

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
22 November 2001 (22.11.2001)

PCT

(10) International Publication Number
WO 01/88825 A3

(51) International Patent Classification⁷: A61B 5/00, 5/0205

(21) International Application Number: PCT/CA01/00722

(22) International Filing Date: 18 May 2001 (18.05.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 09/572,862 18 May 2000 (18.05.2000) US

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, ZA, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant: EXCEL TECH LTD. [CA/CA]; 2568 Bristol Circle, Oakville, Ontario L6H 5S1 (CA).

Published: — with international search report

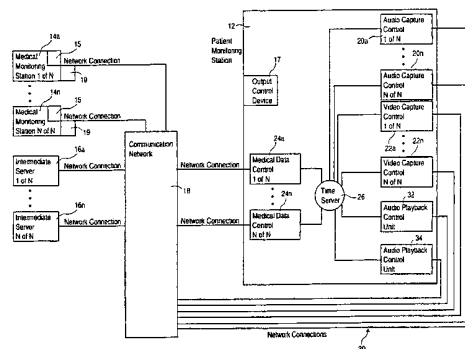
(72) Inventor: MUMFORD, John, R.; 1016 Mississauga Heights Drive, Mississauga, Ontario L5C 1A6 (CA).

(88) Date of publication of the international search report: 4 April 2002

(74) Agent: MARKS & CLERK (MISSISSAUGA); 350 Burnhamthorpe Road West, Suite # 402, Mississauga, Ontario L5B 3J1 (CA).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: DISTRIBUTED SYSTEM FOR PATIENT MONITORING AND PATIENT DATA COMMUNICATION USING TIME STAMPING



WO 01/88825 A3

(57) Abstract: A distributed system for acquiring, disseminating, and outputting audio, video, and medical data is provided. The system is one which works in the field of telemedicine. There is at least one patient monitoring site (12a, 12b, 12c, 12d, 12e, 12f, 12g, 12h, 12i, 12j, 12k, 12l, 12m, 12n) which comprises a plurality of input devices (20a, 20b, 20c, 20d, 20e, 20f, 20g, 20h, 20i, 20j, 20k, 20l, 20m, 20n, 22a, 22b, 22c, 22d, 22e, 22f, 22g, 22h, 22i, 22j, 22k, 22l, 22m, 22n, 24a, 24b, 24c, 24d, 24e, 24f, 24g, 24h, 24i, 24j, 24k, 24l, 24m, 24n) by which selected audio, video and medical data are captured for a patient; and at least one time server (26) to provide a base time signal which is referenced by the plurality of input devices at each patient monitoring site, so as to provide a synchronized time stamp on all data captured by the plurality of input devices. Each patient monitoring site is associated with a respective time server. At least one medical monitoring site (14a, 14b, 14c, 14d, 14e, 14f, 14g, 14h, 14i, 14j, 14k, 14l, 14m, 14n) comprises at least one output device (15) at which audio, video and medical data can be selectively output for any selected patient monitoring site, in synchronization based on the time stamp found on the data. The plurality of input devices and the at least one output device are connected to a network (18), and through the network to one another. Thus, any selected medical monitoring site may contemporaneously receive, review and analyze synchronized audio, video and medical data from at least one selected patient monitoring site.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/CA 01/00722

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61B5/00 A61B5/0205

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED
Minimum documentation searched (classification system followed by classification symbols)
IPC 7 A61B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y A	US 6 006 241 A (PURNAVEJA ET AL.) 21 December 1999 (1999-12-21) the whole document ---	1,3-13, 15-20 14
Y	US 5 987 519 A (PEIFER ET AL.) 16 November 1999 (1999-11-16) cited in the application the whole document ---	1,3-13, 15-20
Y	US 5 867 230 A (WANG ET AL.) 2 February 1999 (1999-02-02) the whole document ---	1,2,14
Y	US 5 867 821 A (BALLANTYNE ET AL.) 2 February 1999 (1999-02-02) cited in the application the whole document ---	1,2,14
	-/--	

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- * & * document member of the same patent family

Date of the actual completion of the international search

10 December 2001

Date of mailing of the international search report

17/12/2001

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Hunt, B

INTERNATIONAL SEARCH REPORT

International Application No
PCT/CA 01/00722

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 99 35785 A (KONINKLIJKE PHILIPS ELECTRONICS N.V.) 15 July 1999 (1999-07-15) page 6, line 3 -page 8, line 12; figures 1-8	1,18
A	EP 0 722 233 A (HEWLETT-PACKARD COMPANY) 17 July 1996 (1996-07-17) abstract; figures 1-12	1,18

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/CA 01/00722

Patent document cited in search report	A	Publication date	Patent family member(s)	Publication date
US 6006241	A	21-12-1999	US 6230172 B1	08-05-2001
US 5987519	A	16-11-1999	CN 1270676 T EP 1066698 A2 JP 2001516930 T TR 200000666 T2 TW 400503 B WO 9914882 A2 US 6112224 A	18-10-2000 10-01-2001 02-10-2001 21-06-2000 01-08-2000 25-03-1999 29-08-2000
US 5867230	A	02-02-1999	US 5928330 A AU 7468798 A WO 9900986 A1	27-07-1999 19-01-1999 07-01-1999
US 5867821	A	02-02-1999	CA 2125300 A1	12-11-1995
WO 9935785	A	15-07-1999	CN 1254464 T EP 0963637 A2 WO 9935785 A2 JP 2001515612 T	24-05-2000 15-12-1999 15-07-1999 18-09-2001
EP 722233	A	17-07-1996	US 5566180 A EP 0722233 A2 JP 8221336 A	15-10-1996 17-07-1996 30-08-1996