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D E C I S I O N
of 19 November 1997

Case Number: T 0768/96 - 3.4.2

Application Number: 88119690.1

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Language of the proceedings: EN

Title of invention:
Exposure control with fixed time exposure at high light levels

Patentee:
POLAROID CORPORATION

Opponent:
Asahi Kogaku Kogyo K.K.

Headword:
-

Relevant legal provisions:
EPC Art. 56

Keyword:
"Inventive step; yes (afer amendment)"

Decisions cited:
-

Catchword:
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Case Number: T 0768/96 - 3.4.2

D E C I S I O N
of the Technical Board of Appeal 3.4.2
of 19 November 1997

Appellant: (Proprietor of the patent)
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Decision under appeal: **Decision of the Opposition Division of the European Patent Office posted 21 June 1996 revoking European patent No. 0 319 798 pursuant to Article 102(1) EPC.**

Composition of the Board:

Chairman: E. Turrini
Members: A. G. Klein
M. Lewenton

Summary of Facts and Submissions

I. European patent No. 0 319 798 (application No. 88 119 690.1) was revoked by decision of the Opposition Division.

The reason for the revocation was that the claimed subject-matter did not involve an inventive step in the sense of the Article 56 EPC in view of the disclosure in documents:

D1: US-A-4 636 054 and
D5: US-A-4 329 031.

II. The appellant (proprietor of the patent) filed an appeal against the decision revoking the patent, and requested that the patent be maintained as amended on the basis of a set of claims of which claim 1 as filed with his letter of 4 November 1997, the only independent claim, reads as follows:

"1. A camera having an automatic exposure system providing decreasing aperture-interval values with increasing ambient scene light levels comprising:

(a) light level detecting means (60) producing a pulse train the frequency whereof depends on the intensity of incident ambient light;

(b) one single photocell (62) in the light level detecting means (60);

(c) light level counter means (138) adapted for receiving said pulse train from said light level detecting means (60);

(d) said light level detecting means (60) causing said automatic exposure system to provide an effective aperture and an exposure interval resulting in said aperture-interval values;

(e) an integration counter (190) is provided enabled with the initiation of the exposure interval to receive the pulse train from said light level detecting means (60) for terminating the exposure interval after having received a pulse number corresponding to exposure light quantity;

(f) a clock oscillator (178) for supplying a fixed clock pulse train;

characterized by the following features:

(g) a fixed interval counter (208) enabled with the initiation of the exposure interval to receive the clock pulse train from said clock oscillator (178) for terminating the exposure interval after having received a predetermined number of pulses of said fixed clock pulse train from said clock oscillator (178), wherein said predetermined number of pulses representing a fixed time equal to the time expected from operation of the integration counter (190) under an ambient light level just equal to a predetermined high light level value;

(h) a high light level counter (196) for operation synchronously with the light level counter means (138) during the pre-exposure interval to determine when the ambient light level exceeds said predetermined high light level value;

(i) override switch means (200, 197) for bypassing said integration counter (190) and selecting said fixed interval counter (208) if the ambient light is equal to or exceeding said predetermined high light level value;

(k) the camera provides a desired scene overexposure increasing with the increase of ambient light exceeding said predetermined high light level value to produce an adequate subject exposure by providing a fixed effective aperture and a fixed exposure interval resulting in a fixed aperture-interval value under ambient conditions equal to or exceeding said predetermined high light level value."

III. In support of his request the appellant essentially submitted that the invention consisted in providing the sophisticated circuit for automatic exposure control of the prior art camera disclosed in document D5 with a specific additional circuit part as shown in Figure 6 of the present patent, which allowed to automatically achieve a desired overexposure under conditions of high ambient light levels and photographic objects placed in front of a bright background. Such specific additional circuit wherein ambient light levels were transferred to pulse trains of a given frequency and various counters were used in the way set out in claim 1 was not suggested by any of the prior art documents.

IV. The respondent (opponent) for his part submitted in his letter dated 21 February 1997 that as compared to earlier versions of the claim, claim 1 appeared to comprise features which more precisely defined its

subject-matter and the differences over the prior art. The respondent would therefore accept a patent of a scope restricted in accordance with appellant's request and only passively take part in the further procedure, which he actually did.

Reasons for the Decision

1. The appeal is admissible.

2. *Compliance of the amendments brought to the claims and description with the provisions of Article 123(2) and (3) EPC.*

2.1 As compared to claim 1 as originally filed, claim 1 has been supplemented with the features set out in paragraphs (b) to (i), which define specific circuit elements and their function. These specific circuit elements and functions were originally disclosed in relation with Figure 5 as concerns the features of the preamble of claim 1 and Figure 6 as concerns the features of the characterising portion.

More particularly the light level detecting means (60) with the single photo cell (62) of paragraphs (a) and (b) are disclosed on page 10, lines 8 to 13 and page 12, lines 12 to 14 of the application as originally filed, the light level counter means (138) of paragraph (c) is disclosed on page 12, lines 26 to 35, the integration counter (190) of paragraph (e) is disclosed on page 15, lines 23 to 33, the clock oscillator (178) is disclosed on page 11, lines 6 to 8, the fixed interval counter (208) of paragraph (g) is

disclosed on page 18, lines 3 to 15, the high light level counter (196) of paragraph (h) is disclosed on page 16, lines 26 to 30 and the override switch means (200, 197) of paragraph (i) is disclosed on page 17, lines 3 to 10.

2.2 The above additional features relating to specific circuit elements and their function also distinguish present claim 1 from claim 1 as granted, which comprised substantially the same features as original claim 1. These additional features limit the scope of claim 1 as compared to claim 1 as granted.

2.3 The description has only been adapted to amended claim 1 and supplemented with a short summary of the relevant content of D1.

For these reasons, the amendments brought to the patent documents comply with the requirements of Article 123(2) and (3) EPC.

3. *Patentability*

3.1 In comparison with claim 1 on the basis of which the decision of revocation was based, the scope of claim 1 has been substantially limited in the appeal procedure. Paragraphs (g) and (i) of the characterising portion of the claim now set out more in detail the operation of the fixed interval counter and of the override switch means, and paragraph (h) has been added to specify the provision and operation of a high light level counter.

The respondent in his letter dated 21 February 1997 submitted that, as a result of the amendments brought to claim 1, its subject-matter was clearly distinguished from the prior art, and that he would accordingly accept a patent so limited.

The subject-matter of claim 1 is undisputably novel and the Board is also satisfied that it involves an inventive step for reasons which, in the circumstances, need only be briefly summarised in the following.

3.2 The nearest prior art is constituted by the camera disclosed in document D5 as defined in the preamble of claim 1 and described in detail in the present description with reference to Figures 1 to 5. The automatic exposure system of this camera is associated with a source of artificial illumination in such a way as to provide artificial illumination to fill in the photographic subject against a brightly back-lit scene under high ambient scene light conditions (see claim 1).

The camera set out in claim 1 is distinguished from this nearest prior art essentially in that it further comprises a fixed interval counter, a high light level counter and override switch means as defined in paragraphs (g), (h) and (i) of the characterising portion of the claim. By virtue of these features the camera is capable of providing a desired scene over - exposure increasing with the increase of ambient light exceeding a predetermined high light level value to produce an adequate subject exposure, as is set out in paragraph (k) of the claim.

The only document on the file to disclose a camera which achieves comparable results is document D1.

Document D1 describes a microprocessor-controlled camera in which the field is divided into a plurality of light intensity measuring sections, the outputs of which are processed to produce a brightness value used for controlling the exposure of the camera. If more than one section produce a value above 11,5 according to the standard APEX system, the effective value for

these sections is fixed at 11,5 (see column 20, line 42 to column 21, line 14). Thus in a hypothetical situation where all the sections would deliver a value above 11,5, the exposure would be determined as if the brightness was limited to the fixed value of 11,5.

The achieving by the camera of document D1 of a desired scene over exposure increasing with the increase of ambient light exceeding a predetermined high light level value is not explicitly addressed in the document and it is subject to the camera operating under very specific conditions, in which all field sections including the central section were to receive very bright illumination.

The construction and mode of operation of the camera according to document D1 are also hardly compatible with those of the camera disclosed in nearest prior art document D5, which exhibits one single photo cell only and in which termination of the exposure interval is determined by ambient light integration rather than by the output of an APEX operation processing circuit which analyses the output of a plurality of photodiodes, each responsive to the brightness of a respective section of the image as viewed through the lens.

Thus, in the Board's opinion, the skilled person would not find in document D1 any obvious hint at providing the camera of document D5 with any of the various counters and switch means set out in paragraphs (g) to (i) of the characterising portion of claim 1.

Document US-A-4 423 936 (D4) discloses a camera with an automatic exposure system in which, like in document D1, the field is divided into several metering sections. Microprocessor-controlled analysis of the range and illumination signals provided by the

different sections results in the lighting conditions being classified as normal, forelit or backlit. For backlit scenes artificial illumination by a flash system is increased so as to fill the subject of principal interest (see claims 1 and 4). The document neither discloses nor hints at providing a given scene overexposure increasing with the increase of ambient light exceeding a predetermined high light level value.

The remaining documents considered in the opposition procedure, only illustrate the APEX system referred to in document D1.

The documents brought to light in the examination procedure do not come closer to the claimed subject-matter.

For these reasons, the subject-matter of claim 1 is considered to involve an inventive step and so is the subject-matter of dependent claims 2 and 8 by virtue of their dependency on claim 1.

4. Since the Board is of the opinion that, taking into consideration the amendments made, the patent and the invention to which it relates meet the requirements of the convention, the patent can be maintained as amended (Article 102(3) EPC).

Order

For these reasons it is decided that:

The decision under appeal is set aside.

The case is remitted to the first instance with the order to maintain the patent as amended in the following version:

Description: columns 1 to 15 of the modified European Patent Specification filed with the letter of 9 October 1997, paragraph A as filed also on 9 October 1997 being inserted between lines 54 and 55 of column 3.

Claims: No. 1 as filed with the letter of 4 November 1997.
No. 2 to 8 of the modified European Patent Specification filed with the letter of 9 October 1997

Drawings: Sheets 1/6 to 6/6 (Figures 1 to 8) of the modified European Patent Specification filed with the letter of 9 October 1997.

The Registrar: The Chairman:

P. Martorana E. Turrini