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Datasheet for the decision of 30 June 2016

Case Number: T 2158/11 - 3.5.02

Application Number: 05425567.4

Publication Number: 1750486

IPC: H05B33/08

Language of the proceedings: EN

Title of invention:
A multiple-cell LED arrangement, related cell and manufacturing process

Patent Proprietor:
OSRAM GmbH
OSRAM S.P.A. - SOCIETA' RIUNITE OSRAM EDISON CLERICI

Opponent:
TridonicAtco GmbH & Co.KG

Relevant legal provisions:
EPC Art. 54, 56, 100(b), 100(c), 123(3)

Keyword:

Grounds for opposition - added subject-matter (no) - insufficiency of disclosure (no)
Novelty - (no) - main request, auxiliary request 1
Amendments - broadening of claim (no) - auxiliary request 2
Inventive step - (yes) - auxiliary request 2

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Case Number: T 2158/11 - 3.5.02

D E C I S I O N
of Technical Board of Appeal 3.5.02
of 30 June 2016

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Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 5 August 2011 concerning maintenance of the European Patent No. 1750486 in amended form.**

Composition of the Board:

Chairman	G. Flyng
Members:	R. Lord
	R. Cramer

Summary of Facts and Submissions

I. Both the patent proprietors and the opponent appealed against the decision of the opposition division that, account being taken of the amendments made by the patent proprietors during the opposition proceedings, the European patent No. 1 750 486 and the invention to which it relates met the requirements of the EPC. The basis for this decision was the then auxiliary request 1, the claims of which were filed during the oral proceedings of 7 April 2011.

II. The following documents cited by the opponent during the procedure before the opposition division are relevant for this decision:

D5: EP 1 379 108 A1,
D6: DE 20 2004 006 292 U1, and
D7: EP 1 244 334 A2.

III. With their statement of grounds of appeal dated 30 November 2011 the patent proprietors filed sets of claims according to first to fifth auxiliary requests, the last of which corresponded to the request on which the decision under appeal was based.

In their statement of grounds of appeal dated 5 December 2011 the opponent presented arguments as to why the patent in the form which was the basis of the decision under appeal should be revoked. In a further letter dated 22 March 2012 the opponent responded to the patent proprietors' appeal grounds.

With a further letter dated 12 April 2012, responding to the opponent's statement of grounds of appeal, the

patent proprietors filed a set of claims according to a sixth auxiliary request.

In a communication accompanying the summons to oral proceedings dated 7 April 2016 the board indicated its preliminary opinion concerning many of the arguments raised by the parties. In particular the board indicated that the objections of lack of novelty and lack of inventive step raised by the opponent with reference to various other documents cited in the opposition grounds and the statement of grounds of appeal appeared to be less well-founded than those based on the three documents cited above.

IV. Oral proceedings before the board took place on 30 June 2016, during the course of which the patent proprietors filed a corrected set of claims according to the second auxiliary request. In their arguments relating to novelty and inventive step the opponent referred only to documents D5, D6 and D7, and did not pursue the objections based on the other documents mentioned above.

The appellant patent proprietors (referred to in the following as the patent proprietors) requested that the decision under appeal be set aside and the patent be maintained as granted (main request), or alternatively that the patent be maintained in amended form on the basis of the claims of the first auxiliary request, filed with the statement of grounds of appeal, or on the basis of the claims of the corrected version of the second auxiliary request, filed during the oral proceedings of 30 June 2016 (referred to in the following as the second auxiliary request), or on the basis of the claims of one of the third, fourth or fifth auxiliary requests, filed with the statement of

grounds of appeal, or on the basis of the claims of the sixth auxiliary request, filed with the letter of 12 April 2012.

The appellant opponent (referred to in the following as the opponent) requested that the decision under appeal be set aside and the patent be revoked.

V. Claim 1 of the patent in suit as granted (patent proprietors' main request) reads as follows:

"A LED cell (0, 1, 2, 3) for a multiple-cell LED arrangement, including one or more LEDs having a binning class as a function of its or their emission wavelength (L1, L2) and brightness (B1, B2) characteristics, characterized in that the cell (0, 1, 2, 3) includes an impedance element (R0, R1, R2, R3) coupled with said cell (0, 1, 2, 3), said impedance element (R0, R1, R2, R3) having an impedance value indicative of the binning class of said LED or LEDs."

Claim 6 of the patent in suit as granted reads as follows:

"A multiple-cell LED arrangement characterized in that the arrangement includes:

- a plurality of LED cells (0, 1, 2, 3) according to claim 1, and
- a controller (5) configured for sensing (6, 80, 81, 82, 83) the impedance value of the impedance elements (R0, R1, R2, R3) in each of the plurality of cells (0, 1, 2, 3) and adaptively drive each said cell (0, 1, 2, 3) as a function of its binning class as indicated by the impedance element (R0, R1, R2, R3) coupled to the cell."

Claim 14 of the patent in suit as granted reads as follows:

"A process for manufacturing LED cells (0, 1, 2, 3) for multiple-cell LED arrangements, wherein said cells include one or more respective LEDs having a binning class as a function of its or their emission wavelength (L_1, L_2) and brightness (B_1, B_2) characteristics, characterized in that the process includes the step of respectively coupling with said cells (0, 1, 2, 3) impedance elements (R0, R1, R2, R3), each said impedance element (R0, R1, R2, R3) having an impedance value indicative of the binning class of said LED or LEDs included in the respective cell (0, 1, 2, 3)."

Claim 1 according to the patent proprietors' first auxiliary request reads as follows:

"A LED cell (0, 1, 2, 3) for a multiple-cell LED arrangement, including one or more LEDs having being binned in a binning class as a function of its or their emission wavelength (L_1, L_2) and brightness (B_1, B_2) characteristics, wherein the cell (0, 1, 2, 3) includes an impedance element (R0, R1, R2, R3) coupled with said cell (0, 1, 2, 3), said impedance element (R0, R1, R2, R3) having an impedance value indicative of the binning class of said LED or LEDs in order to let a driver controller know or learn the emission wavelength (L_1, L_2) and brightness (B_1, B_2) of the LED or LEDs included in said cell."

Claim 1 according to the patent proprietors' second auxiliary request reads as follows:

"A multiple-cell LED arrangement, wherein the arrangement includes:

- a plurality of LED cells (0, 1, 2, 3), each cell (0, 1, 2, 3) including one or more LEDs having a binning class as a function of its or their emission wavelength (L_1, L_2) and brightness (B_1, B_2) characteristics, wherein each cell (0, 1, 2, 3) includes an impedance element (R0, R1, R2, R3) coupled with said cell (0, 1, 2, 3), said impedance element (R0, R1, R2, R3) having an impedance value indicative of the binning class of said LED or LEDs, and
- a controller (5) configured for sensing (6, 80, 81, 82, 83) the impedance values of the impedance elements (R0, R1, R2, R3) in each of the plurality of cells (0, 1, 2, 3) and adaptively drive each said cell (0, 1, 2, 3) as a function of its binning class as indicated by the impedance element (R0, R1, R2, R3) coupled to the cell."

Claim 9 of the second auxiliary request differs from claim 14 of the main request only in that the expression "characterized in that" is replaced by the word "wherein".

Claims 2 to 8 and 10 to 15 of the second auxiliary request are dependent on claims 1 and 9 respectively.

In the light of the conclusion indicated below with respect to the patent proprietors' second auxiliary request, their third to sixth auxiliary requests are not addressed in this decision.

VI. The arguments of the patent proprietors which are relevant for the present decision can be summarised as follows:

The terms "includes" and "coupled to" in claims 1 and 14 of the main request were not contradictory. The skilled person would have understood these claims as defining exactly the same as what was originally disclosed. For same reason the objection of insufficiency of disclosure related to these terms was not justified.

The opponent had not presented any reasons why the conclusion in section 11 of the decision under appeal concerning the other objection under Article 100(c) EPC was not correct, so that there was no reason to reverse that element of the decision.

The use of the singular form in the references to binning class in claims 1 and 14 of the main request made clear that all the LEDs in any one LED cell had the same binning class. In this context it was clear to the skilled person that the process described in paragraph [0046] of the patent was simply a further refinement of the claimed invention, so that it did not suggest that the invention extended to the case of multiple binning classes within a single cell, as was particularly clear from the reference in that paragraph to an "upstream" manufacturing process.

The binning class represented a structural feature of the LED cell of claim 1 of the main request, so that its definition established novelty, since none of the cited prior art documents disclosed binning. Also none of those documents disclosed an LED cell which, as claimed, was "for a multiple-cell LED arrangement".

The skilled person would have understood that claim 9 of the second auxiliary request required that there are LEDs having different binning classes. Paragraph [0027] was consistent with that, because it merely stated that it was not excluded that some LED cells might have the same binning class. Thus binning class had a technical meaning. Moreover, the wording of the claim implied that the step of coupling the impedance element to the cell was preceded by a step of selecting the impedance value of that element on the basis of the binning class. This implicit selection step established novelty over the cited prior art.

The resistance values disclosed in D7 were used only to indicate the nominal drive current of the LEDs (see the table in figure 1). In contrast, claim 9 of the second auxiliary request required a selection of the impedance value on the basis of the binning class of the LEDs, which was defined in the claim as depending in turn on the emission wavelength and brightness of the LEDs. This selection was not only purposeful, but also represented a discernible step of the defined process. No such step was disclosed or suggested in the cited prior art, so that the subject-matter of the claim involved an inventive step.

Claim 6 of the patent as granted required only that all of the LED cells fall within the terms of granted claim 1, not that they should be identical. Therefore the scope of protection of claim 1 of the second auxiliary request was the same as that of granted claim 6.

The arrangement of claim 1 of the second auxiliary request was novel with respect to D7 or any of the other cited prior art, because that claim required that

the controller be configured to provide adaptive control on the basis of the binning class as derived from the impedance values. This configuration would have been discernible in the controller itself, even if all of the LEDs in a particular arrangement had the same binning class.

The subject-matter of that claim also involved an inventive step with respect to D7 because, even in the case in which all of the LEDs had the same binning class, the adaptive control would have achieved the effect of increasing flexibility, for instance when replacing individual LED cells of the claimed arrangement.

The subject-matter of claim 1 of the second auxiliary request was also not obvious in the light of the combination of D6 and D7. If a skilled person, starting from D7 and wishing to increase the flexibility of the arrangement, were to have consulted D6, then he would have considered the embodiments of figures 4 and 5 of that document to be more relevant, so would have arrived at a solution different from that of the present claim. Alternatively, if starting from the embodiment of figure 3 b) of D6 with the same aim, he would have recognised that the embodiments of figures 4 and 5 of that document already provided solutions, so would have had no reason to consult D7. The combination of the two documents could only have been arrived at by means of hindsight. Moreover, neither of these documents suggested the use of binning classes representative of two physical characteristics of the LEDs.

VII. The opponent argued essentially as follows:

The terms "includes" and "coupled to" in claims 1 and 14 of the main request were contradictory, so that this claim defined a combination of features which was not disclosed in the application as originally filed on which the patent is based.

The objection under Article 100(c) EPC raised during the procedure before the opposition division was maintained.

The patent contained no disclosure as to how an impedance element could simultaneously be included in and coupled to an LED cell, so that the opposition ground under Article 100(b) EPC prejudiced the maintenance of the patent as granted.

Claims 1 and 14 of the main request covered embodiments in which an LED cell contained LEDs having more than one binning class, this being especially clear for the embodiment described in paragraph [0046] of the patent. However, the patent did not disclose how an impedance value could be selected to indicate such multiple binning classes, so that also in this respect the disclosure was insufficient within the meaning of Article 100(b) EPC.

In claim 1 of the main request neither the definition of the binning class of the LED or LEDs, nor the definition that the cell was "for a multiple-cell LED arrangement", implied any technical features of the claimed cell. Therefore the claim, in its broadest interpretation, defined just an LED coupled with an impedance element. Such cells were known from documents D5, D6 and D7. Indeed from paragraph [0035] of the

patent it was apparent that the impedance value could be zero, in which case the cell could be simply an LED with a connection wire.

The arguments concerning the main request applied correspondingly to the first auxiliary request.

Claim 9 of the second auxiliary request did not define the boundaries of the binning classes, as a result of which the impedance values were effectively arbitrary. Thus, in terms of technical features, the claim defined merely the repetition of an LED cell manufacturing process which was known at least implicitly from each of D5, D6 and D7. This was the case because the claim covered embodiments in which the LEDs in all cells had the same binning class, so that all impedance values would be the same. That the claims covered such embodiments was clear from paragraph [0027] of the patent.

D7 represented the best starting point for the assessment of inventive step for claim 9 of the second auxiliary request, since it disclosed the control of LED drive conditions on the basis of the measurement of the resistance values of resistors coupled to the LED cells. Given the absence of any technical character in the impedance values defined in the claim, noting in particular that the claim did not define the use to which these values were intended to be put, these values had to be seen as simply labels, so that the process steps involving them could not contribute to the presence of an inventive step.

Granted claim 6 required that the LEDs in all of the LED cells in the claimed arrangement had the same binning class, whereas claim 1 of the second auxiliary

request, which was based on that claim, did not define such a limitation. The scope of protection of the second auxiliary request therefore extended beyond that of the patent as granted, thus contravening Article 123(3) EPC.

Since claim 1 of the second auxiliary request also covered embodiments in which the LEDs in all of the LED cells had the same binning class, the subject-matter of this claim did not differ from the arrangement of D7 in this respect. The controller defined in the claim could also not result in novelty over that document, because if all the LEDs were the same, it would provide no function beyond that disclosed in D7.

Even if the subject-matter of this claim were considered new, it would not involve an inventive step, because in such an arrangement the controller would provide no technical effect, and so could not solve a technical problem.

The subject-matter of claim 1 of the second auxiliary request also lacked an inventive step in the light of the combination of D6 and D7. Starting from D7, and addressing the technical problem of increasing flexibility, taking into account the general knowledge of the skilled person concerning production tolerances and binning, the solution as claimed would have been obvious in the light of the teaching of D6 relating to the embodiment of figure 4. Alternatively, it would have been obvious starting from the embodiment of figure 3 b) of D6 combined with the teaching of D7. Concerning D6 it was to be noted that claim 3, when dependent on claim 2, disclosed the concept of using analog means (i.e. impedances) to indicate the LED type in combination with control on the basis of multiple

parameters, which combination was the main concept underlying the claimed invention.

Reasons for the Decision

1. Both appeals are admissible.

2. *Main request - Added subject-matter (Article 100(c) EPC)*

2.1 The opponent argued that the definitions in claims 1 and 14 of the patent as granted that the LED cell includes the impedance element and that the impedance element is coupled with the LED cell led to these claims defining a combination of embodiments which was not disclosed in the application on which the patent is based, as originally filed. This objection is however based on the assumption that these two definitions are essentially contradictory. The board is however of the opinion that a skilled reader would understand that the first means that the impedance element is part of the LED cell, and that the second means that it is coupled to the other parts of that cell. Since this is exactly the arrangement which was disclosed in the application underlying the patent as originally filed, the present claims do not contain added subject-matter in this respect.

2.2 The opponent in their statement of grounds of appeal also explicitly maintained the objection of added subject-matter as addressed in section 11 of the decision under appeal. However, they did not provide

any indication as to why the decision of the opposition division in that respect was not correct. The board therefore sees no reason to reverse that aspect of the decision.

2.3 The board therefore concludes that the opposition ground under Article 100(c) EPC does not prejudice the maintenance of the patent as granted.

3. *Main request - Sufficiency of disclosure (Article 100(b) EPC)*

3.1 The opponent's first objection of insufficiency of disclosure was that the patent did not teach the skilled person how to produce an LED cell in which the impedance element was both included in the cell and coupled to it. This objection is based on the same interpretation of claims 1 and 14 as discussed above in paragraph 2.1. Since for the reasons indicated there the board considers that there is no contradiction between the two definitions referred to by the opponent, there is in this respect no impediment to the skilled person carrying out the claimed invention.

3.2 The opponent's other objection of insufficiency of disclosure is based on their understanding that the claims cover embodiments in which an individual LED cell contains LEDs having more than one binning class. However, also here the board considers that the skilled reader would not interpret the claims in that manner. On the contrary, the board considers that the use of the singular form in both references to binning class in each of claims 1 and 14 clearly indicates that when an LED cell contains more than one LED, then all of those LEDs have the same binning class, so that the skilled person is presented with no problem when

selecting an impedance value reflecting that binning class. The board also agrees with the patent proprietors that the skilled reader would understand that the embodiment described in paragraph [0046] of the patent represents only a further development of that principle, making use of resistor trimming. The validity of this interpretation is particularly clear from the reference in that paragraph to the trimming taking place "upstream in the manufacturing process".

3.3 The board therefore concludes that also the opposition ground under Article 100(b) EPC does not prejudice the maintenance of the patent as granted.

4. *Main request, claim 1 - Novelty (Article 54 EPC)*

4.1 In its simplest configuration the LED cell defined in claim 1 of the granted patent comprises only a single LED coupled to an impedance. Moreover, as described in paragraph [0035] of the patent in suit, the value of that impedance can be zero, so that it could consist simply of a wire connection. The claim would thus cover any conventional packaged LED, so that its subject-matter is clearly not new. Even if it were assumed that the impedance had a non-zero value, that would not establish novelty over D5, D6 or D7, since each of these documents describes an LED connected to a resistance (D5: the figure, LEDs 9, resistance 11; D6: figure 3 b), LED array 302, measurement resistor 303; D7: figure 1 and column 3, lines 6 to 8, LED 2, resistor 3).

4.2 The board is not convinced by the patent proprietors' argument that the binning class represents a structural feature, because the claim does not define any element specifying the relationship between the impedance

values and the binning classes or that between the binning classes and the emission wavelengths and brightnesses of the LEDs. For this reason the question as to whether binning classes were disclosed in the prior art is not relevant for the assessment of novelty of the subject-matter of this claim. The board is also not convinced by the patent proprietors' argument that the expression "for a multiple-cell LED arrangement" establishes novelty, because this merely specifies the purpose for which the LED cell is intended to be used, without implying any technical features of the cell itself.

4.3 The subject-matter of claim 1 according to the patent proprietors' main request is therefore not new, so that the opposition ground under Article 100(a) EPC in combination with Article 54 EPC prejudices the maintenance of the patent as granted.

5. *First auxiliary request, claim 1 - Novelty (Article 54 EPC)*

Claim 1 of the first auxiliary request differs from claim 1 of the main request firstly in that it defines that the LED or LEDs have been binned and secondly in that it adds a definition relating to the functioning of the controller. The first of these does not further limit the subject-matter of the claim, because the process of binning does not result in any additional structural features of an LED. The second also results in no further limitation, because it defines details of an element (the controller) which is not part of the claimed device. The conclusion in paragraph 4.3 above therefore also applies to this request.

6. *Second auxiliary request, claim 9 - Novelty (Article 54 EPC)*

6.1 The opponent argued that a straightforward repetition of the LED cell manufacturing process which was implicit in each of D5, D6 and D7 would lead to a process according to claim 9 of the second auxiliary request. This argument was based on the opponent's understanding that the characterising part of the claim defined merely coupling an impedance element to the LED cell, without placing any restriction on the value of that impedance. The board considers however that the final phrase of the claim ("each said impedance element having an impedance value indicative of the binning class ..."), when interpreted in combination with the definition of "binning class" in the preamble of the claim, implies that the step of coupling the impedance to the cell is preceded by a step of selecting the impedance element to have an impedance value corresponding to the binning class, which in turn implies that this reflects the emission wavelength and brightness characteristics of the LED or LEDs. This would be a discernible technical step of the process, and since such a step is not disclosed in any of D5, D6 or D7, it is sufficient to establish novelty over those documents. Moreover, the fact that the claim does not specifically define the limits of the binning classes (in terms of emission wavelength and brightness) does not mean that they are purely arbitrary, because the claim establishes a link between binning class and LED characteristics.

6.2 The opponent argued that the claim covers cases in which all LEDs in all cells have the same binning class, in which circumstances the definition discussed above could not establish novelty. The board is not

convinced by this argument, because a skilled person would not consider such an interpretation of the claim as being plausible, because it would render the final part of the claim completely meaningless. Thus, when reading the claim with a mind willing to understand, the skilled person would assume that the process involves LEDs with a plurality of binning classes. In this context the opponent also argued that paragraph [0027] of the patent in suit effectively taught that the binning classes of the LEDs in all cells could be the same. The board does not agree with this argument, because that paragraph merely teaches that it is not necessary for all cells to have LEDs from different binning classes (i.e. that some of them could have the same binning class).

6.3 The board therefore concludes that the wording of the claim does establish a technical difference over the prior art cited by the opponent, so that the subject-matter of the claim is new within the meaning of Article 54 EPC.

7. *Second auxiliary request, claim 9 - Inventive step (Article 56 EPC)*

The board agrees with the opponent that the document D7 represents an appropriate starting point for the assessment of inventive step for this claim, particularly given that this document discloses the control of LEDs on the basis of the resistance values of resistors coupled to the LED cells. However, the resistance values indicate only the nominal drive currents of the LEDS (see e.g. the table in figure 1). The document says nothing about binning classes as such, or about control on the basis of emission wavelength and brightness. For the reasons indicated in

sections 6.1 and 6.2 above, the board also does not agree with the opponent's argument that the binning class, and hence also the impedance value, represents nothing more than a label. To the contrary, the board considers that the impedance value represents the result of a purposeful selection on the basis of certain physical characteristics of the LEDs. The fact that the claim does not define what is to be done with the resistance value does not detract from the fact that neither D7 nor any of the other documents cited by the opponent suggests providing a resistor having a value based on the binning class of the LEDs. The introduction of such a process step could only be arrived at with hindsight. The board therefore concludes that the subject-matter of claim 9 of the patent proprietors' second auxiliary request involves an inventive step according to Article 56 EPC.

8. *Second auxiliary request, claim 1 - Extension of scope of protection (Article 123(3) EPC)*

The opponent argued that claim 1 of the second auxiliary request had a broader scope of protection than claim 6 of the patent as granted, thus contravening Article 123(3) EPC, because that granted claim required that all of the LEDs should be identical, at least with respect to their binning class. The board is not convinced by this argument, because the wording "a plurality of LED cells ... according to claim 1" in granted claim 6 merely requires that each of the LED cells of the claimed arrangement should individually fall within the terms of claim 1, not that they should all be identical. Thus the fact that the present claim 1 does not define this limitation either does not result in an extension of

the scope of protection. Therefore the board concludes that this claim does not contravene Article 123(3) EPC.

9. *Second auxiliary request, claim 1 - Novelty (Article 54 EPC)*

The board accepts the opponent's argument that claim 1 of this request covers cases in which the LEDS in all LED cells (e.g. both when there are only two cells) have the same binning class. However, that alone is not sufficient to establish that the claim is anticipated by the documents cited in this respect by the opponent (in particular D7), because claim 1 also defines a controller which has to be configured so as to adaptively drive the cell on the basis of the binning class as derived from the impedance value. That the controller is configured to do this would be a discernible technical feature of the claimed arrangement, regardless of whether the cells in a particular arrangement had a plurality of different binning classes or just the same one. This configuration and adaptive control would be clearly different from a control based simply on the nominal current as in D7. None of the other documents cited by the opponent contains any more relevant teaching in this respect. The board therefore concludes that the subject-matter of claim 1 of the patent proprietors' second auxiliary request is new within the meaning of Article 54 EPC.

10. *Second auxiliary request, claim 1 - Inventive step (Article 56 EPC)*

10.1 The opponent's main objection of lack of inventive step against claim 1 of the second auxiliary request was based on document D7 alone, arguing that in the case in

which the LEDs in all cells have the same binning class, the claimed arrangement produces no technical effect which might solve a technical problem, so cannot involve an inventive step. The board does not find this argument convincing, because even if a particular arrangement has LEDs of only one binning class, it would nonetheless demonstrate the technical effect of increased flexibility, for instance if it were required to replace a cell, since the necessary drive adaptation would follow automatically. Thus, even this embodiment of the claimed arrangement solves the technical problem of increasing flexibility, and moreover does so in a manner which is entirely different from anything which might be suggested by D7.

10.2 The opponent also raised further objections of lack of inventive step based on the combination of D6 and D7, starting from either. The board is however of the opinion that the combination of the teaching of these documents could not lead in an obvious manner to an arrangement according to claim 1 of the second auxiliary request. In this respect the board observes that D6 contains three distinct embodiments. Of these, only one, that of figure 3 b), makes use of the measurement of a coupled resistor for the LED control, but in that case, the resistor value indicates only a single parameter, e.g. the drive current of the LED. The other two embodiments do enable control on the basis of more than one parameter, as in the claimed invention, but to do so they use either an electronic memory (figure 4) or a feedback system (figure 5). Thus a skilled person starting from the embodiment of figure 3 b) of D6, and wishing to expand the control to take into account more parameters, would immediately see that the embodiments of figures 4 and 5 of that document provide solutions to that problem. He would

therefore have no reason to consider the teaching of D7. Alternatively, a skilled person starting from D7 and wishing to solve the same problem, would, if he considered D6, make use of the solutions provided by the embodiments of figures 4 and 5. Thus neither combination would lead in an obvious manner to an arrangement according to claim 1 of the second auxiliary request. In this context the board notes that the mere fact that, as noted by the opponent, one dependent claim of D6 (claim 3 when dependent on claim 2) covers such a combination, does not mean that the document discloses or suggests that combination.

10.3 Given these conclusions, and that the remaining prior art cited by the opponent contains no more relevant teaching, the board concludes that the subject-matter of claim 1 of the patent proprietors' second auxiliary request involves an inventive step according to Article 56 EPC.

11. *Concluding remarks*

The board therefore concludes that the claims according to the second auxiliary request are allowable. The patent proprietors' request for maintenance in amended form on this basis therefore has to be granted. In the light of this conclusion it is not necessary for the board to consider the patent proprietors' third to sixth auxiliary requests.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the department of first instance with the order to maintain the patent in amended form on the basis of claims 1 to 15 of the corrected version of the second auxiliary request filed during the oral proceedings of 30 June 2016, and a description and drawings to be adapted thereto.

The Registrar: The Chairman:

M. Cañueto Carbajo G. Flyng

Decision electronically authenticated