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Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO. Includes details for application 14/829,693, inventor Shojirou KIDO, and examiner LIU, LI.

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte SHOJIROU KIDO

Appeal 2018-009077
Application 14/829,693
Technology Center 2600

BEFORE CAROLYN D. THOMAS, ADAM J. PYONIN, and
SCOTT RAEVSKY, *Administrative Patent Judges*.

RAEVSKY, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision to reject claims 1–3, 5, 6, and 11. Claim 4 is canceled; claims 7–10 are withdrawn. *See* App. Br. 18–20 (Claims Appendix). 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(a). Appellant identifies the real party in interest as Panasonic Intellectual Property Management Co., Ltd. Appeal Br. 2.

CLAIMED SUBJECT MATTER

The claims are directed to a visible light communication device. *See* Spec., Abstract. Claim 1, reproduced below, is illustrative of the claimed subject matter (emphasis added):

1. A visible light communication device comprising:
a light source unit configured to emit visible light for visible light communication; and
a control circuit that generates an original signal of the visible light to be emitted by the light source unit, wherein the control circuit generates the original signal that includes a payload part, a Cyclic Redundancy Check (CRC) part, and a recognition part, the payload part including identification information identifying the visible light communication device, the CRC part being determined according to data indicated in the payload part, and the recognition part being arranged immediately subsequent to the CRC part, and *in the recognition part, a time-series pattern including a bright state where the light source emits the visible light and a dark state where the light source does not emit the visible light has² a pattern not complying with Inverted 4-ary Pulse Position Modulation (I-4PPM) coding rule of CP-1223 standard.*

REJECTIONS

Claims 1–3, 5, 6, and 11 rejected under 35 U.S.C. § 112(a) or 35 U.S.C. § 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement. Final Act. 8.

Claims 1–3 stand rejected under 35 U.S.C. § 103 as being unpatentable over Murayama (US 2013/0343762 A1, Dec. 26, 2013) and Balasubramanian (US 5,557,634, Sept. 17, 1996). *Id.* at 9.

² This phrase appears to be missing a word such as “and” before the word “has.”

Claim 5 stands rejected under 35 U.S.C. § 103 as being unpatentable over Murayama, Balasubramanian, and Knapp (US 2013/0183042 A1, July 18, 2013). *Id.* at 12.

Claim 6 stands rejected under 35 U.S.C. § 103 as being unpatentable over Murayama, Balasubramanian, and Ryan (US 2015/0147067 A1, May 28, 2015). *Id.* at 13.

Claim 11 stands rejected under 35 U.S.C. § 103 as being unpatentable over Murayama, Balasubramanian, and Knapp.³ *Id.* at 14.

Claims 1–3 also stand rejected under 35 U.S.C. § 103 as being unpatentable over Murayama, Freitas, and Hermann (US 2008/0231434 A1, Sept. 25, 2008). *Id.* at 17.

Claim 6 stands rejected under 35 U.S.C. § 103 as being unpatentable over Murayama, Freitas, Hermann, and Ryan (US 2015/0147067 A1, May 28, 2015). *Id.* at 21.

Claims 5 and 11⁴ also stand rejected under 35 U.S.C. § 103 as being unpatentable over Murayama, Freitas, Hermann, and Knapp. *Id.* at 20–22.

We review the appealed rejections for error based upon the issues identified by Appellant and in light of the arguments and evidence produced thereon. *Ex parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential).

³ The Final Action states that claim 11 is rejected under Murayama, Balasubramanian, and Ryan but applies Knapp instead of Ryan. Final Act. 16.

⁴ The Final Action also states that claim 11 is rejected under Murayama, Freitas, Hermann, and Ryan but applies Knapp instead of Ryan. Final Act. 25.

ANALYSIS

Rejections under § 112

The Examiner rejects claims 1 and 11, finding the phrase “the recognition part . . . has a pattern not complying with Inverted 4-ary Pulse Position Modulation (I-4PPM) coding rule of CP-1223 standard” lacks written description support in the original disclosure. Final Act. 8–9. The Examiner finds, “according to the original disclosure, the recognition part has a pattern [that] does not comply with 4PPM coding rule of CP-1223 standard. The original disclosure does not state that the recognition part has a pattern not complying with Inverted 4-ary Pulse Position Modulation (I-4PPM) coding rule of CP-1223 standard.” *Id.*

The originally filed Specification discloses a “preamble has a pattern that cannot be generated by coding according to 4-ary Pulse Position Modulation (4PPM) coding rule, in other words, a pattern not complying with 4PPM coding rule.” Spec. 9:24–10:2. During prosecution, Appellant amended the Specification to read, “the preamble has a pattern that cannot be generated by coding according to Inverted 4-ary Pulse Position Modulation (~~4PPM~~) (I-4PPM) coding rule, in other words, a pattern not complying with ~~4PPM~~ I-4PPM coding rule.” February 10, 2017 Amdt. (“Amdt.”), 2.⁵

On appeal, Appellant argues its amendment was to correct an “obvious error.” App. Br. 5. Appellant relies on *In re Oda*, asserting “[a]n amendment to correct an obvious error does not constitute new matter where one skilled in the art would not only recognize the existence of the error in

⁵ Appellant similarly amended other portions of the Specification. Amdt. 2–3.

the specification but also recognize the appropriate correction.” *Id.* (citing *In re Oda*, 443 F.2d 1200 (CCPA 1971); MPEP § 2163.07). According to Appellant, the original disclosure of 4PPM, rather than I-4PPM, was obvious error because “the coding rule of CP-1223 standard is not 4-ary Pulse Position Modulation, as that sentence stated, but Inverted 4-ary Pulse Position Modulation (I-4PPM).” App. Br. 5. Appellant reproduces a page purportedly from the CP-1223 standard (in Japanese) and asserts the following:

The English translation of section 5.3 is as follows:

5.3 Transmission method

As a coding method of modulating the intensity of visible light which is a carrier wave, logically inverted 4-ary Pulse Position Modulation (4PPM) is used. Such a modulation method is called I-4PPM (Inverted 4PPM).

Id. at 6–7 (citing <http://www.jeita.or.jp/japanese/standard/book/CP-1223/#page=7>). Appellant concludes that in light of this translation, “[o]ne skilled in the art would not only recognize the existence of this error in the specification but also recognize the appropriate correction.” *Id.* at 7.

Appellant also contests the Final Action’s characterization of the Specification’s Figure 5 as “clearly an Inverted-4PPM.” *Id.* at 8 (citing Final Act. 3–6). Appellant asserts that CP-1223 defines I-4PPM in a certain way and asserts that the pattern shown in Figure 5 is not compliant with I-4PPM. *Id.* at 8–9.

In the Answer, the Examiner finds, “[t]he CP-1223 standard does not state that all fields are in I-4PPM, some fields are in 4PPM.” Ans. 22 (citing *JEITA CP-1223 Visible Light Beacon System*, 6). “That is,” the Examiner finds, “according to CP-1223, some fields [are] complying with 4PPM and

some fields are according to . . . I-4PPM.” *Id.* Appellant does not dispute this finding, as Appellant did not file a Reply Brief. Further, the Examiner also finds, and Appellants do not dispute, that the foreign application (JP 2014-183714) upon which Appellant relies for priority “also clear[ly] states that the preamble and A1 field are not complying with 4PPM coding rule.” *Id.*

At the outset, we agree with Appellant that an amendment to correct an obvious error does not constitute new matter where one skilled in the art would not only recognize the existence of the error in the specification, but also recognize the appropriate correction. *See Oda*, 443 F.2d at 1205–1206. Where we disagree with Appellant is in the application of *Oda* to the present case. In *Oda*, the appellant produced an affidavit from a qualified chemist showing that the passage at issue in the written description was “obviously in error.” *Id.* Based on this evidence, the court concluded that one of ordinary skill in the art would have “appreciate[d] not only the existence of error in the specification but what the error is.” *Id.* at 1206. The court also found there was “adequate evidence in the record to show that the error . . . was a translation error” from an earlier-filed application, based on a reissue oath and affidavit. *Id.*

Unlike *Oda*, Appellant here presents no affidavit or declaration evidence to support its assertions. Instead, Appellant reproduces a page in Japanese, allegedly from the CP-1223 standard, provides an alleged translation without evidentiary support (such as a declaration attesting to its authenticity), and asserts that Figure 5 of the Specification is not compliant with I-4PPM, again without evidentiary support. Attorney argument is not evidence. *In re Pearson*, 494 F.2d 1399, 1405 (CCPA 1974). And

counsel's argument "cannot take the place of evidence lacking in the record." *Estee Lauder Inc. v. L'Oreal, S.A.*, 129 F.3d 588, 595 (Fed. Cir. 1997). Moreover, in view of the Examiner's undisputed finding that CP-1223 also refers to 4PPM (Ans. 22), one of ordinary skill in the art would not have appreciated that there was an obvious error in the Specification and claims and that the Specification and claim amendments were the appropriate corrections. *See Oda*, 443 F.2d at 1206.

We, therefore, sustain the Examiner's § 112 rejection of claims 1–3, 5, 6 and 11.

Rejections under § 103

The Examiner rejected independent claim 1 under two separate combinations: (1) Murayama and Balasubramanian and (2) Murayama, Freitas, and Hermann.⁶ Final Act. 9, 17. We address each in turn.

I. Rejection over Murayama and Balasubramanian

Appellant contends Murayama and Balasubramanian fail to teach or suggest claim 1's "in the recognition part, a time-series pattern including a bright state where the light source emits the visible light and a dark state where the light source does not emit the visible light." App. Br. 10–11 (emphasis omitted). Initially, Appellant argues "the CF [closing flag] disclosed by Balasubramanian is a bit sequence '01111110' [that] complies

⁶ We note, "the examiner should . . . avoid an unnecessary number of rejections over similar references. The examiner is not called upon to cite *all* references that may be available, but only the 'best.' . . . Multiplying references, any one of which is as good as, but no better than, the others, adds to the burden and cost of prosecution and should therefore be avoided." MPEP § 904.03.

with Inverted 4-ary Pulse Position Modulation coding rule because in each of the first four bits ‘0111’ and the next four bits ‘1110,’ only one of the four consecutive bits is 0.” *Id.* at 10.

The Examiner finds, “[t]he modulation schemes used by Balasubramanian are: ASK, NRZI etc., but not the 4PPM. And more, Balasubramanian does not state that the ‘0111’ is used to encode two message bits (e.g., ‘00’ etc.)” Ans. 23. The Examiner finds that Balasubramanian’s bit sequence “is based on IBM’s SDLC protocol,” not “a PPM or I-PPM coding rule.” *Id.* Appellant does not challenge this finding, as Appellant did not file a Reply Brief. Arguments not made are waived. Accordingly, we do not find error in the Examiner’s reasonable findings regarding Balasubramanian’s CF not complying with 4PPM or I-4PPM.

Further, Appellant contends Balasubramanian discloses an “infrared (IR) data link, not the bright and dark states of visible light of claim 1.”

App. Br. 11. Appellant also contends Murayama discloses

superimposition of data on spatial light through modulation of a carrier wave, again, not the bright and dark states of visible light of claim 1[.] In fact, Murayama is explicit [i]n paragraph 58 that “the PPM circuit is to irradiate visible light having constant luminance, irrespective of the data to be transmitted.”

Id.

The Examiner finds with respect to Balasubramanian, “[a]n IR light source can have a bright state when it emits light although a human eye does not see it, and a dark state when it does not emit light.” Ans. 24. With respect to Murayama, the Examiner finds, “Murayama clearly discloses a visible light communications.” *Id.* at 25. According to the Examiner, “[t]he

combination of Murayama and Balasubramanian reads on the claimed limitations.” *Id.* at 24.

We agree with the Examiner. Appellant’s arguments attacking Murayama and Balasubramanian in isolation do not persuasively challenge the underlying factual findings made by the Examiner, which are based upon the combined teachings and suggestions of the cited references. One cannot show non-obviousness by attacking references individually, where the rejections are based on combinations of references. *In re Merck & Co., Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986).

Appellant next attacks the rationale to combine Murayama and Balasubramanian. App. Br. 12. Appellant asserts, “it is not clear why the system of Murayama, unmodified, would have a problem with recognizing the end of the frame or recognizing the CRC.” *Id.* Appellant further asserts, “[t]he system of Murayama as disclosed seems perfectly capable of recognizing the end of the frame or recognizing the CRC as most transmission systems in the art do.” *Id.*

The Examiner finds, and we agree, “Murayama discloses a CRC near the end of the frame, but a receiver needs to know the length of CRC. A close flag (CF) can clearly indicate the end of the CRC and the end of a frame.” Ans. 27. The Examiner further finds, “[w]hen the receiver detects the CF, the CRC can be conveniently recognized and the length of the CRC can be determined, and also the frame length can be determined.” *Id.* Appellant’s argument that Murayama “seems perfectly capable of recognizing the end of the frame” is conclusory and, in any event, unpersuasively addresses the Examiner’s contention that Balasubramanian’s closing flag “can clearly indicate the end of the CRC.” *See id.*; App. Br. 12.

Accordingly, we sustain the Examiner's rejection of claim 1 in view of Murayama and Balasubramanian.

II. Rejection over Murayama, Freitas, and Hermann

Appellant also contends Murayama, Freitas, and Hermann fail to teach or suggest the same limitation of claim 1 discussed above. App. Br. 12–13. For example, as with Balasubramanian, Appellant asserts Freitas “discloses an infrared (IR) data link,” not the “bright and dark states of visible light of claim 1.” *Id.* at 13. But, as before, the Examiner relies on Murayama for “clearly disclos[ing] a visible light communications.” Ans. 28. The Examiner relies on Freitas for disclosing that “[a]n IR light source can ha[ve] a bright state when it emits light although a human eye does not see it, and a dark state when it does not emit light.” *Id.* Specifically, Freitas discloses an “infrared (IR) data link” using “on-off pulsing,” where “modulation is preferably on-off.” Freitas, 4:7–8, 5:25, 37. Appellant's arguments attacking the references individually are again unpersuasive.

Appellant also argues against the Examiner's finding of design choice with respect to Freitas. App. Br. 13–14. In the Final Action, the Examiner finds, “although Freitas et al[.] doesn't specifically disclose the time-series pattern of the trailer part can have a pattern not complying [with] I-4PPM coding rule of CP-1223 standard, such limitation are merely a matter of design choice and would have been obvious in the system of Murayama and Freitas.” Final Act. 18. Appellant contends the Examiner “provides nothing more than conclusory statements.” App. Br. 14. Further, Appellant contends,

as in *Zimmer* and *In re Gal*, the structure of the recognition part of claim 1 (“a time-series pattern . . .”) and the function it performs (allowing the recognition part to be easily

recognizable from the other fields in the original signal) . . . are different from the prior art.

Id. at 14–15 (citing Spec. 11:21–12:18; *Zimmer, Inc v. Bonutti Skeletal Innovations, LLC*, IPR2014-01078; *In re Gal*, 980 F.2d 717, 719 (Fed. Cir. 1992)).

Although Appellant’s design choice argument may have merit, the Examiner additionally finds that Hermann discloses “a frame can have a recognition part . . . which may have 7 bits (EOF) or 9 bits (ACK+EOF), which is not complying with [I-4PPM].” Ans. 29; *see also* Final Act. 19. Appellant’s only argument against Hermann contends that Hermann “appears to disclose nothing regarding a ‘bright state . . . and a dark state.” App. Br. 15. Thus, regardless of whether Appellant’s design choice argument has merit, Appellant ignores the Examiner’s reliance on Hermann for the same limitation (non-compliance with I-4PPM). Accordingly, Appellant’s argument attacking the references individually is unpersuasive.

Finally, Appellant contends one of ordinary skill in the art would not have combined Murayama, Freitas, and Hermann. App. Br. 16. But as above, Appellant makes the conclusory argument that “[t]he system of Murayama as disclosed seems perfectly capable of recognizing the end of the frame or recognizing the CRC as most transmission systems in the art do.” *Id.* The Examiner finds, Freitas’s “trailer field . . . is normally used to indicate the starting or ending position of a frame. By using the trailer field or ‘delimiter,’ the CRC can be easily recognized.” Ans. 29. Thus, for similar reasons as those set forth above under the Murayama-Balasubramanian combination, Appellant’s argument is unpersuasive.

Thus, we sustain the Examiner’s rejection of claim 1 in view of Murayama, Freitas, and Hermann.

Accordingly, we sustain the Examiner’s obviousness rejections of claim 1. Appellant’s arguments regarding the rejection of independent claim 11 rely on the same arguments as for claim 1, and Appellant does not argue separate patentability for the dependent claims. *See* App. Br. 11, 16. We therefore also sustain the Examiner’s rejection of claims 2–3, 5, 6, and 11. *See* 37 C.F.R. § 41.37(c)(1)(iv) (2013).

CONCLUSION

In summary:

Claims Rejected	35 U.S.C. §	Basis	Affirmed	Reversed
1–3, 5, 6, 11	112	Written Description	1–3, 5, 6, 11	
1–3	103	Murayama, Balasubramanian	1–3	
5	103	Murayama, Balasubramanian, Knapp	5	
6	103	Murayama, Balasubramanian, Ryan	6	
11	103	Murayama, Balasubramanian, Knapp	11	
1–3	103	Murayama, Freitas, Hermann	1–3	
6	103	Murayama, Freitas, Hermann, and Ryan	6	
5, 11	103	Murayama, Freitas, Hermann, Knapp	5, 11	
Overall Outcome			1–3, 5, 6, 11	

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED