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**Datasheet for the decision
of 9 December 2020**

Case Number: T 1915/18 - 3.4.02

Application Number: 15193205.0

Publication Number: 3118666

IPC: G02B27/01

Language of the proceedings: EN

Title of invention:

SHORT-DISTANCE OPTICAL AMPLIFICATION MODULE AND NEAR-EYE
DISPLAY OPTICAL MODULE USING THE SAME

Applicant:

Shenzhen Dlodlo Technologies Co., Ltd.

Headword:

Relevant legal provisions:

RPBA Art. 12(4)

Keyword:

Decisions cited:

Catchword:



Beschwerdekammern

Boards of Appeal

Chambres de recours

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Case Number: T 1915/18 - 3.4.02

D E C I S I O N
of Technical Board of Appeal 3.4.02
of 9 December 2020

Appellant:
(Applicant)

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Decision under appeal:

**Decision of the Examining Division of the
European Patent Office posted on 14 February
2018 refusing European patent application No.
15193205.0 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman R. Bekkering
Members: A. Hornung
G. Decker

Summary of Facts and Submissions

- I. The applicant appealed against the decision of the examining division refusing European patent application No. 15193205.0 on the basis of Article 97(2) EPC because the main request and the auxiliary request then on file did not fulfil the requirements of Articles 84 and 54 EPC.
- II. The applicant requested that the decision under appeal be set aside and a patent be granted on the basis of the claims according to a new main request or a new auxiliary request, both requests filed with the statement setting out the grounds of appeal.
- III. The applicant informed the board on the same date on which the oral proceedings had been scheduled that it would not be attending the oral proceedings. The appellant made no further submissions in reply to the board's communication. Hence, oral proceedings were held on 9 December 2020 in the absence of the duly summoned appellant.
- IV. Independent claim 1 according to the main request reads as follows:

"An optical module, suitable for being used in a near-eye optical module, comprising a first 45 degree phase delay sheet (2), an optical element with no effect on a light phase delay, a curved lens (4), a second 45 degree phase delay sheet (5) and a polarising mirror, which are sequentially arranged, wherein the optical element with no effect on a light phase delay is disposed between the first 45 degree phase delay sheet (2) and the curved lens (4), wherein the optical element with no effect on the light phase delay is an optical module (3) for correcting hue variation, **characterized in that** the curved lens has a

50% transmission and 50% reflection, in that the optical module that is suitable for being used in the near-eye-optical module consists of the first 45 degree phase delay sheet (2), the optical element with no effect on a light phase delay, the curved lens (4), the second 45 degree phase delay sheet (5) and the optical and the polarising mirror, and in that the polarising mirror is a reflective polarizing sheet (6) that has a surface in a plane shape."

- Independent claim 1 according to the auxiliary request reads as follows:

"An optical module, suitable for being used in a near-eye optical module, comprising a first 45 degree phase delay sheet (2), an optical element with no effect on a light phase delay, a curved lens (4), a second 45 degree phase delay sheet (5) and a polarising mirror, which are sequentially arranged, wherein the optical element with no effect on a light phase delay is disposed between the first 45 degree phase delay sheet (2) and the curved lens (4), wherein the optical element with no effect on the light phase delay is an optical module (3) for correcting hue variation, and wherein the sequential arrangement is such that an orthogonal polarized light turns into a polarized light with 45 degree phase delay through the first 45 degree phase delay sheet (2), and then the light with power of a certain proportion is firstly transmitted through the partial-transmission and partial-reflection curved lens (4), and wherein the transmitted light passes through the second 45 degree phase delay sheet (5) and turns into a polarized light with 90 degree phase delay, and then has a total reflection on the reflective polarizing sheet (6), and wherein the reflected light passes through the second phase delay sheet (5) again and turns into a polarized light with 135 degree phase delay, and wherein the light with power of a certain proportion

is reflected and amplified through the partial-transmission and partial-reflection curved lens (4), wherein the amplification is a large-multiple amplification, and wherein the light amplified with large multiple is adjusted to a orthogonal polarized light through the second 45 degree phase delay sheet (5) again, and finally the orthogonal polarized light passes through the polarising mirror, **characterised in that**

the curved lens has a 50% transmission and 50% reflection,

in that the optical module that is suitable for being used in the near-eye optical module, consists of the first 45 degree phase delay sheet (2), the optical element with no effect on the light phase delay, the curved lens (4), the second 45 degree phase delay sheet (5) and the optical mirror,

in that the polarising mirror is a reflective polarizing sheet (6) that has a surface in a plane shape, and

in that the light is amplified while being transmitted firstly through the partial-transmission and partial-reflection curved lens (4), wherein the amplification is a small-multiple amplification"

- Independent claim 2 according to the auxiliary request reads as follows:

"A near-eye display optical module, comprising a display screen (1), a first 45 degree phase delay sheet (2), a curved lens (4), a second 45 degree phase delay sheet (5) and a polarising mirror, which are sequentially arranged, wherein an optical element with no effect on a light phase delay is disposed between any adjacent two of the display screen (1), the first 45 degree phase delay sheet (2) and

the curved lens (4) and wherein the optical element with no effect on the light phase delay is an optical module (3) for correcting hue variation, and wherein the sequential arrangement is such that an orthogonal polarized light turns into a polarized light with 45 degree phase delay through the first 45 degree phase delay sheet (2), and then the light with power of a certain proportion is firstly transmitted through the partial-transmission and partial-reflection curved lens (4), and wherein the transmitted light passes through the second 45 degree phase delay sheet (5) and turns into a polarized light with 90 degree phase delay, and then has a total reflection on the reflective polarizing sheet (6), and wherein the reflected light passes through the second phase delay sheet (5) again and turns into a polarized light with 135 degree phase delay, and wherein the light with power of a certain proportion is reflected and amplified through the partial-transmission and partial-reflection curved lens (4), wherein the amplification is a large-multiple amplification, and wherein the light amplified with large multiple is adjusted to a orthogonal polarized light through the second 45 degree phase delay sheet (5) again, and finally the orthogonal polarized light passes through the polarising mirror, **characterised in that** the curved lens has a 50% transmission and a 50% reflection and in that the light is amplified while being transmitted firstly through the partial-transmission and partial-reflection curved lens (4), wherein the amplification is a small-multiple amplification, and wherein the polarising mirror is a reflective polarizing sheet (6) that has a surface in a plane shape."

Reasons for the Decision

1. Main request and auxiliary request - admissibility

1.1 The present main request and auxiliary request have been filed for the first time with the statement of grounds of appeal. Claim 1 of both requests has been largely reworded. In particular, claim 1 of the main request has been amended with respect to claim 1 underlying the appealed decision essentially in that the claim "has been drafted in the two part form as being delimited over the prior art according to document D4" (see statement of grounds of appeal, page 2, third paragraph), whereby a "polarising mirror" is defined for the first time in present claim 1.

1.2 In the communication annexed to the summons to oral proceedings, point 6.1.2, the board expressed its preliminary view that "the claims of the main request could and should have been submitted during first-instance proceedings. In particular, the oral proceedings before the examining division had been postponed expressly for giving the applicant the opportunity to take into account the objections of lack of novelty based on document D4, introduced shortly before the oral proceedings by the examining division in view of the amendments filed by the applicant in response to the summons to oral proceedings. Therefore, the board currently considers not to admit the main request into the proceedings (Article 12(4) RPBA 2007)".

Moreover, concerning the auxiliary request, the board, in the communication annexed to the summons to oral proceedings, point 7.1, informed the applicant that "[p]resent auxiliary request has been substantively reworded with respect to the auxiliary request underlying the appealed decision. In particular, a second independent claim has been added to the set of claims" and that "for reasons similar to those given for the main request, it is

doubtful whether the auxiliary request will be admitted under Article 12(4) RPBA 2007".

The applicant neither rebutted the board's provisional opinion nor submitted any new requests aiming at overcoming the objections. The board sees no reason to deviate from its preliminary opinion regarding admissibility of the main request and auxiliary request, which therefore becomes final.

1.3 Moreover, according to the board's communication annexed to the summons to oral proceedings, claim 1 of both requests presented a plurality of issues with respect to the requirements of Articles 83, 84, 123(2), 54 and 56 EPC. Therefore, admitting exceptionally a new request for the reason that its set of claims is readily grantable does not apply in the present case.

1.4 For the above reasons, the board exercises its discretion under Article 12(4) RPBA 2007 in not admitting any of the present requests into the proceedings.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



L. Gabor

R. Bekkering

Decision electronically authenticated