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**D E C I S I O N**  
**of 27 July 1999**

**Case Number:** T 0606/93 - 3.5.1

**Application Number:** 86903722.6

**Publication Number:** 0261127

**IPC:** H04B 1/56

**Language of the proceedings:** EN

**Title of invention:**

TDM communication system for efficient spectrum utilization

**Patentee:**

Motorola, Inc.

**Opponent:**

Nokia Cellular Systems Oy  
Telefonaktiebolaget L M Ericsson  
Alcatel SEL Aktiengesellschaft  
Philips Patentverwaltung GmbH  
Siemens AG

**Headword:**

-

**Relevant legal provisions:**

EPC Art. 100(c), 123(2), 123(3)

**Keyword:**

"Amendments: added subject-matter (no, after amendment)"  
"Amendments: broadening of claim (no, after amendment)"  
"Claims: clarity (yes, after amendment)"

**Decisions cited:**

-

**Catchword:**

-



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Boards of Appeal

Chambres de recours

Case Number: T 0606/93 - 3.5.1

**D E C I S I O N**  
**of the Technical Board of Appeal 3.5.1**  
**of 27 July 1999**

**Appellant:** Motorola, Inc.  
(Proprietor of the patent)1303 East Algonquin Road  
Schaumburg  
IL 60196 (US)

**Representative:** Ibbotson, Harold  
Motorola European Intellectual Property Operations  
Midpoint, Alencon Link  
Basingstoke  
Hampshire RG21 7PL (GB)

**Respondent(s):**  
(Opponent I) Nokia Cellular Systems Oy  
P.O. Box 44  
SF-02601 Espoo (FI)

**Representative:** Howden, Christopher Andrew  
Forrester & Boehmert  
Franz-Joseph-Strasse 38  
D-80801 München (DE)

(Opponent II) Telefonaktiebolaget L M Ericsson  
S-126 25 Stockholm (SE)

**Representative:** Kindler, Matthias, Dr. Dipl.-Chem.  
Hoffmann Eitle  
Patent- und Rechtsanwälte  
Postfach 81 04 20  
D-81904 München (DE)

(Opponent III) Alcatel SEL Aktiengesellschaft  
Lorenzstrasse 10  
D-70435 Stuttgart (DE)

**Representative:** Pohl, Herbert, Dipl.-Ing.  
Alcatel Alsthom

Intellectual Property Department  
P.O. Box 30 09 29  
D-70449 Stuttgart (DE)

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(Opponent IV) Philips Patentverwaltung GmbH  
Wendenstrasse 35  
Postfach 105149  
D-20035 Hamburg (DE)

**Representative:** Peuckert, Hermann, Dipl.-Ing.  
Philips Patentverwaltung GmbH  
Wendenstrasse 35  
D-20035 Hamburg (DE)

(Opponent V) Siemens AG  
Postfach 22 16 34  
D-80506 München (DE)

**Representative:** -

**Decision under appeal:** Decision of the Opposition Division of the European Patent Office posted 19 May 1993 revoking European patent No. 0 261 127 pursuant to Article 102(1) EPC.

**Composition of the Board:**

**Chairman:** P. K. J. van den Berg  
**Members:** A. S. Clelland  
C. Holtz

## Summary of Facts and Submissions

- I. European patent No. 261 127 was granted on 27 December 1989. Subsequent to grant, five admissible oppositions were filed, all on the ground that the subject-matter of certain or all of the claims of the patent was either not new or did not involve an inventive step (Article 100(a) EPC).
  
- II. In the course of the opposition proceedings opponent IV withdrew. Following oral proceedings the opposition division revoked the patent, having found that the subject-matter of independent claims 1 and 11 of the patent as granted lacked an inventive step and that claims 1 and 11 of a main request filed in the course of the oral proceedings, together with claim 11 of an auxiliary request also filed in the course of the oral proceedings, were not allowable having regard to Article 123(3) EPC; it was held that the claims of these requests were broader in scope than the claims as granted.
  
- III. The patentee lodged an appeal against this decision and paid the prescribed fee. A statement of the grounds of appeal was filed in due time, together with retyped sets of claims of a main request and an auxiliary request, corresponding to the main and auxiliary requests filed during the oral proceedings before the opposition division.
  
- IV. After filing of the appeal opponent V, now respondent V, withdrew. The three remaining respondents filed comments on the grounds of appeal, respondents II

and III restricting themselves to claim 11 of both requests since their oppositions had only been directed to claim 11; respondent III also commented on claims 12 and 13 of the main request, which included subject-matter analogous to that of claim 11.

- V. Oral proceedings were held on 28 March 1996. At these proceedings the appellant requested that the decision under appeal be set aside and that the patent be maintained on the basis of the claims of the main request or alternatively, on the basis of the claims of the auxiliary request as amended in the course of the oral proceedings. The respondents requested that the appeal be dismissed.
- VI. At the conclusion of the oral proceedings the Chairman announced that the main request was refused and that the proceedings would be continued in writing on the basis of the auxiliary request.
- VII. Claim 1 of the main request, as considered at the oral proceedings, reads as follows:

A transceiving device for a time division multiplex communication system (100) which apportions narrow-band radio frequency communication channels (200) into at least two time slots for communicating vo-coded voice signals to achieve a full-duplex communication effect, the transceiving device (400) being characterized by:

means for transmitting (414) a vo-coded signal onto a communication channel having a predetermined maximum data rate,  $C$ , in accordance with a time division multiplex protocol defining  $N$  time slots where

N is a positive integer less than or equal to  $C/V$ , where V comprises a selected coding rate selected for each user's communication from a plurality of coding rates available with which to communicate in said system said vo-coded signal being temporarily buffered (408) at a first rate and transmitted (414) at a second rate exceeding  $2V$  during at least one of said N time slots, said transmitting means (414) including means for analysing (406) at said selected rate a voice signal at said selected coding rate, V, to provide said vo-coded signal at said selected one (V) of a plurality of coding data rates available to communicate such voice signals in said communication system, and means for generating and preambuling (402) a data signal, which includes at least a synchronization signal to said vo-coded signal;

means for receiving (422) and buffering (426) a vo-coded signal from the communication channel in accordance with said time division multiplex protocol during at least one of said N time slots to provide a received signal, said receiving means (422) including means for synchronizing (424) to at least a portion of said synchronization signal, and means for processing (432) said received signal at a selected coding rate, V, to synthesize a received voice signal from the received signal; and,

means for intercoupling and controlling (402) said transmitting means (414) and said receiving (422) means such that the device (400) operates to retransmit said received signal received from at least one of said N time slots on a first communication channel in at least one of said N time slots on a second communication channel, thereby apportioning time among users according to the fraction of the channel required at

various voice encoding rates, N, V and C being interdependent variables, and thereby avoiding splitting of the communication channel bandwidth."

Claim 11 of the main request reads as follows:

"A method for efficiently utilizing the spectrum of radio frequency communication channels (200) used to communicate vo-coded voice signals in a time division multiplex communication system (100) which apportions narrow-band radio frequency communication channels (200) into at least two time slots for communicating vo-coded voice signals to achieve a full-duplex communication effect, each channel having a predetermined maximum data rate, C, the method being characterized by the steps of for each user's communication, each having a respective coding rate V selected from a plurality of coding rates available with which to communicate in said system:

(a) analyzing at said selected rate the voice signals in a vo-coding means (406) for providing vo-coded signals at a selected one (V) of a plurality of coding data rates available to communicate such voice signals in said communication system and including means for preambuling at least a synchronization signal to said vo-coded signal (402);

(b) establishing a time division multiplex protocol defining N time slots, where N is a positive integer less than or equal to C/V;

(c) buffering said vo-coded signals (408) to provide buffered signals;

(d) transmitting said buffered signals (414) at a rate at least twice that of step (a), in at least one of said N time slots;



(e) receiving vo-coded signals in a receiving means (422) during at least one of said N time slots at the data rate of step (d) to provide received signals, including the step of synchronizing said received means to said received signal (424);

(f) buffering said received signals (426) to provide buffered received signals;

(g) synthesizing recovered voice signals from said buffered received signals in a synthesizing means (432) at the data rate of step (a); and

(h) apportioning time among users according to the fraction of the channel required at various voice encoding rates, N, V and C being interdependent variables, thereby avoiding splitting of the communication channel bandwidth."

The main request also includes independent claims 12 and 13, each directed to a method for efficiently utilising the spectrum of radio frequency communication channels and including all the features of claim 11.

VIII. Following the oral proceedings the appellant withdrew claims 1 to 10 of the auxiliary request and maintained claim 11. Subsequent to further communications from the Board, revised auxiliary requests were filed on the 19 May 1998. Although these requests are headed "main request", "first auxiliary request" and "second auxiliary request", they are respectively referred to in this decision as "main auxiliary request", "first auxiliary request" and "second auxiliary request". Each request comprises a single claim, numbered claim 11.

IX. The single claim of the "main auxiliary request" reads as follows:

"A method for efficiently utilizing the spectrum of radio frequency communication channels (200) used to communicate vo-coded voice signals in a time division multiplex communication system (100) which apportions narrow-band radio frequency communication channels (200) into at least two time slots for communicating vo-coded voice signals to achieve a full duplex communication effect, each channel having a predetermined maximum data rate, C, the method being characterized by the steps of:

(a1) analysing in a first vo-coding means (406) at a first selected coding rate the voice signals of a communication from a first user for providing vo-coded signals at a selected one, (V), coding data rate available to communicate such voice signals in said communication system and including means for preambuling at least a synchronization signal to said vo-coded signal;

(b) the system establishing a time division multiplex protocol defining N time slots, where N is a positive integer less than or equal to C/V;

(c1) buffering (408) said vo-coded signals to provide buffered signals;

(d1) transmitting (414) said buffered signals at a transmission rate of at least twice the first selected coding rate of step (a1), in at least one of said N time slots;

(e1) receiving vo-coded signals in a receiving means (422) during at least one of said N time slots at the data rate of step (d1) to provide received signals, including the step of synchronizing said receiving means to said received signal (424);

(f1) buffering (426) said received signals to provide buffered received signals; and

(g1) synthesizing recovered voice signals from said buffered received signals in a synthesizing means (432) at the data rate of step (a1);

(a2) analysing in a second vo-coding means at a second selected rate,  $V'$ , voice signals of a communication from a second user for providing further vo-coded signals at said second selected rate,  $V'$ , different from said first selected coding rate,  $V$ , available to communicate such voice signals in said communication system and including means for preambuling at least a synchronization signal to said further vo-coded signal;

(c2) buffering (408) said further vo-coded signals to provide further buffered signals;

(d2) transmitting (414) said further buffered signals in at least one of said  $N$  time slots, at a transmission rate which is the same as the transmission rate in step (d1);

(e2) receiving further vo-coded signals in a receiving means (422) during at least one of said  $N$  time slots at the transmission rate of step (d2) to provide further received signals, including the step of synchronizing said receiving means to said received signal;

(f2) buffering (426) said further received signals to provide further buffered received signals;

(g2) synthesizing recovered voice signals from said further buffered received signals in a synthesizing means (432) at the second selected rate,  $V'$ , of step (a2); and

(h) the system apportioning time among users according to the fraction of the channel required at various voice encoding rates."

IX. The single claim of the first auxiliary request reads as follows:

"A method for efficiently utilizing the spectrum of radio frequency communication channels (200) used to communicate vo-coded voice signals in a time division multiplex communication system (100) which apportions narrow-band radio frequency communication channels (200) into at least two time slots for communicating vo-coded voice signals to achieve a full duplex communication effect, each channel having a predetermined maximum data rate, C, the method being characterized by the steps of:

(a1) in a first vo-coding means (406) of a first remote unit (400), analyzing at a first selected coding rate V, voice signals of a communication from a first user for providing vo-coded signals at a selected one, V, coding data rate available to communicate such voice signals in said communication system and including means for preambuling at least a synchronization signal to said vo-coded signal;

(b) the system establishing a time division multiplex protocol defining N time slots, where N is a positive integer less than or equal to C/V;

(c1) in the said first remote unit (400), buffering (408) said vo-coded signals to provide buffered signals;

(d1) the said first remote unit (400) transmitting (414) said buffered signals at a transmission rate of at least twice the first selected coding rate of step (a1), in at least one of said N time slots;

(e1) receiving vo-coded signals in a receiving means (422) of the said first remote unit (400), during at least one of said N time slots at the data rate of

step (d1) to provide received signals, including the step of synchronizing said receiving means to said received signal (424);

(f1) buffering (426) said received signals in the said first remote unit (400), to provide buffered received signals; and

(g1) synthesizing recovered voice signals from said buffered received signals in a synthesizing means (432) in the said first remote unit (400), at the data rate of step (a1);

(a2) in a second vo-coding means of a second remote unit (400), analyzing at a second selected rate,  $V'$ , voice signals of a communication from a second user for providing further vo-coded signals at said second selected rate,  $V'$ , different from said first selected coding rate,  $V$ , available to communicate such voice signals in said communication system and including means for preambuling at least a synchronization signal to said further vo-coded signal;

(c2) in the said second remote unit (400), buffering (408) said further vo-coded signals to provide further buffered signals;

(d2) the said second remote unit (400) transmitting (414) said further buffered signals in at least one of said  $N$  time slots, at a transmission rate which is the same as the transmission rate in step (d1);

(e2) receiving further vo-coded signals in a receiving means (422) of the said second remote unit (400) during at least one of said  $N$  time slots at the transmission rate of step (d2) to provide further received signals, including the step of synchronizing said receiving means to said received signal;

(f2) buffering (426) said further received signals

in the said second remote unit (400), to provide further buffered received signals;

(g2) synthesizing recovered voice signals from said further buffered received signals in a synthesizing means (432) in the said second remote unit (400) at the second selected rate, V', of step (a2); and

(h) the system apportioning time among users according to the fraction of the channel required at various voice encoding rates."

- X. The claim of the second auxiliary request is of essentially the same scope as the claim of the first auxiliary request but with modified language.
- XI. The Board having taken a decision on the main request at the oral proceedings, the appellant has requested that the decision under appeal be set aside and the patent maintained on the basis of one of the claims of the auxiliary requests and the description and claims as granted.
- XII. The respondents still active in the proceedings, respondents I, II and III, maintain their requests that the appeal be dismissed.
- XIII. Respondents II and III make requests for further oral proceedings in the event that the Board is minded to remit the case to the opposition division. The appellant also makes an auxiliary request for further oral proceedings.

**Reasons for the Decision**

1. The appeal is admissible.

2. *Background*

2.1 The patent is concerned with the efficient use of the frequency spectrum in a TDM (time division multiplexed) mobile radio system. Each slot or channel is said normally to have a digital data rate of 12-16kbps and a bandwidth of 25kHz, but it has been discovered that by the use of a vocoder to compress the speech the necessary bandwidth per user can be reduced. The channels could be halved in width to 12.5kHz; a disadvantage however is that a once-and-for-all change in the system and its mobile units to migrate to narrower channels must take place. If at a future date vocoders were to improve to the point that a fourfold compression at unchanged speech quality were possible, another system-wide change would have to take place.

2.2 This problem is overcome by defining a plurality of sub-channels, or sub-slots, for each channel, i.e. by providing time-division multiplexing within individual slots. In the preferred embodiment eight sub-slots are defined, which can be grouped in dependence on the desired quality of speech coding: grouping two sub-slots gives speech of lesser quality, four sub-slots provides better quality, and so forth. As the performance of speech coding systems improves, the number of sub-slots needed can be reduced.

2.3 In the patent the system is described with reference to two forms of device: on the one hand a so-called remote station, hereinafter referred to as a "remote", which can take the form of a mobile, a portable or a base

station, and on the other hand a primary station, the only example given being a repeater.

2.4 The question at the heart of the present appeal is whether subject-matter has been added by the claims, and in particular the extent to which the originally filed application envisaged selectable coding rates at remotes, or a mixed system making use of a plurality of differing slot allocations. If a mixed system were held to be derivable from the application as filed, the further question arises as to whether this necessarily implies that different mobile units have different vocoders.

2.5 The Board notes that the particular description of the application as filed is identical to that of the published patent; for simplicity reference will only be made to the latter in this decision.

### 3. *Oral Proceedings*

No new issues have arisen since the oral proceedings held on 28 March 1996 which would justify holding further oral proceedings. The Board holds that the requirements of Article 113(1) EPC have been met and in accordance with Article 116(1) EPC, second sentence, refuses the requests for further oral proceedings.

### 4. *The Main Request*

4.1 Claim 1 of this request includes features which make it unclear whether a remote or a repeater is being claimed. Elements characteristic of both are present: the claim states that the claimed device "operates to



retransmit said received signal", i.e. the device is a repeater, but also refers to "means for analyzing ...a voice signal" and "means for processing said received signal ...to synthesize a received voice signal", both features of a remote.

4.2 Despite repeated requests by the Board in the course of the oral proceedings the appellant did not state clearly what device was being claimed. On balance, it seems that a remote is being claimed; there is no disclosure in the originally filed application of a repeater equipped with voice synthesis and voice analysis, whereas in claims 10 to 12 of the originally filed application there is an implied disclosure of a remote having a retransmission facility. The Board accordingly concludes that the only construction of claim 1 which is supported by the originally filed application is that the claim is directed to a remote.

4.3 Both independent claims of this request include wording implying that for any given communication using a remote the coding rate is selectable by the user on a call-by-call basis. Claim 1 refers to a coding rate "selected, for each user's communication, from a plurality of coding rates available with which to communicate in said system" and claim 11 to "... the steps of for each user's communication, each having a respective coding rate V selected from a plurality of coding rates available ...providing vo-coded signals at a selected one (V) of a plurality of coding rates available with which to communicate in said system" (Board's underlining).

4.4 The appellant did not dispute this interpretation

during the oral proceedings but argued that for the reasons set out below the wording complied with Article 123(2)EPC:

- (1) The possibility of individual remote devices having a plurality of coding rates was not excluded by the wording of the claims as granted.
- (2) Such a possibility was disclosed at various points in the specification, in particular at column 8, lines 6 to 9 of the published patent, which states that "digitised speech information is stored in the transmit buffer 408 at whatever coding rate is selected for the vo-coder analyzer 406". Other supporting passages could be found at column 8 lines 28 to 30, column 11 lines 31 to 38, and column 12 lines 7 to 13.
- (3) One of the types of remote disclosed as forming part of the system was the "base station". A person skilled in the art would understand the term "base station" to refer to the apparatus interfacing between the normal line-transmission telephone network and the radio telephone system. It was therefore inevitable, and would have been appreciated as such by the skilled person, that the base station could handle a plurality of different coding rates, since it was indisputably disclosed that a plurality of coding rates could be used within the system as a whole.

4.5 The Board finds none of these arguments persuasive. Dealing with them in turn, the scope of protection of the claims of the granted patent is irrelevant to

Article 123(2) EPC; only the technical disclosure of the claims of the original application may be relevant to assessing added subject-matter. The question to be answered is whether the appreciation of the invention now the subject of the claims was directly and unambiguously derivable from the original disclosure. As pointed out by the appellant himself, not everything covered by a claim is necessarily disclosed by it.

4.6 Turning now to the second argument, the passages cited do not appear to the Board to disclose the claimed feature. Column 8 lines 6 to 9 is referring to a coding rate selected in dependence on the nature of the vocoder; there is no suggestion of a given vocoder being suitable for different rates, which implies that a selection is made when the device is built. Column 8 lines 28 to 30 merely indicates that instead of speech a combination of data and speech can be sent. Column 11 lines 31 to 38 indicates that the controller in a remote is allocated a combination of sub-slots for transmission for any given connection. Column 12 lines 2 to 13 is concerned with slot allocation in a remote during reception and implies allocation of the specific slot or slots used by the repeater.

4.7 As regards the third argument, the Board considers that the appellant has sought to give the term "base station" a meaning which is not supported by the originally filed application documents. The description states that "a base station is contemplated to be a permanent or semi-permanent installation at a fixed location" and classifies it with the portable and a mobile unit as a "remote" (column 4 lines 4 to 17). This passage makes clear that the term was intended

simply to refer to a wireless end-user telephone. Although the skilled person may be aware that the expression "base station" is now commonly understood in the art as the apparatus interfacing between the public network and the mobile radio system, it is not permissible to ignore the plain meaning of the appellant's own definition and substitute the present-day definition when reading the description.

- 4.8 Thus, in conclusion, a coding rate selectable on a call-by-call basis cannot be directly and unambiguously derived from the disclosure of the originally filed application. The Board considers that the description as a whole points the person skilled in the art to a once-and-for-all selection when the particular remote is manufactured. The independent claims of the main request introduce a feature into the patent which is not derivable from the originally filed subject-matter. These claims therefore offend against Article 123(2) EPC and for this reason the main request must be refused.

5. *The Auxiliary Requests*

- 5.1 Subsequent to the oral proceedings the appellant restricted himself to different versions of a single claim based on claim 11 of the auxiliary request considered at the oral proceedings. This claim in all its versions is directed to a method for efficiently utilizing the spectrum of rf communication channels used to communicate vo-coded voice signals, and includes the steps of analyzing speech to provide vo-coded signals at selected first and second data rates.

- 5.2 The claim of the "main auxiliary request" refers at features (a1) and (a2) to analysing in respective first and second vocoding means "signals of a communication from a first [second] user" (Board's underlining). It does not mention a first or second remote. The claim thus covers a situation in which a single remote has two vocoding means: a first user makes use of the remote at the first vocoding rate, whilst a second user thereafter switches it to the second vocoding rate. A single vocoder switchable between two separate coding algorithms can moreover be considered as constituting first and second vocoding means. None of this is disclosed in the original application. In effect the claim is directed to a system in which the remotes are switchable between different vocoder rates and is therefore open to the same objection under Article 123(2) EPC as is raised at point 4.8 above against the independent claims of the main request.
- 5.3 The claim of the "main auxiliary request" is accordingly not allowable.
- 5.4 Turning now to the first auxiliary request, the claim refers to the use of respective vocoding means in first and second remotes and cannot be interpreted as permitting a single remote to be used at two separate coding rates.
- 5.5 The respondents have in the course of the proceedings raised a number of objections which are relevant to this claim, two of which were discussed in the opposition proceedings: firstly, that the originally filed application did not envisage the accommodation within a single system of various remotes making use of

respective differing coding rates, so that subject-matter has been added, Article 123(2) EPC, and secondly that the claim as granted was restricted to a single coding rate and that in consequence the provision of steps (a2) to (g2), i.e. of a second coding rate, does not fall within the scope of the granted claim, Article 123(3) EPC.

5.6 Dealing with the first objection, Figure 2 and column 6 lines 15 to 40 of the patent imply that a system making use of multiple transmission rates was always envisaged. Sub-slots 1-4 as shown in Figure 2 are combined to form slot 1a, which it is said "may provide toll quality speech for the users of a system", whilst slots 1b and 1c, each comprising two sub-slots, "may provide speech of a lesser quality that is still acceptable to a particular user", implying that this user is participating in a system in which other speech qualities are also available. Air-time billing is said to be dependent on "the quality of speech required in a particular user environment"; although out of context this could be taken to refer to the requirements of the individual user rather than those of the system as a whole, it can be seen in context to indicate that billing rate is related to transmission rate. At column 9 lines 12 and 13 the transmission data rate is said to be determined by the repeater controller; the only reason the data rate need be determined is if different data rates are available within a single system. Another indication that a mixed system is being described arises in connection with Figure 8; column 11, lines 34 to 38 states that the repeater assigns sub-slots "so that the mobile controller knows how many of the sub-slots to combine for this

particular communication slot".

5.7 The Board therefore takes the view that the skilled person would understand that the originally filed application envisaged the accommodation within a single system of different transmission data rates for different speech qualities, which in turn implies different coding rates. The amended claim accordingly does not give rise to objection under Article 123(2) EPC of added subject-matter.

5.8 As regards claim broadening, Article 123(3) EPC, for the reasons given below the Board takes the view that the present claim 11 is not broader in scope than the granted claim 11.

5.9 It was argued by the respondents that the use in the granted claims of the term "V", without brackets, for selected coding rate proved that these claims were limited to a single fixed coding rate. The opposition division held that by adding references to a second coding rate V' the claim was being broadened. In its decision on the then auxiliary request - see points V.4 and V.5 of the decision of 19 May 1993 - it argued that if the second coding rate were made equal to the first coding rate, a system using a method equivalent to that of the granted claim 11 would be produced; it followed that the provision of two coding rates was a more general case than the special case of two identical coding rates (i.e. with remotes using such rates) and the claim was therefore broader.

5.10 The Board does not agree. As noted at point 5.6 above, the description always envisaged the accommodation

within a single system of different transmission data rates for different speech qualities, which in turn implies different coding rates. This is reflected in the granted claims, inasmuch as "V" is said in claims 1 and 11 as granted to be a selected coding rate. This wording must be given due weight. If the coding rate were irretrievably fixed at system start-up the word "selected" would be redundant. On the other hand, an interpretation permitting each user to make a selection or permitting a system administrator to make a system-wide change, for example in dependence on traffic density, is as noted above not supported by the originally filed description.

- 5.11 The only interpretation which agrees with the indication in the originally filed description that a plurality of rates is available within a single system is that "selected" refers to the remotes, with different remotes having different coding rates. It is observed that the present claim 11 does not embrace a system with only a single coding rate and is therefore arguably narrower in scope than the granted claim 11.
- 5.12 It was also argued that the existence of two coding rates implies firstly that a user can choose a rate, and secondly that a different protocol is necessary than if a fixed rate is used, implying that there is in fact a broadening of scope. There is however no implication in the present claim 11 that a user can choose a coding rate, nor is there any mention of a detailed protocol in either the granted or the present claim 11 and which would require to be changed for different rates. These arguments appear rather to be based on added subject-matter than claim broadening;



however, as noted at point 5.6 above, there is basis in the originally filed application for the combination now claimed.

5.13 In the course of the present proceedings a number of further objections were raised:

- (1) The disclosed system is not able to accommodate remote units with different groupings of sub-slots since the data overhead shown in Figure 3b for the uplink does not contain any overhead which would identify the number of sub-slots or the vocoder data rate needed. Moreover, the description does not make provision for transcoding between different vocoding rates, so that a signal vocoded at a particular rate can only be received by a mobile unit having the same vocoder.
- (2) The claim permits combinations of non-adjacent sub-slots, whereas in the originally filed description and Figure 2 they are always contiguous.
- (3) Features (b) and (h) of the claim refer to the system establishing a tdm protocol and apportioning time among users. It is argued that this is not disclosed, the repeater being responsible for apportioning time in the description.

5.14 Dealing with these points in turn, the Board agrees that it is not clear how remotes with different data rates can talk to each other; although the passage at column 9 lines 27 to 31 could be taken to mean that the

repeater can transmit signals at a data rate different to that at which they are received, this can only work if the differences are merely a matter of bandwidth; in the case of different types of vocoding (cf column 5 lines 41 to 65) transcoding is necessary. However, transcoding is not mentioned in the description and is not in the claim; nor is there anything in the claim to suggest that a mobile operating at one rate can talk to a mobile at another rate. In any case, objection of insufficiency, Article 83 EPC, has not been raised.

5.15 As regards point (2), the claim does not state that the slots can be non-contiguous and does not differ from the granted claim 11, or for example from originally filed claim 30, in its wording.

5.16 The granted claim 11 refers to apportioning narrow-band rf channels into time slots, i.e. establishing a tdm protocol, and by implication this encompasses apportioning time among users as referred to in point (3) of 5.13. The features themselves do not appear to go beyond this.

5.17 The Board accordingly concludes that the first auxiliary request does not give rise to objection under Articles 123(2) and 123(3) EPC.

5.18 Although various clarity objections were raised by the respondents, in the Board's view the claim as amended is sufficiently clear, Article 84 EPC, to enable further examination of the opposition to continue.

5.19 In view of this finding on the claim of the first auxiliary request it has not been necessary for the

Board to consider the second auxiliary request.

6. The claim of the first auxiliary request is based on claim 11 of the auxiliary request considered by the opposition division but has been amended considerably. The opposition division made no finding as to novelty and inventive step on the earlier claim; it therefore follows that the present claim must be examined as to compliance with these requirements of the EPC. In order to preserve two instances it is therefore necessary to remit the case to the first instance for the opposition procedure to be completed.

## **Order**

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

1. The decision under appeal is set aside.
2. The case is remitted to the first instance for further prosecution on the basis of the first auxiliary request.

The Registrar:

The Chairman:

S. Fabiani

P. K. J. van den Berg