

BESCHWERDEKAMMERN
DES EUROPÄISCHEN
PATENTAMTS

BOARDS OF APPEAL OF
THE EUROPEAN PATENT
OFFICE

CHAMBRES DE RECOURS
DE L'OFFICE EUROPEEN
DES BREVETS

Internal distribution code:

- (A) [] Publication in OJ
(B) [] To Chairmen and Members
(C) [X] To Chairmen

D E C I S I O N
of 25 October 1995

Case Number: T 0136/94 - 3.5.2

Application Number: 85309534.7

Publication Number: 0186524

IPC: H02M 1/14

Language of the proceedings: EN

Title of invention:
Line filter

Patentee:
KABUSHIKI KAISHA TOSHIBA

Opponent:
Siemens AG

Headword:
-

Relevant legal provisions:
EPC Art. 114(2), 111(1)

Keyword:
"Documents introduced on appeal too relevant to be disregarded"
"Remittal to opposition division"

Decisions cited:
G 0009/91, T 0258/84, T 0273/84

Catchword:
-



Europäisches
Patentamt

European
Patent Office

Office européen
des brevets

Beschwerdekammern

Boards of Appeal

Chambres de recours

Case Number: T 0136/94 - 3.5.2

D E C I S I O N
of the Technical Board of Appeal 3.5.2
of 25 October 1995

Appellant:
(Opponent)

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

Representative:

-

Respondent:
(Proprietor of the patent)

KABUSHIKI KAISHA TOSHIBA
72, Horikawa-cho
Saiwai-ku
Kawasaki-shi
Kanagawa-ken 210
Tokyo (JP)

Representative:

Freed, Arthur Woolf
MARKS & CLERK
57-60 Lincoln's Inn Fields
London WC2A 3LS (GB)

Decision under appeal:

Interlocutory decision of the Opposition Division
of the European Patent Office dated 22 November
1993 concerning maintenance of European patent
No. 0 186 524 in amended form.

Composition of the Board:

Chairman: W. J. L. Wheeler
Members: R. G. O'Connell
J.-C. Saisset

Summary of Facts and Submissions

- I. The appellant filed an opposition against European patent No. 0 186 524 and now contests the interlocutory decision of the opposition division that, account being taken of the amendments made during the opposition proceedings, the patent and the invention to which it related met the requirements of the EPC.

The patent as amended before the opposition division has four claims. Claim 1 is worded as follows:

"1. A line filter to be used in an electronic apparatus having an AC input unit and a switching power source unit, comprising a first choke coil (L1) inserted between lines (L,N) at an input side of said line filter, a first X capacitor (Cx1) inserted between the lines (L,N) at a load side of said first choke coil (L1), first Y capacitors (C1,C2) inserted between the lines (L,N) and ground (G) at a load side of said first choke coil (L1), a second choke coil (L2) inserted between the lines (L,N) at the load side of said first Y capacitors (C1,C2), a second X capacitor (Cx2) inserted between the lines (L,N) at the load side of said second choke coil (L2), second Y capacitors (C3,C4) inserted between the lines (L,N) and ground (G) at the load side of said second choke coil (L2), said second choke coil (L2) comprising a balun and having an inductance larger than that of said first choke coil (L1), characterized in that first choke coil (L1) comprises a balun, and in that the total capacitance of said first Y capacitors (C1,C2) is larger than that of said second Y capacitors (C3,C4)."

Claims 2 to 4 are dependent on Claim 1.

II. The following document cited in support of the opposition remains relevant to the present appeal:

D1: US-A-3 996 537.

With the statement of the grounds of appeal, the appellant filed the following additional documents:

D2: US-A-3 683 271;

D3: Siemens, Technische Mitteilung aus dem Bereich Bauelemente "Elektromagnetische Verträglichkeit durch den Einsatz von Entstörfiltern", order no. B/2418, published April 1981, pages 13 and 14; and

D4: Siemens, Technische Mitteilung aus dem Bereich Bauelemente "Schaltnetzteile 3, Funk-Entstörung", order no. B/2303, published October 1980, page 23.

III. Oral proceedings were held on 25 October 1995. Only the appellant attended, the respondent having informed the board beforehand that it would not attend.

IV. The patent has not been further amended during the appeal proceedings.

V. The appellant argued essentially as follows:

The impugned decision concluded that an inventive step was involved over D1 essentially because the latter taught only the use of a single balun for common-mode noise suppression in combination with a non-balun choke coil for differential-mode noise suppression whereas the opposed patent claimed two baluns, each contributing to the suppression of both common and differential-mode noise; cf impugned decision at points 5 and 7.

The new citation D4 (cf page 23, Figure 29) addressed the problem of suppressing common and differential-mode noise and taught a line filter comprising two baluns in the configuration specified in claim 1 of the opposed patent. The only features of claim 1 not disclosed in D4 were (A) that the inductance of the second balun be larger than the inductance of the first balun and (B) that the total capacitance of the first Y capacitors be larger than the total capacitance of the second Y capacitors. No inventive step was implied by these features since they would be arrived at by the person skilled in the art in the course of routine design.

It was part of the common general knowledge in this art that different values of inductance in choke coils or baluns block different frequencies as evidenced by D2 at column 6, line 47 to column 7, line 7, where a wide band of frequency attenuation was achieved by employing two cores of different magnetic materials - and hence inductance - to attenuate lower and higher frequencies respectively. Similar considerations would lead the skilled person to vary the values of the Y-capacitors to optimise suppression of noise having a particular known spectrum.

The appellant further argued that the above mentioned routine design considerations were illustrated in the patent itself at pages 3 to 5 where it was explained that, having adopted the basic configuration, the precise component values for the inductors and capacitors were calculated so as to maximize attenuation in a particular frequency range, eg 50 kHz to 60kHz, depending on the particular application. Such calculations were a routine matter for the skilled person.

The appellant also argued that starting from D1 the skilled person would appreciate that if the noise spectrum was very broad a single balun would not suffice to suppress common-mode noise and he would be therefore led to consider D2, where he would find a suggestion that a dual core balun having different permeabilities to attenuate high and low frequencies was advantageous in achieving broad-band attenuation. Given that such dual core baluns are not staple items of commerce the obvious way to implement the D2 suggestion was to employ two series-connected baluns having different inductances as taught by the opposed patent.

VI. The respondent's arguments can be summarised as follows:

D2, D3 and D4 had not been submitted in due time by the opponent; they should have been filed with the opposition. Since they were in any case not of major relevance the board should disregard them pursuant to Article 114(2) EPC.

If the board should, however, decide to admit these documents the respondent would dispute the appellant's contention that the dimensioning of the inductances and Y-capacitors was a matter of routine design. These features enabled the line filter to avoid a low peak attenuation in the range of 50 kHz to 60 kHz due to a resonance in a low frequency range; this was an important and characteristic effect and it was not seen why it should be suggested that this was a mere design step.

Insofar as the appellant continued to rely on D1 to attack inventive step the respondent adopted the arguments of the impugned decision at points 3, 4, 5 and 7 of the reasons.

VII. The appellant requested that the decision under appeal be set aside and the European patent No. 0 186 524 be revoked (main request), or that the case be remitted to the first instance for further prosecution (auxiliary request).

VIII. The respondent requested that the appeal be dismissed.

Reasons for the Decision

1. The appeal is admissible.
2. There are two main issues to be considered in the present appeal:
 - (i) whether the subject-matter of Claim 1 involves an inventive step over D1, and
 - (ii) if the first question is answered in the affirmative whether D2, D3 and D4 are sufficiently relevant to require consideration despite being filed late.
3. As regards (i) the board has nothing to add to the reasoning of the opposition division at points 3 to 5 and 7 of its decision and for these same reasons finds that the subject-matter of claim 1 involves an inventive step having regard to D1 and common general knowledge in the art. The board notes that the appellant has not maintained an attack on inventive step based on D1 other than in combination with the newly cited D2. Question (i) is therefore answered in the affirmative.

As regards issue (ii), the board notes that even a brief consideration leads to the conclusion that D4 is the closest prior art. Compared to D1 it discloses a feature - a second balun - whose absence from the latter was relied on by the opposition division in the reasoning referred to above. In fact, it appears that D4 discloses the arrangement of first and second baluns, first and second X capacitors and first and second Y capacitors in the configuration specified in claim 1 presently on file. The appellant appears to be correct in pointing out that the only features of claim 1 not disclosed in D4 are (A) that the inductance of the second balun is larger than the inductance of the first balun and (B) that the total capacitance of the first Y capacitors is larger than the total capacitance of the second Y capacitors. For these reasons the board takes the view that D4, although late-filed, is too relevant to be disregarded under Article 114(2) EPC. D2 is of limited relevance alone but is relied on in combination with D4 and as such is also to be admitted into the proceedings. D3 relates to the technological background of balun application and, although not strictly requiring consideration in relation to inventive step assessment it is nevertheless expedient to admit it for its explanatory value.

4. As explained in paragraph 19 of the reasons in the decision of the Enlarged Board of Appeal G 9/91 (OJ EPO, 1993, 408), amendments of the claims of a patent in the course of opposition proceedings are to be fully examined as to their compatibility with the requirements of the EPC.
5. Furthermore, in order not to deprive the parties of the opportunity to argue the new situation at two instances, the board considers it appropriate to make use of its powers under Article 111(1) EPC to remit the case to the

department of first instance for further prosecution, c.f. decisions T 258/84 (OJ EPO, 1987, 119) and T 273/84 (OJ EPO, 1986, 346). For this reason, the appellant's main request is refused and its auxiliary request granted.

6. The board has deliberately refrained from going into the merits of the parties' arguments relating to the choice of values of the components in order not to preempt the consideration of these matters by the department of first instance.

Order

For these reasons it is decided that:

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

The Registrar:



M. Kiehl

The Chairman:



W. J. L. Wheeler

