

DICOM Correction Proposal

STATUS	Letter Ballot
Date of Last Update	2024/06/03
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Correction Number	CP-2349
Log Summary:	Relax Multi-energy CT Rescale Type constraint
Name of Standard	PS3.3
Rationale for Correction:	<p>cp2189 asserted that ORIGINAL multi-energy types may include:</p> <ul style="list-style-type: none"> Objective Image Family: VMI, ELECTRON_DENSITY, EFF_ATOMIC_NUM Material Quantification Family: MAT_SPECIFIC, MAT_REMOVED Material Visualization Family: MAT_MODIFIED <p>The CT Pixel Value Transformation Macro requires HU as the Rescale Type (0028,1054) for ORIGINAL images. The same conditions for Rescale Intercept (0028,1052) within the CT Image Module (Table C.8-3) should apply.</p>
Correction Wording:	

Modify Table C.8-126. CT Pixel Value Transformation Macro Attributes as follows:

Table C.8-126. CT Pixel Value Transformation Macro Attributes

Attribute Name	Tag	Type	Attribute Description
Pixel Value Transformation Sequence	(0028,9145)	1	Contains the Attributes involved in the transformation of stored pixel values. Only a single Item shall be included in this Sequence.
>Rescale Intercept	(0028,1052)	1	The value b in relationship between stored values (SV) and the output units. Output units = m*SV + b.
>Rescale Slope	(0028,1053)	1	m in the equation specified by Rescale Intercept (0028,1052).
>Rescale Type	(0028,1054)	1	Specifies the output units of Rescale Slope (0028,1053) and Rescale Intercept (0028,1052). See Section C.11.1.1.2 for further explanation. If Frame Type (0008,9007) Value 1 of this frame is ORIGINAL and Frame Type (0008,9007) Value 3 is not LOCALIZER and Multi-energy CT Acquisition (0018,9361) is either absent or NO , the value shall be HU (Hounsfield Units).

Editorial Note: CT Image Module is included for reference

Table C.8-3. CT Image Module Attributes

Attribute Name	Tag	Type	Attribute Description
...			
Rescale Intercept	(0028,1052)	1	<p>The value b in relationship between stored values (SV) and the output units.</p> <p>Output units = $m \cdot SV + b$</p> <p>If Image Type (0008,0008) Value 1 is ORIGINAL and Value 3 is not LOCALIZER, and Multi-energy CT Acquisition (0018,9361) is either absent or NO, output units shall be Hounsfield Units (HU).</p>
Rescale Slope	(0028,1053)	1	m in the equation specified in Rescale Intercept (0028,1052).
Rescale Type	(0028,1054)	1C	<p>Specifies the output units of Rescale Slope (0028,1053) and Rescale Intercept (0028,1052).</p> <p>See Section C.11.1.1.2 for Defined Terms and further explanation.</p> <p>Required if the Rescale Type is not HU (Hounsfield Units), or Multi-energy CT Acquisition (0018,9361) is YES. May be present otherwise.</p>