

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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ABB INC.  
Petitioner

v.

ROY-G-BIV CORPORATION  
Patent Owner

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Cases IPR2013-00074 & IPR2013-00286  
Patent 8,073,557 B2

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Before THOMAS L. GIANNETTI, JENNIFER S. BISK, and  
JEREMY M. PLENZLER, *Administrative Patent Judges*.

GIANNETTI, *Administrative Patent Judge*.

FINAL WRITTEN DECISION  
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

## I. INTRODUCTION

### A. Background

ABB Inc. (“Petitioner”) filed a Petition (IPR2013-00074) requesting an *inter partes* review of claims 16-30 and 46-59 of U.S. Patent No. 8,073,557 B2 (Ex. 1001 (“the ’557 patent”)). Paper 8.<sup>1</sup> On April 18, 2013, the Board granted the Petition and instituted trial for claims 16-25, 27, and 28. Paper 17. On May 17, 2013, Petitioner filed a second Petition requesting an *inter partes* review of claims 16-30 and 46-59 of the ’557 patent. IPR2013-00286, Paper 1. With the second Petition, Petitioner filed a motion requesting joinder with IPR2013-00074. IPR2013-00286, Paper 4. On June 10, 2013, Petitioner filed a motion limiting its second Petition to claims 26, 29, 30, and 46-59. IPR2013-00286, Paper 10. On August 9, 2013, the Board granted the second Petition and instituted a trial as to claims 26, 29, 30, and 46-59. IPR2013-00286, Paper 13. On the same day, the Board granted the motion for joinder and joined IPR2013-00074 and IPR2013-00286. IPR2013-00286, Paper 14.

During trial, ROY-G-BIV Corp. (“Patent Owner”) filed a Patent Owner Response (“PO Resp.”), addressing the challenges from the first Petition, and a Supplemental Patent Owner Response (“Supp. PO Resp.”), addressing the challenges from the second Petition. Papers 24, 27. The Patent Owner Response was accompanied by an expert declaration from David B. Stewart, Ph.D. (Ex. 2014), author of the Stewart thesis relied upon by Petitioner. Petitioner filed a Reply (“Pet. Reply”) and, for the first time in this proceeding, presented expert testimony, namely declarations from

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<sup>1</sup> Citations to the record refer to IPR2013-00074 unless otherwise noted.

Richard Voyles, Ph.D. (Ex. 1130), and Nikolaos Papanikolopoulos, Ph.D. (Ex. 1132). Paper 44. Drs. Voyles and Papanikolopoulos worked in the same laboratory at Carnegie Mellon University as Dr. Stewart and their testimony was presented by Petitioner to rebut Dr. Stewart's expert testimony. Patent Owner also filed a motion to exclude evidence ("Mot."). Paper 50. Oral hearing was held on January 23, 2014. This hearing included four proceedings: IPR2013-00062, IPR2013-00074, IPR2013-00282, and IPR2013-00286. A transcript of the hearing is included in the record as Paper 70 ("Transcript"). This final decision addresses two of the four proceedings: IPR2013-00074 and IPR 2013-00286. A separate final decision ("the '062 Decision") addresses the remaining two proceedings, IPR2013-00062 and IPR2013-00282 ("IPR2013-00062/282"). This decision will refer to the '062 Decision and will, in places, rely on the analysis therein.

We have jurisdiction under 35 U.S.C. § 6(c). This final written decision is entered pursuant to 35 U.S.C. § 318(a). For the reasons discussed below, we determine that Petitioner has not met its burden to prove by a preponderance of the evidence that claims 16-30 and 46-59 of the '557 patent are unpatentable.

*B. The '557 Patent*

The technology of the '557 patent is identical to that described in the '062 Decision. The patent at issue there, U.S. Patent No. 6,516,236 ("the

'236 patent"), is related to the '557 patent.<sup>2</sup> For the purposes of this decision, therefore, we rely upon that prior description in the '062 Decision.

*C. Illustrative Claim*

Claim 16 is reproduced below:

16. A motion control system, comprising:  
an application program comprising at least one call to at least one component function;  
a plurality of motion control devices, where  
    a plurality of unique controller languages are associated with the plurality of motion control devices,  
    each controller language comprises at least some control commands for processing information associated with motion control devices, and  
    each of the motion control devices comprises  
        a controller capable of generating electrical signals based on at least one control command of the controller language associated with the motion control device, and  
        a mechanical system capable of causing a motion control operation based on electrical signals generated by the controller,  
a set of software drivers each comprising driver code, where  
    each software driver is associated with at least one of the plurality of controller languages, and  
    each software driver exposes a service provider interface defining a set of driver functions, where  
        the driver functions are independent of the plurality of controller languages,

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<sup>2</sup> The '557 patent is a continuation of U.S. Patent Application No. 10/316,451 (now abandoned), which is a continuation-in-part of the '236 patent.

- at least one driver function is an extended driver function that is associated with a non-primitive motion operation that can be performed using at least one primitive motion operation, where the at least one primitive motion operation cannot be performed using a combination of primitive or non-primitive motion operations,
  - at least one driver function is a core driver function that is associated with a primitive motion operation,
  - the driver code of at least one software driver associates at least one driver function with at least one control command of the at least one controller language associated with at least one of the software drivers, and
  - at least one selected software driver is associated with at least one selected motion control device;
- a motion component comprising component code, where the motion component exposes an application programming interface comprising a set of component functions, where;
- each component function is implemented by component code,
  - at least the component code is independent of the plurality of controller languages, and
  - the component code associates at least one of the component functions with at least one of the driver functions;
- wherein
- the at least one selected software driver generates at least one control command in the controller language associated with the at least one selected motion control device based on the calls to component functions of the application program, the component code, and the driver code of the at least one selected software driver.



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