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**Datasheet for the decision  
of 2 December 2015**

**Case Number:** T 2435/10 - 3.5.04

**Application Number:** 06252674.4

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**IPC:** H04N5/232, G02B7/10

**Language of the proceedings:** EN

**Title of invention:**  
Manual focusing method and system in photographing device

**Applicant:**  
Samsung Electronics Co., Ltd.

**Headword:**

**Relevant legal provisions:**  
EPC 1973 Art. 56

**Keyword:**  
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**Decisions cited:**

**Catchword:**



**Beschwerdekammern**  
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Case Number: T 2435/10 - 3.5.04

**D E C I S I O N**  
**of Technical Board of Appeal 3.5.04**  
**of 2 December 2015**

**Appellant:** Samsung Electronics Co., Ltd.  
(Applicant) 129, Samsung-ro  
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Suwon-si, Gyeonggi-do, 443-742 (KR)

**Representative:** Appleyard Lees  
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**Decision under appeal:** **Decision of the Examining Division of the European Patent Office posted on 8 June 2010 refusing European patent application No. 06252674.4 pursuant to Article 97(2) EPC.**

**Composition of the Board:**

**Chairman** C. Kunzelmann  
**Members:** R. Gerdes  
B. Müller

## **Summary of Facts and Submissions**

I. The appeal is directed against the decision to refuse European patent application No. 06 252 674.4, published as EP 1 739 960 A1.

II. The patent application was refused by the examining division on the grounds that the subject-matter of claim 1 then on file lacked novelty in view of each of the following documents:

D1: US 2003/0218687 A1 and

D3: PATENT ABSTRACTS OF JAPAN, vol. 2000, no. 01, 31 January 2000 (2000-01-31) -& JP 11 298791 A (FUJI PHOTO FILM CO LTD), 29 October 1999, together with a machine translation of the Japanese text.

In the decision under appeal the examining division also referred to the following document:

D2: PATENT ABSTRACTS OF JAPAN, vol. 2000, no. 03, 30 March 2000 (2000-03-30) -& JP 11 341331 A (OLYMPUS OPTICAL CO LTD), 10 December 1999 (1999-12-10).

III. The applicant appealed against this decision and with the statement of grounds of appeal submitted claims 1 to 11 of a first auxiliary request.

IV. The board indicated in a communication annexed to a summons for oral proceedings that it considered the subject-matter of claims 1 and 7 of the main request and the first auxiliary request to be new over D1 and D3. However, it did not involve an inventive step in view of these documents. The board also made observations concerning Article 84 EPC 1973 and Article 123(2) EPC.

- V. In response, with a letter dated 2 November 2015, the appellant filed clean copies of the claims according to the main and first auxiliary requests as well as new second and third auxiliary requests.
- VI. Oral proceedings were held before the board on 2 December 2015. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the claims according to the main request or the first to third auxiliary requests, all filed with the letter dated 2 November 2015.
- VII. Claim 1 of the main request reads as follows:

"A manual focusing method in a photographing device, comprising the steps of:  
checking whether manual focusing mode for manually focusing is selected by a user by pressing a manual focus button or operating a manual focus ring mounted on the photographing device;  
capturing a window which is a predetermined sized partial image taken from a photographed image, and outputting the captured image if the manual focusing mode is selected;  
generating and outputting a downsized version of the entire photographed image, and outputting the downsized image if the manual focusing mode is not selected; and  
displaying one of the output captured image and the downsized image;  
wherein in the displaying step, the output captured image is displayed during the duration of manual focusing mode, if the manual focusing mode is selected such that after displaying of the output captured image if the manual focus button or manual focus ring is not operated for a predetermined amount of time the

downsized image is displayed, and wherein the predetermined time is either a) preset in the product manufacturing stage depending on the operating environment of the photographing device, or b) may be arbitrarily set by the user."

VIII. Claim 1 of the first auxiliary request differs from claim 1 of the main request in the following additional feature that has been appended to the claim:

", and wherein the size of the output captured image is adjusted by input from the user."

IX. Claim 1 of the second auxiliary request corresponds to claim 1 of the main request, with the second part of the claim being amended as follows (deletions indicated by strike-through):

"... generating and outputting a downsized version of the ~~entire~~ photographed image, and outputting the downsized image if the manual focusing mode is not selected; and displaying one of the output captured image and the downsized image; wherein in the displaying step, the output captured image is displayed ~~during the duration of manual focusing mode,~~ if the manual focusing mode is selected such that after displaying of the output captured image if the manual focus button or manual focus ring is not operated for a predetermined amount of time the downsized image is displayed, and wherein the predetermined time is either a) preset in the product manufacturing stage ~~depending on the operating environment of the photographing device,~~ or b) may be arbitrarily set by the user."

- X. Claim 1 of the third auxiliary request reads as follows (amendments with respect to claim 1 of the second auxiliary request being underlined, deletions being indicated by strike-through):

"A manual focusing method in a photographing device, comprising the steps of:  
checking whether manual focusing mode for manually focusing is selected by a user by pressing a manual focus button or operating a manual focus ring mounted on the photographing device;  
capturing ~~a window~~ a partial high definition, HD, image which is a predetermined sized partial image taken directly from a HD signal of the photographed image from an HD processing unit of the photographing device, and outputting and displaying the partial HD captured image if the manual focusing mode is selected;  
generating and outputting a ~~downsized~~ lower resolution version of the photographed image, and outputting and displaying the downsized image if the manual focusing mode is not selected; ~~and displaying one of the output captured image and the downsized image;~~  
wherein in the displaying step, the ~~output~~ partial HD captured image is displayed ~~if~~ when the manual focusing mode is selected  
such that after displaying of the ~~output~~ partial HD captured image if the manual focus button or manual focus ring is not operated for a predetermined amount of time the ~~downsized~~ lower resolution version of the photographed image is then displayed, and wherein the predetermined time is either a) preset in the product manufacturing stage, or b) may be arbitrarily set by the user."

- XI. In the decision under appeal the examining division held that the subject-matter of claim 1 of the main

request was not new with respect to both D1 and D3. Even on a limiting interpretation of the expression "for a predetermined amount of time", according to which interpretation the predetermined amount of time would be long enough to be noticeable by the user, the subject-matter of claim 1 would not involve an inventive step in view of D3. The technical problem could be regarded as to provide in a camera as known from e.g. D1 or D3 a mode of operation where the magnified partial image is displayed for a predetermined amount of time after release of the MF adjustment element. The implementation of such a feature was considered standard practice for the ordinary programmer of the camera firmware.

XII. The appellant's arguments may essentially be summarised as follows:

D1 disclosed a camera having a manual focusing mode. However, in that mode the LCD displayed a downsized version of the captured image and a partial image having the same resolution as the captured image. It concerned the different technical problem of how to adapt the brightness of the displayed images. Starting from D1 there would be no motivation for the skilled person to arrive at an invention as specified in the independent claims of the present requests.

According to D1 a picture-in-picture display with the downsized captured image and the partial image had to be provided. A zooming circuit reducing the image in the horizontal and vertical directions, an extraction circuit extracting the partial image from image signals of one frame and a memory control circuit were necessary to compose the images for the picture-in-picture display. In contrast, according to the

invention there were no pixel manipulations necessary for the manual focus adjustment. Hence, the camera according to the invention was easier to manufacture and less costly.

D3 did not disclose the alternative display of either the downsized image or a partial image taken directly from the high-definition (HD) signal of the photographed image. Instead, D3 referred to an enlarged image which was displayed to allow manual focus adjustments. Hence, D3 also required image processing operations in the manual focusing mode.

The independent claims of the first auxiliary request specified in addition that the size of the output captured image could be adjusted by input from the user. Hence, this request provided "further inventive material, as when considering the problem of how to increase usability of a photographing device equipped with a manual focusing mode" (see statement of grounds, point 3.5).

The claims of the second auxiliary request related to the same subject-matter as those of the main request, but they addressed the board's observations under Article 123(2) EPC and Article 84 EPC 1973, which were indicated in the annex to the summons to oral proceedings.

The claims of the third auxiliary request were amended to more clearly specify the differences with respect to D1 and D3, which were already indicated when discussing the previous requests. The appellant confirmed that "directly" should be understood in the sense of the description of the application as originally filed (see page 15, lines 1 to 3) such that the captured image



exhibited the same resolution as the HD image when displayed on the display unit. The arguments presented with respect to the main request regarding inventive step in view of D1 and D3 also applied to the lower-ranking requests.

### **Reasons for the Decision**

1. The appeal is admissible.

#### *The invention*

2. The invention concerns a photographing device such as an electronic camera having a manual focusing mode and a corresponding manual focusing method.

Typically, electronic cameras are equipped with an LCD monitor allowing a captured image to be viewed. The LCD monitor normally has a smaller resolution than the captured image, making it necessary to reduce the resolution of the captured image for display on the monitor, i.e. the captured image is downsized. However, when focusing on a subject using the manual focusing mode, it is desirable for the image shown on the LCD monitor to be provided at sufficient resolution to permit the user to adjust the focus properly.

Hence, according to the invention, if the manual focusing mode is selected by operating a manual focus ring or pressing a manual focus button, a partial image corresponding to a section of the photographed image is displayed on the LCD monitor. After a predetermined amount of time the camera switches back to display the downsized image. This delay is either preset at the

product manufacturing stage or may be arbitrarily set by the user.

*Main request*

3. D1 may be considered as the closest prior art with respect to the subject-matter of claim 1.
- 3.1 D1 discloses a manual focusing method in a photographing device such as a camera having a manual focusing mode which is activated by operating a "focus adjustment member" (see abstract and paragraphs [0034] and [0185]). In normal operation mode, i.e. if manual focusing is not selected, a downsized version of the photographed image is generated and displayed. If the manual focusing mode is selected, the camera of D1 captures a window having a predetermined sized partial image taken from a photographed image. The camera outputs this captured image without decreasing its resolution as a superimposed or synthesised image, together with the downsized version of the photographed image (see figures 2a to 2c and paragraphs [0035], [0047], [0048], [0060] and [0072]).

The partial image is displayed for a predetermined amount of time following operation of the manual focus adjustment member. After this delay the camera switches back to display only the downsized version of the photographed image (see paragraphs [0176] and [0185] to [0187]).

- 3.2 The subject-matter of claim 1 is distinguished from D1 by the following features:

(a) D1 does not disclose a manual focus button or a manual focus ring mounted on the photographing device, but instead refers to a focus adjustment member.

(b) According to D1, in the manual focusing mode the downsized version of the photographed image and the partial image are displayed as a synthesised image. In contrast, according to claim 1 one of the partial image and the downsized image is displayed, with the partial image being displayed in the manual focusing mode. This implies that the downsized version of the photographed image is not displayed in the manual focusing mode.

(c) D1 does not disclose how the predetermined time for returning to the display of the downsized image is set. According to claim 1 this delay is either preset at the product manufacturing stage depending on the operating environment of the photographing device, or may be arbitrarily set by the user.

3.3 Distinguishing features (a) to (c) do not contribute jointly to a technical effect. Hence, each distinguishing feature can be considered independently for the evaluation of inventive step.

3.4 The specification of the focus adjustment member of D1 as being a focus button or a manual focus ring (see distinguishing feature (a)) is an obvious selection that is well known to the skilled person. For example, D3 explicitly refers to the use of a focus ring as an example of a focus adjustment member (see paragraph [0014]).

3.5 Distinguishing feature (b) relates to the choice of which information to display to a user. The advantages and disadvantages of this choice are considered obvious

to the skilled person. Displaying the partial image synthesised on the reduced complete image in manual focusing mode makes it possible to keep track of the entire scene in the field of view of the camera while being able to manually focus accurately. In contrast, using the LCD for displaying only the partial image, allows the monitoring of a wider section of the partial image having potentially more edges which can be used to confirm the "in-focus state" (see D1, paragraph [0051]). It is also noted that the option of displaying only the partial image for manual focusing was known from D3 (see abstract and figure 3). Hence, starting from D1 the skilled person would have considered displaying only the partial image.

3.6 Feature (c) relates to the implementation of the lapse of a predetermined time for returning to the normal operating mode of the camera. In this respect the board considers the argument of the examining division to be convincing, i.e. the implementation of the delay either as being preset in the firmware at the manufacturing stage and/or as being settable by user dialogue was standard practice for the ordinary programmer of camera firmware (see point 2.2.4 of the decision under appeal).

3.7 The appellant argued with respect to feature (b) that D1 required a zooming circuit reducing the image in the horizontal and vertical directions, an extraction circuit extracting the partial image from image signals of one frame and a memory control circuit to compose the picture-in-picture display. In contrast, according to the invention there were no pixel manipulations necessary for the manual focus adjustment. Hence, the camera according to the invention was easier to manufacture and less costly.

The appellant's arguments did not convince the board for the following reasons. It is true that according to the invention a captured image need not be subsampled in the manual focusing mode of the camera. However, the functionality of the zooming circuit (which is also called a reduction circuit, see paragraph [0039] of D1) cannot be simply dispensed with, because it is needed if the manual focusing mode is not selected. The functionality of the extraction circuit (see paragraphs [0047] and [0048] of D1) is in any case needed in the manual focusing mode because of the size limitations of the display. Similarly, some kind of memory control circuit will be needed. Hence, the argument that the display of the partial image only in the manual focusing mode leads to a simplification of the camera is not convincing.

Even if the appellant's arguments were accepted, the board considers such an alleged simplification to be obvious in view of the well-known advantages and disadvantages implied by this feature (see point 3.5 above). According to the appellant the simplification resulted from the fact that the partial image of the invention was directly extracted from the high-resolution photographed image (which was supported by the disclosure on page 15, lines 1 to 3, of the application as originally filed). However, this argument does not change the board's assessment that the functionality of the zooming circuit, the extraction circuit and the memory control circuit is required independently of the choice to display the partial image and the reduced image at the same time. In addition, direct extraction in the sense of retrieving a partial image having the same resolution

as the photographed image is disclosed in D1, see paragraph [0047].

- 3.8 As a result, the subject-matter of claim 1 was obvious to a person skilled in the art in view of D1 and thus lacks inventive step (Article 56 EPC 1973).

*First to third auxiliary requests*

4. Claim 1 according to the first auxiliary request contains the additional feature that the size of the output captured image is adjusted by input from the user.
- 4.1 The board understands the feature in the sense of page 14, lines 13 to 15, of the application as originally filed, such that the size of the image may be arbitrarily set by the user. This understanding corresponds to the appellant's interpretation set out in the statement of grounds, see point 3.2. The board regards user selection of a certain area and hence of the size of the output captured image as a straightforward option in order to determine the partial image for manual focus adjustment. The board also notes that the feature was disclosed in D2 (see figures 4 and 7 together with paragraph [0048]), which relates to the same technical problem as the present application (see D2, abstract and paragraph [0044]).
- 4.2 Hence, the subject-matter of claim 1 of the first auxiliary request would have been obvious to the skilled person in view of D1 and the common general knowledge.
5. Claim 1 of the second auxiliary request corresponds to claim 1 of the main request, with the second part of

the claim being amended to overcome some objections of the board with respect to clarity and extended subject-matter. These amendments did not - as acknowledged by the appellant - change the scope of the claim. Hence, the reasoning above (see point 3) applies *mutatis mutandis*.

6. Claim 1 of the third auxiliary request has been amended to refer to a partial high-definition, HD, image. It also states that the partial image is taken directly from a HD signal of the photographed image which is output by a HD processing unit of the photographing device. The reference to a downsized version of the image has been replaced by a lower-resolution version of the photographed image.

6.1 According to the appellant the claims of the third auxiliary request were amended to more clearly specify the differences with respect to D1 and D3, which were already indicated when discussing the previous requests. The differences between the invention and the prior art were, however, not a controversial issue (see point 3.2 above). The appellant confirmed that "directly" should be understood in the sense of the description of the application as originally filed (see page 15, lines 1 to 3), such that the captured image exhibits the same resolution as the HD image when displayed on the display unit. This feature is disclosed in D1 (see paragraph [0047]), and the board applied this interpretation to the main request such that the reasoning above (see section 3) equally applies with respect to the subject-matter of claim 1 of the third auxiliary request.

6.2 As a result, the board finds that the subject-matter of claim 1 according to the third auxiliary request lacks an inventive step (Article 56 EPC 1973).

*Conclusion*

7. It follows from the above that none of the appellant's requests is allowable.

**Order**

**For these reasons it is decided that:**

The appeal is dismissed.

The Registrar:

The Chairman:



K. Boelicke

C. Kunzelmann

Decision electronically authenticated