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**Datasheet for the decision
of 8 December 2020**

Case Number: T 1895/17 - 3.5.03

Application Number: 05100490.1

Publication Number: 1686835

IPC: H04R27/00

Language of the proceedings: EN

Title of invention:

Conference system

Applicant:

Robert Bosch GmbH

Headword:

Ring-shaped microphone indicator/Bosch

Relevant legal provisions:

EPC Art. 56, 116(1)

Keyword:

Oral proceedings before the board: held by videoconference upon request

Inventive step - all requests (no): mixture of technical and non-technical features - presentation of information

Decisions cited:

T 0641/00, T 1143/06, T 1802/13, T 0336/14

Catchword:

The mere presentation of a speaker's state by a microphone's light indicator to the audience of a conference system does not credibly assist a user in performing a technical task by means of a continued and/or guided human-machine interaction process within the meaning of T 336/14 and T 1802/13 and thus cannot bring about a technical effect (see points 4.4.2 to 4.4.4 of the Reasons).



Beschwerdekammern
Boards of Appeal
Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 1895/17 - 3.5.03

D E C I S I O N
of Technical Board of Appeal 3.5.03
of 8 December 2020

Appellant: Robert Bosch GmbH
(Applicant) Postfach 30 02 20
70442 Stuttgart (DE)

Representative: Robert Bosch GmbH
C/IPE41
Postfach 30 02 20
70442 Stuttgart (DE)

Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 22 March 2017
refusing European patent application
No. 05100490.1 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chair K. Bengi-Akyürek
Members: K. Peirs
N. Obrovski

Summary of Facts and Submissions

- I. The appeal is against the decision of the examining division refusing the present European patent application for lack of inventive step (Article 56 EPC).
- II. Oral proceedings before the board were held on 8 December 2020. The oral proceedings were initially scheduled as an in-person hearing and were - upon the appellant's request - converted into oral proceedings conducted by videoconference.
- III. The appellant requested that the decision under appeal be set aside and that a patent be granted according to the claims of one of the following requests:
- **main request** being identical to the main request underlying the decision under appeal
 - **first to fifth auxiliary requests**, each being identical to their associated auxiliary request underlying the decision under appeal
 - **sixth auxiliary request** filed with the statement of grounds of appeal.

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

- IV. Independent claim 7 of the **main request** reads as follows:

"Microphone for a delegate unit of a conference system, preferably for carrying out the method of one of the preceding claims, comprising a stem, a windshield and at least one ring-shaped indicator

located between the stem and the windshield, wherein said ring-shaped indicator located between the stem and the windshield of the microphone radiates light in a first colour indicating at least one first state of the delegate unit of the conference system, wherein said ring-shaped indicator located between the stem and the windshield of the microphone radiates light in a second colour indicating at least one second state of the delegate unit of the conference system, wherein said second state of the delegate unit is different from said first state of the delegate unit."

- V. Independent claim 6 of the **first auxiliary request** includes all the features of claim 7 of the main request and further comprises the following phrase at the end:

"wherein said ring-shaped indicator located between the stem and the windshield of the microphone radiates a steady light in the second colour indicating a request-to-speak-state, when a request-to-speak-button of the delegate unit is activated."

- VI. Independent claim 6 of the **second auxiliary request** includes all the features of claim 7 of the main request and further comprises the following phrase at the end:

"wherein said ring-shaped indicator located between the stem and the windshield of the microphone radiates a flashing light in the second colour indicating a next-speaker-state when a request to speak of said delegate unit is a first request to speak on a list of

requests to speak, wherein said list of requests to speak is preferably stored in a memory."

- VII. Independent claim 6 of the **third auxiliary request** includes all the features of claim 7 of the main request and further comprises the following phrase at the end:

"wherein said ring-shaped indicator located between the stem and the windshield of the microphone radiates a flashing light in the first colour indicating a last-minute-state, when a timer for a remaining time to speak is less than a predetermined time."

- VIII. Independent claim 4 of the **fourth auxiliary request** includes all the features of claim 7 of the main request and adds, at the end, the phrases of the third, first and second auxiliary request as recited in points VII, V and VI above, respectively.

- IX. Independent claim 7 of the **fifth auxiliary request** includes all the features of claim 7 of the main request, introduces throughout the claim the word "adjustable" before the word "stem" and further comprises the following phrase at the end:

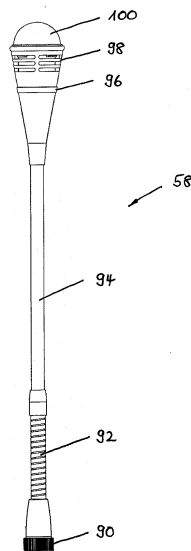
"wherein said ring-shaped indicator is a bicolour indicator or a multicolour indicator."

- X. Independent claim 6 of the **sixth auxiliary request** includes all the features of claim 6 of the first auxiliary request, introduces throughout the claim the word "adjustable" before the word "stem" and further comprises, at the end, the phrase of the fifth auxiliary request as recited in point IX above.

Reasons for the Decision

1. *The present application*

The application concerns a conference system with a delegate unit having a microphone. The microphone (58) has a ring-shaped indicator (96) mounted between its stem (94) and its windshield (98):



The indicator can radiate in at least two colours, either *steadily* or by means of *flashing*. By doing so, various states of the delegate unit can be indicated, including a "microphone-on" state indicating who is currently speaking, a "request-to-speak" state indicating who has requested to speak, a "next-speaker" state indicating who will be the next speaker and a "last-minute" state indicating that the current speaker has used up almost all of their speaker time.

As a result, the audience attending a conference via the conference system can be provided with additional information about the way in which the conference

proceeds.

2. *Publication date of D5*

2.1 In point 8 of the section "Summary of Facts and Submissions" of the decision under appeal, document **D5** was cited as an Internet disclosure entitled "CDS 4000, User Manual with installation guide, Conference Discussion System" and with "2 June 2003 (2003-06-02)" as a publication date.

2.2 The appellant disputed the publication date of D5 in view of a mismatch between number sequence "02/03" appearing at the bottom margin of pages 2 to 46 and number sequence "10/02" occurring at the bottom margin of pages 47 to 51.

2.3 However, regardless of what these number sequences may mean, page 4 of D5 bears the unequivocal indication "Printed: 02-06-2003", which a skilled reader would directly interpret as a date, corresponding to either "6 February 2003" or "2 June 2003". Although the latter date is the more likely one given that D5 is printed in Denmark (see e.g. the bottom of page 2), both dates lie before the present application's filing date (i.e. 26 January 2005). Moreover, no priority was claimed for the present application.

2.4 Hence, the board is convinced that D5 was available to the public before the application's effective filing date and thus represents state of the art under Article 54(2) EPC.

3. *Main request: claim 7 - features*

Claim 7 of the **main request** includes the following

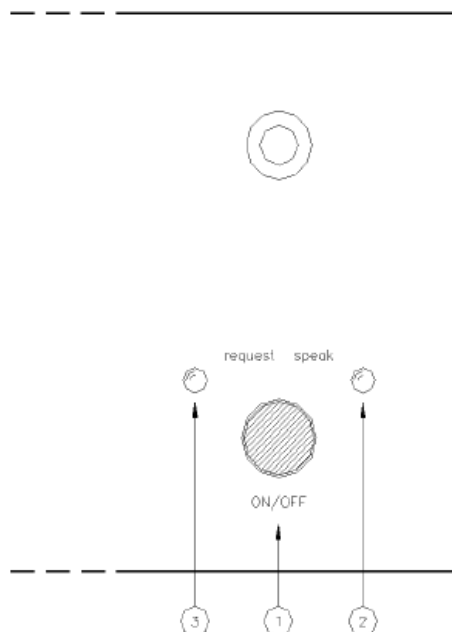
limiting features (as labelled by the board):

- (a) Microphone for a delegate unit of a conference system, comprising a stem, a windshield and at least one ring-shaped indicator located between the stem and the windshield,
- (b) wherein said ring-shaped indicator located between the stem and the windshield of the microphone radiates light in a first colour indicating at least one first state of the delegate unit of the conference system,
- (c) wherein said ring-shaped indicator located between the stem and the windshield of the microphone radiates light in a second colour indicating at least one second state of the delegate unit of the conference system,
- (d) wherein said second state of the delegate unit is different from said first state of the delegate unit.

4. *Main request: claim 7 - inventive step*

4.1 Document **D5** is considered to be the most suitable starting point to assess inventive step in the present case. It discloses a microphone (gooseneck microphone "GM4022" on page 8) having a ring-shaped indicator (page 8, microphone "GM4022" comprising a "built-in light indicator"), located between the microphone's stem and its windshield (implicit), and a delegate unit (pages 17 and 18: "DM4000 Series Delegate Units", especially the "Manual Mode" and the "First-In-First-Out Mode" of operation) connected to that microphone (see page 8, first sentence: "All units, which are part of the CDS 4000 system, are listed below").

4.2 As to features (a) and (b), contrary to what was asserted by the appellant, the term "[g]ooseneck microphone" of page 8 of D5 **does** imply a disclosure of both the ring-shaped form of the indicator as per feature (a) and the location of the indicator between the stem and the windshield of the microphone as per feature (b). The delegate unit of D5 has two indicators, as can be discerned from the drawing on page 17 of D5 that is reproduced here:



The first indicator takes the form of a red light in "speak lamp 2" (see the section "Auto Mode" on page 17 of D5) and indicates a first state of the delegate system, namely that the microphone of the delegate unit is "on". The second indicator takes the form of a green light in "request lamp 3" (see the section "First-In-First-Out Mode" on page 18 of D5) and indicates a second state of the delegate system, namely a "request to speak" from a person using the delegate unit, which is made by pressing the delegate unit's "ON/OFF" button as shown in the drawing above.

The skilled reader would immediately realise from the first two sentences of the section "Auto Mode" on page 17 of D5 that the ring-shaped indicator of the underlying gooseneck microphone mirrors the red-light first indicator of the delegate unit indicating that the microphone is "on", because this is how any conventional conference system typically operates. In other words, the ring-shaped indicator of the gooseneck microphone of D5 radiates light in a "first colour" indicating the "first state" of the delegate system, in accordance with feature (b) of claim 7.

- 4.3 As to **features (c) and (d)**, document D5 does not disclose that the claimed ring-shaped indicator also radiates light in a second colour, differing from the first colour and indicating the second state of the delegate unit, i.e. it does not disclose features (c) and (d).
- 4.4 During the oral proceedings before the board, the extent to which features (c) and (d) relate to a technical effect was discussed.
- 4.4.1 It is apparent that these features do not provide details concerning the first and second state, in particular concerning what these states actually represent. However, from the dependent claims the skilled reader would immediately understand that the second state of the delegate unit is meant to reflect a request of a user, see e.g. claim 4 (or, similarly, claim 12) of the main request stating that the ring-shaped indicator radiating steadily in the second colour indicates a "request-to-speak-state" and claim 13 of the main request specifying that the ring-shaped indicator flashing in the second colour means that the "request to speak" is the first one on a list of

"requests to speak". Neither the claims nor the description comprise an example of the second state that represents a *functional* state of the delegate unit.

- 4.4.2 As a result, the second state referred to in features (c) and (d) is rather related to cognitive information addressed to a person's mental process rather than to "technical information" within the meaning of T 336/14 (see Reasons 1.2.5), i.e. it requires a cognitive interpretation by this person to discern the meaning of the "second colour". In other words, this information is not directed to an improved operation of a technical device such as the microphone or delegate unit by the person.
- 4.4.3 Moreover, the mirroring of a second state of the delegate unit by the ring-shaped indicator of the claimed microphone by means of a second colour as apparent from feature (c) is merely related to how cognitive information is presented to a user (see e.g. T 1143/06 and T 1802/13). In line with T 1143/06 (cf. Reasons 5.4), a feature which relates to the manner how cognitive content is conveyed to the user normally does not contribute to a technical solution to a technical problem and the board cannot recognise why the present application would constitute an exception in this respect.
- 4.4.4 Rather, the mirroring of states of the delegate unit serves the *non-technical* aim of ensuring, during a conference in which the microphone of claim 7 is used, that participants other than the users of the delegate units (i.e. the speakers) are also informed about the delegate unit's states. In the words of the appellant, the underlying problem amounts to better informing the

conference participants about the conference proceedings (see appellant's submission dated 4 November 2020, page 3, first paragraph). The particular examples of states illustrated by claims 4, 12 and 13 of the main request correspond to the notorious situation of a moderator of a conference informing the audience, based on memory or on notes jotted down on a piece of paper, about what will be the order in which attendees that requested to speak are allowed to do so. Thus, the mere presentation of a speaker's state by a microphone's light indicator to the audience of a conference system according to features (c) and (d) does not credibly assist a user in performing a technical task by means of a continued and/or guided human-machine interaction process within the meaning of T 336/14 and T 1802/13 and thus cannot bring about a technical effect.

4.4.5 The only *technical* aspect of features (c) and (d) resides in the fact that the *same* ring-shaped indicator of the microphone is used to mirror the delegate unit's first and second state. It provides for a practical implementation of the non-technical aim mentioned above. In accordance with the well-established "COMVIK approach" (T 641/00, headnote 2), this non-technical aim may legitimately be incorporated into the objective technical problem as a constraint to be met.

4.5 Hence, the underlying objective technical problem may be framed as "*how to provide for a practical implementation ensuring that also the conference participants (and not only the speakers) can be informed about the states of D5's delegate unit*".

4.6 When confronted with the above objective technical problem, it would have been obvious for the person

skilled in the field of conference systems (such as the "CDS 4000" system of D5), based on their common general knowledge, to augment the functionality of the microphone's ring-shaped indicator of D5 to not only mirror the delegate unit's *red-light* indicator, as is typically the case for conventional conference systems, but to mirror also its *green-light* indicator.

Contrary to the appellant's allegation, the skilled person does not have a myriad of options to implement this mirroring. They would have either added a *green-light* ring indicator above or below the *red-light* ring indicator in D5 or replace the *red-light* ring indicator by a *dual-light* ring indicator, depending on how circumstances dictate (mandated, for instance, by the length of the gooseneck microphone or by routine-design specifications). Provided that these circumstances favour the latter alternative, the skilled person would arrive immediately at a configuration including features (c) and (d) without exercising any inventive step.

4.7 The appellant submitted that a red-light indicator on a microphone in conventional conference systems would be used to compensate for a loss of acoustic directional information when using a conference system, whereas the green-light indicator of the delegate unit in D5 would merely be an indication of the state of the delegate unit.

However, the board notes that this only applies in the special situation where the speaker using the delegate unit is acoustically *isolated* from the audience of the conference. Generally, the speakers and attendees of a conference gather in the *same* venue. In such a situation, acoustic directional information from the

speaker's voice is readily available to the audience. The skilled person would therefore immediately realise that the mirroring of the delegate-unit state "speaker active" (or, equivalently, "microphone on"), by means of the typical red-light indicator on the delegate unit's microphone, serves merely to provide the audience with additional information relating to the conduct of the conference, in the *same* way as would be achieved by the indication on the microphone, by means of a green-light indicator, or any of the other states of the delegate unit as mentioned on page 18 of D5. Moreover, even if the red- and green-light indicators had a different purpose, it is noted that such a purpose is not apparent from the features of present claim 7. As a result, the intended purpose of implementing the mirroring of the delegate unit's states is immaterial here.

4.8 Also, the appellant's argument that the claimed invention represented a "smart idea" not conceived before cannot change the board's conclusion that features (c) and (d) relate, for the above reasons, to the mere implementation of presentation of information.

4.9 Consequently, independent claim 7 of the main request does not fulfil the requirement of Article 56 EPC.

5. *First to third auxiliary requests: claim 6 - inventive step*

5.1 Claim 6 of the first to third auxiliary requests differs from claim 7 of the main request in that it additionally specifies that

(e) the ring-shaped indicator radiates a steady light in the second colour indicating a request-to-speak-

state, when a request-to-speak-button of the delegate unit is activated (**first auxiliary request**);

(f) said ring-shaped indicator radiates a flashing light in the second colour indicating a next-speaker-state, when a request to speak of said delegate unit is a first request to speak on a list of requests to speak, wherein said list of requests to speak is preferably stored in a memory (**second auxiliary request**);

(g) said ring-shaped indicator radiates a flashing light in the first colour indicating a last-minute-state, when a timer for a remaining time to speak is less than a predetermined time (**third auxiliary request**).

5.2 The skilled reader would readily understand that features (e) to (g) specify in more detail to what the first and second states of the delegate unit of features (b) to (d) relate. It is now immediately apparent from claim 6 itself that these states unequivocally concern typical, non-technical situations that are encountered by speakers at a conference. Moreover, the appellant correctly pointed out that the indication of these non-technical situations is implemented via technical means. Hence, the objective technical problem set out in point 4.5 above is still applicable.

5.3 Given that the respective states of features (e) to (g) are well-known in the field of conferencing, the skilled person, faced with the above objective technical problem, would have readily taken these states into account when urged to do so by, for instance, an organiser or a moderator of the conference. In this respect, it is noted that, for the

delegate unit, the technical means enabling an indicator to radiate *steadily* or *flashingly* in a particular colour are disclosed in D5, namely in the section "First-In-First-Out Mode" of page 18. Therein, a mode is shown in which the green-light indicator of a delegate unit lights up flashing slowly if its user has requested to speak right after the point in time where the maximum number of speakers, typically set to "1" (see the last sentence before the "Note" on page 18), had been reached, thereby *de facto* indicating the "next speaker". Conversely, the green-light indicators of other delegate units light up steadily when their user has requested to speak after the "next speaker".

- 5.4 It would have been straightforward for the skilled person to adopt the same mode as that on page 18 of D5 for the green-light, ring-shaped indicators, i.e. the *second* colour within the meaning of features (c), (e) and (f), of the microphone when modifying the microphone of D5 as set out in point 4.6 above. Moreover, given that the skilled person preferably strives for a simple solution, they would have immediately used the *same* circuitry to regulate the radiation of the green- and of the red-light indicators of the microphone. In particular, they would have used the circuitry described in the section "First-In-First-Out Mode" of page 18 of D5 to let the indicator of the microphone radiate flashingly in the *red* colour, i.e. the *first* colour within the terms of features (b) and (g), to accommodate information on further delegate-unit states which are deemed to be important by the organiser or moderator of the conference.

As a result, the use of two colours and two different flashing regimes allows to present information on at

least four delegate-unit states with one (dual-light) indicator. Hence, contrary to the appellant's view, the skilled person would have readily used the *same* dual-light ring indicator as mentioned above in point 4.6 to inform the conference audience about how the conference proceeds by mirroring various delegate-unit states including those present in features (e) to (g). Consequently, features (e) to (g) constitute straightforward implementation details relating solely to the visual indication of further speaker states.

- 5.5 In that regard, the appellant argued that the skilled person had many possibilities to indicate the "next-speaker-state", e.g. by using a *third* colour or changing the intensity of the radiated light.

While these examples can indeed be seen as alternative possibilities, the board holds that the skilled person would have preferably started from modes involving a particular colour and radiation regime that is already present in D5 and mirrored those modes in the microphone's indicator. For the sake of completeness, the board also notes that the optional characteristic "wherein said list of requests to speak is preferably stored in a memory" of feature (f) of the second auxiliary request is a matter of routine design for the skilled person.

- 5.6 Consequently, independent claim 6 of the first to third auxiliary requests does not involve an inventive step either (Article 56 EPC).

6. *Fourth auxiliary request: claim 4 - inventive step*

- 6.1 Claim 4 of the **fourth auxiliary request** differs from claim 7 of the main request in that it includes all the

additional features (e) to (g) of the first to third auxiliary requests in combination.

6.2 Claim construction

6.2.1 The situation in which a request to speak of the delegate unit is a *first* "request to speak" causes the ring-shaped indicator of the microphone of claim 4 to radiate both steadily, in line with feature (e), and flashingly, in line with feature (f). Given that such a situation makes no technical sense, it is assumed, for the sake of argument, that feature (e), when combined with feature (f), inherently comprises as an additional condition that the "request to speak" is **not** "a first request to speak on a list of requests to speak".

6.2.2 This additional condition eliminates the overlap between features (e) and (f) and is supported by page 4, lines 27 to 29 of the present description as filed. Moreover, it merely *restricts* the wording of claim 4 by narrowing down the "request-to-speak" state of feature (e). By contrast, for the alternative suggested by the appellant that the indicator initially radiates *steadily* for a brief period of time and then transits to a *flashing* regime, the skilled reader would not immediately understand from claim 4 that feature (e) is supposed to take place before feature (f) if a particular request and associated state fulfil the conditions associated with *both* features.

6.3 On this claim construction, the combination of features (e) to (g) of claim 4 of the fourth auxiliary request boils down to a mere juxtaposition of well-known measures and the same conclusion for each of these features applies as set out for the first to

third auxiliary requests individually.

6.4 As a result, independent claim 4 of the fourth auxiliary request likewise does not involve an inventive step (Article 56 EPC).

7. *Fifth auxiliary request: claim 7 - inventive step*

7.1 Claim 7 of the **fifth auxiliary request** differs from claim 7 of the main request in that it additionally specifies that

(h) the stem is adjustable;

(i) the ring-shaped indicator is a bicolour indicator or a multicolour indicator.

7.2 Added feature (h) forms a mere juxtaposition when considered together with features (c), (d) and (i) and is commonly present in a conference-system microphone. In fact, it is inherent to the gooseneck microphone of D5.

7.3 Added feature (i) provides more technical details on the ring-shaped indicator that is used for indicating the delegate-unit states as per features (b), (c) and (d). These technical details are, however, well-known to the person skilled in the field of conference systems, who would certainly use the *bicolour* or *multicolour* indicator of feature (i) if a compact implementation is desired.

7.4 Consequently, independent claim 7 of the fifth auxiliary request does not fulfil the requirement of Article 56 EPC either.

8. *Sixth auxiliary request: claim 6 - inventive step*

8.1 Claim 6 of the **sixth auxiliary request** differs from claim 6 of the first auxiliary request in that it additionally specifies features (h) and (i).

8.2 Compared to the reasoning as set out for the fifth auxiliary request, only feature (e) of the first auxiliary request needs to be taken into account further. This feature however does not interact with any of the other features (a) to (d), (h) and (i) in a way that would extend beyond the expectations of the skilled person. So, it cannot lead to the acknowledgement of an inventive step for the reasons set out in points 5.2 to 5.4 above either.

8.3 Hence, independent claim 7 of the sixth auxiliary request likewise does not involve an inventive step (Article 56 EPC).

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chair:



B. Brückner

K. Bengi-Akyürek

Decision electronically authenticated