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Datasheet for the decision of 21 June 2007

Case Number: T 1145/03 - 3.4.01

Application Number: 00901192.5

Publication Number: 1149308

IPC: G01S 15/89

Language of the proceedings: EN

Title of invention:
3D/4D ultrasound imaging system

Applicant:
Smythe, David

Opponent:
-

Headword:
-

Relevant legal provisions:
EPC Art. 123(2)

Keyword:
"Amendments - added subject-matter (yes)"

Decisions cited:
-

Catchword:
-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 1145/03 - 3.4.01

D E C I S I O N
of the Technical Board of Appeal 3.4.01
of 21 June 2007

Appellant: Smythe, David
191 Wilton Street
Glasgow G20 6DF (GB)

Representative: McKechnie, Neil Henry
Kennedys Patent Agency Limited
185 St Vincent Street
Glasgow G2 5QD (GB)

Decision under appeal: **Decision of the Examining Division of the European Patent Office posted 16 April 2003 refusing European application No. 00901192.5 pursuant to Article 97(1) EPC.**

Composition of the Board:

Chairman: B. Schachenmann
Members: G. Assi
H. Wolfrum

Summary of Facts and Submissions

I. The appellant (applicant) lodged an appeal, received on 25 June 2003, against the decision of the examining division, dispatched on 16 April 2003, refusing European patent application No. 00901192.5 (publication number WO-A-00/43809 and EP-A-1 149 308). The fee for the appeal was paid on 25 June 2003. The statement setting out the grounds of appeal was filed on 26 August 2003.

II. In the contested decision, the examining division held that the application did not meet the requirements of Articles 84, 123(2) and 56 EPC.

III. Oral proceedings before the Board were held on 21 June 2007.

IV. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of a set of claims 1 to 37 submitted at the oral proceedings.

V. The wording of claim 1 reads as follows:

"*A medical diagnostic imaging method using an array of elastic wave sources (1) for ultrasound imaging of a three dimensional object by means of a two-dimensional array of ultrasound receivers arranged on a surface (2), the method comprising the steps of:*

(a) emitting elastic wave pulses from said sources such as to achieve reflection within the volume of the three dimensional object;

(b) recording both the phase and amplitude of the reflected pulses simultaneously as received at each of said receivers to produce a time series record; and

(c) constructing an image of the three dimensional object from the resulting record of the reflected pulses,

wherein a pulse comprises a shot, a shot being a discrete emission of ultrasound from a single ultrasound source, and

wherein a shot is omnidirectional and point-like in character."

Claim 19 refers to a medical diagnostic imaging apparatus for producing an ultrasound image of a three dimensional object. Claim 37 concerns a medical diagnostic ultrasound imaging system which produces three dimensional images. Claims 2-18 and 20-36 are dependent claims.

Reasons for the Decision

1. The appeal is admissible.

2. The method according to the amended claim 1 on file includes the step of "*recording both the phase and amplitude of the reflected pulses simultaneously as received at each of said receivers*", which was not included as such in claim 1 as originally filed. This step may be so understood that both the phase and amplitude of the reflected pulses are stored as soon as each of the receivers detects an analog input signal. The appellant agreed with this possible interpretation.

3. In accordance with established case law of the boards of appeal, an amendment to a patent application, either the description or the claims, is allowable under Article 123(2) EPC if it is directly and unambiguously derivable from the application as filed.

In this respect, the appellant considered that the sentence bridging pages 11 and 12 of the application as filed provided sufficient support for the amendment to claim 1 referred to above. The sentence states that the reflected ultrasonic waves are detected by receivers "*which record pressure information that is sampled and digitised in real time*".

However, in the Board's view, this sentence means that the "*sampled and digitised*" pressure information is stored. This understanding does not only rely on a semantic analysis of the sentence but has also regard to the context of the disclosure as it results from the sentence on page 12, lines 2 and 3, according to which "*Typically, a 16 bit word will be stored for each instantaneous pressure value*". It thus follows from the foregoing that, according to the original application, it is the "*sampled and digitised*" pressure information which is recorded "*simultaneously as received*" at each of the receivers rather than the phase and amplitude of the reflected pulses as claim 1 on file states.

4. The appellant did not cite any further passage of the application as filed in support for the amendment. Neither could the Board find other pertinent information. In particular, the Board has considered the feature of the original claim 1 that the ultrasound receivers "*measure*" both the phase and amplitude of the

ultrasound pulses, both phase and amplitude information being "*retained*" and used in constructing an image of the object. In view of the different terminology used, this feature does not provide sufficient support.

5. In conclusion, contrary to the provision of Article 123(2) EPC, the application has been amended in such a way that it contains subject-matter which extends beyond the content of the application as filed.

Thus, the appellant's request is refused.

Order

For these reasons, it is decided that:

The appeal is dismissed.

The Registrar The Chairman:

R. Schumacher B. Schachenmann