

United States District Court,  
D. Massachusetts.

**KHYBER TECHNOLOGIES CORPORATION,**  
Plaintiff.

v.

**CASIO, INC.; Everex Systems, Inc.; Hewlett-Packard Company and Hewlett-Packard Singapore Pte., Ltd,**  
Defendants.

No. Civ.A.99-12468-GAO

**Aug. 11, 2004.**

Kurt S. Kusiak, Sally & Fitch, Boston, MA, Manjit S. Gill, Michael J. Garvin, Robert J. Diaz, Scott M. Oldham, W. Edward Crooks, Hahn Loeser & Parks LLP, Cleveland, OH, for Plaintiff.

Steven M. Bauer, Proskauer Rose LLP, Michael E. Attaya, Michael R. Reinemann Cesari & McKenna, LLP, Boston, MA, Brian Mcquillen, Kenyon & Kenyon, New York, NY, Daniel C. Winston, Choate, Hall & Stewart, Boston, MA, for Defendant.

### ***MEMORANDUM AND ORDER***

OTOOLE, J.

#### **I. Background of Proceedings**

The plaintiff Khyber Technologies Corporation ("Khyber") alleged in its original and amended complaints that the defendants each manufacture and sell handheld computers (commonly referred to as personal digital assistants) which infringe at least claims 1, 2, 3, 4, 5, 9, 10, and 11 of Khyber's United States Patent No. 5,696,496 (the "'496 Patent") entitled, "Portable Messaging and Scheduling Device with Homebase Station." The defendants asserted counterclaims seeking a declaratory judgment that the '496 Patent is invalid and unenforceable and not infringed by the defendants' products.

On August 10, 2000, during the pendency of this litigation, Khyber filed a Request for Reexamination of the '496 Patent with the United States Patent and Trademark Office ("USPTO"). Khyber sought reexamination in light of prior art disclosures made by the defendants, which they alleged anticipated or rendered obvious the claims of the '496 Patent.

On January 7, 2002, Khyber notified the Court that in the course of on-going reexamination proceedings before the USPTO, it had voluntarily cancelled Claims 1, 9, 10, and 11 of the '496 Patent. *See* Notice of Cancellation of Certain Claims in Reexamination (docket no. 156). Khyber continues to assert that the defendants infringe Claims 2 through 5 of the '496 Patent, as well as Claims 23 and 24, which were added

during reexamination.

On March 31, 2003, I denied defendant Casio, Inc.'s motion for summary judgment as to the invalidity of the '496 Patent, but granted the motion as to Casio's request for a finding of non-infringement with respect to Claims 4 and 5 of the patent. (Docket No. 181). This finding is extended, subject to appeal, to the allegedly infringing products manufactured by defendants Everex Systems, Inc., Hewlett-Packard Company and Hewlett-Packard Singapore Pte., Ltd. In my March 31, 2003 order, I performed a limited claim construction of Claims 1, 4 and 5 of the '496 Patent. In particular, I construed the terms "substantially within a shirt pocket," "memory means," and "audio output means" in Claim 1 of the '496 Patent, and the term "homebase station" in Claims 4 and 5. The parties now seek the Court's opinion on the proper construction of Claims 2 and 3 of the '496 Patent. FN1

FN1. Claims 23 and 24 do not appear to include any terms for construction in addition to the terms in Claims 2 and 3.

Claim 2 of the '496 Patent discloses the following invention:

A personal organizer and messaging device, comprising a handheld unit dimensioned for handheld grasping and carrying substantially within a shirt pocket including:

audio input means for receiving and recording an audio message and generating a representative audio message signal;

memory means for storing said audio message signal;

processor means for controlling the receipt of said audio message signal, storing said audio message signal, and non-sequentially selectively recalling said audio message signal;

audio output means for receiving said non-sequentially selectively recalled audio message signal and for playing back said non-sequentially selectively recalled audio message; and

a handheld housing for carrying the audio input means, the memory means, the processor means and the audio output means; and

further comprising writing means for receiving a written message and generating a written message signal; and in which said processor means digitally records said written message, and non-sequentially selectively recalls for playback said written message; and display means which displays said recalled written message.

Claim 3 of the '496 Patent depends from Claim 2 and adds a requirement that the invention include a "stylus means." Claim 3 discloses:

A device as set forth in claim 2 in which said writing means is a touch panel and said handheld unit further includes stylus means selectively detachably mounted to said handheld unit for operative engagement with said touch panel.

## **II. Claim Construction Methodology**

Claim construction begins with the language of the claim itself, and the "ordinary and accustomed meaning of a disputed claim term is presumed to be the correct one." *K-2 Corp. v. Salomon S.A.*, 191 F.3d 1356, 1362-63 (Fed.Cir.1999). In other words, a term must be given "the full range of its ordinary meaning as understood by persons skilled in the relevant art." *Texas Digital Sys., Inc. v. Telegenix, Inc.*, 308 F.3d 1193, 1202 (Fed.Cir.2002); *see also Johnson Worldwide Assocs., Inc. v. Zebco Corp.*, 175 F.3d 985, 989 (Fed.Cir.1999) ("[A] court must presume that the terms in the claim mean what they say, and, unless otherwise compelled, give full effect to the ordinary and accustomed meaning of claim terms.").

In some cases, a claim's preamble may also play an important role in the proper construction of its terms, as the Federal Circuit has noted:

Generally, the preamble does not limit the claims. However, the preamble may be limiting when the claim drafter chooses to use both the preamble and the body to define the subject matter of the claimed invention. If the preamble is necessary to give life, meaning and vitality to the claim, then the claim preamble should be construed as limiting. This is determined on the facts of each case in view of the claimed invention as a whole.

*Allen Eng'g Corp. v. Bartell Indus.*, 299 F.3d 1336, 1346 (Fed.Cir.2002) (citations and internal quotation marks omitted). The preamble may also limit the scope of a claim (1) when a particular disputed phrase depends on the preamble for antecedent basis, (2) "when the preamble is essential to understand limitations or terms in the claim body," or (3) when the preamble recites "additional structure or steps underscored as important by the specification." *Catalina Mktg. Int'l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed.Cir.2002). However, "preambles describing the use of an invention generally do not limit the claims because the patentability of apparatus or composition claims depends on the claimed structure, not on the use or purpose of that structure." *Id.* at 809.

When the meaning of a term is not clear from the language of the claim alone, the court looks first to intrinsic evidence to aid its understanding of the term, i.e., the patent itself, the specification, and, if in evidence, the prosecution history. *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed.Cir.1996). "Such intrinsic evidence is the most significant source of the legally operative meaning of disputed claim language." *Id.* Indeed, the specification may be particularly important in determining the proper scope of a claim when the claim recites a "means" for performing a specific "function." FN2 When a court determines that a particular claim includes a means-plus-function limitation, it must first identify the function explicitly recited in the claim. *Asyst Techs., Inc. v. Empak, Inc.*, 268 F.3d 1364, 1369 (Fed.Cir.2001). Next, the court must identify the corresponding structure in the specification that performs the particular function set forth in the claim. *Id.* "Structural features that do not actually perform the recited function do not constitute corresponding structure and thus do not serve as claim limitations." *Id.* at 1370.

FN2. "An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof." 35 U.S.C. s. 112, para. 6.

If necessary, a court may consider extrinsic evidence, such as expert testimony, in order to aid its determination as to the true meaning of the language employed in the patent. *See Zodiac Pool Care, Inc. v. Hoffinger Indus.*, 206 F.3d 1408, 1414 (Fed.Cir.2000) ("The court turns to extrinsic evidence only when the

intrinsic evidence is insufficient to establish the clear meaning of the asserted claim."). However, the court must be mindful not to use such evidence to vary or contradict the plain meaning of the claim as apparent from the intrinsic evidence. With this framework in mind, the Court now construes the disputed claim terms in Claims 2 and 3 of the '496 Patent.

### III. Construction of Claims 2 and 3 of the '496 Patent

#### A. "*A personal organizer and messaging device*"

This term is actually the preamble of Claim 2 of the '496 Patent. As noted above, the preamble is not ordinarily limiting, *Allen Eng'g Corp.*, 299 F.3d at 1346, and Khyber maintains that it is not limiting here. That is, the functions of the invention are not limited solely to scheduling and messaging, as the defendants propose. The controversy is not that Khyber resists generally describing the invention as a "personal organizer and messaging device," -it unquestionably is that-but that the defendants want the term construed to limit the invention to a device that *only* performs "scheduling and messaging" and may not include any other functions.

The claim language in independent Claim 2 refers principally to "messages." It sets forth steps for receiving, recording and replaying audio messages, as well as receiving, recording and displaying written messages. Similarly, the focus of the specification is on the use of the invention for messaging and scheduling. The patent does not contain any explicit limitation of the invention to performing only the functions of scheduling and messaging, as the defendants suggest. "Messages" that are recorded, stored and replayed or displayed may relate to "scheduling" or personal "organizing," but there is no literal limitation of the described process of message handling that would restrict the use of the invention to those purposes.

The defendants argue that during reexamination, Khyber limited the scope of its invention to only messaging and scheduling by emphasizing the invention's focus on those functions to distinguish it over the following prior art: Japanese Patent Application 2-132558 (the " '558 Publication") and U.S. Patent No. 4,943,868 to Yoshinaga *et al.* (the "Yoshinaga Patent"). *See Omega Eng'g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1323 (Fed.Cir.2003) ("The doctrine of prosecution disclaimer ... preclud[es] patentees from recapturing through claim interpretation specific meanings disclaimed during prosecution."); *Southwall Techs., Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1576 (Fed.Cir.1995) ("The prosecution history limits the interpretation of claim terms so as to exclude any interpretation that was disclaimed during prosecution."). However, to give rise to a limitation not in the patent by a disclaimer in prosecution, the alleged disclaimer must be clear and unambiguous. *See Omega Eng'g*, 334 F.3d at 1324-25 (collecting cases); *Housey Pharms., Inc. v. Astrazeneca UK Ltd.*, 366 F.3d 1348, 1352 (Fed.Cir.2004) (patentee must have "explicitly disclaimed or clearly disavowed" the meaning of the claim in the specification or prosecution history); *Middleton, Inc. v. Minnesota Mining and Mfg. Co.*, 311 F.3d 1384, 1388 (Fed.Cir.2002) (The court considers the prosecution history to determine "whether the applicant clearly and unambiguously disclaimed or disavowed an interpretation during prosecution in order to obtain claim allowance.") (quotations and citations omitted).

Here, the claims were not sufficiently disclaimed to limit the functions of the invention to only messaging and scheduling. Khyber's arguments in response to the Examiner's rejection over the '558 Publication and the Yoshinaga Patent were focused on the unique size and portability of the claimed invention. Khyber described the relevant tradeoff as size versus functionality. The prior art favored the benefits of high capacity and high complexity in functionality, accepting larger size as a cost of those benefits. Khyber's invention, on the other hand, favored the benefits of "shirt-pocket" size and consequent ease of portability, accepting the cost of reduced ("relatively limited") memory capacity and functionality.

Thus, while the device in the '558 Publication sought to make portable a large number of functions otherwise only available on a PC, it could not achieve that objective in a size smaller than a CD player. And while the Yoshinaga Patent had a substantial memory capacity (because of removable memory cards), that very capacity made it necessary for a physical embodiment too large for shirt-pocket portability. By fixing as a baseline objective shirt-pocket portability, Khyber's inventor accepted that the device would necessarily have "relatively limited" functionality-relative, that is, to the necessarily bigger devices that had wider functionality. But it is important to stress that the comparison was a relative one, at different points on a variable scale. There is nothing to suggest that adding some third function to messaging and scheduling would be somehow incompatible with the disclosed invention, provided it could be done without sacrificing the principal objective of shirt-pocket portability.

In short, Khyber's concession that its invention necessarily had "relatively limited" functionality (compared with larger devices) was not a concession of an absolute limitation to the two specific functions-scheduling and messaging-proposed by the defendants. For these reasons, I reject the defendants' proposed construction of the preamble language.

Having rejected the idea that there is a limitation of function to be read into the preamble language, it is probably not necessary to say any more; the language is straightforward and, as preambles do, generally introduces the more specific claim language to follow. To the extent that the preamble language needs construing, I would accept this modified version of Khyber's: "A device for personal use by an individual user for keeping track of messages recorded by the user."

**B. "*Handheld unit dimensioned for handheld grasping*"**

The plain meaning of this term is that the unit is designed to be of a size permitting it to be easily grasped and held in the hand of a human operator.

**C. "*Carrying substantially within a shirt pocket*"**

The plain meaning of this term is that the unit is designed to be of a size that it can be placed and carried within an ordinary shirt pocket. This is consistent with the construction given this term in the Court's prior order of March 31, 2003.

**D. "*Audio input means*"**

The parties agree on at least the following construction of this term: "A microphone and audio processor circuit that perform the functions of receiving an audio message, recording that audio message and generating a representative audio signal from that audio message." Their entire difference arises over Khyber's proposal that the words "from a user" should be inserted to follow the words "receiving an audio message." Defs.' Mem. Supp. Claim Constr. at 12. It would seem to be an unremarkable proposition that in a personal messaging device, a message that was received would have originated with a person using the device. The defendants' objection seems to be that the language should be read broadly enough to include the possibility that the source of the received message could be "a programmer, another device, or anyone/anything else [that] can input the audio message." *Id.* at 13.

The claim language is to be interpreted in light of the context of the patent as a whole, including the specification. *Moleculon Research Corp. v. CBS, Inc.*, 793 F.2d 1261, 1269 (Fed.Cir.1986). In this case, it is

apparent that the device claimed is intended to be carried around by a user so that the user can vocally record short messages which can be stored and replayed. There is nothing in the patent that suggests that the device is designed to interface with other, especially other non-"user," sources of audio messages. Accordingly, I accept the plaintiff's version.

#### **E. "Memory means"**

This term was previously construed in the Court's prior order of March 31, 2003, as "solid state digital memory that is permanently integrated into the core of the device." That construction is reaffirmed.

As with the preamble, the defendants want to read in additional limiting language to exclude the possibility of removable memory capacity in addition to the integrated solid state memory. The patent does not contain any such explicit limitation, either in the claims or in the specification. The defendants argue that Khyber distinguished the '496 Patent over the Yoshinaga Patent by pointing out that the Yoshinaga Patent used an external, removable memory card, while Khyber's invention had memory internally fixed. As with the preamble language, the crux of the distinction was based on size considerations, not functional ones. To accommodate an external memory card, the Yoshinaga Patent required a larger-than-shirt pocket size design for the outside dimensions of the entire device. Khyber's argument essentially was that since the Yoshinaga Patent did not achieve the size benefit of the '496 Patent (because of the necessity of accommodating the external memory card), the Yoshinaga Patent neither anticipated nor made obvious the reduced size-reduced function invention of the '496 Patent. Khyber maintained, for example, that Yoshinaga required a "cumbersome, removable memory card for its limited functions," and so did "not teach the 'built-in' memory of the '496 Patent's multiple functions." Galbraith Decl. Ex. C at 19. In context, this was essentially a point made about cumbersomeness, not removability. It does not amount to an explicit disclaimer or clear disavowal of, say, a non-cumbersome removable memory card, something apparently unavailable under then-existing technological parameters. The defendants' argument that the Yoshinaga Patent actually does have a small internal memory as well as an external one, eliminating any effective distinction between the two inventions, is really an argument about anticipation or obviousness, not about claim construction.

The defendants also argue that Khyber disclaimed a memory capacity of greater than several megabytes in order to distinguish the Yoshinaga Patent and the invention in the '558 Publication from the '496 Patent. It is true that Khyber emphasized the *relatively small* memory capacity necessary for the *relatively limited* functionality of the invention, as compared with the *relatively large* memory capacity of the Yoshinaga Patent and the invention in the '558 Publication having *relatively greater* functionality. But the distinction was not quantified, and there is no reason to read in the limitation "not more than several megabytes" argued for by the defendants.

#### **F. "Processor means"**

When a claim term is presented in means-plus-function language and invokes 35 U.S.C. s. 112, para. 6, the process of construction requires first identification of the function, then identification of the structure described in the specification that corresponds to the performance of the function. *Asyst Techs.*, 268 F.3d at 1369. The identification of the function comes from the claim language itself: "means for *controlling the receipt* of said audio message signal, *storing* said audio message signal, and *non-sequentially selectively recalling* said audio message signal; ... and in which said processor means *digitally records* said written message, and *non-sequentially selectively recalls for playback* said written message." '496 Patent, col. 9, lines 2-5 and 15-18 (emphasis supplied). In other words, there are five identified functions to be performed by the processor means: receiving, storing and recalling an audio message signal, and recording and

recalling a written message.

The specification identifies the corresponding structure as follows: "Microcontroller 23 may be any conventional microcontroller suitable for processing limits [sic] FN3 speech recognition and graphics display, preferably having low-power consumption and various functions including at least limited digital signal processing, A/D and D/A conversion, such as the Model Z86C94 microcontroller manufactured by Zilog, Inc. of Campbell, Calif. " '496 Patent, col. 4, lines 33-39. The structure thus identified has the following features: It is a "conventional microcontroller" (1) that is suitable for processing limited speech recognition and graphics display, (2) that has low-power consumption, FN4 and (3) that can at a minimum perform the functions of limited digital signal processing and A/D and D/A conversion. The defendants propose reading into the limitation particular features found in the exemplar microcontroller referred to, the Zilog Z86C94, but the Zilog microcontroller is included as an example only. It is one instance of a "conventional microcontroller" that included the specified attributes. "Any" microcontroller that would meet the three functional requirements listed above would be suitable, whether its internal configuration matched the Zilog exemplar or not. FN5

FN3. I interpret this to mean "limited" and not "limits," as in the original.

FN4. Although expressed as a "preference" rather than a requirement, low-power operation is key to maintaining small enough size to permit "carrying substantially within a shirt pocket."

FN5. Whether any particular device, including any of the defendants' devices, may be deemed "equivalent" to the structure thus identified, either under 35 U.S.C. s. 112, para. 6, or under the doctrine of equivalents, presents an issue of infringement, not claim construction. *See Kemco Sales, Inc. v. Control Papers Co.*, 208 F.3d 1352, 1364 (Fed.Cir.2000).

### **G. "Audio output means"**

This term was previously construed in the Court's March 31, 2003 order as "any speaker-like structure which is housed inside the handheld device and which is capable of receiving and audibly playing back audio message signals." At that time, the controversy between the parties concerned whether the construction should be broad enough to include audio output through an earphone or external speaker jack. The construction given addressed that controversy. It did not address the present controversy, because it was not argued. Now, the defendants argue that the structure identified in the specification includes an "analog resistive volume control electrically connected to the audio processor circuit." Defs.' Joint Mem. Supp. Proposed Claim Constr. at 22. The structure corresponding to the audio output function is described in the specification as follows: The audio processor's "output is received by the microcontroller 23, a volume control potentiometer 63 electrically connected to audio processor circuit 62 and an audio amplifier 64, and a speaker 65 for audio output receiving the output from audio amplifier 65[sic]." FN6 '496 Patent, col. 4, line 67 through col. 5, lines 1-4. Thus, the entire structure of the audio output means includes: (1) a volume control potentiometer electrically connected both to an audio processor circuit, from which the output is received, and to (2) an audio amplifier, and (3) a speaker, as previously construed. In other words, the defendants are correct that the structure includes a volume control potentiometer. However, there is no need at this point to substitute, as the defendants propose, the phrase "analog resistive volume control" for the

phrase "volume control potentiometer" in the '496 Patent. The dictionary definitions offered by the defendants do not expressly authorize such a substitution, nor does anything else in the record.

FN6. The audio amplifier is shown as 64, not 65, in Figure 8.

#### **H. "*Playback*" or "*playing back*"**

The ordinary meaning of this term is to reproduce stored messages, either audibly or by written display. I find no basis for reading in the defendants' time sequence limitation.

#### **I. "*Handheld housing*"**

I accept Khyber's construction of this term as meaning any acceptable frame or covering made of any suitable material sufficient to carry at least audio input means, memory means, processor means, audio output means, writing means, and display means, which is sized approximately for being comfortably grasped in a human operator's hand during use. I reject the defendants' additional limitation that the housing exclude the possibility of receiving removable memory, as this is simply a reformulation of the argument that "memory means" must be read to exclude the possibility of removable memory.

#### **J. "*Display means*"**

The function of the display means is to display stored written messages. The corresponding structure disclosed in the specification for performing this function includes "a graphics display 81 preferably of higher resolution and low-power consumption." '496 Patent, col. 5, lines 15-16. As with the term "memory means," a general description of the corresponding structure suffices, as the inventor is indifferent as to the precise features or mode of operation of the display, so long as it has (1) relatively high resolution (so it can easily be read, especially considering the relatively small size (handheld, shirt-pocket size) of the device), and (2) low power consumption (so the device can be made small). The example given is the "graphic type supertwist dot matrix liquid crystal display modules of either the reflective or, if economical, backlight type like that manufactured by Seiko Instruments USA Inc. of Torrance, Calif." *Id.* at col. 5, lines 17-20. Accordingly, the structure corresponding to the function-displaying a recalled, previously recorded written message-is, following the construction given to the "processor means," any conventional graphic display of relatively high resolution and relatively low power consumption. It does not have to be identical to the Seiko display cited as an example.

Khyber does propose, however, that "display means" should be construed to be a liquid crystal display ("LCD"). If the structure is to be identified as an LCD, because that is what the specification says, it is not appropriate to select *only* the fact that it is an LCD. The LCD identified in the specification is a "supertwist dot matrix liquid crystal display module[ ] of either the reflective or ... backlight type." Thus, the full description should be used to establish the structure limitation, not part of it.

A person of ordinary skill in the art in 1991 (when the relevant patent application was filed) would have understood that a "supertwist dot matrix" LCD would be a "passive" LCD (with no transistors at each pixel) rather than an "active" one, as the defendants have established by the uncontroverted affidavit of Dr. Elliott Schlam.FN7 In other words, the reference to a supertwist dot matrix LCD was necessarily a reference to a passive supertwist dot matrix LCD. Whether an active LCD can be considered an equivalent of the structure identified either for purposes of section 112, paragraph 6, or the doctrine of equivalents is a matter to be



decided in connection with the question of infringement.

FN7. Khyber argues that it is unnecessary and improper to read "passive" in as a limitation, but does not challenge Dr. Schlam's evidence that a person of ordinary skill in the art would have understood that a supertwist dot matrix LCD was "passive."

Accordingly, the "display means" is a "graphic type supertwist dot matrix passive liquid crystal display of either the reflective or backlight type that achieves high resolution at low power consumption."

**K. "*Stylus means*"**

The defendants argue that the stylus means must be substantially rectangular. I do not agree. The function of the stylus is to be in operative engagement with the touch panel. This requires a more or less tapered tip, but it does not require a body of the stylus to be of any particular shape. Elements of structure that are not necessary to perform the corresponding function are not to be read as limitations on the claim. *Asyst Techs.*, 268 F.3d at 1370. Accordingly, I accept Khyber's proposed construction of stylus means-i.e. "a pointed instrument designed for operative engagement with a touch panel." Pl.'s Reply Br. at 30.

It is SO ORDERED.

D.Mass.,2004.

Khyber Technologies Corp. v. Casio, Inc.

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