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**Datasheet for the decision
of 10 November 2015**

Case Number: T 2424/10 - 3.4.03

Application Number: 03013452.2

Publication Number: 1378883

IPC: G09G3/34, G09G3/36, G09G3/18,
G09G3/30, G09G3/32

Language of the proceedings: EN

Title of invention:
Apparatus of driving light source for display device

Applicant:
Samsung Display Co., Ltd.

Headword:

Relevant legal provisions:
EPC Art. 123(2)

Keyword:
Amendments - intermediate generalisation - added subject-
matter (yes)

Decisions cited:

Catchword:



**Beschwerdekammern
Boards of Appeal
Chambres de recours**

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Case Number: T 2424/10 - 3.4.03

**D E C I S I O N
of Technical Board of Appeal 3.4.03
of 10 November 2015**

Appellant: Samsung Display Co., Ltd.
(Applicant) 17113, 1, Samsung-ro
Giheung-Gu
Yongin-si
Gyeonggi-do (KR)

Representative: Modiano, Micaela Nadia
Modiano Josif Pisanty & Staub Ltd
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted on 22 July 2010
refusing European patent application No.
03013452.2 pursuant to Article 97(2) EPC.

Composition of the Board:

Chairman G. Eliasson
Members: T. M. Häusser
C. Schmidt

Summary of Facts and Submissions

- I. The appeal concerns the decision of the examining division refusing the European patent application No. 03013452 for lack of inventive step (Article 56 EPC 1973).
- II. Oral proceedings before the board of appeal took place in the appellant's absence, of which the board had been notified beforehand.
- III. In writing the appellant had requested that the decision under appeal be set aside and that a patent be granted on the basis of claims 1 to 5 of the request submitted with the statement setting out the grounds of appeal dated 29 November 2010.
- IV. In the communication pursuant to Article 15(1) RPBA accompanying the summons to attend oral proceedings, the board raised *inter alia* the objection that the amendments in claim 1 concerning the oscillator were contrary to the provisions of Article 123(2) EPC.
- V. The wording of independent claim 1 is as follows (board's labelling "(a)"):
1. An apparatus of driving a light source (910) for a display device comprising:
 - an electricity supplying unit adapted to supply electricity to the light source (910);
 - a current sensor (923); and
 - a light controller (930) adapted to control the electricity supplying unit based on a signal from the current sensor (923) and a dimming control signal from an external device,wherein the electricity supplying unit comprises a

transformer (921) including a primary coil and a secondary coil and is adapted to apply a voltage induced in the secondary coil to a first terminal of the light source (910),

wherein the electricity supplying unit further comprises:

a switching unit adapted to switch an input voltage from an external device under the control of the light controller (930); and

(a) an oscillator (922) comprising a pair of transistors (Q21, Q22), the oscillator (922) adapted to generate an AC voltage based on the input voltage from the switching

unit and adapted to supply the generated AC voltage to the primary coil of the transformer (921), characterized in that

the current sensor (923) is connected to the respective emitters of the transistors (Q21, Q22) of the oscillator (922) and senses a current in the oscillator (922), in that

the current sensor (923) comprises a capacitor (C31), a voltage divider (R31, R32) and a diode (D31), the capacitor (C31), a first resistor (R31) of the voltage divider (R31, R32) and the diode (D31) being connected in parallel and with a first pole to respective emitters of the transistors (Q21, Q22) of the oscillator (922) and with a second pole to a pre-determined voltage, a second resistor (R32) of the voltage divider (R31, R32) being connected between the common emitters of the transistors (Q21, Q22) of the oscillator (922) and an input of the light controller (930), and in that

a second terminal of the light source (910) is connected to the ground."

VI. Concerning the basis for the amendments the appellant argued essentially as follows:

The claims were based on claims 1-4 of 23 October 2009 with the amendments of 26 November 2009 and on Figure 4 of the application as filed. No response was submitted in relation to the specific objections under Article 123(2) EPC raised in the board's communication pursuant to Article 15(1) RPBA.

Reasons for the Decision

1. Amendments

1.1 Claim 1 relates to an apparatus of driving a light source for a display device comprising an electricity supplying unit comprising a transformer, a switching unit for switching an input voltage from an external device, and a current sensor.

Claim 1 has been amended in that feature (a) has been added, in which it is specified that the electricity supplying unit further comprises an oscillator comprising a pair of transistors, the oscillator adapted to generate an AC voltage based on the input voltage from the switching unit and adapted to supply the generated AC voltage to the primary coil of the transformer (see point V. above).

1.2 The oscillator and its connection to the transformer are described on page 9, lines 18-29, of the description and shown in Figure 4, reference signs 921 and 922.

From this disclosure it is evident that the pair of transistors claimed in feature (a) has only been disclosed in combination with the oscillator further comprising a capacitor and a pair of resistors. All of these components cooperate with the primary coils of the transformer to generate the AC voltage as claimed in feature (a). There is thus a functional relationship between the pair of transistors, the capacitor and the pair of resistors.

Furthermore, the connection of the oscillator to the transformer is such that both ends of the first primary coil of the transformer are connected to the collectors of the transistors, respectively, and the capacitor is connected in parallel to the first primary coil. In addition, both ends of the second primary coil are connected to the bases of the respective transistors. Finally, the first ends of the resistors are connected to the bases of the respective transistors, while the other ends of the resistors are commonly connected to an intermediate tap of the first primary coil of the transformer.

- 1.3 Therefore, the amendment constitutes the extraction of a feature, namely the pair of transistors, from a set of features which had originally been disclosed in combination, namely the set comprising the pair of transistors, the pair of resistors and the capacitor.

It is not considered to be evident for the skilled person in what manner components other than the pair of resistors and the capacitor could be used to cooperate with the claimed pair of transistors and the primary coils of the transformer to generate the claimed AC voltage and to supply that voltage to the primary coils

of the transformer. However, all such other oscillator arrangements are within the scope of claim 1.

The subject-matter of feature (a) is therefore not directly and unambiguously derivable from the original application documents.

- 1.4 Consequently, the application has been amended in such a way that it contains subject-matter which extends beyond the content of the application as filed, contrary to the provisions of Article 123(2) EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



S. Sánchez Chiquero

G. Eliasson

Decision electronically authenticated