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Datasheet for the decision of 4 November 2025

Case Number: T 1394/23 - 3.5.05

Application Number: 16189838.2

Publication Number: 3145219

IPC: H04R25/00

Language of the proceedings: EN

Title of invention:
Hearing device

Patent Proprietor:
Oticon A/S

Opponent:
GN Hearing A/S

Headword:
Axes in a hearing device/OTICON

Relevant legal provisions:
EPC Art. 100(c), 123(2)

Keyword:
Added subject-matter - all claim requests (yes): claimed "axes" not necessarily orthogonal

Decisions cited:
T 0423/23, T 0405/24

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Case Number: T 1394/23 - 3.5.05

D E C I S I O N
of Technical Board of Appeal 3.5.05
of 4 November 2025

Appellant: (Patent Proprietor)	Oticon A/S Kongebakken 9 2765 Smørum (DK)
Representative:	Cohausz & Florack Patent- & Rechtsanwälte Partnerschaftsgesellschaft mbB Bleichstraße 14 40211 Düsseldorf (DE)
Respondent: (Opponent)	GN Hearing A/S Lautrupbjerg 7 2750 Ballerup (DK)
Representative:	Aera A/S Niels Hemmingsens Gade 10, 5th Floor 1153 Copenhagen K (DK)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 30 May 2023 revoking European patent No. 3145219 pursuant to Article 101(3)(b) EPC.**

Composition of the Board:

Chair	K. Bengi-Akyürek
Members:	K. Peirs
	R. Romandini

Summary of Facts and Submissions

I. The appeal lies from the decision of the opposition division to revoke the opposed patent (Article 101(2) and 101(3)(b) EPC). This decision was based on a main request and sixteen auxiliary requests.

The opposition division deemed that none of the claim requests complied with Article 54 or 123(2) EPC.

II. Oral proceedings before the board were held on 4 November 2025.

The appellant (patent proprietor) requested that the appealed decision be set aside and, as a **main request**, that the opposition be rejected. In the alternative, it requested that the patent be maintained in amended form on the basis of the set of claims according to one of the sixteen auxiliary requests underlying the appealed decision (**auxiliary requests 1 to 16**).

The respondent (opponent) requested that the appeal be dismissed.

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

III. Claim 1 of the **main request** reads as follows (board's feature labelling):

(a) "A hearing aid device (2)
(b) having a housing configured to be arranged behind the ear of a user with a tube leading air-borne acoustic signals into the ear canal or with a

receiver/loudspeaker arranged close to or in the ear canal,
(c) the hearing aid device comprising a chassis (32) and
(d) a printed circuit board (4) attached to the chassis (32),
(e) wherein the chassis (32) comprises a first wall structure (48) provided along one side of the chassis (32) and a second wall structure (50) extending along an opposite side of the chassis (32),
(f) the chassis (32) comprises a longitudinal axis (X), a lateral axis (Y), and a transversal axis (Z),
(g) wherein the printed circuit board is to be received between the first wall structure and the second wall structure,
(h) the chassis (32) being arranged in the housing,
(i) wherein the chassis (32) comprises an attachment member of a first type (34, 34', 36) configured to restrict the motion of the printed circuit board (4) in a first direction (Z)
(j) along the transversal axis (Z),
(k) and an attachment member of a second type (38, 38') configured to restrict the motion of the printed circuit board (4) in a second direction (X, Y, Z)
(l) being different from the first direction,
(m) the second direction being along the longitudinal axis (X) and/or the lateral axis (Y),
(n) the attachment members of the first and second types (34, 34', 36, 38, 38') are integrated parts of the chassis (32)."

IV. Claim 1 of **auxiliary request 1** differs from claim 1 of the main request in that it further includes, between features (j) and (k), the following feature (board's

feature labelling):

(o) "wherein the first type of attachment members (34, 34', 36) is configured to prevent the printed circuit board (4) to be moved in a direction basically perpendicular to the printed circuit board (4),".

V. Claim 1 of **auxiliary request 2** differs from claim 1 of the main request in that it further includes, at the end, the following feature (board's feature labelling):

(p) ", wherein the attachment members of the first type (34, 34', 20 36) are formed as snap members (34, 34', 36, 38, 38')".

VI. Claim 1 of **auxiliary request 3** differs from claim 1 of the main request in that it further includes, at the end, the following feature (board's feature labelling):

(q) ", wherein an attachment member of the first type (34, 34') protrudes from the first wall structure (48) and extends radially inwardly towards a center plane (C) of the chassis (32)".

VII. Claim 1 of **auxiliary request 4** differs from claim 1 of auxiliary request 1 in that it further includes, at the end, the following feature (board's feature labelling):

(r) ", wherein an attachment member of the second type (36) protrudes from the second wall structure (50) and extend *[sic]* radially inwardly towards the center plane (C) of the chassis (32)".

VIII. Claim 1 of **auxiliary request 5** differs from claim 1 of the main request in that feature (n) has been replaced

by the following feature (board's feature labelling and underlining, the latter reflecting amendments vis-à-vis feature (n)):

(s) "wherein the attachment members of the first and second types (34, 34', 36, 38, 38') are integrated parts of the chassis (32), and wherein the chassis (32) carries the printed circuit board (4) in the hearing aid device (2)."

IX. Claim 1 of **auxiliary request 6** differs from claim 1 of auxiliary request 5 in that it further includes feature (o) between features (m) and (s).

X. Claim 1 of **auxiliary request 7** differs from claim 1 of the main request in that feature (n) has been replaced by the following feature (board's feature labelling and underlining, the latter reflecting amendments vis-à-vis feature (s)):

(t) "wherein the attachment members of the first and second types (34, 34', 36, 38, 38') are integrated parts of the chassis (32), wherein the attachment members of the first type (34, 34', 36) are formed as snap members (34, 34', 36, 38, 38'), and wherein the chassis (32) carries the printed circuit board (4) in the hearing aid device (2)."

XI. Claim 1 of **auxiliary request 8** differs from claim 1 of the main request in that feature (n) has been replaced by the following feature (board's feature labelling and underlining, the latter reflecting amendments vis-à-vis feature (s)):

(u) "wherein the attachment members of the first and second types (34, 34', 36, 38, 38') are integrated

parts of the chassis (32), wherein an attachment member of the first type (34, 34') protrudes from the first wall structure (48) and extends radially inwardly towards a center plane (C) of the chassis (32), and wherein the chassis (32) carries the printed circuit board (4) in the hearing aid device (2)."

XII. Claim 1 of **auxiliary request 9** differs from claim 1 of auxiliary request 6 in that feature (s) has been replaced by the following feature (board's feature labelling and underlining, the latter reflecting amendments vis-à-vis feature (s)):

(v) "wherein the attachment members of the first and second types (34, 34', 36, 38, 38') are integrated parts of the chassis (32), wherein an attachment member of the second type (36) protrudes from the second wall structure (50) and extends radially inwardly towards the center plane (C) of the chassis (32), and wherein the chassis (32) carries the printed circuit board (4) in the hearing aid device (2)."

XIII. Claim 1 of **auxiliary request 10** differs from claim 1 of the main request in that it includes feature (o) after feature (m) and it that feature (n) has been replaced by the following feature (board's feature labelling and underlining, the latter reflecting amendments vis-à-vis feature (u)):

(w) "wherein the attachment members of the first and second types (34, 34', 36, 38, 38') are integrated parts of the chassis (32), wherein an attachment member of the first type (34, 34') protrudes from the first wall structure (48) and extends radially

inwardly towards the center plane (C) of the chassis (32), wherein an attachment member of the first type (36) and/or an attachment member of the second type (36) protrudes from the second wall structure (50) and extends radially inwardly towards the center plane (C) of the chassis (32), and wherein the chassis (32) carries the printed circuit board (4) in the hearing aid device (2)."

XIV. Claim 1 of **auxiliary request 11** differs from claim 1 of auxiliary request 6 in that it further includes, between features (o) and (s), the following feature (board's feature labelling):

(x) ", wherein the second type of attachment members (38) is configured to prevent the printed circuit board (4) to be moved in a direction parallel to the printed circuit board (4),".

XV. Claim 1 of **auxiliary request 12** differs from claim 1 of auxiliary request 11 in that feature (s) has been replaced by feature (w).

XVI. Claim 1 of **auxiliary request 13** differs from claim 1 of auxiliary request 11 in that feature (s) has been replaced by the following feature (board's feature labelling and underlining, the latter reflecting amendments vis-à-vis feature (u)):

(y) "wherein the attachment members of the first and second types (34, 34', 36, 38, 38') are integrated parts of the chassis (32), wherein an attachment member of the first type (34, 34') protrudes from the first wall structure (48) and extends radially inwardly towards a center plane (C) of the chassis (32), wherein an attachment member of the

second type (36) protrudes from the second wall structure (50) and extends radially inwardly towards the center plane (C) of the chassis (32), and wherein the chassis (32) carries the printed circuit board (4) in the hearing aid device (2)."

XVII. Claim 1 of **auxiliary request 14** differs from claim 1 of auxiliary request 11 in that feature (s) has been replaced by feature (t).

XVIII. Claim 1 of **auxiliary request 15** differs from claim 1 of auxiliary request 11 in that feature (s) has been replaced by the following feature (board's feature labelling and underlining, the latter reflecting amendments vis-à-vis feature (t)):

(z) "wherein the attachment members of the first and second types (34, 34', 36, 38, 38') are integrated parts of the chassis (32), wherein the attachment members of the first type (34, 34', 36) are formed as snap members (34, 34', 36, 38, 38'), wherein an attachment member of the first type (34, 34') protrudes from the first wall structure (48) and extends radially inwardly towards the center plane (C) of the chassis (32), and wherein the chassis (32) carries the printed circuit board (4) in the hearing aid device (2)."

XIX. Claim 1 of **auxiliary request 16** differs from claim 1 of auxiliary request 11 in that feature (s) has been replaced by the following feature (board's feature labelling and underlining, the latter reflecting amendments vis-à-vis feature (w)):

(aa) "wherein the attachment members of the first and second types (34, 34', 36, 38, 38') are integrated

parts of the chassis (32)), wherein the attachment members of the first type (34, 34', 36) are formed as snap members (34, 34', 36, 38, 38'), wherein an attachment member of the first type (34, 34') protrudes from the first wall structure (48) and extends radially inwardly towards the center plane (C) of the chassis (32), wherein an attachment member of the first type (36) and/or an attachment member of the second type (36) protrudes from the second wall structure (50) and extends radially inwardly towards the center plane (C) of the chassis (32), and wherein the chassis (32) carries the printed circuit board (4) in the hearing aid device (2)."

Reasons for the Decision

1. *Technical background*

1.1 The opposed patent concerns a hearing-aid device. More particularly, it concerns the means by which a printed circuit board ("PCB") is held in positions within the device's housing.

1.2 The problem addressed by the opposed patent is that conventional methods for securing a PCB often require *multiple* separate components, such as brackets and screws or complex press-fit arrangements. In a miniature device such as a hearing aid, these solutions are described in the patent as being complex to assemble, time-consuming and requiring a greater number of parts.

1.3 To solve this problem, the patent proposes the use of a "chassis" with integrated "attachment members", thereby

eliminating the need for separate fastening components like screws. The present invention lies in providing two distinct types of attachment members, integrated into the chassis, which are configured to restrict the PCB's motion in different directions. A first type of an attachment member is configured to restrict any motion in a direction *perpendicular* to the PCB's main surface, while a second type is configured to restrict any motion in directions *parallel* to the PCB's surface.

1.4 Figures 3 and 4 of the patent (both reproduced below) are illustrative of the chassis (32). They depict the chassis comprising a first wall structure (48) and an opposite second wall structure (50). Integrated into these walls are the two types of attachment members. The first type of attachment member (34, 34', 36) is shown as an overhang, which serves to restrict the PCB's motion in a direction *perpendicular* to its surface (i.e. along the Z-axis). The second type of attachment member (38, 38') is shown as a protrusion on the inner wall, which serves to restrict the PCB's motion in directions *parallel* to its surface (i.e. along the X or Y axes).

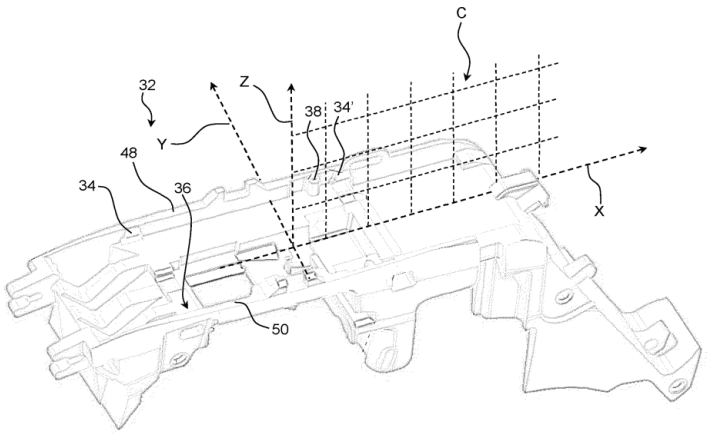

Fig. 3

As shown in Figure 4 below, the PCB (4) is thus held securely in all directions by these integrated features of the chassis.

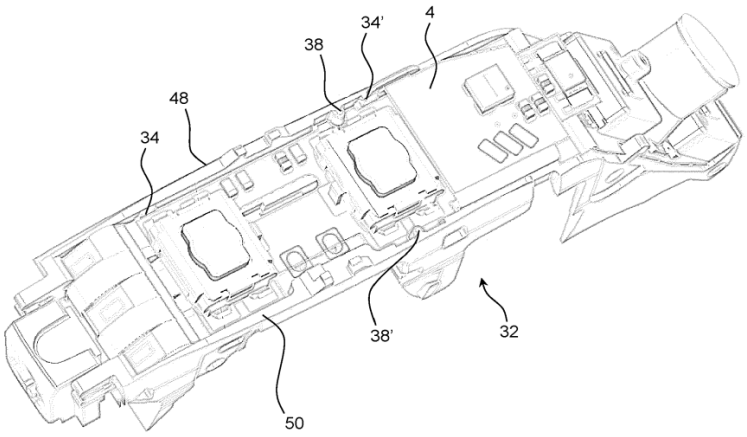

Fig. 4

2. *Main request: claim 1 - added subject-matter*

Reasons 3.1 of the appealed decision indicates that claim 1 as granted is related to original claims 1 and 8 together with parts of the description such as the embodiment shown in Figure 3 and described on pages 15 to 17 as filed. The opposition division concluded that the subject-matter of claim 1 as granted extended beyond the content of the application as filed (Article 123(2) EPC).

The board concurs. The reasons for this are as follows:

2.1 In Reasons 3.1 of the appealed decision, the opposition division deemed that features "F1.5", "F1.8.1" and "F1.9.2" (i.e. **features (f), (j) and (m)** in the board's labelling), constituted an unallowable intermediate generalisation. This was because the opposition division regarded the terms "longitudinal", "lateral" and "transversal" in those features to relate to

arbitrary directions, instead of the *specific* directions "perpendicular" and "parallel" according to the original disclosure.

The board agrees. It finds that the essence of the added-matter problem is that these features were taken from the specific embodiment illustrated in Figure 3, but without the correspondingly linked context provided in that embodiment. The original description explicitly defines at page 15, line 19 to page 16, line 2 the restricted directions by stating that the *first direction* was "*basically, perpendicular to the printed circuit board, which is along the Z-axis of the chassis 32*" and the *second direction* was "*basically parallel to the printed circuit board, which is along the longitudinal axis X or the lateral axis Y or linear combinations thereof*". By omitting, however, the explicit definitions of the geometrical terms "perpendicular" and "parallel" to the PCB, claim 1 has been broadened to cover interpretations that were not originally disclosed.

2.2 The board recalls that, for the "gold standard" in relation to Article 123(2) EPC to be fulfilled, all interpretations of a particular claim that would objectively occur to a skilled reader, i.e. all technically sensible constructions that are objectively derivable from the claim, must have a direct and unambiguous disclosure in the application as filed (see also **T 405/24**, Reasons 1.2.3). It makes the following observations in this context:

2.2.1 A patent claim should be construed from the perspective of the skilled reader and their common general knowledge. The board agrees in this respect with the appellant that the skilled reader would understand the

term "chassis" in the context of claim 1 as granted as a "load bearing structure", i.e. a structure that "carries" or "supports" the constituting components of the respective device. This is contrary to the opposition division's consideration in Reasons 6.3.1 of the appealed decision that the "*only limitation of a 'chassis' defined in claim 1 is in feature F1.4 [i.e. feature (e) in the board's labelling]*".

2.2.2 In relation to the "longitudinal axis" as per **features (f) and (m)**, the board accepts the appellant's argument that the skilled reader would understand this axis, based on their common general knowledge, to be "*the axis along which the chassis has its longest dimension*". The respondent's assertion that this interpretation would not be in line with the disclosure of the opposed patent could not convince the board: instead, the "X-axis" indicated in Figure 3 of the opposed patent, despite not being drawn to scale, is in fact consistent with this interpretation.

2.2.3 Regarding the "lateral axis" as mentioned in **features (f) and (m)** of claim 1, the board agrees with the appellant that the term "lateral" generally implies a direction "towards the sides".

2.2.4 Concerning the "transversal" direction as per **features (f) and (j)**, the appellant's view, expressed in writing and during the oral proceedings before the board, that this direction is "*then readily understood as the third (orthogonal) axis in space*" did not convince. The main reason for this is that, as discussed during the oral proceedings, the term "transversal" only requires a line to "cross something else". The board, however, finds no implicit "orthogonality" in this term. More details on this

aspect of "orthogonality" are provided in points 2.3.2 and 2.3.3 below.

2.3 The central point of dispute between the parties is whether the skilled reader would, as the appellant contends, implicitly understand the "axes" mentioned in feature (f) to form a *mutually orthogonal* coordinate system.

2.3.1 The appellant argued in writing and orally that it was "common practice in the field of mechanical engineering" to use three independent and mutually orthogonal virtual axes to define a three-dimensional space. The appellant posited in that context that the skilled reader would "conventionally understand" claim 1 in this way.

2.3.2 The board is not convinced by this argument, as the technical context of claim 1 itself in fact speaks *against* such an implicit assumption. Feature (b) defines a housing for a "BTE hearing-aid device". As the board noted in point 6.2.2 of its preliminary opinion, such housings are not simple rectangular boxes; they often include curved surfaces, tapered sections and clipped corners to fit the user's ear. Therefore, the board considers it to be technically sensible that the axes of a "chassis" that is designed to fit within such a non-orthogonal housing might also be non-orthogonal. This is strengthened by feature (l), which requires the directions of restriction to be merely "different", but not "orthogonal" (called "parallel-axis interpretation" henceforth). While the board, unlike the opposition division according to Reasons 3.1.1 of the appealed decision, considers it impractical for the chassis axes to be "completely different" from the housing axes, it finds that the

non-orthogonal nature of the BTE housing actually makes a non-orthogonal chassis axis system a technically sensible interpretation for the skilled reader.

2.3.3 Furthermore, the appellant's argument related to "common practice" as to "orthogonality" is directly contradicted by the literal and technically sensible interpretation of the "and"-alternative mentioned in feature (m). The board must give a technical meaning to this alternative (see also **T 423/23**, Reasons 2.1.3). The appellant's interpretation that the expression "*extending along*" (or, for that matter, "*being along*" as per feature (m)) means "*having a vector component*" is not accepted. The plain technical meaning of "along" typically implies co-linearity or parallelism. Thus, the "and"-alternative as per feature (m) implies that a single "second direction" is "along" (i.e. parallel to) the longitudinal axis (X) *and* "along" (i.e. parallel to) the lateral axis (Y). For this to be possible, the longitudinal axis (X) and the lateral axis (Y) must in turn be *parallel* to each other.

The appellant's argument, made during the oral proceedings before the board, that this *parallel-axis interpretation* would be "unsuitable" given that it could not describe a three-dimensional space, is not persuasive. As the respondent correctly brought forward during the oral proceedings before the board, claim 1 as granted does not require the definition of a *complete* 3D-coordinate system. Furthermore, the *parallel-axis interpretation* is indeed technically viable because a skilled reader would readily envisage in this context a chassis with a "longitudinal axis" (X) that has, on its lateral sides, two parallel guide rails, i.e. two "lateral axes". A component sliding within these rails (in the "second direction")

would be moving "along" both the *longitudinal* and the *lateral* axes. This parallel-axis system is, by definition, non-orthogonal. In fact, given that the appellant's interpretation of the expression "*extending along*" cannot be accepted, this scenario is the *only* technically meaningful one that is faithful to feature (m) as drafted. The claim's own wording thus *compels* the skilled reader to rather consider a non-orthogonal arrangement.

2.3.4 The appellant's argument that the "three independent directions" mentioned at lines 27 to 30 of page 2 of the application as filed must be "orthogonal" could not sway the board either. The board concurs with the respondent's correct rebuttal that "independent" cannot, in technical and mathematical terms, be equated with "orthogonal": basis vectors, for instance, in a 3D space can well be *independent* without being *orthogonal*.

2.4 This means that claim 1 as granted is open to technically sensible, non-orthogonal interpretations (such as the *parallel-axis interpretation* set out in point 2.3.2 above) that are not disclosed in the original application. The original application, in the only embodiment from which the three axes were taken (namely Figure 3 as filed), disclosed an orthogonal system that was inextricably linked to the "perpendicular" and "parallel" nature of the PCB. The "generalizing statement" provided at page 16, lines 4 to 12 as filed, to which the appellant referred, does not alter this finding, as it relates to the number of the respective "attachment members", not to their direction of motion restriction or the orthogonality of the axes.

2.5 As a result, the amendments underlying claim 1 as granted introduce subject-matter that extends beyond the application as filed. The board therefore upholds the opposition division's finding in Reasons 3.1.2 of the appealed decision that the ground for opposition under Article 100(c) EPC in conjunction with Article 123(2) EPC prejudices the maintenance of the opposed patent as granted.

3. *Auxiliary requests 1 to 10: claim 1 - added subject-matter*

3.1 In relation to **auxiliary requests 1 to 10**, the board cannot see how added **features (o) to (w)** could provide a remedy for the deficiencies identified in point 2 above for claim 1 of the main request. It finds, in particular regarding **feature (o)**, that, as set out in points 2.3 and 2.4 above, the two directions of the restricted PCB motion as defined in claim 1 can still be non-orthogonal. While the "'85°/90°' logic" referred to by the appellant in relation to Reasons 4.2.1 of the appealed decision may indeed be somewhat "artificial", the board does not concur with the appellant that feature (o) would mean that "*the second direction inevitably restricts motion in the direction parallel to the PCB*" (emphasis as in the original; see page 21 of the statement of grounds of appeal). The reason for this is that, contrary to what the appellant argued, the "longitudinal", "lateral" and "transversal axes" defined in claim 1 are not necessarily *orthogonal* to each other (see point 2.3 above).

3.2 Consequently, there is no reason for the board to find fault in the conclusion drawn in Reasons 4.2.1 and 5 of the appealed decision that auxiliary requests 1 to 10

are likewise not allowable under Article 123(2) EPC.

4. *Auxiliary requests 11 to 16: claim 1 - added subject-matter*

4.1 In Reasons 6.2 of the appealed decision, the opposition division considered **auxiliary request 11** to be allowable under Article 123(2) EPC.

The board does not agree with this assessment, for the following reasons:

4.1.1 While focusing on the terms "prevent" in **feature (m)** and "restrict" in **feature (k)**, Reasons 6.2 of the appealed decision did not indicate any direct and unambiguous disclosure in the application as filed for **features (m) and (x)**. Nonetheless, the opposition division found that the feature "*the 'second direction along the longitudinal axis and/or the lateral axis' regarding the 'direction parallel' to the PCB*" was "*not broader than what is disclosed in the original application*".

4.1.2 The respondent stated in this regard, both in writing and orally, that the "*added feature [i.e. **feature (x)**] does not specify or introduce any link between the longitudinal/transversal axis and the direction parallel to the PCB as taught in the paragraph bridging pages 15 and 16 of the application as filed*".

The board concurs. Claim 1 of auxiliary request 11 could indeed be understood in the sense that the "attachment members" of the first and second type restrict a motion in four different directions, namely the "first direction" as per feature (j), the "second direction" as mentioned in features (k) to (m), the

"direction basically perpendicular to the PCB" in accordance with feature (o) and the "direction parallel to the PCB" according to feature (x).

4.1.3 The board also notes that the embodiment shown in original Figure 3 and the description on pages 15 to 17 as filed does not provide for a direct and unambiguous disclosure of feature (m): while the "or"-alternative of this feature may correspond to the phrase "*longitudinal axis X or the lateral axis Y*" used in line 1 of page 16 as originally filed, the board considers that the "and"-alternative — interpreted as the *parallel-axis scenario* discussed in point 2.3.3 above — is not covered by the remaining expression "*or linear combinations thereof*" used in line 2 of page 16 as filed. The board could find no direct and unambiguous disclosure elsewhere in the application as filed for this "and"-alternative, either.

4.2 Moreover, the amendments underlying claim 1 of **auxiliary requests 12 to 16** cannot overcome the deficiencies mentioned in point 4.1 above, too.

4.3 In conclusion, auxiliary requests 11 to 16 are likewise not allowable under Article 123(2) 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