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Datasheet for the decision of 10 March 2020

Case Number: T 0827/18 - 3.5.05

Application Number: 01959658.4

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IPC: G08B25/00, H04L29/08, H04L12/26, H04Q9/00

Language of the proceedings: EN

Title of invention:
Wireless communication networks for providing remote monitoring of devices

Patent Proprietor:
SIPCO LLC

Opponents:
Spranger, Stephan
Emerson Process Management GmbH & Co. OHG
IOT Holding GmbH
Z-Wave Europe GmbH

Headword:
Remote sensor monitoring/SIPCO

Relevant legal provisions:
EPC Art. 56

Keyword:
Inventive step - all requests (no)
Referral of questions to the Enlarged Board of Appeal - (no): conditions for referral not fulfilled

Decisions cited:
T 1817/15

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Beschwerdekammern

Boards of Appeal

Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 0827/18 - 3.5.05

D E C I S I O N
of Technical Board of Appeal 3.5.05
of 10 March 2020

Appellant: (Opponent 1)	Spranger, Stephan Spranger + Burger Patentanwälte Widenmayerstrasse 28 80538 München (DE)
Representative:	Kuhnen & Wacker Patent- und Rechtsanwaltsbüro PartG mbB Prinz-Ludwig-Straße 40A 85354 Freising (DE)
Respondent: (Patent Proprietor)	SIPCO LLC 8215 Roswell Road Building 900, Suite 950 Atlanta, GA 30350 (US)
Representative:	REHBERG HÜPPE + PARTNER Patentanwälte PartG mbB Robert-Gernhardt-Platz 1 37073 Göttingen (DE)
Intervener 1: (Opponent 2)	Emerson Process Management GmbH & Co. OHG Argelsrieder Feld 3 82234 Wessling (DE)
Representative:	Hohgardt, Martin Bardehle Pagenberg Partnerschaft mbB Patentanwälte, Rechtsanwälte Prinzregentenplatz 7 81675 München (DE)
Intervener 2: (Opponent 3)	IOT Holding GmbH Große Johannisstraße 7 20457 Hamburg (DE)

Intervener 3: (Opponent 4)	Z-Wave Europe GmbH Antonstraße 3 09337 Hohenstein-Ernstthal (DE)
Representative:	Raffay & Fleck Patentanwälte Grosse Bleichen 8 20354 Hamburg (DE) (representing Interveners 2 and 3)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 23 January 2018 concerning maintenance of the European Patent No. 1370958 in amended form.**

Composition of the Board:

Chair	A. Ritzka
Members:	K. Bengi-Akyürek
	F. Blumer

Summary of Facts and Submissions

I. This second appeal of the opponent is against the decision of the opposition division of 23 January 2018 to maintain the present European patent in amended form according to the claims of a "main request".

II. The notice of opposition had relied on the opposition grounds under Article 100(a) EPC. In its decision of 13 July 2015, the opposition division maintained the patent in amended form. As a result of the opponent's first appeal (case T 1817/15), the board, in the same composition, found that claim 1 of the main request then on file complied with Articles 84, 123(2) and (3) EPC, it admitted three newly filed prior-art documents into the proceedings and decided to remit the case to the opposition division for further prosecution.

III. The following prior-art documents were *inter alia* considered in the decision under appeal:

TPO-1: WO-A-01/35190;
E6: WO-A-99/45510.

TPO-1, cited in a third-party observation of 17 July 2014 was taken to be state of the art under Article 54(2) EPC on the ground that the present patent's priority date was held invalid under Article 87(1) EPC.

IV. Three interventions were filed by interveners 1 to 3 on the grounds that proceedings for infringement of the opposed patent had been instituted against them.

V. Oral proceedings were held on 10 March 2020. The allowability of the claim requests on file was discussed.

The final requests of the parties to the appeal proceedings were as follows:

- The appellant requested that
  - the decision under appeal be set aside and
  - the patent be revoked.

- The respondent requested that
  - the appeal and interventions be dismissed and the patent be maintained on the basis of the claims found to be allowable by the decision under appeal (**main request**) or, alternatively,
  - questions as set out in its letter dated 31 January 2020 be referred to the Enlarged Board of Appeal **if** the Board intended to revoke the patent based on at least one of lack of clarity, added subject-matter and lack of novelty or
  - the patent be maintained on the basis of the claims of any one of **auxiliary requests 1 to 6**, as submitted with the letter dated 31 January 2020.

- The intervener 1 requested that
  - the decision under appeal be set aside and
  - the patent be revoked.

- The intervener 2 requested that
  - the decision under appeal be set aside and
  - the patent be revoked.

- The intervener 3 requested that

- the decision under appeal be set aside and
- the patent be revoked;
- auxiliary requests 1 to 6 be rejected for being late-filed;
- a question as set out in its letter dated 10 February 2020 be referred to the Enlarged Board of Appeal **if** the Board intended to deviate from its preliminary opinion concerning the *res judicata* effect of decision T 1817/15 as expressed in its written communications of 10 October 2019 and 10 February 2020.

The questions of the respondent to be referred to the Enlarged Board of Appeal read as follows:

"1. Does a Board of Appeal decision - that had decided on a first ground of opposition and/or requirement to be fulfilled by the patent in suit and remitted the case to the first instance exclusively with respect to a different second ground of opposition and/or requirement to be fulfilled - limit the extent of the proceedings even if an intervener files an intervention after the decision in the sense of this first ground of opposition and/or requirement to be fulfilled being excluded from the proceedings?

2. Are the aspects of clarity and added subject matter of the claims of a patent in suit raised by an intervener subject of opposition proceedings and opposition appeal proceedings if the intervention is filed after a decision by a Board of Appeal in which it has been stated that the claims fulfill these requirements and the case has been remitted to the first instance only for prosecution of patentability?"

The question of intervener 3 to be referred to the Enlarged Board of Appeal reads as follows:

"1. Does a Board of Appeal decision - that only in its arguments argues that a first requirement based on Article 84 or 123 EPC is fulfilled by a main request and remitted the case to the first instance without any restrictions for further processing based on that main request - limit the extent of the proceedings in regard to that first requirement even if an intervener files an intervention after the decision based on new arguments regarding that first requirement that were not discussed prior to such intervention?"

At the end of the oral proceedings, the board's decision was announced.

VI. Claim 1 of the **main request** reads as follows:

"A wireless communication network adapted for use in an automated monitoring system (100) for monitoring and controlling a plurality of remote devices (140) via a host computer connected to a wide area network (120), the wireless communication network comprising:

a plurality of wireless communication means (125, 135, 145) having unique first identifiers, each of the plurality of wireless communication means (125, 135, 145) configured to receive a sensor data signal from one of the plurality of remote devices (140) and transmit an original data message using a predefined wireless communication protocol, the original data message comprising the corresponding unique first identifier and sensor data signal,

wherein each of the plurality of wireless communication means (125, 135, 145) is further

configured to receive the original data message transmitted by one of the other wireless communication means (125, 135, 145) and transmit a first repeated data message using the predefined communication protocol, the first repeated data message comprising the original data message that includes the sensor data signal and the corresponding unique first identifier;
a site controller (150),

the site controller (150) being a means for receiving each of the original data messages and the repeated data messages,

the site controller (150) being a means for identifying, for each received message, the remote device (140) associated with the corresponding sensor data signal,

the site controller (150) being a means for providing information related to the sensor data signal to the wide area network (120) for delivery to the host computer,

the site controller (150) being in communication with the wireless communication means (125, 135, 145),

the site controller (150) being configured to receive the original data messages and the repeated data messages, identify the wireless communication means (125, 135, 145) associated with the corresponding sensor data signal and provide information related to the sensor data signal to the wide area network (120) for delivery to the host computer,

the site controller (150) being configured to map the wireless communication means (125, 135, 145) so as to learn all of the unique addresses and the necessary communication paths of each of the plurality of wireless communication means (125,

135, 145) by issuing a command to document the down-stream addresses and the up-stream addresses for each communication path associated with each of the plurality of wireless communication means (125, 135, 145) and logging the response data from the wireless communication means (125, 135, 145) into appropriate databases; and

a plurality of repeating means (125) having unique second identifiers, each of the plurality of repeating means (125) in communication with at least one of the plurality of wireless communication means (125, 135, 145) and each of the plurality of repeating means (125) comprising a means for receiving the original data message transmitted by at least one of the plurality of wireless communication means (125, 135, 145) and a means for transmitting a second repeated data message using the predefined communication protocol, the second repeated data message including the sensor data signal from the original data message and a unique second identifier corresponding to the repeating means (125)."

VII. Claim 1 of **auxiliary request 1** is identical to claim 1 of the main request.

VIII. Claim 1 of **auxiliary request 2** comprises all the features of claim 1 of the main request with the only difference that reference signs 125 and 145 associated with the "wireless communication means" have been removed.

IX. Claim 1 of **auxiliary request 3** comprises all the features of claim 1 of auxiliary request 2 with the only difference that the term "wireless communication means" has been replaced with "wireless communication devices".

X. Claim 1 of **auxiliary request 4** reads as follows (amendments to claim 1 of the main request highlighted by the board):

"A wireless communication network adapted for use in an automated monitoring system (100) for monitoring and controlling a plurality of remote devices (140) via a host computer connected to a wide area network (120), the wireless communication network comprising:

a plurality of wireless communication means (125, 135, 145) having unique first identifiers, each of the plurality of wireless communication means (125, 135, 145) configured to receive a sensor data signal from one of the plurality of remote devices (140) and transmit an original data message using a predefined wireless communication protocol, the original data message comprising the corresponding unique first identifier and sensor data signal,

wherein each of the plurality of wireless communication means (125, 135, 145) is further configured to receive the original data message transmitted by one of the other wireless communication means (125, 135, 145) and transmit a first repeated data message using the predefined communication protocol, the first repeated data message ~~comprising the original data message that~~ including~~es~~ the sensor data signal and the corresponding unique first identifier from the original data message;

a site controller (150),

the site controller (150) being a means for receiving each of the original data messages and the repeated data messages,

the site controller (150) being a means for identifying, for each received message, the remote device (140) associated with the corresponding

sensor data signal,

the site controller (150) being a means for providing information related to the sensor data signal to the wide area network (120) for delivery to the host computer,

the site controller (150) being in communication with the wireless communication means (125, 135, 145),

the site controller (150) being configured to receive the original data messages and the repeated data messages, identify the wireless communication means (125, 135, 145) associated with the corresponding sensor data signal and provide information related to the sensor data signal to the wide area network (120) for delivery to the host computer,

the site controller (150) being configured to map the wireless communication means (125, 135, 145) so as to learn all of the unique addresses and the necessary communication paths of each of the plurality of wireless communication means (125, 135, 145) by issuing a command to document the down-stream addresses and the up-stream addresses for each communication path associated with each of the plurality of wireless communication means (125, 135, 145) and logging the response data from the wireless communication means (125, 135, 145) into appropriate databases; and

a plurality of repeating means (125) having unique second identifiers, each of the plurality of repeating means (125) in communication with at least one of the plurality of wireless communication means (125, 135, 145) and each of the plurality of repeating means (125) comprising a means for receiving the original data message transmitted by at least one of the plurality of wireless communication means (125, 135, 145) and a

means for transmitting a second repeated data message using the predefined communication protocol, the second repeated data message including the sensor data signal from the original data message and a unique second identifier corresponding to the repeating means (125)."

XI. Claim 1 of **auxiliary request 5** comprises all the features of claim 1 of auxiliary request 4 with the only difference that reference signs 125 and 145 associated with the "wireless communication means" have been removed.

XII. Claim 1 of **auxiliary request 6** comprises all the features of claim 1 of auxiliary request 5 with the only difference that the term "wireless communication means" has been replaced with "wireless communication devices".

Reasons for the Decision

1. MAIN REQUEST

The main request corresponds to the set of claims that were considered by the opposition division to meet all the requirements of the EPC.

1.1 *Inventive step (Article 56 EPC)*

The board holds that the subject-matter of claim 1 of the main request is novel but does not involve an inventive step, for the reasons set out below.

1.1.1 *Closest prior art*

The board agrees with the opposition division and the

respondent that **TPO-1** constitutes the most suitable starting point for the assessment of inventive step. This is because TPO-1 relates to the same technical field as the present invention, i.e. remote monitoring and controlling of wireless sensor networks, and has the most features in common with present claim 1. This was not contested by the other parties.

1.1.2 *Distinguishing feature*

It is uncontested that TPO-1 fails to disclose the following feature of present claim 1, labelled as feature (h''''), that specifies that (board's underlining)

- the site controller is configured to map the wireless communication means so as to learn all of the unique addresses and the necessary communication paths of each of the plurality of wireless communication means by issuing a command to document the downstream and upstream addresses for each communication path associated with each of the plurality of wireless communication means and logging the response data from the wireless communication means into appropriate databases.

Thus, the subject-matter of claim 1 is novel over TPO-1 (Article 54 EPC).

1.1.3 *Objective technical problem*

On the basis of distinguishing feature (h'''') relating to a learning procedure as regards the underlying network topology, the opposition division held that the objective technical problem to be solved was "how to automatically acquire the structure of the wireless

network for allowing the proper functioning of the system disclosed in document TPO-1" (see appealed decision, Reasons 25.4). The board takes the objective problem as framed by the respondent, namely "how to provide a wireless communication network [such as described in TPO-1] for monitoring and controlling a plurality of remote devices including sensors via a host computer that conveniently and reliably acquires the structure of the wireless network" (see respondent's letter dated 20 December 2019, page 10, first paragraph).

1.1.4 *Obviousness*

1.1.4.1 Starting from the teaching of **TPO-1**, the skilled reader would conclude from the passage at page 21, lines 20-23 and page 22, lines 7-9 of TPO-1 that it is the "local gateway 210" that is supposed to store and maintain different transceiver/transmitter identities (addresses) in order to later detect those transceivers and transmitters which actually transmitted the received message. Thus, this gateway is supposed to perform administrative network functions in the system of TPO-1.

1.1.4.2 When confronted with the above objective problem, the person skilled in the field of telecommunication networks would have consulted document **E6**, since it is concerned with a learning procedure ("discovery phase") in a wireless sensor network made up of hubs, relays and external modules (hubs 18, relays 16, EMMs 14) via a wide-area network (see abstract and Fig. 1). More particularly, it teaches the use of an automated discovery process, initiated by a controlling workstation, to detect and store the upstream and downstream communication paths (and thus the addresses

of the traversed nodes) as regards the network nodes (see e.g. E6, page 17, lines 14-30; page 18, lines 12-25). Consequently, in order to conveniently and reliably acquire the structure of the underlying wireless network, the skilled person would have simply applied the automatic topology learning procedure to the network system of TPO-1, more specifically, to the local gateway 210 of that system, without exercising any inventive skills. In other words, the skilled person would have incorporated the "C&I network management software 69" of E6 (see page 11, lines 18-21; Figs. 5 and 8), which implements the automatic discovery process, into the "program code" configured for performing the administrative functions associated with the local gateway of TPO-1 (see e.g. page 21, line 20 to page 22, line 2).

1.1.4.3 As to the teaching of E6, the appealed decision states the following in point 25.6.1 of its reasons (board's emphasis):

"The man skilled in the art looking for a solution to the aforementioned problem would come across document E6 which provides a method for automatically acquire [sic] the structure of the wireless network. Document E6 in particular teaches to locate the learning of the routes within the head end data collection system which is implemented by the C&I network management software 69 working in conjunction with the MV-90 platform and MV-COMM 67 (see figure 8). Since document E6 shows in figure 8 the presence of multiple wireless networks (noted with the number 106), it can be deduced that document E6 teaches to centralise the learning procedure within the head end collection system which is located within the fixed network. Since the overall structure of the monitoring

system disclosed in document TPO-1, see figure 10, is basically the same of the one disclosed in E6, see figure 8, the man skilled in the art, faced with the above mentioned technical problem, ***would take the complete centralised solution disclosed in E6*** *and apply it within the system of document TPO-1. He would therefore arrive at a monitoring system where the element which automatically acquires the structure of the wireless network is located within an element of the WAN 230 of figure 10 of document TPO-1. This is in contrast with the claimed subject matter which indicates that the automatic acquisition of the structure of the wireless network is performed within the "site controller", which according to feature (a) and (g) of opposed claim 1 is part of the wireless communication network. Thus the combination of the teachings of document TPO-1 and E6 would lead the man skilled in the art to the implementation of a wireless network which does not comprise all the features present in claim 1.*

The opposition division concedes the fact that reimplementing the learning procedure disclosed in document E6 within the local gateway (i.e. the "site controller") of document TPO-1 could be an alternative, but there is neither an indication nor a hint in either document E6 or TPO-1 that such an alternative would be considered by the man skilled in the art."

In other words, the opposition division considered that the learning procedure according to feature (h'''') was performed by the site controller being part of the wireless network (see claim 1, starting from the preamble: "the wireless communication network comprising: ... a site controller ..."), whereas the "discovery phase" of E6 was centralised within the

"head-end data collection system 20" which was in turn located within the *fixed* network rather than within the *mobile* network of the overall network system. Therefore, the skilled person would apply that learning procedure within a unit of the wide-are network WAN 230 of the system in TPO-1 and, consequently, not within local gateway 210 of TPO-1.

1.1.4.4 The board is not convinced by the very principle of this argument.

- Firstly, it is apparent to the board that the opposition division did not provide any particular technical effect or benefit resulting from the specific *location* or *unit* ("new site controller" as the respondent put it) at which the learning procedure is to be applied, i.e. whether within the fixed or mobile network.
- Secondly, although the relevant discovery process of E6 is evidently performed by a central "head-end data collection system 20" located within the *fixed* network, the board considers that the skilled person, starting from TPO-1, would have applied the relevant learning procedure within "local gateway 210" (i.e. within the *mobile* network) of TPO-1 (see e.g. TPO-1, Figs. 2, 5 and 6), rather than within the fixed wide-area network WAN 230 of TPO-1. This is due to the fact that it is the *local gateway* that is supposed to detect the network devices which actually transmitted the received messages (see point 1.1.4.1 above) and thus to execute the necessary administrative network functions. Hence, the question of "where" such an automatic learning procedure is performed is already answered by the disclosure of TPO-1. Only the "how" is not addressed yet (see the objective

problem defined in point 1.1.3 above). It would be illogical that the skilled person would consult document E6 with the aim of finding a solution to the "how", while at the same time ignoring that TPO-1 has already answered the question of "where" (i.e. at said local gateway).

1.1.4.5 As to the disclosure of E6, the respondent argued that the discovery phase as taught in E6 did not correspond to the learning procedure of feature (h'''') since the addressing of intermediary nodes EMM 14 and relay 16 were based on *physical* rather than *logical* addresses.

However, given that the type of "addresses" is not further defined in feature (h''''), the automatic discovery process of E6 falls perfectly within the terms of the learning procedure according to feature (h'''') of present claim 1.

1.1.4.6 The respondent's arguments submitted in support of inventive step at the oral proceedings before the board may be summarised as follows:

(1) the closest prior art **TPO-1** led away from the application of feature (h'''') since it relied on shifting the administrative functions of the underlying system from the *mobile* sensor network to the *fixed* wide-area network (WAN), referring essentially to page 4, lines 12-23 of TPO-1;

(2) document **E6** failed to disclose feature (h'''') because the administrative functions of E6, including the "discovery phase", were only related to detecting the *availability* of geographically dispersed ("high" or "low" devices) utility meters (such as electricity or heat meters), rather than detecting their *addresses* and communication *paths*

for asymmetric routing in the sense of topology detection, and were performed within the WAN and not the mobile sensor network;

(3) feature (h'''') had in fact a credible technical effect, namely supporting failure management at the site controller by using alternative paths in the event of device failures, thereby resulting in lower costs for the local mobile network.

1.1.4.7 The board is not persuaded by those arguments either, for the following reasons:

- As to the respondent's first argument, the cited passage of TPO-1 in fact indicates the following:

"To achieve the advantages and novel features, the present invention is generally directed to a cost effective method of monitoring and controlling remote devices ... the present invention is directed to a computerized system for monitoring, reporting, and controlling remote systems ... by transmitting information signals to a WAN gateway interface and using applications on a connected server to process the information. Because the applications server is integrated on a WAN, Web browsers can be used ... to view and download the recorded data."

From that teaching the board can only deduce that the retrieved sensor data is stored at a server, i.e. an "application server", that is located within the WAN. The skilled reader would however not infer therefrom that also administrative functions are to be executed by the same server. Consequently, the functions ascribed to the "application server" of TPO-1 cannot be equated

with the functions of the "site controller" according to present claim 1.

- As to the respondent's second argument, the board concurs with the appellant and the interveners that E6 palpably teaches that both device *addresses* and (alternative) *communication paths* are indeed detected by the respective software ("C&I network management software 69") of head-end data collection system 20 (see e.g. page 11, lines 18-21; board's emphasis: *"... the C&I network management software 69 may be used to identify and set up* ***routes*** *for a plurality of EMMs 14 and relays 16 ..."*; page 17, lines 14-16: *"The 'discovery phase', along with the* ***addressing*** *... of each EMM 14 and relay 16 ..."*; page 17, lines 19-26: *"... upon discovery of the device ... the actual sub-channel ... is then used to determine ... EMMs 14 or relays 16 operational* ***address*** *..."*).

- Lastly, as to the respondent's third argument, the board notes, on the one hand, that the exact way of performing failure management is not reflected in present claim 1 and, on the other hand, that E6 likewise encompasses failure management by finding and using alternative communication paths (see page 13, lines 3-7: *"... if an established route between EMMs/relays/hubs fails, C&I network management software 69 utilizes the position location information ... to facilitate a search ... alternate communication routes, and then, establishes those routes."*).

1.2 In view of the foregoing, the main request is not allowable under Article 56 EPC.

2. AUXILIARY REQUESTS

2.1 Given that claim 1 of **auxiliary requests 1 to 6** on file does not add anything of substance (see points VII to XII above), the observations made under Article 56 EPC in point 1.1 above apply *mutatis mutandis* to claim 1 of those auxiliary requests.

2.2 The respondent did not provide any further comments in that regard at the oral proceedings before the board.

2.3 Hence, the present auxiliary requests are likewise not allowable under Article 56 EPC.

3. In conclusion, since there are no allowable claim requests, the opposed patent has to be revoked.

4. *Request for referral of questions to the Enlarged Board*

Since the board is revoking the opposed patent based on lack of inventive step (Article 56 EPC) and since no decision needs to be taken as regards a *res judicata* effect of case T 1817/15, the conditions for referring the questions formulated by the respondent and intervener 3 are not fulfilled (see point V above). The board therefore holds that it is neither necessary nor appropriate to refer those questions to the Enlarged Board of Appeal under Article 112(1)(a) EPC.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The patent is revoked.

The Registrar: The Chair:

K. Götz-Wein A. Ritzka

Decision electronically authenticated