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Datasheet for the decision of 6 March 2008

Case Number: T 0385/06 - 3.5.04

Application Number: 94931880.2

Publication Number: 0669070

IPC: H04N 7/00

Language of the proceedings: EN

Title of invention:
Program signal identification data collector

Patentee:
Nielsen Media Research, Inc.

Opponents:
1. ARBITRON INC.
2. Intomart GfK Group B.V.
3. Liechti AG, Elektrische Geräte
4. TNS UK Limited

Headword:

Relevant legal provisions:
EPC Art. 101(3)(b)
EPC R. 80
RPBA Art. 12(1)(c), 12(4), 13(1)

Relevant legal provisions (EPC 1973):
EPC Art. 56, 100(a)

Keyword:
"Inventive step - no"

Decisions cited:
-

Catchword:
see Reasons section 2 (amendments to a party's case) and point 3.4 (no synergistic effects of two collocated data collection portions)

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0385/06 - 3.5.04

D E C I S I O N
of the Technical Board of Appeal 3.5.04
of 6 March 2008

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Decision under appeal: **Decision of the Opposition Division of the European Patent Office posted 23 January 2006 rejecting the oppositions filed against European patent No. 0669070 pursuant to Article 102(2) EPC 1973.**

Composition of the Board:

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

Summary of Facts and Submissions

I. Four appeals were filed against the opposition division's decision rejecting the oppositions filed against European patent No. 0 669 070.

II. The parts of the decision under appeal relevant for the appeal proceedings can be summarized as follows.

The oppositions were based *inter alia* on the ground for opposition of lack of inventive step (Article 100(a) EPC 1973 in conjunction with Article 56 EPC 1973). The basic concepts underlying the patent, namely the signature method and the code method for identifying broadcast programs and/or stations, were very well documented in the state of the art, for instance in the following documents.

D2: US 4 697 209 A
D4: US 4 025 851 A
D48: THOMAS W. L. 'Television Audience Research Technology, Today's Systems and Tomorrow's Challenges.' In: IEEE Transactions on Consumer Electronics, Vol. 38, No. 3, August 1992, pages xxxix to xlii.

D2 disclosed an example of the signature method and D4 disclosed an example of the code method. D48 presented both the code method and the signature method under the heading "Tomorrow's Technology". D48 also summarized a third known method for identifying broadcast programs: the tuning method. However D48 did not suggest combining the code method and the signature method. Instead it suggested pursuing each of these two

techniques independently. It was uncontested that the code method, signature method and the tuning method were individually known from the prior art. But the following indications, taken as a whole, provided a convincing case that the subject-matter of claim 1 involved an inventive step.

i) Whilst the prior art might be seen as disclosing "the seed of a suggestion to combine code and signature detection techniques, if so that 'seed' did not flourish."

ii) The code and signature methods had been parallel tracks of research.

iii) All the cited documents appeared to imply that these two methods were "mutually exclusive".

iv) Synergistic effects between the two methods were implicitly derivable from claim 1 in the light of the description and figures.

v) The tuning method was not "out of fashion" at the time immediately preceding the priority date of the opposed patent.

III. Each of the four opponents appealed against this decision.

IV. The respondent filed a short written reply and attached copies of submissions made in the opposition proceedings more than two months and a complete response more than seven months after the expiry of the four-months time limit set by the board.

V. In a letter dated 4 June 2007 appellant opponent I requested accelerated processing of the appeal proceedings.

VI. In a communication annexed to a summons to attend oral proceedings the board indicated that the ground for opposition under Article 100(c) EPC 1973 might prejudice the maintenance of the patent with claim 1 as granted because claim 1 as granted related to a data collector which might be associated with a household receiver, a reference receiver, or any other receiver. Concerning the ground for opposition under Articles 100(a) and 56 EPC 1973, the board also indicated that it tended to agree with the appellants that the synergistic effects arising from the use of both codes and signatures in an audience measurement system seemed to be attributable to the evaluation of the data but not to the mere collecting of data by a data collector defined in claim 1 as granted. The board also informed the parties that it granted accelerated processing of the appeal proceedings and that the board had taken into account the respondent's submissions exercising its discretion under Article 10b(1) of the then applicable Rules of Procedure of the Boards of Appeal (RPBA, OJ EPO 2003, 89).

VII. With a letter dated 4 January 2008 the respondent filed new claims of a main request and six auxiliary requests.

VIII. With a letter dated 29 February 2008 the respondent filed a new claim 1 of a "Further Auxiliary Request".

IX. Oral proceedings before the board were held on 6 March 2008. In the oral proceedings the respondent (patentee) withdrew auxiliary requests 1, 2 and 4 and the "Further Auxiliary Request". At the end of the oral proceedings the chairman of the board pronounced the board's decision.

X. The appellants (opponents 1, 2, 3, and 4) requested that the decision under appeal be set aside and that the patent be revoked.

XI. The respondent (patentee) requested in accordance with the

main request:

maintenance of the patent on the basis of the claims 1 to 36 of the main request filed with letter dated 4 January 2008; or

first auxiliary request:

maintenance of the patent on the basis of claims 1 to 15 filed as "Auxiliary Request 3" (Enclosure 4) with letter dated 4 January 2008; or

second auxiliary request:

maintenance of the patent on the basis of claims 1 to 15 filed as "Auxiliary Request 5" (Enclosure 6) with letter dated 4 January 2008; or

third auxiliary request:

maintenance of the patent on the basis of claims 1 to 15 filed as "Auxiliary Request 6" (Enclosure 7) with letter dated 4 January 2008.

XII. Claim 1 of each of the respondent's current requests reads as follows.

Main request

"A *household* audience measurement data collector (14; *26*) for collecting audience measurement identification data from a program signal, the program signal containing a program intended for an audience and received by a *household* receiver (24*; 28*), the program

signal also containing a code, the data collector (*14; 26*) being characterized in that:
a first data collection portion (60) is operably associated with the *household* receiver (24*; 28*) and is arranged to read said code from the program signal;
a second data collection portion (62) is operably associated with the *household* receiver (24*; 28*) and is arranged to extract a program signature from the program signal independently of the code;
a storage portion (46) *is* arranged to store said code (126) and said extracted program signature, the code being such as to enable the program and/or station associated therewith to be uniquely identified, and the program signature being unique to the program signal from which it is extracted and being useable to identify the program or station viewed;
and a telecommunications processor *is* adapted, in use, to telecommunicate the code and program signature from said storage portion (46) to externally of the *household* data collector."

The additions in claim 1 of the main request over claim 1 on which the decision under appeal was based are indicated in *italics*.

First auxiliary request

"An audience measurement system (10) for collecting audience measurement identification data from a program signal, the program signal containing a program intended for an audience and received by a receiver (24; 28; 70), the program signal also containing a code, the system (10) comprising a household data collector (14; 26) containing:

a code reader (60) operably associated with a household receiver (24; 28) and arranged to read said code from the program signal;
a signature extractor (62) operably associated with the household receiver (24; 28) and arranged to extract a program signature from the program signal independently of the code;
a storage portion (46) arranged to store said code (126) and said extracted program signature, the code being such as to enable the program and/or station associated therewith to be uniquely identified, and the program signature being unique to the program signal from which it is extracted and being useable to identify the program or station viewed;
and a telecommunications processor adapted, in use, to telecommunicate the code and program signature from said storage portion (46) to externally of the household data collector;
the system (10) further comprising:
a reference receiver (70) arranged to receive a broadcast of the program signal;
a reference signature extractor (72) coupled to the reference receiver (70) and extracting a reference signature from the program signal;
a code comparitor (38) arranged to compare the code to data stored in a code-program name library to identify the program and/or station received by the household receiver (24; 28); and
a signature comparitor (38) arranged to compare the program signature to the reference signature to identify the program received by the household receiver (24; 28)."

Second auxiliary request

"An audience measurement system (10) for collecting audience measurement identification data from a program signal, the program signal containing a program intended for an audience and received by a receiver (24; 28; 70), the program signal also containing a code, the system (10) comprising a household data collector (14; 26) containing:
a code reader (60) operably associated with a household receiver (24; 28) and arranged to read said code from the program signal;
a signature extractor (62) operably associated with the household receiver (24; 28) and arranged to extract a program signature from the program signal independently of the code;
a storage portion (46) arranged to store said code (126) and said extracted program signature, the code being such as to enable the program and/or station associated therewith to be uniquely identified, and the program signature being unique to the program signal from which it is extracted and being useable to identify the program or station viewed;
and a telecommunications processor adapted, in use, to telecommunicate the code and program signature from said storage portion (46) to externally of the household data collector;
the system (10) further comprising:
a reference receiver (70) arranged to receive a broadcast of the program signal;
a reference signature extractor (72) coupled to the reference receiver (70) and extracting a reference signature from the program signal;

a code comparitor (38) arranged to compare the code to data stored in a code-program name library to identify the program and/or station received by the household receiver (24; 28); and
a signature comparitor (38) arranged to compare the program signature to the reference signature to identify the program received by the household receiver (24; 28);
a reference code reader (86) coupled to the reference receiver (70) and arranged to read the reference code from the program signal received by the reference receiver (70); and
an identifier (34 or 38) arranged such that the code read at the reference receiver (70) can be used in conjunction with the signature extracted at both the household receiver (24; 28) and the reference receiver (70) in order to identify the program received by the household receiver (24; 28)."

Third auxiliary request

"An audience measurement system (10) for collecting audience measurement identification data from a program signal, the program signal containing a program intended for an audience and received by a receiver (24; 28; 70), the program signal also containing a code, the system (10) comprising a household data collector (14; 26) containing:
a code reader (60) operably associated with a household receiver (24; 28) and arranged to read said code from the program signal;
a signature extractor (62) operably associated with the household receiver (24; 28) and arranged to extract a

program signature from the program signal independently of the code;
a storage portion (46) arranged to store said code (126) and said extracted program signature, the code being such as to enable the program and/or station associated therewith to be uniquely identified, and the program signature being unique to the program signal from which it is extracted and being useable to identify the program or station viewed;
and a telecommunications processor adapted, in use, to telecommunicate the code and program signature from said storage portion (46) to externally of the household data collector;
the system (10) further comprising:
a reference receiver (70) arranged to receive a broadcast of the program signal;
a reference signature extractor (72) coupled to the reference receiver (70) and extracting a reference signature from the program signal;
a code comparitor (38) arranged to compare the code to data stored in a code-program name library to identify the program and/or station received by the household receiver (24; 28); and
a signature comparitor (38) arranged to compare the program signature to the reference signature to identify the program received by the household receiver (24; 28);
a reference code reader (86) coupled to the reference receiver (70) and arranged to read the reference code from the program signal received by the reference receiver (70);
a reference code comparitor arranged to compare the reference code with a code-program name library (88) to

identify the program received by the reference receiver (70); and
a means arranged to relate the thus identified program to the extracted reference signature and to store the thus identified reference signature in a reference signature library (74; 76)."

XIII. The appellants' submissions can be summarized as follows.

The respondent's written reply to the statements of grounds of appeal should not be admitted as it was filed more than seven months after the original deadline for response without sufficient reason. Appellants maintained objections under Articles 100(b) and 100(c) EPC 1973 already raised in opposition proceedings. Appellants also raised new objections under Article 84 EPC 1973 as well as under Articles 123(2) and 123(3) EPC concerning the present claims.

The appellants' argumentation which the board considers most relevant for this decision can be summarized as follows.

The main request comprised claim 1 concerning a data collector and further independent claims relating to an audience measurement system. The introduction of the further independent claims was not occasioned by a ground for opposition. Thus the main request should not be admitted because it contained amendments which violated Rule 80 EPC. The auxiliary requests and claims 14 to 36 of the main request should not be admitted under Article 13(1) RPBA because they changed

the object of the invention from an improved data collector to a system with improved capability to evaluate collected data. This was inequitable for the opponents because it required further investigations. Moreover this change in scope from a data collector to a system was not permitted under Article 123(3) EPC.

D4 could be considered as an appropriate starting point for assessing inventive step. The problem addressed by claim 1 of the main request could be seen as the identification of the channel or program if the program signal did not contain a code. D2 indicated that in such a case signatures could be used for identification of programs. It was already known from several documents to use more than one technique in order to increase the recognition rate. The subject-matter of claim 1 related to the use of two known complementary methods for identification of a program and/or station, both methods having known advantages and drawbacks. This was a realization of the known concept of redundancy. The decision under appeal relied predominantly on secondary indications of inventive step and evaluated them incorrectly. The code method and the signature method were not mutually exclusive. They could be combined, and a person skilled in the art would combine them. Any synergistic effects did not follow from the features of the subject-matter of claim 1 but were only achievable in particular implementations thereof.

The additional features of the main claims of the auxiliary requests specified the infrastructure needed for putting the system into effect. These features were known from D2 or D4. Auxiliary requests 1 and 2, like

the main request, covered the case of using codes if they were present, and of using signatures if no codes were present. Auxiliary request 3 covered the simple and obvious case of cross-checking the signature-based identification with the code-based identification, by using for example a time relationship between signature and code.

The appellants also submitted alternative argumentations involving other documents.

XIV. The respondent's arguments can be summarized as follows.

The code method and the signature method were mutually exclusive schools of thought in approaching the problem of gaining program/station information. Their combination had never been proposed, even though both methods, including their individual advantages and drawbacks, had been known for over 40 years. The two methods were inconsistent in that the code method was broadcaster dependent, whereas the signature method was broadcaster independent. Before the priority date the code method and the signature method had each been combined with the tuning method, but not with each other. There were technical barriers which deterred a person skilled in the art from combining the two methods, such as:

- the code in the program signal might disturb the signature extraction process;
- the temporal resolutions were very different and thus the two methods were not interchangeable;
- the code might be stripped off in the various processing stages during transmission; these limitations of code-based systems deterred the skilled

person from adding a code-based approach to a signature-based approach;
- the computational burden and the memory space required for storing the extracted signatures were significant; the high price paid for the independence from codes in signature-based systems mitigated against adding a code reader/collector and against adding a signature extractor to a code-based system.

The invention enabled the delivery of reliable, accurate results even from defective data because of synergy effects of the claimed combination of complementary techniques; one based on codes and one based on signatures. In particular the claimed data collector storing both codes and extracted program signatures made combined processing of code and signature data possible. The invention's great success was demonstrated by the number of opposing competitors, some of them apparently intending to benefit from these synergistic effects by adopting the invention.

The auxiliary requests indicated more specifically the means which were necessary for carrying out the audience measurement and set out more clearly that the synergistic effects of the invention have their basis in the claims, as found by the opposition division.

Reasons for the Decision

1. The appeals are admissible.

2. *Procedural matters*

2.1 The claims of all requests (see point XI above) constitute amendments to the respondent's case filed after the reply to the statement of grounds of appeal, which was itself filed outside the time limit set by the board (see point IV above). Thus the amendments "may be admitted and considered at the Board's discretion" (Article 13(1) RPBA, OJ EPO 2007, 536).

2.2 The patent proprietor's written reply to the four statements of grounds of appeal set out detailed arguments and supplemented the submissions made in the opposition proceedings, in particular concerning further arguments and evidence filed in the appeal proceedings, which now comprised more than fifty documents. The reply did not contain amendments to the opposed patent. Although the board refused a request to extend the time limit in these exceptional circumstances because the request was not reasoned, the board took the late filed submissions into account as they were not so complex and filed so late that proceedings would have been delayed. The board also granted the request for accelerated processing of the appeal proceedings filed by appellant opponent 1, as set out in the letter accompanying the summons to the oral proceedings (see point VI above).

2.3 The patent proprietor filed amendments with a letter dated 4 January 2008, before the final date set in the board's communication (two months before the oral proceedings). In the judgement of the board, these amendments may be seen as a response to the board's observations relating to two grounds for opposition (Article 100(a) and (c) EPC 1973, see point VI above). Hence these amendments are allowable under Rule 80 EPC,

since they are occasioned by grounds for opposition invoked by the opponents. They were thus filed pursuant to directions of the board and related to the case under appeal (Article 12(1)(c) and (4) RPBA). Since the amendments were filed two months before the oral proceedings and since the patent proprietor specified in detail the passages of the patent specification, essentially dependent claims, on which these amendments were based, the board considers that the parties and the board could reasonably be expected to deal with the amendments without adjournment of the oral proceedings. Hence the board admitted these amendments to the respondent's case in accordance with the principles set out in Article 13 RPBA.

3. *Main request: claim construction*

3.1 The decision under appeal is *inter alia* based on the understanding that synergistic effects between the code method and the signature method were implicitly derivable from claim 1 in the light of the description and figures. However claim 1 concerns a household audience measurement data collector, the reference to "household audience measurement" indicating the technical field in which the data are to be collected. Each feature of claim 1 further specifies this data collector.

3.2 In particular, the last two features of claim 1 (storage portion and telecommunications processor) make clear that the code and the program signature are stored in the data collector and, in use, are "telecommunicate[d] … to externally of the household data collector". It is clear from the description that

the purpose of this telecommunication is the use of the collected data for centrally identifying the program and/or station viewed in a household for carrying out audience measurements (see paragraphs [0063] and [0064] of the patent specification). But the evaluation of the data for household audience measurement purposes is not carried out in the data collector. Also dependent claims 14, 21, 28, 31, 33 and 34 illustrate that an audience measurement system may comprise, in addition to the data collector, features which contribute to identifying the program and/or station from the collected data, such as a reference receiver, code reader, signature extractor, for example at a reference (local monitoring) site (34), and a signature comparator, identifier and reference signature library, for example at a central site (see paragraph [0047] of the patent specification). The inclusion of such features in a system claim in dependent claims of the main request and in claim 1 of the auxiliary requests was objected to as extending the scope of protection of the opposed patent (Article 123(3) EPC). However, the board need not decide this question because it does not affect the judgment on inventive step, which is based on the data collector as specified in claim 1 of the main request and on the system having additional features as specified in claim 1 of the auxiliary requests.

3.3 Hence any synergistic effects which might be attributable to the evaluation of the data for the purpose of identifying the program and/or station are not an implicit feature of the data collector of claim 1 (which is "arranged to extract a program signature from the program signal independently of the

code"). Also the respondent argued that the code reader (first data collection portion 60) and the signature extractor (second data collection portion 62) might be constructed as self-reliant components which do not depend on each other. The respondent also argued that the data collector of claim 1 "guarantee[d] the necessary and also sufficient **basis for** an interrelated use of codes and signatures and, in particular, for the synergistic effects ..." (emphasis by the board).

In particular, claim 1 does not imply that the evaluation of the collected data may provide reliable results even from defective data. Whether defective data may nevertheless provide reliable results depends, for instance, on the particular codes.

3.4 Instead the two data collection portions specified in claim 1 are collocated, the storage portion is arranged to store the code and the extracted program signature independently of each other, and the telecommunications processor is arranged to telecommunicate the codes and the program signatures independently of each other. In particular, an embodiment may principally look for codes and only extract a signature if needed or desired. There is no indication in the patent specification that the storing of the codes and the extracted signatures in a storage portion might lead to a synergistic effect (see figures 3 and 4, and paragraphs [0050] and [0055] of the patent specification). Neither is there an indication in the patent specification that the telecommunicating of the codes and the program signatures is done in a particular way which might lead to a synergistic effect (see paragraph [0040] of the patent specification). The respondent has not argued

that the storing and/or the telecommunicating alone provide a synergistic effect, either.

4. *Main request: inventive step (Articles 56 and 100(a) EPC 1973)*

4.1 The closest prior art

The parties agreed that D4 (which is discussed in detail in paragraphs [0008] and [0036] of the patent specification) may be considered as one appropriate starting point for assessing the issue of inventive step. The board concurs.

D4 discloses a household audience measurement data collector (see figure 2) for collecting audience measurement identification data from a program signal (see the title in conjunction with column 3, lines 52 to 55). The program signal contains a program intended for an audience and received by a household receiver (24), and also contains a code (column 3, lines 15 to 43, and figure 4). The data collector comprises a data collection portion operably associated with the household receiver and is arranged to read said code from the program signal (column 3, lines 52 to 64). A storage portion (36) is arranged to store said code (column 4, lines 3 to 7), the code being such as to enable the program and/or station associated therewith to be uniquely identified (column 3, lines 39 to 41, and column 5, line 59, to column 6, line 5). A telecommunications processor is adapted, in use, to "telecommunicate the code … from said storage portion to externally of the household data collector" (column 4, lines 7 to 14).

4.2 Features distinguishing the data collector of claim 1 from that of D4

D4 does not disclose a second data collection portion operably associated with the household receiver. The data collector of D4 is not arranged to extract a program signature from the program signal independently of the code. Thus no program signatures can be stored in the storage portion, and no program signatures can be "telecommunicated … to externally of the household data collector".

4.3 The problem solved

The features distinguishing the data collector of claim 1 from the system known from D4 solve the problem of improving the system when the collection of codes does not allow the identification of the program or the station viewed.

Since the program signature is unique to the program signal from which it is extracted and is useable to identify the program or station viewed, a collected program signature may be advantageous as a (conditional or temporary) alternative or in addition to collecting codes, in particular if the program signal does not contain codes or if the code cannot be read (see paragraph [0011] of the patent specification). It may also be advantageous as a backup for cross-checking purposes. The storing and the telecommunicating of the signature allows the signature to be evaluated externally of the data collector, for instance for

identification of the program or station from the collected signature.

4.4 Solutions to the problem suggested in the prior art

D2 (which is discussed in detail in paragraph [0012] of the patent specification) discloses a household audience measurement data collector for collecting audience measurement identification data from a program signal (column 1, lines 8 to 14). It summarizes the tuning method, the code method and the signature method for identifying television programs (column 1, lines 15 to 58), and identifies the problems that tuning methods require access to the tuning mechanism of the receiver and that code methods require the cooperation of the broadcasters who must encode the programs prior to broadcast (column 1, lines 34 to 47). Thus there may be program signals which do not contain codes.

D2 (figure 1) discloses a data collector which does not require the presence of codes in the program signal (column 2, lines 30 to 33). The data collector comprises a signature extractor (28) operably associated with the household receiver (12) and arranged to extract a program signature from the program signal ("video signal", column 4, lines 47 to 63). Because the signature is extracted from the video signal it is independent of any code which may or may not be present in the program signal. The signature is unique to the program signal from which it is extracted and is thus useable to identify the program viewed (column 3, lines 43 to 46; column 10, lines 59 to 65). It is stored in a data storage system (30; column 4, lines 64 to 66) and is "telecommunicate[d]

from … said storage [system] to externally of the household data collector" (column 5, lines 7 to 16).

4.5 A person skilled in the art, familiar with the teaching of D4 and faced with the problem that in certain circumstances codes do not allow the program or station to be identified, for example because codes are defective or not contained in a program signal, would have considered D2 and would have found therein the teaching that the signature method allowed the program viewed to be identified even if no codes were contained in the program signal. He would have complemented the code based data collector of D4 with the signature based data collector of D2 in order to solve said problem, either as an alternative to the code based data collector of D4, or as an additional collector of data. The choice would have been made depending on the circumstances, such as the proportion of defective or missing codes, the importance of having a full coverage of viewed program/station data and the complexity and costs of duplicating the data collecting means involved. Thus the person skilled in the art would have arrived at the data collector of claim 1 in an obvious manner.

4.6 Secondary indications considered in the decision under appeal

4.6.1 The board agrees with the decision under appeal that none of the prior art documents, and in particular not D48, explicitly suggests combining code and signature detection techniques. However, as discussed in points 4.3 to 4.5 above, a person skilled in the art would have had a reason for using both a data collector for collecting codes as well as a data collector for

collecting signatures, even though an explicit hint in this direction was missing.

4.6.2 The indication that the code and signature methods had been "parallel tracks of research" as well as the indication that all the cited documents appeared to imply that these code and signature methods were "mutually exclusive" means, in the board's understanding, that according to the decision under appeal the code method and the signature method were perceived by a person skilled in the art as entirely different methods (or "different schools of thought") which were only developed separately. The board considers that the different computing powers and memory capacities required for code extraction and signature extraction may indeed have led to their parallel development before the priority date of the opposed patent. However technical progress was such that computing power and memory capacity had become more readily available by the priority date of the opposed patent. Thus data processing systems having sufficient computing power and memory capacity for extracting signatures as well as codes from a program signal also became available for household audience measurement applications, even though size and/or cost considerations might previously have deterred a person skilled in the art from suggesting the use of such powerful data processing systems in these applications. However, with the advances in computer technology this aspect had less weight in the design process at the priority date of the opposed patent.

4.6.3 The indication that the tuning method was not "out of fashion", as well as the respondent's argument that a

person skilled in the art would have combined either the signature method with the tuning method or the code method with the tuning method, concern the question of whether a person skilled in the art would rather have combined the tuning method and other known methods. It suffices to say that the board considers combining the collection of codes and signatures as one of the obvious ways of solving the above problem in the given circumstances.

4.7 Further arguments presented by the respondent

4.7.1 The respondent's arguments relating to an alleged inconsistency between code based and signature based techniques (see point XIV above) stress "technical barriers" which allegedly deterred a person skilled in the art from combining a code based method and a signature based method.

However it is not apparent to the board how these technical barriers were overcome by the collocation of data collection portions as specified in claim 1. At any rate, they were not such that a person skilled in the art would not have complemented the code based data collector of D4 with the signature based data collector of D2.

As claim 1 states, the program signature is extracted independently of the code. It may, for example, be extracted when certain parts of the program signal do not contain codes (see paragraph [0049] of the patent specification). When codes are present in the program signal the code can be read from a vertical blanking interval of the program signal (see claim 4 of the

patent specification, or D4, column 2, lines 15 to 17), whereas the signature would be extracted from the content of the program itself (see paragraph [0039] of the patent specification, or D2, column 1, lines 50 to 58) so as to avoid mutual interference. Differences in temporal resolution would be acceptable if the code method and the signature method were used to complement each other. A code could be stripped off during transmission, but it would nevertheless be possible to receive the program at the household and that a signature could be extracted, thereby partly compensating for the loss of code.

4.7.2 The alleged fact that both the patentee and opponent 1 had been following their own approach for more than a decade concerns subjective decisions which may have been influenced by commercial or strategic considerations. They may, for instance, reflect the companies' intention only to develop systems which are backward compatible with their respective existing systems.

4.7.3 The alleged success of the invention as well as the alleged pioneer character of the invention may be due to features of the audience measurement system which are not set out in claim 1.

4.7.4 The argument that codes are broadcaster dependent whereas signatures are broadcaster independent reflects an undisputed fact which would have been taken into account in the design process (see point 4.5 above).

4.7.5 The argument that the system of D4 was not used in households because of code loss problems (see paragraph

[0008] of the patent specification) does not take into account that D4 explicitly mentions the possibility that "the standard home receiver may even be a receiver in the home of a viewer if it is desired to monitor the viewing habits of typical viewers in addition to the programs broadcast" (see column 3, lines 52 to 55). Thus using the system of D4 within households was one of the known possibilities, at least for households in which the code loss problems did not occur or could be solved.

4.7.6 The argument that a person skilled in the art, starting from a code based method such as the one described in D4, would remain within the technical field of code based methods, instead of combining a code based method with a signature based method, does not take into account that a solution to the problem of absent codes in some of the programs cannot be found within the framework of a method requiring the presence of codes (see D2, column 1, lines 42 to 47).

4.7.7 The argument that the code method and the signature method had co-existed for more than 40 years does not take into account that technical and/or commercial reasons may have deterred a person skilled in the art from combining the two methods (see point 4.6.2 above) long before the priority date of the opposed patent. But at least the technical reasons had less weight by the priority date.

4.8 Thus the indications and arguments presented in favour of inventive step did not convince the board that the data collector of claim 1 would not have been obvious to a person skilled in the art. Hence the board judges

that the data collector of claim 1 of the main request does not involve an inventive step (Article 56 EPC 1973).

5. *First auxiliary request: inventive step (Articles 56 and 100(a) EPC 1973)*

5.1 Claim 1 of the first auxiliary request corresponds essentially to an audience measurement system comprising the data collector of claim 1 of the main request and the following additional features.

A reference receiver arranged to receive a broadcast of the program signal;
a reference signature extractor coupled to the reference receiver and extracting a reference signature from the program signal;
a code comparator ("comparitor") arranged to compare the code to data stored in a code-program name library to identify the program and/or station received by the household receiver and
a signature comparator arranged to compare the program signature to the reference signature to identify the program received by the household receiver.

5.2 These additional features of claim 1 specify features of the infrastructure needed for collecting reference signatures and for evaluating the codes and the signatures collected by the data collector of claim 1 of the main request.

5.3 D2 states that reference signatures are used for identifying the program and/or station (column 3, lines 43 to 48), and also describes the infrastructure

needed for collecting the reference signatures (column 3, lines 53 to 68, column 5, lines 7 to 45, and figure 2). This infrastructure comprises a reference receiver, a reference signature extractor (50, 54 in D2, see figure 2) and a signature comparator (column 3, lines 53 to 65, column 5, lines 7 to 12).

5.4 D4 mentions that the code may contain a source identification code identifying the program itself and/or the source of the program (column 3, lines 39 to 41, column 5, lines 59 to 66) and how the code stored in the storage portion is retrieved by a central office computer (column 4, lines 7 to 14). It is implicit that the source identification code is compared to station logs which allow the source identification code to be related to the program itself and/or the source of the program (column 2, lines 8 to 15). These station logs form a code-program name library.

5.5 Thus the features distinguishing the system of claim 1 of the first auxiliary request from the data collector of claim 1 of the main request are also known from documents D2 or D4 and have the same functions as in each of the code and signature based systems, respectively. Hence the board considers that the system of claim 1 of the first auxiliary request was obvious to a person skilled in the art for the reasons given in the context of claim 1 of the main request (see point 4 above).

6. *Second auxiliary request: inventive step (Articles 56 and 100(a) EPC 1973)*

6.1 Claim 1 of the second auxiliary request corresponds to claim 1 of the first auxiliary request with the following additional features.

A reference code reader coupled to the reference receiver and arranged to read the reference code from the program signal received by the reference receiver and
an identifier arranged such that the code read at the reference receiver can be used in conjunction with the signature extracted at both the household receiver and the reference receiver in order to identify the program received by the household receiver.

6.2 Both the signatures extracted by the signature extractor operably associated with the household receiver as well as the reference signatures extracted by the reference signature extractor of D2 (see point 5.3 above) serve to identify the program from which the signatures are extracted. In cases in which the program signal (or part of it) also contained a code, a person skilled in the art would have considered collecting the signatures in addition to the codes (see point 4.5 above) also at the reference site for instance for cross-checking purposes, as explained for the household data collector (see point 4.3 above). This also made it possible to continuously monitor broadcast programs, as taught in D2 (see column 3, lines 53 to 58), and then more codes might be identifiable if reception conditions at a reference site were better than at household sites (see D4, column 4, lines 20 to 24). It had the additional advantage that similar devices could be used as household and reference data collectors. To identify

the program and/or station the signatures collected at household and reference sites would be used, as with the signature based system in D2, in conjunction with any collected codes. Since the code, whenever present in a program signal, represents the less complex manner of uniquely identifying a program and/or station viewed, it was a straightforward measure to use a code read at the household or, if not identifiable, use the code whenever it could be read at the reference receiver in conjunction with the signatures extracted.

6.3 Hence also the system of claim 1 of the second auxiliary request was obvious to a person skilled in the art.

7. *Third auxiliary request: inventive step (Articles 56 and 100(a) EPC 1973)*

7.1 Claim 1 of the third auxiliary request corresponds to claim 1 of the first auxiliary request with the following additional features.

A reference code reader coupled to the reference receiver and arranged to read the reference code from the program signal received by the reference receiver; a reference code comparator arranged to compare the reference code with a code-program name library to identify the program received by the reference receiver and
a means arranged to relate the thus identified program to the extracted reference signature and to store the thus identified reference signature in a reference signature library.

7.2 As discussed in point 6.2 above, it would have been a straightforward measure for a person skilled in the art, when attempting to identify the program from which the signature was extracted, to read the program's code by means of a reference code reader connected to the reference receiver. To identify the program the extracted signature and/or the read code would have to be related to the program in some kind of identifier. In a straightforward implementation such an identifier would, for instance, have compared the read code with stored codes in a code-program name library and thereby have related the code to the program. If the reference code reader could not read the code, for instance because the program did not contain one, the signature would have had to be directly related to the program, for instance by means of a reference signature library in which the reference signatures were stored (see D2, column 5, lines 7 to 24).

7.3 Hence the audience measurement system of claim 1 of the third auxiliary request merely specifies in functional features a straightforward implementation of the infrastructure needed to identify the program and/or station in circumstances when it was not predictable whether a code could be read or not. Thus the system of claim 1 of the third auxiliary request was also obvious to a person skilled in the art.

8. Since the subject-matter of claim 1 of each of the main request and the first, second and third auxiliary requests was obvious to a person skilled in the art, the board judges that the subject-matter of claim 1 of each of these requests does not involve an inventive step (Article 56 EPC 1973).

9. Consequently 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