(19) **Europäisches Patentamt European Patent Office Office européen des brevets**

(11) **EP 1 389 948 B8**

(12) **CORRECTED EUROPEAN PATENT SPECIFICATION**
Note: Bibliography reflects the latest situation

(15) Correction information:
Corrected version no 1 (W1 B1)
Bibliography INID code(s) 73

(48) Corrigendum issued on:
23.01.2008 Bulletin 2008/04

(45) Date of publication and mention
of the grant of the patent:
22.08.2007 Bulletin 2007/34

(21) Application number: **02727767.2**

(22) Date of filing: **29.05.2002**

(51) Int Cl.:
A61B 5/044 (2006.01)

(86) International application number:
PCT/GB2002/002550

(87) International publication number:
WO 2002/096282 (05.12.2002 Gazette 2002/49)

(54) **PATIENT CONDITION DISPLAY**

SICHTBILDANZEIGE FÜR PATIENTENZUSTAND

DISPOSITIF D'AFFICHAGE DE L'ETAT D'UN PATIENT

(84) Designated Contracting States:
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE TR**

(30) Priority: **31.05.2001 GB 0113212**

(43) Date of publication of application:
25.02.2004 Bulletin 2004/09

(60) Divisional application:
05019283.0 / 1 609 412

(73) Proprietor: **Oxford Biosignals Limited
Abingdon, Oxfordshire OX14 4SE (GB)**

(72) Inventors:
• **TARASSENKO, Lionel,
Department of Engineering
Oxford OX1 3PJ (GB)**
• **TOWNSEND, Neil William,
Department of Engineering
Oxford OX1 3PJ (GB)**

(74) Representative: **Nicholls, Michael John
J.A. KEMP & CO.
14, South Square
Gray's Inn
London WC1R 5JJ (GB)**

(56) References cited:
• **MAGLAVERAS N ET AL: "ECG pattern
recognition and classification using non-linear
transformations and neural networks: A review"**
INTERNATIONAL JOURNAL OF MEDICAL
INFORMATICS, ELSEVIER SCIENTIFIC
PUBLISHERS, SHANNON, IR, vol. 52, no. 1-3, 1
October 1998 (1998-10-01), pages 191-208,
XP004153684 ISSN: 1386-5056
• **PRESEDO J ET AL: "Cycles of ECG parameter
evolution during ischemic episodes"**
COMPUTERS IN CARDIOLOGY, 1996
INDIANAPOLIS, IN, USA 8-11 SEPT. 1996, NEW
YORK, NY, USA,IEEE, US, 8 September 1996
(1996-09-08), pages 489-492, XP010205943 ISBN:
0-7803-3710-7
• **TARASSENKO LIONEL ET AL.: "Data fusion: New
Techniques for Vital signs Patient Monitoring"**
ABSTRACTS OF THE CONFERENCE
"ADVANCES IN PATIENT CONNECTED
MONITORING", BRITISH INSTITUTE OF
RADIOLOGY, LONDON, [Online] 5 March 2001
(2001-03-05), pages 1-16, XP002219479 Retrieved
from the Internet: <URL:http://www.ipem.org.uk/
meetings/5mar0 1ab.pdf> [retrieved on
2002-11-05]

EP 1 389 948 B8

- LOWE, D. AND TIPPING M. E.: "Neuroscale: Novel topographic feature extraction with radial basis function networks" ADVANCES IN NEURAL INFORMATION PROCESSING SYSTEMS 9, M. MOZER, M. JORDAN, AND T. PETSCHE (EDS.), [Online] 1997, pages 543-549, XP002219480 CAMBRIDGE, MASS., MIT PRESS Retrieved from the Internet: <URL:http://citeseer.nj.nec.com/cache/pape rs/cs/6674/ftp: zSzzSzftp.research.microsof t.comzSzuserszSzmtippingzSznips96.pdf/lowe 97neuroscale.pdf> [retrieved on 2002-11-05]
- EMDIN M ET AL: "Compact representation of autonomic stimulation on cardiorespiratory signals by principal component analysis" PROCEEDINGS OF THE COMPUTERS IN CARDIOLOGY CONFERENCE. LONDON, SEPT. 5 - 8, 1993, LOS ALAMITOS, IEEE COMP. SOC. PRESS, US, 5 September 1993 (1993-09-05), pages 157-160, XP010128860 ISBN: 0-8186-5470-8
- MAGLAVERAS N ET AL: "Smart alarming scheme for ICU using neural networks" COMPUTERS IN CARDIOLOGY 1998 CLEVELAND, OH, USA 13-16 SEPT. 1998, NEW YORK, NY, USA,IEEE, US, 13 September 1998 (1998-09-13), pages 493-496, XP010314351 ISBN: 0-7803-5200-9
- SCHWENKER F ET AL: "Visualization and analysis of signal averaged high resolution electrocardiograms employing cluster analysis and multidimensional scaling" COMPUTERS IN CARDIOLOGY, 1996 INDIANAPOLIS, IN, USA 8-11 SEPT. 1996, NEW YORK, NY, USA,IEEE, US, 8 September 1996 (1996-09-08), pages 453-456, XP010205934 ISBN: 0-7803-3710-7

专利名称(译)	患者状况显示		
公开(公告)号	EP1389948B8	公开(公告)日	2008-01-23
申请号	EP2002727767	申请日	2002-05-29
[标]申请(专利权)人(译)	ISIS创新有限公司		
申请(专利权)人(译)	ISIS创新有限公司		
当前申请(专利权)人(译)	OXFORD生物信号有限公司		
[标]发明人	TARASSENKO LIONEL DEPT OF ENG TOWNSEND NEIL WILLIAM DEPT OF ENG		
发明人	TARASSENKO, LIONEL, DEPARTMENT OF ENGINEERING TOWNSEND, NEIL WILLIAM, DEPARTMENT OF ENGINEERING		
IPC分类号	A61B5/044 A61B5/00 A61B5/0205 G01F19/00 G06F19/00		
CPC分类号	A61B5/0205 A61B5/7267 A61B5/742 A61B5/7445 G06F19/321 G16H30/40 G16H40/63 G16H50/20 G16H50/70		
代理机构(译)	尼科尔斯迈克尔·约翰·		
优先权	2001013212 2001-05-31 GB		
其他公开文献	EP1389948B1 EP1389948A2		
外部链接	Espacenet		

摘要(译)

来自表示患者状况的多个传感器的数据，包括测量信号以及从测量信号导出的辅助参数，通过将它们从多维测量空间映射到二维可视化空间以简单的方式显示。这可以使用保持数据点的形貌的映射来实现，例如通过确保可视化空间中的点间距离尽可能接近地匹配测量空间中的对应的点间距离。这种映射，例如Sammon的映射是通过适当训练的人工神经网络实现的。在映射过程之前对参数进行归一化，并且归一化和映射使得来自病情正常的患者的映射点出现在可视化空间的中心，而来自病情异常的患者的点出现在可视化的边缘。空间。可以使用来自单个患者或来自一组患者的数据点来训练人工神经网络，并且可以使用预聚类算法来稀疏数据。