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(71) Applicant and

(72) Inventor: DIB, Adam [AU/AU]; 87 Market Street, Con-
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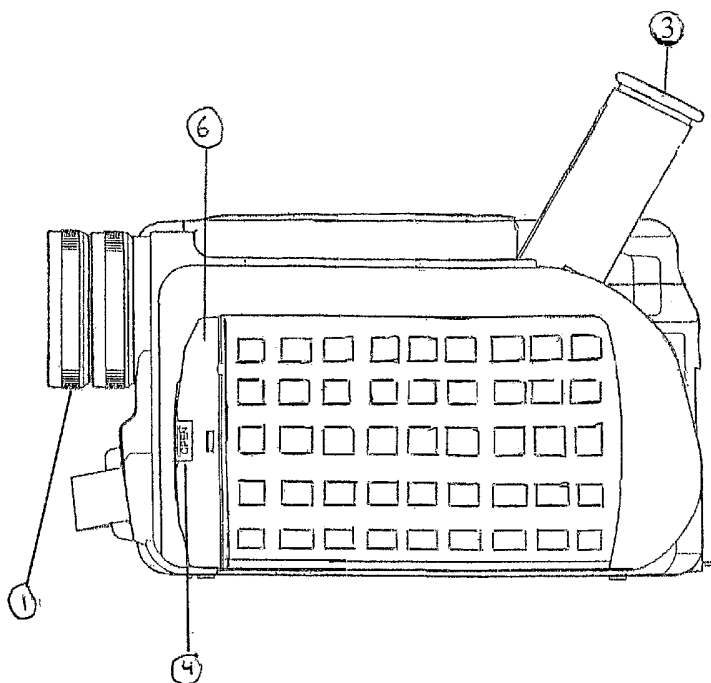
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Declarations under Rule 4.17:

- as to the identity of the inventor (Rule 4.17(i)) for all des-ignations
- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for all designations

[Continued on next page]

(54) Title: THE MEDI-CAM



- 1- The lens of the Medi-Cam
- 3- Eyecup
- 4- Open button for the door of the screen
- 6-The door of the screen opened

(57) Abstract: A telemedicine device, the "Medi-Cam" is disclosed. The Medi-Cam includes a lens which can be adjusted from very high to low resolution, a hard drive. A means for transmitting data to and prescription, a keyboard for transmitting data regarding the patient's history and the doctor's diagnosis and prescription, a magnetic strip reader, that can read the patient's credit card or health care card and colour cards displaying all the basic colours that the patient can hold up in front of the screen so the doctor can adjust his screen to the correct colour. The Medi-Cam has software to help the doctor in decision making and for training junior doctors. The Medi-Cam can be connected to an electronic stethoscope, a cable with a lens and light for examining the ear, nose and throat and to blood pressure measurement apparatus.

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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.

THE MEDI-CAM

DESCRIPTION AND BACKGROUND

During the last 20 years I have spent as a Doctor there were always complains that there is shortage of Doctors in remote areas and Medical services are always needed in these remote areas that is hard for doctors to be available at all the time like war zones, rural and remote areas.

On other hand every single day, tens of thousands of patients die in the developing countries from preventable and curable diseases due to lack of medical expertise in these countries while these medical expertise are available in the developed countries.

In Australia, The Victorian Department of Heath had finished a study couple of years ago which proved that the residents of rural Victoria are at 25 per cent higher risk to die from particular diseases than the Melbourne residents and that is mainly due to shortage of medical expertise in rural Victoria.

The shortage of Doctors outside the large cities is not only a Victorian problem but it is wide spread problem through out Australia as I served as a Doctor in remote areas in some states like Victoria, Queensland and New South Wales where I faced enormous difficulties to refer my patients to suitably qualified Specialists in some cases I had to organise for a flying aeroplane an emergency landing in our remote area to transfer my patient to a specialist.

The shortage of Doctors in rural Australia is not only in specialists but also in General Practitioners to the degree that I saw a General practitioner, his son was sick and he was not able to see him except after his wife spoke to the Doctor's secretary to allocate for the son couple of minutes between two Doctor's appointments so that his dad can see him, because the Doctor's appointments were completely booked out for couple of months in advance as he was the only Doctor working in the town.

While we have this severe shortage of General Practitioners in rural Australia we have over supply of them in the large cities like Sydney and Melbourne.

The waiting lists of the specialists is another problem facing patients and general practitioners in Australia as it is not uncommon that when a general practitioner choose a specialist for his patient that he discovers that the waiting list is more than six months, this invention will give general practitioners and the patients the freedom to choose another specialist in another suburb, another city or even overseas

The shortage of medical services in rural Australia is one of the main reasons driving people away from the rural area to migrate to the big cities and this is causing rural Australia to disintegrate accordingly this is affecting all of us as Australians.

During the last 30 years, scientists developed an interconnecting computers network which has since been developed to be a worldwide network that is presently known as the world wide web (the Internet) which is publicly accessible and relatively low cost network that is why it is very popular.

Medi-Cam is the first invention in the world which is a complete apparatus that use the Internet (either the dial up, broadband, grid or any other form of the internet), normal land telephone line, mobile phone line, or any other phone line, for example radio or satellite to examine the patient who is situated in his remote area, by the examining Doctor who is in his office and this examination is accurate and reliable. In medicine the quality of the picture of the patient and the accuracy of the sound of the patient's organs like heart sound or breath sound have very high diagnostic value and any change in this quality or accuracy can lead to mistakes in the diagnosis and the treatment of the disease.

This invention transfer accurate pictures and sounds of the patient from his remote area to the Doctor in his office. The reason that these pictures and sounds are accurate is that The patient's Medi-Cam records them in files and sends them to the Doctor's Medi-Cam.

Telemedicine is available right now in some large cities in Australia and in other big cities around the world but the patient and the Doctor should be situated in a big city, as they need special infrastructure that cost billions of dollars, in addition to that there are limitations on the body systems that can be examined by the Doctor, for example the Doctor can not examine the patient's Ear, Nose and Throat. My invention does not have that limitations, does not need special infrastructure and utilizes the current infrastructure that is already available in all parts of the world like the Internet and/or telephone service.

The funny side of the Telemedicine that is available now in the world is that it is only available in large cities which is usually do not have shortage of medical expertise and is not available in remote areas which have severe shortage of Doctors, this due to the fact that it needs special very expensive infrastructure.

The Medi-Cam invention is composed of:

- 1- The Medi-Cam camera that contains a lens with very high resolution however the resolution can be adjusted as it is important only in the examination phase, a hard drive and can have an internal modem or connected to an external modem or to a broadband modem and use the internet (either the dial up, broadband, grid or any other form of internet), normal land telephone line, mobile phone line, or any other phone line. The patient will has his Medi-Cam and the doctor will has another one, each one has its own screen. The doctor will be in his office and the patient will be in his remote area.

The Doctor or his assistant will start the process before the consultation by sending a questionnaire to the patient asking about his complaint/s and medical history, the Medi-Cam has very small key board that enable the patient to fill out the questionnaire. The patient's Medi-Cam has small screen but the patient can connect his Medi-Cam to his TV set as well.

Using this questionnaire will save the Doctor's time as in normal consultation taking history usually consume half the consultation time.

After finishing the questionnaire the patient will send it back to the Doctor's Medi-Cam which has software that will show the Doctor the positive finding of the patient's questionnaire in addition to suggestions of differential diagnosis and diagnosis for the patient's condition.

The Medi-Cam comes with a magnetic strip reader that can read the patient Medicare card ,credit card , the health information card and transfers these data to the Doctor. The Medi-Cam comes also with identical colours cards contain all the basic colours. The Doctor will start the consultation by reading the patient's history and complaint then will jump straight away to the examination using the Medi-Cam without taking history from the patient as Doctors usually do. The first step the Doctor will do before using the Medi-Cam for general examination will be to ask the patient to show his colour card in front of the Medi-Cam and he will compare the colour on his screen with his colour card and adjust the colour on his screen accordingly so that the colours on his screen and the colour card will be identical. The Doctor will ask the patient's nurse or companion to press on the different parts of the abdomen to examine the abdomen or to do any test on any part of the body then start the local examination using the cable which contain lens and light and connected to the Medi-Cam and the cable can be attached to ear speculum, nasal speculum or tongue depressor to examine ear, nose and throat.

Before using the Medi-Cam for local examination the Doctor will ask the patient to show his colour card in front of the cable's camera and he will compare the colour on his screen with his colour card and adjust the colour on his screen accordingly.

The Medi-Cam of the patient comes with camera software installed to the hard drive so that he can see the doctor in one corner of the screen and see scene his camera is shooting in the other corner.

The patient's Medi -Cam record part/s of the local and the general examination as still images and video files as directed by the Doctor and the control of the recording can be in the hand of the Doctor.

For the Doctor to listen to the patient heart, chest or abdomen, the Medi-Cam comes with an electronic stethoscope so the patient or someone helping him put the electronic stethoscope on the patient chest, heart or abdomen under the direction of the Doctor and record the patient chest and heart sounds then transfer these sounds in files to the patient's Medi - Cam as the Medi-Cam comes with an infrared port and the patient send these files to the doctor from the patient's Medi -Cam to the Doctor's Medi - Cam, the doctor then will transfer the files into his or her stethoscope and hear them. The doctor can repeat this step again until he listens to all the organs he wants to listen to.

The patient will send the recorded files of the examination from his Medi-Cam to the Doctor's Medi-Cam after compressing them if needed using the Internet or the phone line and/or utilizing the known facsimile, photophone and videophones technology. The ideal way of sending the files is by using the broadband Internet but Medi-Cam can send them by phone line as well.

During the time taken for these files to be sent, the Doctor can discuss with the patient the history and the complain/s.

For measuring the patient's blood pressure there are so many commercially available sets that can measure the blood pressure automatically so the patient can tell the Doctor about the reading on the other hand there is a set in the market that can display the reading on the Internet alternatively if the patient companion is a nurse she can measure the blood pressure and tell the Doctor the result.

The screen of the Doctor' Medi-Cam is bigger than the patient's screen, the hard drive of the Doctor' Medi - Cam contains photos of normal and infected eye, skin. Ear, nose and throat so that the Medi - Cam can help Doctors in training to diagnose the patient problem.

If the patient has X-rays or ECG he can show them to his Doctor using the Medi-Cam.

The Doctor can decide at the end of the consultation to give his patient a prescription, to refer the patient to a specialist or to call for him the ambulance if his condition is very critical:

The Doctor can use his Medi-Cam to send a copy of the prescription to the patient and/or other copy to the chemist.

The Doctor will open a file for the patient in the Medi-Cam hard drive contains all the information he got from the questionnaire, discussion, examination, diagnosis, the files recorded for general & local examinations and he will transfer this file to his computer as a patient's file for future reference.

The patient Medi-Cam comes with a card similar to a credit card with a magnetic strip so the Doctor can send to the patient the information he wish to add to the patient's card at the end of the consultation for future reference.

With each new consultation the Doctor will add the new information he got to the original patient's file.

This file can be stored on the World Wide Web with the password of it to be given to the patient so that he can access his record even if he goes overseas

The Medi-Cam can be used when the specialist examine the patient after the referral of his General Practitioner.

Because the Doctor used the Medi-Cam during the consultation and the patient used the Medi-Cam, this made the pictures files and the video files be seen clearly by the Doctor as both parties are using the same methods of communication which had the same resolution, compatibility with each other and manufactured by the same company and this will help the Doctor to standardise the pictures of each disease and compare them to the pictures installed in the hard drive in addition to that the patient's Medi-Cam record parts of the examination and sends them to Doctor's Medi-Cam and this will defines the beginning and the end of the signal and makes sure that all the file was received by Doctor's Medi-Cam which is very important because in medicine the quality of the picture of the patient and the accuracy of the sound of the patient's organs like heart sound or breath sound have very high diagnostic value and any change in this quality or accuracy can lead to mistakes in the diagnosis and the treatment of the disease as I mentioned before .

As a Doctor I know that the next two revolutions in medicine will be: using gene engineering in medicine (genomic medicine) and electronic Medicine.

This invention will begins the next electronic Medicine revolution in which all the advances in medicine any where in the world will be available to any human being living anywhere on earth, in the middle of the desert, at the bottom of the ocean or even in the outer space and this medical care will be available 24 hours per day, seven days per week, so any one of us will not be obliged to visit the Doctor to get medical attention but thousands of Doctors will be available to him any time per day. Medi-Cam can be powered up by solar energy if conventional energy sources are not available.

This invention will improve the quality of health care for all of us as each Doctor will face a strong competition form all the other Doctors of the nation or even of the world as who will be the best who offer his patients the best medical care because it gives for the patients the freedom of choice to select who will take care of their health, for example the only Doctor in a town does not have strong pressure to improve the quality of his care for his patient now as he does not have any competition but after this invention this all will change.

I believe that our quality of life will be better with the use of this invention especially for those patients who have chronic health problems like heart diseases, diabetes or asthma and need continuos medical care,at least they will feel that they have an instantaneous access for a Doctor whenever and wherever they need and this will give them peace of mind.

Medi-Cam can be used in operating theatres in regional hospitals so that the specialist who is located in his office in a big city can give his directions to junior surgeons performing an operation.

Medi-Cam can be used by vets as well to examine animals.

Medi-Cam can be used for video conferences for any use even for entertainment.

The patient can use his Med-Cam as a video camera in his normal day-to-day activities in domestic uses and in communication for example with his family and friends.

I have explained how this invention to be used in medical consultations and normal daily life, but there are so many equivalents, variations, alternatives, changes, and modifications can be apparent to those skilled in this field without deviating from the scope and spirit of the invention, that is why, the above description is intended just to be illustrative and not limiting the use of this invention.

Dr. Adam Dib

24/11/2003

The claims:

I claim

1- Medi-Cam and its attachments:

A- The Medi-Cam that has a hard drive and has the following criteria:

B- High resolution lens and the resolution can be adjusted

C-Magnetic strip reader that can read the health information in the card and send it to the other Medi-Cam and/or sends information to the other Medi-Cam that register it on the health information card

D-Infrared port

E-Internal modem or connected to external modem, use the internet (either the dial up, broadband, grid or any other form of internet), normal land telephone line, mobile phone line, any other wired or wireless transmission system to communicate with a similar Medi-Cam,

F-Has software that help the Doctor in decision making and training junior Doctors.

G-Used in conjugation with an electronic stethoscope.

H-In a consultation sequence that begins by reading the positive finding of the questionnaire then starts the examination then starts the history taking.

I-Starting the examination on real time video conference then recoding part of it and sending it to the Doctor Medi-Cam.

J-Using the Medi-Cam and the cable which has light and high resolution lens to examine the Ear, Nose and Throat, sending parts of the Ear, Nose and Throat examinations to the Doctor Medi-Cam after recoding them.

k-Has a socket / or connected to a cable which a lens and light.

l-Has a health information card with Magnetic strip

M-Has small key board

N-Has a colour card

O-Has software installed to the hard drive that enable the patient to see the doctor in one corner of the screen and see scene his camera is shooting in the other corner

P-powered up by solar energy if conventional energy sources are not available.

Q-Using the Medi-Cam in conjugation with the commercially available sets that can measure the blood pressure automatically and the patient tell the Doctor about the reading or with a set that can display the reading on the Internet.

R-Using the Medi-Cam by the patient to show his Doctor his X-ray or ECG

S-Using the Medi-Cam in operating theatres in regional hospitals so that the specialist who is located in his office in a big city can give his directions to junior surgeons performing an operation.

T-Using the Medi-Cam by the Doctor to send a copy of the prescription to the patient and /or a copy to the chemist.

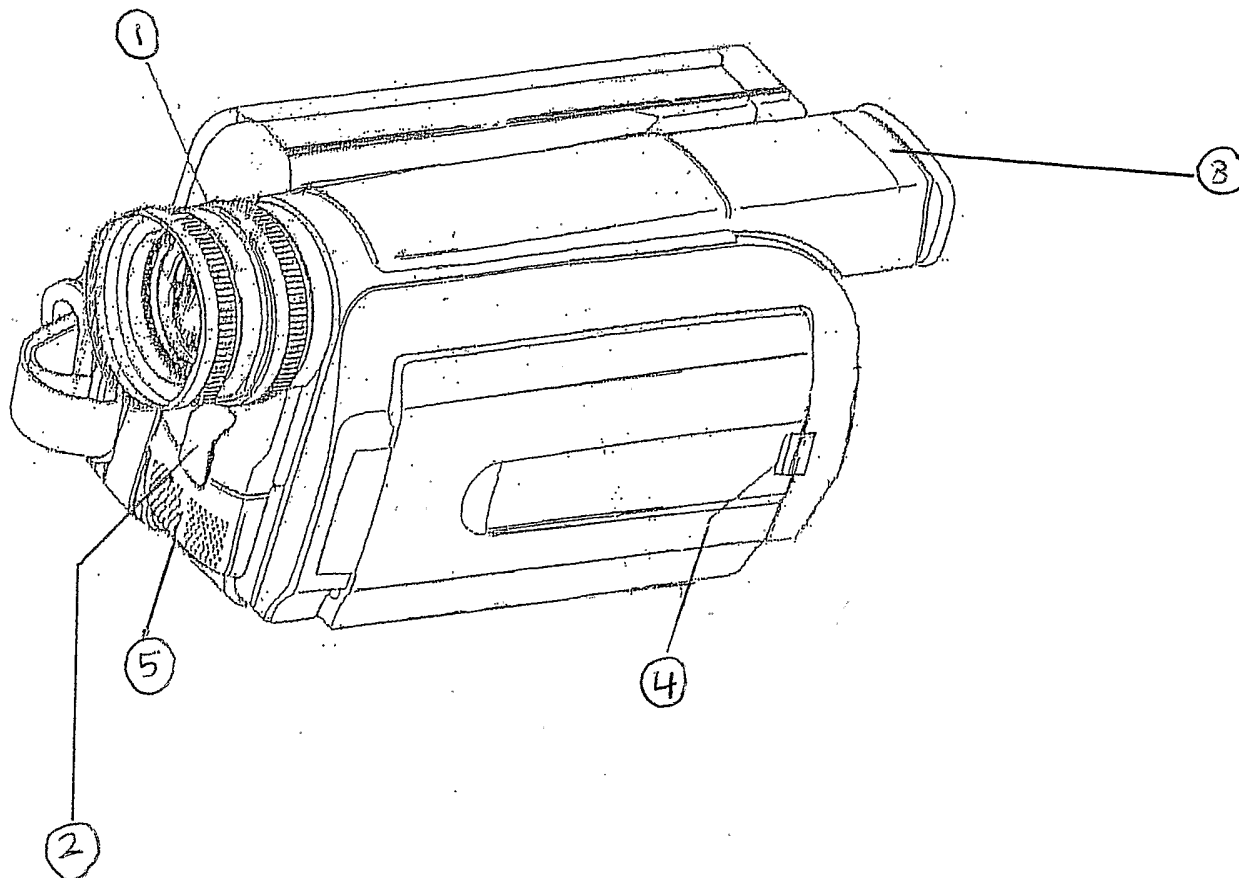
U-Using the Medi-Cam by the patient as a video camera in his normal day-to-day activities in domestic uses and in communication for example with his family and friends

V-Using the Medi-Cam by vets to examine animals.

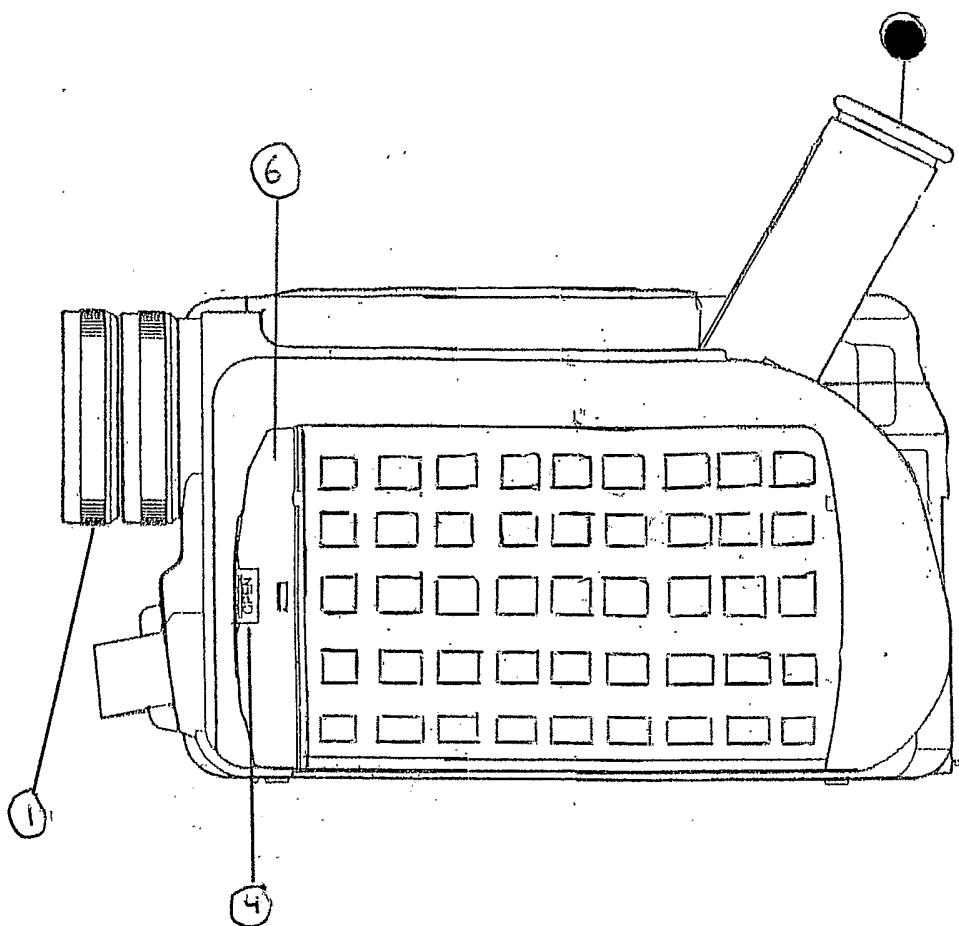
W-Using the Medi-Cam for normal video conferences for any use e.g. for entertainment

Dr. Adam Dib

24/11/2003



- 1- The lens of the Medi-Cam
- 2- Infrared Port
- 3- Eyecup
- 4- Open button for the door of the screen
- 5- The microphone



- 1- The lens of the Medi-Cam
- 3- Eyecup
- 4- Open button for the door of the screen
- 6-The door of the screen opened

INTERNATIONAL SEARCH REPORT

International application No.
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A. CLASSIFICATION OF SUBJECT MATTER		
Int. Cl. ⁷ : G06F 17/00 G06F 159:00 A61B 5/00		
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)		
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 practicable, search terms used) WPAT. Keywords: diagnose, telemedicine, camera, internet, remote, keyboard, card and similar terms		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 1999/014882 A (GEORGIA TECH RESEARCH CORP.) 25 March 1999 Whole document	1
X	WO 2000/025667 A (VIRTUAL-EYE.COM, INC.) 11 May 2000 Whole document	1
X	WO 2002/018933 A (HAALAND et al.) 7 March 2002 Whole document	1
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C <input checked="" type="checkbox"/> See patent family annex		
* Special categories of cited documents:		
"A" document defining the general state of the art which is not considered to be of particular relevance	"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	
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"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)	"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	
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family	
"P" document published prior to the international filing date but later than the priority date claimed		
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Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustralia.gov.au Facsimile No. (02) 6285 3929 .	Authorized officer ROSEMARY LONGSTAFF Telephone No : (02) 6283 2637	

INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU2003/001583

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 1998/011820 A (SVENSKA TELEMEDICIN SYSTEM AB) 26 March 1998 Whole document	1
X	WO 1998/032374 A (RINCOURT) 30 July 1998 Abstract; Figure 1	1
X	US 6038469 A (KARLSSON et al.) 14 March 2000 Whole document	1

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/AU2003/001583

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report	Patent Family Member			
WO 9914882	CA 2301937	EP 1066698	US 5987519	
	US 6112224			
WO 0025667	CA 2349215	US 6145991		
WO 0218933	AU 87031/01	US 2002123671		
WO 9811820	AU 44076/97	EP 1011420	SE 9603429	
	US 6409660	US 2002115916		
WO 9832374	FR 2758709			
US 6038469	EP 0711531	EP 1227752	JP 8182660	
	US 5520191	US 5819741	US 6424860	
	WO 0134023			
END OF ANNEX				