

DICOM Correction Item

Correction Number		CP-303
Log Summary: Fix attribute VR for US Region Calibration Elements		
Type of Modification	Name of Standard	
Correction / Clarification	PS 3.3, PS 3.6 2001	
Rationale for Correction		
<p>1. Doppler Sample Volume Position and TM-Line Position attributes are defined as "The displacement, in pixels, from the Reference pixel". These attributes have a VR of UL (unsigned long). However, in some cases the 2D image will be displayed in an Up/down or Left/Right flipped orientation. In such cases this offset to the reference pixel will be a negative number. The VR needs to be SL (signed long) to correctly represent the relative offset from the Reference pixel. It is proposed to retire the existing Elements and add new ones with the correct VR to replace their use. This is deemed preferable to changing the VR of the existing Elements because doing so could cause toolkit parsing and validation to fail.</p> <p>2. It is unclear as to whether the TM-Line Position is referring to the M-mode line of acquisition located in the associated 2D region, or the TM scroll line located in the M-Mode region.</p>		
Sections of documents affected		
PS 3.3, PS 3.6 Section 6		
Correction Wording:		

Modify Table C.8-17 in Section C.8.5.5.1 of PS 3.3:

C.8.5.5.1 US Region Calibration Attribute Definitions

Table C.8-17 contains IOD Attributes that describe an ultrasound region calibration.

**Table C.8-17
 US REGION CALIBRATION MODULE ATTRIBUTES**

Attribute Name	Tag	Type	Attribute Description
>Doppler Sample Volume X Position	(0018,6038) (0018,6039)	3	The x displacement, in pixels, from the Reference pixel to the center of the Doppler sample volume.
>Doppler Sample Volume Y Position	(0018,603A) (0018,603B)	3	The y displacement, in pixels, from the Reference pixel to the center of the Doppler sample volume.
>TM-Line Position x_0	(0018,603C) (0018,603D)	3	The starting and ending coordinates pairs of the m-line. Where the X_0, Y_0 are the starting point and X_1, Y_1 are the end point of the tm-line. See C.8.5.5.1.10 for further explanation.
>TM-Line Position y_0	(0018,603E) (0018,603F)	3	The starting and ending coordinates pairs of the m-line. Where the X_0, Y_0 are the starting point and X_1, Y_1 are the end point of the tm-line. See C.8.5.5.1.10 for further explanation.
>TM-Line Position x_1	(0018,6040) (0018,6041)	3	The starting and ending coordinates pairs of the m-line. Where the X_0, Y_0 are the starting point and X_1, Y_1 are the end point of the tm-line. See C.8.5.5.1.10 for further explanation.
>TM-Line Position y_1	(0018,6042) (0018,6043)	3	The starting and ending coordinates pairs of the m-line. Where the X_0, Y_0 are the starting point and X_1, Y_1 are the end point of the tm-line. See C.8.5.5.1.10 for further explanation.

Modify Table in Section 6 of PS 3.6:

6 Registry of DICOM Data Elements

<u>(0018,6038)</u>	<u>Doppler Sample Volume X Position</u>	<u>UL</u>	<u>1</u>	<u>RET</u>
<u>(0018,6039)</u>	<u>Doppler Sample Volume X Position</u>	<u>SL</u>	<u>1</u>	
<u>(0018,603A)</u>	<u>Doppler Sample Volume Y Position</u>	<u>UL</u>	<u>1</u>	<u>RET</u>
<u>(0018,603B)</u>	<u>Doppler Sample Volume Y Position</u>	<u>SL</u>	<u>1</u>	
<u>(0018,603C)</u>	<u>TM-Line Position X₀</u>	<u>UL</u>	<u>1</u>	<u>RET</u>
<u>(0018,603D)</u>	<u>TM-Line Position X₀</u>	<u>SL</u>	<u>1</u>	
<u>(0018,603E)</u>	<u>TM-Line Position Y₀</u>	<u>UL</u>	<u>1</u>	<u>RET</u>
<u>(0018,603F)</u>	<u>TM-Line Position Y₀</u>	<u>SL</u>	<u>1</u>	
<u>(0018,6040)</u>	<u>TM-Line Position X₁</u>	<u>UL</u>	<u>1</u>	<u>RET</u>
<u>(0018,6041)</u>	<u>TM-Line Position X₁</u>	<u>SL</u>	<u>1</u>	
<u>(0018,6042)</u>	<u>TM-Line Position Y₁</u>	<u>UL</u>	<u>1</u>	<u>RET</u>
<u>(0018,6043)</u>	<u>TM-Line Position Y₁</u>	<u>SL</u>	<u>1</u>	

Modify Section C.8.5.5.1.10 of PS 3.3:

**C.8.5.5.1.10 TM-Line Position X₀ , TM-Line Position Y₀,
 TM-Line Position X₁ ,TM-Line Position Y₁**

The TM-Line Position X₀ (0018,603~~CD~~) and TM-Line Position Y₀ (0018,603~~EF~~) are the coordinates of the starting point and TM-Line Position X₁ (0018,604~~01~~), TM-Line Position Y₁ (0018,604~~23~~) are the coordinates of the end point of the TM-line. The coordinate is defined as the displacement, in pixels, from the Reference pixel. Typically used for M-mode line and doppler line in the 2D region.