

(19)



(11)

EP 2 857 861 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
29.04.2015 Bulletin 2015/18

(51) Int Cl.:
G01S 15/89 ^(2006.01) **A61B 8/00** ^(2006.01)
G01S 7/52 ^(2006.01)

(43) Date of publication A2:
08.04.2015 Bulletin 2015/15

(21) Application number: **14195281.2**

(22) Date of filing: **24.11.2004**

(84) Designated Contracting States:
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IS IT LI LU MC NL PL PT RO SE SI SK TR**

(30) Priority: **26.11.2003 US 525208 P**

(62) Document number(s) of the earlier application(s) in
accordance with Art. 76 EPC:
**10180807.9 / 2 267 481
04812223.8 / 1 695 113**

(71) Applicant: **Teratech Corporation**
Burlington, MA 01803 (US)

(72) Inventors:
• **Wong, William**
Burlington,
Massachusetts 02186 (US)

- **Chiang, M Alice A**
Weston,
Massachusetts 02493 (US)
- **Maurer, David**
Stoneham,
Massachusetts 02180 (US)
- **Brodsky, Michael**
Brookline,
Massachusetts 02445 (US)

(74) Representative: **Suèr, Steven Johannes et al**
Graham Watt & Co LLP
St. Botolph's House
7-9 St. Botolph's Road
Sevenoaks TN13 3AJ (GB)

(54) **Modular portable ultrasound systems**

(57) A portable ultrasound system (10) for imaging a region of interest comprising:
a handheld probe in which a transducer array (14) is mounted and a data processing system (16) within a data processor housing, the housing including an electronic device that is connected to the handheld probe with a

cable interface (11), such that the data processing system receives a representation of the region of interest from the electronic device using a communication interface (12), the electronic device including a programmable beamforming device and a system controller connected to the beamforming device.

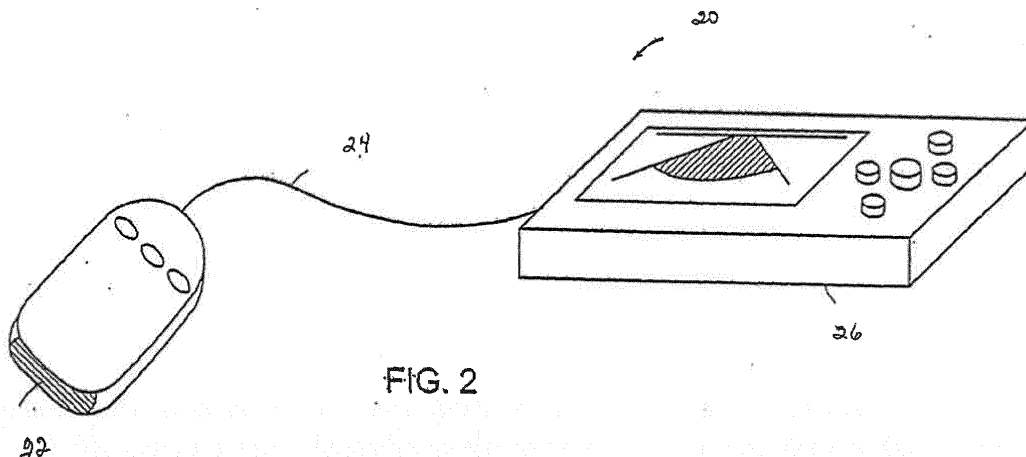


FIG. 2

EP 2 857 861 A3



EUROPEAN SEARCH REPORT

Application Number
EP 14 19 5281

5

10

15

20

25

30

35

40

45

50

55

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 2003/013966 A1 (BARNES STEPHANIE A [US] ET AL) 16 January 2003 (2003-01-16)	1,4-9,13	INV. G01S15/89 A61B8/00 G01S7/52
Y	* page 1; figures A,14,15 * * paragraph [0022] - paragraph [0036] * * claims 12,14 *	2,3, 10-12, 14,15	
X	US 2002/173721 A1 (GRUNWALD SORIN [US] ET AL) 21 November 2002 (2002-11-21) * figures 19,20 * * paragraph [0173] * * paragraph [0200] - paragraph [0225] *	1,4-9,13	
Y	US 6 447 451 B1 (WING GREGORY ET AL) 10 September 2002 (2002-09-10) * abstract; figure 2 * * column 1, line 55 - line 57 * * column 2, line 54 - column 3, line 11 *	14,15	
Y	US 5 487 386 A (WAKABAYASHI ET AL) 30 January 1996 (1996-01-30) * figure 1 * * column 2, line 55 - column 3, line 21 * * column 3, line 31 - line 35 * * column 4, line 38 - line 46 * * column 4, line 66 - column 5, line 3 * * column 5, line 56 - column 6, line 2 *	2,3, 10-12	
Y	US 5 251 631 A (TSUCHIKO ET AL) 12 October 1993 (1993-10-12) * column 3, line 34 - column 4, line 5 * * column 5, line 28 - line 35 * * column 6, line 33 - line 56 *	2,3,10, 11	TECHNICAL FIELDS SEARCHED (IPC)
			G01S H01R
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
The Hague		20 March 2015	Niemeijer, Reint
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

EPO FORM 1503 03.82 (P04C01)



EUROPEAN SEARCH REPORT

Application Number
EP 14 19 5281

5

10

15

20

25

30

35

40

45

50

55

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	DALLAS SEMICONDUCTOR: "DS2433-Z01 4kbit 1-Wire EEPROM Data Sheet", DALLAS SEMICONDUCTOR DATA SHEET , 20 March 2002 (2002-03-20), pages 1-2, XP002332628, Retrieved from the Internet: URL: http://pdfserv.maxim-ic.com/en/ds/DS2433-Z01.pdf [retrieved on 2005-06-20] * page 1 * -----	2,3,10,11	
			TECHNICAL FIELDS SEARCHED (IPC)
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
The Hague		20 March 2015	Niemeijer, Reint
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 14 19 5281

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

20-03-2015

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2003013966 A1	16-01-2003	US 2003013966 A1	16-01-2003
		US 2010274131 A1	28-10-2010
		US 2012289829 A1	15-11-2012
		US 2013245449 A1	19-09-2013

US 2002173721 A1	21-11-2002	DE 10306924 A1	04-09-2003
		JP 2003299652 A	21-10-2003
		US 2002173721 A1	21-11-2002
		US 2004138569 A1	15-07-2004
		US 2006116578 A1	01-06-2006

US 6447451 B1	10-09-2002	AU 4991100 A	17-11-2000
		CA 2372158 A1	09-11-2000
		EP 1180972 A1	27-02-2002
		JP 2002542870 A	17-12-2002
		US 6447451 B1	10-09-2002
		US 2002143256 A1	03-10-2002
		WO 0066003 A1	09-11-2000

US 5487386 A	30-01-1996	NONE	

US 5251631 A	12-10-1993	NONE	

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)	模块化便携式超声系统		
公开(公告)号	EP2857861A3	公开(公告)日	2015-04-29
申请号	EP2014195281	申请日	2004-11-24
[标]申请(专利权)人(译)	泰拉科技公司		
申请(专利权)人(译)	TERATECH CORPORATION		
当前申请(专利权)人(译)	TERATECH CORPORATION		
[标]发明人	WONG WILLIAM CHIANG M ALICE A MAURER DAVID BRODSKY MICHAEL		
发明人	WONG, WILLIAM CHIANG, M ALICE A MAURER, DAVID BRODSKY, MICHAEL		
IPC分类号	G01S15/89 A61B8/00 G01S7/52		
CPC分类号	A61B8/00 A61B8/4427 A61B8/4438 A61B8/4472 A61B8/58 A61B2560/0456 G01S7/5208 G01S7/52082 G01S15/899 G01S15/89		
优先权	60/525208 2003-11-26 US PCT/US2004/039660 2004-11-24 WO		
其他公开文献	EP2857861A2		
外部链接	Espacenet		

摘要(译)

一种用于对感兴趣区域成像的便携式超声系统 (10) , 包括 : 手持式探头 , 其中安装有换能器阵列 (14) , 以及数据处理器壳体内部的数据处理系统 (16) , 该壳体包括电子设备 , 该电子设备是通过电缆接口 (11) 连接到手持式探头 , 使得数据处理系统使用通信接口 (12) 从电子设备接收感兴趣区域的表示 , 该电子设备包括可编程波束形成设备和系统控制器连接到波束成形设备。

