

NOTE: This disposition is nonprecedential.

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

AEROTEL, LTD.,
Plaintiff-Appellant,

v.

**TELCO GROUP, INC., STI PHONECARD, INC., STI
PREPAID DISTRIBUTORS, INC. AND SAMER
TAWFIK,**
Defendants-Appellees,

and

**RADIANT TELECOM, INC., INTELLIGENT
SWITCHING & SOFTWARE, LLC, AND NTERA
HOLDINGS, INC.,**
Defendants-Appellees,

And

**9278 COMMUNICATIONS, INC., 9278
DISTRIBUTORS, INC., SAJID KAPADIA, AND NTSE
COMMUNICATIONS, INC.,**
Defendants.

2010-1515

Appeal from the United States District Court for the
Southern District of New York in Case No. 04-CV-10292,
Judge Richard J. Holwell

Decided: July 26, 2011

DENNIS M. FLAHERTY, Ostrager Chong Flaherty & Broitman, P.C., of New York, New York, argued for plaintiff-appellant. With him on the brief was GLENN F. OSTRAGER. Of counsel on the brief was JEANNE C. CURTIS, Ropes & Gray, LLP, of New York, New York.

ROBERT T. MALDONADO, Cooper & Dunham, LLP, of New York, New York, argued for all defendants-appellees. With him on the brief for Telco Group, Inc., et al, were WILLIAM E. PELTON and TONIA A. SAYOUR. Of counsel was JOHN C. CAREY, Carey, Rodriguez, Greenberg & Paul, LLP, of Miami, Florida, for defendants-appellees Radiant Telecom, Inc., et al.

Before RADER, *Chief Judge*, LINN and O'MALLEY, *Circuit Judges*.

O'MALLEY, *Circuit Judge*.

In this patent case, Aerotel, Ltd. (“Aerotel”) appeals from a Consent Judgment in which the parties agreed that, based on the district court’s claim construction order, Claim 9 of U.S. Patent No. 4,706,275 (“the ‘275 Patent”) is invalid and not infringed by any Defendant.¹

¹ Aerotel asserted infringement against three groups of Defendants: (1) Telco Group, Inc., STI Phonecard, Inc., STI Prepaid Distributors, Inc., and Samer Tawfik (referred to collectively as “Telco”); (2) Radiant Telecom, Inc., Intelligent Switching & Software, LLC, and NTERA Holdings, Inc. (“the Radiant Defendants”); and (3) 9278 Communications, Inc., 9278 Distributors, Inc.,

The district court signed the Consent Judgment, thereby entering a final, appealable judgment of invalidity and noninfringement of Claim 9 of the ‘275 Patent. For the reasons explained below, the Consent Judgment is *affirmed in part*, and *vacated in part*.

BACKGROUND

A. Factual Background

1. *The ‘275 Patent*

The ‘275 Patent, which issued on November 10, 1987, is directed to “[a] telephone system enabling prepayment for telephone calls.” It was invented by an Israeli citizen, Zvi Kamil, and was assigned to Aerotel. The patent expired on November 10, 2005.

The “Background of the Invention” explains that, at the time the application was filed, it was “extremely difficult to make long distance calls from public pay-phones since it requires large amounts of [] coins – not ordinarily carried about – especially when touring or on a business trip.” ‘275 Patent col. 1 ll. 39-42. The background concludes with the statement that “there is a long felt need for a system which enables making telephone

Sajid Kapadia, and NTSE Communications, Inc. (“the 9278 Defendants”). In the proceedings below, Aerotel and the 9278 Defendants entered into a settlement agreement and submitted a stipulated order of dismissal which the district court entered on August 16, 2010. As such, although they are named in the case caption, the 9278 Defendants are not parties to this appeal. On December 22, 2010, the Radiant Defendants filed a Notice of Joinder indicating that they join Telco’s Answer Brief and request that the court affirm the district court’s claim construction and consent judgment. Given this posture, and for ease of reference, we refer to Defendants-Appellees collectively as Telco.

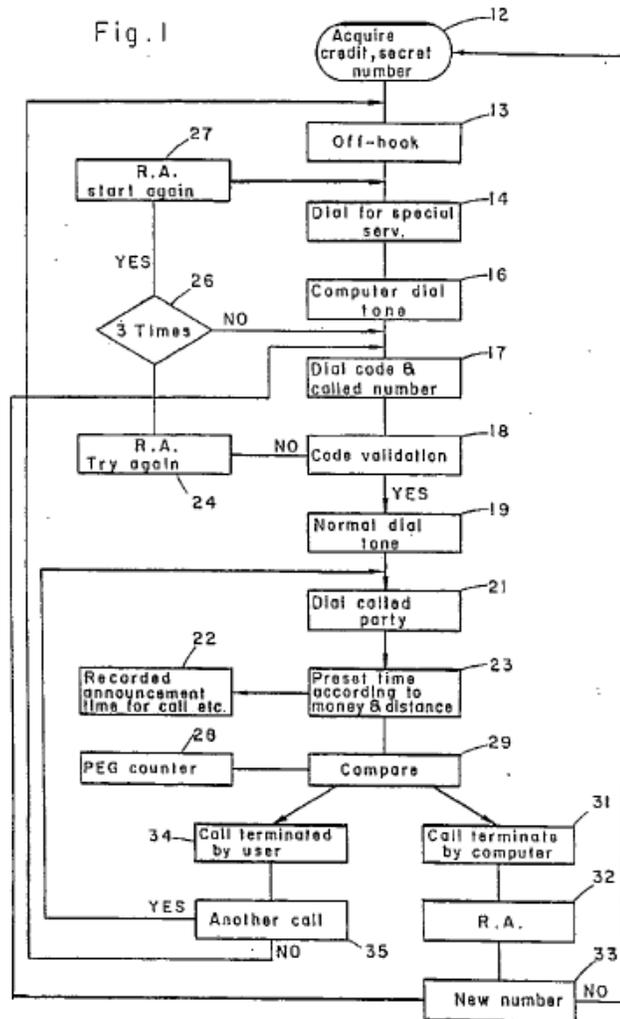
calls including local or toll calls conveniently, inexpensively and from any telephone.” *Id.* at col. 1 ll. 54-57.

Generally speaking, the system described in the ‘275 Patent allows a customer to deposit a prepayment amount, either by cash or credit card payment, with a prepaid service provider. The prepaid amount is stored as a credit in the “special exchange,” which is the equipment that processes the prepaid calls. The customer is given: (1) a “special code” to access the stored balance; and (2) a number to dial into the “special exchange.”

a. *The Embodiments*

The ‘275 Patent’s specification discloses two embodiments. The first embodiment, which is illustrated in Figures 1 and 3, is a telephone system where the special exchange processes prepaid telephone calls from any available telephone. The second embodiment, which is illustrated in Figure 2, is a telephone system in which the special exchange processes prepaid telephone calls from dedicated public telephones.

Figure 1 is a flow chart depicting a customer’s use of the prepaid telephone system from any private telephone:



In this embodiment, a customer can use any available telephone to dial the "special central office" which accesses the "special exchange" (Blocks 13 & 14). When the customer is connected to the special central office or exchange, "a special dial tone is sent from the special

exchange to the calling station.” ‘275 Patent col. 3 ll. 23-26. The customer then inputs: (1) the “special code” which provides access to that caller’s prepaid amount; and (2) the telephone number of the party to be called (Block 17). When the code and credit are verified (Block 18), a normal dial tone is sent to the caller (Block 19) and the system dials the called party (Block 21).² At Block 22, the “special exchange equipment provides an artificial or prerecorded voice announcement stating the amount of credit available and that the amount of credit is equivalent to so many minutes of talking time on the call being connected.” ‘275 Patent col. 3 ll. 43-47.

After the call is connected, a “time and distance computing circuit [which] is shown as a peg counter, is put into service to provide information for timing the call against the available credit.” ‘275 Patent col. 4 ll. 3-6. Information from the peg counter (Block 28) is sent to a comparator (Block 29) “to continuously determine whether the calling party’s credit is sufficient to pay for the call.” *Id.* at col 4 ll. 6-9. The call is disconnected if the balance is insufficient to continue the call or if the user terminates the call (Blocks 31 & 34). If there is credit remaining when the call is terminated, the updated prepaid balance is stored in the special exchange for future use.

The embodiment in Figure 2 is a telephone system in which the special exchange processes calls made from dedicated public phones. In this embodiment, the dedicated phone automatically connects directly to the special exchange without any dialing. Once connected to the

² The written description provides that “[t]he calling party’s predialed numbers are transmitted as indicated at block 21. Of course the system can be arranged so that the calling party dials the called party responsive to receipt of regular dial tone.” ‘275 Patent col. 3 ll. 39-42.

special exchange, the caller inputs the special code and the telephone number of the called party. The special exchange validates the code and the credit, and then connects the caller to the party associated with the inputted number.

b. *Claim 9 of the '275 Patent*

The '275 Patent has three independent claims: two method claims (Claims 1 and 23)³ and one apparatus claim (Claim 9). Although Aerotel initially asserted all three claims against Defendants, after the district court's claim construction, Aerotel abandoned Claims 1 and 23. As such, the only claim at issue in this appeal is Claim 9, which deals with a system for making telephone calls from "any available telephone station for prepaid customers."

Claim 9 provides as follows:

A telephone system for facilitating telephone calls including toll calls from any available telephone station for prepaid customers, said system comprising:

- (a) **means for coupling a calling party station to a special exchange;**
- (b) memory means in said special exchange for storing special customer codes and credit information individual to each prepaid customer;
- (c) means for verifying said calling party responsive to a code transmitted from the calling party's station to the special ex-

³ Claim 1 recites "[a] unique method for making telephone calls from any available telephone." Claim 23 is directed to "[a] method for making telephone calls."

change when one of the codes matches the code in the memory means and the calling party has unused credit and;

- (d) means for completing a call from said calling party station to a called station responsive to said verification, said means for verifying including **means for monitoring the credit of the calling party during a completed call.**

‘275 Patent col. 7 ll. 26-44. The only claim terms at issue in this appeal appear in bold: (1) the “means for coupling;” and (2) the “means for monitoring the credit.”

2. The Prosecution History

a. Original Prosecution

The ‘275 Patent application was filed on November 13, 1985. In an Office Action dated October 2, 1986, the PTO rejected Claims 1-23 under 35 U.S.C. § 112, ¶ 2, “as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.” Appendix (“A”) 1272. With respect to Claim 10, which issued as Claim 9, the PTO found that it was unpatentable over two prior art references: Peterson and Gehalo. Specifically, the PTO noted that:

The difference between Peterson and the claimed invention concerns prepayment and credit monitoring. Although Peterson mentions postpay telephone systems in his prior art discussion, his invention does not specifically mention prepayment and credit monitoring. It would therefore be obvious to supply the Peterson reference with the credit monitoring and prepayment features disclosed in Gehalo since Gehalo is also a credit tele-

phone which has the feature of making calls without coins or credit cards.

A1273.

In response, Aerotel filed an Amendment to the claim to add the limitation: “means for monitoring the credit of the calling party during a call.” In the “Remarks” portion of the Amendment, Aerotel stated that:

[T]he present invention is concerned with issuing a valid special code to a calling party when a prepayment amount is deposited. The prepayment amount is stored in a memory in a special exchange that is called by the calling party when he wishes to make a telephone call to a called party. The calling party inputs his special code and the number of the called party.

Before the calling party is connected to the called party, the special code inputted by the calling party is validated in the sense that the system determines whether the special code inputted by the calling party is a valid special code. If this is the case, then the calling party is connected to the called party only if the current initial prepayment amount stored in the memory exceeds the minimum cost of a call to the inputted number. Because the calling station and the called station are known, the minimum cost of a call can be computed beforehand. Thus, prior to making a connection, the system can determine whether the amount of the prepayment [] is sufficient to cover the minimum cost of the call.

A761-62.

In response to the examiner’s rejection, Aerotel explained that the Peterson prior art reference claims “a

system for providing coin-free service for certain unrestricted numbers from pay stations connected to coin trucks.” A763. Aerotel distinguished Peterson on grounds that it “neither shows, describes, nor suggests the use of prepayments to obtain a special code. No special central exchange is provided with equipment to monitor the remaining prepayment during a call made using the special code.” *Id.*

Aerotel next distinguished the Gehalo prior art reference on grounds that it “discloses a special pay station equipped with a reader for reading credit cards. The so-called ‘credit information’ is read and stored in an account number against which calls are credited.” *Id.* Aerotel argued that Gehalo failed to teach use of a special exchange and did not involve “monitoring of any prepayment since no prepayment is involved in this reference.” A764. Accordingly, Aerotel argued that Claim 10 should not have been rejected as anticipated by Gehalo because Gehalo did not “provide any way in which to monitor credit information that includes the amount remaining of a prepayment.” A764-65.

b. Reexaminations

The ‘275 Patent has undergone two consolidated reexaminations. In both instances, the PTO confirmed the patentability of all claims of the ‘275 Patent and Reexamination Certificates were issued without any amendments.

The first reexamination was a consolidation of three separate requests by third parties. Specifically, on December 20, 2000, the PTO indicated that it intended to reject Claims 1-23 of the ‘275 Patent as being obvious or anticipated by various patents. In response, Aerotel argued that the prior art references do not teach calling from “any available telephone” as provided in Claim 9.

And, according to Aerotel, since none of the prior art references included a “special exchange,” they could not teach “coupling a calling party station to a special exchange,” as provided in claim 9. *Id.*

During an interview with the examiner in 2001, Aerotel presented a PowerPoint slide describing the prepaid telephone system. In the series of slides, Aerotel depicted a dial counting down the remaining credit from \$5 to \$3 to \$0. The final slide showed a scenario where the special exchange disconnected the call because the prepayment amount of \$5 equaled the running cost of the call (\$5).

On December 16, 2002, the Examiner issued a Notice of Intent to Issue Reexamination Certificate. In the Notice, the Examiner stated, in relevant part, that:

The prior art of record fails to teach a unique method for making telephone calls from *any available telephone* . . . storing the prepayment amount in a memory in a special exchange . . . monitoring the prepayment amount less deductions for the running cost of the call; and disconnecting the call when the prepayment amount has been spent as claimed in claim 1.

A485-86. Accordingly, the PTO issued a Reexamination Certificate on April 8, 2003.

On April 13, 2005, the PTO issued a second Office Action, in which the examiner proposed to hold certain claims, including Claim 9, unpatentable as obvious over the prior art. Aerotel submitted a lengthy response, and

the PTO again confirmed the ‘275 Patent’s validity in a Reexamination Certificate dated June 27, 2006.⁴

B. The District Court Proceedings

On December 29, 2004, Aerotel filed suit against Defendants alleging infringement of the ‘275 Patent.⁵ In a Second Amended Complaint dated June 22, 2006, Aerotel alleged that the Defendants infringed the ‘275 Patent by using, offering to sell, selling, and inducing others to use, offer, and sell, products and services related to prepaid telephone calling cards which are covered by one or more claims of the ‘275 Patent. The Defendants denied infringement and asserted several affirmative defenses, including noninfringement and invalidity, but, significantly, did not present any counterclaims.

⁴ The second Reexamination Certificate was issued after the ‘275 Patent expired in November 2005.

⁵ In December 2007, Aerotel brought similar claims against T-Mobile in the Western District of Washington, Case No. C07-1957-JLR (“the Washington Action”). In the Washington Action, Aerotel alleged infringement only of Claim 23 of the ‘275 Patent. The court held a Markman hearing on October 9, 2009 and issued a claim construction order on December 23, 2009. The parties appealed the claim construction to this court, and, on December 20, 2010, this court issued an order affirming the district court’s claim construction with respect to Claim 23. *Aerotel, Ltd. v. T-Mobile USA, Inc.*, No. 2010-1179, 2010 U.S. App. LEXIS 25835 (Fed. Cir. Dec. 20, 2010). In that order, the court focused solely on step (d) of Claim 23: “inputting a special code and the number of the called party.” The court did not address any language in Claim 23 that overlaps with terms used in Claim 9. As such, the court’s prior order does not affect the issues raised in this appeal.

1. *Claim Construction*

On November 12 and 13, 2008, the district court conducted a Markman hearing. The parties sought claim construction of Claims 1, 9, and 23. Although the parties had retained experts to testify and had exchanged expert reports on claim construction issues, they agreed not to present any expert testimony to the court during the hearing.

In their Joint Claim Chart, the parties submitted, among others, the following proposed constructions:

Claim 9	Aerotel	Telco
(a) means for coupling a calling party station to a special exchange	<p>The function “coupling” means that signals can be sent from the calling party station to the special exchange.</p> <p>The structure corresponding to the “means for coupling” is the regular telephone system.</p>	<p>The function of “means for coupling” is “connecting a telephone used by a user to a special exchange.”</p> <p>The corresponding structure that performs the function is not disclosed in the patent specification.</p>
(d) means for monitoring the credit of the calling party during a completed call	<p>The function “monitoring the credit” includes monitoring by time which is converted to money or monitoring by time which is a function of</p>	<p>The function of “means for monitoring” is “keeping track of the difference between the prepayment amount less deductions for the</p>

	<p>money.</p> <p>The structure corresponding to the “means for monitoring” includes a computer programmed to monitor time which is a function of money (e.g., a talking time or time cutoff), a counter for timing the call, and a comparator for comparing the call duration to the time cutoff. An alternative structure is a computer programmed to monitor time which is converted to money and then determine whether there is credit remaining.</p>	<p>running cost of the call.”</p> <p>The patent specification does not disclose the corresponding structure for performing this function.</p>
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Although it is not entirely clear from the record, the parties ultimately reached some agreement regarding the scope of the structure for the “means for coupling.” Specifically, at the Markman hearing, counsel for Aerotel informed the court that Telco “agreed that there is no dispute regarding the structures of the means for coupling and the means for completing a call.” A1626. Aerotel represented that Telco “adopt[s] Aerotel’s position that the means for coupling the structure is the regular telephone system and the means for completing a call.” *Id.* at 1626-27.

On May 13, 2010, the court issued its Claim Construction Order. *Aerotel, Ltd v. Telco Group, Inc.*, No. 1:04-cv-10292, 2010 U.S. Dist. LEXIS 47266 (S.D.N.Y. May 13, 2010) (“Claim Construction Order”). With respect to Claim 1’s use of the word “monitoring” in the “monitoring the prepayment amount less deductions for the running cost of the call” limitation, the court found that the claim and the specification “expressly call for comparison of money.” *Id.* at *55.

Based on the parties’ representations at the Markman hearing, the district court noted that “the parties are in agreement that the ‘calling party station’ of claim 9 means ‘any available telephone.’” *Id.* at *71-72. Accordingly, the court found that “a means for coupling the calling party station to a special exchange is simply a means of connecting a telephone to a special exchange.” *Id.* at *72. The court found, however, that the patent is silent with respect to the corresponding structure that performs the coupling function. Although Aerotel argued that the “specification states that the structure corresponding to the ‘means for coupling’ is the regular telephone system,” the court found that nothing in Aerotel’s citations to the specification stated “which structure provides the means for coupling.” *Id.* at *72-73. The court concluded, therefore, that the function of the means for coupling is “connecting a telephone to a special exchange” but that the patent “does not recite a structure for performing that function.” *Id.* at *73.

Despite Aerotel’s arguments to the contrary, the court found that the claim element “means for monitoring the credit of the calling party” was limited to monitoring based on money, rather than monitoring based on time. In reaching this conclusion, the court noted that, “[o]f course, that credit is the result of a computation involving time and the cost-per-time of the call, but that computa-

tion would occur within one of the corresponding structures and the ultimate purpose of the monitoring is the eventual comparison with credit.” *Id.* at *76. Accordingly, the court found that the “credit” is “simply the amount of money in the calling party’s account. Thus the function of ‘monitoring the credit’ is comparing the amount of money in the calling party’s account with the cost of the call.” *Id.* at *77. The court further found that the corresponding structure for the “means for monitoring” “is a comparator, which makes use of information from a time and distance computing circuit.” *Id.*

2. Consent Judgment and Settlement Agreement

Based on the district court’s May 13, 2010 claim construction order, the parties entered into a Consent Judgment that Claim 9 is invalid and not infringed by any Defendant. The parties also entered into a settlement agreement which provided for dismissal with prejudice of Aerotel’s claims for infringement of Claims 1-8 and 10-23 of the ‘275 Patent.

In the Consent Judgment, the parties agreed that the Claim Construction Order “shall not have any res judicata, collateral estoppel or other preclusive effect with respect to any claim of Aerotel, Ltd. against any third party or any defendant not a party to the Settlement Agreement.” It also provided that the Consent Judgment “does not operate as a waiver of any right of any party to appeal this Court’s Claim Construction Order as applied to Claim 9.”

The district court signed the Consent Judgment, thereby entering a final, appealable judgment of invalidity and non-infringement on Claim 9 of the ‘275 Patent. Aerotel timely appealed to this court. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

DISCUSSION

Where, as here, the parties stipulate to noninfringement and invalidity after a claim construction ruling, the court “need only address the district court’s construction of the claims.” See *Altiris, Inc. v. Symantec Corp.*, 318 F.3d 1363, 1368 (Fed. Cir. 2003). We review claim construction de novo. *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1456 (Fed. Cir. 1998) (en banc). To interpret the claims, we look first to the intrinsic evidence in the record, including the claim language, the written description, and the prosecution history. *Vitronics Corp. v. Conceptoronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). Although it is less significant than intrinsic evidence, a court can consider extrinsic evidence in the record, which “consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1317 (Fed. Cir. 2005) (en banc) (citation omitted).

Aerotel’s appeal is focused solely on two claim limitations in Claim 9: (1) “means for coupling a calling party station to a special exchange;” and (2) “means for monitoring the credit of the calling party.” The parties agree that these terms are means-plus-function limitations which are governed by 35 U.S.C. § 112, ¶ 6. Section 112, ¶ 6 provides that: “[a]n element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital . . . in support thereof, and such claim shall be construed to cover the corresponding structure . . . described in the specification and equivalents thereof.”

Claim construction of a means-plus-function limitation involves two steps. First, the court must identify the claimed function. *Applied Med. Res. Corp. v. United*

States Surgical Corp., 448 F.3d 1324, 1332 (Fed. Cir. 2006). Second, the court must identify the corresponding structure that performs the recited function. *Id.* “A district court’s identification of the function and corresponding structure of a means-plus-function limitation is [] reviewed de novo.” *JVW Enterprises, Inc. v. Interact Accessories, Inc.*, 424 F.3d 1324, 1329 (Fed. Cir. 2005) (citing *ACTV, Inc. v. Walt Disney Co.*, 346 F.3d 1082, 1087 (Fed. Cir. 2003)).

The parties agree that the Consent Judgment must stand unless this court disagrees with the district court’s construction of: (1) the function and structure for the “means for monitoring the credit;” *and* (2) the structure for the “means for coupling.”⁶ We address each limitation in turn. Because we agree with the district court’s construction of the “means for monitoring the credit,” the Consent Judgment is affirmed as it relates to noninfringement. For the reasons discussed below, however, we vacate the portion of the Consent Judgment finding Claim 9 invalid as indefinite.

A. “Means for Monitoring the Credit”

Claim 9 describes a “means for monitoring the credit of the calling party during a completed call.” With respect to the “means for monitoring,” the district court found that: (1) the function is “comparing the amount of money

⁶ At oral argument, counsel for Aerotel noted that: “Aerotel needs to win on both issues on appeal so if you rule against us on either one then we lose.” Oral Argument at 14:00, available at <http://www.cafc.uscourts.gov/oral-argument-recordings/2010-1515/all>. Similarly, Telco’s brief explained that, if the court agrees with the district court’s construction on either the “means for coupling” or the “means for monitoring the credit,” then the Consent Judgment must be affirmed. Appellees’ Br. at 19.

in the calling party's account with the cost of the call;" and (2) the corresponding structure "is a comparator, which makes use of information from a time and distance computing circuit." *Claim Construction Order*, 2010 U.S. Dist. LEXIS 47266 at *77. On appeal, the parties disagree as to both the function and the structure of the "means for monitoring." For the reasons explained below, we agree with, and thus affirm, the district court's claim construction.

1. *Function*

Consistent with its interpretation of "monitoring" in Claim 1, the district court found that the "credit" that is ultimately monitored is unambiguously monetary." *Claim Construction Order*, 2010 U.S. Dist. LEXIS 47266 at *76. Recognizing that "credit is the result of a computation involving time and the cost-per-time of the call," the court noted that the "ultimate purpose of the monitoring is the eventual comparison with credit." *Id.* Accordingly, the court found that the function of "monitoring the credit" is "comparing the amount of money in the calling party's account with the cost of the call." *Id.* at *76-77.⁷

Aerotel argues that the function of the "means for monitoring" is either "monitoring by time which is converted to money" or "monitoring by time which is a func-

⁷ In reaching this conclusion, the court rejected Telco's proposed construction, which replaced the word "credit" with the phrase "prepayment amount," a phrase used in other instances in the patent. The court was unwilling to conclude that the inventor intended to use "prepayment amount" in place of the word "credit," when he had used "prepayment amount" elsewhere in the patent. Notably, however, in its Reply Brief, Aerotel states that "the term 'remaining prepayment amount' is simply a synonym for the term 'credit.'" Appellant's Reply at 16 n.1.

tion of money.” It also argues that the word “compare” is nowhere in Claim 9, and thus the district court should not have construed “means for monitoring” to mean comparing. According to Aerotel, the district court ignored language in the ‘275 Patent that is broad enough to encompass monitoring by money units as well as monitoring by time.

In response, Telco argues that the patent does not disclose monitoring by time. Specifically, Telco argues that: (1) none of the claims recite monitoring time; (2) the term “credit” is used throughout the specification to mean money; and (3) the prosecution history confirms that the patent discloses monitoring of money, not time. We find Telco’s arguments well-taken.

a. The Patent Claims and Specification

We begin our claim construction by examining the language of the claims. The claims, however, “must be read in view of the specification, of which they are a part.” *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc). The specification “is always highly relevant to the claim construction analysis” and “is the single best guide to the meaning of a disputed term.” *Phillips*, 415 F.3d at 1315 (quoting *Vitronics*, 90 F.3d at 1582).

The plain language of Claim 9 recites a “means for monitoring the credit of the calling party during a completed call.” Nothing in the language of the claim specifically provides for monitoring by time. And, as Telco points out, Aerotel consistently used language associated with monetary units in conjunction with the word “monitoring” in Claims 1 and 23 of the patent:

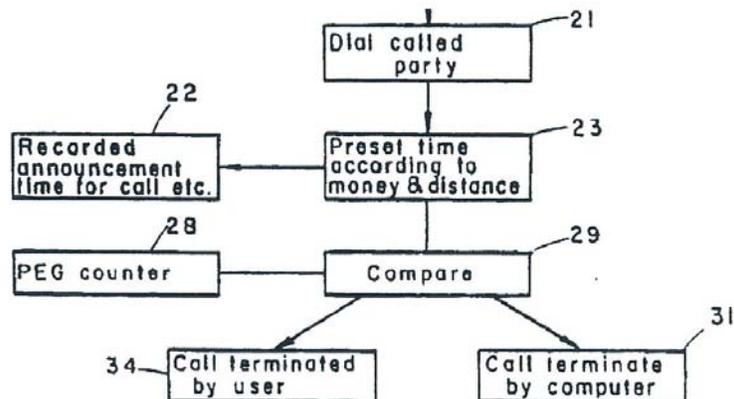
- Claim 1: “monitoring the prepayment amount less deductions for the running cost of the call;”

- Claim 23: “monitoring the running cost of the call.”

Telco next argues that the word “credit” is used throughout the specification to mean money. For example, the specification discloses that:

- “The amount paid is credited to the acquirer for use against future telephone calls. The credited amount is stored in a memory at the special central office along with the special code.” ‘275 Patent col. 3 ll. 12-16 (emphasis added).
- “[T]he special exchange equipment provides an artificial or prerecorded voice announcement stating the amount of *credit* available and that the amount of credit is equivalent to so many minutes of talking time on the call being connected.” *Id.* at col. 3 ll. 43-47 (emphasis added).
- “The information from the peg counter is sent to a comparator 29 to continuously determine whether the calling party’s *credit* is sufficient to *pay* for the call. When the credit equals the used time rate the call is automatically ended by the computer as indicated by the block 31.” *Id.* at col. 4 ll. 6-11 (emphasis added).

On appeal, Aerotel argues that the district court’s claim construction is based on a misinterpretation of Figure 1, which, according to Aerotel, shows that the credit can be monitored using units of time. In relevant part, Figure 1 shows a series of steps, including the following:



According to Aerotel, Figure 1 and its corresponding written description show that the comparator (29) receives information from the peg counter, which counts the call duration and Block 23, labeled “preset time according to money & distance,” which is the “number of minutes of talking time corresponding to the credit available.” Therefore, Aerotel argues, “the comparator 29 is comparing the call duration to the available talking time, thereby monitoring the credit during the call.” Appellant’s Brief at 40.

Aerotel further argues that the ‘275 Patent teaches two ways of “monitoring” a prepaid call, and in “both cases, the call is timed.”⁸ It submits that, in Figure 1,

⁸ Aerotel cites to the declaration of its technical expert, Richard Chandler, for an opinion as evidence of how a person of ordinary skill in the art of telecommunications would construe the term “monitoring.” The parties did not present expert testimony during the Markman Hearing and the district court did not consider extrinsic evidence. On appeal, Aerotel argues that this court should nonetheless consider the Chandler Declaration, which was submitted in the proceedings below as an exhibit attached to an attorney declaration in support of Aerotel’s claim construction briefing. Notably, Chandler’s Declara-

“before the call is connected the calling party’s credit balance is converted to an available talking time (i.e., a preset number of units, e.g., minutes of talking time).” *Id.* at 41. Then during the call, the peg counter “measures the duration of the call by counting, which count is compared to the available talking time.” *Id.* According to Aerotel, the service provider can disconnect the call when the user runs out of talking time. Aerotel also points to the embodiment shown in Figure 2 and argues that the call is also timed in that embodiment. Specifically, Aerotel contends that “the time rate of the call is used to compute (i.e. calculate) the cost of the call, which is then subtracted from the credit balance during the call.” Appellant’s Br. at 41.

In response, Telco argues that the system determines available talk time for announcement purposes only. We agree. The specification provides that, in one embodiment:

an artificial or prerecorded voice announcement stat[es] the amount of credit available and that the amount of credit is equivalent to so many minutes of talking time on the call being connected. This announcement is actively shown at block 22. The announcement is made according to the charge rate for the distance between calling and called parties shown at block 23.

‘275 Patent col. 3 ll. 44-51. As the district court found with respect to Claim 1, the voice announcement “involves

tion is directed to Claims 1, 2, 8 and 23 of the ‘275 Patent – not Claim 9. Nothing contained therein specifically addresses the limitation at issue here: “means for monitoring the *credit*.” In any event, because the weight of the intrinsic evidence contradicts Aerotel’s characterization of Chandler’s declaration, we do not find its arguments based on extrinsic evidence persuasive.

the prepaid exchange's user interface; it has nothing to do with how the system monitors calls." *Claim Construction Order*, 2010 U.S. Dist. LEXIS 47266 at *57. Based on the specification, we agree with Telco that: (1) this announcement is not part of the monitoring process, particularly given its placement in the flow chart depicted in Figure 1 (off to the side of the vertical sequence); and (2) nothing in the patent describes monitoring the announced talk time.

The specification states that the peg counter "provide[s] information for timing the call against the available credit" and that "information from the peg counter is sent to a comparator 29 to continuously determine *whether the calling party's credit is sufficient to pay for the call*. When the *credit equals the used time rate* the call is automatically ended by the computer." '275 Patent col. 4 ll. 6-11 (emphasis added). Based on this language, which uses the term "credit" in the context of payment, the credit monitored is monetary. As the district court correctly notes, although the credit "is the result of a computation involving time and the cost-per-time of the call," the "ultimate purpose of the monitoring is the eventual comparison with credit." *Claim Construction Order*, 2010 U.S. Dist. LEXIS 47266 at *76. Accordingly, we agree with the district court that the "credit" is the "amount of money in the calling party's account" and that "monitoring the credit" involves comparing the amount of money in the account to the cost of the call.

b. The Prosecution History

The prosecution history also supports the district court's conclusion that the monitoring set forth in Claim 9 is monitoring by money. *See Phillips*, 415 F.3d at 1317 ("[T]he prosecution history can often inform the meaning of the claim language by demonstrating how the inventor

understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be.”). As previously discussed, in an Office Action dated October 2, 1986, the PTO rejected Claim 10 (which issued as Claim 9) as unpatentable over the Peterson and Gehalo prior art references. In response, Aerotel added the limitation “means for monitoring the credit of the calling party during a call.” In the “Remarks” portion of its response to the Office Action, Aerotel specifically distinguished Peterson on grounds that, unlike the ‘275 Patent, “[n]o special central exchange is provided with equipment to monitor the remaining prepayment during a call made using the special code.” A763. Aerotel also distinguished the Gehalo prior art reference on grounds that Gehalo did not involve prepayment and thus did not “provide any way in which to monitor credit information that includes the amount remaining of a prepayment.” *Id.* at 764-65. These statements make clear that the credit monitored by Claim 9 is the remaining prepayment amount, which is a monetary unit.

Even more pointedly, during reexamination, Aerotel presented a PowerPoint slide describing the prepaid telephone system. In the series of slides, Aerotel showed a stove-top type dial counting down the remaining monetary credit from \$5 to \$3 to \$0. As Telco correctly notes, the dial demonstrates that the system monitors the prepayment amount, not time. Accordingly, the prosecution history confirms our conclusion that the district court correctly construed the phrase “monitoring the credit” to include monitoring by money, not by time.

2. *Structure*

Finally, Aerotel argues that the structure corresponding to the means for monitoring is a comparator which

makes use of information from a peg counter and a circuit that computes the preset time limit. In response, Telco submits that the district court correctly identified the structure as the comparator, which compares the remaining credit with the cost of the call. We agree.

The specification provides that:

the normal time and distance computing circuit is shown as a peg counter, is put into service to provide information for timing the call against the available credit. The information from the peg counter is sent to a comparator 29 to continuously determine whether the calling party's credit is sufficient to pay for the call.

'275 Patent col. 4 ll. 3-9. Based on this language, the district court correctly concluded that the corresponding structure for the "means for monitoring" is "a comparator, which makes use of information from a time and distance computing circuit" (i.e. the peg counter). As Telco argues, it is the comparator which compares the cost of the call to the amount of money in the calling party's account. Because the specification is clear that the corresponding structure is the comparator and that the comparator compares monetary credit to the monetary cost of the call, we affirm the district court's construction.

B. "Means for Coupling"

Because we agree with the district court's construction of the "means for monitoring the credit," we affirm the portion of the Consent Judgment finding that Claim 9 is not infringed. Where, as here, the defendants raised invalidity only as an affirmative defense, and not in the form of a counterclaim,⁹ it is ordinarily not necessary for

⁹ In the Consent Judgment, the parties agreed that Defendants "Telco Group, Inc., STI Phonecard, Inc., STI

this court to address validity once it has found noninfringement. *See Solomon Techs., Inc. v. Int’l Trade Comm.*, 524 F.3d 1310, 1319 (Fed. Cir. 2008) (noting that, where invalidity is asserted as a counterclaim, “the question of validity does not become moot when there has been a determination of noninfringement” but where invalidity is raised as an affirmative defense “it is not necessary for the reviewing court to address the validity issue”) (citations omitted); *see also Hill-Rom Co., Inc. v. Kinetic Concepts, Inc.*, 209 F.3d 1337, 1344 (Fed. Cir. 2000) (finding no need “to vacate the district court’s validity ruling or address that ruling on the merits” where the invalidity issue was raised only as an affirmative defense and the court’s judgment did not include any reference to the issue of validity). Because the parties entered into a Consent Judgment that specifically finds Claim 9 invalid for indefiniteness – a conclusion which this court finds is not well-taken – we vacate that portion of the Consent Judgment and explain our reasons for doing so.

The district court’s construction of the “means for coupling” was the sole basis for the parties’ stipulation that Claim 9 is invalid as indefinite. With respect to the “means for coupling,” the district court concluded that: (1) the function is “connecting a telephone to a special exchange;” and (2) the ‘275 Patent does not recite a corresponding structure for that function. Although the parties agree with the district court’s conclusion as to the function of the “means for coupling,” they disagree as to the corresponding structure. Accordingly, the issue before the court is whether the specification includes disclosure of a structure sufficient to perform the recited function.

Prepaid Distributors & Co., Ntera Holdings, Inc., Radiant Telecom, Inc., and Samer Tawfik filed Answers to the Second Amended Complaint without counterclaims.” A2.

Aerotel argues that, at the Markman hearing, the parties “stipulated that the structure corresponding to the coupling function was the regular telephone system.” Appellant’s Br. at 35. According to Aerotel, since neither party disputed that the patent disclosed a corresponding structure, the court should not have reached a contrary conclusion.

Although Telco concedes that the parties “reached an agreement as to the structure for the ‘means for coupling’ on the last day of the *Markman* hearing,” it notes that the “issue was alive and in dispute at all times before that, including during the *Markman* briefing period.” Appellees’ Br. at 48 n.15. And, according to Telco, even where parties stipulate as to the structure of a means-plus-function claim term, if the district court finds that the structure is not disclosed, it is not bound by that stipulation.

The evidence in the record regarding the parties’ stipulation is somewhat unclear. Although counsel for Aerotel informed the district court that the parties had reached an agreement, there is no written stipulation in the record, and it appears that there may have been some confusion about the precise nature of the stipulation.¹⁰

¹⁰ In the Claim Construction Order, the court characterizes the stipulation as an agreement between the parties that the “‘calling party station’ of claim 9 means ‘any available telephone.’” *Claim Construction Order*, 2010 U.S. Dist. LEXIS 47266 at *71-72. Based on this agreement, the court found that “a means for coupling the calling party station to a special exchange is simply a means of connecting a telephone to a special exchange.” *Id.* at *72. The court found, however, that the patent is silent with respect to the corresponding structure that performs the coupling function. In other words, it seems that the district court interpreted the parties’ verbal stipulation as an agreement regarding what was being

Setting aside the issue of whether the parties stipulated to the corresponding structure for the “means for coupling,” Aerotel argues that a person of ordinary skill in telecommunications readily would identify the “regular telephone system” as the structure performing the coupling function.¹¹ Based on our reading of the specification, we agree.

It is well-established that the “specification must be read as a whole to determine the structure capable of performing the claimed function.” *Budde v. Harley-Davidson, Inc.*, 250 F.3d 1369, 1379 (Fed. Cir. 2001). A structure disclosed in the specification is a “corresponding structure” “only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim.” *Med. Instrumentation & Diagnostics Corp. v. Elekta*, 344 F.3d 1205, 1210 (Fed. Cir. 2003) (quoting *B. Braun Med. v. Abbott Labs.*, 124 F.3d 1419, 1424 (Fed. Cir. 1997)). Whether the specification “adequately sets forth structure corresponding to the claimed function necessitates consideration of that disclosure from

coupled to the special exchange, not an agreement as to the structure performing the coupling function.

¹¹ During oral argument, the parties indicated that, during the proceedings before the district court, there was no stipulation as to the relevant level of skill in the art. That said, neither party identified a dispute as to the level of skill, and, with respect to Claim 1, the district court made specific findings as to the understanding of a person skilled in the art. *See Claim Construction Order*, 2010 U.S. Dist. LEXIS 47266 at *32 (“A person skilled in the art would know that a telephony system uses a number of other codes, including country codes, area codes, billing codes and so forth.”); *see also id.* at *39-40 (“[T]he Court believes that a person of skill in the art would understand that the special exchange must be located behind a regular telephone exchange for it to have its intended functionality.”).

the viewpoint of one skilled in the art.” *Budde*, 250 F.3d at 1376. If the patent fails to disclose a corresponding structure, the claim is indefinite in scope and thus invalid. *Id.* Accordingly, when the district court concluded that there is no structure corresponding to the “means for coupling,” it necessarily rendered Claim 9 invalid.

It is axiomatic that patents are presumed valid and that “overcoming the presumption of validity requires that any facts supporting a holding of invalidity must be proved by clear and convincing evidence.” *Id.* at 1376. Consequently, “a challenge to a claim containing a means-plus-function limitation as lacking structural support requires a finding, by clear and convincing evidence, that the specification lacks disclosure of structure sufficient to be understood by one skilled in the art as being adequate to perform the recited function.” *Id.* at 1376-77.

On appeal, Aerotel argues that the district court erred when it found that the ‘275 Patent does not disclose a structure corresponding to the function of connecting a telephone to the special exchange. In support of this argument, Aerotel relies primarily on Figure 3 of the ‘275 Patent:

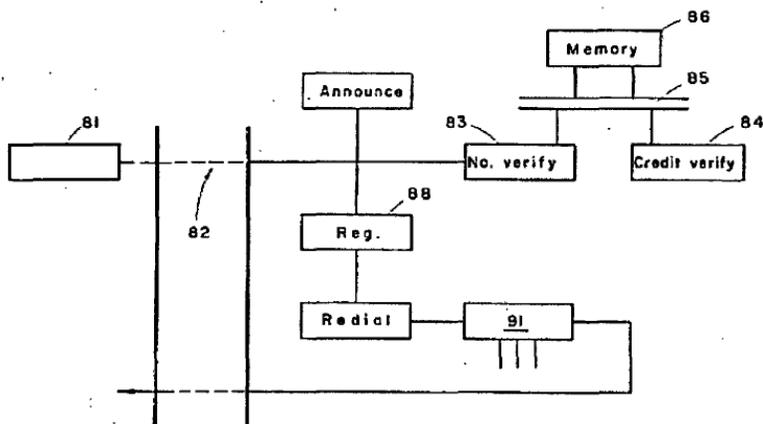


Fig. 3

The corresponding portion of the written description provides, in part, that:

In FIG. 3 the basic operation of the prepaid telephone call system is shown in block diagram form. The calling phone is indicated at 81. *The telephone 81 is connected to a regular telephone system indicated at 82.* The calling party dials the special charge number and by a code number verifier 83. The code number verifier looks into a section of the memory as indicated by the code to verify that the code is valid.

‘275 Patent col. 5 ll. 29-36 (emphasis added). As Aerotel correctly points out, Figure 3 shows that the calling telephone (81) is connected to the special exchange (83-86 and 91) through the “regular telephone system” (82). Aerotel submits that, based on this language, a person of ordinary skill in telecommunications would know that the “regular telephone system” performs the coupling function.

In response, Telco argues that, because no structure is disclosed in the specification, the district court “was not permitted by law to consider what a person of ordinary skill in the art would have understood the structure to be.” Appellees’ Br. at 20. According to Telco, although the patent makes reference to a “regular telephone system,” there is “no disclosure linking or associating such a system to the function of coupling a calling party station to the specification.” *Id.* at 50. Looking to Figure 3, Telco contends that the telephone (81) is separated by a dashed line which “indicates discontinuity rather than connectivity” and thus no structure for connecting is disclosed in the specification. We do not find this argument persuasive, particularly in light of the specification’s explanation

that the “telephone 81 is connected to a regular telephone system indicated at 82.”¹²

We find that, based on Figure 3 and the corresponding description in the specification, a person of ordinary skill in this field would know that the “regular telephone system” performs the coupling function. At a minimum, Telco did not meet its burden of showing by clear and convincing evidence that a person of ordinary skill in the art would be unable to identify the disclosed structure, which is, standing alone, sufficient to warrant reversal of the district court’s construction. *See Budde*, 250 F.3d at 1376-77. Accordingly, we find that the district court erred in concluding that the ‘275 Patent does not disclose a structure corresponding to the “means for coupling.” As such, the district court’s conclusion, which rendered Claim 9 invalid as indefinite, is reversed.

CONCLUSION

As noted, the parties agreed that, to reverse the Consent Judgment, this court would have to reject the district court’s construction of both the “means for coupling” and the “means for monitoring the credit.” Because we agree with the district court’s construction of the “means for monitoring the credit,” we affirm the portion of the Consent Judgment finding that Claim 9 of the ‘275 Patent is not infringed. For the reasons discussed above, however, both because invalidity was asserted solely as an affirma-

¹² The written description also provides that a person who wants to use the telephone system “uses the *nearest available telephone*, removes the handset, and dials a special central office When he is connected to the special central office . . . a special dial tone is sent from the special exchange to the calling station.” ‘275 Patent col. 3 ll. 20-26 (emphasis added). This language further supports our conclusion that the regular telephone is used to access the special exchange.

tive defense and because we find the district court's claim construction to be erroneous, we vacate the portion of the Consent Judgment finding that Claim 9 is invalid as indefinite.

AFFIRMED IN PART, VACATED IN PART

COSTS

No costs.