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The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 16

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KOICHI YAMASAKI

Appeal No. 1997-3996
Application 08/519,952

HEARD: JANUARY 11, 2000

Before JERRY SMITH, FLEMING, and FRAHM, Administrative Patent Judges.

FRAHM, Administrative Patent Judge.

DECISION ON APPEAL

Appellant has appealed to the Board from the examiner's final rejection of claims 1 to 18, which constitute all of the pending claims in the case before us.

BACKGROUND

The subject matter on appeal is directed to a power source circuit for a portable electronic device (i.e., TV, VTR, or phone) having a triangle wave voltage oscillator and a fixed-frequency,

external reference clock signal oscillator which are synchronized in order to prevent beat noise in the circuit (see appellant's Figure 1 and pages 1 to 3 of the specification). As indicated in the specification (see Figure 5 and page 1), power source circuits are known in the art to be used in portable electronic devices for the purpose of stabilizing power source voltage and thus securing the stable operation of the electronic devices. However, appellant's invention of claims 1 to 18 provides several important advantages as stated at the end of appellant's specification (page 17):

In [appellant's] power source circuit, the oscillating operation of the oscillator circuit is synchronized with a reference clock signal of the external circuit. Because of this, the beat noise that is due to the fact that the noise unremovable by smoothing circuits is not synchronized with the reference clock signal can be removed. As a result, no deterioration of the external circuit characteristics, no erroneous operation of the power source circuit, and improvement of the reliability of the power source circuit are ensured. Further, since the oscillator circuit generates a triangle wave voltage, the triangle wave voltage contains [sic] less noise by harmonic components than that of a saw-tooth wave voltage.

As further discussed, infra, we find that appellant's admitted prior art (Figure 5 and pages 1 to 3 of the specification) and the applied references to Komori, Kikuchi, and Driscoll, whether taken singly or in any combination thereof, fail to teach or suggest at least the feature of a power source circuit having an external clock oscillator synchronized with a triangle wave oscillator for preventing beat noise as defined in claims 1 to 18 on appeal.

Representative independent claim 1 is reproduced below:

1. A power source comprising:

an oscillator circuit for outputting a triangle wave voltage;

a pulse width control circuit for comparing the triangle wave voltage outputted from said oscillator circuit with a reference voltage, and for controlling a width of a pulse signal to be outputted in

accordance with a result of the comparison;

a power source for supplying a power voltage;

a switching circuit for switching the power voltage on and off in accordance with the pulse signal outputted from said pulse width control circuit to provide a power output signal;

a smoothing circuit for smoothing the power output signal of said switching circuit, and for applying the smoothed output signal as a constant power source voltage to an external circuit, and as the reference voltage to said pulse width control circuit; and

a reference clock signal source in the external circuit providing a reference clock signal at a fixed frequency to the oscillator circuit,

wherein an oscillating operation of said oscillator circuit is synchronized with the reference clock signal from the circuit.

The following references, along with appellant's admitted prior art of Figure 5 and pages 1 to 3 of the specification, are relied on by the examiner:

Komori	4,590,525	May 20, 1986
Kikuchi	4,630,000	Dec. 16, 1986
Driscoll et al. (Driscoll)	4,812,959	Mar. 14, 1989

Claims 1 to 18 stand rejected under 35 U.S.C. § 103. As evidence of obviousness, the examiner relies upon appellant's admitted prior art in view of Komori, Kikuchi, and Driscoll.

Rather than repeat the positions of appellant and the examiner, reference is made to the Brief and the Answer for the respective details thereof.

OPINION

It is our view, after consideration of the record before us, that the evidence relied upon and the

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level of skill in the particular art would not have suggested to one of ordinary skill in the art the obviousness of the invention as set forth in claims 1 to 18. We also find that any conclusion of obviousness of the invention recited in the claims on appeal would necessarily have involved the improper use of hindsight.

In reaching our conclusion on the issues raised in this appeal, we have carefully considered appellant's specification and claims, the applied references, and the respective viewpoints of appellant and the examiner. As a consequence of our review of the record before us, we find that the applied prior art fails to teach or suggest the feature of representative claim 1 on appeal of a power source circuit having an external clock oscillator synchronized with a triangle wave oscillator. Accordingly, we will reverse the examiner's decision rejecting claims 1 to 18 on appeal as being obvious under 35 U.S.C. § 103.

At the outset, we note that our reviewing court has held that the PTO has the burden to establish a prima facie case of obviousness. In re Fine, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). And, when a rejection depends on a combination of prior art references, the PTO must show that there is some teaching, suggestion, or motivation to combine references. Id.; see also In re Geiger, 815 F.2d 686, 688, 2 USPQ2d 1276, 1278 (Fed. Cir. 1987). The Federal Circuit has stated that "[t]he mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the

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modification." In re Fritch, 972 F.2d 1260, 1266 n.14, 23 USPQ2d 1780, 1783-84 n.14 (Fed. Cir. 1992)(citing In re Gordon, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984)).

"Obviousness may not be established using hindsight or in view of the teachings or suggestions of the inventor." Para-Ordnance Mfg. v. SGS Importers Int'l, Inc., 73 F.3d 1085, 1087, 37 USPQ2d 1237, 1239 (Fed. Cir. 1995)(citing W. L. Gore & Assocs., Inc. v. Garlock, Inc., 721 F.2d 1540, 1551, 1553, 220 USPQ 303, 311, 312-13 (Fed. Cir. 1983)).

We find that the examiner, at pages 3 to 5 of the Answer, has met his burden of establishing a prima facie case of obviousness. However, appellant has successfully rebutted the prima facie case presented by the examiner and has shown that hindsight was used by the examiner in combining the applied prior art in order to reconstruct appellant's invention of claims 1 to 18. Accordingly, we cannot sustain the rejection of claims 1 to 18 under 35 U.S.C. § 103.

In the Answer (page 4), the examiner correctly explains what is taught by appellant's admitted prior of Figure 5 and pages 1 to 3 of the specification and states that the admitted prior art fails to teach "synchronization of the frequencies of the bias oscillators and a reference clock signal source in the external circuit providing a reference clock signal at a fixed frequency to the oscillator unit" (Answer, page 4). The basis for the examiner's statement is flawed because what is actually missing from the admitted prior art to meet representative claim 1 consists of what is actually recited in the claims on appeal. In this case, claim 1 calls for synchronization of the oscillation operation of an oscillator circuit

which outputs a triangle wave voltage and a reference clock signal from an external circuit (see language of representative claim 1 on appeal). A bias oscillator is not required by representative claim 1, and an oscillator that outputs a triangle wave and an external clock oscillator are required.

Komori is very different from claim 1 in that two recording signal internal bias oscillators of a tape recorder are taught as being synchronized. Komori concerns recording signal synchronization of two internal bias oscillators, and not a voltage power source circuit having one internal triangle wave oscillator and one external clock signal oscillator as recited in representative claim 1. Komori also does not teach a triangle wave oscillator as required by Claim 1. In this light, we conclude that it would not have been obvious to modify appellant's admitted prior art power source circuit with the internal bias oscillator synchronization of Komori.

The examiner reasons in his rejection that it would have been obvious to modify the admitted prior art with Komori "in order to prevent beat noises caused by a frequency difference between recording bias oscillating signals of tape recorder sections" (Answer, page 4)(emphasis added). We cannot agree with this line of reasoning when nothing in the claim requires "recording bias oscillating signals of tape recorder sections," and especially when both of Komori's recording sections are internal circuits as opposed to one internal and one external circuit as called for by claim 1. Therefore, we conclude that there is no persuasive motivation provided by the examiner to modify the admitted prior art of Figure 5 with the teachings of Komori absent appellant's disclosure.

Appellant argues that none of the prior art would have suggested the power source circuit of claims 1 to 18 (Brief, pages 18 and 22), and that any reconstruction of the reference disclosures to produce the claimed combination would require knowledge gleaned only from appellant's specification (i.e., hindsight). Appellant asserts that one of ordinary skill in the art would not have been motivated to modify the power source circuit of the admitted prior art with the references to Komori, Kikuchi, and Driscoll since Komori teaches dual-internal recording signal bias oscillators, Kikuchi does not teach a power source circuit or an external oscillator, and Driscoll teaches using a saw-tooth oscillator instead of a triangle wave oscillator. We agree with appellant, and find that the examiner's prima facie case of obviousness has been rebutted.

Once the examiner's prima facie case has been successfully rebutted, it is the examiner's responsibility to respond to appellant's rebuttal. In this case, the examiner's response is in his "Response to Argument" section of the Answer (Answer, page 6). Our careful review of page 6 of the Answer reveals that other than to make generalizations about the state of the law with respect to obviousness rejections, the examiner has failed to answer any of appellant's specific arguments with respect to the motivation for combining the applied prior art and the disparate teachings of the four applied references. Specifically, the examiner has failed to address the fact that Komori concerns two internal recording signal bias oscillators, Kikuchi concerns quartz and voltage controlled oscillators which are not even in a power source circuit, and Driscoll concerns a variable sawtooth wave form

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instead of the triangle wave form required by claim 1. Thus, we agree with appellant (Brief, page 22) that there would have been no motivation for one of ordinary skill in the art to prevent beat noise in a power source circuit by synchronizing an external clock oscillator with an internal triangle wave oscillator, and that to have done so would have involved the use of hindsight. The examiner has not demonstrated otherwise.

Although we find that the examiner originally set forth a prima facie case of obviousness, we must agree with appellant that the examiner's motivation for making the modification, that of curing beat noise problems associated with internal recording signal bias oscillators, is not specifically taught or suggested by the applied references. In addition, the disparate teachings of the references pointed out by appellant have not been sufficiently dealt with by the examiner. Thus, we find that appellant has successfully rebutted the examiner's prima facie case, and we will reverse the rejection.

In view of the foregoing, the decisions of the examiner rejecting claims 1 to 18 under 35 U.S.C. § 103 are reversed.

REVERSED

JERRY SMITH)
Administrative Patent Judge)

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MICHAEL R. FLEMING
Administrative Patent Judge

ERIC FRAHM
Administrative Patent Judge

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