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**Datasheet for the decision  
of 19 February 2008**

**Case Number:** T 0175/05 - 3.5.04

**Application Number:** 98104906.7

**Publication Number:** 0853428

**IPC:** H04N 7/10

**Language of the proceedings:** EN

**Title of invention:**

Television signal transmission and reception system

**Patentee:**

KABUSHIKI KAISHA TOSHIBA

**Opponent:**

NDS Technologies France

**Headword:**

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**Relevant legal provisions:**

EPC Art. 101(3)(b), 123(2)

**Relevant legal provisions (EPC 1973):**

EPC Art. 56, 76(1), 100(a), 100(c)

**Keyword:**

"Inventive step - no"

**Decisions cited:**

G 0001/06

**Catchword:**

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Case Number: T 0175/05 - 3.5.04

**D E C I S I O N**  
of the Technical Board of Appeal 3.5.04  
of 19 February 2008

**Appellant:**  
(Opponent) NDS Technologies France  
Immeuble Bords de Seine 1  
65 rue Camille Desmoulins  
F-92130 Issy-les-moulineaux (FR)

**Representative:** Evens, Paul Jonathan  
Maguire Boss  
24 East Street  
St-Ives  
Cambridge PE27 5PD (GB)

**Respondent:**  
(Patent Proprietor) KABUSHIKI KAISHA TOSHIBA  
72, Horikawa-cho  
Saiwai-ku  
Kawasaki-shi  
Kanagawa-ken 210-8572 (JP)

**Representative:** Vigars, Christopher Ian  
HASELTINE LAKE  
Redcliff Quay  
120 Redcliff Street  
Bristol BS1 6HU (GB)

**Decision under appeal:** Interlocutory decision of the Opposition  
Division of the European Patent Office posted  
30 November 2004 concerning maintenance of  
European patent No. 0853428 in amended form.

**Composition of the Board:**

**Chairman:** F. Edlinger  
**Members:** C. Kunzelmann  
B. Müller

## Summary of Facts and Submissions

I. The appeal is against the decision of the opposition division to maintain European patent No. 0 853 428 in amended form in the version of the main request.

II. The (sole independent) claim 1 reads as follows.

"A system for transmitting television signals corresponding to a plurality of channels from a program supplier side and for receiving the television signals at a program reception side, the system producing at the program supplier side a synthesis television signal, corresponding to a guide channel, by synthesizing the television signals in order to provide on one screen a multi-screen display comprising a plurality of small screens which correspond to respective ones of the plurality of channels, the system constantly transmitting the synthesis television signal, the signals of the plurality of channels, the control information in combination, the control information including channel data indicating which channel is allocated to which small screen, the system including at the program reception side a reception apparatus for selectively tuning in one of the channels, including the guide channel, and for processing the television signal of the tuned channel, whereby when the reception apparatus tunes the guide channel, said apparatus provides a selecting operation, by displaying a multi-screen display, by which a channel corresponding to one of the small screens may be selected for full-screen display based on the control information, wherein the reception apparatus comprises means which, during the multiscreen display, demodulates an audio signal

corresponding to the channel of a small screen designated by a viewer."

III. The decision under appeal *inter alia* referred to documents

D2: JP 62-193385 U,  
and its complete English translation referred to  
as D2FV and

D11: US 5 083 205 A.

The reasons for the decision can be summarized as follows.

The patent was opposed on the basis of the grounds for opposition set out in Articles 100(a) and 100(c) EPC 1973.

Concerning Article 100(a) EPC 1973 (in conjunction with Article 56 EPC 1973), D2 disclosed a synthesis television signal produced at the program supplier side permitting a viewer at a reception side to select for tuning, employing a touch screen, the channel corresponding to any one of the multiple small pictures in the display. The picture-in-picture display disclosed in D11 allowed the viewer to hear the sound associated with either of the two pictures. But this did not suggest to a person skilled in the art that the system of D2 might be modified to enable the viewer to browse through the small pictures of a multiscreen display and hear the sound of a particular channel when he designated the small picture corresponding to that channel, this procedure taking place before the viewer actually selected one small picture for full-screen

display. The system disclosed in D11 had as many audio tuners as there were pictures, and a person skilled in the art would consider this prohibitively expensive in the case of a multiscreen display.

Concerning Article 100(c) EPC 1973, claim 1 of the patent as granted was in substance a combination of independent claim 8 of the divisional application as filed and a statement of invention included in the earlier application as originally filed. Thus as far as amendments made in examination proceedings were concerned the provisions of both Articles 76 EPC 1973 and 123(2) EPC 1973 should be considered to be complied with. With respect to claim 1 as maintained in amended form in opposition proceedings, the feature "an audio signal corresponding to the channel of a small screen designated by a viewer" did not infringe Article 123(2) EPC 1973. The important technical limitation was that the reception apparatus included means which, during the multiscreen display, demodulated an audio signal corresponding to the channel of one of the small screens, the one small screen being designated by a viewer. The main claim did not need to spell out how the viewer effected the designation in the only disclosed embodiment, namely using a cursor.

IV. The arguments of the appellant/opponent can be summarized as follows.

Concerning Article 100(a) EPC 1973, D2 constituted a suitable starting point. The system of claim 1 differed from the CATV system of D2 in that the control signals were produced on the broadcast side, and in the last feature of claim 1, namely means which, during the

multiscreen display, demodulated an audio signal corresponding to the channel of a small screen designated by a viewer. It was conventional to transmit control signals from the broadcast side to the reception side. The problem to be solved by the last feature of claim 1 could be defined as making possible ready searching of programs desired for viewing in a TV system providing a multi-screen display. D11 disclosed the last feature of claim 1. In the system of D11 and in the system of claim 1 the same operations were performed and the same results were obtained with respect to the audio information, namely one of the small screen pictures was chosen and a corresponding audio signal was reproduced. In view of the problem to be solved it was irrelevant whether the synthesis television signal was produced on the broadcast side or on the reception side (as in D11). Any feature of the system of D11 could potentially be advantageous for the system of D2 because the systems of D2 and D11 were principally the same in that both presented the viewer with an overview of channels on a multi-screen display. It was irrelevant whether the viewer used this overview to inform himself of available channels or whether the viewer used this overview to watch several channels simultaneously. The cost argument given in the decision under appeal was not convincing because the number of small pictures in the multi-screen display was not specified in claim 1. The claim covered embodiments with two small pictures. Furthermore the claim did not indicate that the system included only a single audio tuner.

Concerning Article 100(c) EPC 1973, the last feature of claim 1 was neither disclosed in the parent application

as filed nor in the divisional application as filed in its full generality. In both these applications, the disclosure of the audio signal corresponding to the designated channel of a small screen occurred consistently in combination with the disclosure that this designation was carried out using a cursor.

V. The arguments of the respondent/patentee can be summarized as follows.

Concerning Article 100(a) EPC 1973, D2 was in the same technical field as the invention and was the closest prior art. Essentially the invention provided an electronic program guide EPG, and the problem to be solved was to improve the searching functionality. D2 did not suggest the improvement provided by the invention. The system of D11 belonged to a different technical area, namely to that of televisions having a picture-in-picture function. An EPG was different from the simultaneous presentation of user-selected channels in a picture-in-picture format. The system of D11 was not concerned with the problem of presenting an overview of channels to the viewer. Instead it was concerned with the problem of receiving and displaying television programs broadcast over different television broadcast systems. D11 displayed two images and there was no suggestion that this teaching might be applied to the multi-screen display system of D2. The system of D11 did not have a channel on which an EPG was broadcast, and such an EPG channel was not suitable for the system of D11. If the EPG disclosed in D2 was broadcast to a television receiver known from D11, one of the two pictures in the system of D11 would display the EPG if selected by the user, and the other one

would display another channel selected by the user. It would not be possible to select one of the small pictures comprised in the EPG display. Furthermore, combining D2 and D11 to solve the problem taken from the patent specification was based on hindsight.

Concerning Article 100(c) EPC 1973, it was implicit to a person skilled in the art that the invention disclosed in both the parent application as filed and the divisional application as filed might be performed with other designating techniques than a cursor. The cursor was merely the designating technique used in the embodiment. The viewer was designating a small screen, not the cursor. The function of the cursor was to give feedback to the viewer as to which small screen he was designating. The correspondence between the audio channel and the small screen designated by the viewer was not established by the cursor, but by screen position numbers.

- VI. The appellant/opponent requested that the decision under appeal be set aside and the patent be revoked in its entirety.
- VII. The respondent/patentee requested that the appeal be dismissed.
- VIII. The oral proceedings before the board were held on 19 February 2008. At the end of the oral proceedings the chairman of the board pronounced the board's decision.



## Reasons for the Decision

1. The appeal is admissible.
2. *Extension of subject-matter (Article 100(c) EPC 1973)*
  - 2.1 In a communication dated 9 November 2007 and annexed to the summons to oral proceedings, the board, referring to decision G 1/06, Reasons 3.1, 8.1, 8.2, 9.1, and 9.2, drew the parties' attention to the principle that "the divisional application is a separate and independent application and is, if not specifically provided otherwise, to be treated in the same manner and subject to the same requirements as an ordinary application". Therefore amendments made after filing of a divisional application constituted amendments under Article 123(2) EPC 1973 and had to be directly and unambiguously disclosed in the divisional application as filed. A passage contained in the parent application, but not in the divisional application under consideration, could not be used as a basis for amendments under Article 123(2) EPC 1973.
  - 2.2 In the present case, claim 1 as granted was objected to under Article 100(c) EPC 1973. Further amendments were made in opposition proceedings. In particular the feature of claim 1 "the channel of a small screen designated by a viewer" was contested as a generalisation of the sole specific disclosure in the divisional application as filed where a cursor is superimposed on the multiscreen so that a desired program can be selected (see e.g. figure 6 B and the corresponding paragraph [0024] of the patent specification). Since the manner in which the channel

of a small screen is designated by a viewer does not play any role in the following discussion on inventive step, a final decision on the issue of extended subject-matter need not be taken in view of the board's judgment on inventive step.

3. *Inventive step (Articles 100(a) and 56 EPC 1973)*

3.1 It is undisputed that the system specified in claim 1 is new (Article 54(1) EPC 1973). Also the board concurs therewith.

3.2 The parties agree that D2 - as understood in the light of its translation D2FV - constitutes an appropriate starting point for assessing the issue of inventive step. This is also the position taken in the decision under appeal, and the board concurs therewith as well.

3.3 D2 discloses a system for transmitting television signals corresponding to a plurality of channels from a program supplier side (a CATV system, see D2FV, points 1 and 2) and for receiving the television signals at a program reception side ("the receiving side", see point 2 of D2FV). The system produces at the program supplier side a synthesis television signal, corresponding to a guide channel, by synthesizing the television signals in order to provide on one screen a multi-screen display comprising a plurality of small screens which correspond to respective ones of the plurality of channels (see points 2 and 3 of D2FV). The system constantly transmits the synthesis television signal and the signals of the plurality of channels in combination (mixer 3 in figure 1). When a subscriber selects the program guide broadcast channel, the

program guide will be broadcast for the multi-screen display in a television receiver (7 in D2), and the viewer may then select the desired program in the multiscreen display (see the embodiment in D2FV). Control information including channel data indicating which channel is allocated to which small screen is stored in advance in a terminal converter on the receiver side. The reception apparatus (television receiver 7) at the program reception side is for selectively tuning in one of the channels, including the guide channel, and for processing the television signal of the tuned channel (see the embodiment in D2FV). When the reception apparatus tunes the guide channel, said apparatus provides a selecting operation, by displaying a multi-screen display, by which a channel corresponding to one of the small screens may be selected for full-screen display based on the control information (by using a touch sensor 8, see the embodiment in D2FV).

- 3.4 The system of claim 1 differs from the one known from D2 in the following features.
  - 3.4.1 The control information is constantly transmitted from the broadcasting side in combination with the synthesis television signal and the signals of the plurality of channels.
  - 3.4.2 The system of claim 1 has the selective audio feature "wherein the reception apparatus comprises means which, during the multi-screen display, demodulates an audio signal corresponding to the channel of a small screen designated by a viewer".

3.5 These features in combination solve the problem indicated in paragraph [0045] of the specification of the opposed patent, namely that of improving the way a viewer can look for and select a desired program. From the perspective of the viewer, the resulting functionality is that he can select a desired program by listening to the audio of the designated program in cooperation with the multi-screen display (see paragraph [0043], last sentence). These features thus overcome the disadvantages of the prior art systems (no audio signals on the multi-screen display) as discussed for instance in paragraph [0004] of the specification of the opposed patent. Since the control information is constantly transmitted, there is also no unreasonable or unacceptable delay when a viewer wishes to select a particular channel, even if the control information is changed from time to time. In this respect, the board agrees with point 2.1 of the reasons of the decision under appeal.

3.6 A person skilled in the art of systems for transmitting and receiving television signals, familiar with the teaching of D2, would consider improving the way the viewer can look for and select a desired program as this is a notorious problem in the given art.

3.7 One prior art document disclosing an improved way the viewer can look for and select a desired program is D11. Thus D11 is a document which would be considered by a person skilled in the art of systems for transmitting and receiving television signals.

D11 discloses a television receiving apparatus having a picture-in-picture function (see column 1, lines 8

and 9). Two pictures may be displayed simultaneously (see figures 1A and 1B; column 6, lines 50 to 54), resulting in a multi-screen display with two small screens. Furthermore D11 discloses that more pictures may be displayed simultaneously (see column 10, lines 42 to 45 and column 17, lines 25 to 28). The television receiving apparatus allows the viewer to hear the sound associated with either picture and produced by the corresponding tuner (see column 7, lines 8 to 15 and column 12, lines 35 to 40; figures 3A and 3B) by means of an audio selector switch 10 controlled by a user-actuated CPU 26 (see column 11, lines 58 to 62). Thus a viewer may select the video channels he wishes to observe simultaneously using the picture-in-picture function (see column 15, lines 42 to 54) and designate, using the selector switch, the channel of a small screen to select the audio channel corresponding to the designated video channel. The resulting functionality for the viewer is that he can select a desired program by listening to the audio of that program in cooperation with the multi-screen display. It is clear that the viewer may use this functionality both for watching several channels simultaneously and for informing himself of channels he may ultimately select for full-screen display.

- 3.8 A person skilled in the art trying to improve the way a viewer can look for and select a desired program would have implemented this functionality known from D11 in a CATV system known from D2 by providing means which, during the multi-screen display, demodulate an audio signal corresponding to the channel of a small screen designated by a viewer.

3.9 When implementing this functionality for the viewer, a person skilled in the art would have had to decide how to provide the control information indicating which channel is allocated to which small screen of the television receiver 7 of the CATV system known from D2. In this respect, the board agrees with point 2.1 of the decision under appeal that the image synthesizer device (4) in the CATV system of D2 is a good and sensible place to produce the control information, and that the control information then should be transmitted along with the signals of the various channels and the synthesis signal. Hence by implementing this functionality for the viewer in the system of D2 and by producing the necessary control information in the image synthesizer device, a person skilled in the art would have arrived at the system of claim 1.

3.10 Thus the system of claim 1 was obvious to a person skilled in the art at the relevant date of the present application.

3.11 The respondent's arguments did not convince the board of the contrary for the following reasons.

3.11.1 The argument that the television receiver having two tuners disclosed in D11 relates to a technical field different from that of CATV systems having a program guide channel as disclosed in D2 does not take into account that both systems are very similar for the viewer in that both provide a multi-screen display and in that the viewer can hear the sound of one of the displayed small screens. Since the problem to be solved by the invention concerns an improvement of the way a viewer can look for and select a desired program, the

similarity of both systems in this respect is decisive for determining whether a person skilled in the art would have considered combining both documents.

3.11.2 Similarly the argument that a guide channel as disclosed in D2 is not suitable for use with the television receiver of D11 relates to a discrepancy between the systems of D2 and D11 which is not decisive in view of the problem to be solved by the invention. A person skilled in the art attempting to improve the way the viewer can look for and select a desired program in the CATV system of D2 would analyze other documents in the technical field of television receiving apparatus, such as D11, with the aim of finding suggestions in this respect. He would recognize the relevant functionality and attempt to implement this functionality in the system of D2. But he would disregard the undisputed discrepancy between the system of D2 producing the synthesis television signal on the broadcast side and the television receiver of D11 producing a multi-screen television signal on the reception side. This discrepancy is irrelevant having regard to the problem he attempts to solve because the viewer in both systems is presented with a multi-screen display comprising a plurality of small screens from which he may select one. In this context the board notes that the selective audio feature of claim 1 (see point 3.4.2 above) is formulated as a functional feature. It does not specify structural details which might be affected by the place where the synthesis television signal or the control signal are produced.

3.11.3 The argument that D11 displays two images and that there is no suggestion that this teaching may be

applied to the multi-screen display system of D2 is not convincing in the given circumstances. Starting from a system having a synthesis television channel, corresponding to a guide channel, as disclosed in D2, demodulation of the audio signal of a designated channel of a small screen would be determined by the control information in the same way as selection for full-screen display is based on the control information. For instance an additional (audio) tuner may then provide the audio signal of the designated channel. Moreover, D11 discloses the possibility of displaying more images and claim 1 does not specify that the number of displayed small screens is larger than two.

3.11.4 The argument that the object of D11 is to provide a television receiving apparatus capable of receiving and displaying television programs broadcast over different channels by different television broadcast systems does not take into account that D11 nevertheless discloses a functionality which can be applied also to other types of television receiving apparatus.

3.12 In view of the above the board judges that the system of claim 1 does not involve an inventive step having regard to the state of the art disclosed in documents D2 and D11 (Article 56 EPC 1973).

4. Hence the patent must be revoked pursuant to Article 101(3)(b) EPC (Article 101 of EPC 2000 is applicable to European patents already granted at the time of its entry into force; see Special Edition No. 1 OJ EPO 2007, 197; Article 1.2 of the Decision of the Administrative Council of 28 June 2001).



**Order**

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

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

The Chairman:

D. Sauter

F. Edlinger