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**Datasheet for the decision
of 7 July 2015**

Case Number: T 0680/12 - 3.5.05

Application Number: 06127018.7

Publication Number: 1936479

IPC: G06F3/044

Language of the proceedings: EN

Title of invention:

Integrated Liquid Crystal Display and Touchscreen for an
Electronic Device

Applicant:

BlackBerry Limited

Headword:

Integrated Liquid Crystal Display and Touchscreen/BLACKBERRY

Relevant legal provisions:

EPC Art. 56, 82, 123(2)

Keyword:

Amendments - added subject-matter (no)
Unity of invention - common special technical features (yes)
Inventive step - reformulation of the technical problem
Inventive step - non-obvious solution
Remittal to the department of first instance - (yes)

Decisions cited:

T 0042/90, T 0413/08

Catchword:



**Beschwerdekammern
Boards of Appeal
Chambres de recours**

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Case Number: T 0680/12 - 3.5.05

D E C I S I O N
of Technical Board of Appeal 3.5.05
of 7 July 2015

Appellant: BlackBerry Limited
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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 4 November 2011
refusing European patent application
No. 06127018.7 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chair A. Ritzka
Members: M. Höhn
F. Blumer

Summary of Facts and Submissions

I. This appeal is against the decision of the examining division, posted on 4 November 2011, refusing European patent application No. 06127018.7 on the grounds of Article 123(2) EPC, lack of unity (Article 82 EPC) and lack of inventive step (Article 56 EPC).

II. The following documents were considered to be relevant during the first-instance proceedings:

D1: US6473140 B1 and
D2: US2004/100598 A1.

The decision under appeal, however, is merely based on publication D1.

III. The notice of appeal was received on 19 December 2011. The appeal fee was paid on the same day. The statement setting out the grounds of appeal was received on 9 March 2012. The appellant requested that the appealed decision be set aside and that a patent be granted on the basis of the following requests in the following order (see letter dated 12 June 2013, page 3, last paragraph):

- The Second Auxiliary Request (filed on 9 March 2012),
- The amended Second Auxiliary Request (filed on 9 March 2012),
- The Seventh Auxiliary Request (filed on 9 March 2012),
- Auxiliary Request A,
- Auxiliary Request B,
- Auxiliary Request C,
- Auxiliary Request AA,
- Auxiliary Request BB and

- Auxiliary Request CC,

the fourth to ninth requests mentioned above were filed with letter dated 12 June 2013. Oral proceedings were requested as an auxiliary measure. It was further requested that the case be remitted to the department of first instance in case new matters would have to be examined during the appeal proceedings which were not considered at first instance (see page 4, last paragraph of the statement setting out the grounds of appeal).

IV. By a communication dated 23 February 2015 the board expressed the preliminary view that D1 appeared to anticipate the subject-matter of claim 1 of the Second Auxiliary Request in so far as the alternative "the transparent conductive material layer (320) is directly deposited on the colour filter layer (330)" was concerned. That also appeared to be the case for the alternative "the transparent conductive material layer (320) is directly deposited on the cover (305)" in claim 3, which therefore also appeared to be anticipated by D1. However, claims 1 and 3 did not appear to lack novelty over D1 for the respective alternative with the feature "the transparent conductive material layer (320) is directly deposited on the polarizer (310)". The board gave reasons for this preliminary view.

The appellant was invited to limit the subject-matter of claims 1 and 3 to this alternative and to delete the anticipated alternatives. Since all other objections on which the decision under appeal was based appeared to have been overcome, the board intended to exercise its discretion according to Article 111(1) EPC and to agree to the appellant's request for remittal of the case to

the department of first instance for further prosecution (see page 4, last paragraph of the statement setting out the grounds of appeal) on the basis of the Second Auxiliary Request.

V. With letter dated 1 June 2015 the appellant filed a set of claims 1 to 11 according to a Revised Second Auxiliary Request and confirmed that the primary request was now that the case be remitted to the department of first instance based on these claims.

VI. Independent claims 1 and 2 according to the Revised Second Auxiliary Request read as follows:

"1. An integrated display (190) for an electronic device (100) comprising:
a liquid crystal display (150);
a capacitive touch sensor (140) comprising a transparent conductive material layer (320) disposed between a polarizer (310) and a colour filter layer (330) of the liquid crystal display, wherein the transparent conductive material layer (320) is directly deposited on the polarizer (310)."

"2. An integrated display (190) for an electronic device (100) comprising:
a liquid crystal display (150);
a capacitive touch sensor (140) comprising a transparent conductive material layer (320) disposed between a cover (305) and a colour filter layer (330) of the liquid crystal display, wherein the transparent conductive material layer (320) is directly deposited on a polarizer (310)."

Reasons for the Decision

1. Admissibility

The appeal complies with Articles 106 to 108 EPC (see Facts and Submissions, point III above). It is therefore admissible.

Revised Second Auxiliary Request

2. Article 123(2) EPC

2.1 In the decision under appeal it was argued that in independent claim 3 of the then pending Second Auxiliary Request (corresponding to present independent claim 2), in the expression "deposited on one of a polarizer and a cover", the alternative "polarizer" was not supported by the application as filed. As stated in the description of the present application in paragraphs [0032], [0033], [0036], the transparent conductive material layer was deposited on the polarizer or the colour filter in the embodiment shown in figure 3, and deposited on the cover in the embodiment shown in figure 4.

2.2 The board does not agree with this objection. Figure 4 and the corresponding paragraph [0036] clearly disclose that the ITO layer 320, i.e. the transparent conductive material layer according to present claim 2, can be directly disposed to the cover layer and the polarizer (see layers 305 and 310 in figure 4). This is also explicitly stated in [0036] ("The addition of the first ITO layer 320 to the bottom of the protective lens cover 305 (i.e., between the protective lens cover 305 and the polarizer 310)...").

3. Closest prior art

- 3.1 D1 discloses (the references in parentheses refer to this document; see particularly figure 12, and column 10, line 29 to column 11, line 13, "Embodiment 8") according to claim 1:

An integrated display for an electronic device (100) comprising:

a liquid crystal display (see figure 12, 107);
a capacitive touch sensor comprising a transparent conductive material layer (104) disposed between a polarizer (102) and a colour filter layer (105) of the liquid crystal display, wherein the transparent conductive material layer (104) is directly deposited on the colour filter layer (105).

- 3.2 The term "cover" in claim 2 is a broad term which does not specify which layer is covered by it. The board therefore interprets this term in a broad manner.
- 3.3 D1 further discloses that the conductive material layer (104) is disposed between a cover (103) and a colour filter layer (105), wherein the transparent conductive material layer (104) is directly deposited on the cover (103).
- 3.4 D1 does not disclose that the transparent conductive material layer (104) is directly deposited on the polarizer (102).

4. Novelty - Articles 52(1) and 54(2) EPC

- 4.1 In view of the analysis of the disclosure of D1, the subject-matter of claims 1 and 2 is novel over D1 which

does not anticipate the feature "the transparent conductive material layer (320) is directly deposited on the polarizer (310)".

5. Unity - Article 82 EPC

5.1 Claim 1 is directed to the embodiment according to figure 3 of the present application, claim 2 is directed to the embodiment according to figure 4.

5.2 The board does not agree with the objection of lack of unity with regard to D1 considered to be the closest prior art, because claims 1 and 2, both being Markush-type claims have a common special technical feature for the alternative "the transparent conductive material layer (320) is directly deposited on the polarizer (310)". This feature hence constitutes a common Markush group. The subject-matter according to claims 1 and 2 has the technical effect of avoiding a special stabilising layer such as is needed according to thick film substrate 103 in D1 (see figure 12). The objection is therefore not maintained.

6. Article 56 EPC - Inventive step

6.1 The feature "the transparent conductive material layer (320) is directly deposited on the polarizer (310)" is considered to be the distinguishing feature over the closest prior art D1.

6.2 In the decision under appeal it was argued that the underlying technical effect of this feature was that there was one layer fewer in the device.

- 6.3 The objective technical problem to be solved by this feature was regarded as reducing the thickness of the device.
- 6.4 The board does not agree with this problem, which is regarded as highly speculative, since claims 1 and 2 do not specify how thick the respective layers actually are. In the board's view the objective technical problem of the underlying technical effect is rather to reduce the complexity of the integrated display.
- 6.5 In order to come up with the solution according to the distinguishing feature of claims 1 and 2, the skilled person would have to eliminate the thick film substrate 103 in figure 12 of D1.
- 6.6 In the decision under appeal it was essentially argued (see point 4.3, last paragraph of the decision under appeal) that to merely rearrange, delete, or add different well-known layers of a touchscreen for normal and obvious practical purposes (such as minimising size, adapting to strength needs, using alternative manufacturing processes, or avoiding light and power needs) in the ways that the skilled person in the field would easily imagine (such as simply shifting the order between layers or switching layers or adapting the thicknesses of layers) did not contribute to an inventive step. When using e.g. the technology shown in D1, coating the polarizing layer (102) directly instead of using the intermediate layer (103), would seem an obvious alternative to the skilled person for which usage there would be no need for any inventive activity when faced with a motivation for it.

- 6.7 However, the decision under appeal did not give detailed arguments to what such a motivation could be when starting from the disclosure of D1.
- 6.8 According to the appellant's arguments (see e.g. page 3, last paragraph of the statement setting out the grounds of appeal), D1 provided a clear teaching not to remove the film substrate 103 as it was expressly stated to be necessary (reference was made to D1, column 11, lines 1 to 3). D1 therefore taught away from the claimed solution and could not render the subject-matter of claims 1 and then 3 obvious.
- 6.9 The board agrees with the appellant's argument. With regard to the embodiment 8 according to figure 12 of D1, thick film substrate 103 is considered to be an essential feature. D1 explicitly states " ... , there is not required, in addition to the liquid crystal panel.[sic] any other panel to be disposed on the viewing side. In this regard ... it is only necessary to employ a film substrate 103." (see D1, column 10, line 66 to column 11, line 3).
- 6.10 Since layer 103 is regarded as necessary, the skilled person looking for a solution to the objective technical problem, e.g. by reducing the number of layers, would not consider layer 103, but would rather think about other layers which might be dispensed with.

In particular, when looking for a solution to the objective problem, the skilled person finds a motivation of how to do so in embodiment 9 according to figure 13 of D1. According to this embodiment, film substrate 103 is still present, whereas a reduction of the number of layers is achieved by employing a guest-host (GH) liquid crystal and dichroic dye for liquid

crystal layer 107. It is then not necessary to dispose a polarizer plate on each of both side surfaces of the panel and the number of layers is reduced.

6.11 The skilled person would therefore consider this measure instead of getting rid of layer 103 in order to reduce the complexity of the display. Hence, the disclosure of D1 teaches away from the solution according to independent claims 1 and 2.

6.12 The board therefore does not regard the subject-matter of claims 1 and 2 as obvious when starting from D1 as closest prior art.

7. The decision under appeal provides an alternative line of reasoning for lack of inventive step (see point 8 of the decision) starting from the prior art described in the introductory portion of the present application which was considered to be acknowledged by the applicant (reference was made to paragraphs [0008] and [0009] of the application). It was argued that the distinguishing feature over this prior art was a touch-sensing ITO layer belonging to a touch pad which was added to one of the layers of the LCD instead of a separate substrate. Such a reduction in the number of necessary layers was, however, obvious from D1, for the same reasons as argued above.

7.1 The appellant argued that the acknowledgement in paragraphs [0008] and [0009] of the application was inaccurate. The board interprets this statement as meaning that the appellant wants to resile from the acknowledgement.

7.2 However, the question whether the acknowledgement can still be relied upon, and the consequences thereof (see

T 413/08) do not have to be dealt with, since in the light of the above analysis of the teaching of D1 (see point 6.10 above) the board is convinced that D1 teaches away from removing layer 103 and thereby directly depositing the transparent conductive material layer on the polarizer.

7.3 Thus, even if an integrated display as mentioned in the present application were combined with the teaching of D1, the skilled person would not arrive at the solution according to claims 1 and 2.

8. In the board's judgement, the subject-matter according to independent claims 1 and 2 is neither rendered obvious when starting from D1 nor when combining an integrated display as mentioned in the present application with the teaching of D1 (Article 56 EPC).

Remittal

9. Since all the objections on which the decision under appeal was based have been overcome and in view of the need to continue substantive examination based on other prior art on record (see Search Report) which was not discussed in detail at first instance, the board exercises its discretion according to Article 111(1) EPC and agrees to the appellant's request for remittal of the case to the department of first instance for further prosecution.

10. In the present case, the request for oral proceedings was made on an auxiliary basis only, if the board was minded to refuse any of the appellant's requests. As the appellant's arguments submitted in respect of the highest-ranking request, i.e. the Revised Second Auxiliary Request, have ultimately been followed, the

appellant is not adversely effected by the board's reasoning. As stated in decision T 42/90 of 25 February 1991, the decision to remit the case to the first instance is not to be regarded as adverse to that party, so no oral proceedings before the board needed to be appointed.

Hence, the board is in a position to directly issue a decision and does not have to deal with the other requests (see point III above) which, nevertheless, are admitted into the proceedings.

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 for further examination on the basis of the Revised Second Auxiliary Request filed with letter dated 1 June 2015.

The Registrar:

The Chair:



K. Götz-Wein

A. Ritzka

Decision electronically authenticated