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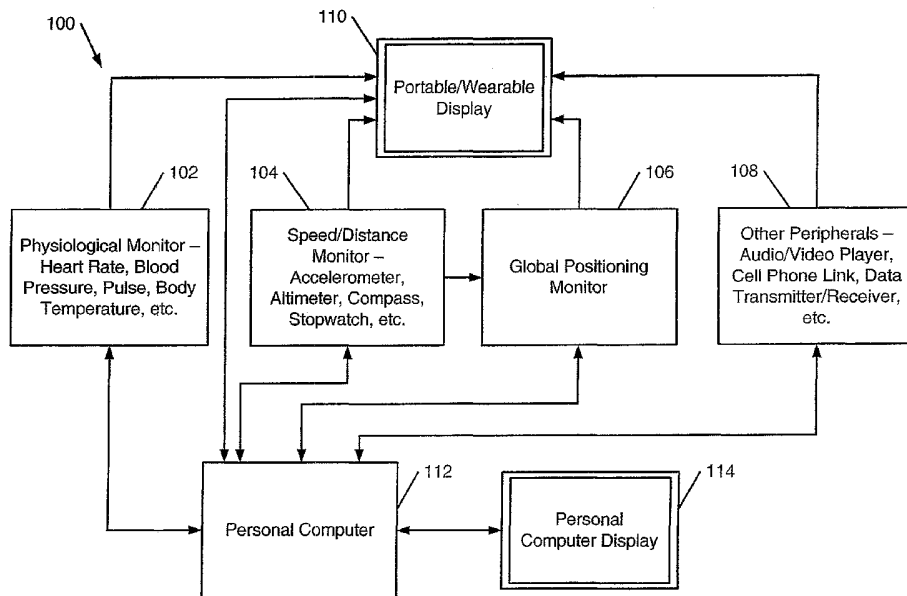
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[Continued on next page]

(54) Title: MULTI-SENSOR MONITORING OF ATHLETIC PERFORMANCE



(57) Abstract: Athletic performance monitoring systems and methods, many of which utilize, in some manner, global positioning satellite ("GPS") data, provide data and information to athletes and/or to equipment used by athletes during an athletic event. Such systems and methods may provide route information to athletes and/or their trainers, e.g., for pre-event planning, goal setting, and calibration purposes. Such systems and methods optionally may provide real time information to the athlete while the event takes place, e.g., to assist in reaching the pre-set goals. Additionally, data and information collected by such systems and methods may assist in post-event analysis for athletes and their trainers, e.g., to evaluate past performances and to assist in improving future performances.

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**Published:**

- *with international search report*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

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21 September 2006

# INTERNATIONAL SEARCH REPORT

International application No  
PCT/US2005/044753

**A. CLASSIFICATION OF SUBJECT MATTER**  
INV. G01C22/00 A63B24/00

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)  
G01C A63B

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, WPI Data, PAJ

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 1 134 555 A (IN2SPORTS B.V) 19 September 2001 (2001-09-19) claim 1; figures -----	1-4
X	US 5 583 776 A (LEVI ET AL) 10 December 1996 (1996-12-10) column 4, line 12 - line 28 column 6, line 22 - line 49 -----	1-4

Further documents are listed in the continuation of Box C.

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
- "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

12 April 2006

Date of mailing of the international search report

21 -07- 2006

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# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US2005/044753

## Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2.  Claims Nos.: **18-20**  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:  
**see FURTHER INFORMATION sheet PCT/ISA/210**
  
3.  Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

**see additional sheet**

1.  As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
  
2.  As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
  
3.  As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
  
4.  No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

**1-4**

### Remark on Protest

- The additional search fees were accompanied by the applicant's protest.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.2

Claims Nos.: 18-20

The initial phase of the search revealed a very large number of documents relevant to the issue of novelty. So many documents were retrieved that it is impossible to determine which parts of the claims 18 to 20 may be said to define subject-matter for which protection might legitimately be sought (Article 6 PCT). For these reasons, claims 18 to 20 were not searched..

The subject matter of claims 18 to 20 is only "means for receiving input data", "means for displaying information" and "means for calculating". Every computer has these technical features.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

## 1. claims: 1-4

means for generating calibration data  
 problem solved: calibration  
 special technical feature: means for generating calibration data

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## 2. claims: 5,7

means for storing athlete's performance  
 problem solved: storing data from first athletic performance monitor  
 special technical feature: means for storing data

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## 3. claim: 6

altitude measuring system  
 Problem solved: detecting the altitude of an athlete  
 special technical feature: altitude measuring system

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## 4. claims: 8,9

means for determining the route  
 problem solved: recognition of already used route  
 special technical feature: means for determining if a route has been used before

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## 5. claims: 10,11

means for assigning a route difficulty rating  
 problem solved: classifying a route  
 special technical feature: means for assigning a route difficulty rating

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## 6. claims: 12,13

means for suggesting a new route  
 problem solved: helping the athlete to decide which route he should take  
 special technical feature: means for suggesting a new route

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## 7. claims: 14-17

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

means for controlling an audio device  
problem solved: controlling an audio device  
special technical feature: means for controlling an audio  
device

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2005/044753

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 1134555	A	19-09-2001	NONE
US 5583776	A	10-12-1996	NONE