

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* HANS LUDWIG TRAUTENBERG

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Appeal 2007-2878  
Application 10/930,785  
Technology Center 3600

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Decided: August 13, 2008

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Before TERRY J. OWENS, HUBERT C. LORIN, and JOHN C. KERINS,  
*Administrative Patent Judges.*

KERINS, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

Hans Ludwig Trautenberg (Appellant) seeks our review under 35 U.S.C. § 134 of the final rejection of claims 1-25. We have jurisdiction under 35 U.S.C. § 6(b) (2002). An oral hearing in this appeal was held on April 10, 2008, with Robert W. Mueller, Esq., appearing on behalf of Appellant.

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At the time of the filing of this appeal, all of claims 1-25 were finally rejected, and Appellant appealed the rejection of all claims. In the Examiner's Answer, a rejection of Claims 1-25 under 35 U.S.C. § 102(b) in view of WO97/38326 was withdrawn. In addition, a rejection under 35 U.S.C. § 112, second paragraph, based on indefiniteness, was withdrawn as to claims 8-14, however, that rejection was maintained with respect to claims 1-7 and 15-25. Claims 1-3, 5-9, 11-16, and 18-25 remain rejected under 35 U.S.C. § 102(b) as being anticipated by a patent to Schellenberg. The Examiner's Answer states that claims 4, 10 and 17 would be allowable if rewritten in independent form and if rewritten to overcome any rejection under 35 U.S.C. § 112. Claim 10 is thus not subject to any ground of rejection currently, and will be regarded as being objected to on the basis that it is not presented in independent form.

#### SUMMARY OF DECISION

We AFFIRM-IN-PART and ENTER A NEW GROUND OF REJECTION PURSUANT TO 37 C.F.R. § 41.50(b).

#### THE INVENTION

Appellant's claimed invention is to a method for the transmission of navigation data to user terminals of a satellite navigation system, the method including transmitting positional information for at least one pseudolite as

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part of navigation data, without the use of separate channels or protocols, the positional information being in the form of a model of a pseudolite trajectory in a reference coordinate system, with the model accounting for orbit-divergent motions of the pseudolite.

Claim 1, reproduced below, is representative of the subject matter on appeal:

1. A method for the transmission of navigation data to user terminals of a satellite navigation system composed of navigation satellites and pseudolites, comprising:

transmitting positional information for at least one of the pseudolites as part of the navigation data, without the use of separate channels or protocols,

wherein the positional information is transmitted in the form of a model of a pseudolite trajectory in a reference coordinate system which the model accounts for orbit-divergent motions of the at least one pseudolite.

#### THE REJECTION

The Examiner relies upon the following as evidence of unpatentability:

Schellenberg

US 5,886,666

March 23, 1999

The following rejections are before us for review:

1. Claims 1-7 and 15-25 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite.
2. Claims 1-3, 5-9, 11-16, and 18-25 stand rejected under 35 U.S.C. § 102(b) as being anticipated by the Schellenberg patent.

### ISSUES

A first issue before us is whether Appellant has shown that the Examiner erred in determining that Claims 1-7 and 15-25 are indefinite. A second issue before us is whether Appellant has shown that the Examiner erred in finding that claims 1-3, 5-9, 11-16, and 18-25 are anticipated by the Schellenberg patent.

### FINDINGS OF FACT

The following enumerated findings of fact (FF) are supported by at least a preponderance of the evidence. *Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427 (Fed. Cir. 1988) (explaining the general evidentiary standard for proceedings before the Office).

FF 1. The Schellenberg patent discloses that a pseudolite signal having positional data to provide a ranging signal may be transmitted from a pseudolite and used for navigation purposes. (Schellenberg, Col. 4, ll. 20-23).

FF 2. The pseudolite signal generated in the Schellenberg system may include a pseudorandom code as well as data information, and Schellenberg

discloses that the data information can include position information related to the pseudolite. (Schellenberg, Col. 4, ll. 25-27). The position information includes information related to an actual location or position of a pseudolite transmitter, as well as information related to a predetermined fixed point. (Schellenberg, Col. 4, ll. 4-11).

FF 3. The positional information transmitted by the airborne pseudolites in the Schellenberg system includes a set of ephemeris data, and is disclosed as being a modified version of a conventional GPS satellite ephemeris message. (Schellenberg, Col. 3, ll. 26-28; Col. 4, ll. 41-43). The positional information is based in part on employing vector error correction to compensate for the current position of the aircraft-mounted pseudolite relative to a predetermined fixed point. (Schellenberg, Col. 3, ll. 46-50; Col. 4, ll. 7-11).

FF 4. The aircraft-mounted pseudolites in Schellenberg experience orbit-divergent motions, as that term is employed by Appellant. (Schellenberg, Col. 3, ll. 55-57; Specification, p. 6, ¶[0015]). The motion and position of the aircraft carrying the pseudolite transmitter are accounted for in the determination of the position of the pseudolite relative to a predetermined fixed point. The positional information transmitted by the pseudolite accounts for the variances in the actual position of the pseudolite. (Schellenberg, Col. 3, l. 58-Col. 4, l. 19)

FF 5. The pseudolite transmitters in Schellenberg function to generate model data based on ephemeris data and which function to include data

accounting for orbit-divergent motions of the pseudolites in the pseudolite positional data transmitted. (Schellenberg, Col. 4, ll. 41-49).

FF 6. In one embodiment of the Schellenberg system, a receiver may be used in navigation or determining position, the receiver using only transmissions received from airborne pseudolites. (Schellenberg, Col. 3, ll. 15-17; Col. 4, ll. 16-18).

FF 7. Schellenberg discloses a further embodiment in which a receiver determines its position and/or navigates using a combination of signals transmitted from APL transmitters and signals transmitted from GNSS satellites. (Schellenberg, Col. 3, ll. 17-21).

FF 8. Schellenberg discloses that the APL transmitters employed in its system can utilize the same satellite frequencies, pseudo-random codes, and navigational data structures as are used in the GLONASS and/or GPS systems. (Schellenberg, Col. 5, ll. 17-19).

FF 9. Schellenberg discloses that a receiver is used to receive and process the pseudolite signal such that the positional information which includes ephemeris data is processed to determine a location of the pseudolite transmitter. (Schellenberg, Col. 4, ll. 50-67).

FF 10. Conventional GNSS and GPS system satellites transmit signals in the L-band. (Schellenberg, Col. 1, ll. 23-24; Col. 4, ll. 23-24).

#### PRINCIPLES OF LAW

The essence of the requirement under 35 U.S.C. § 112, second

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paragraph, that the claims must be definite, is that the language of the claims must make it clear what subject matter the claims encompass. *In re Hammack*, 427 F.2d 1378 (CCPA 1970). The test is whether “those skilled in the art would understand what is claimed when the claim is read in light of the specification.” *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1576 (Fed. Cir. 1986) (citations omitted).

The primary purpose of the definiteness requirement is to ensure that the claims are written in such a way that they give notice to the public of the extent of the legal protection afforded by the patent, so that interested members of the public, *e.g.*, competitors of the patent owner, can determine whether or not they infringe. *All Dental Prodx, LLC v. Advantage Dental Prods.*, 309 F.3d 774, 779-80 (Fed. Cir. 2002)

Anticipation of a claim exists when each and every element set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co.*, 814 F.2d 628, 631 (Fed. Cir. 1987), *cert. denied*, 484 U.S. 827 (1987); *In re Cruciferous Sprout Litig.*, 301 F.3d 1343, 1349 (Fed. Cir. 2002). Once a *prima facie* case of anticipation has been established, the burden shifts to the Appellant to prove that the prior art product does not necessarily or inherently possess the characteristics of the claimed product. *In re Best*, 562 F.2d 1252, 1255 (CCPA 1977); *In re Spada*, 911 F.2d 705, 708-09 (Fed. Cir. 1990).

Patent application claims are given their broadest reasonable interpretation during the application process, for the simple reason that

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before a patent is granted the claims may be readily amended, for the purpose of distinguishing cited references, or in response to objections raised under § 112, as part of the examination process. *Burlington Indus., Inc. v. Quigg*, 822 F.2d 1581, 1583 (Fed. Cir. 1987). This broadest reasonable construction is to be assessed in light of the specification as it would be interpreted by one of ordinary skill in the art. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). Further, in making this assessment, embodiments or features present in the specification will not be read into the claims in determining their scope. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1323 (Fed. Cir. 2005) (*en banc*); *see also In re Trans Texas Holdings Corp.*, 498 F.3d 1290 (Fed. Cir. 2007).

## ANALYSIS

### *Rejection of Claims 1-7 and 15-25 under 35 U.S.C. § 112, second paragraph*

The Examiner finds problematical the phrase, “without the use of separate channels or protocols” (*see, e.g.*, claim 1), and the complementary phrase, “in the same channels and with the same protocols” (*see, e.g.*, claims 22, 24), as they relate to the transmitting of positional information. (Answer 3). The Examiner contends that, because the claims contain only a single step of transmitting positional information, such transmission would necessarily be “without the use of separate channels or protocols”, in that the single transmission would employ only a single channel and protocol. As

such, the phrases present in the claims have no apparent meaning, according to the Examiner.

The Examiner further asserts that the metes and bounds of these terms are not definite, if it were to be assumed that this claim language is to be given some weight and meaning. The language suggests, according to the Examiner, that something additional is to be transmitted in performing the claimed method, such that the transmitted positional information and the “something additional” would be transmitted without the use of separate channels or protocols, or, conversely, transmitted in the same channels or protocols. (Answer 3).

Appellant refers us to the Specification as demonstrating that persons of ordinary skill in the art would understand the disputed claim terminology and would readily understand the scope of the claims reciting the above-noted phrases. (Appeal Br. 11-13, Reply Br. 3). We are persuaded that persons of ordinary skill in the art would understand the claim terminology at issue, separate and apart from its usage in the claim. That does not appear to be in dispute.

We are further persuaded, from our review of the record, that, while the claims explicitly recite only a single step, that of transmitting positional information for at least one of the pseudolites, the claims further implicitly require that other navigation data<sup>1</sup> be transmitted in the performance of this

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<sup>1</sup> Appellant does not, however, provide any definition of “navigation data” in

claimed method. To hold otherwise would eviscerate the claim language calling for, in claim 1 for example, the pseudolite positional information to be transmitted “as part of the navigation data, without the use of separate channels or protocols”. (Appeal Br., Claims Appendix, Claim 1).

Accordingly, we conclude that the claim language calling for the positional data to be transmitted, “as part of the navigation data, without the use of separate channels or protocols”, or, “in the same channels and with the same protocols”, is definite, and requires that navigation data other than pseudolite positional information be transmitted within the claimed satellite navigation system, over the same channels and using the same protocols as are used for the transmission of the pseudolite positional information.

We will reverse the rejection of Claims 1-7 and 15-25 under 35 U.S.C. § 112, second paragraph, on indefiniteness grounds.

*Rejection of claims 1-3, 5-9, 11-16, and 18-25 under 35 U.S.C. § 102(b)*

Appellant argues that independent claims 1, 8, 22, and 24 are separately patentable from one another, and we will address each of these claims separately.

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his Specification, or what types or forms of data would be or could be included or excluded by this term.

Appellant's Brief on Appeal purports to also separately argue the patentability of each dependent claim on appeal.<sup>2</sup> However, under the heading for each of the dependent claims, Appellant simply restates the element(s) or limitation(s) found in these claims, and avers that such elements or limitations are not found in the Schellenberg patent.<sup>3</sup> Presenting a statement which merely points out what a claim recites is not considered to be an argument for the separate patentability of the claims. 37 C.F.R. § 41.37(c)(1)(vii)(2007). We will therefore treat the dependent claims as being grouped with the independent claim from which they depend.<sup>4</sup>

To the extent that Appellant's bare assertions that the Schellenberg patent does not disclose these claim elements would be regarded as arguments for the separate patentability of the claims, Appellant has not persuasively demonstrated where any error lies in the Examiner's interpretation of Schellenberg as it relates to the elements or limitations found in those claims.

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<sup>2</sup> A separate heading for each claim on appeal is provided, a prerequisite under 37 C.F.R. §41.37(c)(1)(vii), for separately arguing a claim or claims.

<sup>3</sup> Claims 15 and 20 on appeal appear to be independent claims. Appellant treats these claims in the same way as the dependent claims are treated, i.e., Appellant merely recites the claim elements in a substantially verbatim manner, while asserting that the Schellenberg patent does not disclose the elements. (Appeal Br. 27-28; 30-31). Appellant nowhere attempts to rebut or show error in the Examiner's rejection (Answer 10) of these claims.

<sup>4</sup> Claims 15 and 20, and the claims depending therefrom, will be grouped with, and will stand or fall with, representative claim 1.

*Claim 1*

Appellant urges that the rejection of claim 1 as being anticipated by Schellenberg is in error, because:

- (1) there is no disclosure in Schellenberg that positional information for one or more pseudolites is transmitted *as part of the navigation data* (Appeal Br. 14)(emphasis in original);
- (2) there is no disclosure that the positional information is transmitted with the navigation data without the use of separate channels or protocols (*Id.*); and
- (3) there is no disclosure that the positional information is transmitted in the form of a model of a pseudolite trajectory in a reference coordinate system, and wherein the model accounts for orbit-divergent motions of the one or more pseudolites (Appeal Br. 15).

As noted in the preceding section, Appellant has provided no specific definition as to what “navigation data” either includes or excludes. As such, giving this claim term its broadest reasonable interpretation, we conclude that “navigation data” may comprise any type of data that is capable of being used to navigate or to aid in navigation. The Schellenberg patent explicitly teaches that the pseudolite transmitters therein broadcast a signal that can be used by a receiver for navigation, thus, “navigation data”. (FF 1). That signal is disclosed as including positional information specific to the

pseudolite. (FF 2). Notwithstanding Appellant’s repeated and blind insistence that Schellenberg does not disclose that pseudolite positional information is transmitted as part of the navigation data, we find that this is just such a disclosure.

This finding that the Schellenberg patent discloses the transmission of a signal (the pseudolite signal) that includes navigation data, and, as a part thereof, pseudolite positional information, is also germane to Appellant’s second contention. This pseudolite signal in Schellenberg would appear to necessarily be sent without using separate channels or separate protocols. Appellant has proffered no persuasive evidence or argument to the contrary.

To the extent that Appellant would argue that the term “without using separate channels or protocols” inferentially invokes a system-wide set of channels and protocols<sup>5</sup>, we find that Schellenberg further teaches that the signal transmitted by the pseudolite, which includes positional information as part of the navigation data, may be transmitted without the use of separate channels or protocols. (FF 7, 8).

Appellant seizes on the language in Schellenberg that describes the pseudolite signals as being “similar to conventional L-band signals”<sup>6</sup>,

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<sup>5</sup> Appellant appears, however, to have expressly rejected the notion that the recitation in the claims of using the same or not using separate “channels and protocols” necessarily refers to channels and protocols used by the navigation satellites of the system. (Reply Br. 4).

<sup>6</sup> L-band being a channel over which standard GNSS signals are sent. (FF

arguing that this, “is not the same as L-band *per se*”. (Reply Br. 5). This is apparently an attempt at arguing that the pseudolite signal is sent over a different channel than are the satellite or other system component signals (although Appellant does not state so directly), and evidence that the Schellenberg system does not anticipate claim 1. However, read within its proper context, the similarity referred to is a similarity in the content of the signal. Schellenberg elsewhere makes clear that the pseudolite transmitters use the same satellite frequencies and protocols that are employed by the navigation satellites in that system. (FF 8). We find that Appellant has failed to persuade us that Schellenberg is deficient for the reason asserted in contention (2) above.

Turning to contention (3), the pseudolite positional information sent in the operation of the Schellenberg system includes a set of ephemeris data, which is a modified version of a conventional GPS satellite ephemeris message. (FF 3). The positional information includes a correction factor that compensates for the actual position of the pseudolite relative to a predetermined fixed point. (*Id.*). Appellant contends that this is not a disclosure of transmitting positional information, “in the form of a model of a pseudolite trajectory in a reference coordinate system which the model accounts for orbit-divergent motions of the at least one pseudolite”, as required in claim 1.

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10).

Appellant does not provide a definition of the claim term “model”, so we are constrained to read that term as broadly as is reasonable, consistent with the common and ordinary meaning of the term.<sup>7</sup> Appellant himself admits that ephemeris data, as is used in Schellenberg, is an “orbital model”. (Spec., p. 20, ¶[0043]).<sup>8</sup> Thus, we are not persuaded that error was committed by the Examiner in finding that the transmission of positional data that includes ephemeris data in Schellenberg meets the limitation in claim 1 that calls for the positional information to be in the form of a model of a pseudolite trajectory.

Appellant further describes that orbit-divergent motions include relative motions of the pseudolites with respect to the Earth’s surface on account of being mounted on vehicles or other movable bodies, such as aircraft. (Specification, p. 6, ¶[0015]; p. 18, ¶[0039]). Claim 1 calls for the pseudolite trajectory model to account for orbit-divergent motions of the pseudolite. (Appeal Br., Claims Appendix).

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<sup>7</sup> model: A systematic description of an object or phenomenon that shares important characteristics with the object or phenomenon. *The American Heritage® Science Dictionary*. Retrieved May 22, 2008, from Dictionary.com website: <http://dictionary.reference.com/browse/model>

<sup>8</sup> A recurring theme running through the briefs in this appeal is that Appellant urges that there is a difference between the claims and the system disclosed in Schellenberg, yet utterly fails to explain or elaborate as to *how* or *why* the claim elements are different from the cited disclosure in Schellenberg, and simply states that they are different.

The airborne pseudolites in Schellenberg experience orbit-divergent motions. (FF 4). Schellenberg includes, in the pseudolite-transmitted data, information or data related to the orbit-divergent motions of the airborne pseudolites. This information or data is in the form of information as to a position of the pseudolite relative to a fixed point. (*Id.*). Such motions are thus necessarily accounted for in the positional information that is transmitted. (*Id.*).

We are not persuaded that the Schellenberg system, which transmits pseudolite positional information in the form of a model of pseudolite trajectory (*i.e.*, ephemeris data), wherein the positional information and model account for a variance in the actual position of the pseudolite due to its being mounted on a moving aircraft, differs from that which is required in claim 1.

We therefore do not find error in the rejection of Claim 1 under 35 U.S.C. § 102(b) in view of Schellenberg. We will affirm the rejection of claim 1 and of claims 2, 3, 5-7, 15, 16, and 18-21, grouped therewith.

*Claim 8*

Claim 8 is directed to a satellite navigation system, whereas the subject matter of claim 1 discussed above is a method claim. At issue with respect to this claim and the cited Schellenberg reference are whether Schellenberg discloses “pseudolite modeling devices that are structured and arranged to prepare model data of a pseudolite trajectory”, in which the model data accounts for orbit-divergent motions of the pseudolite, and

whether any such “modeling devices are configured to insert the model data into the navigation data”. (Appeal Br. 16-17; Claims Appendix).

Appellant describes his “pseudolite modeling devices” only in terms of their function. (Specification, p. 13-14, ¶[0031]; p. 18, ¶[0038]). A “position model unit” (PMU2, Fig. 1) is depicted schematically, and its function is described in language that substantially parallels the language of claim 8 quoted above. Given the absence of any structural features in claim 8 defining the “pseudolite modeling devices”, we will regard any component or device that is capable of performing the stated functions as meeting those claim elements or limitations.

The Examiner has pointed to passages in Columns 4 and 5 of the Schellenberg patent as evidencing that the pseudolites disclosed therein have the ability to prepare model data of a pseudolite trajectory, which model accounts for orbit-divergent motions of the pseudolite, and to insert the model data into the navigation data. (Answer 7-8). Appellant counters that this disclosure in Schellenberg is of a transmission of a modified version of a conventional GPS satellite ephemeris message combined with the Keplerian equation to describe a fixed position. (Appeal Br. 16). This, Appellant contends, is different from what is claimed, and that this does not amount to a disclosure of the provision of pseudolite modeling devices configured to prepare model data of pseudolite trajectory. (*Id.*).

As we found in assessing the legitimacy of the rejection of claim 1, the pseudolite in Schellenberg is able to produce and transmit ephemeris

data, which Appellant acknowledges is one form of orbital model data contemplated for use in his system. (Spec., p. 20, ¶[0043]). Further, Schellenberg determines a positional difference between a fixed point and an actual or estimated orbit-divergent position of a pseudolite attached to a moving aircraft, and employs that information in the positional and navigation data transmitted by the pseudolite (FF 4, 5). We find that this meets the limitation requiring the model data to account for orbit-divergent motions of the pseudolite. That Schellenberg may “account” for the orbit-divergent motions in some different manner than Appellant may contemplate or may have disclosed as a preferred embodiment, is not germane in assessing whether Schellenberg discloses that which is claimed.

Schellenberg discloses pseudolite transmitters for transmitting positional/navigation data which includes the ephemeris data and the positional correction data and, as such, discloses that the pseudolites include modeling devices used to generate model data and which are configured to insert the model data into the overall set of navigation data. (FF 5).

We will affirm the rejection of claim 8, and of claims 9 and 11-14 under 35 U.S.C. § 102(b).

*Claim 22*

Claim 22 essentially parallels claim 1, with the substitution of the phrase, “in the same channels and with the same protocols”, for the phrase, “without the use of separate channels or protocols”, in describing the transmission of pseudolite positional information. (Appeal Br., Claims

Appendix). Appellant's assignation of error is substantially identical to that presented with respect to claim 1.

For the reasons discussed *supra* with respect to the rejection of claim 1, we are not persuaded that the rejection of claim 22 under 35 U.S.C. § 102(b) is in error. We will affirm the rejection as to claim 22, as well as claim 23 depending therefrom.

*Claim 24*

This claim is directed to a user terminal for a satellite navigation system. The intended use of the user terminal is to act as a component of a system that transmits navigation data from navigation satellites and pseudolites. (Appeal Br., Claims Appendix).

Appellant's arguments parallel those presented with respect to the previously discussed independent claims. Appellant first asserts that Schellenberg can be distinguished on the basis that the reference does not disclose that pseudolite positional information is transmitted as part of the navigation data, and does not disclose that such information is transmitted in the same channels and with the same protocols, as recited in claim 24. (Appeal Br. 20). We found above, with respect to claim 1, that the pseudolite positional information in Schellenberg is transmitted as part of the navigation data. Further, since the pseudolite positional information is included in a single transmission, that information necessarily is transmitted in the same channel and with the same protocols. These elements of claim 24 do not patentably distinguish the claim over the Schellenberg reference.

Appellant further attempts to distinguish claim 24 from Schellenberg on the basis that some embodiments disclosed in Schellenberg have a receiver that determines its position and/or navigates using a combination of signals transmitted from the APL transmitters and signals transmitted from GNSS satellites, and that these transmissions appear to be separate transmissions. Appellant states that there is no teaching that these separate transmissions are in the same channels or use the same protocols. (Appeal Br. 20-21). This argument is unavailing, in that it addresses only one or more alternative embodiments of the Schellenberg disclosure. Schellenberg explicitly discloses that the receiver in at least one embodiment therein navigates or determines position using transmissions solely from APL transmitters. (FF 6). In addition, Appellant's assertion as to the absence of a teaching of using the same channels and protocols is not persuasive, in view of Schellenberg's disclosure that the pseudolites may use the same frequencies and data structures as do the satellites. (FF 8).

Appellant further repeats the assertion that Schellenberg contains no disclosure of pseudolite information being transmitted in the form of a model of a pseudolite trajectory in a reference coordinate system, wherein the model accounts for orbit-divergent motions of the pseudolite. (Appeal Br. 21). There is no recitation of a transmission of information in claim 24, which is an apparatus claim, however, the claim does recite that the user terminal is to have a position model decoding device structured and arranged

to extract the model data and to determine a position of at least one pseudolite according to the model data. (Appeal Br., Claims Appendix).

As we found previously, the Schellenberg system transmits positional information that is based on a model of pseudolite trajectory, and which accounts for the orbit-divergent motions of its airborne pseudolites by determining the position of the pseudolite relative to a fixed point, wherein the change in position of the pseudolite relative to that fixed point is as a result of the pseudolite moving in an orbit-divergent manner. (FF 4, 5).

The receiver in the Schellenberg system operates to process or decode the model-based information transmitted from the pseudolite in order to determine a position of the pseudolite. (FF 9). The position model decoding device set forth in Claim 24 contains no structural limitations that distinguish over the Schellenberg receiver.

We are not persuaded that error was committed in rejecting claim 24 under 35 U.S.C. § 102(b) in view of Schellenberg. We will thus affirm the rejection as to claim 24 and claim 25 depending therefrom.

*Claim 20—New Ground of Rejection—35 U.S.C. § 101*

Claim 20 is directed to a computer program for processing navigation data from navigation satellites and pseudolites. The claimed program has inserted therein model data of a pseudolite trajectory, and the program is said to account for model data for orbit-divergent motions of a pseudolite. The program is recited as being “configured to work together with a position model decoding device of a user terminal.” (Appeal Br., Claims Appendix).

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Notwithstanding the presence of this “configured to” language, the claim does not include any recitation of a particular machine on which the program is to be run or executed. It is essentially nothing more than a recitation of an algorithm.

We adhere to the rule expressed in *Diamond v. Diehr*, 450 U.S. 175 (1981), that, at least absent the development of some hitherto unknown type of technology, “[t]ransformation and reduction of an article ‘to a different state or thing’ is the clue to the patentability of a process claim that does not include particular machines.” 450 U.S. at 184 (quoting *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972)), cited with approval in *In re Comiskey*, 499 F.3d 1365, 1377 (Fed. Cir. 2007).

Claim 20 fails to recite a transformation of matter into a different state or thing. Claim 20 only calls for the program to have certain data present in the program, and for the program to perform what can be characterized as an “accounting” for model data related to orbit-divergent motions of a pseudolite. No transformation of matter occurs in the program as claimed.

To the extent that the program might be regarded as being capable of manipulating (reading, analyzing) data, that is not sufficient to bring the claim within the ambit of statutory subject matter. The model data included in the program, and the accounting for other model data, appears to involve mathematical values or data. The “accounting” is a routine or procedure in the program for solving a particular type of mathematical problem, and is thus a mathematical algorithm. If a claim, in essence, covers only a

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mathematical algorithm, and otherwise involves only the analyzing of data by the algorithm, the claim is nonstatutory. *In re Grams*, 888 F.2d 835, 837 (Fed. Cir. 1989). We find that claim 20 here does not meet the requirements of 35 U.S.C. § 101.

Accordingly, we hold that claim 20 is directed to non-statutory subject matter, and thus we enter a new ground of rejection of this claim under 35 U.S.C. § 101.

#### CONCLUSIONS

We conclude that reversible error has been shown to exist in the rejection of claims 1-7 and 15-25 under the second paragraph of 35 U.S.C. § 112.

We conclude that no reversible error has been shown to exist in the rejection of claims 1-3, 5-9, 11-16, and 18-25 under 35 U.S.C. § 102(b).

#### DECISION

The decision of the Examiner to reject claims 1-7 and 15-25 under 35 U.S.C. § 112, second paragraph, is REVERSED.

The decision of the Examiner to reject Claims 1-3, 5-9, 11-16, and 18-25 under 35 U.S.C. § 102(b) is AFFIRMED.

We enter a new ground of rejection of claim 20 under 35 U.S.C. § 101 as being directed to non-statutory subject matter.

Regarding the affirmed rejection(s), 37 C.F.R. § 41.52(a)(1) provides

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that Appellant may file a single request for rehearing within two months from the date of the original decision of the Board.

In addition to affirming the Examiner's rejection(s) of one or more claims, this decision contains new grounds of rejection pursuant to 37 C.F.R. § 41.50(b) (2007). 37 C.F.R. § 41.50(b) provides "[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review."

37 C.F.R. § 41.50(b) also provides that Appellants, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new grounds of rejection to avoid termination of the appeal as to the rejected claims:

(1) *Reopen prosecution*. Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the Examiner, in which event the proceeding will be remanded to the Examiner. . . .

(2) *Request rehearing*. Request that the proceeding be reheard under § 41.52 by the Board upon the same record. . . .

Should Appellants elect to prosecute further before the Examiner pursuant to 37 C.F.R. § 41.50(b)(1), in order to preserve the right to seek review under 35 U.S.C. §§ 141 or 145 with respect to the affirmed rejection, the effective date of the affirmance is deferred until conclusion of the prosecution before the Examiner unless, as a mere incident to the limited prosecution, the affirmed rejection is overcome.

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If Appellants elect prosecution before the Examiner and this does not result in allowance of the application, abandonment or a second appeal, this case should be returned to the Board of Patent Appeals and Interferences for final action on the affirmed rejection, including any timely request for rehearing thereof.

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) (2007).

AFFIRMED-IN-PART; 37 C.F.R. § 41.50(b)

vsh

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