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**Datasheet for the decision
of 15 May 2014**

Case Number: T 1207/09 - 3.4.01

Application Number: 04030277.0

Publication Number: 1650579

IPC: G01S7/03, G01S7/35, G01S13/42,
G01S13/34, H01Q3/24, H01Q3/26,
H04B7/06, H04B7/08

Language of the proceedings: EN

Title of invention:
Switchable antenna array for estimating the direction of
arrival of a received signal

Applicant:
FUJITSU LIMITED

Headword:

Relevant legal provisions:
EPC 1973 Art. 54(1), 56, 113, 10(2), 18(2)
EPC Art. 52(1), 54(3)

Keyword:
Novelty - (yes)
Inventive step - after amendment
Right to be heard - substantial procedural violation (no)
Change in composition of examining division before oral
proceedings - substantial procedural violation (no)

Decisions cited:
T 0918/98, T 0763/04, T 0390/86, T 0160/09

Catchword:



**Beschwerdekammern
Boards of Appeal
Chambres de recours**

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Case Number: T 1207/09 - 3.4.01

D E C I S I O N
of Technical Board of Appeal 3.4.01
of 15 May 2014

Appellant: FUJITSU LIMITED
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Representative: HOFFMANN EITLE
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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 3 February 2009
refusing European patent application No.
04030277.0 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman H. Wolfrum
Members: F. Neumann
J. Geschwind

Summary of Facts and Submissions

- I. The appeal lies from the decision of the examining division to refuse the European patent application number 04 030 227.0 for lack of novelty of claim 1 of both requests on file at that time.
- II. At the request of the appellant, oral proceedings were held before the Board on 15 May 2014. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the documents submitted at the oral proceedings of 15 May 2014. Moreover, it was requested that the appeal fee be reimbursed on the grounds that the examining division allegedly performed two substantial procedural violations.
- III. During the appeal proceedings, the following citations were taken into account:
- D1: EP-A-1 486 796;
D2: EP-A-0 898 174;
D7: EP-A-0 987 561.
- IV. Claim 1 reads as follows:

"A radar apparatus for estimating direction of arrival of a signal reflected from a target, the radar apparatus comprising:

a linear array antenna having a first antenna element (A0) and a second antenna element (AN_A-1) located at respective outermost ends of the array antenna and one or more third antenna elements (A1, ... AN_A-2) located inward thereof;

switch means (16,20; 20,44,46) configured for selecting either the first antenna element (A0) or the

second antenna element (AN_A-1) for transmission by connecting it to a transmitter and for selecting each of the remaining antenna elements individually for reception of the reflected signal by connecting them to a receiver;

switch control means

configured for causing the switch means to select only the first antenna element (A_0) for continuous transmission in the whole duration of a first period, while sequentially selecting, in time division fashion over the first period, the second antenna element (AN_A-1) and the third antenna elements ($A_1, \dots AN_A-2$) for reception, by starting from the third antenna element (A_1) which is adjacent to the first antenna element (A_0) and ending at the second antenna element (AN_A-1), and

configured for causing the switch means to select only the second antenna element (AN_A-1) for continuous transmission in the whole duration of a second period, while sequentially selecting, in time division fashion over the second period, the first antenna element (A_0) and the third antenna elements ($A_1, \dots AN_A-2$) for reception, by starting from the first antenna element (A_0) and ending at the third antenna element (AN_A-2) which is adjacent to the second antenna element (AN_A-1),

wherein the first and second periods are two periods alternating one after the other in cyclic fashion; and

direction-of-arrival estimating means (26)

configured for estimating the direction of arrival of the reflected signal from the received signals obtained at the antenna elements selected for reception."

Claims 2 and 3 are dependent claims.

- V. The arguments of the appellant, insofar as they are pertinent to the present decision, are set out below in the reasons for the decision.

Reasons for the Decision

1. Admissibility of the final request
 - 1.1 Amended claims 1-3, forming the basis of the appellant's final request, were filed during the oral proceedings before the Board.
 - 1.2 Since these claims overcome various clarity objections raised for the first time during the oral proceedings, the request was admitted into the proceedings.
2. Novelty - Article 54(1) EPC 1973, Articles 52(1), 54(3) EPC
 - 2.1 Document D1 represents prior art under Article 54(3) EPC.

D1 (Figures 1 to 4 and the corresponding description) discloses a radar device comprising an array antenna in which the individual antenna elements can be used for either transmission or reception. At least one of the antenna elements is selected for transmission and a reflected wave resulting from the transmitted signal is received at each of the antenna elements. Various switching patterns are disclosed in D1, all of which have in common that all of the antenna elements are switched for reception. By varying the combination of

antenna elements selected for transmission, the effective number of reception channels can be modified.

- 2.2 The switching pattern defined in claim 1 has not been disclosed in D1. In particular, claim 1 defines that the switch control means is configured for causing the switch means to select only the first antenna element (which is located at an outermost end of the array) for continuous transmission in the whole duration of a first period while sequentially selecting the remaining antenna elements for reception, whereby the receiving antenna elements are selected in order starting from the antenna element nearest the transmitting antenna element and ending at the antenna element furthest therefrom. In a second period, only the second antenna element (which is located at the opposite outermost end of the array) is switched for continuous transmission in the whole duration of the second period whilst the remaining antenna elements are sequentially selected for reception, starting at the antenna element furthest from the transmitting antenna element and ending at the antenna element nearest thereto.

The subject matter of claim 1 is therefore new with respect to the disclosure of D1.

3. Inventive step - Article 52(1) EPC, Article 56 EPC 1973

- 3.1 Document D2 represents the closest prior art.

D2 discloses an antenna of a radar apparatus which is used to determine the direction of arrival of a signal. The radar apparatus comprises a linear array of antenna elements which are each switched cyclically to a single transmitter/receiver front end. In one embodiment (see paragraphs [0092] to [0094]), one of the antenna

elements is used for both transmission and reception whilst the remaining antenna elements are used exclusively for reception. The first antenna element emits a transmission signal and is then switched to receive the reflected signal. The first antenna element is then switched to transmit again and the second antenna element receives the reflected signal; transmission is performed again by the first antenna and reception by the third antenna and so on. D2 also states that "*two or more antenna can be adopted for transmission and reception if desired*" (column 24, lines 17-21). No indication is given however, as to which two antennas in the array these may be nor how the switching would be performed in this case.

3.2 The subject-matter of claim 1 is distinguished from the disclosure of D2 in that

(i) the "*second antenna element*" (which is used for both transmission and reception) is located at the opposite outermost end of the array to the first antenna element and

(ii) the switch control means is configured to select only the first antenna element for continuous transmission in a first period during which the remaining antenna elements are sequentially selected for reception in the defined order, to select only the second antenna element for continuous transmission in a second period during which the remaining antenna elements are sequentially selected for reception in the defined order and to cyclically repeat this switching pattern.

3.3 The technical effect of these distinguishing features is that the effective aperture of the array is increased (see page 7, lines 7-14 of the originally-filed application). The resolution of the radar

apparatus is thereby increased without increasing the physical size of the antenna array.

3.4 None of the available prior art discloses or suggests the switching pattern defined in claim 1 of the application. Document D7 comes closest thereto and teaches that whilst one antenna continuously transmits throughout a first period, the antenna elements used for reception are sequentially selected. However, the arrangement of D7 (claim 1; Figures 1-5) is such that one group of antenna elements is used solely for transmission and another group of antenna elements is used solely for reception. The use of the outermost antenna elements in the array for transmission and reception is not disclosed. It therefore cannot be said that the subject-matter of claim 1 is obvious to the skilled person. Consequently the invention defined in claim 1 must be considered as comprising an inventive step.

4. As a result of these findings, and in view of the fact that the Board has no further objections with regard to the documents filed at the oral proceedings, the appellant's request to grant a patent on the basis of these documents is allowable.

5. Procedural issues

5.1 Right to be heard - Article 113 EPC 1973

5.1.1 The representative alleged that the appellant's right to be heard had been infringed during the oral proceedings before the examining division.

The representative explained that, during the oral proceedings, he explicitly expressed the intention to

amend claim 1 of both requests *"to solve the clarity issue - to better reflect the embodiment of Figs. 1 and 2 - so as to then overcome the lack of novelty"*. In view of the fact that the examining division indicated that clarity was not an issue *"for the time being"*, the representative understood that clarity would be discussed in the event that the examining division came to a negative conclusion with regard to the novelty or inventive step of the independent claim of both requests. The fact that the examining division, after announcing their finding that the subject-matter of claim 1 of neither request was novel, immediately proceeded to announce the decision and did not give the representative a chance to file amendments in a reaction to this finding, meant that the appellant's right to be heard had been infringed. With reference to T 918/98 (reasons 2) and T 763/04 (reasons 4.3), the representative argued that the right to be heard must be genuine and realistic; not only must an opportunity to present comments be given, but the deciding instance must demonstrably hear and consider these comments. This did not occur in the present case since the representative's desire to clarify claim 1 was effectively ignored.

- 5.1.2 According to the minutes of the oral proceedings, during the discussion of novelty and inventive step of claim 1 of the main request, the representative *"expressed his intention of amending claim 1 and restricting the scope of the claims exclusively to figure 1 of the application if necessary to overcome problems with clarity"*. In response, the examining division indicated that clarity was not an issue at that point in time because the intended meaning of claim 1 was clear. The wording of claim 1 did not prevent the assessment of novelty and inventive step of

the subject-matter defined in the claims on file. After the representative had made all of his submissions with regard to novelty and inventive step of the claims of the main and auxiliary requests, the chairman stated that "*a break would now be made to come to a conclusion about novelty of claim 1 of the main and the auxiliary request*". Before the break, the chairman "*asked the representative if he had any further requests*". He had none.

- 5.1.3 The representative contested this sequence of events, as evidenced by his request of 6 March 2009 to correct the minutes of the oral proceedings. He submitted that he had no recollection of having been asked whether he had any further requests and consequently had no recollection of making a categorical statement that he had none.

The representative submitted that the likelihood of the sequence of events occurring as recorded in the minutes of the oral proceedings should be assessed on the balance of probability. In view of the fact that he had repeatedly indicated his intention to amend the claims (see points 6 and 10 of the minutes), it was simply not conceivable that he would make a statement at any later point in the proceedings to the effect that he had no further requests.

- 5.1.4 The fact that the chairman announced that the oral proceedings would be interrupted "*to come to a conclusion about novelty of claim 1 of the main and auxiliary request*" is not contested. It was therefore clear to all persons concerned that the examining division would deliberate on and come to a conclusion on the novelty of the only requests on file. At this point in the proceedings, a professional representative

should have been aware that, should the examining division conclude that claim 1 of the main request and claim 1 of the auxiliary request were found to lack novelty or inventive step, in the absence of any further requests on file, the examining division would be in a position to take a decision and that this decision would terminate the proceedings. Before the announced break the representative should therefore at least have made clear to the examining division that, in the case of a negative finding on novelty, he would like to file a further request with the intention of overcoming the novelty objection. The Board is of the opinion that it is irrelevant whether or not the examining division asked the representative before adjourning for deliberation whether any further requests were to be made (this point in the minutes of the oral proceedings is contested by the representative). In the Board's view, it should have been clear to the representative that a possible outcome of the deliberation would be a finding of lack of novelty of the independent claims of the only two requests on file and that, in order to avoid a decision being announced immediately, at least one further request should have been filed before the examining division deliberated on the main and auxiliary request.

- 5.1.5 The representative considered that it was clear to the division, as reflected in the wording of point 6 of the minutes, that he intended to amend claim 1 by restricting the scope thereof. The fact that the division did not give him a chance to do so, despite his clear statement of intent earlier in the oral proceedings, meant that his right to be heard had been infringed.

5.1.6 In this regard, the only statement recorded in the minutes which concerns the representative's intention to amend claim 1 makes it clear that the intended amendments would be aimed at "*overcom[ing] problems of clarity*" (see point 6 of the minutes). As rightly indicated by the examining division, the clarity of the claims was not an issue at that point: instead, the debate was concentrated on the novelty of the claimed subject-matter in the wording presented to the examining division as main and auxiliary requests. Any amendments aimed at improving the clarity would be irrelevant to the discussion at that point. If the wording of the independent claim of each request was clear enough to allow a comparison with the prior art and a conclusion to be reached with regard to novelty, then the clarity of the claims can be considered subordinate to the novelty issue.

If it was actually intended to limit the claimed subject-matter in order to distance the claims from the prior art such that novelty could be established, then a corresponding request should have been filed - or at least a statement made clarifying this intention - before the examining division deliberated on this issue for the main and auxiliary requests. Under the prevailing circumstances, the Board can recognise no fault in the conduct of the examining division: after having discussed the issues of novelty and inventive step with the representative, they deliberated on the claims of the only two requests on file, concluded that the independent claim of each request lacked novelty and, since no other requests had been submitted or were forthcoming, announced the decision which terminated the proceedings. The Board notes in this regard that it is not important which version of the events in the oral proceedings is actually correct: no indication was

made by the representative before the examining division adjourned for deliberation that amendments which were aimed at overcoming the novelty objection would be forthcoming. Whether the appellant made a direct statement indicating he had no further requests, or his silence in this respect implied that no further requests would be made, is irrelevant.

- 5.1.7 Under point 3.5 of the contested decision the examining division considered the question "*Could the subject-matter of a clarified claim 1 be inventive over D2?*". The representative argued that these observations, which were made *obiter dictum*, illustrate that the examining division was indeed aware of the fact that the representative intended to make amendments to restrict the claim to a specific embodiment in order to establish novelty.

The Board disagrees. As outlined in the Guidelines for Examination (version September 2013), E-X, 7.4.2, in the interest of procedural efficiency, any objections mentioned in an *obiter dictum* should be taken into account when deciding whether to grant interlocutory revision. It is therefore not uncommon that examining divisions include such analyses *obiter dictum* in the decision in an attempt to anticipate possible amendments and to inform the appellant of any objections which would arise if such amendments were to be made. Point 3.5 of the contested decision simply indicates that, if amendments were to be filed which restrict the claimed subject-matter to the Figure 2 embodiment, then such subject-matter would not be inventive. The inclusion of such remarks *obiter dictum* represents an attempt to avoid having to grant interlocutory revision. In the opinion of the Board, the comments of the examining division under point 3.5

of the contested decision cannot be taken as an indication that they were aware that the representative intended to make amendments restricting the claimed subject-matter in this manner.

5.1.8 As a result, the Board considers that the appellant's right to be heard was not infringed.

5.2 Composition of the examining division

5.2.1 The representative submitted that the oral proceedings did not take place before the legally appointed examining division because the second member of the examining division present at the oral proceedings was not the same as the second member who signed the summons to those oral proceedings. The change in composition of the examining division constituted a substantial procedural violation justifying reimbursement of the appeal fee.

5.2.2 The representative submitted that, in accordance with Article 18 EPC, "*The Examining Divisions shall be responsible for the examination of any European patent applications*" and that "*An Examining Division shall consist of three technically qualified examiners*". In line with the reasoning of decision T 390/86 (OJ EPO 1989, 30; reasons 7), it was clear that the examination of any particular application was in all cases to be conducted and decided by three technical examiners who were appointed on a personal basis in respect of that particular application and that the power to examine and decide a case must be **personally** exercised at all times by the appointed examiners.

The second member of the examining division at the oral proceedings was not the same second member who had

signed the summons to the oral proceedings. The representative considered that this represented a "self-appointment" of the examining division since there was "no indication that the President of the EPO under Article 10(2)(g) EPC, or any of his Vice Presidents by delegation under Article 10(2)(i) EPC, has ever approved the changes in appointment of the employees composing the Examining Division assigned to the application". Indeed, it was not possible to establish from the file whether the change in composition had in fact been approved by anyone. With reference to T 390/86 (OJ EPO 1989, 30; reasons 7), the representative submitted that this practice manifested a disregard for the importance of the personal appointment of an examiner and put the integrity of the change of composition of the examining division into question. In particular, accepting the self-appointment of members of the examining division "would open the door to Examining Divisions with members having the same affinities and opinions on particular points of law with no consideration for the benefits for the applicants to defend their case before an Examining Division as fairly diverse as possible."

- 5.2.3 Moreover, the failure to record the reasons for the change of the examining division in the minutes of the oral proceedings constituted a further substantial procedural violation. Although it was clear from section E-III, 10.2 of the Guidelines (version December 2007) that the minutes must contain the essentials of the oral proceedings and the relevant statements made by the parties, the minutes did not mention the discussion which took place concerning the change of second member. A request to correct the minutes to include this point was refused.

With reference to Article 125 EPC, the representative submitted that the right to transparency was a fundamental procedural principle in the contracting states to the EPC and that therefore the appellant should have been informed of the change of division and the reasons for the change. The reason that was given during the oral proceedings was that the second member who signed the summons was "*not available today because he was not in the office*". This statement, in the representative's view, did not amount to a transparent explanation, thus leading to a suspicion that the replacement of the original second member was illegitimate.

5.2.4 The Board notes that the question of the replacement of a second member shortly before the oral proceedings has been discussed extensively in decision T 0160/09. The present Board agrees entirely with both the reasoning and the conclusions set out in that decision with regard to the composition and constitution of the examining division (see paragraphs 9 to 13 of the reasons).

5.2.5 In particular, the Board notes that T 390/86 concerns the situation in which the written decision had not been signed by those members of the opposition division who had delivered the decision during oral proceedings. In the reasons (points 7 and 8) it is explained that the decision must be delivered by the examiners who are "*appointed on a personal basis*" to a particular opposition division in order to decide the case. Where the signatures on the written decision do not correspond to the examiners who had decided the case in oral proceedings, it is questionable whether the written decision reflects the views of the examiners who took the decision in the oral proceedings. T 390/86

does not however suggest that the original composition of the opposition division may not be changed during the proceedings up until the oral proceedings: it only discusses a change in composition between the announcement of the decision in the oral proceedings and the signing of the written decision.

In the present case, the written decision was signed by those examiners who had taken part in the oral proceedings and so T 390/86 is not applicable.

5.2.6 The Board appreciates that in the absence of any documentation relating to the change in composition of the examining division, it is impossible to verify whether the replacement of the second member had been officially approved by the relevant superior. The Board recognises that this lack of documentation may legitimately lead to a suspicion of "self-appointment". However, the Board is not aware of any legal provision which would require such documentation to be made publically available. Moreover, the Board considers that the reference in Article 10(2)(g) EPC to the fact that the President of the EPO "*shall appoint the employees*" does not refer to the allocation of specific examiners to specific examining or opposition divisions but rather to the appointment of persons as employees of the EPO.

5.2.7 Rule 11(1) EPC states that "*Technically qualified examiners acting as members of Search, Examining or Opposition Divisions shall be assigned to directorates. The President of the European Patent Office shall allocate duties to these Directorates by reference to the international classification.*" From this it is clear that examiners are grouped together administratively to form directorates. In the Board's

view this implies that decisions concerning administrative matters such as the allocation of examining divisions are delegated by the President to the directorates. The manner in which examining divisions are initially constituted and the procedure to follow should the composition of the examining division have to be changed for any reason does not appear to be regulated in any manner and is consequently a matter for the internal administration of the individual directorates. Article 18(2) EPC sets out only that an examining division shall consist of three technically qualified examiners and does not require that the initial composition shall be maintained throughout the proceedings.

- 5.2.8 Having regard to the representative's objection as to the lack of explanation concerning the reasons for the second member's replacement, the Board considers that the appellant has no right to be informed of any personal circumstances which may have caused the second member to be absent on the day of the oral proceedings. He may have been unavailable for any number of personal reasons (e.g. a death in the family, illness, a traffic accident on the way to work), the divulgence of which would amount to a violation of his privacy. Indeed, even the other members of the division may not have been aware of the reasons for his absence. The representative's insistence that he should have been informed of the precise reasons for the second member's absence amounts to nothing more than personal curiosity and has nothing to do with transparency of proceedings. In the present case, the Board considers that it is sufficient that the appellant was informed that the composition of the division had changed.

As confirmed by the representative during the oral proceedings before the Board, no objection was raised to the changed composition of the examining division. The competence of the members of the examining division was not questioned and no doubts were raised that the replacement member may have been insufficiently prepared. Indeed, the appellant's case was presented without complaint to the examining division in its new composition. Moreover, no evidence has been submitted to suggest that the examining division was not "*as fairly diverse as possible*". The Board can therefore safely assume that the composition *per se* was not objectionable.

5.2.9 Moreover, the Board can find no fault in the fact that the minutes of the oral proceedings did not record the representative's enquiry as to why the second member had changed and the chairman's response that he was not in the office. In view of the fact that no objection was raised either against the new second member or against the new composition of the examining division, the Board considers that this exchange cannot be regarded as constituting "*essentials*" of the oral proceedings and as such does not have to be recorded in the minutes (see Guidelines for Examination (version December 2007) E-III, 10.2).

5.2.10 As a result, the Board can recognise no procedural violation in this respect.

Order

For these reasons it is decided that:

The decision under appeal is set aside.

The case is remitted to the examining division with the order to grant a patent on the basis of the following documents:

Claims:

Nos.: 1-3 filed at the oral proceedings of
15 May 2014;

Description:

Pages: 1-12 filed at the oral proceedings of
15 May 2014;

Drawings:

Sheets: 1/7 - 7/7 filed at the oral proceedings of
15 May 2014.

The request for reimbursement of the appeal fee is rejected.

The Registrar:

The Chairman:



R. Schumacher

H. Wolfrum

Decision electronically authenticated