

## DICOM Correction Item

Correction Number	CP 700
Log Summary: Rename SOP Instance Reference Macros that have different content	
Type of Modification	Name of Standard
Clarification	PS 3.3 2007
<b>Rationale for Correction</b> <p>There are two forms of macro for referencing SOP Instances, one used with SR that describes the full hierarchy and the other used elsewhere. Inadvertently these are both named "SOP Instance Reference Macro" and are distinguished only by their table reference. Rename them to reduce confusion.</p> <p>The non-hierarchical SOP Instance Reference Macro is currently barely used, only in the Ion RT modules, and could be propagated to every other instance of Referenced SOP Class/Instance UID pairs.</p> <p>Note that this does not affect the name, definition or use of the Image SOP Instance Reference Macro, yet another macro, which is the same as the non-hierarchical SOP Instance Reference Macro but with a frame number reference.</p>	
<b>Sections of documents affected</b> PS 3.3	
Correction Wording:	

### 10.4 SERIES AND INSTANCE REFERENCE MACRO

Table 10-4 defines the Attributes that list Series and SOP Instances within those Series.

**Table 10-4**  
**SERIES AND INSTANCE REFERENCE MACRO ATTRIBUTES**

Attribute Name	Tag	Type	Attribute Description
Referenced Series Sequence	(0008,1115)	1	Sequence of Items each of which includes the Attributes of one Series. One or more Items shall be present.
>Series Instance UID	(0020,000E)	1	Unique identifier of the Series containing the referenced Instances.
>Referenced Instance Sequence	(0008,114A)	1	Sequence of Items each providing a reference to an Instance that is part of the Series defined by Series Instance UID (0020,000E) in the enclosing Item. One or more Items shall be present.
<del>&gt;&gt;Referenced SOP Class UID</del>	<del>(0008,1150)</del>	<del>1</del>	<del>Uniquely identifies the referenced SOP Class.</del>
<del>&gt;&gt;Referenced SOP Instance UID</del>	<del>(0008,1155)</del>	<del>1</del>	<del>Uniquely identifies the referenced SOP Instance.</del>
<del>&gt;&gt;Include 'SOP Instance Reference Macro' Table 10-11</del>			

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### 10.8 SOP INSTANCE REFERENCE MACRO

Table 10-11 specifies the attributes that reference an SOP instance.

**Table 10-11**  
**SOP INSTANCE REFERENCE MACRO ATTRIBUTES**

Attribute Name	Tag	Type	Description
Referenced SOP Class UID	(0008,1150)	1	Uniquely identifies the referenced SOP Class.
Referenced SOP Instance UID	(0008,1155)	1	Uniquely identifies the referenced SOP Instance.

### C.2.4 Patient Medical Module

**Table C.2-4**  
**PATIENT MEDICAL MODULE ATTRIBUTES**

Attribute Name	Tag	Attribute Description
...		
Pertinent Documents Sequence	(0038,0100)	List of Documents (e.g., SR, or CDA) that contain information considered pertinent for the patient medical condition.  Zero or more Items may be included in this sequence.

>Referenced SOP Class UID	(0008,1150)	SOP Class UID of the Referenced Document
>Referenced SOP Instance UID	(0008,1155)	SOP Instance UID of the Referenced Document
<i>&gt;Include SOP Instance Reference Macro Table 10-11</i>		
>Purpose of Reference Code Sequence	(0040,A170)	Describes the purpose for which the document reference is made. Zero or more Items may be present.
<i>&gt;&gt;Include 'Code Sequence Macro' Table 8.8-1</i>		<i>No Baseline Context Group ID defined</i>

#### C.4.19 General Purpose Scheduled Procedure Step Information Module

**Table C.4-19  
GENERAL PURPOSE SCHEDULED PROCEDURE STEP INFORMATION MODULE  
ATTRIBUTES**

Attribute Name	Tag	Attribute Description
...	...	...
Referenced Performed Procedure Step Sequence	(0008,1111)	List of any Modality or General Purpose Performed Procedure Steps, that may be used to perform the procedure step.  This sequence may contain references to performed procedure steps resulting from previous contributions to the performance of the procedure step (e.g. an image processing procedure step interrupted, and completed later).  Zero or more Items may be included in this sequence.
<del>&gt;Referenced SOP Class UID</del>	<del>(0008,1150)</del>	<del>Uniquely identifies the SOP Class.</del>
<del>&gt;Referenced SOP Instance UID</del>	<del>(0008,1155)</del>	<del>Uniquely identifies the SOP Instance.</del>
<i>&gt;Include SOP Instance Reference Macro Table 10-11</i>		
Input Availability Flag	(0040,4020)	Flag that indicates the availability of Composite SOP Instances in the Attribute "Input Information Sequence" (0040,4021) of the General Purpose Scheduled Procedure Step.  Enumerated values are:  PARTIAL COMPLETE  The value PARTIAL denotes that the list of Composite SOP Instances may not yet be complete, and additional ones may be added at a later time.  The value COMPLETE denotes that all Composite SOP Instances are available and listed.  Note: It may happen that the list of Composite SOP Instances is empty when the value of

		the Input Availability Flag is COMPLETE. In such a case a Workitem has been scheduled that does not require input information.
Input Information Sequence	(0040,4021)	List of Composite SOP Instances that forms the input information needed to perform the scheduled procedure step. See also Input Availability Flag (0040,4020). The same Composite SOP Instance shall not be included in both the Input Information Sequence (0040,4021) and the Relevant Information Sequence (0040,4022).  Zero or more Items may be included in this sequence.
<i>&gt;Include '<b>Hierarchical</b>' SOP Instance Reference Macro' Table C.17-3</i>		
Relevant Information Sequence	(0040,4022)	List of Composite SOP Instances that refers to relevant information that is considered pertinent for the performance of the scheduled procedure step. The same Composite SOP Instance shall not be included in both the Input Information Sequence (0040,4021) and the Relevant Information Sequence (0040,4022).  Zero or more Items may be included in this sequence.
<i>&gt;Include '<b>Hierarchical</b>' SOP Instance Reference Macro' Table C.17-3</i>		
Study Instance UID	(0020,000D)	Unique Study identification that shall be used for the created Composite SOP Instances resulting from this General Purpose Scheduled Procedure Step.  Note: In most cases this will be the same Study Instance UID as for the images in the Input Information Sequence (0040,4021).
Multiple Copies Flag	(0040,4006)	This flag indicates that multiple copies have to be made of a Composite SOP Instance that supports the notion of multiple copies. This includes the SR SOP Class. If set the Study Instance UIDs in the Referenced Request Sequence (0040,A370) shall be used for the created multiple copies.  Enumerated Values:  Y = Yes N = No
Resulting General Purpose Performed Procedure Steps Sequence	(0040,4015)	List of all General Purpose Performed Procedure Steps that result from the performance of the procedure step.  Zero or more Items may be included in this sequence.  Note: Initially this list will be empty. New entries will be added when General Purpose Performed Procedure Steps are created by performing devices that are related to this Scheduled Procedure Step. E.g, this sequence may contain the partial results in

		case a General Purpose Scheduled Procedure Step is discontinued.
<del>&gt;Referenced SOP Class UID</del>	<del>(0008,1150)</del>	<del>Uniquely identifies the SOP Class.</del>
<del>&gt;Referenced SOP Instance UID</del>	<del>(0008,1155)</del>	<del>Uniquely identifies the SOP Instance.</del>
<i>&gt;Include SOP Instance Reference Macro Table 10-11</i>		
..		

**C.4.22 General Purpose Results**

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**Table C.4.22-1  
GENERAL PURPOSE RESULTS MODULE ATTRIBUTES**

Attribute Name	Tag	Attribute Description
Output Information Sequence	(0040,4033)	A Sequence that provides reference to one or more Composite SOP instances, that identify the Structured Reports or other results created. Zero or more Items may be included in this sequence.
<i>&gt;Include 'Hierarchical SOP Instance Reference Macro' Table C.17-3</i>		
...	...	...

**C.8.8.25 RT Ion Beams Module**

The RT Ion Beams Module contains information defining equipment parameters for delivery of external Ion radiation beams.

**Table C.8.8.25-1  
RT ION BEAMS MODULE ATTRIBUTES**

Attribute Name	Tag	Type	Description
...	...	...	...
>Referenced Reference Image Sequence	(300C,0042)	3	Introduces sequence of reference images used for validation of current beam. One or more items may be included in this sequence.
<i>&gt;&gt;Include SOP Instance Reference Macro Table 10-11</i>			
...	...	...	...
>Referenced Dose Sequence	(300C,0080)	3	Introduces sequence of related SOP Class/Instance pairs describing related instances of RT Dose (for grids, isodose curves, and named/unnamed point doses). One or more items may be included in this sequence.
<i>&gt;&gt;Include SOP Instance Reference Macro Table 10-11</i>			<i>The Referenced Class SOP UID shall be that of the RT Dose SOP Class (1.2.840.10008.5.1.4.1.1.481.2)</i>

Attribute Name	Tag	Type	Description
...	...	...	...

**C.8.8.26 RT Ion Beams Session Record Module**

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**Table C.8.8.26-1  
RT ION BEAMS SESSION RECORD MODULE ATTRIBUTES**

Attribute Name	Tag	Type	Description
...	...	...	...
>Referenced Verification Image Sequence	(300C,0040)	3	Introduces sequence of verification images obtained during delivery of current beam. One or more items may be included in this sequence. See C.8.8.14.2.
>>Include SOP Instance Reference Macro Table 10-11			
...	...	...	...

**C.8.13.2 MR Image and Spectroscopy Instance Macro**

Table C.8-81 specifies the common attributes Enhanced MR Image Module and MR Spectroscopy Module.

**Table C.8-81  
MR IMAGE AND SPECTROSCOPY INSTANCE MACRO**

Attribute Name	Tag	Type	Attribute Description
...	...	...	...
Referenced Raw Data Sequence	(0008,9121)	3	A sequence that identifies the set of Raw Data SOP Class/Instance pairs of the Raw data which were used to derive this Image. One or more Items may be included in this Sequence.  Note: The items of in this sequence may identify raw data that has not been stored or encoded as a DICOM object. This allows recognition that images and spectra in different instances have been reconstructed from the same raw data.
>Include ' <u>Hierarchical</u> SOP Instance Reference Macro' Table C.17-3			
Referenced Waveform Sequence	(0008,113A)	3	References to waveforms acquired in conjunction with this image. These Waveforms may or may not be temporally synchronized with this image. One or more Items may be included in this Sequence.

<i>&gt;Include '<b>Hierarchical</b> SOP Instance Reference Macro' Table C.17-3</i>			
Referenced Image Evidence Sequence	(0008,9092)	1C	Full set of Composite SOP Instances referred to inside the Referenced Image Sequences of this Enhanced MR Image SOP Instance. See C.8.13.2.1.2 for further explanation.  One or more Items may be included in this sequence.  Required if the Referenced Image Sequence (0008,1140) is present.
<i>&gt;Include '<b>Hierarchical</b> SOP Instance Reference Macro' Table C.17-3</i>			
Source Image Evidence Sequence	(0008,9154)	1C	Full set of Composite SOP Instances referred to inside the Source Image Sequences of this Enhanced MR Image SOP Instance. See C.8.13.2.1.2 for further explanation.  One or more Items may be included in this sequence.  Required if the Source Image Sequence (0008,2112) is present.
<i>&gt;Include '<b>Hierarchical</b> SOP Instance Reference Macro' Table C.17-3</i>			
Referenced Grayscale Presentation State Sequence	(0008,9237)	1C	References to Grayscale Presentation State instances acquired in conjunction with this instance.  Note: May only be used to reference Presentation States belonging to the acquired data and not to reference Presentation States generated subsequently such as during interpretation.  One or more Items may be included in this sequence.  Required if Presentation State is generated during acquisition, shall not be present otherwise.
<i>&gt;Include '<b>Hierarchical</b> SOP Instance Reference Macro' Table C.17-3</i>			
...	...	...	...

**C.8.15.2 Enhanced CT Image Module**

This section describes the Enhanced CT Image Module. Table C.8-114 specifies the attributes of the Enhanced CT Image Module.

**Table C.8-114**  
**ENHANCED CT IMAGE MODULE ATTRIBUTES**

Attribute Name	Tag	Type	Attribute Description
...	...	...	...
Referenced Raw Data Sequence	(0008,9121)	3	<p>A sequence that identifies the set of Raw Data SOP Class/Instance pairs of the Raw data that were used to derive this Image.</p> <p>One or more Items may be included in this Sequence.</p> <p>Note: The items of in this sequence may identify raw data that has not been stored or encoded as a DICOM object. This allows recognition that images in different instances have been reconstructed from the same raw data.</p>
<i>&gt;Include '<b>Hierarchical</b>' SOP Instance Reference Macro' Table C.17-3</i>			
Referenced Waveform Sequence	(0008,113A)	3	<p>References to waveforms acquired in conjunction with this image. These Waveforms may or may not be temporally synchronized with this image.</p> <p>One or more Items may be included in this sequence.</p>
<i>&gt;Include '<b>Hierarchical</b>' SOP Instance Reference Macro' Table C.17-3</i>			
Referenced Image Evidence Sequence	(0008,9092)	1C	<p>Full set of Composite SOP Instances referring to image SOP Instances inside the frames of this Enhanced CT Image SOP Instance. See C.8.13.2.1.2 for further explanation.</p> <p>One or more Items may be included in this sequence.</p> <p>Required if the Referenced Image Sequence (0008,1140) is present.</p>
<i>&gt;Include '<b>Hierarchical</b>' SOP Instance Reference Macro' Table C.17-3</i>			
Source Image Evidence Sequence	(0008,9154)	1C	<p>Full set of Composite SOP Instances used as source image SOP Instances inside the frames of this Enhanced CT Image SOP Instance. See C.8.13.2.1.2 for further explanation.</p> <p>One or more Items may be included in this sequence.</p> <p>Required if the Source Image Sequence (0008,2112) is present.</p>
<i>&gt;Include '<b>Hierarchical</b>' SOP Instance Reference Macro' Table C.17-3</i>			
Referenced Grayscale Presentation State Sequence	(0008,9237)	1C	<p>References to Grayscale Presentation State instances acquired in conjunction</p>



			<p>with this instance.</p> <p>Note: May only be used to reference Presentation States belonging to the acquired data and not to reference Presentation States generated subsequently such as during interpretation.</p> <p>One or more Items may be included in this sequence.</p> <p>Required if Presentation State is generated during acquisition, shall not be present otherwise.</p>
>Include ' <b>Hierarchical</b> SOP Instance Reference Macro' Table C.17-3			
...	...	...	...

**C.8.19.2 Enhanced XA/XRF Image Module**

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**Table C.8.19.2-1  
Enhanced XA/XRF Image Module Table**

Attribute Name	Tag	Type	Attribute Description
...	...	...	...
Referenced Other Plane Sequence	(0008,9410)	1C	<p>A sequence that identifies the SOP Class/Instance pairs of the corresponding plane for a Biplane acquisition device.</p> <p>Only a single Item shall be permitted in this Sequence.</p> <p>Required if Image Type (0008,0008) Value 3 is BIPLANE A or BIPLANE B.</p>
>Include 'Image SOP Instance Reference Macro' Table C.10-3			
Referenced Image Evidence Sequence	(0008,9092)	1C	<p>Full set of Composite SOP Instances referred to inside the Referenced Image Sequences of this SOP Instance. See C.8.13.2.1.2 for further explanation.</p> <p>One or more Items may be permitted in this sequence.</p> <p>Required if the Referenced Image Sequence (0008,1140) is present.</p>
>Include ' <b>Hierarchical</b> SOP Instance Reference Macro' Table C.17-3			
Source Image Evidence Sequence	(0008,9154)	1C	<p>Full set of Composite SOP Instances referred to inside the Source Image Sequences of this SOP Instance. See C.8.13.2.1.2 for further explanation.</p> <p>One or more Items may be permitted in this sequence.</p>

			Required if the Source Image Sequence (0008,2112) is present.
<i>&gt;Include 'Hierarchical SOP Instance Reference Macro' Table C.17-3</i>			
Referenced Instance Sequence	(0008,114A)	3	A sequence which provides reference to a set of non-image SOP Class/Instance pairs significantly related to this Image, including waveforms that may or may not be temporally synchronized with this image.  One or more Items may be included in this sequence.
<del>&gt;Referenced SOP Class UID</del>	<del>(0008,1150)</del>	<del>1C</del>	<del>Uniquely identifies the referenced SOP Class. Required if a Sequence Item is present.</del>
<del>&gt;Referenced SOP Instance UID</del>	<del>(0008,1155)</del>	<del>1C</del>	<del>Uniquely identifies the referenced SOP Instance. Required if a Sequence Item is present.</del>
<i>&gt;Include 'SOP Instance Reference Macro' Table 10-11</i>			
>Purpose of Reference Code Sequence	(0040,A170)	1	Code describing the purpose of the reference to the SOP Instances.  Only a single Item shall be permitted in this sequence.
<i>&gt;&gt;Include 'Code Sequence Macro' Table 8.8-1</i>			<i>Defined Context ID is CID 7004 for referenced waveforms.</i>
...	...	...	...

**C.11.14 Presentation State Blending Module**

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**Table C.11.14-1  
PRESENTATION STATE BLENDING MODULE ATTRIBUTES**

Attribute Name	Tag	Type	Attribute Description
...	...	...	...
>Study Instance UID	(0020,000D)	1	Unique identifier for the Study that contains the images, which may differ from the Study in which the presentation state is contained.
<i>&gt;Include Presentation State Relationship Macro Table C.11.11-1b</i>			
<i>&gt;Include Modality LUT Macro Table C.11-1b</i>			
>Softcopy VOI LUT Sequence	(0028,3110)	1	Defines a sequence of VOI LUTs or Window Centers and Widths and to which images and frames they apply.  No more than one VOI LUT Sequence containing a single Item or one pair of Window Center/Width values shall be

			specified for each image or frame. One or more Items shall be present.
>>Referenced Image Sequence	(0008,1140)	1C	Sequence of Items identifying images that are defined in the enclosing Item of the Blending Sequence (0070,0402), to which this VOI LUT or Window Center and Width applies.  Required if the VOI LUT transformation in this Item does not apply to all the images in the enclosing Item of the Blending Sequence (0070,0402).
>>>Include Image SOP Instance Reference Macro Table 10-3			
...	...	...	...
Referenced Spatial Registration Sequence	(0070,0404)	3	A reference to Spatial Registration Instances that may be used to register the underlying and superimposed images.  Zero or more Items may be present.  Note: A Spatial Registration Instance may identify registration between frames of reference, or between explicitly identified images. In the latter case, the list of images referenced by the Presentation State, not the list of images referenced by the Spatial Registration Instance, are to be blended.
>Include <b>Hierarchical</b> SOP Instance Reference Macro Table C.17-3			

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### C.12.2 Common Instance Reference Module

Table C.12-8 defines the Attributes that describe the hierarchical relationships of any SOP Instances referenced from other Modules within the Instance in which this Module occurs.

**Table C.12-8  
COMMON INSTANCE REFERENCE MODULE ATTRIBUTES**

Attribute Name	Tag	Type	Attribute Description
<i>Include Series and Instance Reference Macro, Table 10-4.</i>			Identifies all Series within the Study of which this Instance is a part, which Series contain Instances that are referenced elsewhere in this Instance.
Studies Containing Other Referenced Instances Sequence	(0008,1200)	1C	Sequence of items each identifying a Study other than the Study of which this Instance is a part, which Studies contain Instances that are referenced elsewhere in this Instance. One or more Items shall be present. Required if this Instance references Instances in other Studies.

>Study Instance UID	(0020,000D)	1	Unique identifier of the Study containing the referenced Instances.
>Include Series and Instance Reference Macro, Table 10-4.			

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### C.17.2 SR Document General Module

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**Table C.17-2**  
**SR DOCUMENT GENERAL MODULE ATTRIBUTES**

Attribute Name	Tag	Type	Attribute Description
...	...	...	...
Predecessor Documents Sequence	(0040,A360)	1C	<p>Shall refer to SR SOP Instances (e.g. prior or provisional reports) whose content has been wholly or partially included in this document with or without modification. One or more Items may be included in this sequence.</p> <p>Required if this document includes content from other documents.</p> <p>Note: The amendment process of an existing SR Document is not explicitly described, but several approaches may be considered. One may choose, for example, to create a new SR Document that includes the original content with any amendments applied or included. The structure of this amended SR Document may or may not reflect what was amended. However, the use of the Predecessor Document Sequence allows tracing back to the input SR Document, which in this case is the previous version.</p>
>Include ' <b>Hierarchical</b> SOP Instance Reference Macro' Table C.17-3			
Identical Documents Sequence	(0040,A525)	1C	<p>Duplicates of this document, stored with different SOP Instance UIDs. One or more Items may be included in this sequence.</p> <p>Required if this document is stored with different SOP Instance UIDs in one or more other Studies.</p> <p>See C.17.2.2 for further explanation.</p>
>Include ' <b>Hierarchical</b> SOP Instance Reference Macro' Table C.17-3			
Referenced Request Sequence	(0040,A370)	1C	Identifies Requested Procedures which are being fulfilled (completely or partially) by creation of this Document. One or more

			Items may be included in this sequence. Required if this Document fulfills at least one Requested Procedure.
>Study Instance UID	(0020,000D)	1	Unique identifier for the Study.
>Referenced Study Sequence	(0008,1110)	2	Uniquely identifies the Study SOP Instance. Only a single Item shall be permitted in this sequence.
<del>&gt;&gt;Referenced SOP Class UID</del>	<del>(0008,1150)</del>	<del>1</del>	<del>Uniquely identifies the SOP Class</del>
<del>&gt;&gt;Referenced SOP Instance UID</del>	<del>(0008,1155)</del>	<del>1</del>	<del>Uniquely identifies the SOP Instance.</del>
<b>&gt;&gt; Include 'SOP Instance Reference Macro' Table 10-11</b>			
>Accession Number	(0008,0050)	2	A departmental IS generated number which identifies the order for the Study.
...	...	...	...
Current Requested Procedure Evidence Sequence	(0040,A375)	1C	Full set of Composite SOP Instances, of which the creator is aware, that were created to satisfy the current Requested Procedure(s) for which this SR Document is generated or that are referenced in the content tree. One or more Items may be included in this sequence.  Required if the creator is aware of Composite Objects acquired in order to satisfy the Requested Procedure(s) for which the SR Document is or if instances are referenced in the content tree. May be present otherwise.  See C.17.2.3 for further explanation.
<b>&gt;Include '<u>Hierarchical</u> SOP Instance Reference Macro' Table C.17-3</b>			
Pertinent Other Evidence Sequence	(0040,A385)	1C	Other Composite SOP Instances that are considered to be pertinent evidence by the creator of this SR Document. This evidence must have been acquired in order to satisfy Requested Procedures other than the one(s) for which this SR Document is generated. One or more Items may be included in this sequence.  Required if pertinent evidence from other Requested Procedures needs to be recorded.  See C.17.2.3 for further explanation.
<b>&gt;Include '<u>Hierarchical</u> SOP Instance Reference Macro' Table C.17-3</b>			
...			

**C.17.2.1 Hierarchical SOP Instance Reference Macro**

Table C.17-3 specifies the Attributes that reference a SOP Instance.

**Table C.17-3**  
**HIERARCHICAL SOP INSTANCE REFERENCE MACRO ATTRIBUTES**

<b>Attribute Name</b>	<b>Tag</b>	<b>Type</b>	<b>Attribute Description</b>
Study Instance UID	(0020,000D)	1	Unique identifier for the Study
Referenced Series Sequence	(0008,1115)	1	Sequence of Repeating Items where each Item includes the Attributes of a Series containing referenced Composite Object(s). One or more Items may be included in this sequence
>Series Instance UID	(0020,000E)	1	Unique identifier of a Series that is part of this Study and contains the referenced Composite Object(s).
>Retrieve AE Title	(0008,0054)	3	Title of the DICOM Application Entity where the Composite Object(s) may be retrieved on the network.
>Storage Media File-Set ID	(0088,0130)	3	The user or implementation specific human readable identifier that identifies the Storage Media on which the Composite Object (s) reside.
>Storage Media File-Set UID	(0088,0140)	3	Uniquely identifies the Storage Media on which the Composite Object (s) reside.
>Referenced SOP Sequence	(0008,1199)	1	References to Composite Object SOP Class/SOP Instance pairs that are part of the Study defined by Study Instance UID and the Series defined by Series Instance UID (0020,000E). One or more Items may be included in this sequence
<del>&gt;&gt;Referenced SOP Class UID</del>	<del>(0008,1150)</del>	<del>1</del>	<del>Uniquely identifies the referenced SOP Class.</del>
<del>&gt;&gt;Referenced SOP Instance UID</del>	<del>(0008,1155)</del>	<del>1</del>	<del>Uniquely identifies the referenced SOP Instance.</del>
<b>&gt;&gt;Include 'SOP Instance Reference Macro' Table 10-11</b>			
>>Purpose of Reference Code Sequence	(0040,A170)	3	Describes the purpose for which the reference is made. Zero or more Items may be included in this sequence.
<del>&gt;&gt;&gt;Include 'Code Sequence Macro' Table 8.8-1</del>		<i>Baseline Context ID may be specified in Macro invocation.</i>	
>>Referenced Digital Signature Sequence	(0400,0402)	3	Sequence of references to Digital Signatures in the referenced SOP Instance. Zero or more Items may be present.  Note: The Attributes in this sequence can be used to detect if the referenced SOP Instance has been altered.
>>>Digital Signature UID	(0400,0100)	1	The Unique Identifier of a Digital Signature held in the referenced SOP Instance.
>>>Signature	(0400,0120)	1	The Signature Value identified by the Digital Signature UID within the Referenced SOP

			Instance UID.
>>Referenced SOP Instance MAC Sequence	(0400,0403)	3	A MAC Calculation from data in the referenced SOP Instance that can be used as a data integrity check. <b><u>Only a single Item shall be permitted in this Sequence.</u></b>  Note: This Attribute may be used in place of the Referenced Digital Signature Sequence Attribute (0400,0402), particularly if the SOP Instance does not have appropriate Digital Signatures that can be referenced.
>>>MAC Calculation Transfer Syntax UID	(0400,0010)	1	The Transfer Syntax UID used to encode the values of the Data Elements included in the MAC calculation. When computing the MAC, only Transfer Syntaxes that explicitly include the VR and use Little Endian encoding shall be used.  Notes: 1. Certain Transfer Syntaxes, particularly those that are used with compressed data, allow the fragmentation of the pixel data to change. If such fragmentation changes, Digital Signatures generated with such Transfer Syntaxes could become invalid. 2. This does not constrain the transfer syntax used to transmit the object.
>>>MAC Algorithm	(0400,0015)	1	The algorithm used in generating the MAC. Defined Terms: RIPEMD160 MD5 SHA1  Note: Digital Signature Security Profiles (see PS 3.15) may require the use of a restricted subset of these terms.
>>>Data Elements Signed	(0400,0020)	1	A list of Data Element Tags in the order they appear at the top level of the referenced SOP Instance that identify the Data Elements used in creating the MAC. See Section C.12.1.1.3.1.1.
>>>MAC	(0400,0404)	1	The MAC generated as described in Section 12.2.1.1, but unencrypted and without inclusion of fields from the Digital Signatures Sequence. See Section C.12.1.1.3.1.2.

### C.17.6.2 Key Object Document Module

Table C.17.6-2 defines the general Attributes of a Key Object Selection Document. These Attributes identify and provide context for the Key Object Selection Document.

**Table C.17.6-2  
KEY OBJECT DOCUMENT MODULE ATTRIBUTES**

Attribute Name	Tag	Type	Attribute Description
...	...	...	...
Referenced Request Sequence	(0040,A370)	1C	Identifies Requested Procedures to which this Document pertains. One or more Items may be included in this sequence.  Required if this Document pertains to at least one Requested Procedure.
>Study Instance UID	(0020,000D)	1	Unique identifier for the Study.
>Referenced Study Sequence	(0008,1110)	2	Uniquely identifies the Study SOP Instance. Only a single Item shall be permitted in this sequence.
<del>&gt;&gt;Referenced SOP Class UID</del>	<del>(0008,1150)</del>	<del>1</del>	<del>Uniquely identifies the SOP Class</del>
<del>&gt;&gt;Referenced SOP Instance UID</del>	<del>(0008,1155)</del>	<del>1</del>	<del>Uniquely identifies the SOP Instance.</del>
<del>&gt;&gt; Include 'SOP Instance Reference Macro' Table 10-11</del>			
>Accession Number	(0008,0050)	2	A departmental IS generated number which identifies the order for the Study.
...	...	...	...
Current Requested Procedure Evidence Sequence	(0040,A375)	1	List of all Composite SOP Instances referenced in the Content Sequence (0040,A730). One or more Items shall be included in this sequence.  Note: In the context of the Key Object Selection, the current evidence is considered to be only the set of instances referenced within the Key Object Selection.
>Include ' <b>Hierarchical</b> SOP Instance Reference Macro' Table C.17-3			
Identical Documents Sequence	(0040,A525)	1C	Duplicates of this document, stored with different SOP Instance UIDs. One or more Items may be included in this sequence.  Required if this Key Object Selection document references instances in more than one Study.  See C.17.2.2 and C.17.6.2.1 for further explanation and conditions.
>Include ' <b>Hierarchical</b> SOP Instance Reference Macro' Table C.17-3			

**F.5.27 Spectroscopy directory record definition**

...



**Table F.5-27**  
**SPECTROSCOPY KEYS**

<b>Key</b>	<b>Tag</b>	<b>Type</b>	<b>Attribute Description</b>
...	...	...	...
Referenced Image Evidence Sequence	(0008,9092)	1C	Required if present in the spectroscopy instance.
<i>&gt;Include <b>Hierarchical</b> SOP Instance Reference Macro' Table C.17-3</i>			
...	...	...	...