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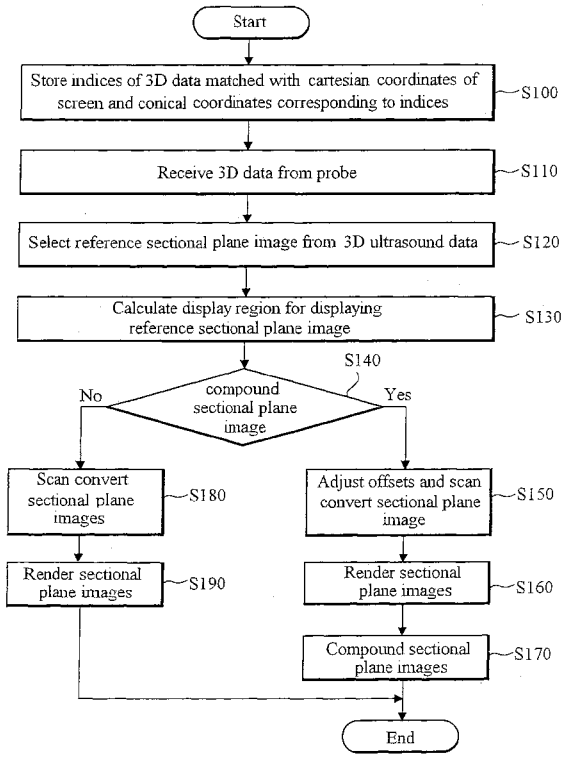
(54) Apparatus and method for enhancing quality of sectional plane image in 3 dimensional ultrasound data

(57) The present invention relates to an apparatus for enhancing the quality of a sectional plane image in a 3-dimensional ultrasound image. The apparatus for enhancing a sectional plane image in a 3-dimensional ultrasound image, includes: a display region calculation unit for selecting a reference sectional plane image in 3D ultrasound data of a target object received from a probe and calculating a display region to display the selected reference sectional plane image; a geometric look-up table storage unit for storing indices matched with 3-dimensional Cartesian coordinates of a screen displaying the target object and conical coordinates corresponding to the indices; a scan conversion unit for scan-converting conical coordinates of a plurality of sectional plane images with offsets between the sectional plane images adjusted to a predetermined value into Cartesian coordinates by referencing the geometric look-up table storage unit; a rendering unit for rendering the scan-converted sectional plane images including the reference sectional plane image; and a sectional plane image compound unit for compounding a predetermined number of sectional plane images in which the reference sectional plane image is positioned at a center thereof.

FIG. 7



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EUROPEAN SEARCH REPORT

Application Number
EP 05 02 2743

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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A	PETRZELA R: "Overview of interpolation methods for 3-D ultrasound", 13TH INTERNATIONAL CZECH - SLOVAK SCIENTIFIC CONFERENCE. RADIOELEKTRONIKA 2003 INST. OF RADIO ELECTRON. BRNO, CZECH REPUBLIC, 6 May 2003 (2003-05-06), pages 463-466, XP002630820, ISBN: 80-214-2383-8 Retrieved from the Internet: URL:http://www.urel.feec.vutbr.cz/ra2008/archive/ra2003/papers/463.pdf> [retrieved on 2011-03-31] * abstract * -----	1-9	

TECHNICAL FIELDS SEARCHED (IPC)
G06T

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Berlin	31 March 2011	Gao, Miao

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 05 02 2743

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EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

专利名称(译)	用于增强三维超声数据中的截面图像质量的装置和方法		
公开(公告)号	EP1650707A3	公开(公告)日	2011-05-11
申请号	EP2005022743	申请日	2005-10-19
申请(专利权)人(译)	MEDISON CO.，LTD.		
当前申请(专利权)人(译)	MEDISON CO.，LTD.		
[标]发明人	LEE JAE KEUN		
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代理机构(译)	LORENZ，WERNER		
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其他公开文献	EP1650707A2		
外部链接	Espacenet		

摘要(译)

本发明涉及一种用于增强三维超声图像中的截面图像质量的装置。一种用于增强三维超声图像中的截面图像的设备，包括：显示区域计算单元，用于选择从探头接收的目标对象的3D超声数据中的参考截面图像，并计算显示区域以显示选择参考截面图;几何查找表存储单元，用于存储与显示目标对象的屏幕的三维笛卡尔坐标匹配的索引和与索引对应的圆锥坐标;扫描转换单元，用于通过参考几何查找表存储单元，将调整到预定值的截面图像之间的偏移扫描转换成多个截面图像的锥形坐标，形成笛卡尔坐标;渲染单元，用于渲染包括参考截面图像的扫描转换截面图像;和截面图像复合单元，用于复合预定数量的截面图像，其中参考截面图像位于其中心。