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The Honorable Leonard Davis
U.S. District Court for the Eastern District of Texas
211 W. Ferguson, Third Floor
Tyler, TX 75702

Re: *ROY-G-BIV Corp. v. ABB, Ltd. et al.*, Civil Action No. 6:11-cv-00622-00624-LED

Dear Chief Judge Davis:

In accordance with the November 27, 2012 Docket Control Order (Doc. 97), Defendants respectfully request permission to file a motion for summary judgment of indefiniteness under 35 U.S.C. § 112, ¶ 2 regarding certain terms and claims in the asserted patents.¹

The patents are directed to motion control middleware systems, and each of the asserted patent claims requires both “primitive” and “non-primitive” operations. For instance, claim 1 of the ‘236 patent requires:

a set of motion control operations, where each motion control operation is either a primitive operation the implementation of which is required to operate motion control devices and cannot be simulated using other motion control operations or a non-primitive operation that does not meet the definition of a primitive operation.

The patent specification purports to define these terms and provides examples of both. But the definitions are insolubly ambiguous as they do not provide an objective guide by which one skilled in the art could determine whether they were practicing the invention for at least the following reasons:

- the applicant classifies one of its example motion control operations (MOVE RELATIVE) as both a primitive operation and a non-primitive operation;
- the patents purport to define a “primitive operation” as one that “cannot be simulated using a combination of other motion control operations,” but the patents’ examples of “primitive operations” can be broken down into several smaller operations (and therefore *can* be simulated using other motion control operations); and

ABB Inc.
EXHIBIT 1031

¹ The following claims are currently asserted in this case: claims 1-5 in U.S. Patent No. 6,513,058; claims 1-10 in U.S. Patent No. 6,516,236; claims 5-16 in U.S. Patent No. 6,941,543; and claims 16-30 and 46-59 in U.S. Patent No. 8,073,557.

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- the patent purports to define a primitive operation as “necessary for motion control,” yet, they fail to notify the public how the example motion control operations identified in the specification are indeed necessary for motion control.

Based on the above, a person of skill in the art is not able to determine whether a given operation is “primitive” or “non-primitive,” or otherwise determine the bounds of the claims. Thus, the claims do not “inform the public . . . which features may be safely used or manufactured without a license and which may not.” See *Gen. Elec. Co. v. Wabash Appliance Corp.*, 304 U.S. 364, 369 (1938). Additionally, dependent claim 8 in the ‘543 patent requires “the application program,” which lacks antecedent basis, causing a fatal ambiguity in claim 8.

I. Applicable Legal Standards for Indefiniteness

“The definiteness requirement of § 112, ¶ 2 ‘focuses on whether the claims, as interpreted in view of the written description, adequately perform their function of notifying the public of the [scope of the] patentee’s right to exclude.’” *Advanced Display Techs. of Texas, LLC v. AU Optronics Corp.*, 6:11-cv-011 (E.D. Tex. July 12, 2012) (Davis, J.) (quoting *S3 Inc. v. nVIDIA Corp.*, 259 F.3d 1364, 1371-72 (Fed. Cir. 2001)). “Determination of claim indefiniteness is a legal conclusion that is drawn from the court’s performance of its duty as the construer of patent claims.” *Personalized Media Commc’ns, L.L.C. v. ITC*, 161 F.3d 696, 705 (Fed. Cir. 1998). When analyzing indefiniteness, “the fact that [a patentee] can articulate a definition supported by the specification . . . does not end the inquiry. Even if a claim term’s definition can be reduced to words, the claim is still indefinite if a person of ordinary skill in the art cannot translate the definition into meaningfully precise claim scope.” *Halliburton Energy Servs., Inc. v. M-I LLC* 514 F.3d 1244, 1251 (Fed. Cir. 2008).

II. Overview of Motion Control Technology and the Relevant Claim Terms

Motion control systems, in general, are systems used in a variety of manufacturing applications to control movement of an object along a desired path—such as a factory robot or a precision cutting tool. According to RGB, motion control systems previously required programmers to write source code that was unique to each particular machine (*i.e.*, was hardware dependent).² The patents are directed to a middleware system for motion control that “facilitates the creation of hardware independent motion control software” to allow a programmer to draft generic applications without even knowing the identity of the machine tool.³ To achieve this goal, the programmer defines a set of generic motion control operations, which may either be “primitive operations” or “non-primitive operations.”⁴

According to the patent:

Primitive operations are operations that are necessary for motion control and cannot be simulated using a combination of other motion control operations.

² IPR2013-00062, RGB Preliminary Resp. at p. 7.

³ ‘236 Patent at 1:13-15; ‘058 Reexam, 10/12/10 at 1; IPR2013-00062, Preliminary Resp. at pp.7-9.

⁴ ‘058 patent at 6:56-57.

Examples of primitive operations include GET POSITION and MOVE RELATIVE, which are necessary for motion control and cannot be emulated using other motion control operations.⁵

Based on this statement, all parties agree that “primitive operations” means “motion control operations, such as GET POSITION and MOVE RELATIVE, necessary for motion control, which cannot be simulated using a combination of other motion control operations.”⁶

The patents describe a non-primitive operation as any operation that “do[es] not meet the definition of a primitive operation[,]”⁷ which includes any operation that can be simulated using a combination of other (i.e., “primitive”) operations. The patents give one example—CONTOUR MOVE, which is the “coordinated movement of two motors to form an arc,” such as a robot arm painting a car door in a circular motion.⁸

III. The Scope of the Claims Cannot be Determined from the Intrinsic Evidence

It is impossible to distinguish the boundary between a primitive operation and a non-primitive operation. Here, although the specification gives definitions for primitive and non-primitive operations, it also provides contradictions. The result is that the intrinsic evidence offers no guidance informing the public what constitutes a primitive operation.

Using the agreed-upon definition, the patent claims are indefinite for at least the following reasons.

First, RGB’s own treatment of the term MOVE RELATIVE shows that the named inventors cannot distinguish between “primitive” and “non-primitive” operations—proving the terms are insolubly ambiguous as applied. *See Advanced Display Techs. of Texas*, 6:11-cv-011 at p. 25. In connection with the filing of the patents, RGB submitted a number of “appendices” to the specification consisting of portions of a manual covering an exemplary software system called “XMC.”⁹ The appendices each classify MOVE RELATIVE as a “non-primitive” operation.¹⁰ However, the specification classifies MOVE RELATIVE as a primitive operation, as set forth above.

⁵ ‘058 patent at 6:56-63.

⁶ Joint Claim Construction and Prehearing Statement of Plaintiff and Defendants, Ex. A – Claim Constructions on Which the Parties Agree (Doc. No. 134(A)).

⁷ *e.g.*, ‘058 patent at 6:63-65.

⁸ IPR2013-00062, RGB Preliminary Resp. at p. 7.

⁹ *See, e.g.*, ‘236 patent at 7:51-53 (“The SPI for the exemplary software system 22 is attached hereto as Appendix A”). “XMC” stands for Microsoft® WOSA, eXtensions for Motion Control. As alleged by RGB in its P.R. 3-1(f) disclosure in this case, “Plaintiff’s XMC software, when used alone or in combination with third party hardware, such as third-party motion control devices, computers, and other objects incorporates or reflects each of the asserted claims of the ‘058, ‘236, ‘543, and ‘557 patents.”

¹⁰ Appendix A at 47-48 (“This interface consists of extra motion control functions that may or may not be implemented by the motion control hardware.... (*pDrvExt_Motion)->MoveRel()”); Appendix C at 3 (“the driver may or may not implement the set of commands.... Enum XMC_DRVEXT_CMD (XMC_DCE_MOTION_MOVEREL).”

Second, GET POSITION¹¹ and MOVE RELATIVE (the only two examples of primitive operations provided in the patents) do not meet RGB's definition of a "primitive operation" because each is broken into constituent parts, and thus *can* be emulated using other motion control operations. For example, MOVE RELATIVE moves an object from Point A to Point B—a process that necessarily can be divided into at least an acceleration operation, a deceleration operation, and likely a set velocity in between.¹²

The prosecution record highlights this problem. RGB told the USPTO that "motion control operations include such things as 'moving to a specific location in the system, 'querying the system for the current position,' and 'GetAcceleration,' 'SetAcceleration,' 'SetVelocity' 'GetPosition,' and 'IsInMotion.'" ¹³ By defining "SetAcceleration" and "SetVelocity" as motion control operations, RGB admits that MOVE RELATIVE is not a primitive operation because it can be simulated using the combination of acceleration and velocity components.¹⁴

Further, GET POSITION also requires constituent operations, including: (1) sending a query; (2) receiving position data in response to that query; and (3) reading the received position data. Thus, GET POSITION *can* be emulated using a combination of operations.

Third, the patents fail to notify the public how either GET POSITION or MOVE RELATIVE are "necessary for motion control," or conversely, what motion control operations are *not* necessary for motion control. Indeed, MOVE RELATIVE is not "necessary for motion control" in a system that merely turns a spindle, which is one of the systems accused by RGB in this case. Turning a spindle does not require a MOVE RELATIVE operation. If an operation is only performed in certain motion control applications by certain devices, it cannot be fairly described as "necessary for motion control."¹⁵

The intrinsic evidence shows that the terms "primitive" and "non-primitive" fail to notify the public of their proper scope such that the public cannot determine what does not constitute an infringing act. For at least these reasons, Defendants submit that the claims are indefinite.

IV. Dependent Claim 8 Of The '543 Patent Is Fatally Ambiguous

The antecedent basis rule exists to avoid ambiguity in patent claims. *See Energizer Holdings, Inc. v. ITC*, 435 F.3d 1366, 1370 (Fed. Cir. 2006); MPEP § 2173.05(e) (8th ed., Rev. 9, Aug.

¹¹ Although the patent and RGB suggest that GET POSITION is a motion control operation, this operation does not actually accomplish motion control by itself.

¹² More abstractly, and when command parameters are considered any move operation (for example) may be performed by an arbitrary number of smaller moves (*e.g.*, two "1/2 moves", three "1/3 moves", etc).

¹³ '058 patent reexamination (95/000398) April 28, 2008 reply at p. 39. See also IPR2013-00062, RGB Preliminary Resp. at p. 30 (listing similar set of exemplary motion control operations).

¹⁴ *Cf.* IPR2013-00062, RGB Preliminary Resp. at p. 22-23 (asserting operations in a prior art reference were not primitive, because they could be "dissected into reading individual data from the trackball regarding its position, velocity and acceleration along the different axes."

¹⁵ *See, e.g.*, IPR2013-00062, RGB Preliminary Resp. at p. 33 (arguing that certain operations in a prior art reference are not primitive operations since "they are not supported at all in ATs and are described as 'optional' with respect to ATMs.")

2012). Claim 8 of the '543 patent lacks an antecedent basis for the "application program" limitation in that claim, and the resulting ambiguity renders claim 8 indefinite.

RGB has described its claimed invention as including a "middleware" layer of software working between an application program and a software driver, and according to RGB the "functional interrelationship" of these three components was a key distinction over prior art.¹⁶ Independent claim 5 in the '543 patent does not expressly recite an "application program." However, claim 8 depends on claim 5, and refers to "said application program" from claim 5, making it ambiguous and indefinite. Even if the "application program" was implicit in claim 5, there would still be a question of where it fits into claim 5, which would be essential for understanding the "functional interrelationship" of the claim elements that RGB indicated was so important. Without any way to determine the placement of the "application program" in claim 5, claim 8 is indefinite.

V. Ripeness for Summary Judgment

Claim 8 of the '543 patent is fatally ambiguous in light of the specification and prosecution history. A determination of whether the claim meets 35 U.S.C. §112, ¶ 2 can be made based on the intrinsic evidence of the patent. Accordingly, this issue is ripe for summary judgment and Defendants seek leave to file a motion for summary judgment during the *Markman* phase of this litigation.

The layers of problems with "primitive" and "non-primitive" operations are less obvious on the whole. Although the inconsistencies of the examples given in the specification are compelling, Defendants acknowledge that the Court would benefit from expert testimony on the more subtle problems relating to defining a primitive operation as one that is necessary for motion control and cannot be simulated using a combination of other motion control operations. Therefore, should the Court prefer to defer resolution of these indefiniteness issues until a more complete record can be developed, Defendants seek leave to file a motion for summary judgment on the indefiniteness of "primitive" and "non-primitive" operations at the time dispositive motions are due under the Docket Control Order.

VI. Conclusion

For the reasons described above, Defendants contend that the term "primitive operations" indefinite and that claim 8 of the '543 patent is indefinite. Therefore, Defendants seek leave to file a motion for summary judgment on these issues.

¹⁶ '543 Reexam, 10-10-10 Comments, pp. 2-3, 9 ("the claims of the '543 patent provide an intermediate "middleware" layer comprising component functions, thereby separating the Application Layer from the Driver Layer with an intermediate layer.")

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