

NOTE: This disposition is nonprecedential.

**United States Court of Appeals
for the Federal Circuit**

HILL-ROM SERVICES, INC.,
Appellant

v.

**JOSEPH MATAL, PERFORMING THE FUNCTIONS
AND DUTIES OF THE UNDER SECRETARY OF
COMMERCE FOR INTELLECTUAL PROPERTY
AND DIRECTOR, U.S. PATENT AND TRADEMARK
OFFICE,**
Intervenor

2016-2199

Appeal from the United States Patent and Trademark
Office, Patent Trial and Appeal Board in No. 95/002,055.

Decided: December 15, 2017

LUKE DAUCHOT, Kirkland & Ellis LLP, Los Angeles,
CA, argued for appellant. Also represented by GARRET A.
LEACH, BRIAN VERBUS, Chicago, IL.

FARHEENA YASMEEN RASHEED, Office of the Solicitor,
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VA, argued for intervenor. Also represented by NATHAN K. KELLEY, THOMAS W. KRAUSE.

Before O'MALLEY, HUGHES, and STOLL, *Circuit Judges*.

O'MALLEY, *Circuit Judge*.

Hill-Rom Services, Inc. (“Hill-Rom”) appeals from a final decision in an *inter partes* reexamination proceeding, in which the Patent Trial and Appeal Board (“Board”) affirmed an Examiner’s rejection of claims 1, 14–15, and 31–32 of U.S. Patent No. 7,669,263 (“’263 patent”). See *Stryker Corp. v. Hill-Rom Servs., Inc.*, No. 2015-007927, 2016 WL 1270198 (P.T.A.B. Mar. 31, 2016) (“*Board Decision*”). For the following reasons, we *reverse in part, vacate in part, and remand*.

I. FACTUAL BACKGROUND

A. The ’263 Patent

Hill-Rom’s ’263 patent, titled “Mattress Assembly Including Adjustable Length Foot,” is directed to a “patient support” apparatus, such as a hospital bed. The specification explains that prior art hospital beds typically contained, among other things, a frame, a mattress, siderails, and a “controller configured to control one or more features of the bed.” ’263 patent, col. 1, ll. 48–55. The ’263 patent, however, purports to provide a more sophisticated system in which various bed functions are controlled by “modules” that communicate with one another through an internal network. *Id.* col. 10, ll. 39–65; *id.* col. 29, ll. 39–42.

The claimed hospital bed includes a control system, which, in turn, includes various controls, interfaces, sensors, and actuators that communicate via a plurality of modules connected to a network. In one embodiment, the network is a “controller area network” (“CAN”) comprising a serial data bus. *Id.* col. 29, ll. 46–51. Modules com-

municate with each other by transmitting messages on the bus, which rebroadcasts the messages to all other modules on the network. *Id.* col. 29, ll. 51–59. The '263 patent describes this CAN-based system “as a masterless system, wherein each module operates substantially autonomously.” *Id.* col. 30, ll. 40–43.

As issued, the '263 patent contains twenty claims. During reexamination, however, Hill-Rom amended certain claims and added others. In particular, Hill-Rom amended claim 1 by adding language requiring the control system to “periodically” verify the functionality of each module, as shown below:

1. A patient-support apparatus comprising

a control system including a serial data bus and a plurality of control modules coupled to the serial data bus, each control module including a microcontroller and a transceiver operable to communicate over the serial data bus by sending a message out on the serial data bus,

wherein the control system periodically verifies the functionality of each module present,

wherein each of the modules is operable to monitor communications on the serial data bus to determine whether to process a particular message.

J.A. 2490 (emphasis added). Amended claim 14 and its dependent claim, claim 15, recite the same “periodically” limitation as recited in claim 1. J.A. 2490–91.

Also during reexamination, Hill-Rom added claim 31 and its dependent claim, claim 32. Claim 31, which depends from amended claim 2, requires that the control system comprise a CAN, as well as a “*module that oper-*

ates as a master for particular communications over the control system.”¹ J.A. 2490; J.A. 2493 (emphasis added).

On appeal, the parties dispute the meaning of the “periodically” limitation recited in amended claims 1 and 14–15, as well as the “master module” limitation recited in newly added claims 31–32.

B. Overview of the Prior Art

The Board affirmed in relevant part the Examiner’s rejections of the claims based on several combinations of prior art references. On appeal, however, the parties focus on two references: (1) U.S. Patent No. 5,771,511, to Kummer (“Kummer”), and (2) Holger Zeltwanger, *Designing Devices Using CAN and CANopen Buses for Networking*, Med. Elecs. Mfg. 64 (1999) (“Zeltwanger”).² We therefore limit our review to only those references.

1. Kummer

The Kummer patent is owned by Hill-Rom and is incorporated by reference in the ’263 patent. Like the ’263 patent, Kummer discloses an adjustable hospital bed comprising a plurality of interconnected modules. Unlike the ’263 patent, however, Kummer teaches that its modules are interconnected by “a twisted pair network channel in a peer-to-peer configuration.” Kummer, col. 5, ll. 25–27; ’263 patent, col. 29, ll. 42–49. Kummer’s peer-to-

¹ Claim 2 is similar to claim 1 but does not include the “periodically” limitation, and instead specifies that the control system comprises a CAN. J.A. 2490.

² According to Hill-Rom, “its arguments apply equally to all of the anticipation and obviousness rejections maintained by the Examiner” as to all prior art of record. Appellant’s Br. 19–20. Neither Hill-Rom nor the PTO, however, addresses the other prior art references in any meaningful detail.

peer network enables each module “to communicate directly with another module in the network without the need for a master controller.” Kummer, col. 1, ll. 20–24.

Kummer also teaches that a “diagnostic tool” can be used to allow “a remote operator to interrogate every module” to perform a diagnostic check. *Id.* col. 8, ll. 10–23. Additionally, Kummer discloses that “each module is able to perform internal diagnostics,” but specifies that such self-diagnostic checks can only be executed “[a]fter a module performs its dedicated function”—i.e., when the module is not in use. *Id.* col. 20, ll. 28–32.

2. Zeltwanger

Zeltwanger generally discloses a CAN for use in medical equipment. In particular, Zeltwanger employs a standardized serial bus system to “develop devices that can be easily linked to other systems.” J.A. 4236.

Importantly for this appeal, Zeltwanger describes a “standardized communication object” called a “service data object” or “SDO.” An SDO is a protocol that allows for the transmission of data objects of any size, in contrast to other protocols, which generally restrict data transmission to fewer than eight bytes. J.A. 4235. Zeltwanger explains that its control system can support an SDO for communicating data across the network.

II. PROCEDURAL BACKGROUND

Third-party Stryker Corporation (“Stryker”) requested *inter partes* reexamination of most claims of the ’263 patent. The Examiner rejected all challenged claims, finding that, *inter alia*, claim 1 is anticipated by three separate references, including Kummer. The Examiner also found that claims 1, 14–15, and 31–32 are obvious over Kummer and other references, including Zeltwanger. The Board affirmed in relevant part. *See Board Decision*, 2016 WL 1270198, at *7, 10–14.

In its decision, the Board construed “periodically,” as recited in amended claims 1 and 14–15, to mean “*both* at regular *and* intermittent or irregular intervals.” *Id.* at *5 (emphases added). In so ruling, the Board rejected Hill-Rom’s argument that the claims should be limited to a preferred embodiment described in the patent, in which each module “periodically” transmits a regular “heart-beat” message to the other modules. *Id.* at *5–6. The Board found that Kummer’s internal diagnostic check satisfies the “periodically” limitation under the Board’s construction.

The Board also determined that Zeltwanger’s disclosure of an SDO satisfies the master module limitation recited in newly added claims 31–32, in part because Hill-Rom failed to provide “a definition of ‘module’ that would exclude an SDO.” *Id.* at *11. The Board agreed with the Examiner that a skilled artisan would have found it obvious to “make the diagnostic tool of Kummer an SDO module” as taught by Zeltwanger. *Id.*

Hill-Rom appealed the Board’s decision to this court, and the parties subsequently reached a settlement agreement pursuant to which Stryker withdrew from the appeal. The Director of the U.S. Patent & Trademark Office (“PTO”) thereafter intervened under 35 U.S.C. § 143. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

III. DISCUSSION

Hill-Rom raises two principal arguments on appeal. First, with regard to claims 1 and 14–15, Hill-Rom argues that the Board erred by construing “periodically” to encompass both regular and irregular verification checks. According to Hill-Rom, the term “periodically” should be limited to regular checks, which Kummer does not disclose. Second, with regard to claims 31–32, Hill-Rom argues that the Board erred both by interpreting the master module limitation to encompass non-physical

objects, and by finding that Zeltwanger’s non-physical SDO is a master module. We address each argument in turn.

A. Claims 1, 14–15

1. Construction of “periodically”

During *inter partes* reexamination, claims are given their broadest reasonable construction consistent with the specification. *In re Rambus, Inc.*, 753 F.3d 1253, 1255 (Fed. Cir. 2014). We review the Board’s claim constructions *de novo* and its underlying factual determinations involving extrinsic evidence for substantial evidence. *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 841–42 (2015).

As described above, the Board construed the “periodically” limitation to mean “both at regular and intermittent or irregular intervals.” *Board Decision*, 2016 WL 1270198, at *5. While the parties vigorously debate whether the claims cover “regular” or “irregular” verification checks, they do not clearly explain what those terms mean in the context of the claimed invention or in the context of the rejections at issue in this appeal. Nor were they able to do so when pressed at oral argument.

In any event, to the extent the Board’s construction does not limit the claims to verification checks that occur at equally spaced time intervals (e.g., every 10 minutes), we agree with that construction. As the Board correctly determined, the plain and ordinary meaning of the term “periodically” connotes repetition, but does not require that the repeated action occur at regularly spaced time intervals. *Id.* at *4–5. The claims’ recitation of this term is entirely consistent with its plain meaning, and the patentee’s decision to amend certain other claims to require regular periodicity underscores this broad understanding. Claim 14, for example, requires that the control system “periodically verif[y] the functionality of each

module.” J.A. 2490. The claim was amended during reexamination, however, to add language requiring that the modules be “operable to transmit, *at regular intervals*, a status message over the network.” *Id.* (emphasis added). The presence of both “periodically” and “at regular intervals” in amended claim 14 strongly suggests that the term “periodically,” standing alone, is not limited to diagnostic checks that occur at regular intervals. See *CAE Screenplates Inc. v. Heinrich Fiedler GmbH & Co. KG*, 224 F.3d 1308, 1317 (Fed. Cir. 2000) (“In the absence of any evidence to the contrary, we must presume that the use of these different terms in the claims connotes different meanings.”).

To the extent the Board’s construction is broad enough to encompass verification checks that occur randomly (i.e., on an ad hoc basis), however, we disagree with that construction. The verification checks must repeat at spaced time intervals, though, not necessarily at equally spaced intervals. The ’263 patent is replete with examples that support this conclusion. The specification describes, for example, an embodiment in which each module “periodic[ally]” transmits a “heartbeat” message to allow the control system to “periodically” verify the module’s functionality:

One feature of [the] network is the *periodic* transmission of each module of a “heartbeat” message or status message to the bus for receipt by each of the remaining modules. In this manner, control system *periodically* verifies the functionality of each module in [the] system, and is able to identify a non-operational module by the absence of the module’s “heartbeat” message.

’263 patent, col. 30, ll. 43–50 (emphases added, reference numerals omitted). This passage states that the modules repeatedly transmit a status message at specified time intervals, and without prompting from the control system

or any other external source. The absence of such a message for a particular module signals to the control system that the module is non-functional. Indeed, as explained at column 30, lines 43 to 50, if the modules' status messages were not repeated without the modules being prompted, the control system would not know when to receive a status message, and it would therefore be unable to determine whether the absence of a message indicates a problem. Thus, while we agree with the Board that the claims are not limited to the regularly repeated "heartbeat" verification check described in this passage, the passage's description of "periodically" at least suggests that the modules must repeatedly transmit their status messages at specified time intervals, and without the modules being prompted.

Other passages of the specification are consistent with this embodiment. The specification states, for example, that a "monitor activity step" "is a step that is *periodically* executed during the turn assist operation," that a "pressure control system" "*periodically* measure[s] the pressure of seat section air zone to make sure that it is within the desired ranges," and that pressure sensors "*periodically* sense the pressure in one or more of controlled air zones" of the mattress. *Id.* col. 81, ll. 65–66; *id.* col. 83, ll. 60–63; *id.* col. 96, ll. 18–22 (emphases added). Each of these descriptions suggests that an action is repeated without prompting from an external source. The specification also states that a "timer is used to *periodically* sample temperature." *Id.* col. 42, ll. 34–37 (emphasis added). The requirement that a timer be used for this purpose implies that the temperature is sampled at specified time intervals. There would be no need for a timer if the temperature were sampled randomly.

Finally, our interpretation is consistent with the prosecution history. During reexamination, Hill-Rom amended claim 1 by adding the "periodically" limitation. Contemporaneous with that amendment, Hill-Rom dis-

tinguished Kummer on the basis that Kummer’s internal diagnostic checks occur only when the modules are no longer performing a function. J.A. 2495–96. Hill-Rom also emphasized during the proceeding that Kummer “teaches an ad hoc or intermittent self-diagnostic process” and fails to “disclose that any self-diagnosis is done on any *periodic* schedule.” J.A. 2862–64. These statements, made when the “periodically” limitation was added to claim 1, are relevant as part of the ’263 patent’s prosecution history. *See Northpeak Wireless, LLC v. 3COM Corp.*, 674 F. App’x 982, 986 n.1 (Fed. Cir. 2016) (“Statements made during reexamination procedures before the PTO are part of the prosecution history.” (citing *Krippelz v. Ford Motor Co.*, 667 F.3d 1261, 1266 (Fed. Cir. 2012))). Consistent with the specification, these statements suggest that “periodically” cannot mean “ad hoc or intermittent.”

Thus, while the Board’s construction is correct, it is incomplete. We find that, while the ’263 patent claims are not limited to verification checks performed at equally spaced time intervals, they do not cover random or ad hoc verification checks, or checks that occur only when the modules are prompted to transmit status messages. This is the broadest reasonable interpretation that is consistent with the claims, specification, and file history. *See In re Smith Int’l, Inc.*, 871 F.3d 1375, 1383 (Fed. Cir. 2017).

2. Anticipation and Obviousness Findings

As described above, the Board determined that Kummer anticipates claim 1 and renders claim 1 and 14–15 obvious in view of the other prior art of record. We review the Board’s anticipation determination, as well as the Board’s factual findings underlying its obviousness determination, for substantial evidence. *Rambus*, 753 F.3d at 1256; *In re Adler*, 723 F.3d 1322, 1325 (Fed. Cir. 2013).

We review the Board's ultimate legal conclusion of obviousness, however, *de novo*. *Adler*, 723 F.3d at 1325.

We find that the Board erred in determining that Kummer discloses the “periodically” limitation. Kummer discloses only that a “diagnostic check *can* be performed,” and even then, only “[*a*fter [the] module performs its dedicated function.” Kummer, col. 20, ll. 28–35 (emphases added); *see also id.* col. 2, ll. 20–24 (“The network is *capable of* internally diagnosing hardware and software failures and recommending a corrective action.” (emphasis added)). To the extent Kummer's diagnostic checks are performed at all, they are performed randomly or on an ad hoc basis, and after the modules are prompted. As we explained above, such verification checks fall outside the scope of the claims. The Board's finding that Kummer satisfies this claim limitation is therefore unsupported by substantial evidence.

Because Stryker did not argue that Kummer inherently discloses the “periodically” limitation, and because the Board made no factual findings that would support such a conclusion, we reverse the Board's determination that Kummer anticipates claim 1 of the '263 patent. *See Home Semiconductor Corp. v. Samsung Elecs. Co.*, 701 F. App'x 1006, 1013–14 (Fed. Cir. 2017) (reversing where the appellee argued that a prior art reference inherently disclosed a particular claim limitation but failed to so argue below, and the Board did not make factual findings that would support that conclusion).

Similarly, with regard to its obviousness finding for claim 1, the Board relied only on Kummer for its disclosure of this limitation and did not find that a skilled artisan would have modified Kummer to perform repeated diagnostic checks. *See Board Decision*, 2016 WL 1270198, at *9. And, as the PTO acknowledges, claims 14–15 stand or fall with claim 1. Intervenor's Br. 7. We therefore

reverse the Board's determination that Kummer renders obvious claims 1 and 14–15 of the '263 patent.

B. Claims 31–32

As described above, the Board affirmed the Examiner's rejections of claims 31–32 based on the Examiner's finding that Zeltwanger's SDO satisfies the “module that operates as a master” limitation recited in those claims. Zeltwanger's SDO is a non-physical communication protocol, akin to the language used for transmission of communications on a network. Although the Board did not construe the master module limitation, Hill-Rom argues that the Board improperly interpreted that term to include non-physical objects, such that the Board erred in finding that Zeltwanger's SDO is a master module.

As an initial matter, regardless of whether a master module is a physical structure, the Board erred to the extent it concluded that Zeltwanger's SDO is a master module. The '263 patent states that the prior art SDO protocol—i.e., the same protocol disclosed in Zeltwanger—“is *administered only by* a master module.” '263 patent, col. 34, ll. 7–8 (emphasis added). This statement makes clear that, although the existence of an SDO might imply the existence of a master module, an SDO is not *itself* a master module. Zeltwanger's SDO therefore cannot expressly satisfy the master module limitation recited in claims 31–32, and the Board erred in so finding.

The Board also erred to the extent it concluded that a master module need not be a physical structure. Claim 2, from which claims 31–32 depend, states that “control modules” are “coupled to the serial data bus,” and that each module includes “a microcontroller and a transceiver operable to communicate over the serial data bus.” J.A. 2490. The modules' inclusion of physical structure implies that they are themselves physical structures. The specification supports this interpretation. It states, for example, that the modules “include[] a controller, a trans-

ceiver and associated electronics,” and that the modules contain hardware that enables “operation according to the CAN specifications.” ’263 patent, col. 29, ll. 47–49; *id.* col. 32, ll. 60–64. The specification further states that a “logic module” “is electrically coupled to detachable siderail controller.” *Id.* col. 29, ll. 65–67; *id.* col. 30, ll. 1–5. Only a physical device can be “electrically coupled” to another physical device. And, because Zeltwanger’s SDO is not a physical device, the Board’s finding that Zeltwanger’s SDO satisfies the master module limitation is unsupported by substantial evidence.

At oral argument before this court, the PTO asserted that the Examiner and Board did not actually equate an SDO with a master module, but instead used the term “SDO” as “shorthand” for an “SDO module” or a “module that administers an SDO.” Oral Argument at 14:00–14:25, *Hill-Rom Servs., Inc. v. Matal* (No. 2016-2199), <http://oralarguments.cafc.uscourts.gov/default.aspx?fl=2016-2199.mp3>. We disagree with this characterization.

Stryker argued during reexamination that “the SDO feature of [Zeltwanger’s network protocol] meets” the master module claim limitation. J.A. 2357. The Examiner appeared to agree, stating that Zeltwanger satisfies the master module limitation because it teaches that “some modules are SDOs that transmit particular messages of any size compared to regular modules that are restricted to less than 8 bytes[.]” J.A. 2666; J.A. 2991–92. The Board itself agreed with the Examiner’s finding. Immediately after quoting Hill-Rom’s argument that SDOs are not physical structures, the Board noted that Hill-Rom failed to provide a definition of module “that would exclude an SDO.” *Board Decision*, 2016 WL 1270198, at *11. The Board also stated that “it would be inconsistent for [Hill-Rom] to argue that an SDO cannot serve as a master.” *Id.* We read these statements in context to mean that the Board found that an SDO *is* a master

module. As described above, that finding is unsupported by substantial evidence.

The PTO conceded at oral argument that a master module is a physical structure. Oral Argument at 14:10–14:15 (“We are talking about hardware.”). But, it asserted that the Board made alternative findings that support affirmance. Again, we disagree. The balance of the Board’s analysis, in its entirety, is as follows:

With respect to the SDO to [*sic*] operating on a module, the Examiner found “[i]t would have been obvious to one having ordinary skill in the art to make the diagnostic tool of Kummer an SDO module as taught in Zetlwanger [*sic*] (1999). One having ordinary skill in the art would do so to allow the diagnostic tool to operate as a master to send messages over the bus line of any size.” Patent Owner did not identify a defect in this reasoning. Consequently, we affirm the rejection of claim 31 for the reasons set forth above.

Id. (citation omitted). To the extent the PTO argues that these statements imply that the Board found that Kummer’s unmodified diagnostic tool is a master module, or that Zetlwanger *inherently* discloses a master module, we reject that argument. The statements cannot be fairly read to support such conclusions.³

³ Our case law establishes a “high standard in order to rely on inherency to establish the existence of a claim limitation in the prior art in an obviousness analysis[.]” *Par Pharm., Inc. v. TWI Pharm., Inc.*, 773 F.3d 1186, 1195–96 (Fed. Cir. 2014). The limitation at issue either necessarily must be present, or must be the natural result of the combination of elements explicitly disclosed by the prior art. *Id.* There is no evidence in the record, and the Board did not find, that Stryker satisfied this standard.

At most, these statements by the Board are ambiguous. One reading of the statements is that the Board found only that Zeltwanger's SDO is a master module, and that a skilled artisan would have been motivated to convert Kummer's diagnostic tool into an SDO. Another plausible reading is that, even if an SDO is not itself a master module, the Board found that a skilled artisan would have known that Kummer's diagnostic tool could act as a master module by administering Zeltwanger's SDO. Based on the cursory nature of the Board's analysis, however, we cannot determine which, if either, interpretation is correct. And we will not "guess at the theory underlying the" Board's action, *SEC v. Chenery Corp.*, 332 U.S. 194, 196–97 (1947), or assume that the Board meant one thing when it said something else.

Our review of the Board's decision "is rooted not just in the law of obviousness but in basic principles of administrative law." *Personal Web Techs., LLC v. Apple, Inc.*, 848 F.3d 987, 992 (Fed. Cir. 2017). The Board must therefore "explicate its factual conclusions, enabling us to verify readily whether those conclusions are indeed supported by 'substantial evidence' contained within the record." *In re Gartside*, 203 F.3d 1305, 1314 (Fed. Cir. 2000); see also *Power Integrations, Inc. v. Lee*, 797 F.3d 1318, 1326–27 (Fed. Cir. 2015) (holding that the Board's reasoning must be set out "in sufficient detail to permit meaningful appellate review"). The Board has not done so here, and it is not our role to make factual findings in the first instance. See *Mittal Steel Point Lisas Ltd. v. United States*, 542 F.3d 867, 875 (Fed. Cir. 2008) ("Appellate courts do not make factual findings; they review them."). Because we are unable to discern the basis for the Board's obviousness determinations with respect to claims 31–32, we vacate the Board's decision as to those claims. See *Power Integrations*, 797 F.3d at 1326–27.

We conclude, moreover, that the Board's motivation to combine analysis for this claim limitation is likewise

cursory. Rather than articulate reasons why it agreed with the Examiner’s analysis, the Board affirmed the rejection merely because, in its view, Hill-Rom did not identify a defect in the Examiner’s reasoning.⁴ But even the Examiner’s reasoning—i.e., that a skilled artisan would combine the references “to allow the diagnostic tool to operate as a master to send messages over the bus line of any size”—is conclusory. *Board Decision*, 2016 WL 1270198, at *11. In any event, it is not enough to merely “summarize and reject arguments without explaining why the [Board] accepts the prevailing argument.” *In re Nuvasive, Inc.*, 842 F.3d 1376, 1383–84 (Fed. Cir. 2016). The Board’s failure to clearly articulate a motivation to combine provides an additional reason for vacating its obviousness ruling. *See id.*; *see also In re Van Os*, 844 F.3d 1359, 1361–62 (Fed. Cir. 2017) (vacating obviousness determination where the Board “did not explain why modifying” the prior art “would have been ‘intuitive’ or otherwise identify a motivation to combine”); *Personal Web*, 848 F.3d at 993–94 (vacating obviousness ruling where Board’s motivation to combine analysis was “wanting”).

⁴ In its analysis of claim 2, from which claims 31–32 depend, the Board incorporated by reference its decision in another *inter partes* reexamination of a different patent that involved the same parties and prior art. *Board Decision*, 2016 WL 1270198, at *8–9 (citing *Stryker Corp. v. Hill-Rom Servs., Inc.*, No. 2014-6135 (P.T.A.B. Oct. 14, 2014), *aff’d*, 618 F. App’x 681 (Mem.) (Fed. Cir. 2015)). But in that proceeding, the Board found only that a skilled artisan would have been motivated to substitute Kummer’s peer-to-peer network with Zeltwanger’s (and other references’) CAN. The Board did not address motivation to combine with respect to the master module limitation at issue here.

Because the Board affirmed the Examiner's rejection of claims 31–32 based only on the combination of Kummer and Zeltwanger, we vacate the Board's decision as to those claims and remand for the Board to set "out its reasoning in sufficient detail to permit meaningful appellate review" under the proper interpretation of the master module limitation. *Power Integrations*, 797 F.3d at 1326–27.

IV. CONCLUSION

For the reasons stated above, we *reverse* the Board's anticipation and obviousness determinations based on Kummer as to claims 1 and 14–15. We also *vacate* the Board's obvious determinations based on Kummer and Zeltwanger as to claims 31–32, and *remand* for proceedings consistent with this opinion.

Although the Board affirmed the Examiner's rejections with respect to the other prior art of record, the Board's analysis was "specifically directed to Kummer" as a primary reference and did not "address each of the rejections individually." *Board Decision*, 2016 WL 1270198, at *3. Neither Hill-Rom nor the PTO addresses in meaningful detail any prior art references other than Kummer and Zeltwanger. Thus, because the other references are not before us on appeal, we *vacate* the Board's decision as to claims 1, 14–15, and 31–32 with respect to all prior art combinations other than those involving Kummer and Zeltwanger. On remand, the Board is not permitted to reconsider its invalidity determinations based on references other than Kummer and Zeltwanger.

REVERSED IN PART, VACATED IN PART, AND REMANDED

COSTS

No costs.