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Datasheet for the decision of 12 May 2017

Case Number: T 1746/10 - 3.5.01

Application Number: 02731517.5

Publication Number: 1390856

IPC: G06F13/00, H04L12/403, G06F13/12

Language of the proceedings: EN

Title of invention:
SYSTEM AND METHOD FOR PRELOADING A BUS CONTROLLER WITH COMMAND SCHEDULE

Patent Proprietor:
The Boeing Company

Opponent:
Airbus Operations GmbH/Airbus Operations SAS (FR)/
Airbus Operations Limited (GB) /
Airbus Operations S.L. (ES)/
Airbus SAS (FR)

Headword:
Bus Controller / BOEING

Relevant legal provisions:
EPC Art. 84, 123(2), 123(3)

Keyword:

Amendments - added subject-matter (yes) (main request) - added subject-matter (no) (auxiliary request 5) - broadening of claim (no) (auxiliary request 5) - inescapable trap (no - added subject-matter was a generalisation, amendment is a limitation) - relationship between Art. 123(2) and Art. 123(3)
Claims - clarity in opposition appeal proceedings (no) (auxiliary request 1)

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Case Number: T 1746/10 - 3.5.01

D E C I S I O N
of Technical Board of Appeal 3.5.01
of 12 May 2017

Appellant: (Patent Proprietor)	The Boeing Company 100 North Riverside Plaza Chicago, IL 60606-1596 (US)
Representative:	Witte, Weller & Partner Patentanwälte mbB Postfach 10 54 62 70047 Stuttgart (DE)
Respondent: (Opponent)	Airbus Operations GmbH/Airbus Operations SAS (FR)/ Airbus Operations Limited (GB) / Airbus Operations S.L. (ES)/Airbus SAS (FR) Kreetslag 10 21129 Hamburg (DE)
Representative:	Isarpatent Patent- und Rechtsanwälte Behnisch Barth Charles Hassa Peckmann & Partner mbB Postfach 44 01 51 80750 München (DE)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 14 June 2010 revoking European patent No. 1390856 pursuant to Article 101(3)(b) EPC.**

Composition of the Board:

Chairman	W. Chandler
Members:	P. Scriven
	Y. Podbielski

Summary of Facts and Submissions

I. European patent EP 1390856 was granted to The Boeing Company. The patent was opposed by Airbus Deutschland GmbH (now Airbus Operations GmbH), Airbus France SAS (now Airbus Operations SAS), Airbus UK Limited (now Airbus Operations Limited), AIRBUS España S. L. (now Airbus Operations S. L.), and Airbus SAS.

II. In proceedings before the Opposition Division, the proprietor requested that the patent be maintained on the basis of one of two amended sets of claims (main and auxiliary requests). The Opposition Division revoked that patent, rejecting the main request on the grounds of Article 123(2) EPC, and the auxiliary request on the grounds of Article 123(3) EPC.

III. This is the decision in the proprietor's appeal against the Opposition Division's decision. The Appellant is The Boeing Company; the Respondents are the various Airbus companies as set out above.

IV. In the statement setting out the grounds of appeal, the Appellant requested that the appealed decision be set aside and that the case be remitted for further prosecution on the basis of the main request as before the Opposition Division, or of auxiliary request 1 submitted with the statement of grounds. As an alternative, the Appellant requested that oral proceedings be held.

V. With their letter of response, the Respondents requested that the appeal be dismissed.

VI. The Board arranged to hold oral proceedings. The Board's provisional view, set out in a communication sent with the summons, was that claim 1 according to the main request seemed to comprise subject-matter extending beyond the content of the application as filed, and that, if the main request failed under Article 123(2) EPC, then the auxiliary request would fail under Article 123(3) EPC.

VII. The Appellant informed the Board that its representative would speak English, requested simultaneous interpretation into English should the Respondent wish to use German, and further informed the Board that its representative would be accompanied by an employee, Mr Pumm. The Board drew the Appellant's attention to G 4/95 in respect of oral submissions by accompanying persons.

VIII. The Respondent informed the Board that its representative would speak German.

IX. The Board informed the parties, in a communication dated 18 April 2017 that the Appellant's request for interpretation was not granted for the reasons set out in the communication.

X. With its letter dated 12 April 2017, the Appellant submitted Auxiliary request 2.

XI. In the course of oral proceedings, the Appellant submitted three further auxiliary requests. There were, therefore, six requests for consideration. However, only three of them were maintained in the Appellant's formulation of its final requests: that the decision under appeal be set aside and that the case be remitted for further prosecution on the basis of the main

request as before the Opposition Division, of auxiliary request 1 submitted with the statement setting out the grounds of appeal, or of auxiliary request 5 as submitting during oral proceedings before the Board.

XII. The Respondent maintained its request that the appeal be dismissed.

XIII. The Opposition Division subdivided claim 1 into features identified by letters and numbers. This subdivision was used by the parties in their submissions, and by the parties and the Board during oral proceedings. It is convenient to use it in this decision.

XIV. Claim 1 according to the main request, according the the Opposition Division's subdivision, reads as follows. It differs from claim 1 as granted in that the phrase *said at least one instruction*, in (e8) used to read *that at least one instruction.*

(a) A system for controlling operation of a network device via a network bus independent of the operations of a host computer comprising:

(b) a host computer,

(c) two or more network devices;

(d) a network bus,

(d1) wherein said two or more network devices are in electrical communication with said network bus; and

(e) a bus controller

(e1) disposed in electrical communication with both the network bus and said host computer

(e2) for sending instructions to the at least one network device,

(e3) wherein said bus controller comprises a memory device for storing a series of instructions,

(e4) wherein the instructions include at least one command to be executed by the at least one network device,

(e5) wherein said bus controller is adapted to execute said series of instructions stored in the memory device

(e6) in a manner independent of the operations of said host computer

(e7) so as to control communications conducted with the at least one network device via the network bus,

(e8) whereby said bus controller sends said at least one instruction to the network device and

(e9) the network device executes the command located in the instruction independent of the operations of the host computer,

(f) wherein said host computer is adapted to preload said bus controller with a command schedule comprising a series of instructions

(f1) such that said bus controller executes the command schedule so as to control communications with the at least one network device,

(f2) wherein at least one of the instructions has an associated variable data field, and

(f3) wherein said host computer is adapted to evaluate communications on the network bus and

(f4) altering the variable data field of the at least one instruction to thereby alter communications between said bus controller and the at least one network device on the network bus,

characterised in that

(g) said host computer is adapted to evaluate communications conducted via the network bus, and

(g1) wherein said host computer is adapted to alter the variable data associated with the at least one variable data field of the at least one instruction

(g2) based upon the communications evaluated.

XV. Claim 1 according to auxiliary request 1 reads identically, except for features (e2) and (e8) which read as follows.

*(e2) for sending **commands** to the at least one network device,*

*(e8) whereby said bus controller sends said at least one **command** to the network device and*

XVI. Claim 1 according to auxiliary request 5 is identical to that of auxiliary request 1 except that the words *located in the instruction* have been deleted from feature (e9), which now reads as follows.

(e9) the network device executes the command independent of the operations of the host computer

XVII. The parties' arguments are set out in the Reasons.

Reasons for the Decision

Background

1. The invention is concerned with a host computer, a collection of network devices, and a bus by which they are all connected. It seeks to relieve the host computer of some of the work involved in managing communications on the bus.

2. To this end, a bus controller is provided that can store a sequence of instructions. By following these instructions, the bus controller manages the use of the bus. In part, that involves the sending of commands to the network devices. An example would be a command to a first device to take a temperature reading or to send the result of such a reading to some second device.

3. The case concerns the confusion that can arise when similar terms, here *instruction* and *command*, are used and get mixed up.

4. For the most part, the application as filed reserved the word *instruction* for something that told the bus controller what to do. It used *command* for something that told network devices what to do. Unfortunately, there are instances in which the usage is reversed, such as the first line of page 15 of the published application (*... the bus controller can begin to execute the commands ...)*. This is set out in full detail, below.

5. Claim 1 as granted, and according to the main request, defines a system with a bus controller *for sending instructions* to a network device (e2), the instructions

comprising *at least one command* which the device should execute (e4). But the bus controller also executes the instructions (e5), and, furthermore, sends it to the network device (e8). At first sight, the claim requires the bus controller both to execute an instruction and to send that instruction to a network device.

6. It is this apparent requirement that is at the heart of the dispute. It is common ground that the application as filed provides no basis for an instruction that is both executed by the bus controller and also sent to a network device. The question is whether this really is a requirement of the claim, and, if it is, whether that can be remedied.

7. The Respondent Opponents, and the Opposition Division agreed with them on this point, interpreted claim 1 to be clearly directed to a system which included the problematic requirement. As a result, the claim defined a feature for which the application as filed provided no basis; but any claim which did not include the requirement necessarily extended the scope of protection and could not be allowed. That is a classic Article 123(2) - 123(3) "trap". In the communication sent with the summons to oral proceedings, the Board considered this was, indeed, the situation.

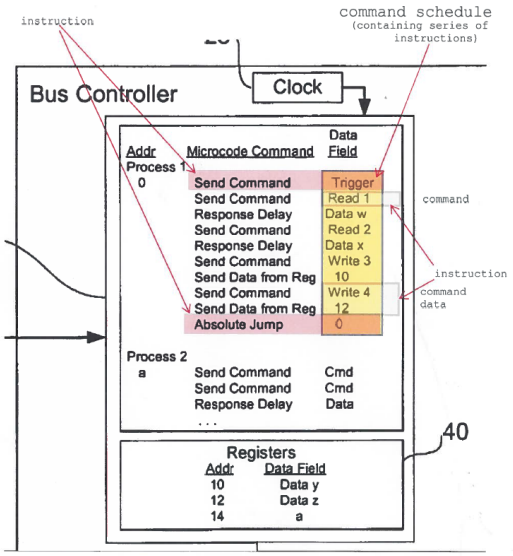
8. The Appellant, however, argued that, if the Opposition Division were right, the term *instruction* meant, throughout the application, something the bus controller would execute. But then original claim 18 provided a basis for such an instruction being sent to a network device.

9. In the Appellant's view, however, the Opposition Division was wrong. The application made a distinction

between instructions for the bus controller and instructions for the network devices. The skilled reader would disentangle the different meanings, with the result that the claim did not cover anything beyond the original disclosure. Furthermore, if there were an infringement of Article 123(2) EPC, that would be because the claim could be read as covering a system in which an instruction was both executed by the bus controller and sent to a network device. It must also, however, cover a system in which what was executed by the bus controller and what was sent to the network device were distinct, with the result that it would be possible to remedy the infringement of Article 123(2) EPC by restricting the claim to a narrower scope. As a restriction, there would be no infringement of Article 123(3) EPC.

The Appellant's sketch and elucidation of the invention

10. During oral proceedings before the Board, the Appellant submitted the following sketch. It is a marked-up version of Figure 5 and shows instructions stored in the bus controller.



11. Two examples are marked in red and were called "red instructions" by both parties and the Board. It is to be understood that each row of the table shows one red instruction, comprised of both the entry in the column labelled *Microcode Command* and the entry in the column labelled *Data Field*.

12. The entries of the *Data Field* column are marked in yellow. Some of the entries are commands that a network device should execute, such as *Trigger* in the first line or *Read 1* in the second. Some entries are data to be sent to the network devices, such as *Data w* in the third line. Some entries are not for network devices at all, such as the *0* in the last line or the *12* in the penultimate. The Appellant explained that a command from the *Data Field* constituted (possibly together with some data that was sent subsequently) an instruction for a network device. These were called *yellow instructions*.

13. The Appellant explained that the bus controller executed a red instruction by performing the action specified by the microcode command. When this involved the sending of a command to a network device, it was the corresponding entry in the yellow column that was sent.

14. The Respondent did not suggest that this misrepresented the invention.

The main request

15. As already noted, it is common ground that the application as filed provides no basis for a system in which the bus controller both executes an instruction and sends it to a network device. It is the Respondents' case that claim 1 covers such a system and, therefore, infringes Article 123(2) EPC. The Appellant argues that the application used the word *instruction* to cover both what is executed by the bus controller and what is executed by the network devices; and that the skilled reader would understand claim 1 as using the term with both meanings.

16. The first step is to consider the wording of the claim. If it says, clearly, that an instruction is both executed and sent, that is an end of the matter. The skilled reader will have the description in mind while reading the claims, but if the claims say something different from the description, she will understand that they do so.

17. According to feature (e2), the bus controller is *for sending* ***instructions*** *to the at least one network device.* This statement is the first that mentions what

the bus controller sends to the network devices. It is unequivocal. They are *instructions.*

18. The next statement is in feature (e3): the *bus controller comprises a memory device for storing* ***a series of instructions***. The bus controller, then, is for sending instructions and can store a series of instructions. So far, the natural reading is that the stored instructions are those that are to be sent.

19. Feature (e4) is more difficult. The ***instructions*** *include at least one* ***command*** *to be executed by the at least one network device*. There are at least three possible meanings. The first is that each of the instructions includes at least one command; the second, that some instruction includes at least one command; the third, that, amongst the instructions, there is at least one that is a command. The significance of the ambiguity is discussed below.

20. Feature (e5) specifies that the bus controller is *adapted to* ***execute said series of instructions***. At this point, it seems that the instructions are sent to the network devices (e2) and also executed by the bus controller (e5). The skilled reader must find this puzzling, even recalling lines 1 - 5 of page 15 of the published application, which state that the *bus controller can begin to execute the commands* and *the bus controller commencing execution of the commands*.

21. Feature (e8) specifies that the bus controller *sends* ***said at least one instruction*** *to the network device*. On the one hand, this is unsurprising in the light of (e2), but the reader is left to wonder about the lack of antecedent for *said at least one instruction*.

22. Finally, feature (e9) specifies that *the network device executes the* ***command located in the instruction.*** The natural reading, in the Board's view, is that the instruction that, according to (e2), is sent to the network device, contains a command.

23. The claim, then, has this sequence of unfortunate uncertainties.

24. The Appellant argued (see point Error: Unable to retrieve cross-reference value!, above), that the skilled person would understand *instruction* as covering both red instructions and yellow, and that she would exclude the possibility of sending a red instruction to a network device, because it would make no technical sense both to execute and to transmit the same instruction.

25. The Respondent argued that it was, at least, clear that the network device received a yellow instruction wrapped in a red instruction, so that the bus controller both executed the red instruction (e5) and sent it to a network device. There were circumstances in which both the executing and transmitting an instruction made perfect sense. It might be an instruction to update some internal software, for example, something both the bus controller and the network devices would have to do. Or the bus controller might be itself a network device acting as a relay, both executing and forwarding instructions.

26. The Board finds the Respondent's examples of instructions that might be both executed and transmitted rather speculative. If it is to be argued that these interpretations are in the skilled person's mind, because they are part of the prior art, then some

evidence is needed.

27. However, the Appellant's argument is not persuasive either. The range of network devices envisaged for the invention is very broad, from temperature and pressure sensors, to actuators for controlling a throttle, to entertainment devices like radio receivers, television receivers, and headphone jacks. The first two paragraphs on page 9 of the published application explicitly mention such examples, and it is clear that they are no more than examples. In the context of this broad range of devices, the skilled reader of claim 1 has no reason to take a restrictive view of what can be sent to such devices.

28. In the Board's view the claim simply muddles the terms *instruction* and *command*. It is open to the interpretation under which a red instruction is sent to a network device and equally open to one under which red instructions stay in the bus controller and yellow instructions are extracted from then and sent over the bus. Doubtless, it is open to more interpretations than those two.

29. That is enough to substantiate an objection under Article 123(2) EPC. Accordingly, the main request must be rejected.

Auxiliary request 1

30. The amendments replace the work *instruction* in (e2) and (e8) by the word *command*.

31. Following the same approach as above, the skilled reader understands from (e2) that what are sent to the

network devices are *commands*; from (e3) that what the bus controller stores are *instructions*; from (e4), that the instructions include at least one *command*; from (e5) that the bus controller executes *instructions;* and from (e8) that *said at least one command* is sent to a network device.

32. The Board notes, that the lack of clarity in (e4), and the lack of antecedent for *said at least one ...* in (e8) (see paragraphs 19. and 21., above) are apparently unaffected by the amendments. However, up to this point, the skilled reader would be under the impression that one thing is executed by the bus controller and another is transmitted.

33. However, (e9) specifies that what the network device executes is the *command located in the instruction*.

34. The Respondent argued that nothing in the rest of the claim indicated the form in which the (yellow) command was sent, but, according to (e9), it was still wrapped in the (red) instruction, just as it was stored in the bus controller.

35. The Appellant submitted, that the term *command located in the instruction* was part of the granted claim and that any lack of clarity would not be a ground of opposition; and that the only interpretation of (e9) consistent with the description, and therefore open to the skilled reader, was that the yellow command was sent unwrapped.

36. It is the Board's judgment that the changes to the claim change the interpretations open to the terms *instruction* and *command*. They therefore affect the meaning of *command located in the instruction*. The

changes induce at least an ambiguity in that it is possible to understand that the yellow command is sent wrapped in a red instruction, or that the command that was in the red instruction is sent unwrapped.

37. The Board, therefore, rejects auxiliary request 1 as unclear (Article 84 EPC). As the lack of clarity results from amendments to the patent, it is a valid objection in Opposition proceedings.

Auxiliary request 5

38. In this request, claim 1 has been amended in the same manner as in auxiliary request 1, but the term *located in the instruction* has been deleted from feature (e9).

39. The Respondent argued, firstly, that this request should not be admitted because it was filed late and was not allowable *prima facie*. In particular, it did not specify how the command was transmitted over the bus, and it could, therefore, still be wrapped in a red instruction.

40. The Appellant argued that the amendments were a response to the issue of clarity which arose for the first time during oral proceedings before the Board.

41. The Board agrees with the Appellant as to the admissibility of the request. The clarity of (e9) arose during oral proceedings before the Board, in part, at least, because the interpretation of the granted claim had changed. Furthermore, the amendment is a minor one that prima facie overcomes the clarity problem without introducing any new problems.

42. The Respondent argued that the request could not be allowed because it either still admitted the red interpretation and so infringed Article 123(2) EPC, or else did not admit that interpretation and so would extend the scope of protection, contrary to Article 123(3) EPC. The words *that at least one,* in feature (e8) of the claim as granted, clearly referred back to the only other occurrence of *at least one*, which was in feature (e4). Therefore, in claim 1 as granted, what was transmitted on the bus had to be the same as what was executed by the bus controller.

43. The Appellant argued that this version of claim 1 overcame the objection of lack of clarity (auxiliary request 1) and of added subject matter (patent as grated, main request), because what the bus controller executed and what it sent over the bus could not now be the same thing. The amendment did not extend the scope of protection, because it was a limitation to one of the two possible interpretations of claim 1 as granted. Moreover, even if the Respondent were correct, and the granted claim bore only one meaning, the amendment would still be allowable as in T 0108/91, *Lockable closure / SEARS*, OJ 1992m 228.

44. The Board agrees with the Appellant. This is consistent with the Board's interpretation of claim 1 as granted and according to the main request (see point 28., above). Under this interpretation, the claim covered at least two alternatives. The amended claim is a restriction to one of these and is thus a limitation rather than an extension of scope.

45. As the Board does not follow the Respondents' argument regarding the granted claim, there is no need to consider the Appellant's argument in respect of T 0108/

91, although the Board does note that T 0195/09, *Scale inhibiting polymers / UNILEVER*, not published in the OJ EPO, suggests at 2.1.5, that T 0108/91 was overruled by G 1/93, OJ 1994, 541.

Conclusions

46. The Board, therefore, decides as follows.

The main request cannot be allowed under the provisions of Article 123(2) EPC.

Auxiliary request 1 was admitted into the proceedings but cannot be allowed under the provisions of Article 84 EPC.

Auxiliary request 5 was admitted into the proceedings. It infringes neither Article 123(2) nor Article 123(3) EPC, and the amendments do not induce any lack of clarity.

Order

For these reasons it is decided that:

The decision under appeal is set aside.

The case is remitted to the opposition division for further prosecution.

The Registrar: The Chairman:

T. Buschek W. Chandler

Decision electronically authenticated