United States Court of Appeals for the Federal Circuit

TRITON TECH OF TEXAS, LLC,
Plaintiff-Appellant,

v.

NINTENDO OF AMERICA, INC.,
Defendant-Appellee.

2013-1476

Appeal from the United States District Court for the Western District of Washington in No. 13-CV-0157, Judge Richard A. Jones.

Decided: June 13, 2014

JAMES F. MCDONOUGH, III, Heninger Garrison Davis, LLC, of Atlanta, Georgia, argued for plaintiff-appellant. With him on the brief were JACQUELINE KNAPP BURT; and TIMOTHY C. DAVIS, of Birmingham, Alabama.

GRANT KINSEL, Perkins Coie, LLP, of Los Angeles, California, argued for defendant-appellee. With him on the brief were JOSEPH HAMILTON, of Los Angeles, California; JONATHAN L. MCFARLAND, of Seattle, Washington; and DAN L. BAGATELL, of Phoenix, Arizona.

Before MOORE, REYNA, and HUGHES, *Circuit Judges*.

MOORE, *Circuit Judge*.

Triton Tech of Texas, LLC ("Triton") appeals from the district court's judgment that the means-plus-function term "integrator means" renders the asserted claims of Triton's U.S. Patent No. 5,181,181 invalid for indefiniteness. We *affirm*.

BACKGROUND

Triton sued Nintendo of America, Inc. ("Nintendo"), alleging that the Wii Remote™ used in combination with a related accessory infringes the '181 patent. The '181 patent is directed to an input device for a computer. '181 patent col. 1 ll. 9–10. It discloses that a user can communicate with a computer by moving the input device—much like using a mouse, but in three dimensions. *Id.* col. 2 ll. 50–67. The input device sends commands to the computer based on the input device's three-dimensional position, attitude (i.e., orientation), and motion. *Id.* Abstract. For example, a user may be able to manipulate an object that is represented graphically on the computer by moving the input device in a manner in which the user wishes to manipulate the object. *Id.* col. 1 ll. 15–22.

The input device includes components for determining its position, attitude, and motion. In the preferred embodiment, these components include three accelerometers and three rotational rate sensors for measuring linear acceleration along, and rotational velocity about, three orthogonal axes. *Id.* col. 3 ll. 3–29, Fig. 1(d). The preferred embodiment also includes a conventional microprocessor that is programmed to periodically read and numerically integrate over time digitized acceleration and rotational rate values to calculate the position, attitude, and motion values for the input device. *Id.* col. 7 ll. 15–

25. The '181 patent does not further explain how the numerical integration is performed, only that it is performed in a "conventional manner." *Id.* col. 10 ll. 7–9. The input device then outputs these values to the computer to facilitate the user's interaction with the computer. *Id.* col. 11 ll. 14–42.

Claim 4 is representative of the asserted claims:

> An input device for providing information to a computing device, comprising: . . .
>
> a first acceleration sensor . . . ; a second acceleration sensor . . . ; a third acceleration sensor [each producing analog acceleration sensor signals];
>
> a first rotational rate sensor . . . ; a second rotational rate sensor . . . ; a third rotational rate sensor . . . ; . . .
>
> an analog-to-digital converter associated with said input device which quantizes said analog acceleration sensor signals to produce digital acceleration sensor values;
>
> a first-in, first-out buffer memory which temporarily stores said digital acceleration sensor values from said analog-to-digital converter in sequential order for later processing;
>
> *integrator means* associated with said input device *for integrating said acceleration signals over time* to produce velocity signals for linear translation along each of . . . first, second and third axes; and
>
> communication means associated with said input device for communicating information between said input device and said computing device.

Id. col. 12 l. 42 – col. 13 l. 15 (emphases added).

Each asserted claim recites an "integrator means." The district court held that this term rendered the asserted claims indefinite. *Triton Tech of Texas, LLC v. Nintendo of Am., Inc.*, C.A. No. 13-cv-0157 (W.D. Wash. June 4, 2013), ECF No. 153 ("*Claim Construction Order*"). It determined that the corresponding structure for performing the recited integrating function was a "conventional microprocessor having a suitably programmed read-only memory." *Id.* at 14. It found that the '181 patent did not disclose any algorithm for performing the recited integrating function. *Id.* at 15–16. It noted that the '181 patent broadly discloses using "numerical integration," but determined that this alone was not a sufficient disclosure because "'[n]umerical integration' . . . is not a single algorithm, but rather a whole class of algorithms that can be used to calculate definite integrals . . . ." *Id.* at 16. The district court thus concluded that the asserted claims were indefinite.[1] *Id.* at 15–16 (citing *Aristocrat Techs. Austr. Pty Ltd. v. Int'l Gaming Tech.*, 521 F.3d 1328, 1334 (Fed. Cir. 2008)). Triton appeals. We have jurisdiction under 28 U.S.C. § 1295(a)(1).

DISCUSSION

We review de novo a district court's decision regarding indefiniteness. *Function Media, L.L.C. v. Google Inc.*, 708 F.3d 1310, 1316 (Fed. Cir. 2013). Section 112 ¶ 6 allows a patentee to express an element of a claim as a means for

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[1] The district court similarly determined that "processing means," recited only in dependent claim 13, was indefinite and also construed several claim terms adversely to Triton. On appeal, Triton also challenges the indefiniteness of "processing means" and the district court's claim construction. In light of our affirmance of indefiniteness based on "integrator means," we need not reach these issues.

performing a specified function. 35 U.S.C. § 112 ¶ 6 (2006). In exchange for using this form of claiming, the patent specification must disclose with sufficient particularity the corresponding structure for performing the claimed function and clearly link that structure to the function. *Ibormeith IP, LLC v. Mercedes-Benz USA, LLC*, 732 F.3d 1376, 1379 (Fed. Cir. 2013). If the function is performed by a general purpose computer or microprocessor, then the specification must also disclose the algorithm that the computer performs to accomplish that function. *Aristocrat*, 521 F.3d at 1333. Failure to disclose the corresponding algorithm for a computer-implemented means-plus-function term renders the claim indefinite. *Ergo Licensing LLC v. CareFusion 303, Inc.*, 673 F.3d 1361, 1363 (Fed. Cir. 2012).

Triton concedes that the structure corresponding to "integrator means" is a conventional microprocessor, and contends that the '181 patent discloses an algorithm for performing the integrating function with enough specificity to render the claims discernible to a person of ordinary skill. First, Triton argues that merely using the phrase "numerical integration" is sufficient disclosure of an algorithm because numerical integration was well known to those skilled in the art. Second, Triton argues that the '181 patent discloses a two-step algorithm for accomplishing the integrating function: (1) sampling measured values over time and (2) accumulating by continuously summing areas defined by the sampled values. Triton asserts that the '181 patent discloses the sampling step as acquiring instantaneous values from the different sensors, formatting them to digital values, and then storing them for further processing. Appellant's Br. 20–21 (citing '181 patent col. 3 ll. 30–38, col. 9 ll. 2–6, 28–37, 49–59). Triton contends that the '181 patent discloses the accumulating step as "clearing all numeric integration accumulators" and continually performing numerical integration to

compute the position and attitude values. *Id.* at 21–22 (citing '181 patent col. 7 l. 65 – col. 8 l. 3, col. 10 ll. 51–62, col. 7 ll. 21–36, col. 8 ll. 11–12).

We affirm the district court's determination that the asserted claims of the '181 patent are indefinite because the specification does not disclose an algorithm for performing the claimed integrating function of the "integrator means." It is certainly true that an algorithm can be expressed in many forms, including flow charts, a series of specific steps, mathematical formula, prose, and so on. *Finisar Corp. v. DirecTV Grp., Inc.*, 523 F.3d 1323, 1340 (Fed. Cir. 2008). However, merely using the term "numerical integration" does not disclose an algorithm—i.e., a step-by-step procedure—for performing the claimed function. *Ergo Licensing*, 673 F.3d at 1365 ("Even described in prose, an algorithm is still a step-by-step procedure for accomplishing a given result.") (quotations omitted). As the district court correctly determined, numerical integration is not an algorithm but is instead an entire class of different possible algorithms used to perform integration. *Claim Construction Order* at 16. Disclosing the broad class of "numerical integration" does not limit the scope of the claim to the "corresponding structure, material, or acts" that perform the function, as required by section 112. Indeed, it is hardly more than a restatement of the integrating function itself. Disclosure of a class of algorithms "that places no limitations on how values are calculated, combined, or weighted is insufficient to make the bounds of the claims understandable." *Ibormeith*, 732 F.3d at 1382.

The fact that various numerical integration algorithms may have been known to one of ordinary skill in the art does not rescue the claims. "[A] bare statement that known techniques or methods can be used does not disclose structure." *Biomedino, LLC v. Water Techs. Corp.*, 490 F.3d 946, 953 (Fed. Cir. 2007); *see also ePlus,*

Inc. v. Lawson Software, Inc., 700 F.3d 509, 519 (Fed. Cir. 2012). The district court correctly recognized that "[a]lthough a person of skill in the art might be able to choose an appropriate numerical integration algorithm and program it onto a microprocessor, the [p]atent discloses no algorithm at all." *Claim Construction Order* at 16. We thus conclude that the district court correctly found that the '181 patent's disclosure of "numerical integration" does not satisfy the disclosure requirement of section 112 ¶ 6; "numerical integration" is not an algorithm.

We hold that Triton has waived its second argument that the '181 patent discloses a two-step algorithm that consists of sampling and accumulating. Triton did not make this argument to the district court. Instead, it argued that the corresponding structure for "integrator means" is a conventional microprocessor "that performs integration." Plaintiff's Opening Claim Construction Brief, *Triton Tech of Texas, LLC v. Nintendo of Am. Inc.*, No. 10-cv-328, at 14 (E.D. Tex. Nov. 30, 2012), ECF No. 115.[2] It explained that "[the position, velocity, and attitude values] are computed and numerically integrated in a 'known manner,'" and that "[n]umerical integration describes the ways in which a numerical value is reached from the integration of definite integrals." Plaintiff's Reply Claim Construction Brief, *Triton Tech of Texas, LLC v. Nintendo of Am. Inc.*, No. 10-cv-328, at 7 (E.D. Tex. Dec. 21, 2012), ECF No. 122. It did not argue that the '181 patent discloses a two-step numerical algorithm. It argued only that the term "numerical integration" was sufficient.

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[2] This case was transferred from the Eastern District of Texas to the Western District of Washington after the parties finished their claim construction briefing.

To the extent that Triton now argues that one of skill in the art would have understood the bare disclosure of "numerical integration" as disclosing a particular two-step algorithm, we find that it also waived that argument. Triton argued to the district court that "numerical integration describes the ways in which a numerical value is reached from . . . integration," that "the method of numerical integration would [have been] obvious" and that the specification disclosed "numerical integration" such that "one of ordinary skill in the art could identify a preferred mathematical equation with which to perform the function of integrating." *Id.* at 7–8. Thus, at best, Triton argued to the district court that one of skill in the art would have been able to identify a preferred integration algorithm because different methods for performing numerical integration were well known. Triton did not argue below that one of skill in the art would have understood the disclosure of "numerical integration" as describing a particular two-step algorithm. It cannot make that argument for the first time on appeal.

In exchange for expressing "integrator means" as a means-plus-function term, Triton was required to disclose an algorithm for performing the claimed integrating function. Because it did not do so, the asserted claims are indefinite.

CONCLUSION

We *affirm* the district court's judgment that the asserted claims of the '181 patent are invalid for indefiniteness.

AFFIRMED