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**Datasheet for the decision  
of 16 December 2020**

**Case Number:** T 0006/18 - 3.5.05

**Application Number:** 11798421.1

**Publication Number:** 2587734

**IPC:** H04L12/28, H02J3/00, H02J3/14,  
H02J3/28, H02J13/00, G06Q50/06

**Language of the proceedings:** EN

**Title of invention:**  
NETWORK SYSTEM

**Patent Proprietor:**  
LG Electronics Inc.

**Opponent:**  
Liebherr-Hausgeräte Ochsenhausen GmbH

**Headword:**  
Energy consumption control/LG

**Relevant legal provisions:**  
EPC Art. 54, 56

**Keyword:**  
Novelty - main request (yes)  
Inventive step - main request (yes)

**Decisions cited:**

**Catchword:**



**Beschwerdekammern**  
**Boards of Appeal**  
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Case Number: T 0006/18 - 3.5.05

**D E C I S I O N**  
**of Technical Board of Appeal 3.5.05**  
**of 16 December 2020**

**Appellant:**  
(Patent Proprietor)

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**Decision under appeal:**

**Interlocutory decision of the Opposition  
Division of the European Patent Office posted on  
13 October 2017 concerning maintenance of the  
European Patent No. 2587734 in amended form.**

**Composition of the Board:**

**Chair** A. Ritzka  
**Members:** P. Cretaine  
F. Blumer

## **Summary of Facts and Submissions**

I. This appeal is against the interlocutory decision of the opposition division, despatched on 13 October 2017, to maintain European patent No. 2 587 734 in amended form according to a first auxiliary request filed on 10 July 2017. The opposition was based on the grounds of Article 100(a) and (b) EPC. The opposition division decided that the subject-matter of claim 1 of a main request (patent as granted) lacked inventive step (Article 56 EPC) over the disclosure of

D1: WO 2006/096854.

The opposition division decided that the first auxiliary request met the requirements of Article 83 EPC and that the subject-matter of claim 1 was new and involved an inventive step (Articles 54 and 56 EPC), having regard to the disclosure of D1,

D2: US 2006/0125422 or

D3: DE 10 2009 010 117.

II. The opponent's notice of appeal was received on 27 December 2017 and the appeal fee was paid on the same day. The statement setting out the grounds of appeal was received on 9 February 2018. The opponent (appellant) requested that the decision be set aside and the patent be revoked in its entirety. The opponent based its line of argument solely on the grounds of Article 100(a) EPC in combination with Articles 54 and 56 EPC, referring solely to the prior-art document D1. Oral proceedings were requested on an auxiliary basis.

- III. The proprietor's notice of appeal was received on 27 December 2017 and the appeal fee was paid on the same day. The statement setting out the grounds of appeal was received on 23 February 2018. The proprietor (appellant) requested that the decision be set aside and that the patent be maintained on the basis of the claims as granted (main request), or on the basis of one of auxiliary requests 0 to 10 filed with the statement setting out the grounds of appeal. Oral proceedings were requested on an auxiliary basis.
- IV. By letter dated 28 June 2018, the opponent replied to the proprietor's statement setting out its grounds of appeal.
- V. By letter dated 10 July 2018, the proprietor replied to the opponent's statement setting out its grounds of appeal.
- VI. A summons to oral proceedings scheduled to be held on 16 December 2020 was issued on 10 March 2020. In a communication dated 27 October 2020, the board indicated the points which would be discussed during the oral proceedings and expressed its preliminary opinion.
- VII. With a letter of response dated 13 November 2020, the proprietor maintained all its previous requests and submitted further auxiliary requests, designated as auxiliary requests 1b and 1c.
- VIII. The oral proceedings were held on 16 December 2020. The proprietor requested that the decision under appeal be set aside and that the patent be maintained as granted. The opponent requested that the decision under

appeal be set aside and that the patent be revoked. At the end of the proceedings, the decision of the board was announced.

IX. Claim 1 of the main request (claims as granted) reads as follows:

"A network system comprising:  
at least one unit selected from an energy receiving unit (100) receiving energy and an energy management unit (24) managing the energy receiving unit (100), wherein an energy usage amount or energy usage rate of the energy receiving unit (100) is adjusted;  
an energy usage amount or usage rate when the unit is controlled based on information relating to an energy rate is less than that when the unit is controlled without the base of information relating to at least an energy rate;  
the energy receiving unit (100) comprises a plurality of components (260, 270) operating based on a specific priority and an operation of one component (260, 270) among the plurality of components (260, 270) is controlled based on the information relating to an energy rate, characterized in that  
the specific priority comprises at least one of an energy consumption amount priority and an energy usage rate priority, and  
the energy consumption amount priority comprises a current energy consumption amount priority or a power priority per unit hour and the energy usage rate priority comprises a current energy usage rate priority or a usage rate priority per unit hour."

## **Reasons for the Decision**

1. Admissibility of the appeals

The appeals of the proprietor and the opponent both comply with the provisions of Articles 106 to 108 EPC (see points II and III above) and are therefore admissible.

2. Interpretation of claim 1

2.1 The numbering of features of claim 1 as indicated in point 10 of the Facts and Submissions of the impugned decision will be used in the following.

2.2 The terms "energy usage amount", "energy usage rate", "energy rate", "current energy consumption amount priority", "power priority per unit hour", "current energy usage rate priority" and "usage rate priority per unit hour" are used in claim 1. The skilled person reading the description clearly identifies the technical meaning of these terms in the context of the patent, which relates specifically to a network of components consuming energy, e.g. electricity (see for instance paragraph [0015] of the patent specification).

The terms "energy usage amount" and "energy consumption amount" are equivalent and define the amount of energy consumed by a component of an energy receiving unit during a certain time period (see for instance paragraphs [0351], [0425] and [0430]). The skilled person knows that a component of the energy receiving unit needs power to operate, expressed for example in kW, and that when this power is constant during a time period, the energy consumption amount is the product of power by time, expressed for example in kWh. Thus, the skilled person understands that the "current energy

consumption amount priority" in feature 1.7 represents a priority based on the power used by a component at the current time, whereas the "power priority per unit hour" in feature 1.7 represents a priority based on the average power used by a component over a time window of one hour.

The wording "energy rate" defines the energy tariff or price (see paragraph [0344]), i.e. the price of a unit of energy amount. Thus, the skilled person understands that the "energy usage rate" represents the cost of the energy consumed and that the "current energy usage rate priority" in feature 1.8 represents a priority based on the energy costs per unit of time endured at the current time, whereas the "usage rate priority per unit hour" in feature 1.8 represents a priority based on the energy costs per unit of time averaged over a time window of one hour.

- 2.3 The opponent argued that, since no precise time window is defined for the current energy consumption amount and since no position of the hourly time window is defined for the power per unit hour, the two priorities based on these values cannot be distinguished. However, in the board's view, the skilled person would clearly understand the difference between the instantaneous power used by a component at a certain time and the average power, calculated for instance over the last hour, that the component has used.

In the same way, the opponent further argued that, since the term "current" did not define a time window over which the energy costs are endured, the "current energy usage rate priority" could not be distinguished from the "usage rate priority per unit hour". However, in the board's view, the skilled person would clearly



understand the difference between the instantaneous cost per unit of time incurred by the energy consumption at a certain point in time, the current time, and an average of the energy costs per unit of time calculated over a certain time period, for instance over the last hour.

### 3. Novelty and inventive step

#### 3.1 Prior art

The opponent based its novelty and inventive-step objections solely on the disclosure of D1.

D1 relates to the management of energy usage by household devices based on energy tariff information (see Figure 17). The opponent relied on the passage from page 53, line 11 to page 55, line 6, disclosing energy management for a clothes dryer comprising a tumbler motor, a fan and a heating element. The energy tariff data are used to modulate the temperature of the heating element to reduce power usage of the dryer. The tumbler motor and the fan are not taken into consideration for energy management, since their generic power consumption is much lower than the generic power consumption of the heating element. Thus, the three components of the clothes dryer are operated according to a priority scheme which is based on the generic power of each component, i.e. the power used by a component in a normal, non-energy saving mode which is not time dependent but a fixed value for each component. The heating element is identified once as the component with the highest generic power, and the energy consumption of this sole component is controlled based on the energy tariff during operation of the clothes dryer.

3.2 D1 does not disclose that several components of the energy receiving unit may be controlled during operation of the energy receiving element, based on a specific priority, or that the priority may consist in a priority based on the current power used by a component, the average power used over one hour, the current energy costs incurred by operation of a component, or the average energy cost incurred by its operation over one hour. Thus, the board holds that claim 1 is new over D1 (Article 54 EPC).

3.3 The technical effect of the differences mentioned in point 3.2 is that during operation of the energy receiving unit, all its components may be controlled according to a priority based on the time-dependent assessment of their energy consumption and of the energy costs resulting from it.

The objective technical problem can thus be formulated as how to enable more flexible energy management of the energy receiving unit.

3.4 D1 does not provide any indication to the person skilled in the art to prompt a prioritisation based on actual power use. D1 describes power management solely based on the generic power of each component, identified once before operating the clothes dryer, and the energy tariff data, without considering any other variables. In the discussed clothes dryer embodiment of D1, the heater element is identified once, based on its generic power, as the sole component to be used for reducing energy usage in the clothes dryer. The energy saving operation itself is then only based on the energy tariff data, without taking into consideration, contrary to features 1.7 and 1.8 of claim 1, the

current power use and current energy costs, or their average over one hour, related to each component of the energy receiving unit.

The opponent argued that it would be obvious for the skilled person to consider these parameters for achieving a more flexible and accurate control of energy saving in the energy receiving unit. However, the board agrees with the proprietor that there is a plurality of other parameters that could be considered by the skilled person, such as user settings for a maximum operation time, an operation start/end time scheduled by a user and a tolerated maximum power consumption. Moreover, considering the current power use or energy costs, or their average over one hour, the claimed invention could not be easily realised, but would require frequent and complex reorganisation and restructuring of the device described in D1. Furthermore, the proprietor plausibly argued that the power needed by a component might vary depending on a load or the operation status. For instance, often when starting an operation, more power is needed by a certain component than during the subsequent operation. Thus, according to the subject-matter of claim 1, an energy saving operation adapted to the current power requirements can be performed, thereby allowing energy saving while minimising deterioration of the performance.

For these reasons, the board holds that the subject-matter of claim 1 of the main request involves an inventive step, having regard to the disclosure of D1 (Article 56 EPC). Claims 2 to 12 are dependent on claim 1 and, as such, also meet the requirements of Article 56 EPC.

4. Conclusion

The grounds of opposition under Article 100(a) EPC, in combination with Articles 54 and 56 EPC, do not prejudice the maintenance of the patent as granted.

**Order**

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

1. The decision under appeal is set aside.
2. The patent is maintained as granted.

The Registrar:

The Chair:



K. Götz-Wein

A. Ritzka

Decision electronically authenticated