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katelyn.mulroy@philips.com
marianne.fox@philips.com
patti.demichele@Philips.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte CHRISTOPH HERRMANN

Appeal 2019-000765
Application 15/502,788
Technology Center 2800

Before ROMULO H. DELMENDO, MARK NAGUMO, and LILAN REN,
Administrative Patent Judges.

DELMENDO, *Administrative Patent Judge.*

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), the Appellant¹ appeals from the Primary Examiner’s final decision to reject claims 1–5, 12, 13, and 20.^{2, 3}

We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42 and as listed in the Application Data Sheet filed February 9, 2017 (namely, “KONINKLIJKE PHILIPS N.V.”). The Appellant is also identified as the real party in interest (Appeal Brief filed April 27, 2018 (“Appeal Br.”) at 2).

² Claims 6–11 and 14–19 were also subject to final rejection (Final Action entered December 11, 2017 (“Final Act.”) at 6, 9, 13), but the rejections against these claims have been withdrawn (Examiner’s Answer entered September 11, 2018 (“Ans.”) at 3).

³ See Appeal Br. 4–5, 6–7; Reply Brief filed November 7, 2018 (“Reply Br.”) at 2–4; Final Act. 3–6, 10–12; Ans. 2–3.

terminal **208₁–208₃**; and a plurality of reference signal generators **212₁–212₃**, each in electrical communication with the second input terminals **206₁–206₃**, respectively (Spec. 6, ll. 19–34). The Specification explains that each reference signal generator **212₁–212₃** “can generate, alternatively, one of a plurality of different reference signals, independent of the other reference signal generators” and that “[t]he reference signals, similar to the pulse generated by the pulse shaper **116**, are electrical signals *such as voltages, currents, etc.*” (*id.* at 7, ll. 1–4 (bolding and italicization added)).

Representative claim 1 is reproduced from the Claims Appendix to the Appeal Brief, as follows:

1. A detector array signal processor of an imaging system, comprising:
 - a discriminator, including:
 - a set of comparators;
 - a window width generator that is configured to generate a window width for a window based spectrum measurement; and
 - a set of reference signal generators, each corresponding to a different one of the comparators, which are configured to generate different reference signals;***
 - wherein, in response to the discriminator being in a window based spectrum measurement mode, a first reference signal generator for a first comparator is configured to generate a first reference signal that is supplied to the first comparator and that is added with the window width to create a second reference signal, which is to be supplied to the second comparator,
 - wherein the first comparator is configured to compare a peak height of a pulse indicative of an energy of detected radiation with the first reference signal and to produce a first output indicating which of the peak height or the first reference signal is greater; and
 - wherein the second comparator is configured to compare the peak height with the second reference signal and to produce

a second output indicating which of the peak height or the second reference signal is greater.

(Appeal Br. 8 (emphases to the disputed limitations added)).

II. REJECTIONS ON APPEAL

The Examiner maintains several rejections under 35 U.S.C. § 103, as follows:

- A. Claims 1–3 as unpatentable over Xie et al.⁴ (“Xie”) and Kawai;⁵
- B. Claims 4, 5, and 12 as unpatentable over Xie, Kawai, and Pelc;⁶
and
- C. Claims 13 and 20 over Xie, Kawai, Pelc, and Kim et al.⁷
 (“Kim”).

(Ans. 2–3; Final Act. 3–6, 10–12).

III. DISCUSSION

1. *Grouping of Claims*

Except for claim 20, the Appellant relies on the same arguments for all claims on appeal, focusing only on independent claim 1 (Appeal Br. 4–5, 6–7). Therefore, we decide this appeal on the basis of claims 1 and 20 only, with claims 2–5, 12, and 13 standing or falling with claim 1. *See* 37 C.F.R. § 41.37(c)(1)(iv).

⁴ US 2005/0247879 A1, published November 10, 2005.

⁵ US 5,200,625, issued April 6, 1993.

⁶ US 2015/0168570 A1, published June 18, 2015.

⁷ US 2014/0185760 A1, published July 3, 2014.

2. *The Examiner's Position*

The Examiner finds that Xie describes a discriminator including a set of comparators, a window width generator, and a set of reference signal generators configured to generate different reference signals (Final Act. 3–4). The Examiner finds that Xie is “silent” with respect to the limitations recited in claim 1’s first “wherein” clause (*id.* at 4). To bridge this gap, the Examiner relies on Kawai and then concludes that a person having ordinary skill in the art would have found it obvious to combine Xie and Kawai in the manner claimed by the Inventor (*id.*).

3. *The Appellant's Contentions*

The Appellant does not dispute the Examiner’s findings concerning Kawai’s teachings or the reasoning in support of the combination of Kawai with Xie (Appeal Br. 4). Rather, the Appellant’s argument is that “Xie discloses a *single* voltage source V_O that generates the voltage V_O for all of the comparators **204-1 – 204-5**” (bolding added for drawing reference numerals) and, therefore, “Xie does not disclose or suggest a *set* of voltage source *generators* V_O , each corresponding to a different one of the comparators” (*id.*).

4. *Opinion*

The Appellant’s arguments lack discernible merit and, therefore, fail to identify reversible error in the Examiner’s rejection. *In re Jung*, 637 F.3d 1356, 1365 (Fed. Cir. 2011).

Contrary to the Appellant’s belief, claim 1 does not require multiple voltage sources. Instead, claim 1 merely requires “a set of reference signal generators, each corresponding to a different one of the comparators” (Appeal Br. 8). Indeed, the current Specification broadly describes the

reference signals to be “electric signals such as voltages, currents, etc.” (Spec. 7. ll. 3–4). Under the broadest reasonable interpretation consistent with the Specification, we find that Xie describes the disputed limitations highlighted above in reproduced claim 1. *In re ICON Health & Fitness, Inc.*, 496 F.3d 1374, 1379 (Fed. Cir. 2007).

Specifically, Xie describes a device for use in digitizing gamma ray energy in positron emission tomography (PET) including, *inter alia*, a plurality of comparators, each being coupled to receive a PET voltage pulse on a first input and a first reference voltage on a second input (Xie ¶¶ 2, 9). Xie’s Figure 5 (some additional annotations added) is illustrative and is reproduced, as follows:

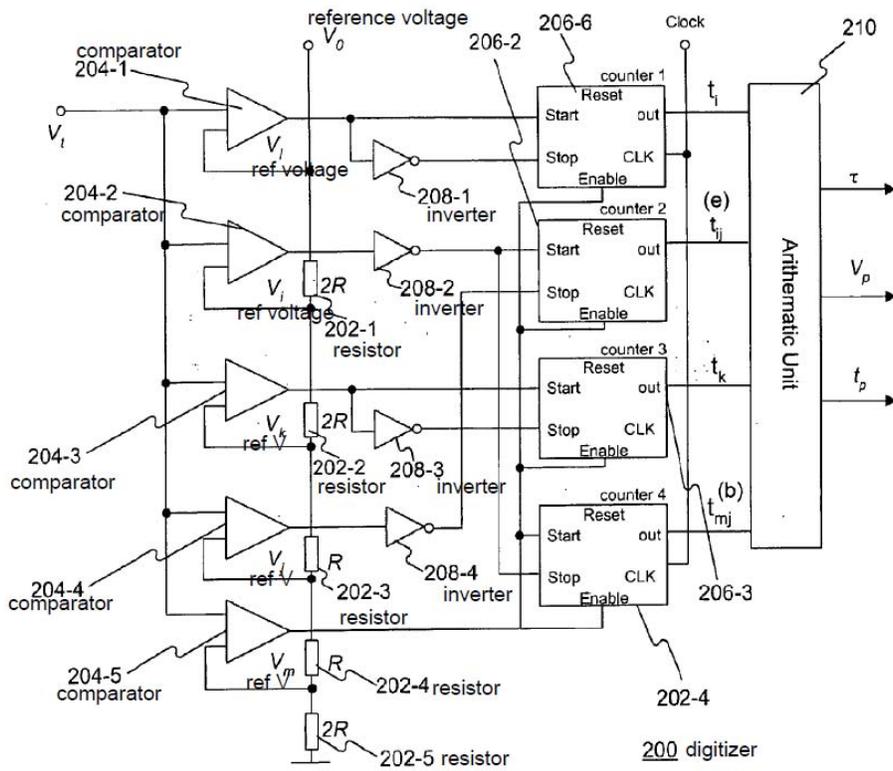


Fig. 5

Xie's Figure 5 above depicts a digitizer **200** including, *inter alia*, a set of five comparators **204-1–204-5**, wherein *variable* or non-variable resistors **202-1–202-5** are coupled in series between an input for receiving the reference voltage V_O and ground (*id.* ¶ 44–47). As the Examiner finds (Ans. 2), Xie teaches that five reference voltages V_l , V_i , V_k , V_j , and V_m are generated using simple resistive voltage dividers formed by the series connection of resistors **202-1–202-5** to the second inputs of the comparators **204-1–204-5** (Xie ¶ 46; *see also id.* Fig. 4). For example, Xie teaches that the resistance values of resistors **202-1** and **202-2** are twice the values of resistors **202-3**, **202-4**, and **202-5** (*id.* ¶ 45).

Under these circumstances, we agree with the Examiner that Xie teaches the disputed claim limitations as the reference discloses configurations that are at least capable of generating different voltages or currents using variable resistors and a single reference voltage V_O . Accordingly, we sustain the rejection as maintained against claim 1.

With respect to method claim 20, the claim recites, in relevant part: “wherein the set of reference signals consists of a plurality of different reference signals” (Appeal Br. 12). The Appellant argues that “Xie discloses a set of variable resistors that set the voltage for one of a set of comparators” and that “[e]ach comparator receives a single voltage from a single resistor” (*id.* at 6). For the same reasons discussed for claim 1, we find the Appellant's argument in support of claim 20 to be unpersuasive. Although Xie teaches that the resistors “may be selected” to satisfy a certain relationship in a particular embodiment (Xie ¶ 47), Xie also teaches that the resistors **202-1–202-5** “may be *any* resistors, variable or non-variable, programmable or non-programmable” (*id.* (emphasis added)).

For these reasons, and those well-stated by the Examiner, we uphold the Examiner's rejections.

IV. CONCLUSION

In summary:

Claims Rejected	35 U.S.C. §	Evidentiary Basis	Affirmed	Reversed
1-3	103	Xie, Kawai	1-3	
4, 5, 12	103	Xie, Kawai, Pelc	4, 5, 12	
13, 20	103	Xie, Kawai, Pelc, Kim	13, 20	
Overall Outcome			1-5, 12, 13, 20	

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED