





JORDAN, Circuit Judge sitting by designation

## I. INTRODUCTION

This claim-construction opinion addresses the remnants of a patent infringement action brought by Plaintiff, St. Clair Intellectual Property Consultants, Inc. (“St. Clair”), against multiple Defendants, including Toshiba Corporation, Toshiba America Information Systems, Inc., and Toshiba America, Inc. (collectively, “Toshiba”). The original action involved seven patents, only two of which remain at issue: U.S. Patent No. 5,613,130 (the “’130 patent”) and U.S. Patent No. 5,630,163 (the “’163 patent”). Chief Judge Leonard P. Stark previously construed one claim term from the ’130 patent and three claim terms from the ’163 patent in this case, but did not construe any of the claim terms currently at issue. With respect to the only claim term in dispute from the ’163 patent, however, Chief Judge Stark did construe it in related litigation, *St. Clair Intellectual Property Consultants, Inc. v. Apple, Inc., et al.*, No. 10-982-LPS, 2012 WL 3238252 (D. Del. Aug. 7, 2012).

## II. LEGAL STANDARDS

The general rules of claim construction are well-established, *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc), and need not be repeated. The claims at issue here, however, involve means-plus-function limitations, which are limitations “expressed as a means ... for performing a specified function without the recital of structure, material, or acts in support thereof.” 35 U.S.C. § 112, ¶ 6 (referred to as subsection (f) post-AIA). The use of the word “means” in a claim limitation creates a rebuttable presumption that section 112, paragraph six has been invoked. *TriMed, Inc. v. Stryker Corp.*, 514 F.3d 1256, 1259 (Fed. Cir. 2008). That

presumption can be overcome where the claim limitation itself recites sufficient structure to perform the claimed function in its entirety. *TI Grp. Auto. Sys. (N. Am.), Inc. v. VDO N. Am., L.L.C.*, 375 F.3d 1126, 1135 (Fed. Cir. 2004).

Once it is determined that a claim term is governed by section 112, paragraph 6, construing a means-plus-function limitation requires the Court to (1) identify the claimed function, and (2) identify the corresponding structure in the written description that performs the identified function. *Lockheed Martin Corp. v. Space Sys./Loral, Inc.*, 324 F.3d 1308, 1318-19 (Fed. Cir. 2003). A corresponding structure must be “link[ed] or associate[d] with the function recited in the claim,” *B. Braun Medical, Inc. v. Abbott Laboratories*, 124 F.3d 1419, 1424 (Fed. Cir. 1997), but section 112, paragraph 6 does not “permit incorporation of structure from the written description beyond that necessary to perform the claimed function,” *Micro Chemical Inc. v. Great Plains Chemical Co.*, 194 F.3d 1250, 1258 (Fed. Cir. 1999).

### **III. THE '130 PATENT**

The '130 patent describes a computer system that can select and control the voltage delivered to pluggable cards, such as PCMCIA cards. ('130 patent at 1:6-8.) The invention of the '130 patent is a system to determine and select the proper voltage to apply to a pluggable card so as to avoid providing the incorrect voltage and thereby risk damaging the card. (*Id.* at 1:55-66, 2:15-31.) The parties dispute the construction of eight terms in the asserted claims of the '130 patent.<sup>1</sup>

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<sup>1</sup> The parties have stipulated to the function and corresponding structure for two means-plus-function limitations. For the term “primary means for executing control software,” the parties agree that the function is “executing the control software” and the corresponding structure is “processing unit (CPU).” For the claim term “signal means for providing a CD signal for indicating when the pluggable card is plugged into the computer system,” the parties agree that

**A. “power control means for controlling said power switching means to select one of said supply voltages”<sup>2</sup>**

St. Clair contends that the term “power control means” does not require construction and should be given its plain and ordinary meaning. (D.I. 932 at 4.) If, however, I determine that the disputed term is a means-plus-function limitation, then the parties agree that the function is “controlling the power switching means to select one of said supply voltages.” As to the corresponding structure, St. Clair argues that it is “a voltage select register; a decode logic; a power control register; and a card detect logic with an asynchronous load logic.” (D.I. 932 at 4.) Toshiba, conversely, contends that the corresponding structure is “PCMCIA control unit 13.” (D.I. 933 at 16.) I conclude that the disputed term is a means-plus-function limitation and has a corresponding structure of “PCMCIA control unit.”<sup>3</sup>

Because “power control means” includes the word “means,” the term is presumed to be a means-plus-function limitation. St. Clair notes that “power control means” is described as including “voltage select means,” “power enabling means,” and “code generating means,” and argues that those sub-elements provide sufficient structure to rebut the means-plus-function presumption. St. Clair relies on *TecSec, Inc. v. International Business Machines Corp.*, in which the Federal Circuit construed the claim term “digital logic means.” 731 F.3d 1336, 1347-48 (Fed. Cir. 2013). As in this case, the asserted claims in *TecSec* described “digital logic means” as

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the function is “providing a CD signal indicating when a card is plugged into the system,” and the corresponding structure is “card detect logic.”

<sup>2</sup> This disputed term appears in claims 1, 8, and 9 of the ’130 patent.

<sup>3</sup> For the reasons discussed below with respect to the disputed term of the ’163 patent, I decline to include any reference characters in its constructions.

being comprised of multiple sub-elements, including one element written in a means-plus-function format (“system memory means”). *Id.* The Federal Circuit ultimately determined that, despite its use of the word “means,” the term “digital logic means” was not a means-plus-function limitation because (1) the other sub-elements comprising “digital logic means” were structural components (e.g., “system memory,” “encryption algorithm module,” “object labeling subsystem,” “decryption algorithm module,” and “object label identification system”); (2) the claim itself did not recite a function; and (3) the term “digital logic” is used in common practice by persons of skill in the art to designate structure. *Id.* Here, however, “power control means” is described only by means-plus-function elements and no structural elements; claims 1, 8, and 9 specifically disclose a function for the disputed term; and no evidence was presented that persons of skill in the art would understand “power control means” to designate structure. Furthermore, given the fact that the ’130 patent is rife with means-plus-function limitations, it is evident that the patent drafters knew how to and, indeed, intended to, draft claims that would be governed by section 112, paragraph six.

Again, having determined that “power control means” is a means-plus-function limitation, I conclude that the specified function is “controlling the power switching means to select one of said supply voltages,”<sup>4</sup> and the corresponding structure is “PCMCIA control unit.” St. Clair contends that the corresponding structures for “power control means” are all of the structures corresponding to the means-plus-function sub-elements (e.g., the corresponding structures for “voltage select means,” “power enabling means,” and “code generating means”).

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<sup>4</sup> As previously construed by Chief Judge Stark, “power switching means for selecting one of said voltages” has the function of “selecting one of said voltages as said card voltage” and has a corresponding structure of “power switches.” (D.I. 394 at 29-30.)

Nothing in the patent, however, suggests that those structures are sufficient to perform the stipulated function. My construction, by contrast, is supported by the specification, which states that the “PCMCIA control unit 13 ... provide[s] the PSC control signals to power switches 12” (’130 patent, 3:4-8), and further states that the voltages provided to the PCMCIA card 15 are selected by the power switches under the control of the PSC signals (*id.* at 3:12-15). Because the PCMCIA control unit 13 functions to control the voltage provided to the PCMCIA card 15, the PCMCIA control unit 13 is the structure that performs the claimed function of “controlling the power switching means to select one of said supply voltages.” Furthermore, Figures 1 and 2 of the ’130 patent depict the entire PCMCIA control unit 13 as being required to control the power switches 12.

**B. “voltage select means for storing a voltage code for specifying said one of said supply voltages”<sup>5</sup>**

The parties agree that the disputed term is a means-plus-function limitation and has a function of “storing a voltage code for specifying said one of said supply voltages.” St. Clair contends that the corresponding structure is “a voltage select register and a decode logic,” while Toshiba argues that the corresponding structure is “voltage select register 24.” I conclude that the corresponding structure for the disputed terms is “voltage select register.”

That construction is supported by the specification, which discloses that the “[voltage limit] register 22 stores a code value, representing the maximum voltage, that is stored under

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<sup>5</sup> This disputed term appears in claims 1 and 9 of the ’130 patent. Claim 8 contains a related disputed term: “voltage select means operable in response to said control software for storing a voltage code for specifying said one of said supply voltages.” Because the addition of “operable in response to said control software” does not affect my construction, the same analysis applies to both disputed terms.

software control in voltage select register 24.” (*Id.* at 3:58-60; *see also id.* at 3:60-67 (“The limit gates 23 load a code value ... into the voltage select register 24. The voltage code value ... is limited by the code in the voltage limit register 22 so that the voltage represented by the code stored in voltage select register 24 does not exceed the voltage represented by the code stored in the voltage limit register 22.”).) Both parties also agree that the voltage select register performs the function of “storing a voltage select code.” (D.I. 932 at 7; D.I. 933 at 8.) St. Clair argues, however, that “voltage select means” has an additional functional requirement of “specifying the said one of said supply voltages,” which is accomplished by the decode logic. But St. Clair’s additional functional requirement appears to be an inherent characteristic of the “voltage code.” That is, “voltage code” necessarily contains embedded information for specifying appropriate supply voltages, so a component for interpreting the voltage – such as a decode logic – is not necessary to the structure.

**C. “power enable means for enabling said voltage select means and operable to be reset in the absence of said CD signal”<sup>6</sup>**

The parties agree that the disputed term is a means-plus-function limitation and has a function of “enabling the voltage select means and operable to be reset in the absence of the CD signal.” St. Clair argues that the corresponding structure is “a power control register,” while Toshiba contends no structure is disclosed, and thus, the claim is indefinite. I agree with Toshiba that no structure is disclosed.

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<sup>6</sup> This disputed term appears in claims 1 and 9 of the ’130 patent. Claim 8 contains a related disputed term: “power enable means operable to be set in response to said control software for enabling said voltage select means and operable to be reset in the absence of said CD signal.” Because the addition of “operable to be set in response to said control software” does not affect my construction, the same analysis applies to both disputed terms.

My construction is supported by the claims themselves which describe “power enable means for enabling said voltage select means.” (’130 patent at 6:40-41 (claim 1), 8:17-18 (claim 9).) Although St. Clair’s proposed structure – “a power control register” – enables the decode logic, as previously discussed, the decode logic is not a necessary part of the corresponding structure of “voltage select means.”<sup>7</sup>

**D. “code generating means operable for storing said voltage code in said voltage select means”<sup>8</sup>**

The parties agree that the disputed term is a means-plus-function limitation and has a function of “storing said voltage code in said voltage select means.” They also agree on the components of the corresponding structure, although St. Clair argues that the structure should include “a limit gate” while Toshiba contends the structure should include “limit gates.” The parties also disagree on the inclusion of reference characters in the construction. I conclude that the corresponding structure is “voltage limit register together with limit gates and/or card detect logic and asynchronous load logic.”

At the *Markman* Hearing, both parties acknowledged that whether the corresponding structure included the singular “limit gate” as opposed to the plural “limit gates” was of no practical consequence. Thus, I adopt the specific language of the specification which references “limit gates” in its plural form. (’130 patent at 3:60-62 (“The limit gates 23 load a code value

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<sup>7</sup> Because no structure is identified as corresponding to the function of enabling the voltage select register – which is the corresponding structure for “voltage select means” – it appears that the claim is indefinite, but that is a decision for another day.

<sup>8</sup> This disputed term appears in claims 1 and 9 of the ’130 patent. Claim 8 contains a related disputed term, “code generating means operable for generating said voltage.” Because the differences between the disputed terms do not affect my construction, the same analysis applies to both disputed terms.



from the ISA data lines of ISA bus 8 into the voltage select register 24.”), 4:20-21 (“The voltage limit register 22 and the limit gates 23 form the synchronous code generation means 44.”).) I also decline to include reference characters in my construction of the disputed term. To the extent that the jury would be aided in its understanding of the term by reference to specific components as described in the patent, both parties can direct the jury’s attention to those components without the reference characters being part of the construction I give the terms.

**E. “asynchronous code generating means operable in response to said CD signal for storing said voltage code in said voltage select means”<sup>9</sup>**

The parties agree that the disputed term is a means-plus-function limitation with a function of “storing said voltage code in said voltage select means in response to said CD signal.” They also agree on the corresponding structure, except that Toshiba again seeks to include reference characters in the construction. For the reasons given above, I decline to include such characters and conclude that the corresponding structure for the disputed term is “card detect logic and asynchronous load logic.”

**IV. THE ’163 PATENT**

The ’163 patent describes an “improved small computer system having a smaller size and low power consumption.” (’163 patent at 4:15-17.) It achieves that end by consolidating special-purpose bus communications through a single, common bus, which operates to serve the needs of all bus devices. (*Id.* at 5:27-30.) Providing one common bus thus reduces costs and improves efficiency. (*Id.* at 7:42-45.) The parties dispute the construction of one term in the asserted claims of the ’163 patent.

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<sup>9</sup> This disputed term appears in claim 9 of the ’130 patent.

**A. “bus processing means for controlling the bus bandwidth of the common bus”<sup>10</sup>**

Chief Judge Stark previously construed this disputed term in *St. Clair Intellectual Property Consultants, Inc. v. Apple, Inc., et al.*, No. 10-982-LPS, 2012 WL 3238252 (D. Del. Aug. 7, 2012). Both parties agree with Chief Judge Stark that the function of the term is “controlling the bus bandwidth of the common bus to correspond to the bus bandwidth associated with the external bus device that is communicating with the process at one of a plurality of different times,” but they disagree with his conclusion as to the corresponding structure. *St. Clair* contends that the corresponding structure is “a bus processing unit” – the same construction that it advanced in the *Apple* litigation, which Chief Judge Stark declined to accept. Toshiba argues that Chief Judge Stark’s construction is in error because it omits the “SPEED” indicator as one of the indicators, along with CYCLE TYPE and MEM TYPE, that are decoded to generate the control signals. I agree with Chief Judge Stark’s analysis in the *Apple* litigation and conclude that the corresponding structure is “electronic circuitry that decodes the bus CYCLE TYPE and MEM TYPE indicators to general control signals used to select the internal bus and speed classification for the current operation of the common bus including bus processing unit operating in conjunction with Bus Data Unit, Bus Control Unit, and Bus Address Unit.”<sup>11</sup>

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<sup>10</sup> This disputed term appears in claims 1 and 27 of the ’163 patent.

<sup>11</sup> Chief Judge Stark included reference characters in his construction, but to remain consistent with my decision regarding the ’130 patent, I decline to include them here. Nothing in this Opinion, however, prohibits the parties from using reference characters in their presentations to aid the jury in understanding the meaning of the disputed terms.

That construction is supported by the specification, which states that “[t]he bus processing unit 31 decodes the bus CYCLE TYPE and MEM TYPE indicators to generate control signals used to select the internal address bus and speed classification for the current operation of common bus 9.” (’163 patent at 10:20-23.) St. Clair’s proposed structure does not disclose all of the components necessary to perform the function, and thus, as Chief Judge Stark noted, it is inadequate. *Apple*, 2012 WL 3238252, at \*11. Similarly, Toshiba did not establish that the inclusion of the “SPEED” indicator is necessary to perform the specified function. For the same reasons that St. Clair could not include “decode logic” in the corresponding structure for “voltage select means” as used in the ’130 patent, Toshiba cannot here include the “SPEED” indicator in the corresponding structure for “bus processing means.”

## **V. CONCLUSION**

For the foregoing reasons, I will construe the disputed terms in the patents-in-suit consistent with this Memorandum Opinion. An appropriate Order follows.