Pelvis And Uterus Section

N L	Relation with Parent	Value Type	Concept Name	Used in MODALITY	Condition	Value Set Constraint
		C A E	D DCM, "Pelvis and Uterus")			
	C A S	C A E	Uterus			Uterus, E 83000, SRT, "Uterus")
	C A S	C DE	D D			usrn, E 3,LN," Uterus Width")
	C A S	C DE				



M11 Series/ M10 Series/ /M9 Series/M8 Series Diagnostic Ultrasound System

		C ₁ A ₁ S ₁	C ₁ DE	D ₁ D ₁			...usrn E ₁ Cr ₁
		C ₁ A ₁ S ₁	C ₁ DE	D ₁ D ₁			...usrn E ₁ En o ur n ss
		C ₁ A ₁ S ₁	C ₁ DE	D ₁ D ₁			...usrn ... Cr ₁
		C ₁ A ₁ S ₁	C ₁ DE	D ₁ D ₁			...usrn ... Cr ₁
		C ₁ A ₁ S ₁	C ₁ DE	D ₁ D ₁			...usrn ... Cr ₁ Bo ₁
		C ₁ A ₁ S ₁	C ₁ DE	D ₁ D ₁			...usrn ... Cr ₁ X ₁
		C ₁ A ₁ S ₁	C ₁ DE	D ₁ D ₁			...usrn ... Cr ₁
		C ₁ A ₁ S ₁	C ₁ A ₁ E	D ₁ D ₁			...usrn EV ₁ E ro
		C ₁ A ₁ S ₁	C ₁ A ₁ E	D ₁ D ₁			...usrn ... E ro
		C ₁ A ₁ S ₁	C ₁ A ₁ E	D ₁ D ₁			...usrn ... E ro
		C ₁ A ₁ S ₁	C ₁ A ₁ E	D ₁ D ₁			...usrn ... E ro
		C ₁ A ₁ S ₁	C ₁ A ₁ E	D ₁ D ₁			...usrn ... E ro
		C ₁ A ₁ S ₁	C ₁ A ₁ E	D ₁ D ₁			...usrn ... E ro
		C ₁ A ₁ S ₁	C ₁ A ₁ E	D ₁ D ₁			...usrn ... E ro
		C ₁ A ₁ S ₁	C ₁ A ₁ E	D ₁ D ₁			...usrn ... E ro



M11 Series/ M10 Series/ /M9 Series/M8 Series Diagnostic Ultrasound System

							Figure 1
	⇒	C ₁ A ₁ S ₁	C ₁ A ₁ E ₁	D ₁ D ₁ S ₁ / D ₁ U ₁ S ₁ R ₁ D ₁			⇒ U ₁ S ₁ R ₁ D ₁ , ⇒ S ₁ U ₁ R ₁ D ₁ E ₁ R ₁ O ₁ , Figure 1
	⇒	C ₂ A ₂ S ₂	C ₂ A ₂ E ₂	D ₂ D ₂ S ₂ / D ₂ U ₂ S ₂ R ₂ D ₂			⇒ U ₂ S ₂ R ₂ D ₂ , ⇒ S ₂ U ₂ R ₂ D ₂ E ₂ R ₂ O ₂ , Figure 1
	⇒	C ₃ A ₃ S ₃	C ₃ A ₃ E ₃	D ₃ D ₃ S ₃ / D ₃ U ₃ S ₃ R ₃ D ₃			⇒ U ₃ S ₃ R ₃ D ₃ , ⇒ S ₃ U ₃ R ₃ D ₃ E ₃ R ₃ O ₃ , Figure 1
	⇒	C ₄ A ₄ S ₄	C ₄ A ₄ E ₄	D ₄ D ₄ S ₄ / D ₄ U ₄ S ₄ R ₄ D ₄			⇒ U ₄ S ₄ R ₄ D ₄ , ⇒ S ₄ U ₄ R ₄ D ₄ E ₄ R ₄ O ₄ , Figure 1
	⇒	C ₅ A ₅ S ₅	C ₅ A ₅ E ₅	D ₅ D ₅ S ₅ / D ₅ U ₅ S ₅ R ₅ D ₅			⇒ U ₅ S ₅ R ₅ D ₅ , ⇒ S ₅ U ₅ R ₅ D ₅ E ₅ R ₅ O ₅ , Figure 1

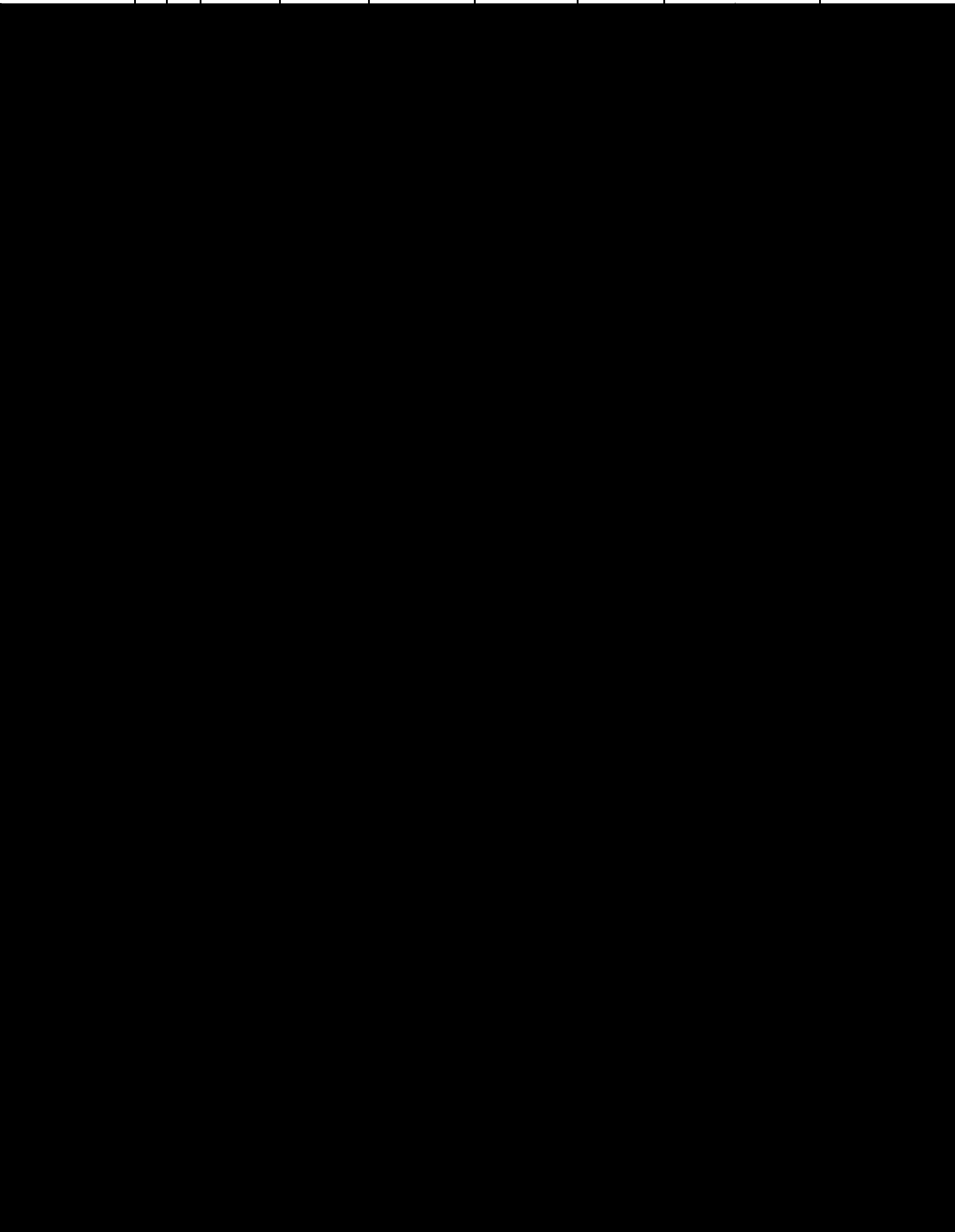
⇒ C₁ A₁ S₁ C₁ A₁ E₁ D₁ D₁ S₁ /
D₁ U₁ S₁ R₁ D₁

A.29. TID (5025) OB-GYN Fetus Vascular Ultrasound Measurement Group

NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
		C A E	Ano rop			
=	C EX	EX	E ("Fetus ID")			
=	C EX		E ("Fetuses")			
=	C CB D	C DE	E C171, SRT "Laterality")			DC D
=	C A S	C DE	D D us r n	√		DC D us r n

A.30. TID (5026) OB-GYN Pelvic Vascular Ultrasound Measurement Group

NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
		C A E	Ano rop			
=	C CB D	C DE	E S ("Laterality")			DC D
=	C CB D	EX	DC "Anatomic Identifier")			
=	C A S	C DE	D D us r n	√		DC D us r n



CSD	CV	Code Meaning
▶	...	An r or r os r or A o n r D. r
▶	...	An r or r os r on r r n D. r
▶	...	Bp r r D. r
▶	...	Cs m g n
▶	...	Fu r r g r
▶	...	Foo r g r
▶	...	r Gr r n
▶	...	p r Front D. r
▶	...	r or r Gr r n
▶	...	r or r Ar
▶	...	r n v rs A o n r D. r
▶	...	r ns C r r D. r
▶	...	r ns v rs r or r D. r
▶	...	Ar AD * AD
⊥	...	F r r g r
⊥	...	F r r n v r g r
⊥	...	r or r D. r
⊥	...	r Gr r n
⊥	...	r n r r n ss
⊥	...	r Ar
⊥	C	

A.36. CID (12007) Fetal Cranium

CSD	CV	Code Meaning
▶	CV	Frontal Diameter
▶	CV	Crown to Groin Length
▶	CV	Unilateral Foramen Second
▶	CV	Unilateral Diameter
▶	CV	Unilateral Diameter
▶	CV	Transverse Diameter
▶	CV	Unilateral Transverse
▶	CV	Occipital Sphenoid
⊥	CV	Estimated
⊥	CV	Estimated Diameter
⊥	CV	Estimated
⊥	CV	FD C
⊥	CV	C

A.37. CID (12009) Early Gestation Biometry Measurements

CSD	CV	Code Meaning
▶	CV	Crown to Pubis Length
▶	CV	Estimated Diameter
▶	CV	Estimated Length
▶	CV	Yolk Sac Diameter
▶	CV	Unilateral Transverse
⊥	CV	Estimated Diameter
⊥	CV	Estimated Diameter
⊥	CV	Estimated Diameter
⊥	CV	Estimated Diameter

A.38. CID (12013) Gestational Age Equations and Tables

CSD	CV	Code Meaning
▶	CV	Estimated Age
▶	CV	AC Ratio
▶	CV	AC Ratio

CSD	CV	Code Meaning
▶	''	AC $\frac{V}{A}$ r ²
▶	''	B ⁺ D o
▶	''	B ⁺ D ns nn
▶	''	B ⁺ D n $\frac{V}{A}$
▶	''	B ⁺ D s
▶	''	B ⁺ D p n
▶	''	B ⁺ Du r ²
▶	''	C ⁺ V n g Y r on
▶	''	C ⁺ D $\frac{V}{A}$
▶	''	C ⁺ o
▶	''	C ⁺ ns nn
▶	''	C ⁺ n $\frac{V}{A}$
▶	''	C ⁺ rson
▶	''	C ⁺ p n
▶	''	C ⁺ o nson
▶	''	F ⁺ n r n Cross on Ar s
▶	''	F ⁺ o
▶	''	F ⁺ o r
▶	''	F ⁺ n $\frac{V}{A}$
▶	''	p n
▶	''	C o
▶	''	C ns nn
▶	''	C n $\frac{V}{A}$
LK	''	C r ^V

CSD	CV	Code Meaning
MRUS	F ₁ 0 0 0 0	FD n V 0 0
MRUS	F ₁ 0 0 0 0	AD n V 0 0
MRUS	F ₁ 0 0 0 0	FB n V 0 0

A.39. CID (12014) Fetal Body Weight

CSD	CV	Code Meaning
EF ₁	0 0 0 0	EF ₁ AC n B ¹ D ₁ p r 0 0
EF ₁	0 0 0 0	EF ₁ AC C p 0 0
EF ₁	0 0 0 0	EF ₁ B ¹ D ¹ A ¹ AD ¹ AD F ¹ 0 0 0 0
EF ₁	0 0 0 0	EF ₁ AC B ¹ D ¹ F ¹ 0 0 0 0
EF ₁	0 0 0 0	EF ₁ AC B ¹ D ¹ F ¹ C ¹ 0 0 0 0
EF ₁	0 0 0 0	EF ₁ AC F ¹ 0 0 0 0
EF ₁	0 0 0 0	EF ₁ AC F ¹ C ¹ 0 0 0 0
AV r g	0 0 0 0	AV r g 0 0 0 0
C A	F ₁ 0 0 0 0	C A B ¹ D ¹ 0 0 0 0
C A	F ₁ 0 0 0 0	C A AC 0 0 0 0
C A	F ₁ 0 0 0 0	C A C 0 0 0 0
C A	F ₁ 0 0 0 0	C A F ¹ 0 0 0 0
C A	F ₁ 0 0 0 0	C A B ¹ D ¹ C ¹ 0 0 0 0
C A	F ₁ 0 0 0 0	C A B ¹ D ¹ AC 0 0 0 0
C A	F ₁ 0 0 0 0	C A B ¹ D ¹ F ¹ 0 0 0 0
C A	F ₁ 0 0 0 0	C A C AC 0 0 0 0
C A	F ₁ 0 0 0 0	C A C F ¹ 0 0 0 0
C A	F ₁ 0 0 0 0	C A AC F ¹ 0 0 0 0
C A	F ₁ 0 0 0 0	C A B ¹ D ¹ C AC 0 0 0 0
C A	F ₁ 0 0 0 0	C A B ¹ D ¹ C F ¹ 0 0 0 0
C A	F ₁ 0 0 0 0	C A B ¹ D ¹ AC F ¹ 0 0 0 0
C A	F ₁ 0 0 0 0	C A C AC F ¹ 0 0 0 0
C A	F ₁ 0 0 0 0	C A B ¹ D ¹ C AC F ¹ 0 0 0 0
EF ₁	F ₁ 0 0 0 0	EF ₁ AC B ¹ D ¹ r ¹ 0 0
EF ₁	F ₁ 0 0 0 0	EF ₁ AC r ¹ 0 0
EF ₁	F ₁ 0 0 0 0	EF ₁ B ¹ D ¹ D ¹ ns 0 0
EF ₁	F ₁ 0 0 0 0	EF ₁ B ¹ D ¹ F ¹ A F ¹ s 0 0

CSD	CV	Code Meaning
<u>S</u>	F ₁	EF ₁ $\frac{V}{Z}AC$ CF $\frac{V}{Z}$
<u>S</u>	F ₁	EF ₁ $\frac{V}{Z}B^*DF$ AD ₁ rsson

A.40. CID (12015) Fetal Growth Equations and Tables

CSD	CV	Code Meaning
		AC $\frac{V}{Z}A$
		AC ₁ r ^v $\frac{V}{Z}A$ C ₁ $\frac{V}{Z}$
		B ^r D $\frac{V}{Z}A$
		no r $\frac{V}{Z}A$ C ₁ $\frac{V}{Z}$
		B ^r D $\frac{V}{Z}A$ p n
		C $\frac{V}{Z}A$ p n
		F $\frac{V}{Z}A$
		F $\frac{V}{Z}A$ C ₁ $\frac{V}{Z}$
		$\frac{V}{Z}A$ p n
		C $\frac{V}{Z}A$
		C r ^v $\frac{V}{Z}A$ C ₁ $\frac{V}{Z}$
		$\frac{V}{Z}CD$ $\frac{V}{Z}A$ s n
		H ₁ n $\frac{V}{Z}$
		u s n $\frac{V}{Z}$
<u>S</u>	F ₁	AC $\frac{V}{Z}A$ $\frac{V}{Z}$
<u>S</u>	F ₁	AC $\frac{V}{Z}A$ r ^z
<u>S</u>	F ₁	AC n $\frac{V}{Z}$
<u>S</u>	F ₁	A ^r AD r ^z
<u>S</u>	F ₁	B ^r D $\frac{V}{Z}A$ $\frac{V}{Z}$
<u>S</u>	F ₁	B ^r D ns nn
<u>S</u>	F ₁	B ^r D $\frac{V}{Z}A$ r ^z
<u>S</u>	F ₁	B ^r D ₁ r ^z
<u>S</u>	F ₁	B ^r D ₁ g
<u>S</u>	F ₁	B ^r D ^v o $\frac{V}{Z}$
<u>S</u>	F ₁	C ₁ r ^v n ₁ Y r on
<u>S</u>	F ₁	C $\frac{V}{Z}A$ $\frac{V}{Z}$
<u>S</u>	F ₁	C $\frac{V}{Z}$ ns nn
<u>S</u>	F ₁	C $\frac{V}{Z}$ o nson
<u>S</u>	F ₁	C $\frac{V}{Z}$ o $\frac{V}{Z}$

CSD	CV	Code Meaning
$\underline{\Sigma}$	F ₁	D ₁ n ₁ ^V
$\underline{\Sigma}$	F ₁	AC CF EF Cn q

A.41. CID (12119) Vascular Ultrasound Property

CSD	CV	Code Meaning
C ▶ DE C D	B ₀₀	ro, $\frac{V}{\Sigma}$ n s r n s
C ▶ DE C D	n s r n s n	os
C ▶ DE C D	r n s r r	op E s

A.42. CID (12120) Blood Velocity Measurements

CSD	CV	Code Meaning
▶		En D ₁ s o ₁ ro, $\frac{V}{\Sigma}$
▶		n ₁ D ₁ s o ₁ ro, $\frac{V}{\Sigma}$
▶		$\underline{\Sigma}$ s o ₁ ro, $\frac{V}{\Sigma}$
▶		ro, $\frac{V}{\Sigma}$
▶		v r g n ^V ro, $\frac{V}{\Sigma}$
▶		v r g p ₁ v ro, $\frac{V}{\Sigma}$

A.43. CID (12121) Vascular Indices and Ratios

CSD	CV	Code Meaning
▶		n ^V s o ₁ n r
▶		s s ₁ v ₁ n r
▶		$\underline{\Sigma}$ s o ₁ ro D ₁ s o ₁ ro, $\frac{V}{\Sigma}$ o
$\underline{\Sigma}$		D ₁ s o ₁ ro $\underline{\Sigma}$ s o ₁ ro, $\frac{V}{\Sigma}$ o
$\underline{\Sigma}$	C	$\underline{\Sigma}$ s o ₁ ro A r r Con r on ro, $\frac{V}{\Sigma}$ o
$\underline{\Sigma}$		r ₁ E n ^V D ₁ s o ₁ ro, $\frac{V}{\Sigma}$
$\underline{\Sigma}$	C	r ₁ v ro, $\frac{V}{\Sigma}$ n r or v ₁ n
$\underline{\Sigma}$		n r

A.44. CID (12122) Other Vascular Properties

CSD	CV	Code Meaning
▶		A r r on

		D
<u>S</u>	C	ss
		r
		n
		n
		n
		n
		n
<u>S</u>		Ang
<u>S</u>		n
<u>S</u>		o
<u>S</u>		o
<u>S</u>		ss

A.45. CID (12140) Pelvic Vasculature Anatomical Location

CSD	CV	Code Meaning
<u>S</u>		V
<u>S</u>		r

A.46. CID (12141) Fetal Vasculature Anatomical Location

CSD	CV	Code Meaning
<u>S</u>		Aor
<u>S</u>	D	D
<u>S</u>		As
<u>S</u>		r
SRT		r
<u>S</u>		C
<u>S</u>		u
<u>S</u>	F	r
<u>S</u>	F	n
<u>S</u>	F	n

A.47. CID (SELFCID-1) Fetal Z-Score

CSD	CV	Code Meaning
		Aor
		As

▶		D s n, \underline{D} Aor, \underline{D} r
▶		\underline{V} n r on \underline{r}^V Ar \underline{r}^V D r
▶		\underline{g} n r on \underline{r}^V Ar \underline{r}^V D r
▶		\underline{g} n r on \underline{r}^V Ar \underline{r}^V D r
▶		n r \underline{V} n r \underline{r}^V up \underline{D} s o, n ss
▶		n r \underline{V} n r \underline{r}^V up \underline{r}^V s o, n ss
\underline{D}		Aor, oo D r, \underline{r}^V or
\underline{D}		\underline{g} n r on \underline{r}^V Ar \underline{r}^V D r, \underline{r}^V or
\underline{D}	C	\underline{g} n r r D r \underline{g} n r r D r
\underline{D}	C	\underline{g} n r r D r \underline{g} n r r D r, \underline{r}^V or
\underline{D}	C	\underline{g} Ar D r \underline{g} Ar D r
\underline{D}	C	\underline{g} Ar D r Aor, D r
\underline{D}	C	\underline{g} Ar D r Aor, D r, \underline{r}^V or
\underline{D}	C	Aor, D r \underline{g} n r on \underline{r}^V Ar \underline{r}^V D r
\underline{D}	C	Aor, D r \underline{g} n r on \underline{r}^V Ar \underline{r}^V D r, \underline{r}^V or
\underline{D}		\underline{g} \underline{V} n r r s or, r n s o
\underline{D}		\underline{g} \underline{V} n r r s or, r n s o, \underline{r}^V or
\underline{D}		\underline{g} \underline{V} n r r s or, r n s \underline{r}^V o
\underline{D}		\underline{g} \underline{V} n r r D r
\underline{D}		\underline{g} \underline{V} n r r D r, \underline{r}^V or
\underline{D}		n r \underline{V} n r r s p, n ss
\underline{D}		\underline{g} n r n r o \underline{r}^V r D r
\underline{D}		\underline{g} \underline{V} n r r s or, r n s o
\underline{D}		\underline{g} \underline{V} n r r s or, r n s o, \underline{r}^V or
\underline{D}		\underline{g} \underline{V} n r r s or, r n s \underline{r}^V o
\underline{D}		\underline{g} \underline{V} n r r D r
\underline{D}		\underline{g} \underline{V} n r r D r, \underline{r}^V or
\underline{D}		\underline{g} \underline{V} n r r r, \underline{r}^V or
\underline{D}		\underline{g} \underline{V} n r r r
\underline{D}		\underline{g} Ar D r
\underline{D}		\underline{g} n r n r o \underline{r}^V r D r
\underline{D}		\underline{g} Ar D r
\underline{D}		\underline{g} Ar r
\underline{D}		\underline{g} Ar r
\underline{D}		\underline{g} \underline{V} n r r r
\underline{D}		\underline{g} \underline{V} n r r r, \underline{r}^V or

<u>S</u>		ur on r ^v or r ^v D ₁ or r ^v or r ^v
<u>S</u>		n r or n C ^v D ₁ or r ^v or r ^v
<u>S</u>		uD ₁ or Aor ₁ D ₁ or r ^v or r ^v
<u>S</u>		ur sp or r ^v D ₁ or r ^v or r ^v
<u>S</u>		ur r ^v D ₁ or r ^v or r ^v

A.48. Mapping between Modality measurements and DICOM Concepts.

A.48.1. OB-GYN Measurements

<i>MODALITY Label</i>	<i>DICOM Mapping</i>
F	F
C AC	C AC
F AC	F AC

<i>MODALITY</i>	<i>DICOM Mapping</i>
<i>Label</i>	
EF ₁ r ₁	Es ₁ r ₁
EF ₁ r ₂	Es ₁ r ₂
EF ₁ s ₁	Es ₁ s ₁
EF ₁ s ₂	Es ₁ s ₂
EF ₁ o ₁	Es ₁ o ₁
EF ₁ o ₂	Es ₁ o ₂
EF ₁ n ₁	Es ₁ n ₁
EF ₁ n ₂	Es ₁ n ₂
EF ₁ Ar	Es ₁ Ar
EF ₁ F ₁	Es ₁ F ₁
EF ₁ D ₁	Es ₁ D ₁
EF ₁ D ₂	Es ₁ D ₂
EF ₁ D ₃	Es ₁ D ₃
EF ₁ AD	Es ₁ AD
EF ₁ r ₁	Es ₁ r ₁
EF ₁ r ₂	Es ₁ r ₂
EF ₁ r ₃	Es ₁ r ₃
EF ₁ r ₄	Es ₁ r ₄
EF ₁ r ₅	Es ₁ r ₅
EF ₁ r ₆	Es ₁ r ₆
EF ₁ r ₇	Es ₁ r ₇
EF ₁ r ₈	Es ₁ r ₈
EF ₁ r ₉	Es ₁ r ₉
EF ₁ r ₁₀	Es ₁ r ₁₀
EF ₁ r ₁₁	Es ₁ r ₁₁
EF ₁ r ₁₂	Es ₁ r ₁₂
EF ₁ r ₁₃	Es ₁ r ₁₃
EF ₁ r ₁₄	Es ₁ r ₁₄
EF ₁ r ₁₅	Es ₁ r ₁₅
EF ₁ r ₁₆	Es ₁ r ₁₆
EF ₁ r ₁₇	Es ₁ r ₁₇
EF ₁ r ₁₈	Es ₁ r ₁₈
EF ₁ r ₁₉	Es ₁ r ₁₉
EF ₁ r ₂₀	Es ₁ r ₂₀
EF ₁ r ₂₁	Es ₁ r ₂₁
EF ₁ r ₂₂	Es ₁ r ₂₂
EF ₁ r ₂₃	Es ₁ r ₂₃
EF ₁ r ₂₄	Es ₁ r ₂₄
EF ₁ r ₂₅	Es ₁ r ₂₅
EF ₁ r ₂₆	Es ₁ r ₂₆
EF ₁ r ₂₇	Es ₁ r ₂₇
EF ₁ r ₂₈	Es ₁ r ₂₈
EF ₁ r ₂₉	Es ₁ r ₂₉
EF ₁ r ₃₀	Es ₁ r ₃₀

A.48.2. Vasculature Anatomic Location

<i>MODALITY Vasculature</i>	<i>DICOM Mapping</i>
<i>Anatomic Location</i>	



<i>MODALITY Vasculature</i>	<i>DICOM Mapping</i>
<i>Anatomic Location</i>	
V. r. n A	V. r. n Ar. r _z ^v
r A	r n Ar. r _z ^v
F. r. Ao	Aor.
D s Aor.	D s n. r _z Aor.
As Aor.	As n. r _z Aor.
	v n r _z n o. r _z ^v r _z
	v n r _z n o. r _z ^v r _z
CA	C r. r. Ar. r _z ^v
uD r. no	uD n. s no
A	F.

A.48.4. OB-GYN Cardic Measurements

<i>MODALITY Label</i>	<i>DICOM Mapping</i>
Ao D. <u>o</u> or <u>s</u> Ao D.	Aor, oo D. r



M11 Series/ M10 Series/ /M9 Series/M8 Series Diagnostic Ultrasound System

▶ Ar	▶ Ar
A Ar	S ▶ Ar
▶ Ar	S ▶ Ar



CrV	CrV
or	or
u	u
Sr	FC
in	FC
Ar	FC
Vrs	Vrs
ns	ns
CrV	CrV
VrnCs	VrnCs
VrnCs	VrnCs
VrnCs	VrnCs
VrnCs	VrnCs
VrnCs	VrnCs
VrnCs	VrnCs
VrnCs	VrnCs
VrnCs	VrnCs
VrnCs	VrnCs

B- Appendix C, Cardiac Structured Reporting, Part 1

This appendix lists the DICOM Structured Report (SR) mappings used in the Cardiac Structured Reports of ultrasound system SR files.

The mappings are organized in a manner similar to the DICOM SR Templates as described in PS 3.16 of the DICOM Standard. The Cardiac Report mappings follow the DICOM SR Template TID 5200: Cardiac Ultrasound Procedure Report, except where noted.

All private code values use the Coding Scheme Designator "MRUS".

B.1. TID (5200) Echocardiography Procedure Report

This template forms the top of a content tree that allows an ultrasound system to describe the results of an adult echocardiography imaging procedure.

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
✓			C A E	Adult Echocardiography Procedure Report	✓		
=		C DE	C DE	Diagnosis			
✓	=	C EX	C DE	Diagnosis	✓		
✓	=	C A S	C DE	Diagnosis	✓		
=		C A S	C A E	(111028, DCM, "Image Library")			
=		C A S	A E	Opposition			
✓	=	C A S	C DE	Diagnosis	✓		
=		C A S	C DE	Diagnosis	✓		S 32600, SRT, "Left Ventricle"





M11 Series/ M10 Series/ /M9 Series/M8 Series Diagnostic Ultrasound System

							E ₁ or r ₁ p ₁ on r ₁ v ₁
\	=	C ₁ A ₁ S ₁	C ₁ DE	D ₁ D ₁ E ₁ S ₁ on	✓		S ₁ or r ₁ p ₁ , E ₁ S ₁ on "Tricuspid Valve") S ₁ or r ₁ p ₁ , DC D ₁ E ₁ or r ₁ p ₁ r ₁ sp ₁ v ₁
\	=	C ₁ A ₁ S ₁	C ₁ DE	D ₁ D ₁ E ₁ S ₁ on	✓		S ₁ or r ₁ p ₁ , E ₁ S ₁ on "Aorta") S ₁ or r ₁ p ₁ , DC D ₁ E ₁ or r ₁ p ₁ Aor ₁
\	=	C ₁ A ₁ S ₁	C ₁ DE	D ₁ D ₁ E ₁ S ₁ on	✓		S ₁ or r ₁ p ₁ , E ₁ S ₁ on "Pulmonary artery") S ₁ or r ₁ p ₁ , DC D ₁ E ₁ or r ₁ p ₁ on r ₁ Ar ₁ r ₁
\	=	C ₁ A ₁ S ₁	C ₁ DE	D ₁ D ₁ E ₁ S ₁ on	✓		S ₁ or r ₁ p ₁ , E ₁ 48600, SRT, "Vena Cava") S ₁ or r ₁ p ₁ , DC D ₁ E ₁ or r ₁ p ₁ n C ₁ v ₁

							E ₀ r ₀ p ₀ C r ₀ s ₀ n
=	C A S	C DE	D D S on	✓			S ₀ o ₀ b ₀ , E D ₀ S ₀ "Congenital Anomaly o C r ₀ v ₀ s ₀ r ₀ System") \$MeasType DC D E ₀ r ₀ p ₀ Cong
=	C A S	C DE	D D An s				
=	C A S	C DE	D D S on	✓			S ₀ o ₀ b ₀ , E D ₀ S ₀ "Pericardial disease") s ₀ p ₀ DC D E ₀ r ₀ p ₀ s
=	C A S	C DE	D D S on	✓			S ₀ o ₀ b ₀ , E S ₀ S ₀ " p ₀ n," s ₀ p ₀ DC D E ₀ r ₀ p ₀ p ₀ ns
=	C A S	C DE	D D S on	✓			S ₀ o ₀ b ₀ , E S ₀ S ₀ , SRT, "Hear rate") s ₀ p ₀ DC D E ₀ r ₀ p ₀ Co on s r ₀ ns
=	C A S	EX	S "s ₀ n s r ₀ ns"	✓			

B.2. TID(1001) Observation Context

This template specifies attributes of observation context that may be defined, extended or replaced at any location in the SR tree.

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
	=	C DE	EX	E DC "Observer Type")	✓		DC "Person")
	=	C DE	EX	E DC "Person's Name")	✓		DC "Person's Name")
	=	C DE	EX	E DC "Person's Organization Name")	✓		DC "Person's Organization Name")
	=	C DE	EX	E DC "Person's Organization")	✓		DC "Person's Organization")
	=	C DE	EX	E DC "Subject Class")	✓		DC "Patient")
	=	C DE	EX	E DC "Subject Name")	✓		DC "Patient's Name")
	=	C DE	EX	E DC "Subject Birth Date")	✓		DC "Patient's Birth Date")
	=	C DE	EX	E DC "Subject Sex")	✓		DC "Patient's Sex")
	=	C DE	EX	E DC "Subject Age")	✓		DC "Patient's Age")

B.3. TID (5201) Echocardiography Patient Characteristics

	NL	Rel with Parent	VT	Concept Name	Used in Modality	Value Set Constraint	Comments
			C DE	E DC "Patient Characteristics")	✓		
	=	C DE	EX	E DC "Subject Age")	✓	DC "Patient's Age")	DC "Patient's Age")

1	=	C	A	DE	E	DC	✓	DC	ro or no
2	=	C	A		E	4, LN, "Heart Rate")	✓		ro no
3	=	C	A		E	F ₁ EC "Systolic Blood Pressure")	✓		ro no
4	=	C	A		E	F ₁ ED "Diastolic Blood Pressure")	✓		ro no
5	=	C	A		E	Ar "Arterial Blood Pressure")	✓		ro no
6	=	C	A		E	2, LN, "Patient Height")	✓		ro or no
7	=	C	A		E	7, LN, "Patient Weight")	✓		ro or no
8	=	C	A		E	6, LN, "Body Surface Area")	✓		ro no
9	=	FE	ED	C	DE	E	Bo "Body Surface Area")	✓	BC Bo Ar

B.4. TID (SELFTMP-2) Echo Procedure Summary Section

This is a private template referenced by TID(5200).

NL	Rel with Parent	VT	Concept Name	Used in Modality	Value Set Constraint	Comment		
1		C	A	E	D	DC	✓	
2	=	C	A	EX	E	DC	✓	ro no
3	=	C	A	EX			✓	ro no
4	=	C	A	EX			✓	ro no
5	=	C	A	EX			✓	ro no
6	=	C	A	EX			✓	ro no
7	=	C	A	EX			✓	ro no
8	=	C	A	EX	E	DC	✓	ro r por

							Co n
		C A S	EX	ro p,	✓		ro r por Co n
		C A S	EX	DC ,F n ,g s,	✓		ro r por Co n

B.5. TID (5202) ECHO SECTION

NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Value Set	Constraint	Comment
		C A E	E DCM, "Findings")	✓			
	C CB D	C DE	E CB S "Finding Site")	✓		SRT, "Left Ventricle")	
	C A S	C A E	D DC "Measurement Group")	✓			
	C CB D	C DE	E 0373, SRT, "Image Mode")			BC D	
	C CB D	C DE	D (125203,DCM,"Acquisition Protocol")				
	C A S	C DE	D D E	✓			

B.6. TID (5203) Echo Measurement

NL	Relation with Parent	Value Type	Concept Name	Used in MODALITY	Value Set Constraint	Comment
		C DE	D D ₁ (n s r n)	✓	n s r n n s r n o o n g s B C D E o A n o s n g s B C D E o r g r p A n o s o r s	
=	A C CB D	C DE	E C, S, n s r n	✓	s r o s o n n s r n o r n o n p r s n n s r n s r o s n o n s n s r r o B C D	
=	A C CB D	C DE	E C, 8, SRT, “Flow Direction”)	✓	B C D F o D r o n	
=	A C CB D	C DE	E 40899, SRT, “Respiratory Cycle Point”)		D C D s p r o n	
=	A C CB D	C DE	E 4089A, SRT, “Cardiac Cycle Point”)	✓	D C D s p r o n	
=	A AC C EX	C DE	E 0373, SRT, “Image Mode”)	✓	D C D r i s o n o s	

	AC EX	C DE	EV (111031, DCM, "Image View")	✓	BC D E o r, q r p
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B.7. CID (12200) Echocardiography Left Ventricle

C DE C D, E o r, q r p Co on u s r n s
C DE C D, n r n r
C DE C D, n r Ar
C DE C D, n r u
C DE C D, r Fo r r o p r s
C DE C D, n r r
C DE C D, C r u u p r o p r s

B.8. CID (12201) Left Ventricle Linear

CSD	CV	Code Meaning
✓		✓ n r n r n r n En D s o r D n s on
✓		✓ n r n r n r n s s o r D n s on
✓		✓ n r n r n r n Fr on s o r n
✓		n r ^v n r n r n r n s s o r D n s on
✓		n r ^v n r n r n r n r o r o r n r n s s o r
✓		n r ^v n r n r n r n r n
✓		n r ^v n r n r n r n s s o r D n s on
✓		✓ n r n r n r n r o r n r n
✓		✓ n r n r n r n s o r o r s
✓		✓ n r n r n r n s s o r o r s
✓		✓ n r n r n r n r o r n r n s s o r D n s on
✓		✓ n r n r n r n r o r
✓		✓ n r n r n r n r o r
✓	C	n r n r n r n r o r n r n E s o r n
✓		A D s n
✓		B D s n
✓		✓ n r ^v n r n r n r n r o r A o

		▶ V nā r r n n r n Fr on S or n g
--	--	-----------------------------------

B.9. CID (12202) Left Ventricle Volume

CSD	CV	Code Meaning
▶		▶ nā r r En D s o r u o r
▶		▶ nā r r En S s o r u o r
▶		▶ nā r r E on Fr on
S	C	▶ nā r r ED n r
S	C	▶ nā r r S n r

B.10. CID (12203) Left Ventricle Other

CSD	CV	Code Meaning
▶		▶ n r r s s
▶		▶ nā r r so n r on
S	E	▶ nā r r so n r Con r on
S	F	▶ nā r r n o r r r or n
S		▶ n r r r E on r o
S		▶ n r r E on
S	C	▶ V nā r r s s g n r
S	C	▶ n r r r E on r o E on r o

B.11. CID (12204) Echocardiography Right Ventricle

CSD	CV	Code Meaning
C ▶ DE C D	E o r o r p Co on u s r n s	
C ▶ DE C D	r r Fo r r r s	
C ▶ DE C D	C r u n p r r r s	
▶		g nā r r n r n D s o r D n s on
▶		g nā r r n r n S s o r D n s on
S		g nā r r n o r r r or n
S		g nā r r r S s o r r n s s r
▶		g nā r r An r or r D s o r n s s
▶		g nā r r An r or r S s o r n s s
S		g V nā r r r or
S		g V nā r r r nor

CSD	CV	Code Meaning
☐		☐ V n r Ar n s o
☐		☐ V n r Ar n s s o
☐		☐ n r r E on r o
☐		☐ n r E on
☐	C	☐ n r r E on r o o E on
☐	C	☐ n r r Fr on Ar C

B.12. CID (12205) Echocardiography Left Atrium

CSD	CV	Code Meaning
C DE C D E o r p Co on u s r n s		
☐		☐ Ar An ro pos r o s o D ns on
☐		☐ Ar o Aor oo o
☐		☐ Ar s o Ar
☐		☐ Ar s o no
☐		☐ n r or
☐		☐ n r nor
☐	C	Aor oo o Ar o
☐	C	☐ Ar no n r

B.13. CID (12206) Echocardiography Right Atrium

CSD	CV	Code Meaning
C DE C D E o r p Co on u s r n s		
☐		☐ Ar s o Ar
☐		☐ n r or
☐		☐ n r nor
☐		☐ n r no
☐		☐ n r no n r

B.14. CID (12207) Echocardiography Mitral Valve

CSD	CV	Code Meaning
☐	F	☐ ro no

CSD	CV	Code Meaning
C ▶ DECD	E	Color Doppler Co
C ▶ DECD	F	Flow Doppler
C ▶ DECD	C	Color Doppler
▶		Color Doppler A
▶		Color Doppler E
▶		Color Doppler EA
S ▶		Color Doppler A D
▶		Color Doppler E B
▶		Color Doppler BSS E
S ▶		Color Doppler A uD
S ▶		Color Doppler Cos r o p n g
▶		Color Doppler g on r o r g
S		Color Doppler u s p r o s n
S		Color Doppler D B
S		A p o r A
S		A p o r E
S		A p o r D p o r E p o n
S		Color Doppler A E r o E
S		Color Doppler E r o r n
S		Color Doppler A r o r n
S		E r o n g r
S		A r o n g r
S		Color Doppler E uD
S		E n s o r o r n n s
S		E n s o r o r n n s
S		E n s o r o r n n s
S		E n s o r o r n n s

CSD	CV	Code Meaning
☒	☒	A r r on E n s o v o
☒	☒	A r r on o E n s o v o
☒	☒	D r r on E n s o v o
☒	☒	D r r on o E n s o v o
☒	☒	r r nos s u s
☒	☒	r r nos s Ar s r o
☒	☒	r r nos s r o
☒	☒	r r nos s Ar
☒	☒	r r nos s r r r n
☒	☒	r r A r op
☒	☒	A v A p r o C v A p r o
☒	C	r r nos s r r r n
☒	☒	EE
☒	☒	EE r r
☒	☒	EE r r r
☒	☒	r r v A C n r v
☒	☒	r r Ann r r n s s o r r s on

B.15. CID (12208) Echocardiography Tricuspid Valve

CSD	CV	Code Meaning
☒	☒	DECD E o r q r p Co on u s r ns
☒	☒	DECD r Fo r op r s
☒	☒	r sp v E v r o
☒	☒	r sp v A v r o
☒	☒	r sp v E o A o
☒	☒	r ro v o r sp v p ns
☒	☒	r sp v C r o p n r
☒	☒	r sp v E v uD r on
☒	☒	r sp v E v r r r n
☒	☒	r sp v A v r r r n
☒	☒	r sp Ann r r n s s o r r s on

B.16. CID (12209) Echocardiography Pulmonic Valve

C ▶DECD、	E o r p Co on u s r ns
C ▶DECD、	r Fo r op r s

B.17. CID (12210) Echocardiography Pulmonary Artery

CSD	CV	Code Meaning
C ▶DECD、		E o r p Co on u s r ns
▶		n r on r Ar r D r
▶		g n r on r Ar r D r
▶		r n r on r Ar r D r
⊆	A	n r on r Ar r r o r
⊆		r os r or r D r
⊆	C	n r on r Ar r En D s o r r r

B.18. CID (12211) Echocardiography Aortic Valve

CSD	CV	Code Meaning
C ▶DECD、		E o r p Co on u s r ns
C ▶DECD、		r Fo r op r s
▶		Aor r n C s p r on
⊆		o o Aor r V A r r on r o E r on r

B.19. CID (12212) Echocardiography Aorta

CSD	CV	Code Meaning
C ▶DECD、		E o r p Co on u s r ns
▶		Aor o o D r
▶		Aor Ar r D r
▶		As n r Aor D r
▶		Aor s u s D r
▶		D s n r Aor D r
⊆		Aor ⊆ non r r on D r
⊆		Aor ⊆ u n s D r
⊆		n Du s Ar r D r
⊆		r r o s D r

CSD	CV	Code Meaning
<u>S</u>		Coronary Artery Diameter
<u>S</u>		Coronary Artery Diameter
<u>S</u>	C	Aortic Non-invasive Diameter Aortic Diameter

B.20. CID (12214) Echocardiography Pulmonary Veins

CSD	CV	Code Meaning
C DECD, Eor, r p Co on us r ns		
<u>S</u>	B	Right Atrial Diameter
<u>S</u>	D	Right Atrial Diameter
<u>S</u>	C	Right Atrial Diameter
<u>S</u>		Right Atrial Diameter
<u>S</u>		Right Atrial Diameter
<u>S</u>		Right Atrial Diameter
<u>S</u>		Right Atrial Diameter
<u>S</u>		Right Atrial Diameter
<u>S</u>		Right Atrial Diameter
<u>S</u>		Right Atrial Diameter
<u>S</u>		Right Atrial Diameter
<u>S</u>		Right Atrial Diameter
<u>S</u>		Right Atrial Diameter

B.21. CID (12215) Echocardiography Vena Cavae

CSD	CV	Code Meaning
C DECD, Eor, r p Co on us r ns		
		Inferior Vena Cava Diameter
<u>S</u>		Inferior Vena Cava Diameter
<u>S</u>	C	Common Femoral Artery Diameter
<u>S</u>	C	Common Femoral Artery Diameter
<u>S</u>	C	Common Femoral Artery Diameter
<u>S</u>	C	Common Femoral Artery Diameter

B.22. CID (12216) Echocardiography Hepatic Veins

CSD	CV	Code Meaning
C DECD, Eor, r p Co on us r ns		
		Portal Vein Diameter
		Portal Vein Diameter

CSD	CV	Code Meaning
▶	● →	p ... n ... D ... s ... o
▶	● →	p ... n ... Ar ... Con r ... on v ... r ... o ...
◁	● →	p ... n ... s ... r ... r r ... n
◁	● →	p ... n ... D ... s ... r ... r r ... n

B.23. CID (12217) Echocardiography Cardiac Shunt

CSD	CV	Code Meaning
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CSD	CV	Code Meaning
⊞		Angle
⊞		Insertion/Non-Insertion
⊞		Arrival/Departure

B.28. CID (12224) Ultrasound Image Modes

CSD	CV	Code Meaning
⊞	A	Doppler
⊞		Doppler
⊞	E	Doppler Color Flow
⊞		Doppler
⊞	E	Doppler Strain
⊞	B	Doppler Compressibility
DC		Color Doppler

D ,

B.30. CID (12227) Echocardiography Measurement Method

C	DECD	E	o	r	g	r	p	v	n	o	s		
C	DECD	,	E	o	r	g	r	p	v	A	r	o	s
C	DECD	,	n	o	F	o	v	o	s				
C	DECD	,	v	o	m	o	s	s	o	s			

B.31. CID (12228) Volume Methods

CSD	CV	Code Meaning
DC		Ar
DC		Ar
DC		Bp
DC		S
DC		nC
DC		o D
DC		o D
DC		
		nB
		o D
		son

B.32. CID (12229) Area Methods

CSD	CV	Code Meaning
DC		Ar
DC		Con
DC		Con
DC		Con
DC		Con
DC		r
DC		r

B.33. CID (12230) Gradient Methods

CSD	CV	Code Meaning
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CSD	CV	Code Meaning
DC		Flow Based
DC		Superior Based

B.34. CID (12231) Volume Flow Methods

CSD	CV	Code Meaning
DC		Doppler Flow
DC		Flow Volume

B.35. CID (12232) Myocardium Mass Methods

CSD	CV	Code Meaning
DC		Myocardial Mass
DC		Myocardial Mass

B.36. CID (12233) Cardiac Phase

CSD	CV	Code Meaning
	F	Flow
	F	Diastole
	F	End Diastole
DC		End Flow

B.37. CID (12234) Respiration Phase

CSD	CV	Code Meaning
	F	Inspiratory
	F	Expiratory

B.38. CID (12239) Cardiac Output Properties

CSD	CV	Code Meaning
	F	Flow
	F	Cardiac Output
	F	Cardiac Output
	F	Flow
	F	Flow

CSD	CV	Code Meaning
	F FE	Flow
	F FA	Flow
	F F	Flow

B.39. CID (12240) Left Ventricle Area

CSD	CV	Code Meaning
		Left Ventricle Area
		Right Ventricle Area
		Left Ventricle End Diastolic Area
		Left Ventricle End Diastolic Area
		Left Ventricle End Diastolic Area

B.40. CID (90000) Pericardial disease

CSD	CV	Code Meaning
		Pericardial Disease
		Pericardial Disease

B.41. Mapping between Modality measurements and DICOM Concepts.

B.41.1. Left Ventricle Measurements

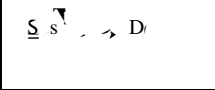
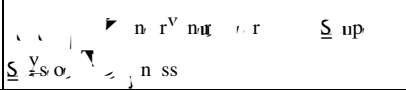
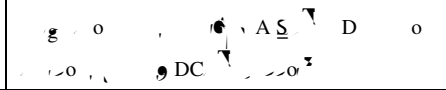

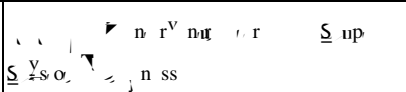

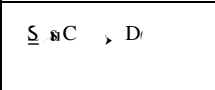
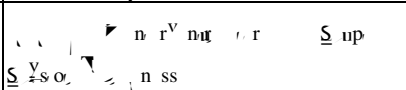
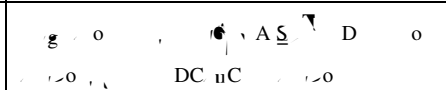
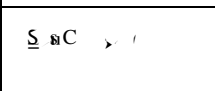
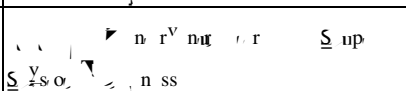
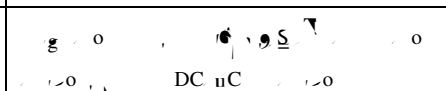
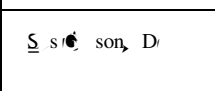
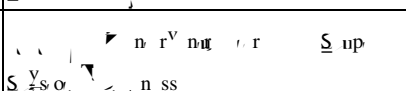
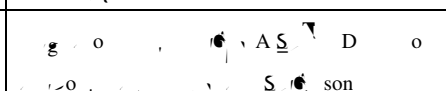
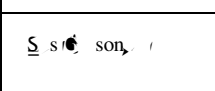
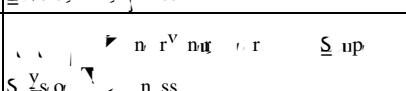
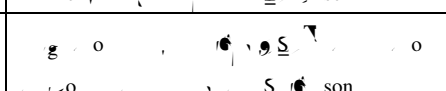
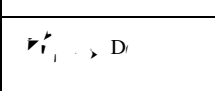
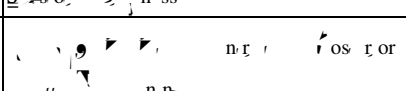
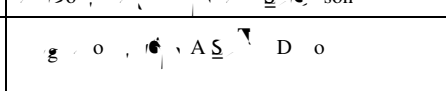
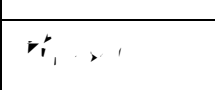
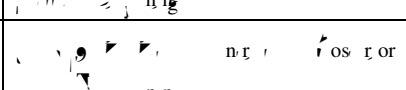
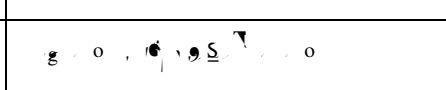
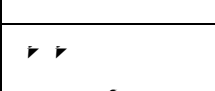
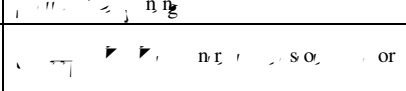
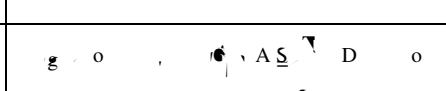
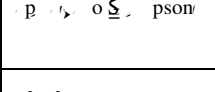

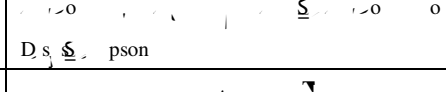
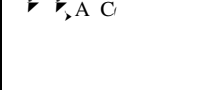
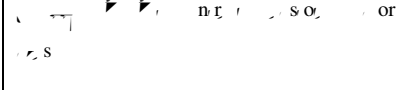
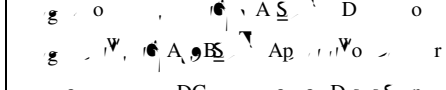
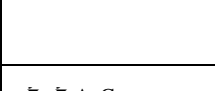
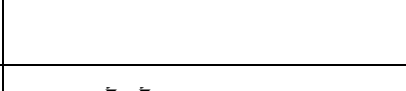
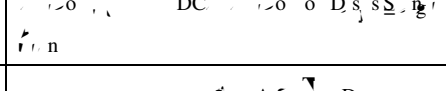
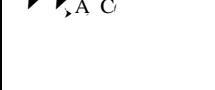
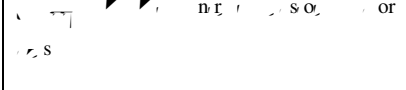
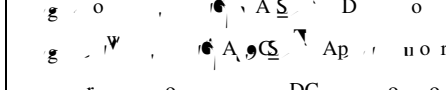


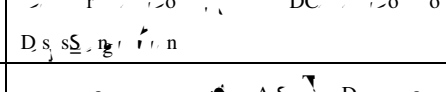
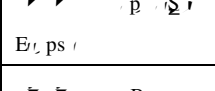
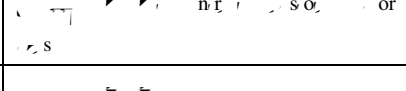
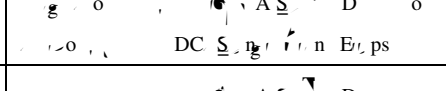
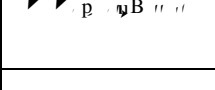
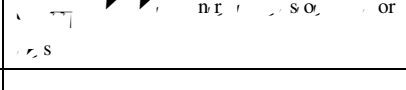
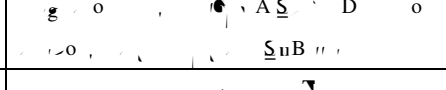
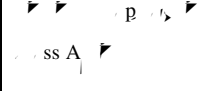
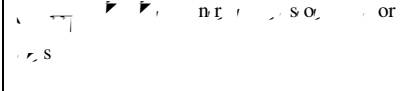
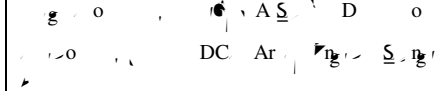
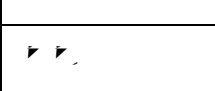
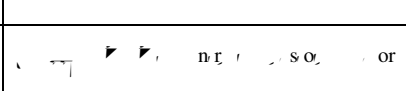
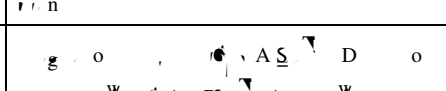


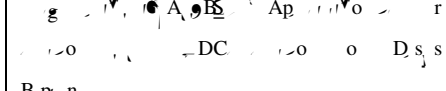
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or D ₁ D ₂	Left Ventricle End Diastolic Area	AS ₁ D ₁ D ₂
DuC ₁ D ₂	Left Ventricle End Diastolic Area	AS ₁ D ₁ D ₂ DC ₁ DC ₂
or DuC ₁ D ₂	Left Ventricle End Diastolic Area	AS ₁ D ₁ D ₂ DC ₁ DC ₂



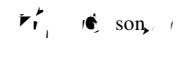
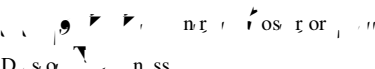
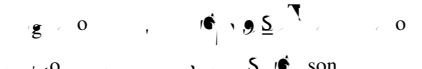
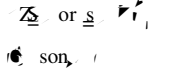
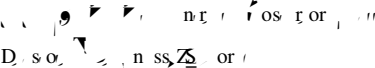

M11 Series/ M10 Series/ /M9 Series/M8 Series Diagnostic Ultrasound System

	 D s o, D n s on	 DC
 or s	 D s o, D n s on, or	 DC

$\underline{E} \rightarrow$	\underline{S} or \underline{H}	\underline{g} or \underline{DC}
\underline{Z} or $\underline{S} \rightarrow$	\underline{S} or \underline{H} , \underline{Z} or \underline{V}	\underline{g} or \underline{DC}
\underline{E}, \odot son	\underline{S} or \underline{H}	\underline{g} or \underline{S} son
\underline{Z} or $\underline{S} \rightarrow$, \underline{E}, \odot son	\underline{S} or \underline{H} , \underline{Z} or \underline{V}	\underline{g} or \underline{S} son
$\underline{E} \rightarrow$ C D	\underline{S} or \underline{H}	\underline{g} or \underline{DC} uC
\underline{Z} or $\underline{S} \rightarrow$, $\underline{E} \rightarrow$ C D	\underline{S} or \underline{H} , \underline{Z} or \underline{V}	\underline{g} or \underline{DC} uC
$\underline{E} \rightarrow$ D	\underline{S} or \underline{H}	\underline{g} or \underline{DC} , A \underline{S} D o
\underline{Z} or $\underline{S} \rightarrow$, $\underline{E} \rightarrow$ D	\underline{S} or \underline{H} , \underline{Z} or \underline{V}	\underline{g} or \underline{DC} , A \underline{S} D o
\underline{E}, \odot son D	\underline{S} or \underline{H}	\underline{g} or \underline{S} son, A \underline{S} D o
\underline{Z} or $\underline{S} \rightarrow$, \underline{E}, \odot son D	\underline{S} or \underline{H} , \underline{Z} or \underline{V}	\underline{g} or \underline{S} son, A \underline{S} D o
$\underline{S} \rightarrow$ D	\underline{D} s o, \underline{V} n ss	\underline{g} or \underline{A} \underline{S} D o
\underline{Z} or $\underline{S} \rightarrow$, $\underline{S} \rightarrow$ D	\underline{D} s o, \underline{V} n ss, \underline{Z} or \underline{V}	\underline{g} or \underline{A} \underline{S} D o
$\underline{S} \rightarrow$ uC D	\underline{D} s o, \underline{V} n ss	\underline{g} or \underline{A} \underline{S} D o
\underline{Z} or $\underline{S} \rightarrow$, $\underline{S} \rightarrow$ uC D	\underline{D} s o, \underline{V} n ss, \underline{Z} or \underline{V}	\underline{g} or \underline{A} \underline{S} D o
$\underline{S} \rightarrow$ uC	\underline{D} s o, \underline{V} n ss	\underline{g} or \underline{DC} , \underline{S} n r t, ss \underline{V} o
\underline{Z} or $\underline{S} \rightarrow$, $\underline{S} \rightarrow$ uC	\underline{D} s o, \underline{V} n ss, \underline{Z} or \underline{V}	\underline{g} or \underline{DC} , \underline{S} n r t, ss \underline{V} o
$\underline{S} \rightarrow$	\underline{D} s o, \underline{V} n ss	\underline{g} or \underline{S}
\underline{Z} or $\underline{S} \rightarrow$, $\underline{S} \rightarrow$	\underline{D} s o, \underline{V} n ss, \underline{Z} or \underline{V}	\underline{g} or \underline{S}
$\underline{S} \rightarrow$ D	\underline{D} s o, \underline{V} n ss	\underline{g} or \underline{DC} , A \underline{S} D o

<p>▶ $\frac{V}{S}$</p>	<p>▶ $\frac{V}{S}$ n r r s s o r or</p>	<p>▶ $\frac{V}{S}$ A S D o</p> <p>▶ $\frac{V}{S}$ A C S Ap r u o r</p> <p>▶ $\frac{V}{S}$ DC o o</p> <p>D s s B p n</p>
<p>▶ $\frac{V}{S}$ p o s p son</p>	<p>▶ $\frac{V}{S}$ n r r s s o r or</p>	<p>▶ $\frac{V}{S}$ A S D</p>
<p>▶ $\frac{V}{S}$ A C</p>	<p>▶ $\frac{V}{S}$ n r r s s o r or</p>	<p>▶ $\frac{V}{S}$ A S D o</p> <p>▶ $\frac{V}{S}$ A B S Ap r u o r</p> <p>▶ $\frac{V}{S}$ DC s n E t ps</p>
<p>▶ $\frac{V}{S}$ A C</p>	<p>▶ $\frac{V}{S}$ n r r s s o r or</p>	<p>▶ $\frac{V}{S}$ A S D o</p> <p>▶ $\frac{V}{S}$ A C S Ap r u o r</p> <p>▶ $\frac{V}{S}$ DC s n</p> <p>E t ps</p>
<p>▶ $\frac{V}{S}$ p o s</p>	<p>▶ $\frac{V}{S}$ n r r s s o r or</p>	<p>▶ $\frac{V}{S}$ A S D o</p>
<p>▶ $\frac{V}{S}$ p o B u</p>	<p>▶ $\frac{V}{S}$ n r r s s o r or</p>	<p>▶ $\frac{V}{S}$ A S D o</p>
<p>▶ $\frac{V}{S}$</p>	<p>▶ $\frac{V}{S}$ n r r s s o r or</p>	<p>▶ $\frac{V}{S}$ A S D o</p> <p>▶ $\frac{V}{S}$ A B S Ap r u o r</p> <p>▶ $\frac{V}{S}$ DC o o D s s</p> <p>B p n</p>
<p>▶ $\frac{V}{S}$</p>	<p>▶ $\frac{V}{S}$ n r r s s o r or</p>	<p>▶ $\frac{V}{S}$ A S D o</p> <p>▶ $\frac{V}{S}$ A C S Ap r u o r</p> <p>▶ $\frac{V}{S}$ DC o o</p> <p>D s s B p n</p>
<p>▶ $\frac{V}{S}$ s D</p>	<p>▶ $\frac{V}{S}$ n r r o s r or</p> <p>▶ $\frac{V}{S}$ n ss</p>	<p>▶ $\frac{V}{S}$ A S D o</p>
<p>▶ $\frac{V}{S}$ s</p>	<p>▶ $\frac{V}{S}$ n r r o s r or</p> <p>▶ $\frac{V}{S}$ n ss</p>	<p>▶ $\frac{V}{S}$ S o</p>
<p>▶ $\frac{V}{S}$ si C s D</p>	<p>▶ $\frac{V}{S}$ n r r o s r or</p> <p>▶ $\frac{V}{S}$ n ss</p>	<p>▶ $\frac{V}{S}$ A S D o</p> <p>▶ $\frac{V}{S}$ DC u C o</p>
<p>▶ $\frac{V}{S}$ si C s</p>	<p>▶ $\frac{V}{S}$ n r r o s r or</p> <p>▶ $\frac{V}{S}$ n ss</p>	<p>▶ $\frac{V}{S}$ S o</p> <p>▶ $\frac{V}{S}$ DC u C o</p>
<p>▶ $\frac{V}{S}$ s s D</p>	<p>▶ $\frac{V}{S}$ n r r o s r or</p> <p>▶ $\frac{V}{S}$ n ss</p>	<p>▶ $\frac{V}{S}$ A S D o</p> <p>▶ $\frac{V}{S}$ DC o</p>
<p>▶ $\frac{V}{S}$ s s</p>	<p>▶ $\frac{V}{S}$ n r r o s r or</p> <p>▶ $\frac{V}{S}$ n ss</p>	<p>▶ $\frac{V}{S}$ S o</p> <p>▶ $\frac{V}{S}$ DC o</p>
<p>▶ $\frac{V}{S}$ s s son, D</p>	<p>▶ $\frac{V}{S}$ n r r o s r or</p> <p>▶ $\frac{V}{S}$ n ss</p>	<p>▶ $\frac{V}{S}$ A S D o</p> <p>▶ $\frac{V}{S}$ S son</p>

rs		<p>Cr, CV, En, AS, D, A, BS, DC, Ds, Bp, n</p>
rs		<p>Cr, CV, En, AS, D, A, CS, DC, Ds, Bp, n</p>
Ar, s		<p>g, o, AS, D, o</p>
Z or s Ar, s		<p>g, o, AS, D, o</p>
As p, Et, ps		<p>g, o, AS, D, o, A, BS, Ap, DC, Ds, Bp, n</p>
Z or s As p, Et, ps		<p>g, o, AS, D, o, A, BS, Ap, DC, Ds, Bp, n</p>
As s, o, pson		<p>g, o, AS, D, o, A, BS, Ap, DC, Ds, Bp, n</p>
Z or s As s, o, pson		<p>g, o, AS, D, o, A, BS, Ap, DC, Ds, Bp, n</p>
As s, r		<p>g, o, AS, D, o, A, BS, Ap, DC, Ds, Bp, n</p>
Z or s As s, r		<p>g, o, AS, D, o, A, BS, Ap, DC, Ds, Bp, n</p>
As, A, C		<p>g, o, AS, D, o, A, BS, Ap, DC, Ds, Bp, n</p>
Z or s As, A, C		<p>g, o, AS, D, o, A, BS, Ap, DC, Ds, Bp, n</p>
As, A, C		<p>g, o, AS, D, o, A, CS, Ap, DC, Ds, Bp, n</p>

<p>AS, A C</p>		<p>AS, A C</p>	<p>AS, A C</p>
<p>AS, B E, ps</p>		<p>AS, B E, ps</p>	<p>AS, B E, ps</p>
<p>AS, B uB</p>		<p>AS, B uB</p>	<p>AS, B uB</p>
<p>AS, B E, ps</p>		<p>AS, B E, ps</p>	<p>AS, B E, ps</p>
<p>Ar</p>		<p>Ar</p>	<p>Ar</p>
<p>AS, Ar</p>		<p>AS, Ar</p>	<p>AS, Ar</p>
<p>FAC</p>		<p>FAC</p>	<p>FAC</p>
<p>A, ps</p>		<p>A, ps</p>	<p>A, ps</p>
<p>AS, A, ps</p>		<p>AS, A, ps</p>	<p>AS, A, ps</p>
<p>A, ps, o, pson</p>		<p>A, ps, o, pson</p>	<p>A, ps, o, pson</p>
<p>AS, A, ps, o, pson</p>		<p>AS, A, ps, o, pson</p>	<p>AS, A, ps, o, pson</p>
<p>A, s, r</p>		<p>A, s, r</p>	<p>A, s, r</p>
<p>AS, A, s, r</p>		<p>AS, A, s, r</p>	<p>AS, A, s, r</p>
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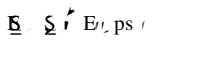
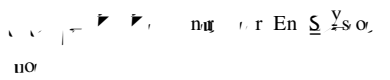
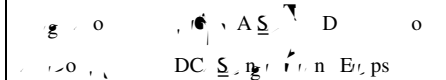
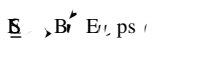
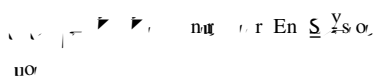
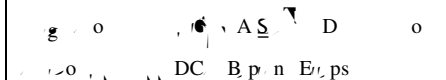
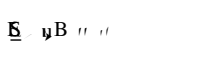

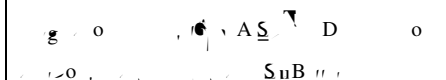
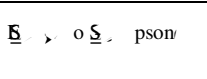
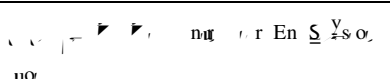

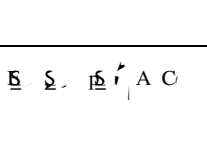
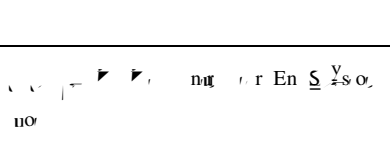
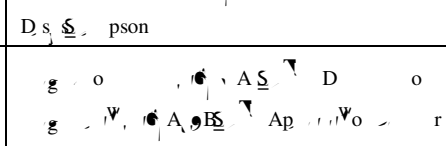
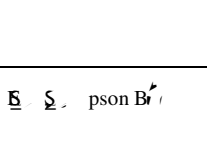
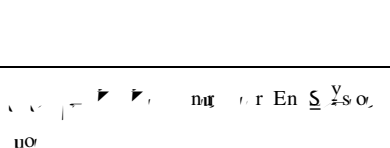
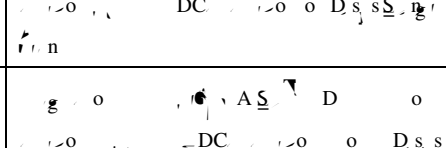
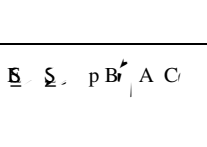
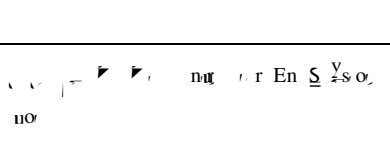
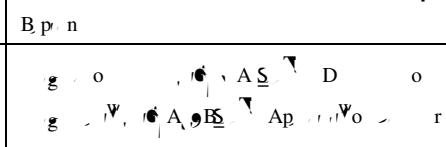
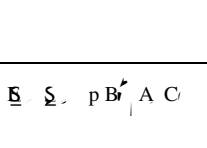
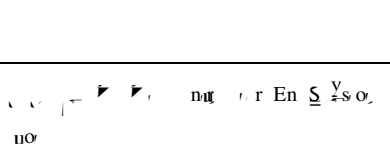
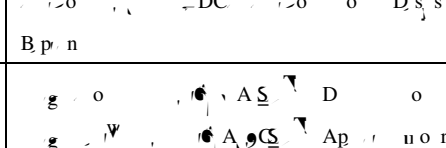
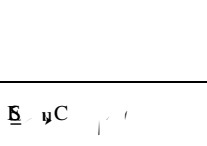
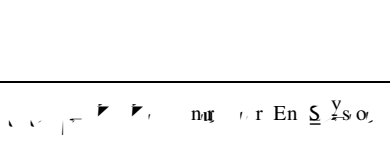
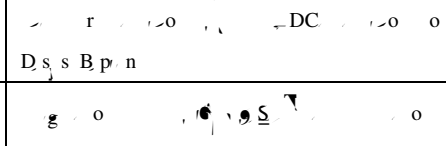
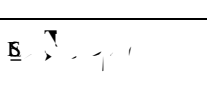
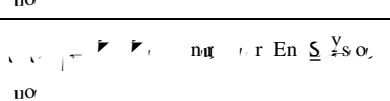
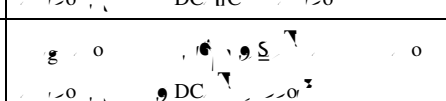
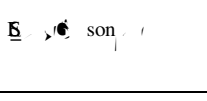
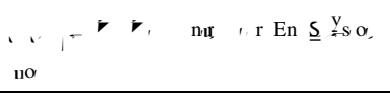
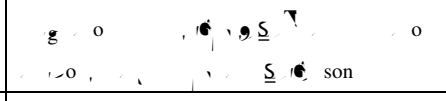
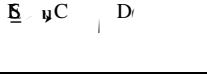
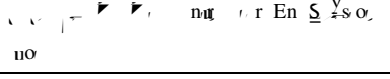
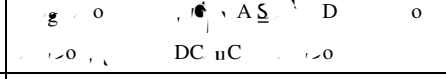
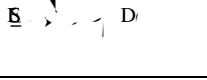
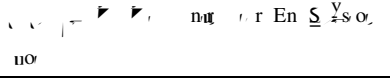
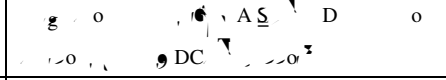
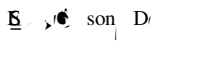
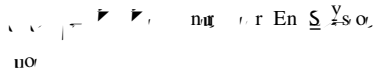
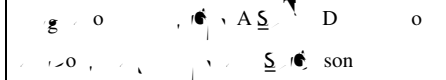
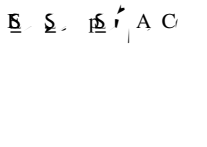
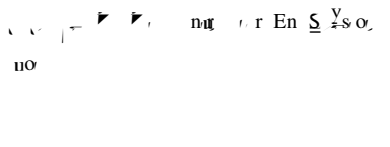
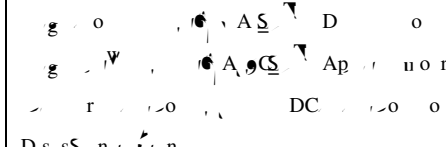
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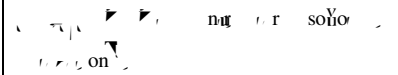

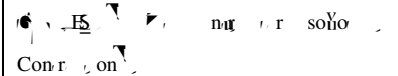

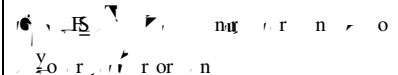
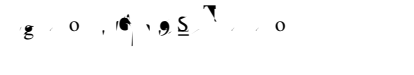

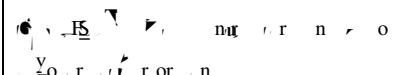

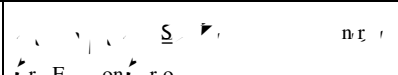
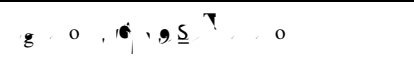

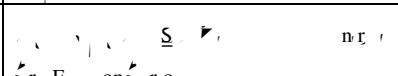

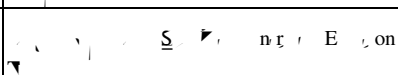
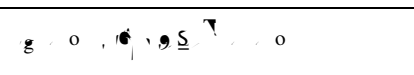

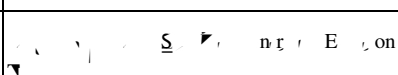

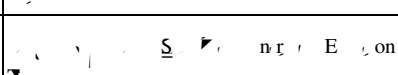
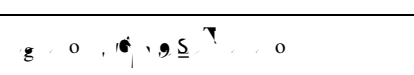

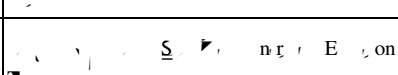

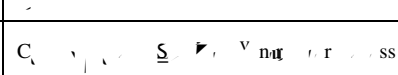
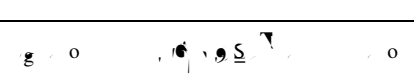


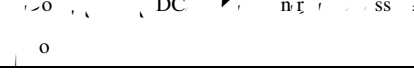

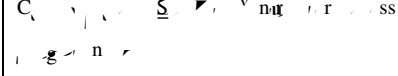
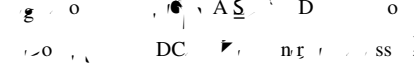
M11 Series/ M10 Series/ /M9 Series/M8 Series Diagnostic Ultrasound System

ED 1.1 Er, ps	no	DC 1.1 Er, ps
ED 1.2 Er, ps	no	DC 1.2 Er, ps
ED 1.3 Er, ps	no	DC 1.3 Er, ps
ED 1.4 Er, ps	no	DC 1.4 Er, ps
ED 1.5 Er, ps	no	DC 1.5 Er, ps

ED 1.6 Er, ps

EF ₁ E ₁ ps	Fr ₁ on	DC S ₁ ng r ₁ n E ₁ ps
EF ₁ B ₁ E ₁ ps	Fr ₁ on	DC B ₁ p ₁ n E ₁ ps
EF ₁ B ₁ "	Fr ₁ on	S ₁ uB ₁ "
EF ₁ o ₁ s ₁ pson	Fr ₁ on	D ₁ s ₁ s ₁ pson
EF ₁ A ₁ C ₁	Fr ₁ on	DC o ₁ o ₁ D ₁ s ₁ s ₁ ng r ₁ n
EF ₁ pson B ₁	Fr ₁ on	DC o ₁ o ₁ o ₁ D ₁ s ₁ s ₁ B ₁ p ₁ n
EF ₁ o ₁ s ₁ pson B ₁	Fr ₁ on	DC o ₁ o ₁ o ₁ D ₁ s ₁ s ₁ B ₁ p ₁ n
EF ₁ o ₁ s ₁ pson B ₁	Fr ₁ on	DC o ₁ o ₁ o ₁ D ₁ s ₁ s ₁ B ₁ p ₁ n
EF ₁ C ₁	Fr ₁ on	DC uC ₁ o ₁
EF ₁ "	Fr ₁ on	DC "
EF ₁ son	Fr ₁ on	S ₁ son
EF ₁ C ₁ D ₁	Fr ₁ on	DC uC ₁ o ₁
EF ₁ D ₁	Fr ₁ on	DC "
EF ₁ son D ₁	Fr ₁ on	S ₁ son
EF ₁ A ₁ C ₁	Fr ₁ on	DC o ₁ o ₁ o ₁ D ₁ s ₁ s ₁ ng r ₁ n
Ar	Cr ₁ o ₁ v ₁ us r ₁ r ₁ Ar	D ₁ o

C ₁ E ₁ ps	F ₁ C ₁ u ₁ p ₁	g ₁ o ₁ DC s ₁ n E ₁ ps
C ₂ B ₂ E ₂ ps	F ₂ C ₂ u ₂ p ₂	g ₂ o ₂ DC B ₂ p ₂ n E ₂ ps
C ₃ B ₃ u ₃	F ₃ C ₃ u ₃ p ₃	g ₃ o ₃ s ₃ u ₃ B ₃ u ₃
C ₄ o ₄ s ₄ pson	F ₄ C ₄ u ₄ p ₄	g ₄ o ₄ DC s ₄ pson
C ₅ A ₅ C ₅	F ₅ C ₅ u ₅ p ₅	g ₅ o ₅ DC s ₅ s ₅ n
C ₆ s ₆ pson B ₆	F ₆ C ₆ u ₆ p ₆	g ₆ o ₆ DC s ₆ s ₆ B ₆ p ₆ n
C ₇ s ₇ pson B ₇	F ₇ C ₇ u ₇ p ₇	g ₇ o ₇ DC s ₇ s ₇ B ₇ p ₇ n
C ₈ s ₈ pson B ₈	F ₈ C ₈ u ₈ p ₈	g ₈ o ₈ DC s ₈ s ₈ B ₈ p ₈ n
C ₉ u ₉ C ₉	F ₉ C ₉ u ₉ p ₉	g ₉ o ₉ DC u ₉ C ₉
C ₁₀ u ₁₀ C ₁₀	F ₁₀ C ₁₀ u ₁₀ p ₁₀	g ₁₀ o ₁₀ DC u ₁₀ C ₁₀
C ₁₁ s ₁₁ son	F ₁₁ C ₁₁ u ₁₁ p ₁₁	g ₁₁ o ₁₁ s ₁₁ son
C ₁₂ u ₁₂ C ₁₂ D ₁₂	F ₁₂ C ₁₂ u ₁₂ p ₁₂	g ₁₂ o ₁₂ DC u ₁₂ C ₁₂
C ₁₃ u ₁₃ C ₁₃ D ₁₃	F ₁₃ C ₁₃ u ₁₃ p ₁₃	g ₁₃ o ₁₃ DC u ₁₃ C ₁₃
C ₁₄ s ₁₄ son D ₁₄	F ₁₄ C ₁₄ u ₁₄ p ₁₄	g ₁₄ o ₁₄ s ₁₄ son
C ₁₅ A ₁₅ C ₁₅	F ₁₅ C ₁₅ u ₁₅ p ₁₅	g ₁₅ o ₁₅ DC s ₁₅ s ₁₅ n

C ₁ Br ₁ E ₁ ps ₁	F ₁ ... S ₁ ... C r ₁ ... n ₁	g ₁ ... o ₁ ... A S ₁ ... D ₁ ... DC S ₁ ... n ₁ E ₁ ps ₁
C ₁ Br ₁ E ₁ ps ₁	F ₁ ... S ₁ ... C r ₁ ... n ₁	g ₁ ... o ₁ ... A S ₁ ... D ₁ ... DC B p ₁ n ₁ E ₁ ps ₁
C ₁ uB ₁ ...	F ₁ ... S ₁ ... C r ₁ ... n ₁	g ₁ ... o ₁ ... A S ₁ ... D ₁ ... S ₁ uB ₁ ...
C ₁ ... o S ₁ ... pson ₁	F ₁ ... S ₁ ... C r ₁ ... n ₁	g ₁ ... o ₁ ... A S ₁ ... D ₁ ... D s ₁ S ₁ ... pson ₁
C ₁ ... A C ₁	F ₁ ... S ₁ ... C r ₁ ... n ₁	g ₁ ... o ₁ ... A S ₁ ... D ₁ ... DC ... o ₁ D s ₁ s ₁ ... n ₁
C ₁ ... pson Br ₁	F ₁ ... S ₁ ... C r ₁ ... n ₁	g ₁ ... o ₁ ... A S ₁ ... D ₁ ... DC ... o ₁ D s ₁ s ₁ ... B p ₁ n ₁
C ₁ ... pson Br ₁	F ₁ ... S ₁ ... C r ₁ ... n ₁	g ₁ ... o ₁ ... A S ₁ ... D ₁ ... g ₁ ... A ₁ ... B ₁ ... A p ₁ ... u ₁ ... r ₁ DC ... o ₁ D s ₁ s ₁ ... B p ₁ n ₁
C ₁ ... pson Br ₁	F ₁ ... S ₁ ... C r ₁ ... n ₁	g ₁ ... o ₁ ... A S ₁ ... D ₁ ... g ₁ ... A ₁ ... C ₁ ... A p ₁ ... u ₁ ... r ₁ DC ... o ₁ D s ₁ s ₁ ... B p ₁ n ₁
C ₁ uC ₁ ...	F ₁ ... S ₁ ... C r ₁ ... n ₁	g ₁ ... o ₁ ... A S ₁ ... D ₁ ... DC uC ₁ ...
C ₁ ...	F ₁ ... S ₁ ... C r ₁ ... n ₁	g ₁ ... o ₁ ... A S ₁ ... D ₁ ... DC ...
C ₁ ... son ...	F ₁ ... S ₁ ... C r ₁ ... n ₁	g ₁ ... o ₁ ... A S ₁ ... D ₁ ... S ₁ ... son ...
C ₁ uC ₁ ... D ₁	F ₁ ... S ₁ ... C r ₁ ... n ₁	g ₁ ... o ₁ ... A S ₁ ... D ₁ ... DC uC ₁ ...
C ₁ ... D ₁	F ₁ ... S ₁ ... C r ₁ ... n ₁	g ₁ ... o ₁ ... A S ₁ ... D ₁ ... DC ...
C ₁ ... son ... D ₁	F ₁ ... S ₁ ... C r ₁ ... n ₁	g ₁ ... o ₁ ... A S ₁ ... D ₁ ... S ₁ ... son ...
C ₁ ... A C ₁	F ₁ ... S ₁ ... C r ₁ ... n ₁	g ₁ ... o ₁ ... A S ₁ ... D ₁ ... g ₁ ... A ₁ ... C ₁ ... A p ₁ ... u ₁ ... r ₁ DC ... o ₁ D s ₁ s ₁ ... n ₁
... S ₁	F ₁ ... S ₁ ... S ₁ ... r ₁ ... n ₁	



M11 Series/ M10 Series/ /M9 Series/M8 Series Diagnostic Ultrasound System

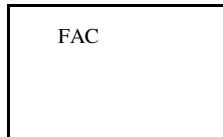
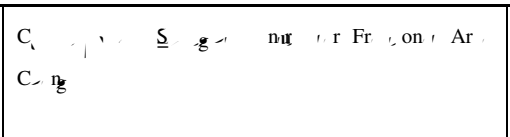
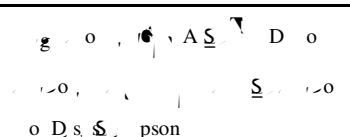
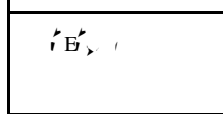
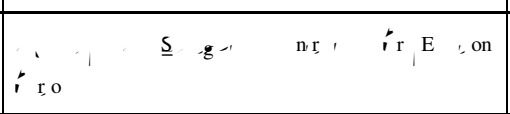
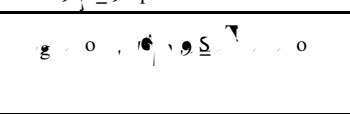
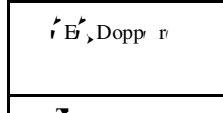
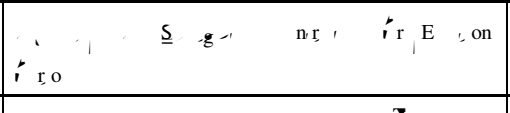

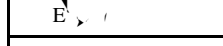
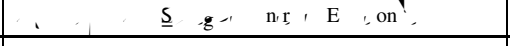
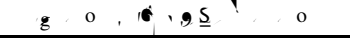

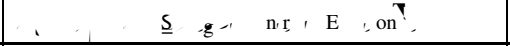


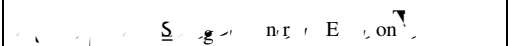


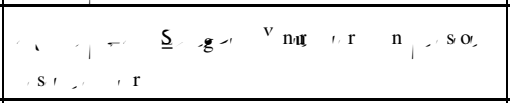

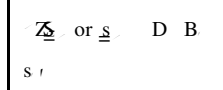
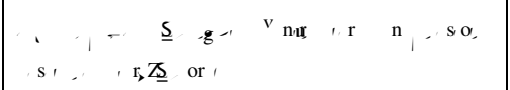

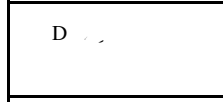
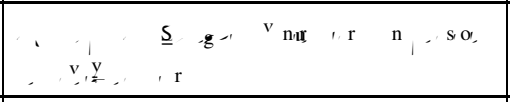

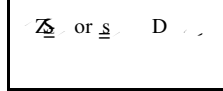
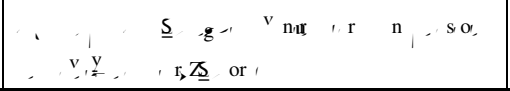

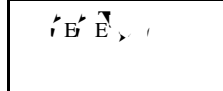
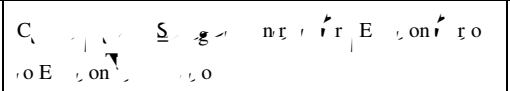

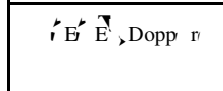
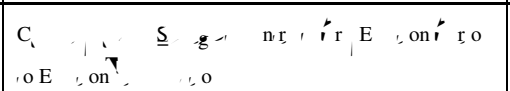




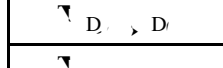
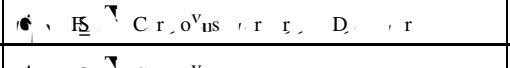
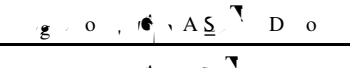
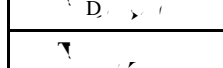
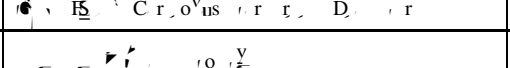
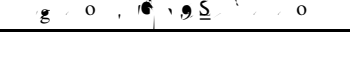
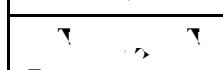
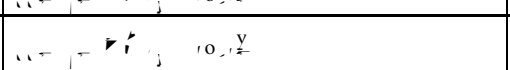
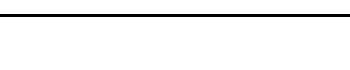
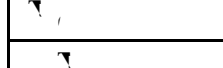
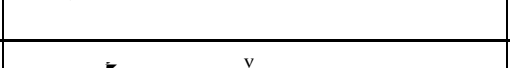
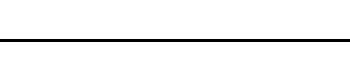
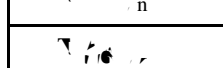
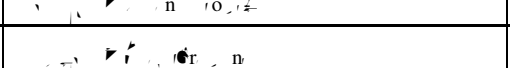
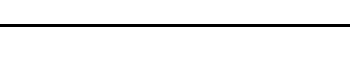

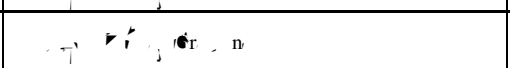


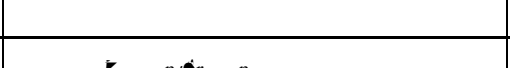
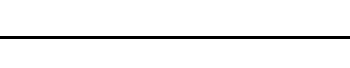
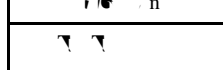
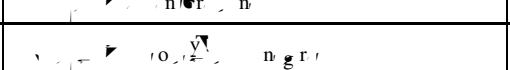
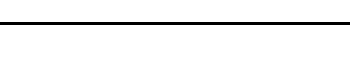
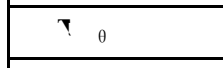
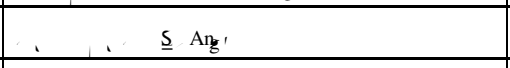
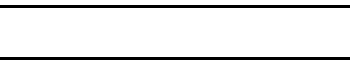
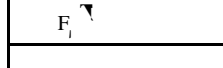
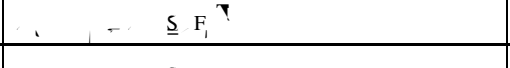
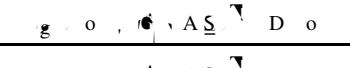
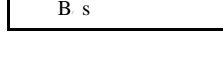
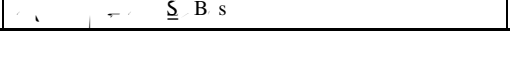
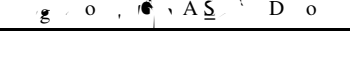
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		<p>DC </p>
		<p>DC </p>
		<p></p> <p>DC </p>
		<p></p> <p>DC </p>
		<p>DC </p>
		<p>DC </p>
		<p></p>
		<p>DC </p>
		<p>DC </p>
		<p></p>
		<p></p> <p>DC </p>

RE		
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B.41.2. Right Ventricle Measurements

MODALITY Label	DICOM Mapping	Optional Modifiers
D, D	g, n, r, n, r, D, s, o, D, n, s, on	g, o, , A, S, D, o
or, D D	g, n, r, n, r, D, s, o, D, n, s, on, or	g, o, , A, S, D, o
D, D	g, n, r, n, r, D, s, o, D, n, s, on	g, o, , A, S, D, o

D, D

FAC			
			
			
			
			
			
D B s			
			
D			
			
			
			
			
			
			
			
			
			
			
			
			
			
			
			

<p>A A C</p>	<p>A A C</p>	<p>A A C</p>
-------------------------	-------------------------	-------------------------

B.41.3. Left Atrium Measurements

MODALITY Label	DICOM Mapping	Optional Modifiers
<p>A D</p>	<p>A D</p>	<p>A D</p>
<p>A D</p>	<p>A D</p>	<p>A D</p>
<p>A D</p>	<p>A D</p>	<p>A D</p>
<p>A D</p>	<p>A D</p>	<p>A D</p>
<p>A D</p>	<p>A D</p>	<p>A D</p>
<p>A D</p>	<p>A D</p>	<p>A D</p>
<p>A D</p>	<p>A D</p>	<p>A D</p>
<p>A D</p>	<p>A D</p>	<p>A D</p>
<p>A D</p>	<p>A D</p>	<p>A D</p>
<p>A D</p>	<p>A D</p>	<p>A D</p>
<p>A D</p>	<p>A D</p>	<p>A D</p>
<p>A D</p>	<p>A D</p>	<p>A D</p>

A
D

\underline{Z} or \underline{S} AA, A	\underline{Z} or \underline{S} Ar \underline{V} or Ar \underline{Z} or \underline{S}	\underline{Z} or \underline{S} Ar \underline{V} or Ar \underline{Z} or \underline{S} DC Ar \underline{V} or Ar \underline{Z} or \underline{S} \underline{S} \underline{V} or Ar \underline{Z} or \underline{S}
A or A	\underline{Z} or \underline{S} Ar \underline{V} or Ar \underline{Z} or \underline{S} no	\underline{Z} or \underline{S} Ar \underline{V} or Ar \underline{Z} or \underline{S} DC Ar \underline{V} or Ar \underline{Z} or \underline{S} \underline{S} \underline{V} or Ar \underline{Z} or \underline{S}
A or A C	\underline{Z} or \underline{S} Ar \underline{V} or Ar \underline{Z} or \underline{S} no	\underline{Z} or \underline{S} Ar \underline{V} or Ar \underline{Z} or \underline{S} DC \underline{Z} or \underline{S} \underline{S} \underline{V} or Ar \underline{Z} or \underline{S}
A or A C	\underline{Z} or \underline{S} Ar \underline{V} or Ar \underline{Z} or \underline{S} no	\underline{Z} or \underline{S} Ar \underline{V} or Ar \underline{Z} or \underline{S} DC \underline{Z} or \underline{S} \underline{S} \underline{V} or Ar \underline{Z} or \underline{S}
A or	\underline{Z} or \underline{S} Ar \underline{V} or Ar \underline{Z} or \underline{S} or	\underline{Z} or \underline{S} Ar \underline{V} or Ar \underline{Z} or \underline{S} DC
A nor	\underline{Z} or \underline{S} Ar \underline{V} or Ar \underline{Z} or \underline{S} nor	\underline{Z} or \underline{S} Ar \underline{V} or Ar \underline{Z} or \underline{S} DC
A-A A-	C \underline{Z} or \underline{S} Ar \underline{V} or Ar \underline{Z} or \underline{S} or	
A D	\underline{Z} or \underline{S} A D	\underline{Z} or \underline{S} Ar \underline{V} or Ar \underline{Z} or \underline{S} DC
\underline{Z} or \underline{S} A	\underline{Z} or \underline{S} A D \underline{Z} or \underline{S}	\underline{Z} or \underline{S} Ar \underline{V} or Ar \underline{Z} or \underline{S} DC

B.41.4. Right Atrium Measurements

MODALITY Label	DICOM Mapping	Optional Modifiers
Ar	\underline{Z} or \underline{S} Ar \underline{V} or Ar \underline{Z} or \underline{S} miss r	
A Ar	\underline{Z} or \underline{S} Ar \underline{V} or Ar \underline{Z} or \underline{S} Ar	\underline{Z} or \underline{S} Ar \underline{V} or Ar \underline{Z} or \underline{S} DC
\underline{Z} or \underline{S} A Ar	\underline{Z} or \underline{S} Ar \underline{V} or Ar \underline{Z} or \underline{S} Ar \underline{Z} or \underline{S}	\underline{Z} or \underline{S} Ar \underline{V} or Ar \underline{Z} or \underline{S} DC
A or	\underline{Z} or \underline{S} Ar \underline{V} or Ar \underline{Z} or \underline{S} or	\underline{Z} or \underline{S} Ar \underline{V} or Ar \underline{Z} or \underline{S} DC
A nor	\underline{Z} or \underline{S} Ar \underline{V} or Ar \underline{Z} or \underline{S} nor	\underline{Z} or \underline{S} Ar \underline{V} or Ar \underline{Z} or \underline{S} DC
A or A C	\underline{Z} or \underline{S} Ar \underline{V} or Ar \underline{Z} or \underline{S} no	\underline{Z} or \underline{S} Ar \underline{V} or Ar \underline{Z} or \underline{S} DC \underline{Z} or \underline{S} \underline{S} \underline{V} or Ar \underline{Z} or \underline{S}
A A D	\underline{Z} or \underline{S} A A D	\underline{Z} or \underline{S} Ar \underline{V} or Ar \underline{Z} or \underline{S} DC

B.41.5. Aortic Valve Measurements

MODALITY Label	DICOM Mapping	Optional Modifiers

A		FoV Dr on, E S ug g n FoV
A A		FoV Dr on, E S ug g n FoV
A A		FoV Dr on, E S ug g n FoV
A A A		FoV Dr on, E S ug g n FoV DC ror soV r.
A A		FoV Dr on, S An g r FoV
A n		FoV Dr on, S An g r FoV
A n		FoV Dr on, E S ug g n FoV
A r		FoV Dr on, S An g r FoV
A r		FoV Dr on, E S ug g n FoV
A A		FoV Dr on, S An g r FoV
A A		FoV Dr on, E S ug g n FoV
A A		FoV Dr on, E S ug g n FoV
A A		FoV Dr on, E S ug g n FoV
A n		FoV Dr on, S An g r FoV
A n		FoV Dr on, E S ug g n FoV
A		FoV Dr on, S An g r FoV
A		FoV Dr on, E S ug g n FoV
A p s		FoV Dr on, S An g r FoV
A A A		FoV Dr on, E S ug g n FoV DC ror soV r.
A A A		FoV Dr on, S An g r FoV
A r		FoV Dr on, E S ug g n FoV
A A		FoV Dr on, S An g r FoV
A D		FoV Dr on, S An g r FoV
A D		FoV Dr on, E S ug g n FoV
A D		FoV Dr on, E S ug g n FoV
A D S op		FoV Dr on, S An g r FoV
A D S op		FoV Dr on, E S ug g n FoV
A A S op		FoV Dr on, S An g r FoV
A		FoV Dr on, E S ug g n FoV g o, E S Dopp r Co or FoV
A A s		FoV Dr on, E S ug g n FoV g o, E S Dopp r Co or FoV

A	Flow Direction, E	Flow Direction, E
A D	Flow Direction, E	Flow Direction, E
A 0	Flow Direction, E	Flow Direction, E
A 0	Flow Direction, E	Flow Direction, E
A S	Flow Direction, E	
A C	Flow Direction, E	
A C	Flow Direction, E	
A S	Flow Direction, E	
A	Flow Direction, E	

B.41.6. Mitral Valve Measurements

MODALITY Label	DICOM Mapping	Optional Modifiers
A	Flow Direction, E	
A	Flow Direction, E	
A A	Flow Direction, E	
A EA	Flow Direction, E	
E	Flow Direction, E	
E E	Flow Direction, E	
E EA	Flow Direction, E	
EA	Flow Direction, E	
EA EA	Flow Direction, E	
A D	Flow Direction, E	
E Dop	Flow Direction, E	
ESS D	Flow Direction, E	
ESS	Flow Direction, E	
A D r	Flow Direction, E	
C n r	Flow Direction, E	
C	Flow Direction, E	

		FoV E		Dr	
S, D		FoV E		Dr	
S		FoV E		Dr	
D Dop		FoV E		Dr	
AA p		FoV E		Dr	
EA p		FoV E		Dr	
DE		FoV E		Dr	
E r		FoV E		Dr	
A r		FoV E		Dr	
E		FoV E		Dr	
A		FoV E		Dr	
BiD r		FoV E		Dr	
S		FoV E		Dr	
E		FoV E		Dr	
A		FoV E		Dr	
E A		FoV E		Dr	
A r		FoV E		Dr	
Ar		FoV E		Dr	
D		FoV E		Dr	

Dr ₁ (Dr)		
Dr ₂ (Dr)		
Dr ₃ (Dr)		
Dr ₄ (Dr)		
Dr ₅ (Dr)		
Dr ₆ (Dr)		
Dr ₇ (Dr)		
Dr ₈ (Dr)		
Dr ₉ (Dr)		
Dr ₁₀ (Dr)		
Dr ₁₁ (Dr)		
Dr ₁₂ (Dr)		
Dr ₁₃ (Dr)		
Dr ₁₄ (Dr)		
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Dr ₁₆ (Dr)		
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Dr ₁₉ (Dr)		
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Dr ₃₂ (Dr)		
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Dr ₆₉ (Dr)		
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Dr ₉₃ (Dr)		
Dr ₉₄ (Dr)		
Dr ₉₅ (Dr)		
Dr ₉₆ (Dr)		
Dr ₉₇ (Dr)		
Dr ₉₈ (Dr)		
Dr ₉₉ (Dr)		
Dr ₁₀₀ (Dr)		

<p>Color Doppler</p>	<p>Color Doppler</p>	
<p>Flow</p>	<p>Flow</p>	<p>Flow Doppler Echogenic Flow DC Flow soV Flow Ar</p>
<p>Flow</p>	<p>Flow</p>	<p>Flow Doppler Echogenic Flow Echogenic Flow Doppler Color Flow DC Flow soV Flow Ar</p>
<p>A</p>	<p>A</p>	<p>Flow Doppler Angle Flow Angle Flow DC Flow Ar</p>
<p>A</p>	<p>A</p>	<p>Flow Doppler Angle Flow DC Flow Ar</p>
<p>A</p>	<p>A</p>	<p>Flow Doppler Angle Flow DC Compensation Flow Ar</p>
<p>D</p>	<p>D</p>	<p>Flow Doppler Angle Flow Angle Flow DC Flow Ar</p>
<p>Zoom or Scan D</p>	<p>Zoom or Scan D</p>	<p>Flow Doppler Angle Flow Angle Flow DC Flow Ar</p>
<p>Flow</p>	<p>Flow</p>	<p>Flow Doppler Echogenic Flow DC Flow soV Flow Ar</p>
<p>Flow</p>	<p>Flow</p>	<p>Flow Doppler Angle Flow</p>

		FoV E (S) ug g n FoV AS D o
		FoV Dr on (S) An g r FoV
		FoV Dr on (S) An g r FoV
		FoV Dr on E (S) ug g n FoV
		FoV Dr on E (S) ug g n FoV DC r so v r Ar
		FoV Dr on (S) An g r FoV
		FoV Dr on E (S) ug g n FoV
		FoV Dr on (S) An g r FoV
		FoV Dr on E (S) ug g n FoV
		FoV Dr on (S) An g r FoV
		FoV Dr on E (S) ug g n FoV
		FoV Dr on (S) An g r FoV
		FoV Dr on E (S) ug g n FoV
		FoV Dr on (S) An g r FoV
		FoV Dr on E (S) ug g n FoV
		FoV Dr on E (S) ug g n FoV DC r so v r Ar
		FoV Dr on (S) An g r FoV
		FoV Dr on E (S) ug g n FoV

D	D	FoV Dr on Angr FoV
D	D	FoV Dr on Angr FoV
A	A	FoV Dr on Angr FoV
		FoV Dr on E ug n FoV
		FoV Dr on E ug n FoV g o E
As-	As-	FoV Dr on E ug n FoV g o E
0	0	FoV Dr on E ug n FoV
0	0	FoV Dr on E ug n FoV
C	C	
C	C	
EE	EE	
A	A	
A	A	g o E
E	E	g o E
		g o E
E A	E A	g o E

B.41.7. Pulmonic Valve Measurements

MODALITY Label	DICOM Mapping	Optional Modifiers
		FoV Dr on, S Ang r FoV
		FoV Dr on, E S ug g n FoV
		FoV Dr on, E S ug g n FoV DC IsoV Ar
		FoV Dr on, E S ug g n FoV Doppler Color FoV DC IsoV Ar
		FoV Dr on, S Ang r FoV g o, ASD
		FoV Dr on, S Ang r FoV g o, ASD
		FoV Dr on, S Ang r FoV g o, ASD
		FoV Dr on, E S ug g n FoV DC IsoV Ar
		FoV Dr on, E S ug g n FoV
		FoV Dr on, E S ug g n FoV
		FoV Dr on, S Ang r FoV
		FoV Dr on, E S ug g n FoV
		FoV Dr on, S Ang r FoV
		FoV Dr on, E S ug g n FoV
		FoV Dr on, E S ug g n FoV
		FoV Dr on, S Ang r FoV
		FoV Dr on, E S ug g n FoV
		FoV Dr on, S Ang r FoV
		FoV Dr on, E S ug g n FoV
		FoV Dr on, S Ang r FoV
		FoV Dr on, E S ug g n FoV
		FoV Dr on, E S ug g n FoV

EA		FoV Dr on, S Ang r FoV
EA EA		FoV Dr on, E S ug g n FoV
Cu r		FoV Dr on, S Ang r FoV
0		FoV Dr on, S Ang r FoV
0		FoV Dr on, E S ug g n FoV
FoV		FoV Dr on, E S ug g n FoV DC r o s o v r
FoV		FoV Dr on, E S ug g n FoV g o , E S Dopp r Coor FoV DC r o s o v r
A		FoV Dr on, S Ang r FoV g o , A S D o DC r n r
A		FoV Dr on, S Ang r FoV g o , DC Ar v r m s s r
D		FoV Dr on, S Ang r FoV g o , A S D o
S or S D		FoV Dr on, S Ang r FoV g o , A S D o
Fr on		FoV Dr on, E S ug g n FoV g o , DC r o s o v r
		FoV Dr on, S Ang r FoV
		FoV Dr on, E S ug g n FoV
		FoV Dr on, S Ang r FoV
		FoV Dr on, S Ang r FoV
		FoV Dr on, E S ug g n FoV
S A		FoV Dr on, E S ug g n FoV g o , DC r o s o v r
S r		FoV Dr on, E S ug g n FoV
n		FoV Dr on, S Ang r FoV
n		FoV Dr on, E S ug g n FoV

	F				
	A				
	E				
	A				
	E E				
	E A				

B.41.9. Aorta Measurements

MODALITY Label	DICOM Mapping	Optional Modifiers
Ao D ₁ > D ₁	Aor ₁ oo D ₁ > r	o , A D o
Ao D ₁ > /	Aor ₁ oo D ₁ > r	o , o
Ao D ₁ > A Ao D ₁	Aor ₁ oo D ₁ > r	o , A D o
Ao D ₁ > A Ao /	Aor ₁ oo D ₁ > r	o , o
Ao Ar > D ₁ > D ₁	Aor ₁ Ar > D ₁ > r	o , A D o
Ao Ar > D ₁ > /	Aor ₁ Ar > D ₁ > r	o , o
Ao As D ₁ > D ₁	As n ₁ Aor ₁ D ₁ > r	o , A D o
Ao As D ₁ > /	As n ₁ Aor ₁ D ₁ > r	o , o
Ao s u s D ₁	Aor ₁ s u s D ₁ > r	o , A D o
or Ao s u s D ₁	Aor ₁ s u s D ₁ > r, or /	o , A D o
Ao s u s /	Aor ₁ s u s D ₁ > r	o , o
Ao D s D ₁ > D ₁	D s n ₁ Aor ₁ D ₁ > r	o , A D o
Ao D s D ₁ > /	D s n ₁ Aor ₁ D ₁ > r	o , o
Ao n ₁ > D ₁	Aor ₁ non ₁ r u n ₁ on D ₁ > r	o , A D o
or Ao n ₁ > D ₁	Aor ₁ non ₁ r u n ₁ on D ₁ > r, or /	o , A D o
Ao n ₁ > /	Aor ₁ non ₁ r u n ₁ on D ₁ > r	o , o
Ao u n s D ₁ > D ₁	Aor ₁ u n s D ₁ > r	o , A D o
or Ao u n s D ₁ > D ₁	Aor ₁ u n s D ₁ > r, or /	o , A D o
Ao u n s D ₁ > /	Aor ₁ u n s D ₁ > r	o , o
u D ₁ > Ar D ₁	u D ₁ > s Ar ₁ > D ₁ > r	o , A D o



M11 Series/ M10 Series/ /M9 Series/M8 Series Diagnostic Ultrasound System

CA		
CA		



C E-pr, on	C, ... S n r or n C V r mss r r n	sp r or C r r o n, F S E-pr, on
S C nsp r, on	C, ... S n p r or n C V r mss r r n	sp r or C r r o n, F S nsp r, on
S C E-pr, on	C, ... S n p r or n C V r mss r r n	sp r or C r r o n, F S E-pr, on
C C	C, ... S Cor ps r n r o n r or v n v	g o S A D o
C D	C, ... S Ds ns r n r o n r or v n v	g o S A D o
S C C	C, ... S Cor ps r n r o n s p r or v n v	g o S A D o
S C D	C, ... S Ds ns r n r o n s p r or v n v	g o S A D o

B.41.12. Pulmonary Venous Structure Measurements

MODALITY Label DICOM Mapping

FS, P	FS, P	
FC, P	FC, P	
AS, P	AS, P	
AC, P	AC, P	

B.41.14. Congenital Anomaly of Cardiovascular System Measurements

MODALITY Label	DICOM Mapping	Optional Modifiers
DA, D	DA, D	g, o, A, S, D, o
FD, D	FD, D	g, o, A, S, D, o
DA, D, S	DA, D, S	
DA, D, S, V	DA, D, S, V	
Cor, R, D	Cor, R, D	
Cor, R, OS, D	Cor, R, OS, D	
DA, D, S, R	DA, D, S, R	
DA, S, V, S, R	DA, S, V, S, R	
Cor, R, D, R	Cor, R, D, R	
Cor, R, OS, D, R	Cor, R, OS, D, R	
S, D, D	S, D, D	g, o, A, S, D, o
A, S, D, D	A, S, D, D	g, o, A, S, D, o
S, D, R	S, D, R	
A, S, D, R	A, S, D, R	
S, D, R, R	S, D, R, R	
A, S, D, R, R	A, S, D, R, R	

B.41.15. Pericardial Disease Measurements

MODALITY Label	DICOM Mapping	Optional Modifiers
E, D	E, D	g, o, A, S, D, o

Es	Color Doppler Spectral	Color Doppler Spectral
Es-D	Color Doppler Spectral	Color Doppler Spectral
Es	Color Doppler Spectral	Color Doppler Spectral

B.41.16. Heart Rate Measurements

MODALITY Label	DICOM Mapping	Optional Modifiers
	HR	Color Doppler Spectral
Es-Et ps	HR	Color Doppler Spectral DC Spectral Et ps
Br-Et ps	HR	Color Doppler Spectral DC B p n Et ps
uB	HR	Color Doppler Spectral uB
Es p	HR	Color Doppler Spectral Es p son
Es Et	HR	Color Doppler Spectral DC Es Et
Es Et-A C	HR	Color Doppler Spectral DC Es Et
Es p-Br	HR	Color Doppler Spectral DC Es p B p n
Es-D	HR	Color Doppler Spectral DC Es-D
Es	HR	Color Doppler Spectral DC Es
uC -D	HR	Color Doppler Spectral DC uC -D
uC -	HR	Color Doppler Spectral DC uC -
Es-son-D	HR	Color Doppler Spectral Es-son
Es-son-	HR	Color Doppler Spectral Es-son

C- Appendix 10: DICOM Structured Report (SR) mappings used in the Vascular Structured Reports of ultrasound system SR files.

This appendix lists the DICOM Structured Report (SR) mappings used in the Vascular Structured Reports of ultrasound system SR files.

The mappings are organized in a manner similar to the DICOM SR Templates as described in PS 3.16 of the DICOM Standard. The Vascular Report mappings follow the DICOM SR Template TID 5100: Vascular Ultrasound Procedure Report, except where noted.

All private code values use the Coding Scheme Designator "MRUS".

C.1. TID (5100) Vascular Ultrasound Report

This is the template for the root the content tree for the vascular ultrasound procedure report.

Code	NL	Relationship with Parent	VT	Concept Name	Used in MODALITY	Value Set Constraint	Comment
000001			CAE	Entity DC "Vascular Ultrasound Procedure Report")	✓		
000002	=	CB EX	CDE	Entity FB "Temporary Pros Relating to Procedure")		DC D "Temporary Pros Relating to Procedure")	
000003	=	CB D	CDE	Entity "Dose Administration Events"			
000004	=	CB EX	CDE	Entity "Study Content"	✓		
000005	=	CA S	CDE	Entity "Study Content"	✓		
000006	=	CA S	CAE	Entity DC "Image Library")	✓		
000007	=	CA S	CAE	Entity "Supplemental Information"	✓		
000008	=	CA S	CDE	Entity "Study Content"	✓		

9	=	C A S	C DE	D D S S I S R RISO n S on	✓	S op , D 40501, SRT, "Blood Vessel of Head") S on R E A101, SRT, "Left") An o , DC D n r r C r r s s s
	=	C A S	C DE	D D S S I S R RISO n S on	✓	S op , D 40501, SRT, "Blood Vessel of Head") S on R E A100, SRT, "Right") An o , DC D n r r C r r s s s
	=	C A S	C DE	D D S S I S R RISO n S on	✓	S op , D 40501, SRT, "Blood Vessel of Head") S on R E A, SRT, "Unilateral") An o , DC D n r r C r r s s s n r r
	=	C A S	C DE	D D S S I S R RISO n S on	✓	S op , D 45005, SRT, "Artery of neck") S on R E A101, SRT, "Left") An o , DC D E r r Ar r s An o , DC D C ro s

		C A S	C DE	D D s r rISO n S on	✓	S of op , D 45005, SRT, "Artery of neck") S on r, E A100, SRT, "Right") An o , DC D E r r Ar r s An o , DC D C ro, os	
		C A S	C DE	D D s r rISO n S on	✓	S of op , D 47040, SRT, "Artery of Lower Extremity") S on r, E A101, SRT, "Left") An o , DC D E r r Ar r s An o , r	
		C A S	C DE	D D s r rISO n S on	✓	S of op , D 47040, SRT, "Artery of Lower Extremity") S on r, E A100, SRT, "Right") An o , DC D E r r Ar r s An o , r	
		C A S	C DE	D D s r rISO n S on	✓	S of op , D 49403, SRT, "Vein of Lower Extremity") S on r, E A101, SRT, "Left") An o , DC D E r r ns	

	=	C A S	C DE	D D s r rison S on	✓	S of op , D 49403, SRT, "Vein of Lower Extremity") on r, E A100, SRT, "Right") An o , DC D r Er r ns	
	=	C A S	C DE	D D s r rison S on	✓	S of op , D S , "Artery Of Upper Extremity") on r, E A101, SRT, "Left") An o , DC D r Er r Ar r s	
	=	C A S	C DE	D D s r rison S on	✓	S of op , D 47020, SRT, "Artery Of Upper Extremity") on r, E A100, SRT, "Right") An o , DC D r Er r Ar r s	
	=	C A S	C DE	D D s r rison S on	✓	S of op , D 47020, SRT, "Artery Of Upper Extremity") on r, E A, 0, SRT, "Unilateral") An o , DC D S E FC D r pp r Er r Ar r us n r r	

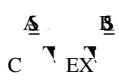
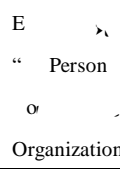
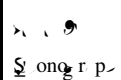
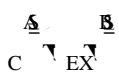
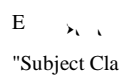
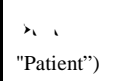
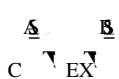
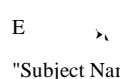
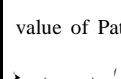
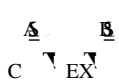
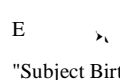
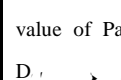
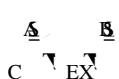
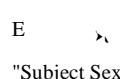
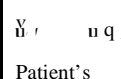
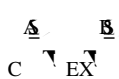
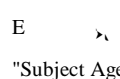
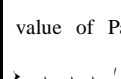
	=	C A S	C DE	D D n S on	✓	S op , D 49103, SRT, "Vein Of Upper Extremity") on r, E A101, SRT, "Left") An o , DC D pp r E ns
	=	C A S	C DE	D D n S on	✓	S op , D 49103, SRT, "Vein Of Upper Extremity") on r, E A100, SRT, "Right") An o , DC D pp r E ns
	=	C A S	C DE	D D n S on		S op , D 46002, SRT, "Artery of Abdomen") on r, E A101, SRT, "Left") An o , DC D A o n Ar s r
	=	C A S	C DE	D D n S on		S op , D 46002, SRT, "Artery of Abdomen") on r, E A100, SRT, "Right") An o , DC D A o n Ar s r

	=	C A S	C DE	D D is r n S on	✓	S op D 46002, SRT, "Artery of Abdomen") on r, E A, SRT, "Unilateral") An o DC D A o n r Ar r is, n r "	
	=	C A S	C DE	D D is r n S on		S op D 487A0, SRT, "Vein of Abdomen") on r, E A101, SRT, "Left") An o DC D A o n r ns, r "	
-	=	C A S	C DE	D D is r n S on		S op D 487A0, SRT, "Vein of Abdomen")	

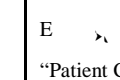
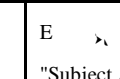
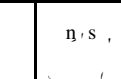
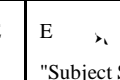
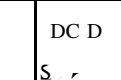
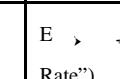
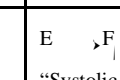
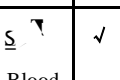


M11 Series/ M10 Series/ /M9 Series/M8 Series Diagnostic Ultrasound System

●	=	C A S	C DE	D D is r n S on	✓	S of op D SRT, "Vascular Structure Of Kidney") S on r, E A101, SRT, "Left") An o DC D n s s	
---	---	-------	------	--------------------	---	---	--

	=		C DE	E  DC " Person Observer's Organization")	✓	 DC "Observer's Organization")	
	=		C DE	E  DC "Subject Class")	✓	 DC "Patient")	
	=		A E	E  DC "Subject Name")	✓	value of Patient's Name 	
	=		DA E	E  DC "Subject Birth Date")	✓	value of Patient's Birth Date 	
	=		C DE	E  DC "Subject Sex")	✓	Value of Patient's Sex 	
	=			E  DC "Subject Age")	✓	value of Patient's Age 	

C.3. TID (5101) Vascular Patient Characteristics

NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Value Set Constraint	Comment
		C A E	E  DC "Patient Characteristics")			
	=	C A S	E  DC "Subject Age")	✓	 DC D "Age"	
	=	C A S	C DE E  DC "Subject Sex")	✓	DC D 	
	=	C A S	E  4, LN, "Heart Rate")			
	=	C A S	E  EC  "Systolic Blood Pressure")	✓		

	=	C	A	E	F	ED	✓		

C.4. TID (5102) Vascular Procedure Summary Section

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Value Set Constraint	COMMENT	
			C	A	E	D	DC "Summary")	
	=	C	A	E	EX	DC D	✓	ro n o o n
	=	C	A	E	EX	n	✓	ro n o
	=	C	A	E	EX	n	✓	ro n o
	=	C	A	E	EX	Co	✓	ro n o
	=	C	A	E	EX	D s r p, on,	✓	ro n o



				Artery			
	==	CASE	EX	Artery	✓		
	==	CASE	EX	Artery	✓		
	=	CASE	EX	Artery	✓		

C.5. TID (5103) Vascular Ultrasound Section

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Value Set Constraint	Comment
			CASE	DC (Findings)	✓		
	=	CASE	CDE	ECB (Finding Site)	✓	ECB	
	=	CASE	CDE	ECB (Laterality)	✓	ECB	
	=	CASE	CDE	DC (Anatomy)	✓	DC	



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				Modifier")			
✓	==	△ C CB D	C DE	E DCM, "Vessel Branch")		DC D Branch	
✓	==	C A S D	C DE	D D US r n		US r n, DC D US r n top r D r on DC D US r n ^v p	
	==	△ C CB D	C DE	E SRT, "Cardiac Cycle Point")		DC D S	
	==	△ C CB D	C DE	E SRT, "Temporal p r o r t o eating")			

C.9. CID (12106) Intracranial Cerebral Vessels (unilateral)

CSD	CV	Code Meaning
S		Basilar Artery
S		Anterior Communicating Artery
S		Basilar Vein

C.10. CID (12107) Upper Extremity Arteries

CSD	CV	Code Meaning
S		Artery
S		Branch Artery
S		Artery
S		Subclavian Artery
S		Radial Artery

C.11. CID (SELCID-2) Upper Extremity Arteries(unilateral)

CSD	CV	Code Meaning
S		Radial Artery

C.12. CID (12108) Upper Extremity Veins

CSD	CV	Code Meaning
S		Artery Vein
S		Basal Vein
S		Branch Vein
S		

CSD	CV	Code Meaning
		Dorsal saphenous Artery
		External iliac Artery
		Internal iliac Artery
		Femoral Artery
		Popliteal Artery
		Posterior tibial Artery
		Peroneal Fibular Artery
		Plantar Fibular Artery

C.14. CID (12110) Lower Extremity Veins

CSD	CV	Code Meaning
		Anterior tibial Vein
		Common Femoral Vein

CSD	CV	Code Meaning
		Co on p l Ar r ₂ ^V
		r op r p l Ar r ₂ ^V
		S p n Ar r ₂ ^V
		S p r or s n r Ar r ₂ ^V
		n r or s n r Ar r ₂ ^V

C.16. CID (12114) Abdominal Veins (unilateral)

CSD	CV	Code Meaning
		p l n
		r op r p l n
		r or r n
		n r or n C ^V
		S p n n
		S p r or s n r n
		n r or r n
		n r or s n r n

C.17. CID (12115) Renal Vessels

CSD	CV	Code Meaning
		n r Ar r ₂ ^V
		n r n
		S g n r Ar r ₂ ^V
		Ar r Ar r ₂ ^V -o r n ^V
		n r o r Ar r ₂ ^V -o r n ^V
		n n r Ar r ₂ ^V

C.18. CID (12116) Vessel Segment Modifiers

CSD	CV	Code Meaning
		D s r
		r op r n r
		r g n o ^V s s r
		r r o r
		D r r p o r o n o s g n
		on

C.19. Mapping between Modality measurements and DICOM Concepts.

C.19.1. Vascular Measurements

MODALITY Label	DICOM Mapping	
us:modality:Anatomical:Measurement:ED	End Diastolic Volume	
us:modality:Anatomical:Measurement:D	Diameter	
us:modality:Anatomical:Measurement:IS	Intima-Media Thickness	
us:modality:Anatomical:Measurement:A:EA	End Aortic Angle	
us:modality:Anatomical:Measurement:A:AX	Aortic Angle	
us:modality:Anatomical:Measurement:I	Intensity	
us:modality:Anatomical:Measurement:I	Intima Thickness	
us:modality:Anatomical:Measurement:V	Velocity	
us:modality:Anatomical:Measurement:SD	Standard Deviation	
us:modality:Anatomical:Measurement:DS	Diameter Strain	
us:modality:Anatomical:Measurement:A	Area	
us:modality:Anatomical:Measurement:D	Diameter	
us:modality:Anatomical:Measurement:IR	IR	
us:modality:Anatomical:Measurement:IR	IR	
us:modality:Anatomical:Measurement:IR	IR	
us:modality:Anatomical:Measurement:V	Velocity	
us:modality:Anatomical:Measurement:V	Velocity	
us:modality:Anatomical:Measurement:V	Velocity	
us:modality:Anatomical:Measurement:D	CS	
us:modality:Anatomical:Measurement:ofFlow:V	ofFlow:V	
us:modality:Anatomical:Measurement:ofFlow:V	ofFlow:V	



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MODALITY Label	DICOM Mapping	
US Inter Arterial Doppler	US Inter Arterial Doppler	Color Doppler Echocardiography M-Mode Flow Quantification CF DF SF Trop Vernier B-Mode SOFT Traction T-Mode Spectral SS C A-Mode
US Inter Arterial Doppler Spectral D	US Inter Arterial Doppler Spectral D	Spectral Doppler
US Inter Arterial Doppler Spectral A	US Inter Arterial Doppler Spectral A	Spectral Arteries
US Inter Arterial Doppler Aortic Spectral D	US Inter Arterial Doppler Aortic Spectral D	Aortic Arteries
US Inter Arterial Doppler Aortic Spectral A	US Inter Arterial Doppler Aortic Spectral A	Aortic Arteries
US Inter Arterial Doppler Arterial Spectral	US Inter Arterial Doppler Arterial Spectral	Aortic Arteries
US Inter Arterial Doppler Arterial Spectral	US Inter Arterial Doppler Arterial Spectral	Aortic Arteries
US Inter Arterial Doppler Arterial Spectral	US Inter Arterial Doppler Arterial Spectral	Aortic Arteries
US Inter Arterial Doppler Aortic Spectral D	US Inter Arterial Doppler Aortic Spectral D	Aortic Arteries
US Inter Arterial Doppler Aortic Spectral	US Inter Arterial Doppler Aortic Spectral	Aortic Arteries

C.19.2. Extracranial Arteries

MODALITY Label	DICOM Mapping
uB	...
CCA	...
ECA	...
CA	...
...	...
...	...

C.19.3. Intracranial Cerebral Vessels

MODALITY Label	DICOM Mapping
ACA	...
CA	...
CA	...
Co A	...

C.19.4. Intracranial Cerebral Vessels (unilateral)

MODALITY Label	DICOM Mapping
BA	...
ACo A	...
B	...

C.19.5. Upper Extremity Arteries

MODALITY Label	DICOM Mapping
Ar A	...
Br	...
Ar A	...
...	...

C.19.7. Upper Extremity Veins

<i>MODALITY Label</i>	<i>DICOM Mapping</i>
Ar _u	Ar _u r _u v _u n
B _u	B _u v _u n
Br _u	Br _u v _u n
C _u	C _u v _u n
	v _u n
u _u	u _u v _u n v _u n
u _r	u _r v _u n

C.19.8. Lower Extremity Arteries

<i>MODALITY Label</i>	<i>DICOM Mapping</i>
C _l A	Co _l Ar _r v _r
A _r A	Ar _r or Ar _r v _r
CFA	Co _l on F _o r Ar _r v _r
Dors _l A	Dors _l s _l s Ar _r v _r
E _r A	E _r m _l Ar _r v _r
A	n m _l Ar _r v _r
r _l on A	r _l on Ar _r v _r
r _l op A	r _l op Ar _r v _r
r _l A	r _l os r or Ar _r v _r
r _l FA	r _l no n F _o r s Ar _r v _r
u _l FA	u _l p r F _o r Ar _r v _r
u _l r n A	u _l r n Ar _r v _r

C.19.9. Lower Extremity Veins

<i>MODALITY Label</i>	<i>DICOM Mapping</i>
A _r	Ar _r or Ar _r n
CF	Co _l on F _o r n
C _l	Co _l on n
E _r	E _r m _l n
u _l r	u _l s r o n u _l s v _l n
u _l p	u _l r u _l p-mo s n
u _l s	u _l s u _l p-mo s n

Arteries	Arteries
Arteries	Arteries
Arteries	Arteries
Arteries	Arteries
Arteries	Arteries
Arteries	Arteries
Arteries	Arteries
Arteries	Arteries
Arteries	Arteries
Arteries	Arteries

C.19.10. Abdominal Arteries (unilateral)

MODALITY Label	DICOM Mapping
Arteries	Arteries
Arteries	Arteries
Arteries	Arteries
Arteries	Arteries
Arteries	Arteries
Arteries	Arteries
Arteries	Arteries

C.19.11. Abdominal Veins (unilateral)

MODALITY Label	DICOM Mapping
Arteries	Arteries



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n A g	AS	n / Ar r _z ^v
n / A	AS	n / Ar r _z ^v
n /	AS	n / n
S g n A	AS	n / Ar r _z ^v
Ar r A	AS	Ar r _z ^v o n
n r o r A	DS	n r o r Ar r _z ^v o n
n / A	AS	n / Ar r _z ^v



D- Appendix B: Diagnostic Reporting Profiles

This appendix lists the DICOM Structured Report (SR) mappings used in the Breast Structured Reports of ultrasound system SR files.

The mappings are organized in a manner similar to the DICOM SR Templates as described in PS 3.16 of the DICOM Standard. The Breast Report mappings follow the DICOM SR Template TID 4200: Breast Imaging Report, except where noted.

All private code values use the Coding Scheme Designator "MRUS".

D.1. TID 1400 Linear Measurement Template

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
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	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
		C CB D		Con n D s n n s			
	=	C A S D	C DE	D D g g por r r v			
	=	C A S D	C A E	DT (111028, DCM, "Image Library")			
	==	C A S D	A E	o p r p o s o r r n			
	=	C A S D	C DE	D D S E F B E A S AY			
	=	C A S D	C DE	D D B r s g g por p p n r D			
	=	C A S D	EX	s s n n s r n			

D.3. TID (4201) BREAST IMAGING PROCEDURE REPORTED

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
			C DE	E DCM, "Procedure reported")			DC D r o u r por
	=	A C CB D	C DE	E DCM, "Procedure Modifier")			DC D r o u r o r s or B r s
	=	A C CB D	C DE	E SRT, "Laterality")			DC D, S
	=	A r r E S	C DE	E DCM, "Reason for procedure")			DC D r o u r son
	==	A C CB D	C DE	E SRT, "Relative time")			DC D por r r o s r o u r or r p
	==	A C CB D	C DE	E DCM, "Clinical Finding")		FF r o s y r s "Clinical Finding"	DC D, r B r s C n E n g or n r o
	==	A r r E S	C DE	E SRT, "Laterality")			DC D, S

NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
=	A	DA E	E DCM, "Study Date")			

D.4. TID (4202) BREAST IMAGING REPORT NARRATIVE

NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
		C A E	E DC "Narrative Summary"			
=	C A S	C A E	BC D Br s por			
=	A EX	C DE	D D s r V r Con			
=	C A S	EX	BC D Br s por E n s			DC rou r r por
=	FE ED F	C DE	D D r n s ppor, E n			

D.5. TID (SELFTMP-3) BREAST IMAGING SUMMAY

This is a private template referenced by TID(4200).

NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
		C A E	E DC			
=	C A S	EX	E DC ,Co n,			
=	C A S	EX	E 01, MRUS, " Primary Indications")			
=	C A S	EX	E 02, MRUS, " on ary Indications")			
=	C A S	EX	E , MRUS, " CPT4 Code")			
=	C A S	EX	E , MRUS, " CPT4 Description")			
=	C A S	EX	EV (121106, MRUS, " Comment")			

NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
	C A	EX	E (121005, MRUS, "Prompt")			
	C A	EX	EV (121071, MRUS, "Findings")			

D.6. TID (4206) BREAST IMAGING REPORT FINDING SECTION

NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
		C A E	E (DCM, "Findings")			
=	C A EX	C DE	D D (Breast) Con			
=	C A	C DE	D D (Breast) from report			
=	C A	C DE	D D (Breast) (10 findings)			
=	C A	C DE	E (Lymph Nodes)			
=	C A	C DE	E (Assessment)			

D.7. TID (4208) BREAST IMAGING REPORT SUPPLEMENTARY DATA

NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
		C A E	E (DCM, "Supplementary Data")			
=	C A	C DE	D D (Breast) from report			
=	C A	C DE	EV (111403, DCM, "Baseline screening mammogram")			DC D Y s o
=	C A	C DE	EV (111404, DCM, "First			DC D

NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
			mammogram ever")			Y s o
=	C A S	C DE	D D Br s Co pos or on			
=	C A S	C DE	D D Br s g ng por En S on			
=	C A S	C DE	D D Br s g ng por n r v n or on			
=	C A S	C A E	EV (111413, DCM, "Overall Assessment")			
=	C A S	C DE	D D Br s g ng Ass s n			

D.8. TID (SELFTMP-4) BREAST MASS FINDING

This is a private template referenced by TID(4206).

NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
		C DE	E , DCM, "Finding")			
=	C EX	EX	E S " ss")			
=	C EX	C DE	D D S E F B E S A S E E			
=	C EX	C DE	D D S E F B E S A S E E A A S			

D.9. TID (SELFTMP-5) BREAST MASS MEASUREMENT

This is a private template referenced by TID (SELFTMP-4).

NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
		C A E	E , DCM, " us r n (ro p")			
=	C A	C	D D n r			us r n, A AS



	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
	=	C A	EX	E (, "P o g m o s s s")			
	=	C A	EX	E (, MRUS, "RI")			

D.11. Mapping between Modality measurements and DICOM Concepts.

D.11.1. Breast Measurements

MODALITY Label

DICOM Mapping