

# United States Court of Appeals for the Federal Circuit

2007-1388

BOARD OF REGENTS OF THE UNIVERSITY OF TEXAS SYSTEM,

Plaintiff-Appellant,

v.

BENQ AMERICA CORP., MOTOROLA, INC., HON HAI PRECISION INDUSTRY CO.  
LTD., and CHI MEI COMMUNICATION SYSTEMS, INC.,

Defendants-Appellees,

and

KYOCERA WIRELESS CORP.,

Defendant-Appellee,

and

INNOSTREAM, INC., TOSHIBA CORPORATION,  
and WISTRON CORPORATION,

Defendants,

and

HTC CORP., HIGH TECH COMPUTER CORPORATION, SANYO NORTH AMERICA  
CORP., LG ELECTRONICS MOBILECOMM U.S.A., INC., SENDO AMERICA, INC.,  
SIEMENS COMMUNICATIONS, INC., NEC CORPORATION OF AMERICA, SONY  
ERICSSON MOBILE COMMUNICATIONS (USA), INC., SONY ERICSSON MOBILE  
COMMUNICATIONS AG, NOKIA, INC., PANASONIC CORPORATION OF NORTH  
AMERICA, CURITEL COMMUNICATIONS, INC., SAMSUNG  
TELECOMMUNICATIONS AMERICA LLP, SAMSUNG ELECTRONICS AMERICA,  
INC., UTSTARCOM, INC., COMPAL COMMUNICATIONS, INC., SHARP  
CORPORATION (also known as Sharp Kabushiki Kaisha), TCL & ALCATEL MOBILE  
PHONES LIMITED, and AUDIOVOX COMMUNICATIONS CORPORATION,

Defendants.

Jeffrey R. Bragalone, Shore Chan Bragalone LLP, of Dallas, Texas, argued for plaintiff-appellant. With him on the brief were Michael W. Shore, Alfonso Garcia Chan, and Jennifer M. Rynell.

Charles K. Verhoeven, Quinn Emanuel Urquhart Oliver & Hedges, LLP, of San Francisco, California, argued for all defendants-appellees. With him on the brief for BenQ America Corp., et al., were Kevin A. Smith and Jennifer A. Kash.

Sharon A. Israel, Mayer Brown Rowe & Maw, LLP, of Houston, Texas, for defendant-appellee Kyocera Wireless Corp. With her on the brief were Brandon Baum and Joshua M. Masur, of Palo Alto, California.

Appealed from: United States District Court for the Western District of Texas

Judge Sam Sparks

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PHONES LIMITED, and AUDIOVOX COMMUNICATIONS CORPORATION,

Defendants.

Appeal from the United States District Court for the Western District of Texas in consolidated case nos. 05-CV-181, 05-CV-198, and 05-CV- 333, Judge Sam Sparks.

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DECIDED: July 24, 2008

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Before DYK and PROST, Circuit Judges, and HOCHBERG, District Judge.\*

PROST, Circuit Judge.

Plaintiff-Appellant the Board of Regents of the University of Texas System (“Board of Regents”) appeals a final judgment by the United States District Court for the Western District of Texas. Bd. of Regents of the Univ. of Tex. Sys. v. BENQ Am. Corp., No. 1:05-CV-181 (W.D. Tex. May 2, 2007). The district court entered final judgment after the parties stipulated that Defendants-Appellees BENQ America, Corp., et al. (collectively “BENQ”) did not infringe U.S. Patent No. 4,674,112 (“’112 Patent”), owned by the Board of Regents. The parties stipulated to judgment based on the district court’s construction of the claim term “syllabic element” and its subsequent decision to grant summary judgment of non-infringement to Defendant-Appellee Motorola Corp. (“Motorola”) based, in part, on that construction. The Board of Regents appeals both the district court’s claim construction and its grant of summary judgment. For the reasons explained below, we affirm.

## I. BACKGROUND

The ’112 patent, entitled “Character Pattern Recognition and Communications Apparatus,” describes an apparatus and method designed to enable “non-verbal entry” and transmission of a word (or words) using a standard, touch-tone telephone. ’112 Patent, Abstract. For each letter of the word to be transmitted, a user depresses a

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\* Honorable Faith S. Hochberg, District Judge, United States District Court for the District of New Jersey, sitting by designation.

single key on a telephone's keypad (e.g., the "2" key is selected for the letter "A"<sup>1</sup>). Id. Because each key available on the standard telephone keypad represents more than one letter, the user's input will be inherently ambiguous. Id. As an example, to enter the word "HELP" on the keypad, a user depresses a sequence of four keys ("4357"), one key for each letter of the word. Id., col.4 ll.44-52. While this four-key sequence corresponds to eighty-one different alphabetic character strings,<sup>2</sup> only one of these corresponds to an English word—the word "HELP." Id. Thus, in order to resolve the ambiguity and correctly identify the inputted word, the method compares this sequence against a "vocabulary" (i.e., a directory) of possible entries. Id., Abstract. The specification of the '112 patent states that the vocabulary may include either words or "syllabic elements" that can be combined to form a word. Id., col.2 ll.21-27. While it is easier for the system to compare the inputted word to a vocabulary of words, the system can minimize memory requirements and enable an expanded word recognition capability by using a vocabulary of syllabic elements instead. Id., Abstract; see id., col.5 l.62–col.6 l.36 (describing method for employing syllabic element vocabulary).

During the application's short prosecution history, the examiner rejected the claims as anticipated by an article written by Lawrence B. Rabiner and Ronald W. Schafer ("Rabiner"), "Digital Techniques for Computer Voice Response: Implementations and Applications," Proceedings of the IEEE, vol. 64, No. 4, Apr. 1976,

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<sup>1</sup> On a standard, touch-tone telephone keypad, the "2" key can represent any one of three letters—"A," "B," or "C." See '112 Patent, Fig. 2 (showing touch-tone telephone keypad and letters associated with each key).

<sup>2</sup> On the standard touch-tone telephone keypad, each of these keys corresponds to three different characters. Three possible characters for four keys gives  $(3 \times 3 \times 3 \times 3) = 81$  possible character strings.

pp. 416-33. The examiner noted that Rabiner taught a system described by the claims, in which a single key is depressed for each letter of a word to be transmitted even though each key corresponds to multiple different letters. In response to the rejection, the Board of Regents amended the claims and explained, “In contrast [to Rabiner], the present invention employs a data base of syllabic elements (i.e. syllable-like letter groups) which are combined to form a word of standard English text . . . .” (emphasis omitted). Following this amendment, the examiner and the attorney for the Board of Regents participated in interviews. The interview summary indicates that they agreed that: (1) the invention was patentable over Rabiner for the reasons argued in the amendment, (2) the claims would be allowable if made definite, and (3) the examiner was authorized to amend the independent claims for this purpose. The examiner then mailed a notice of allowability containing an examiner’s amendment that made various changes to the claims, which resulted in the issuance of the ’112 Patent. Claim 10 (the only independent claim asserted by the Board of Regents) recites:

A method of communicating, utilizing a signal-generating keyboard where at least some of the keys represent two or more alphabetic characters, comprising the steps of:

inputting a word into said keyboard by depressing a single key for each alphabetic character of said word;

transmitting signals generated by the key depressions;

receiving said transmitted signals and decoding the signals into binary code;

matching said binary code with one or more pre-programmed codes, each pre-programmed code being representative of a syllabic element;

[f]orming a representation of the word from the one or more syllabic elements represented by the matched one or more pre-programmed codes; and

outputting the word representation in a form perceptible to the user.

’112 Patent, col.8 l.61–col.9 l.10 (emphasis added).

In March and May of 2005, the Board of Regents filed three separate lawsuits in the Western District of Texas alleging infringement of claim 10 (and its dependent claim 11) of the '112 Patent by an extensive list of defendants.<sup>3</sup> In October of that year, the district court consolidated these three cases into the instant suit. The district court then designated a special master, who conducted a Markman hearing and recommended constructions for the claim terms and phrases that the parties disputed. The district court adopted the special master's recommendations with a slight clarification and issued a claim construction order. Bd. of Regents of the Univ. of Tex. Sys. v. BENQ Am. Corp., No. 1:05-CV-181 (W.D. Tex. July 14, 2006) ("Claim Construction Order").

In the Claim Construction Order, the district court addressed eleven disputed claim terms and phrases, only two of which are relevant to this appeal. First, the district court concluded that the claim term "syllabic element" means "a one-syllable letter group that either comprises a word or can be combined with other one-syllable letter groups to form a word." Id., slip op. at 5-21. Second, the district court concluded that the claim term "one or more pre-programmed codes" did not require construction. While BENQ argued that the term meant "a database of pre-set codes in which each of the codes represents a syllabic element, wherein the database cannot include more than a few complete words," the district court found that the term's meaning was clear and BENQ's construction was "both unhelpful to a jury and possibly incorrect." Id., slip op. at 22-23.

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<sup>3</sup> Originally, the Board of Regents filed suit against a total of fifty-six defendants, but some of these defendants have since been dismissed from the lawsuit.

On November 7, 2006, Motorola filed a motion for summary judgment of non-infringement, which argued that its accused devices did not infringe the matching limitation of claim 10—i.e., “matching said binary code with one or more pre-programmed codes, each pre-programmed code being representative of a syllabic element.” The district court granted Motorola’s motion. Bd. of Regents of the Univ. of Tex. Sys. v. BENQ Am. Corp., No. 1:05-CV-181 (W.D. Tex. Apr. 9, 2007) (“Summary Judgment Order”). While the district court had only construed one term within this limitation (i.e., “syllabic element”), it determined that the plain language of claim 10 and the prosecution history “require[] that each time a binary code is matched, it must be matched against a syllabic element.” Id., slip op. at 8. Moreover, the district court reasoned that if it were to adopt the Board of Regents’s argument that the accused devices “intermittently infringe” when they do match against a syllabic element, “Rabiner would anticipate because the Rabiner database of complete words, some of which were single-syllable words, would intermittently match against a syllabic element.” Id., slip op. at 9-10. Ultimately, the district court concluded that the accused devices do not infringe the matching limitation because none of the accused devices “relies upon a vocabulary of only syllabic elements, even if certain entries in those vocabularies happen to be one syllable long.” Id., slip op. at 9.

Based upon the district court’s construction of the term “syllabic element” and its grant of summary judgment to Motorola, the parties stipulated to judgment of non-infringement for all remaining Defendants. On May 2, 2007, the district court entered final judgment, and the Board of Regents appealed. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).



## II. DISCUSSION

The Board of Regents challenges both factors underlying the stipulated judgment—the claim construction of “syllabic element” and the district court’s grant of summary judgment. The Board of Regents’ arguments regarding summary judgment are divisible into two separate categories. First, the Board of Regents alleges that the district court failed to resolve all factual inquires in favor of the non-movant. This argument challenges whether summary judgment was properly granted under the second step of our infringement analysis—the comparison between a claim and the accused device. See Cook Biotech Inc. v. Acell, Inc., 460 F.3d 1365, 1372 (Fed. Cir. 2006) (“Determining infringement generally requires two steps. ‘First, the claim must be properly construed to determine its scope and meaning. Second, the claim as properly construed must be compared to the accused device or process.’” (quoting Carroll Touch, Inc. v. Electro Mech. Sys., Inc., 15 F.3d 1573, 1576 (Fed. Cir. 1993))).

Second, the Board of Regents argues that the district court improperly rejected its intermittent infringement argument and erroneously determined that the accused devices fell outside the scope of the claims. Because this second argument in effect challenges the proper scope of the asserted claims, it appears to us to fall more appropriately under the first step of our infringement analysis—claim construction. See id. Specifically, it appears that the district court’s summary judgment order effectively construed the claim phrase “each pre-programmed code being representative of a syllabic element” to require that the vocabulary include only syllabic elements. Thus, we will evaluate the proper construction of both the claim term “syllabic element” and the claim phrase “each pre-programmed code being representative of a syllabic

element” and then compare the claim to the accused devices to determine whether summary judgment of non-infringement was proper.

BENQ, for its part, defends both the district court’s grant of summary judgment and its construction of “syllabic element.” BENQ also provides two alternative grounds for affirming the judgment—(1) the claim term “syllabic element” is indefinite and, thus, the asserted claims are invalid; and (2) the district court should have granted summary judgment of non-infringement because the accused devices do not “decod[e] the signals into binary code,” as is required by all asserted claims.

This court reviews claim construction de novo. Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1456 (Fed. Cir. 1998) (en banc). While infringement is a question of fact, Bai v. L & L Wings, Inc., 160 F.3d 1350, 1353 (Fed. Cir. 1998), we review a district court’s grant of summary judgment without deference, Innogenetics, N.V. v. Abbott Labs., 512 F.3d 1363, 1378 (Fed. Cir. 2008). A summary judgment motion is proper if there are no genuine issues of material fact, while viewing the facts in a light most favorable to the non-moving party. See Fed. R. Civ. P. 56(c).

#### A. Claim Construction

##### 1. “syllabic element”

The district court construed the term “syllabic element” as:

[A] one-syllable letter group that either comprises a word or can be combined with other one-syllable letter groups to form a word. A syllabic element may be as small as a single letter.

Bd. of Regents of the Univ. of Tex. Sys. v. BENQ Am. Corp., No. 1:05-CV-181 (W.D. Tex. July 14, 2007) (summarizing the rulings of the Claim Construction Order). The Board of Regents asserts that this construction incorrectly requires a syllabic element to

be “one-syllable” and proposes that “syllabic element” be construed as “a word or a part of a word that can be combined with other words or parts of words to form a word.” BENQ, on the other hand, argues that the term “syllabic element” either has the definition provided by the district court or is indefinite. After reviewing the intrinsic record, we conclude that the district court correctly construed the term “syllabic element.”<sup>4</sup>

While we begin our inquiry with the language of the claims, Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996), that language, by itself, provides little guidance in this case. Claim 10 does specify that “each pre-programmed code [is] representative of a syllabic element” and that “a representation of the word [is formed] from the one or more syllabic elements.” ’112 Patent, col.9 ll.4-7. From this, however, we can simply conclude that a word is comprised of one or more “syllabic elements.”<sup>5</sup>

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<sup>4</sup> As we have been able to discern a construction for the term “syllabic element,” we reject BENQ’s argument that this term is indefinite. See Honeywell Int’l, Inc. v. Int’l Trade Comm’n, 341 F.3d 1332, 1338-39 (Fed. Cir. 2003) (“[A] claim is indefinite only if the claim is insolubly ambiguous, and no narrowing construction can properly be adopted.”); Exxon Research & Eng’g Co. v. United States, 265 F.3d 1371, 1375 (Fed. Cir. 2001) (stating that a claim is definite “[i]f the meaning of the claim is discernible, even though the task may be formidable and the conclusion may be one over which reasonable persons will disagree”).

<sup>5</sup> The Board of Regents alleges that language in claim 1—“a plurality of syllabic elements, each being representative of one or more alphabetic characters”—defines the term “syllabic element.” See id., col.8 ll.17-19 (limitation in claim 1). The Board of Regents is correct that the language of claim 1 bears on the proper interpretation of the term. See Phillips v. AWH Corp., 415 F.3d 1303, 1314 (Fed. Cir. 2005) (en banc) (“Other claims . . . can also be valuable sources of enlightenment as to the meaning of a claim term.”). We, however, are unpersuaded by the argument that this language defines the term. Rather, a plain reading shows that this phrase does little more than restate the obvious—a syllabic element is composed of one or more alphabetic characters.

We next turn to the specification, which repeatedly distinguishes between a “word” and a “syllabic element” and indicates that a word is comprised of syllabic elements, confirming our understanding of the claim language and explaining that the terms “word” and “syllabic element” are not coextensive in scope. See e.g., ’112 Patent, Abstract (“[S]yllabic elements . . . are used to reconstruct the word.”); id., col.1 ll.65-66 (“[T]he apparatus recognizes a particular word in terms of syllabic elements.”); id., col.2 ll.42-43 (identifying an “alphabetic character string, such as a word or syllabic element”). The specification also notes that “[t]he syllabic elements can comprise any number of alphabetic characters (for example, from 1 to 9 alphabetic characters).” Id., col.1 ll.66-68; see id., col.5 l.68–col.6 l.2 (explaining that “the preferred embodiment” has a vocabulary look-up table that accommodates “syllabic elements ranging from one to nine characters in size”). As explained by the district court, the most logical rationale for the only example having a nine-letter maximum is that the longest single syllables in the English language are nine letters in length. Claim Construction Order, slip op. at 16-17 (identifying seven single-syllable, nine-letter words: screeched, scratched, scrounged, scrunched, stretched, straights, and strengths).

Finally, the specification provides a short description of the term “syllabic element”:

In the preferred embodiment, “syllabic elements” are stored in memory and combined to create the words. For example, the “CON” letter group in contest, silicon, conference, contact, etc. is such a stored syllabic element. Thus, the vocabulary stored in the preferred embodiment includes common letter-groups, suffixes, prefixes, single letters, and a few complete words, generically [sic] referred to as “syllabic elements.”

Id., col.5 ll.5-12. This passage provides the specification’s only example of a syllabic element—“CON”—and it is a one-syllable letter group that is both a word and able to be

combined to form other words. This passage even compares this single-syllable letter group (the example syllabic element) to multi-syllabic words (i.e., “contest, silicon, conference, contact, etc.”), implying that a syllabic element is limited to a single syllable.

The Board of Regents, on the other hand, argues that this passage in fact implies the opposite—that a syllabic element may be more than one syllable. It reasons that because “common letter-groups, suffixes, [and] prefixes” are “referred to as ‘syllabic elements,’” the term “syllabic element” must include every common letter-group, suffix, or prefix. According to the Board of Regents, because some well-known suffixes and prefixes include more than one syllable (e.g., hypo-, hyper-, -ation, -phyllic), this passage compels a construction that allows syllabic elements to be more than one syllable. We are not persuaded. Just because a “syllabic element” may be a prefix or a suffix does not mean that all prefixes and suffixes are “syllabic elements.” Similarly, this portion of the specification includes “common letter-groups” as possible “syllabic elements,” but even the Board of Regents does not contend that all common letter groups are “syllabic elements.”

With the background provided by the claims and the specification, we examine the patent’s prosecution history. “[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.” Phillips v. AWH Corp., 415 F.3d 1303, 1317 (Fed. Cir. 2005) (en banc) (citing Vitronics, 90 F.3d at 1582-83). While there are times that the prosecution history “lacks the clarity” of other intrinsic sources, id., the prosecution history may be given substantial weight in construing a

term where that term was added by amendment. See Jansen v. Rexall Sundown, Inc., 342 F.3d 1329, 1333 (Fed. Cir. 2003) (“In this case, the [claim phrases at issue] were added to gain allowance of the claims . . . . We must therefore give them weight, for the patentability of the claims hinged upon their presence in the claim language.”).

The Board of Regents added the term “syllabic element” to claim 10 during prosecution of the ’112 Patent. Originally, claim 10 recited: “matching said binary code with a pre-programmed code, said pre-programmed code being representative of an alphabetic character string.” (emphasis added). Two of its dependent claims further defined the claimed alphabetic character string—the first specified that the alphabetic character string comprised “one or more syllabic elements which combine to form a word,” while the second specified that it comprised “a word.” The examiner, however, rejected all three claims as anticipated by Rabiner, which describes processing a received signal “to identify the word or words of [a] request.” Moreover, the examiner noted that “any recognized word input, as in Rabiner, necessarily comprises one or more syllabic elements as claimed” by the dependent claim. In response, the Board of Regents amended claim 10, replacing “an alphabetic character string” with “one or more syllabic elements,” and canceled the two dependent claims (the latter of which specified that the character string comprised a word, as noted above). When describing the differences between its claims and Rabiner’s disclosure, the Board of Regents equated “syllabic elements” to “syllable-like letter groups.”

This prosecution history, like the specification, consistently distinguishes between a “syllabic element” and a “word.” Moreover, like the district court, we find illuminating the explanation that “syllabic elements” are “syllable-like letter groups.” See Claim

Construction Order, slip op. at 7 (relying on this phrase despite the fact that, “[a]t first glance, . . . [it] may appear to have accomplished little more than the trading of one obscure term of art for another”). Something is “syllable-like” when it shares a syllable’s essential characteristic—the recognizable rhythmic beat of a spoken syllable. Thus, while “syllable” often refers primarily to language as it is spoken, a “syllable-like letter group” explicitly covers both spoken syllables and the written letter groups that are associated with these sounds.

If, as the Board of Regents proposes, “syllabic element” were broadly defined to include letter groups having any number of syllables, then all words would also be syllabic elements (because every word is a single- or multi-syllabic letter group). This construction, however, does not square with the prosecution history. As noted above, claim 10 originally recited matching with an alphabetic character string, while one of its dependent claims specified that this string comprised a word. After the examiner identified a reference that showed matching with a word, the Board of Regents limited claim 10 to require matching with syllabic element(s) and canceled the dependent claim that required matching with words. The cancellation of this dependent claim indicates that the set of “syllabic elements” does not include all words. Moreover, if “syllabic elements” included words, then Rabiner’s disclosure of matching with words would teach the portion of claim 10 that was amended to distinguish Rabiner. We decline to adopt a construction that would effect this nonsensical result.

The Board of Regents insists that the amendments to claim 10 actually distinguished Rabiner on the ground that the reference did not teach combining syllabic

elements. While the Board of Regents might have been able to distinguish Rabiner on this ground, the intrinsic record fails to support the argument that it actually did so.

Thus, we conclude that the proper construction of “syllabic element” is a one-syllable letter group that either comprises a word or can be combined with other one-syllable letter groups to form a word. Moreover, we see no error in the second sentence of the district court’s claim construction, which clarifies that a syllabic element may be as small as a single letter.

2. “each pre-programmed code being representative of a syllabic element”

Next, we turn to the proper construction of the claim phrase “each pre-programmed code being representative of a syllabic element.” As explained in detail above, the district court granted summary judgment of non-infringement in favor of Defendant-Appellee Motorola on the ground that the accused devices do not “rel[y] upon a vocabulary of only syllabic elements.” Summary Judgment Opinion, slip op. at 9-10. While the parties agree that this statement is true, they disagree as to whether or not the asserted claims require the vocabulary to include only syllabic elements. The Board of Regents asserts that the claim simply requires matching with one or more syllabic elements. The theory is that infringement occurs whenever a match with a syllabic element occurs, even if matches are also made with non-syllabic elements. BENQ disagrees and asserts that the claim requires that the database be composed solely of syllabic elements. This dispute compels us to construe the claim phrase “each pre-programmed code being representative of a syllabic element,” as recited by claim 10.

Two of the method steps in claim 10 are relevant to the meaning of this phrase:

matching said binary code with one or more pre-programmed codes, each pre-programmed code being representative of a syllabic element; [and]



[f]orming a representation of the word from the one or more syllabic elements represented by the matched one or more pre-programmed codes . . . .

'112 Patent, col.9 ll.3-8 (emphases added). In the former of these steps, the claim specifies that “one or more pre-programmed codes” exist and that “each” of those pre-programmed codes are “representative of a syllabic element.” Moreover, the claim distinguishes between “each pre-programmed code” and “the matched one or more pre-programmed codes.” While the Board of Regents’s arguments assume that “claim 10 [merely] requires that each of the one or more matched pre-programmed codes is representative of a syllabic element,” the Board of Regents is mistaken. (Emphasis added). Claim 10 requires that “each pre-programmed code”—not each matched pre-programmed code—is “representative of a syllabic element.” Id., col.9 ll.3-5. The relevance of this difference is underscored by the fact that claim 10 later refers to using “the one or more syllabic elements represented by the matched one or more pre-programmed codes.” Id., col.9 ll.6-8 (emphasis added). The fact that the claim distinguishes between “each pre-programmed code” and “the matched one or more pre-programmed codes” is significant. Id., col.9 ll.3-8 (emphasis added). Different claim terms are presumed to have different meanings. CAE Screenplates Inc. v. Heinrich Fiedler GmbH & Co., 224 F.3d 1308, 1317 (Fed. Cir. 2000) (“In the absence of any evidence to the contrary, we must presume that the use of these different terms in the claims connotes different meanings.”). Because “the matched one or more pre-programmed codes” clearly refers to the pre-programmed code(s) that are matched with the binary code in the “matching” step, we conclude that “each pre-programmed code”

must refer to all potential pre-programmed codes in the vocabulary accessed by the method.

This construction is supported by the prosecution history. As explained above, the examiner rejected the claims as anticipated by Rabiner. In response, the Board of Regents amended the pending claims and argued:

Rabiner describes a data base comprising a limited vocabulary of complete words. In contrast, the present invention employs a data base of syllabic elements (i.e. syllable-like letter groups) which are combined to form a word of standard English text, giving an almost unlimited vocabulary.

Following this amendment, the attorney for the Board of Regents and the examiner conducted two interviews to discuss the pending application. The examiner's interview summary, which is the only record of those conversations, states:

Invention is patentable over Rabiner for reasons argued in [the applicant's amendment]. Claims would be allowable if made definite. Discussed indefiniteness and was [sic] to correct it. Applicants' attorney authorized the examiner to amend [the independent claims] to make each definite.

The examiner's amendment made various changes to the claims, changing the matching limitation as follows:

matching said binary code with a [one or more] pre-programmed ~~code~~ [codes], ~~said~~ [each] pre-programmed code being representative of ~~one or more~~ [a] syllabic ~~elements~~ [element].

While, in its amendment, the Board of Regents had correctly identified a difference between its invention and Rabiner—Rabiner described a database of complete words, but the invention employed a database of “syllabic elements”—this distinction was not reflected in the claims. The examiner thereafter amended the claim to require that “each pre-programmed code be[] representative of a syllabic element.” (emphasis added). See United Carbon Co. v. Binney & Smith Co., 317 U.S. 228, 236 (1942)

(stating that definiteness requires claims to “clearly distinguish what is claimed from what went before in the art”). Based on all of the circumstances, we conclude that this change was significant in distinguishing the claim from the prior art. See Jansen, 342 F.3d at 1333 (stating that amendments made to gain allowance must be given weight).

Thus, the language of the claim distinguishes between “each pre-programmed code” and “the matched one or more pre-programmed codes,” and the prosecution history attributes significance to the use of the word “each” in defining the claim over the art. Accordingly, we conclude that the claim phrase “each pre-programmed code being representative of a syllabic element” means that the vocabulary only includes syllabic elements.<sup>6</sup>

On appeal, the Board of Regents argues that claim 10 uses the presumptively-open transitional phrase “comprising,” which should allow an accused device to infringe anytime it satisfies the matching limitation and, thus, the addition of unrecited steps (such as matching with a pre-programmed code that is not representative of a syllabic element) should not defeat infringement. The Board of Regents is correct that, generally, the use of the transitional phrase “comprising” does not exclude additional, unrecited steps. Dippin’ Dots, Inc. v. Mosey, 476 F.3d 1337, 1343 (Fed. Cir. 2007). This presumption, however, “does not reach into each of the [claimed] steps to render every word and phrase therein open-ended—especially where, as here, the patentee has narrowly defined the claim term it now seeks to have broadened.” Id. We do not

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<sup>6</sup> We need not decide in this case whether the presence of an insignificant number of non-syllabic elements in the database would bar a finding of infringement. Here the parties agree that the majority of items in the accused database are non-syllabic in character.

hold that any added step would defeat infringement of this method claim. But, as we explained above, the '112 Patent's prosecution history narrowly defines the claim phrase at issue. The Board of Regents cannot rely on the word "comprising" to broaden the scope of a claim phrase that was limited during prosecution so as to gain allowance of the patent. See Chimie v. PPG Indus., Inc., 402 F.3d 1371, 1384 (Fed. Cir. 2005) ("Such a use of the prosecution history ensures that claims are not construed one way in order to obtain their allowance and in a different way against accused infringers."); Ekchian v. Home Depot, Inc., 104 F.3d 1299, 1304 (Fed. Cir. 1997) ("[B]y distinguishing the claimed invention over the prior art, an applicant is indicating what the claims do not cover.").

#### B. Infringement

Turning to the question of infringement, the Board of Regents alleges that the district court erred in granting summary judgment because it found, in spite of evidence to the contrary, that the accused devices include vocabularies of only complete words. The district court did not make that incorrect assumption. The basis for the district court's grant of summary judgment was not that the accused devices include vocabularies of only complete words, but rather that the accused devices do not contain vocabularies of only syllabic elements. See Summary Judgment Opinion, slip op. at 9. As the district court explained, none of the accused devices "relies upon a vocabulary of only syllabic elements, even if certain entries in those vocabularies happen to be one syllable long." Id.

We conclude that the district court correctly granted summary judgment of non-infringement because we perceive no substantive dispute regarding the relevant issues

of fact. See Nazomi Commc'ns, 403 F.3d at 1367 (noting that summary judgment is proper if there are no genuine issues of material fact). The claim requires “matching said binary code with one or more pre-programmed codes, each pre-programmed code being representative of a syllabic element.” A “syllabic element” is a one-syllable letter group that either comprises a word or can be combined with other one-syllable letter groups to form a word (it may be as small as a single letter), and “each pre-programmed code being representative of a syllabic element” means that the vocabulary only includes syllabic elements. In the final judgment stipulation, the parties agreed that none of the accused devices “rely on a vocabulary of ‘only syllabic elements,’ as the term ‘syllabic elements’ was construed” by the district court. Thus, the district court properly entered judgment that the accused devices do not infringe the asserted claims of the '112 Patent.<sup>7</sup>

### III. CONCLUSION

For the above reasons, we affirm the judgment of the district court.

AFFIRMED

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<sup>7</sup> Because we conclude that the district court correctly granted summary judgment on this basis, we decline to reach BENQ’s alternative ground for affirming the judgment—that the accused devices do not “decod[e] the signals into binary code.”