United States District Court,
N.D. Illinois, Eastern Division.

ORBSAK, LLC,
Plaintiff.
v.
GENERAL INSTRUMENT CORP,
Defendant.

Feb. 4, 2002.

MEMORANDUM OPINION AND ORDER

KENNELLY**, District J.**

Orbsak, LLC has sued General Instrument Corporation (GI) for infringement of United States Patent Nos. 4,903,126 and 6,049,694, contending that GI's Digital Consumer Terminal (DCT); its Digital Satellite Receiver (DSR); and its Integrated Receiver Transcoder (IRT) products infringe its patents. On February 14, 2001, the Court issued a Memorandum Opinion and Order in which it construed disputed terms in the patents. *See Orbsak, LLC v. General Instrument Corp.,* No. 99 C 6684 (N.D.Ill., Feb. 14, 2001). GI moved for summary judgment for a finding of non-infringement of both patents, and Orbsak filed a cross-motion for infringement of claims 3 and 4 of the '694 patent.

Background

The two patents at issue concern methods and apparatus used to broadcast multiple television channels over a single carrier frequency and then process them into a usable data stream. The techniques of multiplexing and signal compression permit the sending of multiple signals (programs) over a single carrier. Compression involves eliminating redundant information contained in a broadcast signal so as to make the signal take up less bandwidth; multiplexing involves interleaving multiple signals onto a single carrier. The patents concern methods for multiplexing and transmitting signals, and then storing and demultiplexing the signals at a receiver.

I. ***The*** '126 patent

Claim 1 of the '126 patent describes:

A television broadcasting method comprising the steps of:

(a) compressing and multiplexing signals from a plurality of channels over a single carrier frequency;

(b) transmitting the multiplexed channels;

(c) receiving the multiplexed channels;

(d) demultiplexing and separating the received signals into separate channels;

(e) storing the separated signals for a predetermined period of time;

(f) selecting a desired channel;

(g) decompressing and reconstructing the signals of the selected channel on a real-time basis; and

(h) displaying the reconstructed signals of the selected channel on a real-time basis.

U.S. Patent No. 4,903,126, col. 4, lines 41-56. Claims 2, 3, and 4 are method claims that are dependent on claim 1; claim 5 is for a television broadcasting apparatus.

II. *The* '694 patent

The '694 patent concerns "[a] terminal and method for use in a multi-point video conference system that includes a plurality of terminals connected to each other via a network." U.S. Patent No. 6,049,694, col. 10, lines 1-3. Claim 1 of the '694 patent describes:

A television broadcasting method comprising:

compressing and multiplexing signals from a plurality of channels over a single carrier frequency;

transmitting the multiplexed signals;

receiving the multiplexed signals;

demultiplexing the received signals and separating the received signals into time-sequential channel-discrete packets;

storing said time-sequential channel-discrete packets for a predetermined period of time;

selecting a desired channel;

decompressing and reconstructing those packets discrete to the selected channel; and

displaying the reconstructed signals of the selected channel on a real-time basis.

U.S. Patent No. 6,049,694, col. 46, lines 24-39. Claims 2 and 3 are also method claims; claim 4 is an apparatus claim.

In our February 14, 2001 Order, the Court concluded that both the '126 patent and the '694 patent require the receipt, demultiplexing, separation, and storage of *all* the signals that were compressed, multiplexed, and transmitted. We further concluded that each of these steps must occur in the order stated (with one exception), and that the signals must be stored for a constant, fixed period set in advance.

Legal framework

Summary judgment is appropriate in a patent case, as any other case, when there is no genuine issue as to any material fact and the moving party is entitled to judgment as a matter of law. Fed.R.Civ.P. 56(c); Avia Group International, Inc. v. L.A. Gear California, Inc., 853 F.2d 1557, 1561 (Fed.Cir.1988). In determining whether there is a genuine issue of fact, we view the evidence and draw all reasonable inferences in favor of the party opposing the motion. Stimsonite Corp. v. Nightline Markers, Inc., 33 F.Supp.2d 703, 705 (N.D.Ill.1999). When cross motions are filed, we apply the same standard for each motion. *Id*.

An infringement analysis entails two steps. The first is determining the meaning and scope of the patent claims alleged to be infringed. The second step is comparing the properly construed claims to the device accused of infringing. *See, e.g.,* Bayer AG v. Elan Pharmaceutical Research Corp., 212 F.3d 1241, 1247 (Fed.Cir.2000); Markman v. Westview Instruments, Inc., 52 F.3d 967, 976 (Fed.Cir.1995).

Discussion

I. *Claim Construction*

At this point, we should be at the second step of the infringement analysis. However, the parties now dispute the meaning of the term "demultiplexing." We must therefore begin by construing the meaning of this term. The dispute focuses on the claim element in the '126 patent that refers to "demultiplexing and separating the received signals into separate channels," and the claim element in the '694 patent that refers to "demultiplexing the received signals and separating the received signals into time-sequential channel-discrete packets." *See* U.S. Patent No. 4,903,126, col. 4, lines 47-48; U.S. Patent No. 6,049,694, col. 46, lines 29-31.

In interpreting a patent claim, we look first to the "intrinsic" evidence, namely the language of the claim itself, the patent specification, and the prosecution history. Markman, 52 F .3d at 979. In analyzing claim language, the words of the claim are given their plain and customary meaning to one of ordinary skill in the relevant art unless a special definition is chosen and plainly stated in the patent. Rexnord Corporation v. The Laitram Corporation, 274 F.3d 1336, 1342 (Fed.Cir.2001).

In our February 14, 2001 Order, the Court defined the term "multiplexing" to "involve interleaving multiple signals onto a single carrier." GI claims that "demultiplexing" means the opposite- *i.e.,* dividing the multiplexed signal back into the larger number of signals that were multiplexed together. *See* GI's Surreply, p. 4, fn. 3. GI's definition is supported by various scientific dictionaries, which define "demultiplexing" to mean "dividing one or more information streams into a larger number of streams." *See, e.g.* Dictionary of Computers, Information Processing, and Telecommunications (2nd Ed.) at 165 (Exhibit D to GI's Reply Memorandum); Computer Dictionary and Handbook (3rd Ed.) at 147 (Exhibit E to GI's Reply Memorandum). FN1

FN1. A court can properly consider a dictionary definition in construing a claim so long as the dictionary is not used to enlarge the scope of a term beyond a limited meaning given to it by the inventor. Vanguard Products Corporation v. Parker Hannifin Corporation, 234 F.3d 1370, 1371 (Fed.Cir.2000).

In contrast, Orbsak argues that "demultiplexing" is accomplished when the boundaries between channel-

discrete packets in the single multiplexed stream are identified via a "sync pulse." *See* Orbsak's Reply Memorandum, p. 14. According to Orbsak, the multiplexed stream, prior to being received by a filter to separate out particular channels, passes through a "sync detector." At that point, the sync detector generates a "sync pulse" that identifies channel packet boundaries within the multiplexed stream. Although the output of the sync detector is a single stream, Orbsak argues that the signals are at that point "demultiplexed" because packet boundaries have been identified in that single stream.

"Demultiplexing" is not defined in the claim language itself. *See* U.S. Patent No. 4,903,126, col. 4, line 40 to col. 6, line 15; U.S. Patent No. 6,049,694, col. 46, line 22 to col. 48, line 15. As an initial matter, Orbsak argues that because claim 1 of the '126 patent, for example, refers to "demultiplexing *and* separating the received signals into separate channels," FN2 demultiplexing must necessarily constitute something distinct from "separating the received signals into separate channels."

FN2. The Court has previously held that the '126 patent and the '694 patent are to be construed identically with respect to the steps in claim 1.

Putting aside the fact that Orbsak's argument fails to assist the Court in concluding what "demultiplexing" is (as opposed to what it is not), we disagree with Orbsak's conclusion based both on language of the patent specification and the prosecution history. *See* Rexnord, 274 F.3d at 1342, 1343 (claims must be read in view of the specification and the prosecution history). The patent specification, at numerous points, suggests that "demultiplexing" is precisely the "separation of the received signals." For example, in the body of the '126 specification, the inventor states "the reception process ... includes receiving the multiplexed signals and then demultiplexing the same into the same number of independent channels 1 through n." U.S. Patent No. 4,903,126, col. 2, lines 54-58. Similarly, the specification indicates that the "reception circuit generally includes a demultiplexer which separates the incoming signals into their respective separate channels." U.S. Patent No. 4,903,126, col. 4, lines 22-27. Similar references are found in the '694 patent. *See* U.S. Patent No. 6,049,694, col. 13, lines 25-28; col. 14, lines 63-65.

The prosecution history further supports the notion that "demultiplexing" involves separating the multiplexed stream. In his patent application to the United States Patent and Trademark Office, the inventor, Salim Kassatly, initially drafted the demultiplexing process in two steps: the first step was termed "demultiplexing;" the second step was "separating the demultiplexed signals into separate channels." The patent application was rejected, in part, because the two steps "should be combined into a single step since a demultiplexer ... performs [the step of separating the demultiplexed signals into separate channels]." *See* Exhibit B to GI's Surreply. Kassatly responded by combining the two steps into one element-"demultiplexing and separating the received signals into separate channels"-in order to "render the claims more clear and definite." *See* Exhibit C to GI's Surreply. Orbsak counters that the inventor demonstrated that the two original elements were still separate and distinct steps by continuing to include both the words "demultiplexing" and "separating" in the combined claim element. We disagree, as this interpretation would render meaningless the patent examiner's criticism and the change made by Kassatly to deal with it.

Orbsak next argues that "demultiplexing" should not be interpreted according to what is undisputedly its ordinary meaning (*i.e.,* dividing one or more information streams into a larger number of streams) because the inventor served as his own lexicographer. *See* Orbsak Reply Memorandum, p. 10. According to Orbsak, the inventor redefined "demultiplexing" *not* to include separation of the stream into the original number of signals, but rather to encompass the process of identifying the channel packet boundaries in the multiplexed

stream via a sync pulse. *See, e.g.,* Orbsak Reply, p. 9.

Orbsak is correct in its assertion that "patent law permits the patentec to choose to be his or her own lexicographer by clearly setting forth an explicit definition for a claim term that could differ in scope from that which would be afforded by its ordinary meaning." Rexnord, 274 F.3d at 1342. However, Orbsak fails to point to anything in the specification where Kassatly redefined "demultiplexing"-implicitly or explicitly-in the manner Orbsak urges, *i.e.,* to include the sync pulse identification. Accordingly, we do not agree that a special definition for "demultiplexing" was chosen and plainly stated in the patent. *See, e.g.,* Kraft Foods, Inc. v. International Trading Company, 203 F.3d 1362, 1366 (Fed.Cir.2000) ("[a] claim term should be given its ordinary meaning unless the specification or prosecution history provide a special, different meaning or definition ... There is a heavy 'presumption in favor of the ordinary meaning of claim language" ') (citations omitted).

In short, after considering the parties' arguments, the Court construes the word "demultiplexing," consistent with its ordinary meaning, to require separation of the single multiplexed stream back into the original number of separate channels. We reject Orbsak's contention that simply identifying channel packet boundaries in the multiplexed stream (the output of which is still a single stream) constitutes "demultiplexing."

II. ***Motion to Strike***

Having construed the remaining disputed claim term, we next turn to the parties' cross motions for summary judgment on infringement. As an initial matter, however, Orbsak seeks to strike the declaration of GI's expert, Dr. James Storer, that was filed in connection with GI's summary judgment motion, pursuant to Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579, 592 (1993). Orbsak argues that, for a variety of reasons, Storer's methodology in evaluating the accused devices was "seriously flawed." Orbsak's Motion to Strike, p. 5. Under *Daubert,* expert testimony is admissible if two requirements are met: first, the proffering expert must have "genuine expertise" or "scientific knowledge," and, second, that expertise must assist the trier of fact to understand or determine a fact in issue; in other words, to be admissible, the expert testimony must be both reliable and relevant. *See* Daubert, 509 U.S. at 592. A review of Storer's resume reveals that he clearly has the requisite scientific qualifications to proffer an opinion in this case. Further, based on the parties' submissions, the Court is not persuaded that Storer's opinions are so unreliable or irrelevant as to render them inadmissible under *Daubert*. Accordingly, we will consider Storer's affidavit in ruling on the motions for summary judgment.

III. ***Infringement***

We now turn to the question of infringement. To prove literal infringement, the patent holder must show that the accused device contains every limitation in the asserted claims. Kraft Foods, 203 F.3d at 1370. To prove infringement under the doctrine of equivalents, the patent holder must show that the accused device contains each limitation of the claim or its equivalent; an accused component is equivalent to a claim limitation if it performs "substantially the same function in substantially the same way to achieve substantially the same result." Id. at 1371 (quoting Ethicon Endo-Surgery, Inc. v. United States Surgical Corp., 149 F.3d 1309, 1321 (Fed.Cir.1998)); *see also* KCJ Corporation v. Kinetic Concepts, Inc., 223 F.3d 1351, 1359 (Fed.Cir.2000). The absence of even one of the claim steps (or a substitute falling within a permissible range of equivalents) compels a finding of non-infringement. *See, e.g.,* Watts v. XL Systems, Inc., 232 F.3d 877, 884 (Fed.Cir.2000).

Orbsak argues that GI's DCT, DSR, and IRT products infringe its patents.

A. *The DCT and DSR*

The DCT and DSR, both television set-top box products, function similarly, although the DCT receives television signals from a cable network, while the DSR receives signals from a satellite. Both the DCT and the DSR receive a data stream of multiplexed packets containing information relating to a variety of channels. These packets remain in a single stream until they arrive at a packet identified called the "PID filter." The PID filter "reads" the packets and selects only those packets associated with a single selected channel. The remaining packets relating to unselected channels are then discarded. The selected packet is then transferred to a "buffer," where it resides for a variable time before decompression. The time the packet spends in the buffer depends on the complexity of the data in the packet.

GI argues that it is entitled to summary judgment because its DCT and DSR products do not separate *all* of the multiplexed signals and do not store *all* of the separated signals for a predetermined period of time. GI Memorandum in Support of Summary Judgment, p. 2. Rather, the products separate only a single, selected channel from the data stream; the signal is then stored for a variable amount of time prior to decompressing.

Orbsak does not dispute the basic operation of GI's products. Rather, it contends that the DCT and DSR products infringe its patents because they perform the steps of demultiplexing, separating, and storing *all* the signals from a multiplexed stream *prior* to arriving at the PID filter. More specifically, Orbsak argues that: (1) all the signals are "demultiplexed" when the sync pulse identifies the channel packet boundaries; and (2) all the channel packets are then stored for one "clock cycle" (albeit not simultaneously) in the sync detector before heading to the PID filter.

We can dismiss Orbsak's first contention in short order. As discussed above, the multiplexed signal is not "demultiplexed" simply when the packet boundaries are identified by the sync pulse. Given this finding, we can also deal quickly with Orbsak's second contention that GI's products store demultiplexed signals for a predetermined period of time in the sync detector. As we have found that the signals are not yet "demultiplexed" at that point, the element of storing would be out of sequence. As we previously held, storing must occur after demultiplexing under both the '126 and '694 patents.

Even ignoring our construction of the term "demultiplexing," Orbsak's arguments fail on another level. As our February 14, 2001 Order made clear, the patents at issue require that *all* the signals must be separated and then *all* must be stored prior to decompression and reconstruction of a particular channel. In its briefs, Orbsak argues that the "storing" element is satisfied by GI's products because each individual channel packet, after its boundaries have been identified by the sync pulse, spends a "clock cycle" in the sync register before moving on to potential selection and decompression. When that packet moves on, the next channel packet in line moves to the sync register for "storing" and then on to potential decompression. However, Orbsak misconstrues our earlier order when it argues that these packets can, essentially, move single file through the steps of separation, storage, and decompression. As the Court unambiguously found during the claim construction phase of this case, all the signals must be demultiplexed, then *all* the signals must be stored before moving to decompression and reconstruction. All steps must occur in the order stated, and all signals must complete each step before moving on. Orbsak is doing nothing more than revisiting its arguments at the claim construction phase that its patents cover products that separate and store individuals channels. We rejected that construction of the patent claims at that earlier juncture.

In short, the DCT and DSR products do not demultiplex, separate and store all the signals in the claimed order, as required by the '126 and '694 patents. Based on these findings, the Court concludes that Orbsak cannot show literal infringement. *See* Rohm & Haas Co. v. Brotech Corp., 127 F.3d 1089, 1092 (Fed.Cir.1997) ("To show literal infringement of a patent, a patentee must supply sufficient evidence to prove that the accused product or process meets every element or limitation of a claim.") (citations omitted). Thus, unless Orbsak can prove infringement under the doctrine of equivalents, GI is entitled to judgment as a matter of law with respect to the DCT and DSR.

A device that does not literally infringe a claim may nevertheless infringe under the doctrine of equivalents if the differences between the accused device and the claim are insubstantial. Kraft Foods, 203 F.3d at 1370. Equivalence is shown by evidence that the claim element and the accused component perform "substantially the same function in substantially the same way to achieve substantially the same result." *Id*. Orbsak essentially argues that the sync detector mechanism is the equivalent of the device claimed in the patents because it performs the steps of demultiplexing, separating and storing of the signals in "substantially the same way."

As an initial matter, GI argues that Orbsak is estopped from claiming *any* range of equivalents for the claim elements of demultiplexing and separating the signals into separate channels, based on the prosecution history of the patents. GI's Memorandum in Support of Summary Judgment, p. 11. Relying on Festo v. Shoketsu Kinzoku Kogyo Kabushiki, 234 F.3d 558, 566 (Fed.Cir.2000), GI argues that "any amendment to a claim that narrows the scope of a claim for 'any reason related to the statutory requirements for a patent will give rise to prosecution history estoppel with respect to the amended claim element." 'GI Memorandum in Support of Summary Judgment, p. 3 (citing Festo, 234 F.3d at 566). Orbsak counters by arguing that *Festo* should be ignored because the Supreme Court's review of that case is currently pending. This contention is completely without merit; the mere granting of certiorari does not vacate the holding of a case, and *Festo* is currently governing precedent for this case.

Putting aside the issue of prosecution history estoppel, however, Orbsak's claim of infringement under the doctrine of equivalents still fails. As the case law makes clear, the absence of a single claim element or its equivalent precludes a finding of infringement. *See, e.g.,* Watts v. XL Systems, Inc., 232 F.3d 877, 884 (Fed.Cir.2000). Here, the sync detector (even if deemed an equivalent structure for purposes of the demultiplexing step of the claims) by Orbsak's own admission simply does not store *all* the signals for a predetermined period of time before moving on to the next step of the claims. Instead, "only one packet is held in storage at any one time." Orbsak's Reply Memorandum, p. 4. As this critical storage element is missing from Orbsak's "equivalent" structure, summary judgment in GI's favor under the doctrine of equivalents is appropriate as well for the DSR and DCT products.

B. *The IRT*

With respect to the IRT products (which essentially convert satellite signals to cable signals), GI offers evidence that the products never separate or decompress any information from a multiplexed data stream-two elements of the '126 and '694 patents. Because Orbsak provides nothing to refute this evidence, we also grant summary judgment in GI's favor with respect to the IRT products.

Conclusion

For the foregoing reasons, defendant General Instrument Corporation's motion for summary judgment [item # 53] is granted. Plaintiff Orbsak's motion for partial summary judgment [item # 69] and motion to strike

[item # 68] are denied. The Clerk is directed to enter judgment in favor of defendant.

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