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D E C I S I O N
of 13 July 2000

Case Number: T 0202/00 - 3.5.1

Application Number: 91403270.1

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IPC: H04M 3/54

Language of the proceedings: EN

Title of invention:
Speech control apparatus

Applicant:
CANON KABUSHIKI KAISHA

Opponent:

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Headword:

-

Relevant legal provisions:
EPC Art. 84, 56

Keyword:
"Inventive step (yes, after amendment)"
"Clarity"

Decisions cited:

-

Catchword:

-



Case Number: T 0202/00 - 3.5.1

D E C I S I O N
of the Technical Board of Appeal 3.5.1
of 13 July 2000

Appellant: CANON KABUSHIKI KAISHA
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 16 July 1999
refusing European patent application
No. 91 403 270.1 pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: P. K. J. van den Berg
Members: A. S. Clelland
P. H. Mühlens

Summary of Facts and Submissions

- I. This appeal is against the decision of the Examining Division to refuse application No. 91 403 270.1 on the ground that the subject-matter of each of claims 1 to 14 lacked an inventive step. The decision cited *inter alia* the following documents:
- D3: US-A-3 936 615
- D4: US-A-4 701 950
- II. In the notice of appeal the appellant requested that the Examining Division's decision be cancelled in its entirety and a patent granted; with the subsequently filed statement of grounds of appeal the appellant presented a revised set of claims to replace those considered by the Examining Division. It was argued that the independent claims, four in number, were novel and inventive and that the claims as a whole were concise. There were two apparatus and two method claims; since the invention had two different embodiments it was reasonable to provide an independent claim in each category directed to each embodiment. As to inventive step, the cited art was not concerned with wireless connections and in particular did not suggest a call transfer system in which a transfer destination was instructed to switch from one of a plurality of communication channels to another and in which a response indicative of successful completion of the channel switch was received.
- III. Following a communication from the rapporteur, raising issues of clarity and inventive step, the appellant replaced the claims filed with the statement of grounds

with a revised set of claims and argued in favour of the patentability of these claims.

IV. Oral proceedings were held on 13 July 2000. The appellant requested that the decision under appeal be set aside and a patent granted on the basis of the following documents:

Claims: 1 to 16 as filed on 7 June 2000

Description: pages 3 to 12 and 14 to 25 as originally filed
pages 2, 2a and 26 as filed on 3 November 1995
page 1 as filed on 16 February 1998
page 13 as filed on 7 June 2000

Drawings: sheets 2 to 12 and 14 as originally filed
sheets 1 and 13 as filed on 3 November 1995

V. Claims 1 and 2, the independent apparatus claims, read as follows:

"1. A call transfer apparatus for transferring a call of a communication partner connected with a transfer origin, from said transfer origin to a transfer destination, the transfer origin and the transfer destination being linked by a wireless system, the apparatus comprising:

- discriminating means for discriminating whether the transfer destination (119) can respond or not,

- holding means (110, 132) for holding the communication partner,
- connecting means (118, 134) for transferring the call by connecting the transfer destination (119) and the communication partner when it is discriminated by said discriminating means that the transfer destination can respond and for keeping or setting the communication partner in a communication state with the transfer origin when it is discriminated by said discriminating means that the transfer destination cannot respond, said discriminating means comprising means for sensing if the wireless link is operational, said sensing means comprising:
- sending means for sending an instruction signal for instructing the transfer destination to switch to a designated speech channel, and
- receiving means for receiving from the transfer destination a notification of the channel switching end."

"2. A call transfer apparatus for transferring a call of a communication partner connected with a transfer origin, from the transfer origin to a transfer destination, the apparatus comprising:

- calling means for calling the transfer destination (119),
- holding means (110, 132) for holding the communication partner,

- connecting means (118, 134) for transferring the call by connecting the transfer destination (119) and the communication partner when the transfer destination off-hooks,

said calling means being adapted to transmit a first instruction signal for instructing the transfer destination to switch to a designated speech channel and to transmit a second instruction signal for instructing the transfer destination to ring when a notification of the channel switching end is received from the transfer destination, and said connecting mean (sic) is adapted to keep or set the communication partner in a communication state with the transfer origin when the notification of the channel switching end is not received."

Claims 9 and 10 are method claims respectively directed to the embodiments claimed in claims 1 and 2.

VI. The appellant argued in the course of the oral proceedings that the invention was concerned with a particular problem which arose when cordless phones were used with a private branch exchange (PBX). In a known PBX system an incoming call was received by an operator and thereafter transferred to the required extension, referred to in the application as a "transfer destination". When using cordless phones at the extensions the problem arose that in addition to the usual conditions of "on-hook" and "off-hook" a third condition could arise, namely that the transfer destination was unavailable because it was out of range of the PBX. This condition was characterised by the absence of a carrier signal. In accordance with the invention a check was made for the carrier, see the

flow chart of Figure 2 at the branch S204 "CALL SUCCEEDED, shown in detail in the flow charts of Figures 7 and 9, the former showing the operation of a "master" station (the PBX) and the latter that of a "slave" station (the extension). In particular, the invention made use of the signal detecting that a speech channel had been allocated, so as to confirm that the slave was within range, i.e. the carrier signal was present. It was accepted that some - but not all - aspects of the call transfer operations claimed in claims 1 and 2 were known *per se* from D3 and D4, but neither of these documents disclosed all the steps of a transfer operation and neither gave an indication that wireless apparatus could be used, let alone the specific manner in which the availability of a particular extension was detected.

VII. In the course of the oral proceedings the Board drew the appellant's attention to the absence from claims 2 and 10 of any clear reference to the central station and extension being linked by a wireless system; the appellant accepted that this was the case and proposed provisional amendments to match the wording of claims 2 and 10 to that of claims 1 and 9. In view of the Board's decision the proposed wording was not however incorporated into the claims.

Reasons for the Decision

1. *Background to the invention*

1.1 Call transfer apparatus in the form of a PBX is well known in the telecommunications art. Such apparatus enables an operator, a "transfer origin" in the

terminology of the application, to connect an incoming call from a "communication partner" to a desired extension or "transfer destination". It has not been contested by the appellant that it is usual for the operator to check that the extension is free before making the connection or, in an alternative arrangement, to transfer the caller directly to the extension without first personally checking, but retrieve the call if no answer is received within a predetermined time.

- 1.2 These two alternatives are reflected in the description and claims; in a first embodiment, the subject of claims 1 and 9, an incoming call is intercepted by the operator and held while the operator seeks to make a connection to the desired extension. Once the connection is made the call is transferred. In the second embodiment, see claims 2 and 10, the caller is again put on hold but in this case the operator, after dialling the desired extension, takes no further action unless a signal is received indicating that the call transfer was unsuccessful, the caller thereupon being returned to the operator.
- 1.3 In both the claimed embodiments the PBX and extension are connected by a wireless link in that a cordless telephone is used as the extension. In operation the PBX first checks to see whether a communication link is already established ("discriminating means" in claim 1; PERFORM CONTROL CHANNEL CARRIER SENSE, box S303 of Figure 7); if no carrier for the wireless link is already present a control signal is sent to initiate communication on a predetermined channel ("sending means for sending an instruction signal for instructing the transfer destination to switch to a designated

speech channel" in claim 1, TRANSMIT RECEPTION SIGNAL in box S304 of Figure 7); and once the carrier has been established on the allocated channel a signal to this effect is sent ("receiving means for receiving from the transfer destination a notification of the channel switching end" in Figure 1, CHANNEL SWITCHING END? branch S307 of Figure 7).

2. *Added subject-matter (Article 123(2) EPC)*

2.1 In all four independent claims reference is made to instructing the extension or "transfer destination" to switch to a "designated speech channel".

2.2 In its communication prior to the oral proceedings the Board took the preliminary position that there was no disclosure in the originally filed description of choosing between a plurality of speech channels. It appears however from a consideration of the originally filed description at page 13 lines 7 to 25 in conjunction with the flow charts of Figures 7 to 9 that the reference to a speech channel being "designated" is to be understood as the allocation of a specific speech channel; although not explicitly stated in the application this implies a choice from among a plurality of available channels. The Board accordingly takes the view that the references to switching to a designated speech channel meet the requirements of Article 123(2) EPC.

3. *Sufficiency and Clarity (Articles 83 and 84 EPC)*

3.1 Because of the obscurity of the description the Board has faced considerable difficulty in understanding the present invention and in interpreting the claims.

Although reference is made to three embodiments there are arguably four since both Figures 1 and 13 disclose hardware of a call transfer apparatus. For present purposes it is only necessary for the Board to consider the two embodiments which are claimed, but in view of the present decision it will be necessary for the Examining Division to consider whether the description requires a thorough revision in order to ensure that it meets the requirements of Article 83 EPC.

3.2 Claims 1 and 9 are respectively directed to an apparatus and method relating to the first embodiment discussed at point 1.2 above. These claims in essence require the presence of a wireless link in which negotiation takes place to establish a speech channel and in which the signal indicating that such a channel has successfully been established, referred to in these claims as "a notification of the channel switching end", is used as an indicator for whether a connection can be established. The Board notes that the originally filed application included at claim 7 an independent claim directed to a "radio communicating method" which included the sensing of a carrier of a predetermined radio channel.

3.3 The Board observes that claims 1 and 9 do not in fact, as asserted by the appellant, make a clear link between the use of the "channel switching end" signal and the transfer of a call; this is however implied by the provision of "discriminating means" which operate on connecting means for transferring the call and which include means for sensing if the wireless link is operational; the Board has interpreted claims 1 and 9 accordingly.

3.4 It is noted that claims 2 and 10 make no explicit reference to the provision of a wireless link but merely refer to switching to a "designated speech channel" which in the context implies a wireless link but fails to make this clear. The appellant has indicated a willingness to amend these claims to make the point explicit. That these claims relate to the second embodiment is moreover only apparent from the final three lines of each claim.

3.5 In conclusion, the Board considers that although after discussion with the appellant in the course of the oral proceedings it was possible to arrive at an understanding of the intended scope of the independent claims so as to enable a consideration of inventive step, it is necessary for claims 2 and 10 to be revised in the interest of clarity and will be necessary for the Examining Division to give further consideration as to their compliance with Article 84 EPC.

4. *Inventive step*

- 4.1 The two most relevant documents known to the Board are D3 and D4, which relate to apparatus for involving an operator when a call to a particular extension remains unanswered. Although it was argued by the appellant that D3 does not disclose the automatic diversion of a call from a desired extension to the operator, the Board understands the passage at column 18 lines 1 to 13 and the associated flow chart, Figure 6, to teach call diversion to an "alternative station" if a transfer from one extension to another fails and the call cannot be reconnected. This suggests that an automatic transfer to, for example, an operator is envisaged in D3.
- 4.2 D4 discloses the provision of a system for monitoring extensions so that, if a call is not answered within a predetermined time, it is transferred to an operator. As pointed out by the appellant, the call is not first received by the operator and passed on to the extension but is routed automatically; the Board takes the view that this distinction is not of substance since whether a call is transferred automatically by the PBX or manually by an operator does not alter the essentials of the operation.
- 4.3 However, although the appellant did not contest that cordless phones were common general knowledge at the claimed priority date, no document has been produced to show how the skilled person would, in the context of a PBX, solve the problem of determining whether a particular extension is unavailable by reason of the absence of a carrier. The present claims are directed to a particular solution to this problem, namely the

use of the "channel switching end" signal and the Board is not aware of any prior art which would support an assertion that the use of this signal for carrier sensing is obvious. No prior art relevant to this method is cited in the European Search Report and none has been cited by the Examining Division making use of its authority under Article 114(1) EPC.

4.4 The Board accordingly concludes that in the absence of such evidence the use of such a signal in the context of the call transfer apparatus and method of the independent claims involves an inventive step.

5. *The dependent claims*

5.1 It has been noted that the application as a whole and the independent claims in particular are not in a state which would permit a patent to be granted. In addition to the matters noted at points 3.3 and 3.4 above, dependent claims 2 to 8 and 11 to 16 contain numerous errors in their appendencies and inconsistencies of language with respect to the independent claims to which they are appended. For example, claim 3 is directed to either claim 1 or claim 2, but refers to "sending/receiving means" which are not present in claim 2. This is also true of claims 4 to 6, whilst claim 7 appears redundant. It is not clear what the "notifying means" of claim 8 add to the "discriminating means" of claim 1. Claims 11 to 15 give rise to the objection that there is no "receiving step" in claim 10, whilst claim 15 is in any case redundant and claim 16 gives rise to an analogous objection to that against claim 8.

6. In view of the difficulties the Board has faced in

interpreting the claims and the general obscurity of the description it is considered appropriate to remit the case to the Examining Division for further examination.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is referred back to the Examining Division for further examination on the basis of the appellant's request.

The Registrar:

The Chairman:

M. Kiehl

P. K. J. van den Berg