

United States District Court,  
S.D. California.

**SINGLE CHIP SYSTEMS CORPORATION and Neology, S. de R.L. de C.V.,**  
Plaintiffs.

v.

**INTERMEC IP CORP., Transcore, LP and Transcore Holdings, Inc,**  
Defendants.

Civil No. 04CV1517 JAH(BLM)

**April 18, 2006.**

Daniel J. O'Connor, Baker and McKenzie, Chicago, IL, Dongkwan James Pak, Howard N. Wisnia, Cynthia A. Freeland, James P. Conley, Baker and McKenzie, San Diego, CA, for Plaintiffs.

Bruce R. Zisser, Quinn Emanuel Urquhart Oliver and Hedges, William J. Robinson, Grant Kinsel, Foley and Lardner, Stephen M. Lobbin, Manatt, Phelps & Phillips, LLP, Los Angeles, CA, Carson P. Veach, Jacob D. Koering, Freeborn and Peters, Chicago, IL, for Defendants.

## **CLAIM CONSTRUCTION ORDER**

**JOHN A. HOUSTON, District Judge.**

### ***INTRODUCTION***

At issue is the construction of disputed terms used in U.S. Patent No. 5,030,807. Plaintiffs Single Chip Systems Corp. and Neology, S. de R.L. de C.V. (collectively "Plaintiffs") and Defendant TransCore, LP and TransCore Holdings, Inc. (collectively "TransCore") fully briefed the issues. Oral arguments were heard on December 19, 2005, with appearances by Howard Wisnia, Pamela Wong and James Conley for Plaintiffs, and William Robinson and Ronald Coslick for TransCore. This Court, after hearing the oral argument of counsel, took the matter under submission. The Court has considered the pleadings, files and records in this case, including the patent-in-suit and the relevant prosecution history, and the arguments of counsel, and now construes the disputed terms in the claims.

### ***BACKGROUND***

#### **1. Factual Background-U.S. Patent No. 5,030,807**

This case concerns U.S. Patent Number 5,030,807 ("the '807 Patent"), entitled "System for Reading and Writing Data from and into Remote Tags." The named inventors on the '807 Patent are Jeremy A. Landt and Alfred R. Koelle. The '807 Patent, which was filed with the U.S. Patent and Trademark Office on January 16, 1990, was issued on July 9, 1991. Defendant Intermec IP Corp is the assignee of the '807 Patent. Defendants TransCore, L.P. and TransCore Holdings, Inc., licensed the '327 Patent from Defendant

Intermec, Corp. *See* Cplt. at 4.

The '807 Patent discloses systems and devices for identifying, reading, relaying and writing information into moveable objects. Moveable objects employing these systems and devices include the tracking of retail items, electronic automated tollbooths, inventory control during shipment and container tracking. The system employs an interrogator which sends a radio frequency ("RF") signal to a moveable object. The moveable object is capable of relaying information stored in the object by backscatter modulating information stored in the moveable object onto the RF signal. The moveable object transmits this information back to the interrogator, which can store the information, as well as write information into the object. The interrogator is capable of writing information into a moveable object only if it recognizes the moveable object, and has information to write into the moveable object.

## **2. Procedural History FN1**

FN1. The following procedural history is an abbreviated account of the pleadings filed in this matter.

Plaintiffs filed the instant complaint on July 27, 2004, seeking declaratory relief from the courts regarding three of Defendant Intermec IP Corporations's patents (U.S. Patent Nos. 5,030,807; 5,528,222; and 6,121,880). Defendant Intermec moved to dismiss claims two and three of the complaint, or U.S. Patent Nos. 5,528,222 and 6,121,880. Doc. No. 37. This Court granted Defendant Intermec's motion, over the objection of TransCore, leaving only U.S. Patent No. 5,030,807 (the "'807 patent") in this declaratory relief action. *See* Doc. Nos. 43 and 61.

In October 2005, TransCore inquired with this Court whether or not an early Markman hearing would be entertained. The Court indicated that it would. The parties met and conferred, and stipulated to a schedule controlling the submission of Markman hearing briefs and related expert depositions. *See* Doc. No. 103. On November 3, 2005, this Court issued an Order adopting the parties' stipulation with revisions. *Id.*

On December 1, 2005, the parties filed a joint claim construction chart and pre-hearing brief regarding the Markman proceedings. Doc. No. 129. Plaintiffs and TransCore filed their Opening Markman briefs on November 23, 2005 and December 5, 2005, respectively. *See* Doc. Nos. 121 and 132. Plaintiffs and TransCore filed their Opposition briefs on December 7, 2005. *See* Doc. Nos. 134 and 136. Plaintiffs and TransCore filed their Reply briefs on December 14, 2005. *See* Doc. Nos. 143 and 145. A tutorial hearing was held on December 19, 2005, and a Markman hearing on January 9, 2006. Doc. Nos. 148 and 154. TransCore subsequently filed a Citation of New Authority after the Markman hearing, which Plaintiffs opposed. Doc. Nos. 155 and 163. On March 22, 2006, this Court ordered supplemental briefing from the parties. *See* Doc. No. 197. Both parties filed supplemental briefs on March 30, 2006.

## ***DISCUSSION***

### **1. Legal Standard**

#### **A. Claim Construction**

"The construction of claims is simply a way of elaborating the normally terse claim language in order to

understand and explain, but not to change, the scope of the claims." *Embrex, Inc. v. Serv. Eng'g Corp.*, 216 F.3d 1343, 1347 (Fed.Cir.2000). Claim interpretation requires a review of the intrinsic evidence, including the claim language and written description contained within the body of the patent specification and the prosecution history. *See Embrex*, 216 F.3d at 1347. Extrinsic evidence, such as expert witnesses or dictionaries, may also be considered "if the court deems it helpful in determining the true meaning of the language used in the patent claims." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1318 (Fed.Cir.2005). The Federal Circuit in *Phillips* cautions, however, that the court must "attach the appropriate weight ... to [extrinsic] sources in light of the statutes and policies that inform patent law." *Id.* at 1324.

In determining the meaning of the asserted patent claims, the court considers "the evidence necessary to resolve disputes about claim terms and to assign a fixed, unambiguous, legally operative meaning to the claim." *Liquid Dynamics Corp. v. Vaughn Dynamics Co., Inc.*, 355 F.3d 1361, 1367 (Fed.Cir.2004). The Federal Circuit repeatedly emphasizes that "the words of a claim 'are generally given their ordinary and customary meaning.'" *Phillips*, 415 F.3d at 1312, citing *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed.Cir.1996). "The inquiry into how a person of ordinary skill in the art understands a claim term provides an objective baseline from which to begin claim interpretation." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed.Cir.2005). The person of ordinary skill in the art must view the claims "in the light of the entire intrinsic record." *Nystrom v. Trex Co., Inc.*, 424 F.3d 1136, 1142 (Fed.Cir.2005). The claims, therefore, are read "in view of the specification, of which they are a part." *Id.*, citing *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed.Cir.1995). "The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." *Phillips*, 415 F.3d at 1316.

While prosecution history may be relevant in the construction of claim terms, "there is a clear distinction between following the statements in the prosecution history in defining a claim term, and the doctrine of prosecution history estoppel, which limits expansion of the protection under the doctrine of equivalents when a claim has been distinguished over relevant prior art." *Southwall Technologies, Inc. V. Cardinal IG Co.*, 54 F.3d 1570, 1578 (Fed.Cir.1995). Where there has been no amendment to claim terms at the prosecution level, prosecution history estoppel does not apply. *See Vehicular Techs. Corp. v. Titan Wheel Int'l, Inc.*, 141 F.3d 1084, 1090 (Fed.Cir.1998).

## **B. Doctrine of Claim Differentiation**

The doctrine of claim differentiation "create[s] a presumption that each claim in a patent has a different scope." *Comark Communications, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed.Cir.1998). "The difference in meaning and scope between claims is presumed to be significant '[t]o the extent that the absence of such difference in meaning and scope would make a claim superfluous.'" *Free Motion Fitness, Inc. v. Cybex Int'l, Inc.*, 423 F.3d 1343, 1351 (Fed.Cir.2005). quoting *Tandon Corp. v. United States Int'l Trade Comm'n*, 831 F.2d, 1017, 1023 (Fed.Cir.1987); *see also Phillips*, 415 F.3d at 1315.

The doctrine is strongest "where the limitation sought to be 'read into' an independent claim already appears in a dependent claim." *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 910 (Fed.Cir.2004). However, it is not an absolute doctrine. "[T]he doctrine of claim differentiation can not broaden claims beyond their correct scope, determined in light of the specification and the prosecution history and any relevant extrinsic evidence.... Claims that are written in different words may ultimately cover substantially the same subject matter." *Multiform Dessicants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1480 (Fed.Cir.1998).

## 2. Analysis

The parties dispute the following claim terms:

- 1) remote object
- 2) interrogator
- 3) system for identifying, for writing data into, and reading data out of remote objects
- 4) data intended to be received and stored by said remote object
- 5) backscatter-modulating
- 6) identity and other data stored in said remote object
- 7) to transmit data to said remote object only if said interrogator has data to be transmitted to that identified remote object
- 8) whereby data may be selectively transmitted to and received and stored by a remote object only after such remote object has been identified as the correct remote object to receive such data
- 9) increasing its sensitivity
- 10) adequate strength
- 11) indicating this ability

See Doc. No. 129, Exh. A.

### **A. Remote Object (Claims 1 and 3-6)**

Plaintiffs contend that the term "remote object" must be limited to objects that "continuously scroll through the data in its memory." Doc. No. 129, Exh. A at 1. Plaintiffs argue that "even if the literal language of the claim, taken alone, would suggest a broader claim construction, if the patent specification, when reviewed in whole, demonstrates that the inventors have disclaimed or limited their invention in certain ways, the claim must be so limited." Doc. No. 121 at 9. Plaintiffs first cite to the patent specification and prosecution history as support that the term "remote object" should be construed as a "continuously scrolling object." For example, Plaintiffs note that the '807 specification "repeatedly distinguishes 'the invention' from the prior art based on this 'continuously scrolling' feature," thereby disclaiming embodiments that do not comprise this feature. FN2 See *id.* at 2. Plaintiffs also cite to numerous passages in the specification that only describes a "tag that continuously scrolls its identity data," effectively disavowing "non-continuously scrolling systems." *Id.* at 4, citing to '807 Patent 2:21-29. "Unlike the tags of the prior art, the tag of the invention continuously scrolls through the data in its memory." *Id.* at 6, citing to '807 Patent 3:32-34. In addition, Plaintiffs argue that because the '807 Patent "neither describes nor enables any embodiment that does not include the continuously scrolling system," the remote object should be limited to the same. *Id.* at 16-17. Finally, Plaintiffs cite to inventor testimony wherein the inventors "had no intention of including non-continuously scrolling systems in their patent." *Id.* at 17, citing Koelle Depo. at 57.

FN2. Plaintiff cites to several passages, including:

The *system of this invention* considerably lessens this handshake delay by employing a tag which continually indicates its own identity, even in the absence of any interrogating command signal from the interrogator. *No interrogation command signal is transmitted* by the interrogator to enable reading of the tag. *The tags of the subject invention use a continuously scrolling fixed code to transmit their identity.*

Doc. No. 121 at 6, citing to '807 Patent 2:21-29 (emphasis in original).

TransCore argues that the remote object should not be narrowly limited to a "continuously scrolling" feature, but should be given its ordinary meaning. *See* Doc. No. 132 at 16. TransCore, instead, proposes that the Court construe the term "remote object" as "any object having an electronic circuit that is capable of processing an RF signal, for either sending its data out or receiving data for reception and/or storage in its electronic memory ." *Id.* TransCore compares Plaintiff's construction of this term to the "erroneous decisions of the district court and Federal Circuit panel in *Phillips*," by overly narrowing claim terms read in from a single preferred embodiment described in the patent. Doc. No. 136 at 2. In addition, TransCore contends that Plaintiffs' construction would violate the doctrine of claim differentiation since the language of claim 2, which is dependent on claim 1, incorporates the narrowed construction of a continuously scrolling system by stating that the "remote objects of claim 1 further characterized by said remote object being continuously capable of backscatter-modulating received RF signals with its stored data even when no RF signal is being received from said interrogator." *Id.* at 8. TransCore, instead, contends that the '807 Patent "*separately claims two different inventive aspects of the preferred embodiment* described in the specification." *Id.* at 9 (emphasis in original). TransCore points to the Patent Examiner's "Reasons for Allowance" as support, which states:

The prior art considered as a whole does not teach a backscatter-modulated system with the non-interrogated signalling from the "tag" or the "handshake" recognition by the interrogator of the remote for which the interrogator has designated data.

Doc. No. 132, Exh. B at 3. TransCore argues that the use of the conjunctive term "or" indicates that there are two features of the invention: 1) the continuously-scrolling system; and 2) the "handshake" recognition directed to the "isolati[on] of a single tag for writing data." Doc No. 136 at 10.

In *Phillips*, the Federal Circuit made clear that "the words of a claim 'are generally given their ordinary and customary meaning .' " *Phillips*, 415 F.3d at 1312, quoting *Vitronics*, 90 F.3d at 1582. The Federal Circuit in *Phillips* admonished the importation of limitations solely from described embodiments of the claims, even where, as here, the specification describes only a single embodiment. *See Phillips*, 415 F.3d at 1323("In particular, we have expressly rejected the contention that if a patent describes only a single embodiment, the claims of the patent must be construed as being limited to that embodiment."), citing *Liebel-Flarsheim*, 358 F.3d at 906. However, this "ordinary and customary meaning" is taken from the viewpoint of one of ordinary skill in the art at the time of filing, where "the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." *Phillips*, 415 F.3d at 1313. Thus, *Phillips* does not stand solely for the proposition that a court should *only* look at the plain meaning of the terms when construing claims, but rather that "[c]laims 'must be read in view of the specification, of which they are a part.' " *Id.* " '[A claim] term can be defined only in a way that comports with the instrument as a whole.' " *Id.* at 1316, quoting *Markman*, 517 U.S. at 389. The court explained:

In light of the statutory directive that the inventor provide a 'full' and 'exact' description of the claimed invention, the specification necessarily informs the proper construction of the claims.... Ultimately, the interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim. The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction.

*Id.* (citations omitted). The *Phillips* court emphasized that it is "entirely appropriate for a court, when conducting claim construction, to rely heavily on the written description for guidance as to the meaning of claims." *Id.* at 1317.

The Federal Circuit, however, recognized the difficulty in balancing the weight assigned to the specification, and the avoidance of improperly importing limitations from described embodiments into the claims. The court concluded that these difficulties will more likely "capture the scope of the actual invention ... than either strictly limiting the scope of the claims to the embodiments disclosed in the specification or divorcing the claim language from the specification." *Phillips*, 415 F.3d at 1323-1324. Thus, this Court must define a claim term " 'only in a way that comports with the instrument as a whole.' " *Phillips*, 415 F.3d at 1316, citing *Markman*, 517 U.S. at 389.

Keeping these concepts in mind, this Court first notes that the term "remote object" is not mentioned in the '807 Patent in the detailed description section within the specification. The term, however, is generally defined in regards to its capabilities in the "Brief Description of the Invention" section, and mirrors its description recited in independent claims 1 and 4. In this short section, a remote object is described as possibly being "in motion relative to the interrogator," wherein the interrogator sends an RF signal to the remote object which is "received and stored by the remote object." *See* ' 807 Patent at 2:57-60. Moreover, the remote object is capable of:

[U]pon receipt of the transmitted RF signal [from an interrogator], of backscatter-modulating that RF signal and returning a signal which is backscatter-modulated with data indicating the identity of the remote object.

*See id.* at 2:63-66; *see also id.* Claim 1 at 9:45-50. Thus, one of ordinary skill in the art, from the plain language description of the claims as well as the specification, would determine that the term "remote object" is capable of receiving and transmitting an RF signal, *i.e.* through an electronic circuit, from an interrogator and back-scatter modulating the signal to indicate the identity of the remote object. *See* *Network Commerce, Inc. v. Microsoft Corp.*, 422 F.3d 1353, 1359 (Fed.Cir.2005) (A claim term is construed as having "the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention.").

TransCore also argues that the doctrine of claim differentiation requires the court to reject Plaintiffs' contention that the claim scope should be limited to a "continuously scrolling" remote object. *See* Doc. No. 136 at 8. The doctrine of claim differentiation "create[s] a presumption that each claim in a patent has a different scope." *Comark Communications, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed.Cir.1998). The difference in meaning and scope between claims is presumed to be significant "[t]o the extent that the absence of such difference in meaning and scope would make a claim superfluous." *Tandon Corp. v. United States Int'l Trade Comm.*, 831 F.2d 1017, 1023 (Fed.Cir.1987). In addition, the doctrine is strongest, as in the instant matter, when the independent claim in question is juxtaposed with a dependent claim possessing

the disputed limitation. *See* Liebel-Flarsheim, 358 F.3d at 910.

In *Phillips*, the Federal Circuit examined the scope of the term "baffles" in independent claim 1. The district court and appeals court panel previously restricted the term to mean "angled at other than 90 degrees," which was explicitly provided for in the specification as one embodiment of the invention. The *en banc* court rejected the importation of limitations from the specification in light of the additional limitations restricting the term "baffles" in a dependent claim. The court found "[t]he inclusion of such a specific limitation on the term 'baffles' in claim 2 makes it likely that the patentee did not contemplate that the term 'baffles' already contained that limitation." Doc. No. 136 at 5, quoting *Phillips*, 415 F.3d at 1324. The Federal Circuit noted that dependent claim 6 also contained a specific angle limitation, concluding "[i]f the baffles recited in claim 1 were inherently placed at specific angles, or interlocked to form an intermediate barrier, claim 6 would be redundant. *Id.* at 6, quoting *Phillips*, 415 F.3d at 1325.

Similarly, dependent Claim 2, which contains the narrowing language proposed by Plaintiffs, indicates that the patentee here "did not contemplate" that independent Claim 1 contain this limitation. Claim 2 reads:

2. The system for identifying, for writing data into, and reading data out of remote objects of claim 1 further characterized by said remote object ***being continuously capable of backscatter-modulating received RF signals with its stored data even when no RF signal is being received from said interrogator.***

'807 Patent, 9:61-66 (emphasis added). TransCore maintains that the phrase "capable of continuously backscatter modulating received RF signals" is equivalent to the "continuously scrolling" function named in the specification. *See* Doc. No. 136 at 8-9. Plaintiffs rebut that the language of claim 2 actually refers to the ability of the remote object to "continuously modulate," and not to "continuously scroll." Doc. No. 121 at 9. In addition, Plaintiffs point out that claim 2 is ambiguous and fails to indicate that "no interrogating wake up command signal will be provided or that the remote object continuously scroll through the data in its memory." Doc. No. 145 at 8. The Court notes that the specification teaches a continuously scrolling tag as "always ready to backscatter modulate any received RF signal with the data in its message memory." *See* '807 Patent 7:2-5. From this definition, the Court finds that the phrase "capable of continuously backscatter modulating received RF signals" in claim 2 refers to a "continuously scrolling" capability of the remote object, creating a presumption that the patentees did not intend to have the scope of claim 1 limited to continuously scrolling remote objects. The doctrine of claim differentiation, therefore, does not support Plaintiffs' construction including a continuously scrolling limitation.

Plaintiffs argue that the specification supports a more narrowed interpretation of the term "remote object," pointing to numerous passages in the specification defining the features of a "tag," which allegedly support a "continuously scrolling" feature of the remote object. *See* Doc. No. 121 at 4-7. Both parties agree in their papers that the term "remote object" incorporates the functionalities of a "tag" described in the '807 Patent. FN3 Although the '807 Patent only describes the tag in terms of a "continuously scrolling" function, the specification does not similarly limit the term "remote object." A "remote object" is also described in the specification as transmitting an RF signal to an interrogator and "backscatter-modulating that RF signal and returning a signal which is backscatter-modulated with data indicating the identity of the remote object." *See* '807 Patent at 2:63-66. This description, albeit brief, does not limit the remote object to a "continuously scrolling" feature, contrary to Plaintiff's contentions. Moreover, as Defendant points out, the Examiner's Reasons for Allowance also support the definition of a remote object as having the functionality of providing an identity, or " 'handshake' recognition," of the remote object to the interrogator. *See* Doc. No. 132, Exh. B at 3.

FN3. TransCore describes a remote object as "simply a generic phrase for any RFID 'tag' like the ones used since the technology first emerged thirty years ago." Doc. No. 132 at 16. Similarly, Plaintiff interchangeably uses the term "tag" with "remote object" throughout their papers. *See, e.g.*, Doc. No. 121 at 3 ("RFID communication allows interaction between a typically stationary device and a moving 'tag' or remote object."). Moreover, both parties in supplemental briefing agree that the term "tag" can be interchangeable with "remote object" in the '807 Patent.

Plaintiffs' arguments regarding limiting the scope of the claim to the only embodiment described is similarly unpersuasive. The Federal Circuit has held that "[e]ven when the specification describes only a single embodiment, the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using 'words or expressions of manifest exclusion or restriction.'" *Liebel-Flarsheim*, 358 F.3d at 906 (citations omitted). As discussed above, patentees here have not demonstrated a "clear intention" to limit the claim scope to a continuously scrolling remote object. Therefore, Plaintiffs' arguments must be rejected by this Court.

Likewise, Plaintiffs' argument that the claims should be construed as to preserve its validity is also not convincing. The *Phillips* court specifically warned against such a maxim. " 'Claims can only be construed to preserve their validity where the proposed claim construction is 'practicable,' is based on sound claim construction principles, and does not revise or ignore the explicit language of the claims.' " 415 F.3d at 1327, quoting *Generation II Orthotics Inc. v. Med. Tech. Inc.*, 263 F.3d 1356, 1365 (Fed.Cir.2001). This Court, therefore, is not bound, as Plaintiffs contend, to construe the claims only in a manner to preserve the validity of the claims.

Finally, Plaintiffs' arguments regarding inventor deposition testimony as support of the inventors' intent is also unpersuasive to this Court. In *Markman*, the Federal Circuit described inventor testimony as to intent during claim construction as entitled to little, if any, probative value. *Markman*, 52 F.3d at 985 ("[t]he subjective intent of the inventor when he used a particular term is of little or no probative weight in determining the scope of the claim."). In *Solomon v. Kimberly-Clark Corp.*, the Federal Circuit discounted the testimony of the inventor for purposes of claim instruction. 216 F.3d 1372, 1380 (Fed.Cir.2000). Reasoning that the inventors do not commonly draft patent claims, the court stated "it is not unusual for there to be a significant difference between what an inventor thinks his patented invention is and what the ultimate scope of the claims is after allowance by the PTO." In light of prevailing Federal Circuit case law, Plaintiffs' arguments, therefore, are not convincing regarding the contribution or weight accorded to Mr. Koelle's deposition testimony.

Accordingly, this Court construes the term "remote object" as an *object with an electronic circuit capable of receiving an RF signal, back-scatter modulating and transmitting the signal to an interrogator to indicate the identity of the remote object.*

### **B. Interrogator (Claims 1 and 3-6)**

Plaintiffs contend that because the remote object is continuously scrolling, the interrogator cannot have a "wake-up" command or signal, as seen in the prior art. Doc. No. 121 at 17. Defendants rebut, pointing to a plain language interpretation that an interrogator is an electronic device capable of sending and receiving data from a remote object, preferably through RF signals. Doc. No. 132 at 15.



As above, the plain language of claim 1, as well as the specification, describe features of the interrogator that one of ordinary skill of art could understand, including the ability of the interrogator to send an RF signal to a remote object, and receive a backscatter-modulated RF signal, as well as: 1) recognize the identity of the remote object from the returned, backscatter-modulated signal and 2) transmit data to the remote object only if the interrogator has data to be transmitted to that particular, identified remote object. *Id.* at 2:66 to 3:3; *see also* claims 1 and 4. Moreover, unlike the "tag" feature of the specification, there is no language in the specification that explicitly disclaims any non-wake up command interrogators for use with a remote object. Accordingly, the Court construes an "interrogator" as *a device for sending and receiving RF signals to a remote object.*

### ***C. System for Identifying, for Writing data into, and Reading data out of Remote Objects (Claims 1 and 3-6)***

TransCore argues that the court should adopt a plain and ordinary meaning of the disputed terms, and not read into the claims limitations that appear in a preferred embodiment in the specification. In addition, TransCore contends that the preamble "is irrelevant on claim construction." FN4 Doc. No. 132 at 14. citing *DeGeorge v. Bernier*, 768 F.2d 1318, 1322 n. 3 (Fed.Cir.1985). Plaintiffs rebut that the preamble may be limiting where " 'the claim drafter chooses to use both the preamble and the body to define the subject matter of the claimed invention.' " Doc. No. 134 at 12, quoting *Allen Eng'g Corp. v. Bartell Indus., Inc.*, 299 F.3d 1336, 1346 (Fed.Cir.2002).

FN4. Although TransCore argues that the preamble should not be construed, they do construe the term "interrogator" within the preamble of the claim. *See* Doc. No. 129, Exh. A at 2.

#### ***a. Preamble Claim Construction Law***

A preamble does not usually limit the scope of the claim. *See* *C.R. Bard. v. M3 Sys. Inc.*, 157 F.3d 1340, 1350 (Fed.Cir.1998). However, a preamble may limit the scope of the invention "if it 'recites essential structure or steps, or if it is necessary to give life, meaning and vitality to the claim.' " *NTP, Inc. v. Research in Motion Ltd.*, 418 F.3d 1282, 1305 (Fed.Cir.2005), quoting *Catalina Mktg. Int'l. Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed.Cir.2002). In *NTP*, the Federal Circuit construed the preamble of a claim because a disputed limitation had antecedent basis, or referred back to the preamble of the claim. *NTP*, 418 F.3d at 1306. This finding is relevant here, where the parties dispute the meaning of the term "remote object" and "interrogator," which have antecedent basis in the preamble.

In addition, the preamble of instant claims 1 and 4 also gives structure to the remote object and interrogator. The preamble reads "A system for identifying, for writing data into, and reading data out of *remote objects which may be in motion relative to the interrogator ...*" '807 Patent, Claim 1 (emphasis added). The phrase "which may be in motion relative to the interrogator" lends structure to the remote object, i.e. the remote object may be in motion. Because disputed claim terms have antecedent basis in the preamble, and because the preamble language contains structure of the disputed claim terms, the scope of the claim terms "remote object" and "interrogator" should be construed in the preamble.

Accordingly, in agreement with the construction of the term "remote object" above, *see* *Southwall Techs.*, 54 F.3d at 1579, this Court construes a "system for identifying, for writing data into, and reading data out of remote objects" as *a system for identifying, for writing data, and reading data out of a remote object*

through the reception, backscatter-modulation and transmission of an RF signal by the remote object.

#### **D. Data Intended to be Received and Stored by Said Remote Object (Claims 1 and 3-6)**

Claim 1 further states: "an interrogator for sending an RF signal to said remote object, said signal including *data intended to be received and stored by said remote object.*" '807 Patent, 9:42-44 (emphasis added). Plaintiffs state that the parties are in substantial agreement with the claim construction, with the exception of TransCore's addition of the phrase "at some point." See Doc. No. 121 at 18. Plaintiffs argue that TransCore is now attempting to add the term "at some point" to correct a fatal flaw in the claim language. In sum, Plaintiffs maintain that if the phrase is interpreted without the phrase "at some point," then the claim is rendered nonsensical because the initial unmodulated RF signal cannot send encoded information. *Id.* Plaintiffs point to inventor testimony in support of their argument. *Id.*, citing to Koelle Depo. at 97-99. Plaintiffs conclude that TransCore cannot now change the language of the claims to fix this fatal error.

TransCore rebuts that Plaintiffs misinterpret the claim language, and alleges that Plaintiffs are trying to add the limitation of having the signal modulated at all times. TransCore maintains that this is a physical impossibility since the interrogator sends an initial, unmodulated signal to the remote object. The interrogator may then modulate the received RF signal, including information to be stored by the remote object, but only after the initial unmodulated signal is sent.

A review of the parties' briefs indicates that the parties are in agreement that the RF signal initially sent by the interrogator must be unmodulated for the system to work. This means that the initial RF signal cannot contain data for storage. However, the parties disagree as to whether the claim terms as written are limited to only a modulated signal. Plaintiffs maintain the answer must be yes, thereby rendering the claim language nonsensical. TransCore takes an opposing position.

Plaintiffs argue that the term "said signal" refers to the "signal of the subject disputed claim term, **which 'includ[es] data intended to be received and stored by said remote object.'**" Doc. No. 121 at 19 (emphasis in original). Plaintiffs' appear to argue here that the term "including" limits the phrase to the recited function, in this case a modulated RF signal or a signal including data to be encoded. Although Plaintiffs are correct that the phrase "said signal" of the disputed phrase appears to refer to a modulated signal, Plaintiffs misconstrue the reference point of the antecedent phrase "said signal." In Claim 1, the term "said signal" refers to the "RF signal [sent] to said remote object" by the interrogator. In this case, it is clear from the specification that the interrogator sends both modulated and unmodulated signals to the remote object. Moreover, both parties, as well as Plaintiff's expert, agree that one of ordinary skill in the art would know that an initial RF signal must be unmodulated in order for the device to work. See Doc. No. 121 at 19; Doc. No. 132 at 16.

Additionally, the term "including" indicates that the phrase is "open-ended," i.e. does not exclude unrecited elements.FN5 See *Mars, Inc. v. Heinz Co., L.P.*, 377 F.3d 1369 (Fed.Cir.2004), citing to Manual of Patent Examining Procedure, 8th ed., rev. 1. s. 2111.03 (2003) ("The MPEP ... specifically provides that 'the transitional term 'comprising,' ... is synonymous with 'including,' ... [and] is open-ended and does not exclude additional, unrecited elements or method steps.' "). Therefore, the phrase "data intended to be received and stored by said remote object" does not limit RF signals sent by the interrogator to only modulated signals since the transitional term "including" is used prior to what would otherwise be properly construed as a limitation.FN6 This Court accordingly construes "data intended to be received and stored by said remote object" as *data that may be included in an RF signal sent by the interrogator which is received*

and stored by the remote object.

FN5. Plaintiffs point out that TransCore's expert uses this claim interpretation argument in his expert report. *See* Doc. No. At 13. The Court did not use TransCore's expert testimony in its analysis, noting that the interpretation of claim language transitional phrases is not within the realm of an expert report.

FN6. Plaintiffs rebut that this claim construction rule "cannot be used to *remove* claim elements that are listed as included in the claim-not even only 'at some point.'" Doc. No. 134 at 14. In light of this Court's interpretation of the subject claim language, it is not necessary to determine whether TransCore's suggested additional phrase "at some point" adds clarity to the construction of the claim.

### ***E. Backscatter-Modulating (Claims 1 and 3-6)***

Plaintiffs argue that the term "backscatter modulating" must involve modulation of the signal, and not simply "changes the signal" as TransCore has proposed. Doc. No. 121 at 20-21. TransCore does not appear to oppose this definition in their papers, stating that "[a] signal that is 'backscattered' " is a signal that "not only 'reflects' but also 'modulates' the signal, then the reflected signal is said to be 'backscatter-modulated.'" Doc. No. 132 at 17. This Court finds sufficient support in the plain and ordinary meaning of the claims for Plaintiffs' construction that one of ordinary skill in the art would know that "backscatter modulating" requires the modulation by the remote object of a signal received from the interrogator, and subsequently reflected back to the interrogator. Accordingly, this Court construes "backscatter modulated" as *an RF signal that is modulated and reflected*.

***F. Identity and Other Data Stored in Said Remote Object (Claims 1 and 3-6)*** Plaintiffs argue that the phrase "identity and other data" requires at least two types of information: 1) information about the remote object's identity; and 2) some other additional information. Doc. No. 121 at 21. Defendants argue that the term "and other data" could also mean "the absence thereof" of any data. Doc. No. 132 at 18. In support of its argument, TransCore notes that there are circumstances where the data in the signal would support the construction "including the absence thereof," including where a remote object is "new", and therefore no data has been previously written to it. Doc. No. 132 at 18. Plaintiffs rebut that nowhere in the specification is this particular situation described, and therefore the specification cannot support TransCore's claim construction. Doc. No. 134 at 14-15. TransCore argues in their reply that signal communications technology "makes clear, electronic 'data' includes an actual signal being transmitted ( *e.g.* "ON") or the absence of a signal ( *e.g.* "OFF"). Doc. No. 136 at 8, citing to Fig. 3 of the '807 Patent.

TransCore's arguments that the signal may also include "the absence thereof" revolves around the nature of the data signal itself, which may be ON (presence of RF signal) or OFF (absence of RF signal). *See* Doc. No. 143 at 8-9, referring to '807 Patent at Figure 2. Figure 2 refers to "three different signals for writing data into a tag." *See* '807 Patent at 5:36-37. TransCore also points to the '807 Patent specification, citing to the "increased operating current" of the remote object during the transmission of the WRITE signal from the interrogator as only "on" for short periods of time.FN7 *See* Id. at 8:37-41. TransCore therefore contends that the absence of a signal fits within the definition of "other data" because the definition of "electronic data" includes the absence of a signal.

FN7. That the operating current of the remote object is increased for short periods of time to increase the

sensitivity of the remote object during a WRITE mode does not appear, in this Court's opinion, to have bearing on whether or not the RF signal can be defined as electronic data by being in an "on" or "off" mode.

Although TransCore's reference to Figure 2 of the '807 Patent refers to RF data signals sent from the interrogator to the remote object, and not the remote object to the interrogator as is the case for the disputed phrase at issue, one of ordinary skill in the art would understand that the absence of a signal (i.e. RF signal off) is incorporated in the communication of "electronic data." Therefore, to the extent that "other data" is relayed in part by the absence of an RF signal, this Court agrees with TransCore. However, to the extent that TransCore attempts to equate the "absence of information" with the "absence of an RF signal," this construction is not supported by the specification. TransCore fails to point to any reference in the specification, nor of the understanding of one of ordinary skill in the art, that "other data" could mean the "absence of data," *i.e.* absence of information. Moreover, as is pointed out by TransCore, the absence of an RF signal is itself information. From this definition, "other data," therefore, cannot be equated with "absence of information." Without any evidence to the contrary, this Court cannot render superfluous any language within the claims. *See* Elektta Instrument SA v. O.U.R Scientific Int'l, Inc., 214 F.3d 1302, 1307 (Fed.Cir.2000) (ignoring ordinary meaning of claim language renders claim terms superfluous). Accordingly, this Court agrees with Plaintiffs and construes "identity and other data stored in said remote object" as *identity information and other information stored in the remote object*.

***G. To Transmit Data to Said Remote Object only if Said Interrogator has Data to be Transmitted to that Identified Remote Object (Claims 1 and 3-6)***

Plaintiffs argue that the phrase should be construed as "the interrogator sends data to the remote object only if the interrogator has data for that particular remote object." Doc. No. 121 at 21. TransCore contends that the parties had previously agreed upon construction, and specifically objects to Plaintiffs' attempts to further construe this phrase. Doc. No. 129 at 5. As stated above, claim terms are " 'generally given their ordinary and customary meaning.' " Phillips, 415 F.3d at 1312, quoting Vitronics, 90 F.3d at 1582. Here, with the exception of the disputed terms "remote object" and "interrogator," Plaintiffs accord the terms "transmitted" and "identified" their ordinary and customary meaning. Accordingly, this Court construes the phrase "to transmit data to said remote object only if said interrogator has data to be transmitted to that identified remote object" as *the interrogator transmits data to the remote object only if the interrogator has data to be transmitted to that particular remote object*.

***H. Whereby Data may be Selectively Transmitted to and Received and Stored by a Remote Object only After Such Remote Object has been Identified as the Correct Remote Object to Receive Such Data (Claims 1 and 3-6)***

Plaintiff argues that the disputed phrase should be construed as "no data transmitted by the interrogator is stored by the remote object unless and until the remote object has transmitted its entire identity data to the interrogator." Doc. No. 121 at 21. Plaintiff cites to Figure 1 of the specification, which outlines the following steps of "INTERROGATOR RECEIVES ID SIGNAL FROM TAG" at step 10 to "INTERROGATOR CHECKS TO SEE IF IT HAS A 'MESSAGE' FOR THAT TAG" and "INTERROGATOR SENDS THE MESSAGE TO TAG" at steps 14 and 15 for support that the "three specification excerpts leave no doubt that the interrogator has received *all* of the tag's identity data before it sends data any [sic] to the tag." *Id.* at 23. TransCore contends that the parties had previously agreed upon the construction of this clause, and specifically objects to Plaintiffs' attempts to further construe this phrase. Doc. No. 129 at 6.

Contrary to Plaintiffs' contentions, the Court finds no support in the specification for the limitation of this phrase to the transmission of data by the interrogator "unless and until the remote object has transmitted its entire identity data to the interrogator." There is no description in the specification that requires the interrogator to receive *all* remote object identification information prior to the interrogator sending a signal to be stored by the remote object. The passages cited by Plaintiffs only speak to the sending of information from the remote object to the interrogator, not the absolute requirement that the remote object send all of its information before being written into by the interrogator. Accordingly, this Court hereby construes the phrase "whereby data may be selectively transmitted to and received and stored by a remote object only after such remote object has been identified as the correct remote object to receive such data" according to its plain and ordinary meaning, *i.e. whereby the interrogator may selectively transmit, receive and store data to a remote object only after the remote object has been identified as the correct remote object to receive data from the interrogator.*

### **I. Increasing its Sensitivity (Claim 3)**

Claim 3 requires the remote object of the system of claim 1 to have the "further capability of *increasing its sensitivity* to received RF signals containing data to be written into said remote object ..." '807 Patent, 10:1-4 (emphasis added). TransCore argues that the phrase "increasing its sensitivity" should be interpreted according to the plain and ordinary meaning of the claim. Doc. No. 132 at 19. Plaintiffs have withdrawn their objections to TransCore's interpretation. *See* Doc. No. 134 at 17. This Court finds that one of ordinary skill in the art, after reading the claims and consulting the specification, would construe the phrase "increasing its sensitivity" according to its plain and ordinary meaning, *i.e. the remote object having the capability of increasing its sensitivity to received RF signals.*

### **J. Adequate Strength (Claim 3)**

Claim 3 further states that the remote object increases its sensitivity "after receipt and recognition of an RF signal of *adequate strength* for data to accurately be written into said remote object." '807 Patent, 10:1-6 (emphasis added). TransCore argues that the phrase "adequate strength" should be interpreted according to the plain and ordinary meaning of the claim. Doc. No. 132 at 19. Plaintiffs have withdrawn their objections to TransCore's interpretation. *See* Doc. No. 134 at 17. This Court finds that one of ordinary skill in the art, after reading the claims and consulting the specification, would construe the term "adequate strength" according to its plain and ordinary meaning, *i.e. the RF signal received by the remote object must be of adequate strength in order for data to be accurately written into the remote object.*

### **K. Indicating this Ability (Claim 6)**

Claim 6 further characterizes the system of claim 4, wherein "said remote object determining its ability to receive and store transmitted data by sensing the strength of the received RF signal and determining whether or not it is adequate for data accurately to be written into said remote object, and *indicating this ability* to said interrogator." '807 Patent, 10:41-48 (emphasis added). TransCore asserts that the phrase "indicating this ability to said interrogator" means that the remote object signals to the interrogator when there is adequate RF signal level. Doc. No. 132 at 20. Plaintiffs assert that the phrase "indicating this ability" means that the remote object indicates either yes or no regarding the presence of adequate RF signal. Doc. No. 121 at 16. Plaintiffs state that this phrase refers back to the phrase "its ability or inability to receive and store transmitted data." *Id.*

The disputed phrase "indicating this ability" in Claim 6 appears after the phrase "further characterized by said remote object determining its ability to receive and store transmitted data by sensing the strength of the received RF signal and determining whether or not it is adequate for data accurately to be written into said remote object." See '807 Patent 10:43-47 (emphasis added). The phrase speaks to the remote object's ability to "determine its [own] ability" to send and receive data from the interrogator "by sensing the strength" of the RF signal received from the interrogator. *Id.* The remote object then determines "whether or not" the data from the interrogator can "accurately [ ] be written into said remote object." *Id.* This function of the remote object is illustrated in the specification, where the remote object "[a]s soon as the tag senses that the transmitted RF field is sufficiently strong to enable data to be securely written into the tag, the tag will change the code in one or more code frames which it is backscatter-modulating onto the transmitted RF signal, to so indicate." '807 Patent 4:2-7. Moreover, the specification describes the tag as capable of indicating to the interrogator "that it is out of range for any more WRITE operations ." *Id.* at 4:49-51. This indicates an active role by the remote object to signal the interrogator "whether or not," or "yes or no," if the RF signal is strong enough to write data into the signal and send it to the remote object. Therefore, the remote object should be construed to possess this limitation as Plaintiffs suggest. Accordingly, this Court construes the phrase "indicating this ability" as *the remote object's ability to indicate "yes or no" if the RF signal level is strong enough for the interrogator to send or receive data.*

### ***CONCLUSION AND ORDER***

For the foregoing reasons, the Court construes the disputed claim terms as follows:

1. "remote object" is construed as an *object with an electronic circuit capable of receiving an RF signal back-scatter modulating and transmitting the signal to an interrogator to indicate the identity of the remote object.*
2. "interrogator" is construed as *a device for sending and receiving RF signals to a remote object.*
3. "system for identifying, for writing data into, and reading data out of remote objects" is construed as *a system for identifying, for writing data, and reading data out of an object through the reception, backscatter-modulation and transmission of an RF signal by the object*
4. "data intended to be received and stored by said remote object" is construed as
5. "backscatter-modulating" is construed as *an RF signal that is modulated and reflected.*
6. "identity and other data stored in said remote object" is construed as *identity information and other information stored in the remote object.*
7. "to transmit data to said remote object only if said interrogator has data to be transmitted to that identified remote object" is construed as *the interrogator transmits data to the remote object only if the interrogator has data to be transmitted to that particular remote object.*
8. "whereby data may be selectively transmitted to and received and stored by a remote object only after such remote object has been identified as the correct remote object to receive such data" is construed as *whereby the interrogator may selectively transmit, receive and store data to a remote object only after the remote object has been identified as the correct remote object to receive data from the interrogator.*

9. "increasing its sensitivity" is construed as *the remote object having the capability of increasing its sensitivity to received RF signals.*

10. "adequate strength" is construed as *the RF signal received by the remote object must be of adequate strength in order for data to be accurately written into the remote object.*

11. "indicating this ability" is construed as *the remote object's ability to indicate "yes or no" if the RF signal level is strong enough for the interrogator to send or receive data.*

**IT IS SO ORDERED.**

S.D.Cal.,2006.

Single Chip Systems Corp. v. Intermec IP Corp.

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