

United States Court of Appeals for the Federal Circuit

99-1562

TELEMAC CELLULAR CORPORATION,

Plaintiff-Appellant,

v.

TOPP TELECOM, INC.,

Defendant-Appellee.

Guy W. Chambers, Townsend and Townsend and Crew, LLP, of San Francisco, California, argued for plaintiff-appellant. With him on the brief was Roger L. Cook.

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Appealed from: United States District Court for the Northern District of California

Judge Claudia Wilken

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Defendant-Appellee.

DECIDED: April 25, 2001

Before NEWMAN, LOURIE, and GAJARSA, Circuit Judges.

GAJARSA, Circuit Judge.

Telemac Cellular Corporation (“Telemac”) appeals from a grant of summary judgment by the United States District Court for the Northern District of California finding claims 1, 4, 6, 9, 18, 20-24, 29 and 30 of Telemac’s U.S. Patent No. 5,577,100 (“the ’100 patent”) invalid and not infringed by the TRACFONE system. Telemac Cellular Corp., v. Topp Telecom, Inc., No. 98-CV-22 (N.D. Cal. Aug. 25, 1999). For the reasons discussed below, we affirm the judgment of the district court.

BACKGROUND

Appellant, Telemac, plaintiff below, was formed in the early 1990s with a focus on the rental cellular telephone market. In an effort to minimize credit risk, Telemac sought to provide a cellular phone that automatically debited the cost of each call from an available credit account stored within the cellular phone. On January 30, 1995, Telemac filed a patent application describing that technology. The application issued as the '100 patent on November 19, 1996. The '100 patent discloses and claims a phone system including a mobile phone having internal accounting capabilities for performing real-time call debiting.

The patented debit phone differs from the conventional mobile phone in that the user pre-pays for calls, or "air time," when the user takes possession of the phone from the rental company. Specifically, the user is allowed a certain total amount of credit, which amount is stored in the phone's memory. As the user places calls, the cost for each call is debited from the stored credited amount in real-time. Debiting is accomplished using a program for carrying out the functional steps of the billing algorithm. In accordance with that algorithm, the call is first classified into one of the appropriate categories including local, long distance, international, or roaming calls. An internal rate table stores rate values corresponding to each calling category. The charge amount is determined based on the call's classification, the length of time of the call, and the corresponding rate value stored in the rate table.

The phone may be activated and programmed by placing it in a module, or "boot," connected to the host processor. It may also be programmed remotely using cellular paging signals to establish the call, and Dual Tone Multi-Frequency ("DTMF") signals for communicating programming codes. In both programming methods, the host processor

initiates communication and automatically transmits operating codes to the cellular phone to enable its operation. In accordance with yet a third programming method, the phone is activated manually via a user-initiated technique. In that activation method, a user calls the system provider's toll-free number and obtains activation codes from an operator, which the user enters manually.

Claim 1 of the '100 patent is the only independent claim. It reads as follows:

1. A mobile phone system comprising a system provider having a host processor unit and a plurality of system users each having at least one mobile phone unit wherein:

the host processor unit has communication means for selectively establishing a communication link with each mobile phone unit; and,

each phone unit includes a processor, a clock chip, memory associated with the processor, program means including a complex billing algorithm and rate data for internally calculating call charges as calls are made, wherein the phone unit includes internal accounting means for generating a debit account with an account amount in the phone unit and decrementing the account amount in the debit account in real time, and wherein the system provider has payment verification means under system provider control for setting a phone use account amount and communicating the account amount to the phone unit, wherein the internal account means adds the account amount to the debit account.

'100 patent, col. 19, ll. 2-21.

Topp Telecom, Inc. ("Topp"), the appellee-defendant, sells the TRACFONE system which also utilizes a prepaid cellular telephone. To activate Topp's phone, or to have credit amounts replenished, a user contacts a customer service representative at Topp's central service facility using a telephone other than the one purchased from Topp. The user provides an operator with the serial number of the Topp telephone unit as well as information identifying the user. The operator, in turn, provides the user with operating codes and instruction necessary to activate the phone. Manual entry of the operating

codes by the user causes the telephone to store a credit amount and completes activation.

Once activated, the charges for each call are calculated using prestored rates, and those charges are subtracted from the stored credited amount. Upon exhaustion of the credit amount, the user can purchase additional airtime through Topp's service center.

Because the phone is preprogrammed to recognize and block placement of international calls, the TRACFONE's billing algorithm does not calculate charges for international calls using an international rate. A TRACFONE user cannot place international calls directly, but must place international calls using an external exchange via a calling card or with the assistance of an operator.

In January 1998, Telemac filed an action against Topp alleging that Topp's TRACFONE system infringed the claims of the '100 patent. On October 16, 1998, Topp filed a motion for summary judgment alleging that claims 1, 4, 6, 9, 18, 20-24, 29 and 30 of the '100 patent should be declared invalid under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,631,947, granted to Wittstein et al. (the "Wittstein patent"). In opposition to that motion, Telemac submitted a declaration from Mr. Stephen Bristow, an industry expert, opposing Topp's invalidity allegation. The district court heard argument on Topp's summary judgment motion and on issues involving claim construction. In February 1999, the district court issued an order construing the claims of the patent, rejecting Telemac's expert evidence, and granting Topp's motion for partial summary judgment of invalidity finding the claims anticipated by the Wittstein patent. In an additional order issued in March 1999, the district court denied Telemac's motion for reconsideration finding that, while not expressly described, the claimed billing algorithm was necessarily present in Wittstein's patent. On subsequent cross-motions for summary judgment, the district court

found as a matter of law that none of the claims of the '100 patent was infringed by the accused TRACFONE system. In August 1999, the parties agreed to an entry of final judgment. The district court entered the requested final judgment citing portions of each of the previously described orders for its validity and infringement determinations.

In reviewing the district court's analysis, we note that, consistent with the arguments of the parties, its claim construction was limited solely to an interpretation of claim 1. The district court concluded that, in accordance with the plain language of that claim, the host processor initiates communications with the mobile phone. Specifically, the court based its construction of the claim on the language requiring that "the host processor . . . selectively establish[es] a communication link . . . with" the mobile telephone. The court explained that an interpretation in which the customer initiates the claimed communication is contrary to the plain meaning of the claim. The court further rejected Telemac's argument that such a construction of claim 1 would render similar language in claim 3 duplicative, concluding that the dependent claim included limitations not found in claim 1 as construed.

Relying on both the language of the claims and the written description, the court next determined that the term "communication link" be construed to require "automatic communications." First, the court reiterated that the claim requires communications established by the host processor, not the customer. Looking to the written description, the court determined that in each embodiment in which the host processor establishes the communication, the communication is established automatically. It further determined that in those embodiments, the communication is established to perform activation and programming of a customer's phone. The court cited various portions of the specification

in support of its argument, including a description of the preferred embodiment in which activation of the phone is accomplished using “a terminal interconnect” for direct machine-to-machine communication. Similarly, another section of the specification describing “automatic” communications cited by the court recited reprogramming of the rate table over the air at the initiation of the system provider. Thus, the court concluded that the “communication means” should be construed to encompass automatically established communications initiated for the sole purpose of performing activation or programming.

Rejecting Telemac’s proffered construction, the court concluded that the embodiment relied on by Telemac, describing manually established communications, functioned in accordance with the clause of the claim reciting the function of the “payment verification means,” not the “communication means.” The district court also determined that whether or not the structure of the claimed “payment verification means” uses some of the same technology employed by the “communication means,” the two means constitute distinct components of the claimed invention. Specifically, the court found that the “communication means” functioned to establish the communication link for activating and programming the mobile phone, whereas the “payment verification means” describes the process for updating the amount credited to the account. Based on that reading of the specification, the district court rejected Telemac’s arguments that the “communication means” should be construed broadly to include structure for performing user initiated communications.

With respect to the claimed “complex billing algorithm,” finding no clear meaning of this phrase evident from the claim itself, the court turned to the written description to discern its meaning. The court concluded that the complex billing algorithm is defined

therein as a function that includes the means to store phone rates for local, long distance, international, and roaming calls. The district court further determined that the algorithm includes means to identify the appropriate rate category and to selectively apply those rates to each call.

In its February 1999 order, the district court also determined that the Wittstein patent disclosed each of the limitations present in claim 1 of the patent as construed, as well as the limitations found in dependent claims 4, 6, 9, 18, 20-24, 29 and 30. Accordingly, the court granted Topp's motion for partial summary judgment of invalidity. In the order denying Telemac's request for leave to file a motion for reconsideration, the district court acknowledge that "the Wittstein patent does not expressly identify the four specific rate categories" required by the "complex billing algorithm." The district court explained that the disputed features are necessarily present in the disclosure of the Wittstein patent.

On April 17, 1999, Topp filed a motion for summary judgment of non-infringement in which it argued that the claimed "complex billing algorithm" and "communication means" were missing from the accused TRACFONE system. On July 1, 1999, the district court granted Topp's motion for summary judgment on the issue of non-infringement. The court found that because the TRACFONE system, as manufactured and sold, blocks international calls, the accused device does not store international rates in its memory and does not deduct values from the credit amount based on such rates. Instead, the court noted that international calls cannot be completed unless the customer first calls an outside international carrier. Accordingly, the court determined that the accused device lacked the "complex billing algorithm" limitation as construed. The court further determined that because the accused device did not allow placement of international calls, it did not

perform substantially the same function in substantially the same way as the claimed algorithm. Thus, the court concluded that the claims were not infringed literally or equivalently.

The court further found that the claimed “communication means for selectively establishing a communications link” was not present in the accused device. According to the district court, the claims require communication means that automatically establish communications with the phone via an electronic link, for performing activation and programming. In the TRACFONE system, however, the programming and activation process is initiated manually by the user, not automatically by the host processor using an electronic link. The court determined that the only automatic transmission of data present in the TRACFONE system relates to replenishment of the user’s credit amount, a function associated with the claimed “payment verification means.” The district court also rejected Telemac’s argument that automatic and manual programming are equivalent. The court determined that to reach such a finding, it would have to, in effect, vitiate the host initiated automated communication requirements of the claims as construed. On August 25, 1999, the district court entered final judgment pursuant to Rule 54(b) of Federal Rules of Civil Procedure, summarily holding the patent invalid and not infringed. Telemac appeals the judgment of the district court.

STANDARD OF REVIEW

This court reviews a district court’s grant of summary judgment without deference. Cortland Line Co. v. Orvis Co., 203 F.3d 1351, 1355, 53 USPQ2d 1734, 1746 (Fed. Cir. 2000). The moving party is entitled to summary judgment under Rule 56(c) “if the pleadings, depositions, answers to interrogatories, and admissions on file, together with

the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law.” In reviewing the district court’s grant of summary judgment, this court draws all reasonable inferences from the evidence in favor of the non-movant. Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 255 (1986).

Summary judgment is appropriate when it is apparent that only one conclusion as to infringement could be reached by a reasonable jury. ATD Corp. v. Lydall, Inc., 159 F.3d 534, 540, 48 USPQ2d 1321, 1324 (Fed. Cir. 1998). Summary judgment of noninfringement is appropriate where the patent owner’s proof is deficient in meeting an essential part of the legal standard for infringement, since such failure will render all other facts immaterial. London v. Carson Pirie Scott & Co., 946 F.2d 1534, 1537, 20 USPQ2d 1456, 1458 (Fed. Cir. 1991).

A patent infringement analysis involves two steps: (1) claim construction and, (2) application of the properly construed claim to the accused product. Markman v. Westview Instruments, Inc., 52 F.3d 967, 976, 34 USPQ2d 1321, 1326 (Fed. Cir. 1995) (en banc), aff’d, 517 U.S. 370 (1996). The first step, claim construction, is a matter of law that this court reviews without deference. Cybor Corp. v. FAS Tech., Inc., 138 F.3d 1448, 1454, 46 USPQ2d 1169, 1172 (Fed. Cir. 1998) (en banc). Whether the accused device contains an element corresponding to each claim limitation, or its equivalent, is a question of fact reviewed under the clearly erroneous standard of review. Roton Barrier, Inc. v. Stanley Works, 79 F.3d 1112, 1125, 37 USPQ2d 1816, 1826 (Fed. Cir. 1996).

DISCUSSION

I. Claim Construction

On appeal, Telemac argues that the court misconstrued two terms of the patent. Specifically, Telemac challenges the district court's construction of the "communication means" and the "complex billing algorithm."

A. "Communication Means"

Claim 1 of the patent claims a mobile phone system having a host processor. The host processor includes a "communication means for selectively establishing a communication link with each mobile phone unit." Because this limitation is written in "means-plus-function" form, in accordance with 35 U.S.C. § 112, ¶ 6, the claim must be construed to cover the structure disclosed in the specification as performing that function and equivalents thereof. Kahn v. General Motors Corp., 135 F.3d 1472, 1476, 45 USPQ2d 1608, 1610 (Fed. Cir. 1998). The first step of a 35 U.S.C. § 112, ¶ 6 analysis is to identify the function of the claim limitation. Kemco Sales, Inc. v. Control Papers Co., 208 F.3d 1352, 1361, 54 USPQ2d 1308, 1313 (Fed. Cir. 2000). The second step requires identification of the structures disclosed in the specification and equivalents thereof that perform the claimed function. Id.

The district court observed that the claim recites the function of selectively establishing communication with each mobile phone. Based on that construction, it determined that the only structure described as performing that function corresponds to the structure found in embodiments describing selective and automatic establishment of communications for performing activation or programming of the debit phone via an electronic link. We find no error in the district court's claim construction.

We begin our analysis of this means-plus-function limitation by determining the function recited. In accordance with the plain language of the claim, the function "selectively

establishing a communication link with each mobile phone unit” describes a communication established by the host processor. We cannot, as Telemac requests, read the plain language of that clause as encompassing communications established by the user, via the mobile phone. We are reminded that a construction that flies in the face of the express language of the claim is not preferred. Interactive Gift Express, Inc. v. CompuServe, Inc., 231 F.3d 859, 865, 56 USPQ2d 1647, 1652 (Fed. Cir. 2000). Unless something in the written description suggests that the patentee intended the unambiguous language to be construed in a manner inconsistent with its ordinary meaning, we are bound by that language. Id. Nothing in the written description contradicts the plain language describing the function of that limitation. In light of that, we cannot agree with Telemac that the claim can be construed to encompass systems in which the user manually establishes communications with the host processor.

Next, we identify the structure described within the specification as performing the claimed function. In the preferred embodiment, activation of the phone is performed using an interlink receiver for machine-to-machine communications, thereby ensuring a secure transfer of information. '100 patent, col. 3, ll. 60-67. The '100 patent describes over the air updating of the rate table “at the initiation of the system provider.” Id. at col. 14, ll. 14-19. The specification describes a transmission station for establishing a wireless link to the mobile phone for reprogramming the rate table over the air at the initiation of the host processor. Id. at col. 4, ll. 18-22; Id. at col. 6, ll. 32-39. The patent further states that the “system requires that a communication link be established between the host processor and the mobile phone unit and may require that the phone unit be physically connected to the host processor.” Id. at col. 1, ll. 15-19. Thus, numerous passages from the specification

identify the structure, each part of the host processor, for establishing a communication with a mobile phone.

As provided above, Telemac's challenge to the district court's construction, with an eye towards infringement, focuses upon whether the "communications means" should be construed to encompass embodiments describing communications established using toll-free calls placed by the user from the telephone. The function claimed, however, requires establishment of the link by the host processor, and not the mobile phone unit.

As a further challenge to the district court's construction, Telemac contends that embodiments describing user-initiated activation and replenishment meet the requirement that the host processor selectively establish a communication link because, in those embodiments, the host processor determines the identity of the phone establishing the communication. Telemac argues that those embodiments describe "selectively" communicating confidential information in accordance with the identity of that phone. Telemac would have this court interpret the term "selectively establishing" as a process by which the host processor checks the electronic serial number of the mobile phone that established the call. Moreover, Telemac suggests that the "selectively establishing" limitation of the claim can be found in the user-initiated embodiments, and that those embodiments should be encompassed within the scope of the claim.

On the record before us, we cannot agree with Telemac's assertions. As noted, both the plain language of the claim and the written description of the invention require that the link with the phone be "established" by the host processor, and not vice-versa. Telemac's reading of "selectively establishing," as encompassing a confidential communication protocol, ignores the remainder of the claim identifying the host processor

as the device that initiates the communication. Thus, we conclude that Telemac's proposed construction, encompassing manually initiated communications, would render the phrase "for selectively establishing a communication link with each mobile phone unit" mere surplusage. Accordingly, we reject Telemac's proposed interpretation of that language.

Telemac further argues that the court's construction is in conflict with the doctrine of claim differentiation. Under this doctrine, claims are presumed to be of a different scope. Kraft Foods, Inc. v. Int'l Trading Co., 203 F.3d 1362, 1366, 53 USPQ2d 1814, 1817 (Fed. Cir. 2000). Claim 3 provides that the host processor initiates the communication link at a "time" controlled by the system provider. Telemac contends that, under the district court's construction, the provisions of claim 3 would be negated by the court's construction limiting communications to those established automatically. We do not agree that the "time" limitation of claim 3 is negated by a construction of the "communication means" as limited to automatically established communications. Even accepting Telemac's assertions, we further note that claim 3 embraces additional limitations not encompassed within claim 1 including, "activating the communication of the record data of stored call charges from the mobile phone unit to the system provider." Therefore, the doctrine of claim differentiation does not lead us to reach a different construction.

Telemac further challenges the court's limitation of the claim to automatically established communications, on the basis that such an interpretation renders the claimed invention inoperable. First, Telemac notes that the court determined that the "communication means" performs activation and reprogramming exclusively, and that the "payment verification means" is used only for updating the account amount. Under that

construction, Telemac argues, the host processor cannot automatically communicate with the phone, or perform activation or programming, until the phone has been initially programmed and assigned a telephone number. Telemac's argument, however, is contradicted by the preferred embodiment describing activation and programming via a direct connection. '100 patent, col. 8, ll. 36-38. Based upon the written description, we reject Telemac's assertions that the court's construction would render the claim inoperable.

We conclude that only those embodiments involving communications established by the host processor meet the functional requirement of the claim. Therefore, we agree with the district court's interpretation of the phrase "communication means for selectively establishing a communication link with each mobile phone unit" to require communications established by the host processor. As the district court concluded, the disclosed embodiments describing user-initiated communications could not provide the structure or equivalent structure for performing the claimed function in accordance with 35 U.S.C. § 112, ¶ 6. Odetics, Inc. v. Storage Tech. Corp., 185 F.3d 1259, 1267, 51 USPQ2d 1225, 1229 (Fed. Cir. 1999).

B. "Complex Billing Algorithm"

The district court determined from the written description that the claimed "complex billing algorithm" requires storage of phone rates for, at a minimum, local, long distance, international, and roaming calls. It further determined that the algorithm required means for identifying the appropriate rate category for each telephone call and for the application of those rates to calculate the call charges.

Initially, we note that the claim provides "program means including a complex billing algorithm and rate data for internally calculating call charges as calls are made." Because

the term “complex billing algorithm” does not have an ordinary meaning, and its meaning is not clear from a plain reading of the claim, we turn to the remaining intrinsic evidence, including the written description, to aid in our construction of that term. Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582-83, 39 USPQ2d 1573, 1576-77 (Fed. Cir. 1996); Hockerson-Halberstadt, Inc. v. Avia Group Int'l, Inc., 222 F.3d 951, 955, 55 USPQ2d 1487, 1490 (Fed. Cir. 2000). The written description of the '100 patent states, “the basic complex billing algorithm calculates the call charges for the basic categories of local calls, long distance calls, international calls and roaming calls” and can be “expanded to incorporate other categories.” '100 patent, col. 17, ll. 1-8. Because the district court properly followed the intrinsic evidence, we agree with the district court’s construction of “complex billing algorithm.”

II. Validity

The district court found the disputed claims invalid as anticipated under 35 U.S.C. § 102(b) by Wittstein. Specifically, the district court determined that Wittstein discloses a debit phone calculating call charges using a plurality of charge rates stored within the telephone. It acknowledged that the prior art reference fails to expressly identify the four rate categories included in the “complex billing algorithm,” but found those features inherent, as evidenced by Telemac’s own documents.

Although anticipation is a question of fact, it still may be decided on summary judgment if the record reveals no genuine dispute of material fact. General Elec. Co. v. Nintendo Co., Ltd., 179 F.3d 1350, 1353, 50 USPQ2d 1910, 1912 (Fed. Cir. 1999). To review the summary judgment of invalidity for anticipation we need to determine de novo whether the evidence in the record raises any genuine disputes about material facts. Id. Summary judgment is proper if no reasonable jury could find that the patent is not anticipated. Id.; Oney v. Ratliff, 182 F.3d 893, 895, 51 USPQ2d 1697, 1699 (Fed. Cir. 1999) (“[S]ummary judgment is inappropriate if a trier of fact applying the clear and convincing standard could find for either party.”).

Upon review of the record before us, we agree with the district court’s determination that there is no disputed issue of material fact, and further conclude that no reasonable juror could find the asserted claims of the patent valid over the Wittstein patent.

Telemac concedes that the Wittstein patent discloses the use of a plurality of charge rates but argues that the four rates required in accordance with the “complex billing algorithm” are not present. Quoting Continental Can Co. USA, v. Monsanto Co., 948 F.2d 1264, 1268, 20 USPQ2d 1746, 1749 (Fed. Cir. 1991), Telemac argues that, under the law

of this circuit, the doctrine of inherency is only applicable when the evidence makes “clear that the missing descriptive matter is necessarily present in the thing described in the reference, and it would be so recognized by persons of ordinary skill.” Accordingly, Telemac argues that the district court erred by finding that one of ordinary skill in the art would understand a “Call Detail Record” to include each of these four rates.

Telemac further asserts that the court erroneously seized upon the words “Call Detail Record” in the Wittstein patent to conclude that the claimed billing algorithm is inherent therein, based on the erroneous finding that a Telemac informal invention disclosure defines “Detail Call Records” to include rates for all four categories. It next argues that the informal invention disclosure describes a system with the ability to discern only three of the four specific categories, failing to mention a “roaming” category. Accordingly, Telemac argues that the court committed error in finding the missing rate categories necessarily present, or inherent, in the Wittstein patent.

A prior art reference must disclose every limitation of the claimed invention, either explicitly or inherently, to anticipate. In re Schreiber, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997). “Under the principles of inherency, if the prior art necessarily functions in accordance with, or includes, the claimed limitations, it anticipates.” MEHL/Biophile Int'l Corp. v. Milgraum, 192 F.3d 1362, 1365, 52 USPQ2d 1303, 1305 (Fed. Cir. 1999). Whether a claim limitation is inherent in a prior art reference is a question of fact. Schreiber, 128 F.3d at 1477, 44 USPQ2d at 1431. Our review of the district court’s invalidity determination begins, therefore, with the express teachings of the prior art.

The Wittstein patent describes a mobile telephone for use as a rental phone which

“computes and stores all detail records and charges.” Col. 3, ll. 38-41. The patent explains that the rental phone includes “an on-board computer . . . which computes charges made for the use of the telephone based on charge rates stored in its storage means and stores that information as well as other call usage information, such as the other data normally included in a Call Detail Record.” Col. 6, ll. 14-19. To anticipate, the disclosed telephone must classify calls into each of the four categories and apply the appropriate rate to calculate the charges for those calls. A Call Detail Record provides a record of the calls for which the customer is charged, thereby indicating the categories and corresponding rates for each call made. Thus, for the Wittstein patent to anticipate, the disclosed telephone must be capable of generating a Call Detail Record specifying the charges corresponding to, at a minimum, local, long distance, international and roaming calls.

The district court found that “Telemac’s own documents indicate that a Call Detail Record includes information regarding the rates for such categories of calls” and that the limitations of the complex billing algorithm are necessarily met by the disclosure of the Wittstein patent. We agree. We note that recourse to extrinsic evidence is proper to determine whether a feature, while not explicitly discussed, is necessarily present in a reference. Continental Can Co., 948 F.2d at 1268, 20 USPQ2d at 1749. The evidence must make clear that the missing feature is necessarily present, and that it would be so recognized by persons of ordinary skill in the relevant art. Id.¹

¹ cf. MEHL/Biophile Intl. Corp. v. Milgraum, 192 F.3d 1362, 1365, 52 USPQ2d 1303, 1305 (Fed. Cir. 1999) (“Inherency is not necessarily coterminous with the knowledge of those of ordinary skill in the art. Artisans of ordinary skill may not recognize the inherent characteristics or functioning of the prior art.”); Atlas Powder Co. v. Ireco Inc., 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1946-47 (Fed. Cir. 1999) (“Inherency is not necessarily coterminous with the knowledge of those of ordinary skill in the art.”).

As noted, Telemac argues that the informal invention disclosure fails to mention the placement of “roaming” calls. Telemac’s informal invention disclosure, styled “Telemac Rental Accounting Cellular System (TRAC),” describes a TRAC Accounting Unit (TAU). Within that disclosure, the TAU is described as a device for calculating a rental phone bill using, inter alia, local, long distance, and international rates. While the informal disclosure fails to mention specifically whether a roaming rate can apply, we are not persuaded that standing alone, that fact demonstrates error in the district court’s inherency finding. Instead, the types of calls listed might have been merely exemplary, rather than exhaustive of the entire list of call categories permitted by that telephone system. We further note that roaming charges are not included among the list of call types blocked, which may suggest that the exclusion of roaming charges from among those listed was not intended as a limit on the capabilities of the proposed device. Although the example Detail Call Record provided within the disclosure fails to mention roaming, we are unable to ascertain the scope of a call record from this document alone. Therefore, we turn to the remaining Telemac “documents” of record.

We note that the informal invention disclosure appears to have yielded yet another Telemac document of record before the district court, U.S. Pat. No. 5,325,418 (“the ’418 patent”), owned by Telemac and incorporated by reference into Telemac’s ’100 patent. When a document is “incorporated by reference” into a host document, such as a patent, the referenced document becomes effectively part of the host document as if it were explicitly contained therein. Advanced Display Sys., Inc., v. Kent State Univ., 212 F.3d 1272, 1282, 54 USPQ2d 1673, 1679 (Fed. Cir. 2000); cf. Atmel Corp. v. Info. Storage Devices, Inc., 198 F.3d 1374, 1381, 53 USPQ2d 1225, 1229 (Fed. Cir. 1999) (“[S]tructure

supporting a means-plus-function claim under § 112, ¶6 must appear in the specification.”).

In the '418 patent, as in the informal invention disclosure, the tracking and accounting unit is described as a device for calculating charges incurred by a rental phone user. The patent states that the charges are calculated using the appropriate local, roaming, long distance, and international rates, and that the unit prints out a “detailed call list” of these charges for each customer. Column 10, lines 30-40. Therefore, the '418 patent supports the court’s conclusion that a Call Detail Record necessarily includes a listing of charges for calls categorized into the four claimed categories.

We find further support for the district court’s conclusion in the language of the '100 patent. Describing the operation of the complex billing algorithm, the written description of the patent characterizes the selection of categories and rates as “virtually [mirroring] the factors considered by public switched network providers and involved wireless service providers.” Column 14, lines 1-6. It is beyond dispute that roaming charges would have been included in the factors considered by “involved wireless service providers.” Consistent with that, the '100 patent describes an algorithm which categorizes calls into local, long distance, international and roaming call categories. Thus, at a minimum, the written description of the patent suggests that the inventors of the '100 patent understood that wireless providers would have included at least the claimed call categories. Column 17, lines 1-3. Therefore, we conclude that the '100 patent suggests that a Call Detail Record, as a record of the types of calls the user of a wireless telephone can place, would include each of the four call categories claimed.

We further note that no substantive testimony of record contradicted the district court’s determination that the four call categories were necessarily present in the Call

Detail Record. Broad conclusory statements offered by Telemac's experts are not evidence and are not sufficient to establish a genuine issue of material fact. Collins, Inc. v. Northern Telecomm., Ltd., 216 F.3d 1042, 1046, 55 USPQ2d 1143, 1146 (Fed. Cir. 2000); In re Dembiczak, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999). Furthermore, Mr. McGregor, Telemac's founder and the principal inventor of the '100 patent, admitted that since 1987, Call Detail Records have included all four types of calls. Therefore, the court was correct to rely on the admissions of Mr. McGregor, establishing that as of 1987, Call Detail Records included roaming call charges when such calls were made by the user, thereby clarifying the ambiguity found in the invention disclosure statement regarding the meaning of the "Call Detail Record" recited in the Wittstein patent.

In sum, the district court's inherency determination is not contradicted by the contents of the informal invention disclosure. Indeed, when read in light of the '418 patent, the '100 patent, and the admission of Mr. McGregor, it is evident that as of the time the application which issued as the Wittstein patent was filed a Call Detail Record necessarily included information regarding the rates for the claimed call categories. Thus, the Wittstein patent discloses an algorithm which calculates charges for all four claimed categories of calls. Accordingly, we are in agreement with the district court's conclusion that no reasonable jury could find the claims of the '100 patent valid in light of the anticipating disclosure found in the Wittstein patent.

III. Infringement

A. "Complex Billing Algorithm"

In determining whether there has been literal infringement, this court applies a two step analysis. Once the claims have been correctly construed to determine their scope, the claims must be compared to the accused device. Markman, 52 F.3d at 976, 34 USPQ2d at 1326. To find literal infringement, each limitation of the claim must be present in the accused device. Any deviation from the claim precludes such a finding. Cole v. Kimberly-Clark Corp., 102 F.3d 524, 532, 41 USPQ2d 1001, 1007 (Fed. Cir. 1996).

The parties do not dispute that the claimed “complex billing algorithm” requires calculation of charges using call rates based on classification of calls into local, long distance, international and roaming call categories. Based on that construction, the district court found that Topp’s TRACFONE system does not infringe claim 1 of the ’100 patent. The court noted that the TRACFONE system, as manufactured and sold, does not allow users to place international calls. The court determined that the accused system does not store the international call rates in its memory and does not utilize international call rates in its billing algorithm.

Telemac contends that, even though Topp has chosen not to permit direct dialing of international calls, the capability of billing for international rates is nonetheless present in the phone’s source code. According to Telemac, because Topp’s system is capable of being modified to place, and charge for, international calls, Topp’s system infringes.

Under the precedent of this circuit, however, that a device is capable of being modified to operate in an infringing manner is not sufficient, by itself, to support a finding of infringement. High Tech Med. Instrumentation v. New Image Indus., Inc., 49 F.3d 1551, 1556, 33 USPQ2d 2005, 2008-09 (Fed. Cir. 1995). In this case, due to a restriction built into the software program stored in the telephone’s memory, a user of Topp’s system is

prevented from directly placing international calls. Therefore, international rates, and the calculation of charges for such calls, are not included in the billing algorithm of the accused device. The district court correctly concluded that Telemac's allegations of literal infringement must fail.

Nor do we take issue with the district court's conclusion that this limitation is not met equivalently. One method for finding infringement under the doctrine of equivalents, with regard to each element not met literally, is to determine whether the accused device performs substantially the same function, in substantially the same way, to achieve substantially the same result, as that of the invention claimed. Unidynamics Corp. v. Automatic Prod. Int'l, Ltd., 157 F.3d 1311, 1322, 48 USPQ2d 1099, 1106 (Fed. Cir. 1998) (citing Alpex Computer Corp. v. Nintendo Co., 102 F.3d 1214, 1222, 40 USPQ2d 1667, 1673-74 (Fed. Cir. 1996)). In this case, the district court determined that because the accused device does not permit the placement of international calls, it does not perform substantially the same function in substantially the same way to achieve substantially the same result as the claimed invention.

Under the claim as properly construed, the accused device must store an international rate in its memory. The accused device must also calculate charges to be debited from the account amount using that rate. The TRACFONE system, however, blocks direct placement of international calls. To place an international call, a user must employ the services of an outside international carrier. Therefore, no international rate is stored in the phone and no charges are calculated using an international rate. Although an international carrier would charge an international calling rate, the debit phone would categorize the call as a local or roaming call, not an international call. Accordingly, the

district court correctly concluded that no reasonable jury could find that the accused device includes a complex billing algorithm that categorizes and calculates charges for all four types of calls, or that the accused device performs substantially the same function in substantially the same way with substantially the same result.

We further note that to reach a finding of equivalents, in the absence of any corresponding element present in the accused device, the district court would have had to ignore the international rate calculation limitation of the claim as construed. In effect, the district court would have to strike that limitation from the claim. Where no equivalent element can be identified in the accused device, the district court is not at liberty to altogether ignore limitations of a claim. Zodiac Pool Care, Inc. v. Hoffinger Indus., Inc., 206 F.3d 1408, 1416, 54 USPQ2d 1141, 1147 (Fed. Cir. 2000). In Warner-Jenkinson Co. v. Hilton Davis Chemical Co., 520 U.S. 17, 39 n.8 (1997), the Supreme Court states, “if a theory of equivalence would entirely vitiate a particular claim element, partial or complete judgment should be rendered by the court, as there would be no further material issue for the jury to resolve.” Because no feature in the accused device corresponds to the international call category component of the claimed telephone system, no reasonable jury could have found that the accused device infringes under the doctrine of equivalents.

B. “Communication Means”

The district court also determined that Topp’s TRACFONE system lacks structure corresponding to the “communication means for selectively establishing a communication link” between the host processor and each mobile phone unit. Distinguishing Topp’s system from the claimed invention, the court found that the accused system did not selectively and automatically establish communications for purposes of activating or

programming the phone. It further found that activation of the TRACFONE is accomplished by way of customer-initiated communications. The user dials the host processor's 800 number and receives an activation code from an operator for manual entry. The district court noted that the only reference in the record to automatic data transmission by the TRACFONE system involved the process for updating the account amount, a function of the "payment verification means," not the "communication means." Thus, the court determined that the accused device did not include an element corresponding to that limitation and did not literally infringe. For that same reason, the court rejected Telemac's argument that manual entry of codes is the equivalent of electronic transmission of data. We conclude that a reasonable jury could not have found that the accused device included structure corresponding to the claimed communication means.

To find literal infringement of claim limitations written in means-plus-function form, a court must find, at a minimum, identity of function between the claimed function and that of the accused device. WMS Gaming, Inc. v. International Game Tech., 184 F.3d 1339, 1350, 51 USPQ2d 1385, 1392-93 (Fed. Cir. 1999). Next, the court must satisfy itself that the accused device incorporates the same or equivalent structure to that described in the specification as performing that function. Id. Thus, Topp's system must, at a minimum, include structure performing the functions recited in the claims in means-plus-function form.

As noted, the '100 patent provides a description of embodiments in which the communication is performed using a direct couple, interlink receiver, and one established using cellular paging techniques. Telemac failed to introduce evidence to show that Topp's system included such a means for selectively establishing communication with each phone.

Telemac had argued that the “communication means” should be construed to include manual established communications, and its infringement analysis depended upon that construction. The district court, however, rejected that construction, as do we. The district court correctly determined that the function and structure for performing user-initiated communications found in the TRACFONE system, corresponds to the claimed “payment verification means,” and are not part of the communication means. Thus, Telemac was unable to point to any component of the accused device which corresponds to the claimed “communication means.” Because Telemac was not successful in its efforts to have the limitation construed to encompass user-initiated communications, its claim of infringement must fail.

With regard to infringement under the doctrine of equivalents, the district court determined that there was no equivalent function or structure in the TRACFONE system to establish, selectively and automatically, communications with the mobile telephones. As stated previously, to find infringement under the doctrine of equivalents the analysis “often turns on whether the accused device performs substantially the same function, in substantially the same way, to achieve substantially the same result.” Unidynamics, 157 F.3d at 1322, 48 USPQ2d at 1106. We agree with the district court that the structure used to perform user-initiated communications in Topp’s system is not the same as or equivalent to the structure in the host processor corresponding to the claimed means for selectively establishing communications with a mobile telephone. Nothing in the accused device was shown to function in the manner required by the claims or in an equivalent manner. We agree with the district court, therefore, that this limitation has not been shown to have been met equivalently by the accused device.

CONCLUSION

We agree with the claim construction articulated by the district court. We further conclude that the district court properly granted Topp's motions for summary judgment of invalidity and noninfringement. Accordingly, the judgment of the district court is

AFFIRMED.

COSTS

No costs.