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**Datasheet for the decision
of 25 October 2013**

Case Number: T 0835/13 - 3.4.01

Application Number: 07789868.2

Publication Number: 2044454

IPC: G01R33/3415, G01R33/565

Language of the proceedings: EN

Title of invention:
ARTIFACT SUPPRESSION IN MULTI-COIL MRI

Applicant:
Koninklijke Philips N.V.

Headword:

Relevant legal provisions:
EPC Art. 108
EPC R. 99(2)

Keyword:
Admissibility of appeal - appeal sufficiently substantiated
(no)

Decisions cited:
T 1578/10, T 0003/95, T 0220/83, T 0213/85, T 0934/02

Catchword:



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Case Number: T 0835/13 - 3.4.01

D E C I S I O N
of Technical Board of Appeal 3.4.01
of 25 October 2013

Appellant: Koninklijke Philips N.V.
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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 28 November
2012 refusing European patent application No.
07789868.2 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman: P. Fontenay
Members: T. Zinke
C. Schmidt

Summary of Facts and Submissions

- I. The appeal filed on 25 January 2013 lies from the decision of the Examining Division, posted on 28 November 2012, refusing European patent application No. 07 789 868.2 published with the publication No. 2 044 454 (WO-A-2008/010126). The appeal fee was paid on the same day. The statement setting out the grounds of appeal was filed on 25 March 2013.
- II. In the decision under appeal, referring to previous communication dated 24 September 2012 and, indirectly, to previous communication of 10 May 2012, the Examining Division found that the requirements of Article 84 EPC 1973, Article 83 EPC 1973 and Article 123(2) EPC were not met. With regard to the question of sufficiency of disclosure under Article 83 EPC 1973, the Examining Division pointed in the communication of 10 May 2012 to an unclear mathematical operation by which a reduced combined sensitivity in a predetermined spatial region is achieved, to an unclear meaning and determination of quantities " a ", " $q(x,y)$ " and " $s_i(x,y)$ " used in equation 2 and quantity " m " used in equation 1 of the specification, and to an undisclosed way to lower a combined sensitivity in a predetermined spatial region of arbitrary shape. In addition, the Examining Division also addressed shortly novelty and inventive step, although "*..., in view of the above-identified major deficiencies of the application documents under Articles 83 and 84 EPC, respectively, a continuation of the discussion of novelty and inventive step would appear to make sense only after these deficiencies have been overcome by way of additional arguments and/or amendments.*"

- III. In the statement of grounds of 25 March 2013 the appellant (applicant) requested to set aside the decision under appeal and to grant a patent based on a new set of claims according to a main request. Further, grant of a patent on the basis of a new set of claims according to an auxiliary request was requested. As a further auxiliary request remittal of the case to the first instance was requested. It was further requested to hear an expert in accordance with Rule 117 EPC.
- IV. Independent claim 1 of the main request as filed together with the statement setting out the grounds of appeal reads as follows:

"1. A magnetic resonance imaging system (1), comprising a plurality of receiving units (4.1-4.4) for receiving magnetic resonance signals from an object (2, 14), an image reconstruction device (8), said image reconstruction device being adapted to receive magnetic resonance signals of said object (2, 14) from said plurality of receiving units (4.1-4.4) and to perform image reconstruction of a magnetic resonance image of the object by combining the magnetic resonance signals received by said plurality of receiving units using an image reconstruction algorithm (11), wherein said image reconstruction device (8) comprises means (12a) for combining the magnetic resonance signals from respective receiving units (4.1-4.4) in such a way that a combined sensitivity of the plurality of receiving units (4.1-4.4) in a predetermined spatial region (17) of the object (2, 14) is reduced, wherein said image reconstruction device (8) further comprises means (11) for estimating image data points (p) of the magnetic resonance image by evaluating the expression

$$p = (S^h \Psi'^{-1} S)^{-1} S^h \Psi'^{-1} m,$$

with $\Psi' = \Psi + \Psi_{instability}$, wherein m is a vector with measured magnetic resonance data per receiving unit, S is an array of receiving unit sensitivities, S^h is the hermitian transpose of S , Ψ is a noise covariance matrix, and $\Psi_{instability}$ is an additional term accounting for a motion of said predetermined spatial region (17) of the object (2, 14)."

Independent claim 5 is correspondingly claiming a computer program product and independent claim 9 a corresponding method. Claims 2 to 4 and 6 to 8 depend, respectively, on claims 1 and 5.

Independent claim 1 of the auxiliary request as filed together with the statement setting out the grounds of appeal differs from claim 1 of the main request in that it further recites at the end of claim 1:

"said image reconstruction device (8) further comprises means (13) for determining said additional term ($\Psi_{instability}$) according to the relation:

$$\Psi_{instability,ik} = a \cdot 1/A \cdot \sum_{areas_i(x,y)} s_k(x,y) \|q(x,y)\|^2,$$

wherein $\Psi_{instability,ik}$ are matrix elements of said additional term, A is an area of said predetermined spatial region (17) of the object (2, 14), $q(x,y)$ is an amount of signal measured by a reference coil during a reference scan, $s_i(x,y)$, $s_k(x,y)$ is a sensitivity of receiving unit i,k at image position (x,y) , respectively, and a is a user-defined numerical factor."

Independent claim 4 of the auxiliary request relates to a corresponding computer program product and independent claim 7 to a corresponding method. Claims 2 to 3 and 5 to 6 depend, respectively, on claim 1 and 4.

- V. The appellant provided a basis for the amendments in the claim set for the main request in section 2 of the statement of grounds, discussed clarity aspects in the next section under the headline "*3. Objections under Art. 84 EPC*", provided arguments with regard to novelty and inventive step of the main request in section 4. and dealt with the auxiliary request (under the sub-headlines "*Amendments*", "*Patentability over prior art*", "*Novelty*" and "*Inventive step*") in section 5.

In section 3. the appellant inter alia stated "*The applicant has made a serious attempt to overcome the clarity objections raised by the Examining Division during the examination procedure. However, the number (e.g. 22 clarity objections on claim 1 that has 12 lines only) and manner of clarity objections raised by the Examining Division made further examination intractable. The applicant believes that the amendments to claim 1 make the claim clear. Also, for numerous raised objections under Art. 84 EPC, the applicant cannot follow the Examining Division's opinion. Some of these objections are even obscure. The applicant requests that the Board of Appeal considers the following arguments with regard to Article 84.*

- a. *The claims have to be interpreted in the light of the descriptions and drawings*

The form and content of the claims are defined in Article 84, and supplemented by the rule 43. Article 84 and rule 43 both refer to the matter for which

protection is sought so that the requirement of clarity means that the definition of the matter for which protection is sought has to be clear. According to the first sentence of rule 43(1), "the claims shall define the matter for which protection is sought in terms of the technical features of the invention."

Thus the above concept of the term "clarity" has to be put in more concrete terms, especially with respect to the "technical features" which have to be used to define the invention. In other words, the clarity of a claim in the sense of article 84 relies on how technical features have to be stated in the claim. However, this is a question which does not only relate to the claim but also to the description:"

The appellant further elaborated on the issue of clarity of the claims under Article 84 EPC 1973, requesting that an expert be heard on this issue.

There was no explicit reference to the Examining Division's objections under Article 83 EPC 1973 in the statement of grounds. Neither was Article 83 EPC 1973 cited at all, nor were any of the objections under Article 83 EPC 1973 discussed explicitly.

- VI. The Board summoned the appellant to oral proceedings due to take place on 25 October 2013. In a communication pursuant to Art. 15(1) RPBA, posted on 23 August 2013, the Board informed the appellant that during the oral proceedings the sole question of admissibility of the appeal would be discussed. In particular, the Board questioned that in the statement of grounds the objections with regard to Article 83 EPC 1973 in the decision under appeal were discussed at all

and that the appeal did not appear to be substantiated, in this respect.

VII. With a letter of 24 September 2013 the appellant confirmed that *"the applicant has indeed not explicitly referred to Art. 83"*, however, he also argued that Article 83 EPC 1973 and Article 84 EPC 1973 *"are closely interrelated to each other"* and that the *"comments with regard to Article 83 EPC can be inferred from the comments under the clarity section, because it is the applicant's view that the objections under Article 84 and Article 83 EPC are closely interrelated, in particular in the context of the present case."*

The appellant stated that in the present case the requirements of Article 83 EPC 1973 and Article 84 EPC 1973 would overlap and cited as example cross-references between sections 3 (dealing with Article 83 EPC 1973) and 1.5 (dealing with Article 84 EPC 1973) of the examining division's communication dated 10 May 2012 and referred to a statement of the examining division in the communication dated 24 September 2012 according to which *"It is believed that these calculations will help to clarify many of the pending issues under Article 83 and Article 84, respectively."* The appellant remarked that this would imply that a response to one objection would also cover a response to the other objection and that any discussed clarity issue arising from the description would have their identical counterpart in the claims. *"Thus, solving the objection under Art. 84 will automatically solve any objection under Art. 83."*

Further, the appellant referred to the citation of the passage of T 1578/10 in the statement of grounds with regard to the clarity issue and argued that this

passage was from the section *"sufficiency of disclosure"* and was *"therefore meant in the present case to additionally argue against the Examiner's objection under Article 83 and Article 84 (due to their interrelation)"*.

In addition, the appellant argued that the Board could admit grounds of appeal that only implicitly deal with some part of the objections of the decision under appeal (as in T 03/95), because according to the applicant's opinion *"the discussion of Art. 84 will directly influence any argumentation regarding Art. 83 such that Art. 83 may not have to be explicitly addressed in the grounds of appeal. The Applicant therefore kindly requests the Board of Appeal to interpret the statements made with respect to Art. 84 as statements to be made with respect to Art. 83 EPC."*

With regard to the understanding of the formulas including the quantities *"a"* and *"q(x,y)"* the applicant requested to hear an expert and provided further explanations (including an annex with two pages) how those quantities should be interpreted and measured.

- VIII. During oral proceedings the appellant repeated its argumentation that the section *"3. Objections under Art. 84 EPC"* of the statement of grounds should also be interpreted as covering the argumentation with regard to the objections under Article 83 EPC 1973. In particular, the appellant pointed to two passages in this section that referred to the description *"However, this is a question which does not only relate to the claims but also to the description"* (page 2, lines 28 to 29) and the citation of T 1578/10 (page 3, line 15) referring to *"(claims and description)"*. Further, the applicant emphasized that this section 3 was intended

to state that the examining division was not reading the application with a mind willing to understand the invention and that this was the reason for the objections under Article 84 EPC 1973 and Article 83 EPC 1973.

The appellant further argued that if the Board were to come to the conclusion that the objections under Article 84 EPC 1973 and Article 83 EPC 1973 were not so closely interrelated that they could be dealt with in the single section 3 of the statement of grounds, then the decision under appeal would be wrong because it made cross- references between both types of objections.

Reasons for the Decision

1. Admissibility of the appeal
 - 1.1 According to Article 108, third sentence EPC a statement setting out the grounds of appeal shall be filed within four months of notification of the contested decision. In Rule 99(2) EPC it is specified that in the grounds of appeal the appellant shall indicate the "*reasons*" for setting aside the decision impugned, or the extent to which it is to be amended, and the "*facts*" and "*evidence*" on which the appeal is based.

The jurisprudence of the boards of appeal has established the principles applicable to the statement of grounds (Case Law of the Boards of Appeal, 7th edition 2013, IV.E.2.6.3).

In particular, the grounds of appeal should state the legal or factual reasons why the decision should be set aside (T 220/83, OJ 1986, 249).

In T 213/85 (OJ 1987, 482) it was specified that the grounds of appeal had to be analysed in detail vis-à-vis the main reasons given for the contested decision.

1.2 In the present case, the contested decision refers to the communication of the examining division dated 24 September 2012 and by way of reference to the communication of 10 May 2012 in which the applicant was informed that the application did not meet the requirements of the European Patent Convention. In these communications a plurality of objections was raised, inter alia objections with regard to lack of clarity (Article 84 EPC 1973), lack of sufficient disclosure (Article 83 EPC 1973) and lack of basis for amendments (Article 123(2) EPC).

1.3 In the grounds of appeal the appellant neither explicitly referred to Article 83 EPC 1973 nor did he deal at all with the objections referring to the alleged non-enabling disclosure of the quantities "m", "a", "q(x,y)" and "s_i(x,y)" in equations 1 and 2, respectively, nor with the objections regarding the unclear mathematical operation to achieve a reduced combined sensitivity nor did he discuss spatial regions of arbitrary shape. The objected quantities and formulations are still part of the documents on file and equation 2 including the objected quantities "a", "q(x,y)" and "s_i(x,y)" is even introduced in claim 1 of the auxiliary request. Hence, the claims and description as filed with the statement of grounds still include the quantities and the formulations as

objected to under Article 83 EPC 1973 in the contested decision.

1.4 The argumentation of the applicant that the discussion of the objections under Article 84 EPC 1973 in section 3 of the statement of grounds should or could be interpreted as encompassing facts and evidences why the contested decision was wrong with regard to Article 83 EPC 1973 is not convincing.

1.4.1 First, it should be noted that generally objections under Article 84 EPC 1973 and Article 83 EPC 1973 are not so strongly related as it is argued by the appellant. It might be possible that in particular cases, in which an unclear term is present in the claims and in the description, this unclear term might be objected under Article 84 EPC 1973 and further leads to an objection under Article 83 EPC 1973. This may be the case, for example, for technical parameters that are necessary to define the invention, but for which is not disclosed how exactly they are measured. Under such circumstances, a prerequisite in order to decide whether the condition of sufficiency of disclosure is met or not consists in deciding on the clarity of the claims' definition. This was the approach followed, for example, in point 3 of decision T 1578/10, cited by the appellant. In some other situations, however, the issue of sufficiency does not depend on the question whether the wording of the claim is unclear, or maybe too broad, but on a more fundamental flaw in the application, as in the present case, namely the absence of sufficient information as to one single way of carrying out the claimed invention.

1.4.2 The appellant's argument that also the examining division associated both aspects of clarity and

sufficiency is rejected.

In the aforementioned communications of the examining division dated 24 September 2012 and 10 May 2012 the examining division clearly dealt with the objections under Article 84 EPC 1973 and Article 83 EPC 1973 separately. In both communications those objections are discussed in separate sections (sections 1 and 3, respectively). The cross-reference in section 1.5.2 of the communication of 10 May 2012 only indicates that the quantities "A", "a" and "q(x,y)" have to be defined more precisely in the claims (i.e. in order to overcome the Article 84 EPC 1973 objection), but the Article 83 EPC 1973 objections with regard to those quantities as expressed in section 3 of the communication should be taken into account. The examining division then describes in detail in section 3 the reasons why a person skilled in the art is not enabled by the disclosure with regard to the determination of those quantities. Also the passage from the communication of 24 September 2012 under section 3.3. cited by the appellant that *"It is believed that these calculations will help to clarify many of the pending issues under Articles 83 and 84 EPC, respectively."* does not imply that those objections are then easily solved, but that those *"issues"* might be clarified, i.e. better understood. This does not mean that those objections were considered as being so closely interrelated that a possible amendment overcoming an objection under Article 84 EPC 1973 would equally well overcome an objection under Article 83 EPC 1973.

- 1.5 In the Board's judgment, neither the reference to the description in the citation of T 1578/10, nor the general statement that *"However, this is a question which does not only relate to the claim but also to the*

description", nor the request to hear an expert in section "3. *Objection under Art. 84 EPC*" (cf. page 4, 2nd paragraph of the statement of grounds) constitute a reasoning as to why the contested decision is wrong with regard to Article 83 EPC 1973.

The Board can agree to the general assumption that a person skilled in the art will read a specification with a mind willing to understand the invention and that this applies to the claims as well as to the description. However, in the statement of grounds of the present case the appellant failed to provide any arguments or facts explaining what was wrong in the reasoning of the examining division by explaining e.g. what exactly a person skilled in the art would understand from the specification with regard to the objected quantities "*a*", "*q(x,y)*", "*s_i(x,y)*" and "*m*" or with regard to the mathematical operation of reducing the combined sensitivity in the predetermined spatial region or with regard to taking into account a possible arbitrary shape of this predetermined spatial region. If such arguments had been presented in the statement of grounds, then they could have been considered to address the reason of insufficiency given in the decision, independently of their convincing character.

Hence, the statement of grounds did not take issue with the arguments put forward by the examining division so as to give the Board the possibility to evaluate why these objections under Article 83 EPC 1973 were wrong.

- 1.6 According to the decision T 934/02 (unpublished; Reasons, 2.) "*... an appeal is to be considered sufficiently substantiated to satisfy the requirements of Article 108, third sentence EPC even if it does not*

give the reasons why the decision is contested, provided the two following criteria are met

(i) The subject of the proceedings has changed eg due to the filing of a new set of amended claims together with the statement of grounds and

(ii) The reasons for the decision are no longer relevant in view of the change in the subject of the proceedings ..."

- 1.7 Whereas the first criterion mentioned above is met by filing new sets of amended claims with the grounds of appeal, the second criterion above is not fulfilled at all. The Board is unable to identify in the amendments carried out in the claims a change in the subjects, which would obviously deprive the objections raised under Article 83 EPC 1973 of its substance. It is noted in this respect that due to the introduction of equations 1 and 2 into the independent claims of the main and auxiliary request, respectively, the importance of the parameters " a ", " $q(x,y)$ " and " $s_i(x,y)$ " even increased. However, no further clarification to their determination is made. For these reasons the statement of grounds also is deficient in the sense of decision T 934/02 cited above.
- 1.8 Moreover, the Board studied the contested decision and could not come to the conclusion that it would be immediately apparent that the contested decision cannot be supported.
- 1.9 In conclusion, the statement of grounds of appeal does not set out at all why at least some of the reasons for the decision refusing the application no longer apply or are not well-founded.

2. In the absence of an admissible appeal, the Board is not in a position to deal with the substance of the main request or the merits of any of the auxiliary requests.

Order

For these reasons it is decided that:

The appeal is rejected as inadmissible.

The Registrar:

The Chairman:



R. Schumacher

P. Fontenay

Decision electronically authenticated