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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ROY SHOR, ORI GOREN, AVRAHAM HORN,
YAEL KAHIL, and SHAY SHPRITZ¹

Appeal 2018-006497
Application 14/899,137
Technology Center 2400

Before JAMES R. HUGHES, ERIC S. FRAHM, and
MATTHEW J. McNEILL, *Administrative Patent Judges*.

McNEILL, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 1–11 and 13–18, which are all the claims pending in this application.² We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

¹ According to the Appellants, the real party in interest is NXP Semiconductors. App. Br. 3.

² Claims 12 and 19 have been canceled. Amendment filed July 14, 2017; Amendment filed December 17, 2015.

STATEMENT OF THE CASE

Introduction

Appellants' application relates to data streaming in a base station in a mobile communication system. Spec. 1:6. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A method of interfacing in a base station in a mobile communication system, the base station comprising radio units and at least one controller unit for controlling the radio units, different types of the radio units including at least one radio equipment unit coupled to at least one antenna and at least one radio equipment controller unit for controlling the radio equipment unit, the radio units having a common public radio interface for streaming data samples and control data arranged in lanes corresponding to antenna signals and a serial interface for transferring packets separate from the common public radio interface, the method comprising:

transferring, between a first radio unit and a further unit, selected control data arranged in packets via the serial interface, the selected control data corresponding to control data streamed between the first radio unit and a preceding radio unit via the common public radio interface;

in the first radio unit, arranging in packets the selected control data to be transmitted via the serial interface to the further unit, bypassing processing of the control data in the first radio unit;

receiving an interrupt packet by an interrupt unit in the first radio unit or the further unit, the interrupt unit triggering further processing of the selected control data upon receipt of the interrupt packet; and

in the further unit, processing the selected control data arranged in packets received via the serial interface.

*The Examiner's Rejections*³

Claims 1 and 3 stand provisionally rejected under the non-statutory doctrine of obviousness-type double patenting over claims 1, 3, 11, and 12 of US App. No. 14/899,132 in view of Sakama (US 2008/0089689 A1; Apr. 17, 2008).⁴

Claims 1, 3, 14, and 16–18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Evans et al. (US 2012/0057572 A1; Mar. 8, 2012), Sakama, and Murphy et al. (US 2011/0050618 A1; Mar. 3, 2011).

Claims 2, 4, and 10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Evans, Sakama, Murphy, and Take (US 2013/0051329; Feb. 28, 2013).

Claims 5 and 11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Evans, Sakama, Murphy, and Shih et al. (US 2007/0143579 A1; Jun. 21, 2007).

Claim 6 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Evans, Sakama, Murphy, and Kashyap (US 2009/0016217 A1; Jan. 15, 2009).

³ The Examiner's rejection under 35 U.S.C. § 112(a) has been withdrawn and is therefore not before us on appeal. Ans. 2.

⁴ Although the Final Action from which Appellants appeal identifies "copending Application No. 14899137" as the basis for the double patenting rejection, this is clearly a mistake. *See* Final Act. dated Oct. 11, 2017, at 4. Appellants acknowledge that it is US App. No. 14/899,132 that is the basis for the rejection (*see* App. Br. 3), and an earlier Non-Final Action names the '132 application in rejecting claims 1 and 3. Non-Final Act., dated May 11, 2017, at 3.

Claim 7 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Evans, Sakama, Murphy, Kashyap, and Eiriksson (US 7,831,745 B1; Nov. 9, 2010).

Claim 8 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Evans, Sakama, Murphy, and Abdelilah et al. (US 2005/0188129 A1; Aug. 25, 2005).

Claim 9 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Evans, Sakama, Murphy, and Singh et al. (US 2012/0151537 A1; Jun. 14, 2012).

Claim 13 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Evans, Sakama, Murphy, and Rawlings et al. (US 4,200,930; Apr. 29, 1980).

Claim 15 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Evans, Sakama, Murphy, and Kelleher et al. (US 2011/0164624 A1; Jul. 7, 2011).

ANALYSIS

The Obviousness Rejections

The Examiner finds the combination of Evans, Sakama, and Murphy discloses all the limitations of claim 1, including that Evans teaches “the radio units having a common public radio interface for streaming data samples and control data . . . and a serial interface for transferring packets separate from the common public radio interface” and “transferring, between a first radio unit and a further unit . . . , selected control data arranged in packets via the serial interface . . . , the selected control data corresponding to control data streamed between the first radio unit and a preceding radio

unit via the common public radio interface.” Final Act. 7–9. Appellants contend “Claim 1 recites two interfaces: a common public radio equipment interface (CPRI) for streaming data samples and a serial interface for transferring packets,” but “Evans et al. only shows streaming data samples between radio units using CPRI.” App. Br. 10. Appellants have persuaded us of Examiner error.

Claim 1 recites both “a common public radio interface” and “a serial interface . . . separate from the common public radio interface” for each radio unit in a base station in a method that includes “transferring, between a first radio unit and a further unit, selected control data arranged in packets via the serial interface, the selected control data corresponding to control data streamed between the first radio unit and a preceding radio unit via the common public radio interface.” Thus, claim 1 requires the “first radio unit” to include two different interfaces—the “common public radio interface” and the “serial interface”—because the different language used to introduce the respective interfaces in claim 1, as well as the related description in the Specification, indicate that the “common public radio interface” and the “serial interface” are different interfaces. For example, the Specification provides the following:

The connection for data samples and control data between the RE and REC can be through the streaming CPRI interface. Separate controllers may be added to such a chain and may be coupled via a further serial interface. For example, a separate controller may further be connected to the primary REC through a serial interface for transferring control data in packets, such as the high speed serial Rapid Input Output (sRIO) interface. Radio equipment units (RE) and further REC units may be chained, and may also have the additional serial interface separate from the CPRI. It is noted that although *CPRI* and *sRIO* are used as

examples for elucidating the proposed system below having both a streaming interface and a separate packet based serial interface, other data streaming interfaces and/or packet based serial interfaces may also be used. For example PCI Express is a well known example of such a packet based serial interface.

Spec. 3:21–31 (emphasis added).

The Examiner cites Evans’s “serial data link 26” shown in Figure 2 for disclosing the claimed “common public radio interface” and “serial interface.” *See* Final Act. 7–8; Ans. 18–19. As shown in Evans’s Figure 2, link 26 is actually comprised of two links, 26-1 and 26-2, both of which connect to RE 24-1. Evans ¶ 51; Fig. 2. The Examiner, however, has not shown that Evans describes RE 24-1 as having two different interfaces for connecting to links 26-1 and 26-2. Rather, Evans describes link 26 in general as comporting with the CPRI specification, the OBSAI specification, or another proprietary specification. *See* Evans ¶ 47. Evans does not describe links 26-1 and 26-2 that comprise link 26 as comporting with different specifications from one another, and thus does not teach the claim 1 limitations of a “common public radio interface” and a “serial interface.” Therefore, Appellants’ argument that Evans fails to teach the two differently claimed interfaces is persuasive. *See* App. Br. 10.

We are, therefore, constrained by the record to find the Examiner erred in rejecting independent claim 1, independent claim 3 which recites commensurate limitations, and dependent claims 2, 4–11, and 13–18 for the same reasons.

The Provisional Double Patenting Rejection

Appellants filed a terminal disclaimer on November 3, 2017. Accordingly, we do not address the merits of the provisional double patenting rejection, but rather leave it to the Examiner to withdraw the rejection. *See* MANUAL OF PATENT EXAMINING PROCEDURE § 804.I.B.1.(b)(ii) (9th ed. 2018) (“If both applications are . . . entitled to the same earliest effective filing date . . . the provisional nonstatutory double patenting rejection made in each application should be maintained until the rejection is overcome. Applicant can overcome a provisional nonstatutory double patenting rejection in an application by . . . filing a terminal disclaimer in the pending application.”).

DECISION

We reverse the Examiner’s decision rejecting claims 1–11 and 13–18 under 35 U.S.C. §103(a), and we make no findings or conclusions regarding the provisional double patenting rejection.

REVERSED