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**Datasheet for the decision
of 27 March 2008**

Case Number: T 1317/07 - 3.5.03

Application Number: 96922454.2

Publication Number: 0830753

IPC: H04B 7/185

Language of the proceedings: EN

Title of invention:

High efficiency sub-orbital high altitude telecommunications system

Applicant:

INTERNATIONAL MULTI-MEDIA CORPORATION

Opponent:

-

Headword:

Telecommunications system/INTERNATIONAL MULTI-MEDIA CORPORATION

Relevant legal provisions:

EPC Art. 56, 111(1), 114(1), 123(2)
RPBA Art. 13(1)

Relevant legal provisions (EPC 1973):

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Keyword:

"Inventive step - main request (no)"
"Added subject-matter - auxiliary request (yes)"
"Request for remittal (refused)"

Decisions cited:

G 0010/93

Catchword:

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Case Number: T 1317/07 - 3.5.03

D E C I S I O N
of the Technical Board of Appeal 3.5.03
of 27 March 2008

Appellant: INTERNATIONAL MULTI-MEDIA CORPORATION
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Representative: Thomson, Roger Bruce
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Decision under appeal: Decision of the examining division of the
European Patent Office posted 22 February 2007
refusing European application No. 96922454.2
pursuant to Article 97(1) EPC 1973.

Composition of the Board:

Chairman: A. S. Clelland
Members: F. van der Voort
M.-B. Tardo-Dino

Summary of Facts and Submissions

- I. This appeal is against the decision of the examining division refusing European patent application No. 96922454.2 (publication number EP 0830753), which was originally filed as international application PCT/US96/10230 (publication number WO 96/41429 A), claiming a priority date of 7 June 1995.
- II. The following documents were referred to in the decision and are relevant to the present decision:

D1: WO95/04407 A;

D6: WO95/12237 A; and

D8: "From Wires to Waves", G. Gilder, pages 125 to 141, Forbes ASAP, June 5, 1995.

The reason given for the refusal was that the subject-matter of the claims lacked an inventive step, Article 56 EPC. In particular, the subject-matter of claim 1 was held to lack an inventive step having regard to the disclosures of D1 and D6 and taking into account the general knowledge of a person skilled in the art.

- III. With the statement of grounds of appeal the appellant requested that the decision under appeal be set aside and that a patent be granted with the claims as on record. Oral proceedings were conditionally requested.

The appellant submitted that it had no objection to regarding D1 as representing the closest prior art, as the examining division did, and agreed with the

assessment of the disclosure of D1 as given by the examining division. However, the appellant noted that one of the distinguishing features of claim 1 was dismissed by the examining division as being arbitrary without any evidence for this. In the appellant's view, the feature in question, i.e. that the wireless telecommunications channel had a frequency bandwidth that was greater than about eight MHz across the entire bandwidth, was one of the new and inventive features of the invention.

IV. The appellant was summoned by the board to oral proceedings. In a communication accompanying the summons, the board drew attention to issues to be discussed at the oral proceedings and raised, without prejudice to its final decision, an objection under Articles 52(1) and 56 EPC (lack of inventive step) in respect of claim 1 having regard to the disclosures of D1 and, *inter alia*, D8. The board also introduced, as evidence of common general knowledge, the following document which was cited in accordance with Article 114(1) EPC:

D10: Robert C. Dixon, "Spread Spectrum Systems - with commercial applications", Chapter 11, "Tradeoffs in commercial applications of spread spectrum systems", pages 387 to 389, John Wiley & Sons, 3rd ed., 1994.

The appellant was informed that, in view of the age of the application, the board intended to exercise any power within the competence of the department which was responsible for the decision appealed rather than remit the case to that department for further prosecution (Article 111(1) EPC).

V. In preparation for the oral proceedings, the appellant filed an amended set of claims and requested that the decision under appeal be set aside and that the application be put forward to grant on the basis of these claims "or any modified version thereof the appellant may be allowed to put forward in the course of the oral proceedings in response to matters still to be raised".

VI. Oral proceedings were held on 27 March 2008, at the beginning of which the appellant filed an amended set of claims by way of a main request.

In the course of the oral proceedings the appellant proposed an amendment to claim 1, which consisted in the insertion of "solely" between "modulated" and "by" in the last feature of the preamble of the claim, and a corresponding amendment to independent claim 18. Although this proposal was not made the subject of a request in writing, the board will consider it as constituting an auxiliary request in the reasons for the decision below.

Further, the appellant raised, for the first time, the issue of procedural violations. He alleged that there was a discrepancy between the issues which had been discussed with the examining division at the oral proceedings before it and the reasons as given in the decision under appeal. A procedural violation was also committed by the board in that, in its communication, the board had not limited itself to examining the reasons for the refusal, i.e. that the subject-matter lacked an inventive step having regard to the

disclosures of D1 and D6, as it should have done, given the fact that an appeal was a judicial review, but had presented, of its own motion, an inventive step objection based on D1 and other prior art documents, e.g. D8, whereas D6 was referred to in passing only.

The board thereupon invited the appellant to file a request in writing relating to these issues, which the appellant did by the filing of a third request.

The appellant thus requested that the decision under appeal be set aside and that a patent be granted on the basis of claims 1 to 34 as filed at the oral proceedings (main request) or, alternatively, on the basis of the auxiliary request, or that the case be remitted "to the examining division for further examination" (third request).

At the end of the oral proceedings, after deliberation, the board's decision was announced.

VII. Claim 1 of the main request reads as follows:

"A wireless telecommunications network system comprising
a plurality of telecommunications nodes (28),
said nodes being located in a sub-orbital plane at
19 to 56 km (12 to 35 miles) above the earth,
means for maintaining each of said nodes stationary
over its own point on the earth,
each of said nodes comprising means for sending
and receiving broadband, digital radio
telecommunications signals over a wireless
telecommunications channel between said node in said

sub-orbital plane and a ground communication device (18, 120, 140) in a cell of the wireless telecommunications system,

said radio telecommunications signals being modulated by broadband code division multiple access spread spectrum technology,

characterised in that

said wireless telecommunications channel has a frequency bandwidth that is greater than eight MHz across the entire band,

said means for sending and receiving said radio telecommunications signals further includes a plurality of antennae (48) that are operative to receive said telecommunications signals from said ground communication device (18, 120, 140),

said system includes means (44) for decoding the telecommunications signals received by each of said antennae (48) so that said node can identify said ground communication device and its location in the cell, and

said antennae and said decoding means are operative to increase the sensitivity of said node for identifying said ground communication device so that said node can detect and receive said telecommunications signals."

Reasons for the Decision

1. *Procedural matters*

- 1.1 The request that the case be remitted to the examining division for further examination (third request) was made in connection with alleged procedural violations.

1.2 With respect to the first alleged procedural violation, the appellant did not present any evidence in support of the alleged discrepancy between the decision under appeal and the examining proceedings which resulted in this decision. The board sees no facts, either in the minutes of the oral proceedings before the examining division or in any of the communications issued by the examining division, which could support the alleged discrepancy and thereby the alleged procedural violation.

1.3 As to the objection against the content of the communication from the board, the board refers to decision G 10/93 of the Enlarged Board of Appeal (see OJ EPO 1995, 172), in which it is made clear that, in *ex parte* proceedings, the boards of appeal are restricted neither to the examination of the grounds for the contested decision nor to the facts and evidence on which the decision is based, since the instances responsible must ensure that the conditions for patentability are met (reasons for the decision, point 3). Although proceedings before the boards of appeal in *ex parte* cases are primarily concerned with examining the contested decision, if there is reason to believe that a condition for patentability may not have been satisfied, the board either incorporates it into the appeal proceedings or ensures by way of referral to the examining division that it is included when examination is resumed (reasons for the decision, point 4).

In the present case, no genuinely new ground of objection was raised; the inventive step objection raised by the board in its communication was primarily based on D1, which the appellant acknowledges is the

most relevant prior art document, and D8, which, although not prominent in the examining division's decision, is discussed under "Further comments" and was discussed in the oral proceedings before the examining division, see point III.2 of the examining division's decision and points 7 to 9 of the minutes of the oral proceedings before the examining division. It was accordingly discussed by the board in accordance with the above-mentioned decision of the Enlarged Board of Appeal and Article 114(1) EPC. Further, in the course of the oral proceedings the appellant was given the opportunity to discuss the provisional opinion of the board and acknowledged that his right to be heard was respected (Article 113(1) EPC). The board sees therefore no procedural flaws in its examination of the appeal.

- 1.4 According to G 10/93, *supra*, reasons of the decision, point 5, the board must decide after due assessment of the particular circumstances whether it will rule on the case itself or whether it will remit the matter for further prosecution to the examining division (Article 111(1) EPC). The relevant circumstances of the case must be taken into account and consideration must be given in particular as to whether further investigations should be carried out, whether a procedural violation has taken place which would preclude a decision on the merits, whether there has been any significant change in the facts with respect to the contested decision, what stance the applicant is taking with regard to the "loss of instance", whether a decision by the board would speed up the proceedings significantly and whether there are any other grounds for or against remittal. The weight accorded to individual factors depends on the circumstances of the particular case.

The board's communication already informed the appellant that in view of the age of the application the board intended to exercise any power within the competence of the department which was responsible for the decision appealed, rather than remit the case to that department for further prosecution.

1.5 In view of the above and the fact that the board was indeed in a position to give a decision at the oral proceedings, the board saw no reason to remit the case for further prosecution, Article 111(1) EPC.

1.6 The request that the case be remitted to the examining division for further examination was therefore refused.

2. *Inventive step (main request)*

2.1 Both the appellant and the examining division considered that D1 represented the closest prior art and that D1 disclosed all the features of the preamble of claim 1 (see D1, the abstract, page 7, lines 1 and 2, page 17, lines 11 to 16, and Fig. 1). The board sees no reason to question this.

2.2 In the board's view, however, D1 further discloses the following features of the characterising portion of claim 1:

- that the wireless telecommunications channel has a frequency bandwidth across the entire band (by definition);

- that the means 44, 48 (D1, Fig. 2) for sending and receiving the radio telecommunications signals includes

an antenna, i.e. ground link antenna 48, which is operative to receive the telecommunications signals from the ground communication device, e.g. a cellular telephone carried by an individual 22 (see D1, page 9, lines 4 to 19, page 13, lines 2 to 6, and Figs 1 and 2); and

- that the antenna is operative to increase the sensitivity of the node, i.e. relay station 28, so that the node can detect and receive the telecommunications signals (see Fig. 2).

2.3 The subject-matter of claim 1 thus differs from the system disclosed in D1 in that:

- i) the bandwidth of the telecommunications channel is greater than eight MHz;
- ii) the means for sending and receiving the radio telecommunications signals includes a plurality of antennas; and in that
- iii) the system includes means for decoding the received telecommunications signals so that the node is capable of identifying the ground communication device and its location in the cell.

2.4 Re. feature i): D1 merely states that code division multiple access (CDMA) technology may be used, see page 17, lines 8 to 16, without specifying the bandwidth. However, CDMA using a channel bandwidth which falls within the claimed range was well-known at the time (see, e.g., D10, page 387, last paragraph, and Fig. 11.9 (9 MHz bandwidth)). D10, in the board's view, represents the common general

knowledge in the art at the claimed priority date, so that the skilled person implementing CDMA in the system of D1 would as a matter of course have used a bandwidth which falls within the claimed range. Accordingly, feature i) does not contribute to an inventive step.

- 2.5 Re. features ii) and iii): In the board's view, it was well-known at the claimed priority date that in CDMA, by definition, each user is assigned a unique pseudo-random code sequence in order to be able to uniquely identify the user's transmissions and thereby distinguish the user from all other users at the network node (i.e., in D1, at the relay station 28).

Further, D1 gives only limited information as to the means for sending and receiving the radio telecommunications signals, i.e. as to the telecommunication signal transmitter and receiver 44 (see page 13, lines 2 to 4, and Fig. 2), so that a person skilled in the art, when faced with the problem of implementing the system of D1 using CDMA technology, would look for further documents relating to wireless CDMA telecommunication equipment for use in the system of D1, for example, document D8.

- 2.6 D8 does not bear a publication date. However, in the present application as filed (see page 8, lines 2 and 3), D8 is explicitly referred to with a date prior to the claimed priority date. At the oral proceedings the appellant did not contest that D8 was part of the state of the art before the claimed priority date.

- 2.7 D8 relates to wireless telecommunication equipment and particularly describes a base station, i.e. a node, of a CDMA cellular network, which is provided with a plurality

of antennas, i.e. arrays of smart antennas, and a broadband digital radio so that the base station can identify the users, i.e. the wireless handsets, as well as their locations in the cell, thereby improving system performance (see D8, page 138, left-hand column, lines 3 to 12 and 24 to 40, and right-hand column, lines 31 to 43).

- 2.8 Starting out from D1 and faced with the problem of implementing the system of D1, it would therefore have been obvious for the person skilled in the art at the priority date to include in the system of D1 the telecommunication equipment as described in D8 for the purposes of sending and receiving broadband digital radio telecommunications signals over the wireless telecommunications channel between the node and a ground communication device, e.g. a wireless handset, and for decoding the telecommunication signals so that the node can locate the ground communication device in the cell.
- 2.9 By applying the above teaching of D8 to the system of D1 and taking into account the common general knowledge in the field of telecommunications as exemplified by D10, the skilled person would thereby have arrived at a wireless telecommunications network system which includes all the features of claim 1.
- 2.10 At the oral proceedings the appellant argued that D10 did not represent common general knowledge. Further, he argued that the objective technical problem to be solved starting out from D1 was that of implementing the telecommunication means in a suborbital telecommunication system. This followed from the fact that claim 1 defined that the nodes are located in a sub-orbital plane at 19 to 56 km above earth. Since D8

did not relate to suborbital systems, a person skilled in the art would not have considered it. Hence, applying the teaching of D8 to the system of D1 was based on hindsight.

The board does not find these arguments convincing. It is well-established in the case law of the boards of appeal that basic textbooks, of which D10 is an example, represent the common general knowledge of the person skilled in the art on the subject in question, in the present case, CDMA telecommunication technology. Further, none of the distinguishing features of claim 1 specifically relate to a sub-orbital telecommunication system or to any problems which might only arise in a sub-orbital system. The board accordingly considers that the objective technical problem, starting out from D1 as closest prior art, is that set forth in point 2.5, second paragraph, above and does not specifically relate to a sub-orbital system. The fact that D8 does not refer to sub-orbital systems would only be relevant if the telecommunication equipment described in D8 were not suitable for use in the system of D1. The board does not consider this to be the case and indeed the appellant did not argue this. This view is also in accordance with the statement in the application in suit that the detection system of the claimed system is of a type similar to the spatial processing system described in D8 (see the application in suit, page 8, lines 1 to 3).

Hence, in the board's view, no hindsight is involved in arguing that, when starting out from D1, the skilled person would have considered D8 and would have applied its teaching to D1.

2.11 In view of the above, the board concludes that the subject-matter of claim 1 of the main request lacks an inventive step, Articles 52(1) and 56 EPC.

3. *Amendments (auxiliary request)*

3.1 As pointed out by the board during the oral proceedings, the application as filed does not provide a basis for the amendment to the claims as proposed by the appellant in the course of the oral proceedings (see point VI above); the application as filed discloses that the radio telecommunication signals are (preferably) modulated by code division multiple access spread spectrum technology (see, e.g., claims 1 and 20, page 5, lines 2 and 3, and page 7, lines 17 to 19), but nowhere is a combination with other modulation schemes explicitly or even implicitly excluded.

The board was thus not able to find in the application as filed a basis for the amendment. Nor did the appellant indicate on which passages of the application as filed the amendment was based.

3.2 The board therefore exercised its discretion pursuant to Article 13(1) RPBA not to admit the auxiliary request to the appeal proceedings for the reasons that the amendment does not *prima facie* comply with Article 123(2) EPC and, hence, that the claims are not clearly allowable.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

D. Magliano

A. S. Clelland