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**Datasheet for the decision  
of 27 June 2007**

**Case Number:** T 1520/06 - 3.4.02

**Application Number:** 01930377.5

**Publication Number:** 1386126

**IPC:** G01J 5/10

**Language of the proceedings:** EN

**Title of invention:**  
Handheld infrared camera

**Patentee:**  
Flir Systems AB

**Opponent:**  
-

**Headword:**  
-

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

**Keyword:**  
"Claim 1 - inventive step (no)"

**Decisions cited:**  
-

**Catchword:**  
-



Case Number: T 1520/06 - 3.4.02

**D E C I S I O N**  
of the Technical Board of Appeal 3.4.02  
of 27 June 2007

**Appellant:** Flir Systems AB  
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**Representative:** Herbjörnsen, Rut  
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**Decision under appeal:** Decision of the Examining Division of the  
European Patent Office posted 17 May 2006  
refusing European application No. 01930377.5  
pursuant to Article 97(1) EPC.

**Composition of the Board:**

**Chairman:** A. Klein  
**Members:** M. Rayner  
C. Rennie-Smith

## Summary of Facts and Submissions

- I. In a first appeal numbered T 0310/05, the applicant appealed against the decision of the examining division refusing European patent application number 01 930 377.5 (International Publication No, WO 02090911). In the decision, the subject of the first appeal, the reason given by the examining division for issuing a refusal pursuant to Article 97(1) EPC was that the subject matter of claim 1 before it was not novel with respect to the disclosure of International patent publication number WO - A - 0030526. In consideration of the claim presented on appeal, the board of appeal issued a decision setting aside the decision under appeal and remitting the case to the first instance for further prosecution.
- II. In the present appeal, the second appeal, filed on 28 June 2006, the appeal fee being paid on the same date, the applicant has appealed against the second decision of the examining division dated 17 May 2006 refusing the European patent application. The patent application concerns a handheld infrared camera for thermographic inspections.
- III. In its notice of appeal, the appellant requested that the decision under appeal be set aside and the patent application reinstated. Oral proceedings were requested on an auxiliary basis. Independent claim 1, upon the basis of which grant of a patent is requested, has not changed from that the subject of the first decision of the board and also of the second decision of the examining division and is worded as follows:-

"1. A handheld infrared camera for thermographic inspections, comprising a lens assembly (2) supported by a housing (3), which is arranged to hold an electric energy source (5) and a handling means (6) for recording and handling information received via the lens assembly, said housing (3) being provided with user control means for visual and manual control of the apparatus, characterized in that the housing (3) is essentially elongate, having the lens assembly (2) mounted at one end portion and having the opposite end portion formed as a user handle (4), there being provided on one side of the housing a set (8) of manual control means intended to be operated via the thumb of the user, and also a visual control means (7) located between said set (8) of manual control means and the lens assembly (2) and being adapted to be viewed when holding the camera away from the eye and the body of a user, and that the camera is intended for single hand operation"

IV. In its second decision, the examining division made reference to the following documents:

- D3 US-A-4 634 294
- D4 Guide d'achat, Mesures physiques, Mesures 706, June 1998, Pages 88-94.
- D5 US-A-5 675 149 (referred to as document D3 in the first decision of the board of appeal)

In assessing the prior art documents, the examining division established that document D5 disclosed a compact thermal camera for capturing digital thermographic images. This camera is low cost, compact and hand held. With respect to document D3, the

division identified a number of features corresponding to those claimed in claim 1 of the application, but considered that it related not to a camera but to a pyrometer with optics in the form of a mirror arrangement. On the question of camera optics in the form of a lens assembly, the division observed that as dioptric and catoptric elements are technically equivalent, any consequential changes lie within the knowledge of the person skilled in the art. The division then reached the conclusion that there was no inventive step in ergonomic improvement of the camera known from document D5 in the light of the teaching of document D3, both documents being in the field of hand held IR instruments. Moreover, document D4 can be applied in place of document D3 in the argument presented, in which case a similar conclusion applies, here it being easily seen from page 91 that the pyrometer can be operated by the thumb of the user. In consideration of the submissions of the applicant, the division observed that it did not deny that there were structural differences between a pyrometer and an IR camera, however, as any structural modifications to the IR camera of document D5 lie within the knowledge of a person skilled in the art, provision of an elongate body operable by the hand of the user according to either document D3 or document D4 cannot be considered to involve an inventive step.

- V. The arguments of the appellant in support of the appeal can be summarised as follows.

The pyrometer according to document D3 is not elongate in shape but pistol shaped. Therefore, the buttons of the display cannot be operated with the thumb as this

would cause the pyrometer to be dropped. In view of the size of the processor board and a slidable board in the camera of document D5, the camera is not suitable for inclusion in the elongate housing defined in claim 1. The examining division has argued that the problem to be overcome is to improve the ergonomics of the hand held camera. However documents D3 and D4 both relate to pyrometers, where the digital output requires much less processor capacity than an IR camera, which is arranged to show a usually moving image. Hence, implementing a pyrometer in a small elongate instrument is no indication that an IR camera could be shaped the same way. Moreover, the long time constant of a pyrometer element means it would not function adequately for capturing an image. Furthermore, changing from a mirror to lens system fundamentally affects the entire device, including the processor, computing algorithms etc. Therefore even though both a pyrometer and an IR camera are based on the principle of registration of infrared radiation, that is as far as the similarities go. The claims on file therefore involve an inventive step over document D5 and either document D3 or D4.

VI. The board informed the appellant that it had doubts about the chances of success for the appeal, and therefore appointed oral proceedings in accordance with the auxiliary request of the appellant. The board expressed its provisional opinion in a communication attached to the summons to oral proceedings and this opinion can be summarised as follows.

The position of the appellant on the meaning of "pistol" as opposed to "elongate" shape is not very convincing because the angle  $\alpha$  shown in Figure 1 can,

according to line 6 on page 5 of the description of the application, be as much as 90°. In other words, the application also envisages a "pistol". Furthermore, looking at the figure at the bottom right on page 91 of document D4 does not leave much room for doubt that the thumb can be used for operating the device without dropping it. If the appellant sees the size of the boards according to document D5 as a problem, one should perhaps consider what the appellants have done to solve it. Here the reader draws a blank, as there is only a handling unit 6 disclosed as a schematic block. Since it is apparent from the portions relating to background and summary of the invention disclosed in document D5 that a compact device is there required, it is doubtful whether any contribution to inventive step is made or any further problem solved in simply sketching a small empty box. The problem addressed by the application is identified correctly by the examining division, namely improving the ergonomics of the known camera, as indicated in the introduction of the application. Just the ergonomic advantages offered by the application are also offered by the pyrometers of documents D3 and D4. The examining division did not dispute that an IR-Camera and a pyrometer function differently, but there is no problem solved by the features claimed going beyond ergonomics, i.e. there is nothing in the claims, or the rather technically sparse description for that matter, specific to the function of the camera. The detailed function of the camera including circuit and lens arrangement is consequently assumed to be part of the knowledge of the skilled person.

- VII. In reply to the communication of the board, the appellant declared that it would not take part in the oral proceedings. No substantive response was given to the preliminary opinion of the board.
- VIII. The oral proceedings took place in the absence of the appellant and, at the end thereof, the board gave its decision.

### **Reasons for the Decision**

1. The appeal is admissible.
2. *Substantive patentability*
  - 2.1 Document D5 refers to a low cost compact handheld camera in, say, line 58 of column 1. Figure 1, for example, shows a lens assembly 42 and a housing 43. A battery pack 56 is provided as is a board with an IR sensor. The novel features of claim 1 of the application result in improving the ergonomics of the camera. Strictly speaking, since document D5 already indicates in the passages discussing the background and summary of the invention (see column 1, lines 21-23, 27, 30 or 39 for example) that a compact handheld camera is desired, the problem addressed by the present application is, in fact, to improve the ergonomics still further.
  - 2.2 A pyrometer known from document D3 or D4 is not a camera but shows the features novel with respect to document D5, except of course for the lens assembly as



a mirror arrangement is employed. One can point to the elongate housing shown in the Figures, which is provided with optical means at one end and a handle at the other. Figure 2 of document D3 shows thumb operable manual control means, which can also be seen in the Figure on page 91 of document D4. It can also be seen from the Figures that the device is intended for single hand use and the display is visible when the pyrometer is held away from the body.

2.3 In considering inventive step, the approach of the appellant is along the lines that an infrared camera and pyrometer have no more in common than being devices registering infrared so that a combination of the teaching of document D5 with that of document D3 or D4 would not have been obvious to a skilled person, in the light of, for example, the large movable circuit boards shown in document D5 or the necessity of providing different time constants and processor capacity for cameras as opposed to pyrometers. The weakness in this approach is that the novel features actually claimed refer not to such items, i.e. the function or construction of camera rather than pyrometer dedicated items, but to ergonomics of the device. In use, both devices are directed towards a target and one hand use is obviously advantageous for both. This is independent of the detecting and registering function of the devices. The board finds itself in agreement with the examining division that dioptric and catoptric elements are technically equivalent and that any consequential changes between the devices lie within the knowledge of the person skilled in the art. Moreover, the person skilled in the field of handheld IR instruments, being aware from document D5 that a compact handheld camera

is desirable, and having, say the Figure of the pyrometer in document D4 before him, obviously realises that provision of compatible construction and camera circuitry of reduced dimension compared with document D5 is necessary to improve the ergonomics in the same way. While, in a speculative way, it cannot be excluded that special construction or circuitry may be needed for some purposes in some cases, in the present application, there is no disclosure in this sense going beyond schematic boxes. The board thus sees its view as to obviousness confirmed by the fact that the rather sparse description of the application omits any detailed function at all of the camera including circuit and lens arrangement, which presumably is assumed to be part of the knowledge of the skilled person even by the draftsman. The argument of the appellant in relation to a combination of document D5 with document D3 or D4 thus failed to convince the board as to inventive step.

3. In relation to the terminology pertaining to the elongate shape and thumb operation as argued by the appellant, the board has no reason to depart from its provisional opinion as expressed in the summons to oral proceedings (see section VI of the Facts and Submissions above). In that opinion the board gave the reasons why the case of the appellant (in section V of the Facts and Submissions above) was not persuasive. Nevertheless, since drawings are not reproduced in this decision, the following can, for the purpose of elucidation, also be said.

- 3.1 Figure 1 of the application shows the angle  $\alpha$  as that between the longitudinal axis of the handle and the

optical axis of the lens assembly. Therefore towards the upper end of the angular range, there is no doubt that the application itself envisages a shape from elongate to pistol shaped for the camera.

3.2 The figure at the bottom right on page 91 of document D4 shows the left hand of an operator gripping the handle of a device with manual controls within easy operating range of the thumb.

3.3 The case of the appellant pertaining to the terminology relating to the elongate shape and thumb operation is also not therefore persuasive as to inventive step.

4. The board therefore concludes that claim 1 cannot be considered directed to subject matter involving an inventive step. Thus, the requirements of Article 56 EPC are not satisfied.

**Order**

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

The appeal is dismissed.

The Registrar

The Chairman

M. Kiehl

A. G. Klein