

DICOM Correction Item

Correction Number		CP-343
Log Summary: Add Spectroscopy and Raw Data records to DICOMDIR		
Type of Modification	Name of Standard	
Addition	PS 3.3 2003	
Rationale for Correction		
<p>Sup 49 introduced new non-image instance types that have no corresponding DICOMDIR directory record types, and hence cannot be used in the general purpose profiles.</p> <p>It is proposed to specific records for Spectroscopy and Raw Data. For the Spectroscopy record, mandatory keys are added for attributes that are analogous to those used in the CT/MR profiles for images to describe the type of object and provide reference to related images.</p> <p>Note that this CP does NOT introduce any new MR-specific media application profiles but rather enables the use of the existing general purpose profiles for non-image instances.</p>		
Sections of documents affected		
PS 3.3 Annex F		
Correction Wording:		

Add Spectroscopy and Raw Data records to Table F.3-3:

Table F.3-3
DIRECTORY INFORMATION MODULE

Attribute Name	Tag	Type	Attribute Description																														
...																														
>Directory Record Type	(0004,1430)	1C	<p>Defines a specialized type of Directory Record by reference to its position in the Media Storage Directory Information Model (see Section F.4).</p> <p>Required if the Directory Record Sequence (0004,1220) is not zero length.</p> <p>Enumerated Values (see Section F.5):</p> <table> <tr> <td>PATIENT</td> <td>STUDY</td> <td>SERIES</td> </tr> <tr> <td>IMAGE</td> <td>OVERLAY</td> <td>MODALITY LUT</td> </tr> <tr> <td>VOI LUT</td> <td>CURVE</td> <td>TOPIC</td> </tr> <tr> <td>VISIT</td> <td>RESULTS</td> <td>INTERPRETATION</td> </tr> <tr> <td>STUDY COMPONENT</td> <td></td> <td>STORED PRINT</td> </tr> <tr> <td>RT DOSE</td> <td>RT STRUCTURE SET</td> <td></td> </tr> <tr> <td>RT PLAN</td> <td>RT TREAT RECORD</td> <td></td> </tr> <tr> <td>PRESENTATION</td> <td></td> <td>WAVEFORM</td> </tr> <tr> <td>SR DOCUMENT</td> <td></td> <td>KEY OBJECT DOC</td> </tr> <tr> <td>SPECTROSCOPY</td> <td></td> <td>RAW DATA</td> </tr> </table> <p>PRIVATE = Privately defined record hierarchy position. Type shall be defined by Private Record UID (0004,1432).</p> <p>MRDR = Special Directory Record which allows indirect reference to a File by multiple Directory Records. Instead of directly referencing a File by its Referenced File ID (0004,1500), a Directory Record of any of the Types define above (except MRDR) may reference a Multi-Referenced File Directory Record which in turn will reference the File by its File ID.</p> <p>Note: Enumerated Values PRINT QUEUE, FILM SESSION, FILM BOX, and IMAGE BOX were previously defined in DICOM for this Attribute. They are now retired. See PS3.3-1998.</p>	PATIENT	STUDY	SERIES	IMAGE	OVERLAY	MODALITY LUT	VOI LUT	CURVE	TOPIC	VISIT	RESULTS	INTERPRETATION	STUDY COMPONENT		STORED PRINT	RT DOSE	RT STRUCTURE SET		RT PLAN	RT TREAT RECORD		PRESENTATION		WAVEFORM	SR DOCUMENT		KEY OBJECT DOC	SPECTROSCOPY		RAW DATA
PATIENT	STUDY	SERIES																															
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SR DOCUMENT		KEY OBJECT DOC																															
SPECTROSCOPY		RAW DATA																															
...																														

Add Spectroscopy and Raw Data records to Table F.4-1:

Table F.4-1
RELATIONSHIP BETWEEN DIRECTORY RECORDS

Directory Record Type	Section	Directory Record Types which may be included in the next lower-level directory Entity
(Root Directory Entity)	□	PATIENT, TOPIC, PRIVATE
PATIENT	F.5.1	STUDY, PRIVATE
STUDY	F.5.2	SERIES, VISIT, RESULTS, STUDY COMPONENT

		PRIVATE
SERIES	F.5.3	IMAGE, OVERLAY, MODALITY LUT, VOI LUT, CURVE, STORED PRINT, RT DOSE, RT STRUCTURE SET, RT PLAN, RT TREAT RECORD, PRESENTATION, WAVEFORM, SR DOCUMENT, KEY OBJECT DOC, SPECTROSCOPY, RAW DATA , PRIVATE
IMAGE	F.5.4	PRIVATE
OVERLAY	F.5.5	PRIVATE
MODALITY LUT	F.5.6	PRIVATE
VOI LUT	F.5.7	PRIVATE
CURVE	F.5.8	PRIVATE
STORED PRINT	F.5.18	PRIVATE
RT DOSE	F.5.19	PRIVATE
RT STRUCTURE SET	F.5.20	PRIVATE
RT PLAN	F.5.21	PRIVATE
RT TREAT RECORD	F.5.22	PRIVATE
PRESENTATION	F.5.23	PRIVATE
WAVEFORM	F.5.24	PRIVATE
SR DOCUMENT	F.5.25	PRIVATE
KEY OBJECT DOC	F.5.26	PRIVATE
SPECTROSCOPY	F.5.27	PRIVATE
RAW DATA	F.5.28	PRIVATE
TOPIC	F.5.9	STUDY, SERIES, IMAGE, OVERLAY, MODALITY LUT, VOI LUT, CURVE, STORED PRINT, RT DOSE, RT STRUCTURE SET, RT PLAN, RT TREAT RECORD, PRESENTATION, WAVEFORM, SR DOCUMENT, KEY OBJECT DOC, SPECTROSCOPY, RAW DATA , PRIVATE
VISIT	F.5.10	PRIVATE
RESULTS	F.5.11	INTERPRETATION, PRIVATE
INTERPRETATION	F.5.12	PRIVATE
STUDY COMPONENT	F.5.13	PRIVATE
PRIVATE	F.6.1	PRIVATE, (any of the above as privately defined)
MRDR	F.6.2	(Not applicable)

Note: Directory Record Types PRINT QUEUE, FILM SESSION, FILM BOX, and IMAGE BOX were previously defined in DICOM. They have been retired. See PS 3.3-1998.

Add Spectroscopy and Raw Data records to figure F.4-1.

Add Spectroscopy and Raw Data record definition sections:

F.5.27 Spectroscopy directory record definition

The Directory Record is based on the specification of Section F.3. It is identified by a Directory Record Type of Value "SPECTROSCOPY." Table F.5-27 lists the set of keys with their associated Types for such a Directory Record Type. The description of these keys may be found in the Modules related to the Spectroscopy IE of Spectroscopy IODs. This Directory Record shall be used to reference a Spectroscopy SOP Instance. This type of Directory Record may reference a Lower-Level Directory Entity which includes one or more Directory Records as defined in Table F.4-2.

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

Key	Tag	Type	Attribute Description
Specific Character Set	(0008,0005)	1C	Required if an extended or replacement character set is used in one of the keys.
Image Type	(0008,0008)	1	
Content Date	(0008,0023)	1	
Content Time	(0008,0033)	1	
Instance Number	(0020,0013)	1	
Referenced Image Evidence Sequence	(0008,9092)	1C	Required if present in the spectroscopy instance.
<i>>Include 'SOP Instance Reference Macro' Table C.17-3</i>			
Number of Frames	(0028,0008)	1	
Rows	(0028,0010)	1	
Columns	(0028,0011)	1	
Data Point Rows	(0028,9001)	1	
Data Point Columns	(0028,9002)	1	
Icon Image Sequence	(0088,0200)	3	This Icon Image is representative of the Spectroscopy instance.
>Image Pixel Module			See Section F.7 of this Part.
Any other Attribute of the Spectroscopy IE Modules		3	

Note: Because (0004,1511) Referenced SOP Instance UID in File may be used as a "pseudo" Directory Record Key (See Table F.3-3), it is not duplicated in this list of keys.

F.5.28 Raw Data directory record definition

The Directory Record is based on the specification of Section F.3. It is identified by a Directory Record Type of Value "RAW DATA." Table F.5-28 lists the set of keys with their associated Types for such a Directory Record Type. The description of these keys may be found in the Modules related to the Raw Data IE of Raw Data IODs. This Directory Record shall be used to reference an

Raw Data SOP Instance. This type of Directory Record may reference a Lower-Level Directory Entity which includes one or more Directory Records as defined in Table F.4-2.

Table F.5-28
RAW DATA KEYS

Key	Tag	Type	Attribute Description
Specific Character Set	(0008,0005)	1C	Required if an extended or replacement character set is used in one of the keys.
Content Date	(0008,0023)	1	
Content Time	(0008,0033)	1	
Instance Number	(0020,0013)	2	
Icon Image Sequence	(0088,0200)	3	This Icon Image is representative of the Raw Data instance.
>Image Pixel Module			See Section F.7 of this Part.
Any other Attribute of the Raw Data IE Modules		3	

Note: Because (0004,1511) Referenced SOP Instance UID in File may be used as a "pseudo" Directory Record Key (See Table F.3-3), it is not duplicated in this list of keys.