

DICOM Correction Proposal

STATUS	Assigned
Date of Last Update	2025/04/12
Person Assigned	David Clunie <dclunie@dclunie.com>
Submitter Name	Mathieu Malaterre <Mathieu.malaterre@gmail.com>
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Correction Number	CP-2514
Log Summary:	Photometric Interpretation Compatibility
Name of Standard	PS3.5
Rationale for Correction:	Since CP-1653 Valid values for Pixel Data related attributes have been added to the DICOM standard part 05. However, two gaps have been found for RLE and JPEG-LS with regards to YBR_FULL Photometric Interpretation. This CP makes it explicit that conversion for JPEG Lossless / YBR_FULL to RLE / YBR_FULL or JPEG-LS / YBR_FULL is possible even in the case where Bits Allocated is 16. During typical DICOM network query operations (eg. C-MOVE) the transfer syntax is defined during the negotiation (eg. Patient or study level). As such we should not reject an instance level transfer when the codec (RLE or JPEG-LS) allow for a particular lossless transformation.
Correction Wording:	

Change section PS 3.5 –8.2.2 as follow

Table 8.2.2-1. Valid Values of Pixel Data Related Attributes for RLE Compression using Standard Photometric Interpretations

Photometric Interpretation	Samples per Pixel	Planar Configuration	Pixel Representation	Bits Allocated	Bits Stored	High Bit
MONOCHROME1 MONOCHROME2	1	absent	0 or 1	1, 8 or 16	1-16	0-15
PALETTE COLOR	1	absent	0	8 or 16	1-16	0-15
YBR_FULL	3	0 or 1	0	88 Or 16	1-816	0-715
RGB	3	0 or 1	0	8 or 16	1-16	0-15

Change section PS 3.5 –8.2.3 as follow

Table 8.2.3-1. Valid Values of Pixel Data Related Attributes for JPEG-LS Compression using Standard Photometric Interpretations

Photometric Interpretation	Transfer Syntax	Transfer Syntax UID	Samples per Pixel	Planar Configuration	Pixel Representation	Bits Allocated	Bits Stored	High Bit
MONOCHROME 1	JPEG-LS Lossless	1.2.840.10008.1.2.4.80	1	absent	0 or 1	8 or 16	2-16	1-15
MONOCHROME 2	JPEG-LS Lossy (Near-Lossless)	1.2.840.10008.1.2.4.81						
PALETTE COLOR	JPEG-LS Lossless	1.2.840.10008.1.2.4.80	1	absent	0	8 or 16	2-16	1-15
YBR_FULL	JPEG-LS Lossless	1.2.840.10008.1.2.4.80	3	0	0	8 or 16	2-16	1-15
	JPEG-LS Lossy (Near-Lossless)	1.2.840.10008.1.2.4.81						
RGB	JPEG-LS Lossless	1.2.840.10008.1.2.4.80	3	0	0	8 or 16	2-16	1-15
	JPEG-LS Lossy (Near-Lossless)	1.2.840.10008.1.2.4.81						