**BESCHWERDEKAMMERN DES EUROPÄISCHEN PATENTAMTS**

**BOARDS OF APPEAL OF THE EUROPEAN PATENT OFFICE**

**CHAMBRES DE RECOURS DE L'OFFICE EUROPEEN DES BREVETS**

**Internal distribution code:**
(A) [ ] Publication in OJ
(B) [ ] To Chairmen and Members
(C) [ ] To Chairmen
(D) [X] No distribution

# Datasheet for the decision of 25 November 2009

**Case Number:** T 0909/07 - 3.2.01

**Application Number:** 98203773.1

**Publication Number:** 0915011

**IPC:** B64F 5/00

**Language of the proceedings:** EN

**Title of invention:**
System and method for simulating air mode and ground mode of an airplane

**Patentee:**
The Boeing Company

**Opponent:**
Airbus SAS

**Headword:**
-

**Relevant legal provisions:**
EPC Art. 123(2)

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

**Keyword:**
"Extended subject-matter (main request: yes)"
"Inventive step (auxiliary request: yes)"

**Decisions cited:**
-

**Catchword:**
-

Europäisches Patentamt | European Patent Office | Office européen des brevets

Beschwerdekammern | Boards of Appeal | Chambres de recours

**Case Number:** T 0909/07 - 3.2.01

# D E C I S I O N
**of the Technical Board of Appeal 3.2.01**
**of 25 November 2009**

**Appellant**: (Patent Proprietor)
The Boeing Company
100 North Riverside Plaza
Chicago
IL 60606-2016 (US)

**Representative**:
McLeish, Nicholas Alistair Maxwell
Boult Wade Tennant
Verulam Gardens
70 Gray's Inn Road
London WC1X 8BT (GB)

**Respondent**: (Opponent)
Airbus SAS
1 Rond-Point Maurice Bellonte
F-31700 Blagnac (FR)

**Representative**:
Nicolle, Oliver
Santarelli
14, avenue de la Grande Armée
BP 237
F-75822 Paris Cédex 17 (FR)

**Decision under appeal:** **Decision of the Opposition Division of the European Patent Office posted 3 May 2007 revoking European patent No. 0915011 pursuant to Article 102(1) EPC 1973.**

**Composition of the Board:**

**Chairman:** J. Osborne
**Members:** C. Narcisi
T. Karamanli

## Summary of Facts and Submissions

I. The European patent No. 915 011 was revoked by the Opposition Division with the decision posted on 3 May 2007. An appeal was filed against this decision by the Patentee on 21 May 2007 and the appeal fee was paid at the same time. The statement of grounds of appeal was filed on 6 September 2007.

II. Oral proceedings were held on 25 November 2009. The Appellant (Patentee) requested that the decision under appeal be set aside and the patent be maintained in amended form on the basis of the claims according to the main request, filed with letter of 23 October 2009, or in the alternative, according to the first auxiliary request, filed during the oral proceedings. The Appellant withdrew all auxiliary requests previously on file. The Respondent (Opponent) did not attend the oral proceedings, as advised with letter of 20 November 2009. In its written reply to the statement of grounds of appeal it requested that the appeal be dismissed.

Claim 5 of the main request reads as follows:

"A system (10; 100) for simulating an air mode and a ground mode of an airplane, the air mode being a state of the airplane when the air plane is in the air and the ground mode being a state of the airplane when the airplane is on the ground, the system (10; 100) comprising:
sensing means (12) for sensing parameters indicative of whether the airplane is sensed in the air or sensed on the ground;

determining means (24) for determining whether the airplane is sensed in the air or sensed on the ground, the determining means being responsive to the sensors (12), the determining means (24) outputting a signal indicative of a sensed air mode or a sensed ground mode;
operator interface means (32) for interfacing with an operator, a simulated air mode and a simulated ground mode being selectable via the operator interface means (32); and
overriding means for overriding the signal output from the determining means, the overriding means outputting a signal indicative of the simulated air mode or the simulated ground mode in response to a selection from the operator interface means (32), and the overriding means outputting a signal indicative of the sensed air mode or the sensed ground mode when the simulated air mode or the simulated ground mode is not selected; and
resetting means for resetting the overriding means, the overriding means outputting a signal indicative of the sensed air mode or the sensed ground mode in response to the resetting means;
characterised in that:
the resetting means automatically resets the overriding means to output the signal indicative of the sensed air mode when the simulated air mode has been selected while the airplane was sensed in the ground mode, and the airplane is subsequently sensed in the air mode with the simulated air mode still selected."

Claim 1 of the first auxiliary request reads as follows:

"A system (10; 100) for simulating an air mode and a ground mode of an airplane, the air mode being a state of the airplane when the air plane is in the air and the ground mode being a state of the airplane when the airplane is on the ground, the system (10; 100) comprising:
sensing means (12) for sensing parameters indicative of whether the airplane is sensed in the air or sensed on the ground;
determining means (26) for determining whether the airplane is sensed in the air or sensed on the ground, the determining means being responsive to the sensing means (12), the determining means (26) outputting a signal indicative of a sensed air mode or a sensed ground mode;
operator interface means (32) for interfacing with an operator, a simulated air mode and a simulated ground mode being selectable via the operator interface means (32); and
overriding means for overriding the signal output from the determining means, the overriding means outputting a signal indicative of the simulated air mode or the simulated ground mode in response to a selection from the operator interface means (32), and the overriding means outputting a signal indicative of the sensed air mode or the sensed ground mode when the simulated air mode or the simulated ground mode is not selected;
characterised in that:
there is provided indicator means for indicating a discrepancy between a sensed mode and a selected simulated mode and the overriding means drives the

indicator means to indicate the discrepancy, the overriding means having received both from the operator interface means (32) the signal indicative of selected simulated mode and also from the determining means (26) the signal indicative of sensed air mode or sensed ground mode."

Claims 2,3 specify features additional to claim 1.

III. The Appellant's submissions may be summarized as follows:

The characterizing portion of claim 5 of the main request is essentially based on the features of dependent claim 4 as granted, this claim having its identical counterpart in dependent claim 4 of the original patent application as filed (see published patent application, EP-A2-915 011, hereinafter designated as EP-A). The only amendment to these features is that according to the characterizing portion of present claim 5 "the resetting means automatically resets the overriding means to output the signal indicative of the sensed air mode", whereas according to granted claim 4 "the overriding means automatically outputs the signal indicative of the sensed air mode". This amendment takes into account the interpretation of the features in granted claim 4 as given by the Opposition Division in the contested decision on page 14 (second paragraph). According to this interpretation of claim 4, an "automatic triggering of the resetting means takes place in a situation in which the simulated air mode was selected while the airplane was sensed on the ground, followed by the airplane getting airborne (or being sensed in

the air) with the simulated air mode still being selected". The Appellant agrees with the opinion of the Opposition Division in that for the skilled person this would be the one logical and technically sensible interpretation of the mentioned features of granted claim 4. Moreover, the Guidelines for examination and the case law of the Boards of appeal confirm that under the given circumstances the claimed subject-matter should be construed in a reasonable and technically sensible way. It is true that figure 6 of the application as originally filed illustrates at block 132 and 134 that firstly a selection of the resetting means and secondly a confirmation of this selection has to be made, but nonetheless this is only true for the start or the termination of the resetting process, whereas further steps, such as the reset of the overriding means to output said "signal indicative of the sensed air mode", are performed automatically. On account of these reasons the subject-matter of claim 5 according to the main request does not offend against Article 123(2) EPC.

The subject-matter of claim 1 of the auxiliary request involves an inventive step since it would not be obvious for the skilled person in view of D1 (US-A-5 111 402) and the further prior art on file. In D1 the characterizing features of claim 1 are neither disclosed nor in any way suggested to the skilled person. The patent proprietor has recognized in the teaching of D1 a problem that the failsafe systems which normally for instance prevent the inadvertent retraction of landing gear would not operate because they would think the aircraft to be airborne. Adopting the characterizing features of claim 1 in the system of

D1 would be contrary to the operating manner of that system and therefore the skilled person would not even contemplate performing such a measure. In particular, D1 already includes a back-up check to verify and confirm whether the simulation state has been selected (column 14, line 56-column 15, line 9). Hence, no further cross-checking to be performed during the simulation process is disclosed or suggested in D1, there being no need for it. Finally, according to D1 the overriding means (see figure 3; line-replacement unit (LRU) control processor 48 with simulation package 60) merely broadcasts simulated data during the simulation process whilst no real and sensed data are elaborated during this process.

IV. The Respondent's arguments may be summarized as follows:

The subject-matter of claim 5 of the main request extends beyond the content of the originally filed application since the feature "the resetting means automatically resets the overriding means" was not disclosed in the application as filed.

The subject-matter of claim 1 of the auxiliary request does not involve an inventive step with regard to D1. It has been known since decades and it is a constant concern of the skilled person in the domain of aeronautical engineering to provide safety measures ensuring personnel and material safety. The simultaneous handling of a sensed ground mode and a simulated air mode represents one of the most dangerous situations possibly occurring in an air craft and with which the skilled person is faced. Consequently it would be obvious for the skilled person to ensure that

any differences or discrepancies occurring between the sensed and the simulated mode be immediately indicated and displayed.

The skilled person would have noted that according to the system of D1 the control system 110 receives a command signal invoking a simulated mode (D1, column 13, lines 5-12) while at the same time the line-replacement unit (LRU) PSEU 34, which is connected to control system 110, receives a signal from the sensors (column 7, second paragraph). Thus, since the line-replacement unit PSEU 34 is handling sensed and simulated signals at the same time, it would be obvious and advantageous for the skilled person to use this line-replacement unit in an attempt to improve already existing safety measures, thus driving indicator means by means of this line-replacement unit to signal or to display any difference between sensed and simulated signals to make sure potential risks are timely recognized.

## Reasons for the Decision

1. The appeal is admissible.

2. The subject-matter of claim 5 of the main request does not meet the requirements of Article 123(2) EPC. The feature in the characterizing portion of claim 5 stating that "the resetting means automatically resets the overriding means to output the signal of the sensed air mode" is not supported by the content of the application as filed. Specifically, the published patent application (EP-A) discloses in paragraph [0025] that "at a block 132, the operator selects whether to

override simulated air mode or simulated ground mode as selected and return to sensed air mode and sensed ground mode. The operator confirms this selection at a block 134. At a block 136, the selected simulated air mode or simulated ground mode is reset, and the sensed air mode or sensed ground mode is selected" (see also claim 3 and figure 6 of EP-A). This passage clearly teaches that the resetting means have to be operated or selected by the service personnel in order to reset the overriding means. No mention is made either here or anywhere else in the application of any automatic reset of the overriding means by the reset means, and this would moreover apparently contradict the above mentioned passage in the disclosure of EP-A. In such a case there would anyway be no unambiguous disclosure of the feature.

3. The Board is satisfied that the subject-matter of claim 1 of the auxiliary request complies with the requirements of Article 123(2) EPC. Apart from minor editorial amendments, this claim differs from granted claim 1 by the additional features of its characterizing portion. These features are based on dependent claim 6 as originally filed and column 3, lines 31-40 of EP-A.

4. It is not disputed by the Respondent that the characterizing features of claim 1 of the auxiliary request set out in the wording "indicator means for indicating a discrepancy between a sensed mode and a selected simulated mode and the overriding means drives the indicator means to indicate the discrepancy" are not known from D1. The Respondent however contends that these features would be obvious for the skilled person

in view of his general knowledge and with regard to D1. The Respondent nevertheless failed to give either convincing arguments or any evidence indicating or suggesting that the general knowledge would necessarily lead the skilled person to compare a sensed and a selected mode to detect any possible discrepancy. The fact that D1 does not include any cross-checking during the simulation process based on such a discrepancy is an indication that the contentions made by the Respondent based on the alleged general knowledge of the skilled person need to be corroborated by some evidence which the Respondent failed to provide. Indeed, the subject-matter of D1 relates to a test system run by equipment (ATE) which is external to the aircraft. The Respondent's arguments relating to the levels of safety particular to the technical field of aircraft, on the other hand, relate to the operation of aircraft. As a consequence, the further technical measure included in the characterizing portion of claim 1 specifying that the overriding means actually drives the indicator means to indicate the discrepancy likewise cannot be considered as resulting directly from the disclosure of D1 and the general knowledge of a person of ordinary skill in the art. In summary it is concluded that for the given reasons the subject-matter of claim 1 is not rendered obvious by the cited prior art (Article 56 EPC 1973).

Since claims 2, 3 contain all features of claim 1 the same conclusion applies equally to them.

## Order

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

1. The decision under appeal is set aside

2. The case is remitted to the first instance with the order to grant a patent in the following version:

   – claims 1 to 3 and the description according to the first auxiliary request

   – drawings as granted.

The Registrar: The Chairman:

A. Vottner J. Osborne