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D E C I S I O N
of 23 March 2000

Case Number: T 0892/98 - 3.5.1

Application Number: 91300063.4

Publication Number: 0436515

IPC: H04B 1/20

Language of the proceedings: EN

Title of invention:
Remotely controlled power supply apparatus

Patentee:
RCA Thomson Licensing Corporation

Opponent:
Interessengemeinschaft für Rundfunkschutzrechte E.V.

Headword:
Remotely controlled power supply/THOMSON

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

Keyword:
"Inventive step (yes)"

Decisions cited:
-

Catchword:
-

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Case Number: T 0892/98 - 3.5.1

D E C I S I O N
of the Technical Board of Appeal 3.5.1
of 23 March 2000

Appellant: (Opponent)
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Decision under appeal: **Interlocutory decision of the Opposition Division of the European Patent Office posted 29 July 1998 concerning maintenance of European patent No. 0 436 515 in amended form.**

Composition of the Board:

Chairman: P. K. J. van den Berg
Members: R. Randes
S. C. Perryman

Summary of Facts and Submissions

I. This appeal is against the decision of the opposition division to maintain the present patent in amended form.

II. The opposition division held that the grounds for opposition mentioned in Articles 100(a) and 56 EPC did not prejudice the maintenance of the patent in amended form having regard *inter alia* to the two following most relevant prior art documents:

D1: DE-C-30 45 715

D6: US-A-4 751 580

III. Amended claim 1 as upheld by the opposition division reads as follows:

"Remote control power supply apparatus comprising:

switching means (T1) having a main switching section coupled to an input voltage source (D1), and having an on/off control section responsive to an on/off switching signal;

a main power supply (19) including an input side which receives main power from said source (D1) when said main switching section is in its conductive state and an output side for supplying power to loads (8);

an on/off decoder (16) for decoding a command signal having a plurality of states including a run state and a standby state to provide said switching signal to the control section of said switching means, said switching

signal having on and off states corresponding to the run and standby states of said command signal so that when the run state of said command signal is decoded, the main switching section of the switching means is placed in its conductive state for energizing the main power supply (19) to supply power to said loads (8), **characterized by**

a remote control decoder (21) responsive to said command signal for decoding a state of said command signal other than the run and standby states; and

a standby power supply (13) coupled to said source (D1) for providing standby power to said on/off decoder (16), but not to said remote control decoder (21), during the standby state of said command signal;

said switching means (T1) disconnecting said main power supply (19) from said source (D1) during said standby state so that essentially no power is supplied to said main power supply during said standby state."

IV. The appellant (opponent) lodged an appeal against the decision, paid the prescribed fee and filed a statement of grounds of appeal in time. **The appellant requested that the decision under appeal be set aside and that the patent be revoked.** Auxiliarily a request for oral proceedings was made.

The appellant, in order to support its argumentation, filed an additional document

D8: DE-C-34 12 341.

V. In a letter of reply **the respondent requested that the**

appeal be dismissed and, auxiliarily, oral proceedings.

The respondent, moreover, requested that the Board should immediately decide that D8 should not be introduced at that late state of the proceedings. The respondent, nevertheless, also expressed the opinion that the document was no more relevant than other material already on file, and that in any case it did not render the invention obvious.

VI. After a communication together with an invitation to oral proceedings and a reply by the appellant with further arguments oral proceedings were held on 23 March 2000.

At the beginning of the oral proceedings the appellant suggested that D8 be allowed into the appeal proceedings, or else that there be referred to the Enlarged Board of Appeal the question of whether a new document should be allowed into appeal proceedings for the purpose of an existing ground of opposition depending only on its relevance and its being introduced at a sufficiently early stage for the other party or parties to be able to react.

The respondent had asked that either D8 not be allowed into the appeal proceedings and no question be referred to the Enlarged Board of Appeal, or else that before D8 was considered there be referred to the Enlarged Board of Appeal the question whether admission into appeal proceedings of a new document should not be refused irrespective of its relevance unless special circumstances were shown to exist which had prevented it from being submitted to the opposition division.

After deliberation concerning the mentioned requests in respect of document D8 **the Board came to the result that document D8 was sufficiently relevant** to be introduced into the proceedings.

After that the **appellant's argumentation** can be summarised as follows:

The opposition division came in its reasoning to the conclusion that the invention according to claim 1 was distinguished from the prior art disclosed for example in D1 by the features:

(a) the apparatus further comprises a remote control decoder responsive to said command signal for decoding a state of said command signal other than the run and standby states, and

(b) no power is provided to said remote control decoder during the standby state.

It was, however, the opinion of the appellant that the **teaching of D1** disclosed feature (a), if not explicitly, then in any case implicitly. It was clear from D1 that the document concerned remote control power supply apparatus for a television set. Therefore, it was clear for the skilled person that, although it was not stated in D1 that the remote control decoder could decode other states than the run and standby states, this was self-evident to a skilled person. Every TV- set having a remote control could, of course, be remotely controlled for example to its volume and naturally the different channels could be remotely chosen. Thus, although D1 only showed a box 6 for on/off switching, it was quite clear for a skilled

person that the box 6 was only one of the units in the whole remote control decoder and that there existed also a unit for other commands than the run and standby states. Therefore, feature (a) was known from document D1.

Moreover, it was obvious for a skilled person that an additional unit in D1, containing the decoder for other signals than the one for run and standby states, had not to be supplied by the standby power supply. This was because the skilled person would realise that the standby power supply in D1, the rechargeable accumulator 8, had a limited capacity, which would not be sufficient if an additional unit would be connected to it, since this accumulator had also to supply the relay 4 which switched on the main power supply and needed a very high current. Thus, the skilled person arrived at the invention already from the teaching of D1.

However, the skilled person also arrived at the invention starting out from the **teaching of D8**. This document also disclosed a remote decoder of a TV-set. This decoder (see Figure 1) comprised two units, the remote signal amplifier (Fernbedienungssignalverstärker) 1 and the signal power activation circuit (Signalaufbereitungsschaltung) 2 on one hand and the decoder (Auswerteschaltung) 5 on the other hand. Only the first mentioned amplifier/activator unit (1, 2) was connected to the supply during standby. The decoder, the second unit 5, was switched to the standby circuit and then to the main supply only after that the first unit received a remote command signal. This was performed by the activation circuit 2 which over an electronic switch 3

connected the standby circuit to the decoder. Also D8, like D1, did not explicitly state that there was an additional decoder unit for signals other than the run and standby states. It was, however, obvious for the skilled person to add such a decoder. Moreover, since the object of D8 was to minimize the power consumption (see column 2, lines 47 to 51), it was also obvious that additional decoders should not be powered during standby.

Moreover, having regard to the fact that D8 already disclosed two units of a decoder (unit 1,2 and unit 5), where one of the units (unit 5) during standby was not connected to the supply, it was obvious to arrive at the invention having regard to this knowledge only. The invention of the patent did not bring anything more. It only divided a decoder for all commands into two parts and only one part was powered during standby.

It was also pointed out that D8 in its second embodiment (Figure 2) disclosed that the different units of the decoder could be on different sides of an isolation barrier, which is the situation in the embodiment of the present patent (cf. Figure 1a of the present patent). Thus, in Figure 3 of D8 the signal amplifier unit 1 is communicating with the decoder unit 5 over an opto coupler 13.

The knowledge from **D8,** that a decoder can be comprised of two units, could also be **combined with** the teaching of **D1** and used to arrive at the invention. Since the on/off decoder unit 6 in D1 was during standby connected to the energy source, it would have been obvious for the skilled person, having regard to the teaching of D8, to identify this decoder unit 6 with

the amplifier/activator unit (1,2) in D8 and arrange for that the additional decoder, which the skilled person knows must be present in D1, was not connected to the standby power source, like the decoder unit 5 in D8.

The respondent's argumentation could be summarised as follows:

There was nowhere in **D1** hinted at that there could be an additional decoder unit in the arrangement of that document. Only a decoder unit for detecting the run and standby states was shown. It might well have been that the other commands used for the TV-set had to be input manually from the keys at the TV-set.

Also in **D8** there was nowhere hinted at that an additional decoder for command signals other than the run and standby states had ever been thought of. Therefore, the argumentation of the appellant was only speculation.

Moreover, it was clear that the decoder unit 5 in D8 was connected to the standby power supply 4 also during part of the standby period. Namely, after the remote signal amplifier 1 had received a remote control signal the decoder unit 5 was, in fact, connected to the standby power supply 4. Only after the status of the signal had been identified as an "on signal" by the decoder unit 5 was the main power supply switched on. This functioning was thus quite different from that of the present invention, wherein the additional decoder (for the command signals other than the run and standby states) was never connected to the standby power supply.

Reasons for the Decision

1. The appeal is admissible.

2. The only issue to be dealt with in this case is to assess, whether the subject-matter of claim 1 involves an inventive step.

It appears to the Board that the appellant in the appeal proceedings was of the opinion that the problem to be solved in this case should be to minimize the energy consumption of the remote decoder during standby. This opinion appeared to be independent of the starting point of the invention, i.e of whether the starting point was the teaching of D1 or that of D2.

The Board considers that this problem proposed by the appellant could be accepted as the objective technical problem to be solved in the present case. This problem fulfills the requirement that it does not contain fragments of the solution.

However, on the other hand it also appears to the Board that this problem cannot be derived from the cited documents in a straight-forward way. Both documents disclose decoder arrangements which are said to have an energy saving effect. There are no hints that they could be further improved in that sense. Therefore, the derivation of the problem can only be seen as the result of the skilled person's ambition in the present field, always to minimize the energy consumption, even if the starting device of the prior art, as in the present case, is said to have a minimal energy consumption.

2.1 The appellant is of the opinion that it would be self-evident, or even implicitly known, from the teaching of D1 that there must be a separate decoder unit in addition to the decoder 6 disclosed in the document. The appellant tried to convince the Board, that the part of the decoder 6 of D1 which was decoding other signals than the run and standby states, could not be present in decoder 6 in D1, because then an expensive accumulator 8 having a very high capacity was needed, which had a too high energy consumption.

The Board, however, considers it most probable that the remote control decoder in D1 which is represented by the box 6 in the figures of D1 and which in the text of the description is identified as "Fernbedienungsempfänger" represents the decoder for all commands (even for commands other than run and standby state commands) transmitted to it from the remote control device (box 9) which in the text is identified as "Fernbedienungsgeber". This follows from the following considerations. The respondent has suggested that the box 6 represents only the on/off decoder and that there are no additional decoders in the arrangement. However, it appears that, as suggested by the appellants, that the remote control device 9 in D1 should have all the normal remote control functions for a remotely controlled TV-set. Therefore, corresponding decoders must be present on the side of the TV-device. It is noticed that box 9 representing the remote control device has one transmitting antenna symbol and that the decoder box 6 has only one receiving antenna symbol. There are no hints anywhere in the document that a transmission of received signals are made from box 6 to some other unit or to an additional decoder. There are also no other hints in

the specification that suggest that the decoder 6 is only one part of the entire decoder. Therefore, it appears to be too speculative to imagine that the decoder 6 shown in the Figures 1 and 2 only is one part of the entire decoder and that there exists another part which is switched off during standby. This is the more incredible having regard to the late filed document D8. This document discloses according to the opinion of the Board a single decoder unit, but discloses also, apparently, as the first document that a decoder during the standby time may not be connected to the standby power source. Since D8 was made public some three years after D1 the appellant has failed to convince the Board that it would have been so self-evident at the time of the publication of document D1 to design a decoder in two separate units, one of which being disconnected during standby, that this was not thought worth mentioning in document D1.

The appellant in the proceedings expressed the opinion that since the teaching of D1 taught to save energy during the standby mode, it was apparent that there existed in addition to the decoder 6 also a decoder unit for other commands than the run and standby states, which additional decoder was switched on after an "on signal" had been received and identified. This was because otherwise the arrangement of D1 would not save more energy than traditional standby arrangements described in the introductory part of the description of D1. The Board, however, notices that the problem to be solved according to D1 (see column 2, lines 37 to 44) is to design a main switch to the main supply of the TV-set in such a way that the TV-set can be switched on and off over that main switch as well as over the remote control device. In case the main switch

is used for the switch off operation, also the decoder must be disconnected from the main supply. The solution according to D1 concerns a use of a special by-pass switch 2 which is closed for a very short time in case the main switch 1 is switched on and which by-pass switch in turn influences a working switch 3 to be switched on. Thus, in this case the real problem concerns an issue which is quite different from the problem of the present invention. To the Board it appears that neither the problem nor the solution in D1 does indicates that the decoder must comprise two separate units.

Thus, the skilled person trying to solve the posed technical problem in order to arrive at the present invention from the teaching of D1 has to start from the arrangement according to D1 having one single decoder 6. The Board is not able to recognise that it would be self-evident or obvious to divide up the decoder of D1 into two units from this starting point. As already pointed out by the opposition division in the appealed decision all the documents D1 to D6 then cited disclosed only a single decoder.

Instead of dividing the decoder into two separate parts, it may be that the skilled person would try to develop or use more efficient and energy-saving components. The appellant for example suggested that the coil of relay 4 needed a very high current to function properly. It could, therefore, well appear that the skilled person tries to use an improved relay or a different switching system for the main supply. If the relay or a corresponding (electronic) device would need a lower current, an accumulator 8 having a lower energy consumption could be used. There are certainly

also other components of the decoder that could be replaced or redesigned having regard to energy consumption.

The Board, rather, concludes that the idea to divide the decoder into two separate parts had not occurred to anyone before the making of the present invention. Thus the Board arrives at the result that the invention of claim 1 is not obvious to a skilled person having regard to the teaching of D1.

2.2 In deciding whether or not to allow the new document D8 into the appeal proceedings depending only on an assessment of that document's relevance to the issue of lack of inventive step, an issue which had been raised originally in the opposition, the Board followed the long established practice of the Boards of Appeal to this effect, based on the reasoning given in decision T 156/84 (OJ EPO, 372).

Late filed document D8 was considered as sufficiently relevant for introduction into the proceedings by the Board, since it is the only document disclosing a decoder (unit 5), which is not connected to the standby power source 4 during most of the time the arrangement of D8 is in the standby mode. It is only connected to the standby power source once signal amplification circuit 1 and activation circuit 2 detects a signal. The Board, contrary to the appellant (see under VI above), does not consider the amplifier/activator circuits 1,2 as a separate part of the decoder, since this part of the decoder does not execute decoding, it just activates the decoder unit 5.

The decoder unit 5 of D8 is not strictly disconnected

from the standby power source during all the time the arrangement is in the standby mode. As has been pointed out by the respondent, decoder unit 5 is in fact switched to the standby source 4 over electronic switch 3 immediately after that a remote control signal has been received by the signal amplification circuit 1. Only after the decoder unit 5 has been switched to the standby power source 4 and after the decoder unit itself has verified that the received signal is a "switch on" signal, is the decoder connected to the main power circuit (over the line "+U bei Gerät ein" in the top of the figure). In the arrangement shown in Figure 2 of D8 the remote signal amplifier 1, after having received a remote signal, provides the decoder unit 5 to be switched to a switching circuit (Schaltnetzteil) 12, from which the decoder 5 is thereafter supplied. The switching circuit 12 which has been in a waiting mode, "the standby I mode", during which only the amplifier 1 has been energized, is now switched to a "standby II mode" and supplies the necessary energy to the decoder 5. Only in case decoder 5 recognizes the received signal as the coded remote signal, the supply for the normal main supply mode of the switching circuit 12 is activated, otherwise the circuit is switched back to "standby I mode".

Thus, it appears immediately that the device as described in document D8 is different from the invention in that it is dependent on the standby source also during the standby mode, since it is connected to this source at least during a short period of the total standby time. On the contrary the decoder responsive to the command signals other than the run and standby states of the invention (corresponding to device 21 in Figure 1a of the patent), must according to claim 1 not

at all be coupled to the standby source and is, therefore, totally independent of power delivery from that source.

2.2.1 The Board thus considers that the teaching of D8 discloses only that a decoder is not connected to the standby supply during the standby mode with the exception of short periods during which the decoder is investigating whether the received signal should be recognized as an on signal. The appellant suggests that it would be obvious for the skilled person to transform the amplifier/activator unit (1,2) into an on/off decoder like the decoder 16 of the embodiment of the invention and to turn the decoder unit 5 of D8 into a decoder for other command signals like decoder 21 of the described embodiment of the invention.

However, the Board cannot see any reason other than hindsight for making such a transformation. In fact, it is the decoder unit 5 in D8 which detects, whether the command signal "on" has been received or not. Thus the on/off detection is in the device of D8 done by the combination of the amplifier/activator unit (1,2), which only activates the decoder unit 5, and decoder unit 5 itself. Only during the operation of establishing, whether the signal is an "on signal" or not, is the decoder unit 5 of D8 connected to the standby power source 4, unlike the on/off decoder 16 of the present invention which is always so connected. Therefore, the different co-operating units in D8 do not correspond to the on/off decoder 16 and the decoder for other command signals 21 in the embodiment of the invention described in the patent. Thus the Board does not see a real reason why the skilled person would arrive at the invention from the device disclosed in

D8.

In fact, having regard to the arrangement of D8, it does not appear to be immediately clear that a transformation to the arrangement of the invention would be beneficial for the energy saving, since it could be argued that the arrangement disclosed in D8 has a lower energy consumption than the invention, because according to D8 even the on/off function decoder is not connected to the standby source during most of the stand-by time. Thus, the aim of energy saving would not lead to the present invention.

2.2.2 The Appellant has also proposed, as could be understood by the Board, that it was obvious to arrive at the invention directly from the general knowledge disclosed in D8 that a decoder could be divided up in two parts. However, as has been shown, this is not possible, since D8 discloses only one decoder unit. The amplifier/activator unit (1,2) does not execute decoding, it just enables the decoder unit 5.

2.2.3 It appears to the Board that, in case the skilled person starts out from the teaching of D8 and considering the on/off decoder 5 together with the amplifier/activation unit (1,2) to be one single decoder, he will not in an obvious way add an additional separate decoder to the on/off decoder 6 of D8 and so arrive at the invention. This is for the same reasons as the Board put forward above in the reasoning in respect of D1. The Board can thus not see or find any hints in D8 that decoding of command functions could be performed in different decoder units.

3. The appellant, moreover, suggested that the skilled

person would arrive at the invention from the teaching of D1, by taking into account the teaching of D8. The appellant thus considered, as has been made clear above, that it was self-evident from the teaching of D1 and the common general knowledge that there must be additional remote command functions to those of the on/off commands and that it, therefore, would be obvious having regard to D8 (which according to the appellant disclosed two decoder units) to make up separate units for those commands. As has been shown above, the Board has taken the view that in the decoder of D1 there must be decoding possibilities even for other commands than the on/off commands, but that all commands, both on/off and other commands, are decoded by one only decoder. The combination of D1 and D8 leads in an obvious manner only to something with a signal detector activating a decoder which is normally disconnected in standby, and not to the invention now claimed.

4. The Board, therefore, comes to the result that the subject-matter of claim 1 meets the requirements of Articles 52(1) EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

M. Kiehl P. K. J. van den Berg