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**Datasheet for the decision  
of 10 May 2016**

**Case Number:** T 0376/11 - 3.5.04

**Application Number:** 00990337.8

**Publication Number:** 1254561

**IPC:** H04N5/00

**Language of the proceedings:** EN

**Title of invention:**

BROADCAST PROGRAM RECORDING OVERRUN AND UNDERRUN SCHEDULING  
SYSTEM

**Applicant:**

TiVo, Inc.

**Headword:**

**Relevant legal provisions:**

EPC 1973 Art. 56  
EPC Art. 123(2)

**Keyword:**

Inventive step (no - main and first auxiliary requests)  
Amendments - added subject-matter (yes - second auxiliary  
request)

**Decisions cited:**

**Catchword:**



**Beschwerdekammern**  
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Case Number: T 0376/11 - 3.5.04

**D E C I S I O N**  
**of Technical Board of Appeal 3.5.04**  
**of 10 May 2016**

**Appellant:** TiVo, Inc.  
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**Representative:** Dendorfer, Claus  
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**Decision under appeal:** Decision of the Examining Division of the  
European Patent Office posted on 23 September  
2010 refusing European patent application  
No. 00990337.8 pursuant to Article 97(2) EPC.

**Composition of the Board:**

**Chairwoman** T. Karamanli  
**Members:** M. Paci  
R. Gerdes

## **Summary of Facts and Submissions**

- I. The appeal is against the decision of the examining division refusing European patent application No. 00990337.8 published as international patent application WO 01/47249 A2.
- II. The decision under appeal was based on the grounds that the subject-matter of claim 1 according to the main request did not involve an inventive step (Article 56 EPC) in view of D3 and that the subject-matter of claim 1 according to the auxiliary request did not involve an inventive step in view of D3 and D1, namely
- D1: EP 0 836 320 A2 and  
D3: WO 94/11990 A1.
- III. With the statement of grounds of appeal the appellant filed amended claims 1 to 21, which replaced all previous claims on file, and requested that the decision under appeal be set aside and that a patent be granted on the basis of these amended claims. As a precaution, the appellant also requested oral proceedings.
- IV. In a communication under Article 15(1) RPBA (Rules of Procedure of the Boards of Appeal, OJ EPO 2007, 536) annexed to the summons for oral proceedings, the board informed the appellant of its preliminary opinion that the subject-matter of claims 1, 8 and 15 did not involve an inventive step in view of document D3 and common general knowledge. The board also drew the appellant's attention to inconsistencies in the wording of claims 16 to 21.

- V. With a letter of reply dated 11 April 2016, the appellant filed amended claims according to a main request and a first auxiliary request, replacing all previous claims on file.
- VI. The board held oral proceedings on 10 May 2016. During the oral proceedings the appellant filed amended claims according to a second auxiliary request. The appellant's final requests at the end of the oral proceedings were 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 auxiliary request, both requests filed with letter of 11 April 2016, or according to the second auxiliary request filed during the oral proceedings of 10 May 2016.

At the end of the oral proceedings, the Chairwoman announced the board's decision.

- VII. Claim 1 according to the appellant's **main request** reads as follows:

"A process for adjusting the start and end times of a broadcast program recording schedule in a computer environment, comprising the steps of:

accepting user input (1701);

wherein the user indicates a particular broadcast program to record;

wherein said broadcast program has a predetermined start and end broadcast time according to an electronic program guide;

scheduling said broadcast program to be recorded (1702);

displaying an input screen to the user (1701) that allows the user to specify a time increment to adjust

said broadcast program start recording time and/or specify a time increment to adjust said broadcast program end recording time, wherein the input screen allows the user to specify whether to add or subtract a specified time increment, wherein the input screen allows the user to specify a time increment in any of: minutes, hours, or seconds;

adjusting said start and/or said end recording time for said broadcast program using said time increment(s) specified by the user (1702) by adding or subtracting said time increment(s) from said start and/or said end recording time as specified by the user; and

providing program recording means (1707) for storing a broadcast program on a storage device in a digital form."

VIII. Claim 1 according to the appellant's **first auxiliary request** reads as follows:

"A process for adjusting the start and end times of a broadcast program recording schedule in a computer environment, comprising the steps of:

accepting user input;

wherein the user indicates a particular broadcast program to record;

wherein said broadcast program has a posted start time and a posted end time according to an electronic program guide;

displaying an input screen (1401) to the user that displays, and allows the user to specify, a time increment to adjust said posted start time and/or a time increment to adjust said posted end time, wherein the input screen (1401) allows the user to specify whether to add or subtract a specified time increment, wherein the input screen allows the user to specify a time increment in any of: minutes, hours, or seconds;

scheduling said broadcast program to be recorded at a start recording time and an end recording time determined from said posted start time and said posted end time for said broadcast program by adding or subtracting said time increment(s) as specified by the user; and

providing program recording means (1707) for storing a broadcast program on a storage device in a digital form."

IX. Claim 1 according to the appellant's **second auxiliary request** reads as follows (additional text relative to claim 1 of the first auxiliary request is underlined; no text was deleted):

"A process for adjusting the start and end times of a broadcast program recording schedule in a computer environment, comprising the steps of:

accepting user input;

wherein the user indicates a particular broadcast program to record;

wherein said broadcast program has a posted start time and a posted end time according to an electronic program guide;

displaying an input screen (1401) to the user that does not display the posted start time nor the posted end time of said broadcast program, but displays, and allows the user to specify, a time increment to adjust said posted start time and/or a time increment to adjust said posted end time, wherein the input screen (1401) allows the user to specify whether to add or subtract a specified time increment, wherein the input screen allows the user to specify a time increment in any of: minutes, hours, or seconds;

scheduling said broadcast program to be recorded at a start recording time and an end recording time

determined from said posted start time and said posted end time for said broadcast program by adding or subtracting said time increment(s) as specified by the user; and

providing program recording means (1707) for storing a broadcast program on a storage device in a digital form."

- X. The examining division's reasoning in the decision under appeal, as far as relevant to the claims under consideration, may be summarised as follows:

Document D3, the closest prior art, disclosed a process for adjusting the start and end times of a broadcast program recording schedule from which the process of claim 1 of the (then) main request differed by the following features:

- providing an input screen to specify the time increment and
- providing storage of the broadcast program in a digital form.

Digital storage, however, was one of several design possibilities from which the skilled person would have chosen, because the computer environment in which the method was performed was always a digital one.

An input screen allowing the user to specify a time increment was also regarded as one of several obvious possibilities in view of the fact that the system of D3 allowed the user to adjust the start and/or end times of a program to be recorded, by adding a time increment of, for instance, 5 or 3 minutes. Moreover, there was a suggestion in D3 that these exemplary values of 5 and 3 minutes could be adjusted.



Hence the process of claim 1 of the (then) main request underlying the decision under appeal did not involve an inventive step.

XI. The appellant's arguments regarding the present main, first and second auxiliary requests may be summarised as follows:

*Main request - inventive step*

The subject-matter of claim 1 of the main request differed from the process of D3 by the following distinguishing features:

(a) the broadcast program has a predetermined start and end broadcast time "according to an electronic program guide";

(b) the input screen allows the user to specify a time increment "in any of: minutes, hours, or seconds";

(c) the broadcast program is stored on a storage device "in a digital form", and

(d) "displaying an input screen to the user (1701) that allows the user to specify a time increment to adjust said broadcast program start recording time and/or specify a time increment to adjust said broadcast program end recording time, wherein the input screen allows the user to specify whether to add or subtract a specified time increment".

The objective technical problem solved by these distinguishing features was how to improve the user interface in order to adjust the start and end times of a broadcast program recording schedule.

These distinguishing features rendered the subject-matter of claim 1 inventive in view of D3 at least for the following reasons:

- (1) a main point of the invention was that the user specified a relative time increment, e.g. two minutes longer, which was more intuitive, more convenient, less technical and less confusing for the user than adjusting the absolute time of the recording, e.g. 3:30pm, as in D3;
- (2) the present invention was not a mere development of D3, but a dramatic departure from the normal thinking in the VCR industry; and
- (3) even if the skilled person had considered modifying the system of D3 by implementing an electronic program guide (EPG), he/she would not have used the broadcast program start and end times of the EPG when scheduling a program for recording, because an EPG was essentially a modernised version of the G-code, which D3 taught not to use when scheduling the recording of a program.

*First auxiliary request - inventive step*

The main purpose of the amendments in claim 1 of the first auxiliary request was to clarify that the input screen displayed the time increment, in case the board considered that this feature was not already implicit in the wording of distinguishing feature (d) of claim 1 of the main request.

The arguments as to inventive step were thus essentially the same as for claim 1 of the main request.

*Second auxiliary request - added subject-matter*

Claim 1 of the second auxiliary request differed from claim 1 of the first auxiliary request by the additional feature that the input screen displayed the time increment but neither the start time nor the end time obtained from the EPG (see point IX *supra*).

This additional feature met the requirements of Article 123(2) EPC because it could be derived directly and unambiguously from figure 14 of the application as filed.

*Second auxiliary request - inventive step*

In D3, only absolute times were displayed. Hence the above additional feature, which specified that only the relative time increment was displayed, made the subject-matter of claim 1 even more remote from the disclosure of D3.

**Reasons for the Decision**

1. The appeal is admissible.

*The invention*

2. The invention relates to the storing and viewing of television program material in a computer environment. In particular, it relates to the scheduling for recording of a television program in a way which allows the user to adapt to variations in the actual start and end times of the program to be recorded.

*Main request - inventive step (Article 56 EPC 1973)*

3. Closest prior art

It is common ground that document D3 discloses a system and process for adjusting start and end times of a broadcast program recording schedule and that it represents the closest prior art for the subject-matter of claim 1.

4. Distinguishing features

4.1 In its communication under Article 15(1) RPBA annexed to the summons to oral proceedings, the board explained that D3 disclosed a process comprising all the features of claim 1 of the main request, except the following distinguishing features:

- (a) said broadcast program has a predetermined start and end broadcast time "according to an electronic program guide" (there is no mention of an EPG in D3);
- (b) the input screen allows the user to specify a time increment "in any of: minutes, hours, or seconds" (D3 only discloses time increments in minutes, e.g. 3 or 5 minutes: see page 12, lines 16 to 19);
- (c) the broadcast program is stored on a storage device "in a digital form" (D3 mentions a video cassette recorder (VCR) without specifying whether the recording is in analog or digital form).

4.2 The appellant concurred with the board that the subject-matter of claim 1 of the main request differed from that of D3 by features (a) to (c) identified by

the board, but added that there was also the following fourth distinguishing feature:

- (d) "displaying an input screen to the user (1701) that allows the user to specify a time increment to adjust said broadcast program start recording time and/or specify a time increment to adjust said broadcast program end recording time, wherein the input screen allows the user to specify whether to add or subtract a specified time increment".

The appellant argued that feature (d) was novel over D3 because it was implicit in the wording of this feature that the time increment was displayed to the user. In D3, there was no display of a time increment.

4.3 For the following reasons, the board disagrees with the appellant that feature (d) is novel over D3:

The wording of feature (d) states that the displayed input screen allows the user to specify a time increment by which the broadcast program start and/or end recording time is increased or decreased. In the board's view, it is not implicit in the wording of feature (d) that the specified time increment must be displayed, because the display of the time increment is necessary neither for allowing the user to specify its value, nor for allowing the user to specify whether it must be added to or subtracted from the broadcast program start and/or end recording time. Indeed, the user could, for instance, enter the time increment by pressing certain keys on a remote control and be shown the result of his/her actions by the display of an updated absolute start and/or end recording time.

D3 discloses such an example. In D3, four keys (62, 64, 66, 68 in figure 2) on a remote control allow the user to increment or decrement the broadcast program start and/or end recording time by predetermined amounts (see figures 3 to 5 and the corresponding description on pages 10 to 14). For instance, by pressing key 62 once, the user can increase the broadcast program start recording time by 5 minutes. By pressing key 62 again, the start recording time is increased by another 5 minutes. By pressing key 64, the start recording time is decreased by 3 minutes. Keys 66 and 68 similarly allow the user to adjust the end recording time. After a key is pressed, the updated recording time is displayed, but the time increment itself is not (see figures 7A to 7C). Hence, in other words, in D3 an input screen is displayed (see figures 7A to 7C) which allows the user (by pressing one or more of keys 62, 64, 66 and 68) to specify a time increment and whether this time increment is to be added to or subtracted from the broadcast program start and/or end recording time.

For the above reasons, the board considers that features (a) to (c) are the sole distinguishing features of claim 1 of the main request.

5. Objective technical problem

The appellant submitted that the objective technical problem solved by the distinguishing features (a) to (d) was how to improve the user interface in order to adjust the start and end times of a broadcast program recording schedule.

The board considers that this formulation of the objective technical problem also applies where the

features (a) to (c) are the sole distinguishing features of claim 1 of the main request.

6. Obviousness

6.1 The appellant did not dispute that, as acknowledged on page 2, lines 4 to 13, of the application as filed, both digital video recorders (DVRs) and electronic television program guides (EPGs) were already known and commonly used in the technical field of the invention before the priority date of the present application.

Since DVRs and EPGs were widely regarded as improvements over analog VCRs and printed program guides, the skilled person would have wanted to adapt the older system of D3 so that it comprised a DVR and an EPG.

A well-known advantage of an EPG, as acknowledged on page 2, lines 9 to 13, of the application as filed, was that it allowed a user to select a program and to schedule it for recording without having to manually input its scheduled start and end times. It would thus have been obviously desirable for the skilled person to also use the scheduled start and end times from the EPG as the initial recording start and end times of the program to be scheduled for recording in the system of D3, instead of the current time and the current time plus two hours used in D3, which could be quite different from the actual start and end times of the program to be recorded (see, for instance, the large time difference in D3 between the current time of 09:35 in figure 7A and the start time of the program of 20:25 on the next day in figures 7B and 7C). For these reasons, the skilled person would have arrived at

**distinguishing features (a) and (c)** without an inventive step.

D3 mentions that it is desirable to be able to quickly adjust the start time of a scheduled program in time increments of, for example, 3 or 5 minutes (see page 12, lines 16 to 19). The board concurs with the examining division that it would have been an obvious design option to give more freedom to the user in adjusting the scheduled time by allowing him/her to specify the time increment on screen in any of hours, minutes or seconds, thereby arriving at **distinguishing feature (b)**.

6.2 The appellant essentially put forward the following arguments:

- (1) a main point of the invention was that the user specified a relative time increment, e.g. two minutes longer, which was more intuitive, more convenient, less technical and less confusing for the user than adjusting the absolute time of the recording, e.g. 3:30 pm, as in D3;
- (2) the present invention was not a mere development of D3, but a dramatic departure from the normal thinking in the VCR industry; and
- (3) even if the skilled person had considered modifying the system of D3 by implementing an EPG, he/she would not have used the broadcast program start and end times of the EPG when scheduling a program for recording, because an EPG was essentially a modernised version of the G-code, which D3 taught not to use when scheduling the recording of a program.



Regarding argument (1), the board notes that the wording of claim 1 of the main request is silent on whether the time displayed on screen is absolute or relative. The wording of claim 1 excludes neither. In any case, the board regards both options as obvious alternative manners of displaying a change of time.

As to argument (2), the board cannot see a dramatic departure from the normal thinking in the VCR industry in any of distinguishing features (a) to (c) or in displaying a relative time increment instead of an absolute recording time. Rather, these are logical straightforward consequences of using a DVR and an EPG (both well known) in the system of D3.

As to argument (3), a "G-code" was a unique number assigned to a broadcast program containing in encoded form the channel, date, (start) time and length (CDTL) of the program. A G-code was typically printed in paper TV guides and could be manually input by the user into the video recorder, which would then record from the correct channel at the correct time (see D3, page 2, lines 8 to 25). As the appellant correctly observed, although D3 mentions the existence of "G-codes", it does not use them for setting the initial start and end times of the program to be recorded. Instead, the current time and the current time plus two hours are used as initial start and end times, which the user must then manually adjust. Document D3 does not explain why the G-code is not used. However, in the board's view, it is most likely because the user does not always have a G-code at hand, for instance if the user has not bought a TV guide. The appellant also correctly noted that an EPG rendered a G-code obsolete because it contained all the CDTL information about a program which was encoded in the G-code. However, the board

cannot agree with the appellant that the skilled person would not have used the start and end times in the EPG because the system of D3 did not use the G-code.

Indeed, in contrast to the G-code, the EPG information is stored in the DVR and, thus, is always available for scheduling a program for recording. It would thus have been an obviously desirable solution for the skilled person to take the start and end times of the selected program from the EPG as initial start and end times in the recorder of D3, which the user could then adjust if desired.

- 6.3 For the above reasons, the subject-matter of claim 1 of the main request does not involve an inventive step in view of document D3 and common general knowledge about EPGs.

*Conclusion on the main request*

7. Since the subject-matter of claim 1 does not meet the requirements of Article 56 EPC 1973, the appellant's main request is not allowable.

*First auxiliary request - inventive step (Article 56 EPC 1973)*

8. Claim 1 according to the first auxiliary request differs from the claim 1 of the main request essentially in that it contains the additional feature that the time increment(s) for the start and/or end time is(are) displayed to the user.
9. As explained under point 6.2 *supra*, the board regards displaying either the new time (i.e. the absolute time) or the amount by which the old time has been changed (i.e. the time increment) as two obvious alternative ways of displaying a change of time.

10. For the above reasons, the subject-matter of claim 1 of the first auxiliary request does not involve an inventive step in view of document D3 and common general knowledge.

*Conclusion on the first auxiliary request*

11. Since the subject-matter of claim 1 does not meet the requirements of Article 56 EPC 1973, the appellant's first auxiliary request is not allowable.

*Second auxiliary request - added subject-matter (Article 123(2) EPC)*

12. Claim 1 according to the second auxiliary request differs from claim 1 according to the first auxiliary request by the addition of the negative feature that the input screen displayed to the user "does not display the posted start time nor the posted end time of said broadcast program, but" displays, and allows the user to specify, a time increment.... (see point IX *supra*).

The appellant submitted that this additional feature met the requirements of Article 123(2) EPC because it could be derived directly and unambiguously from figure 14 of the application as filed.

The board is not convinced of that for the reasons presented below.

The displaying step in the process of claim 1 of the second auxiliary request reads: "displaying an input screen (1401) to the user that does not display the posted start time nor the posted end time of said

broadcast program, but displays, and allows the user to specify, a time increment to adjust said posted start time and/or a time increment to adjust said posted end time, wherein the input screen (1401) allows the user to specify whether to add or subtract a specified time increment, wherein the input screen allows the user to specify a time increment in any of: minutes, hours, or seconds".

From the above wording of the displaying step in claim 1 it is clear that the input screen is displayed during at least all the time it takes for the user to input the time increment for the start and/or end time(s) in any of hours, minutes or seconds, and that neither the "posted start time" nor the "posted end time", i.e. the start and end times from the EPG, is displayed **during the whole duration** of the displaying step.

Figure 14 of the application as filed provides a snapshot of the input screen at a predetermined point in time during the displaying step. It is undisputed that time increments ("1 minute early" and "30 minutes longer") are displayed in the input screen shown in figure 14, but not the start and end times from the EPG. However, in the board's view, it cannot be **derived directly and unambiguously** from this single snapshot that the start and end times were never displayed during the whole duration of the displaying step. For instance, there is nothing in the application as filed to exclude the start and end times being displayed when the input screen of figure 14 was first displayed and only disappearing from the input screen after the user had started inputting a time increment.

For the above reasons, the board considers that claim 1 of the second auxiliary request contains subject-matter extending beyond the content of the application as filed and therefore infringes Article 123(2) EPC.

*Conclusion on the second auxiliary request*

13. Since claim 1 does not meet the requirements of Article 123(2) EPC, the appellant's second auxiliary request is not allowable.

*Additional observations on claim 1 of the second auxiliary request*

14. For the sake of completeness, the board would add that, even if claim 1 of the second auxiliary request had been held to meet the requirements of Article 123(2) EPC, its subject-matter would not have involved an inventive step in view of document D3 and common general knowledge, for essentially the same reasons as for the first auxiliary request.

*Conclusion*

15. Since none of the appellant's requests is allowable, the appeal must be dismissed.

**Order**

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

The appeal is dismissed.

The Registrar:

The Chairwoman:



K. Boelicke

T. Karamanli

Decision electronically authenticated