

**IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF TEXAS
WICHITA FALLS DIVISION**

**LIGHTING BALLAST CONTROL,
LLC,**

Plaintiff,

v.

**PHILIPS ELECTRONICS NORTH
AMERICA CORP., et al.,**

Defendants.

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CIVIL ACTION NO. 7:09-CV-29-O

AMENDED MEMORANDUM OPINION AND ORDER

Before the Court is Plaintiff Lighting Ballast Control, LLC ‘s (“LBC”) Motion for Reconsideration (ECF No. 102) of this Court’s Memorandum Opinion and Order of August 19, 2010 (ECF No. 101) construing the “voltage source means” limitation in LBC’s United States Patent 5,436,529 (“529 Patent”) issued on July 25, 1995 and entitled “CONTROL AND PROTECTION CIRCUIT FOR ELECTRONIC BALLAST.” After finding that the “voltage source means” limitation in Claims 1 and 18 of the 529 Patent should be construed in accordance with 35 U.S.C. § 112 ¶ 6 the Court held the claims invalid for indefiniteness under section 112, ¶ 2 because the patent’s specification failed to disclose a structure corresponding to the “voltage source means” limitation. *See generally* Memorandum Opinion and Order, August 19, 2010, ECF No. 101. As explained below, the Court finds Plaintiff’s arguments on reconsideration are well-taken. Accordingly, the Court hereby vacates its Memorandum Opinion and Order of August 19, 2010, in its entirety and issues this Amended Memorandum Opinion and Order on claim construction.

The invention at issue in this patent infringement case is a lighting product, specifically an

electronic ballast. A ballast is a device for starting and regulating florescent and other types of lamps. A ballast provides proper voltage to light the lamp, and regulates the electric current flowing through the lamp to control light output. The ballasts at issue in this case are designed to power florescent lamps with heatable filaments. The parties dispute various claim terms in the 529 Patent. The Court has construed the disputed claim terms after reviewing the briefs and responses of the parties, the applicable law, and where appropriate, any extrinsic evidence submitted by the parties.

I. BACKGROUND

The Court sets forth only those facts necessary to provide context for the claim construction. Plaintiff LBC holds the exclusive right to enforce the 529 Patent. The inventor is Andrzej “Andrew” Bobel. The 529 Patent covers a lighting ballast that powers florescent lamps with heatable filaments. An electronic ballast practicing the 529 Patent operates in three different stages: (1) the initial start-up of the ballast, (2) the shut-down or sleep-mode of the ballast, and (3) the re-starting of the ballast after an inoperable lamp has been replaced. Pl.’s Opening Br. Cl. Const. 4, ECF No. 84. The invention was intended to address significant technical challenges facing the ballast industry in 1993; specifically, how to preserve the integrity of the ballast by not drawing power from a power line source when a lamp is removed or defective, and by not having to turn the power OFF and ON when the lamp is replaced. *Id.* at 6. The invention covered by the 529 Patent was intended to remedy these issues in a safe, energy efficient, and affordable manner. *Id.*

LBC sues Defendant Universal Lighting Technologies, Inc. (“ULT”) claiming infringement of the 529 Patent because ULT manufactures, uses, or sells electronic ballasts utilizing circuitry that monitors the voltage across one or more lamps and provides end-of-life protection for multiple types

of failures.¹ Pl.'s Orig. Compl. 4, ECF No. 1. LBC specifically points to the ULT B254PUNV-D ballast as infringing on one or more claims of the 529 Patent. *Id.* ULT denies any infringement and brings a counterclaim seeking a declaration that ULT has not infringed any of the claims of the 529 Patent, and that the patent is invalid. Def.'s Am. Answer 7, ECF No. 70.

II. LEGAL STANDARDS - PATENT CLAIM CONSTRUCTION

Patent infringement is the unauthorized making, using, selling, offering to sell, or importing into the United States of any patented invention during the term of the patent. 35 U.S.C. § 271(a). In a patent infringement case, a court first determines the proper construction of the patent claims by establishing, as a matter of law, the scope and boundaries of the subject-matter of the patent. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370, 384-85 (1996). Second, the trier of fact compares the properly construed claims to the allegedly infringing device(s) and determines whether there has been an infringement. *Id.* The issue before the Court is the proper construction of certain disputed claims in the 529 Patent.

A. Rules of Claim Construction

The claims of a patent are the numbered paragraphs at the end of the patent that define the scope of the invention, and thus the scope of the patentee's right to exclude others from making, using, or selling the patented invention. *See Astrazeneca AB v. Mutual Pharm. Co.*, 384 F.3d 1333, 1335-36 (Fed. Cir. 2004). Claim construction is the process of giving proper meanings to the claim language thereby defining the scope of the protection. *See Bell Commc'ns Research, Inc. v. Vitalink Commc'ns Corp.*, 55 F.3d 615, 619 (Fed. Cir. 1995) (internal citations omitted).

¹ LBC originally sued several defendants, however, ULT is the only remaining defendant in the case, pending final settlement with Philips Electronics North America Corp.

Claim construction starts with the language of the claim itself since a patent's claims define the invention to which the patentee is entitled the right to exclude. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc). "The claims themselves provide substantial guidance as to the meaning of particular claim terms." *Id.* at 1314. Moreover, claim terms should be given their ordinary and customary meaning as understood by a person of ordinary skill in the art as of the effective filing date of the patent application. *Id.* at 1313. This is because a patent is addressed to, and intended to be read by, others skilled in the particular art. *Id.* However, the patentee is free to define his own terms, so long as any special definition given to a term is clearly defined in the specification. *Intellicall, Inc. v. Phonometrics, Inc.*, 952 F.2d 1384, 1388 (Fed. Cir. 1992).

When construing disputed claim terms the court should look first to the intrinsic record of the patent, including the claims and the specification, to determine the meaning of words in the claims. *Nazomi Commc'ns., Inc. v. Arm Holdings, PLC*, 403 F.3d 1346, 1368 (Fed. Cir. 2005). "The specification is always highly relevant to the claim construction analysis. Usually it is dispositive; it is the single best guide to the meaning of a disputed term." *Phillips*, 415 F.3d at 1315. The specification acts as a dictionary when it expressly or implicitly defines terms. *Id.* at 1321. Courts should also refer to the prosecution history if it is in evidence. *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). The prosecution history is part of the intrinsic record and consists of a complete record of all proceedings before the United States Patent and Trademark Office, including prior art cited during the examination of the patent, and express representations made by the applicant as to the scope of the claims. *Id.*

The Federal Circuit has also stated that district courts may "rely on extrinsic evidence, which consists of all evidence external to the patent and prosecution history, including expert and inventor

testimony, dictionaries, and learned treatises.” *Id.* (internal quotations omitted). Dictionaries and treatises can be “useful in claim construction[,]” particularly technical dictionaries which may help the court “to better understand the underlying technology and the way in which one of skill in the art might use the claim terms.” *Id.* at 1318 (internal quotations omitted). As to expert testimony, the Federal Circuit has stated:

[E]xtrinsic evidence in the form of expert testimony can be useful to a court for a variety of purposes, such as to provide background on the technology at issue, to explain how an invention works, to ensure that the court’s understanding of the technical aspects of the patent is consistent with that of a person of skill in the art, or to establish that a particular term in the patent or the prior art has a particular meaning in the pertinent field.

Id. However, “a court should discount any expert testimony that is clearly at odds with the claim construction mandated by the claims themselves, the written description, and the prosecution history, in other words, with the written record of the patent.” *Id.* (internal quotations omitted). Extrinsic evidence is less significant than the intrinsic record and undue reliance on it may pose a risk of changing the meaning of claims, contrary to the public record contained in the written patent. *Id.* 1317, 1319.

B. Means-Plus-Function Limitations

Pursuant to 35 U.S.C. § 112 ¶ 6 a patentee may express a claim limitation by reciting a function to be performed by a generic means, rather than reciting in the claim the actual structure for performing the particular function. Section 112, ¶ 6 provides:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

Section 112, ¶ 6 thus “operates to restrict claim limitations drafted in such functional language to those structures, materials, or acts disclosed in the specification (and their equivalents) that perform the claimed function.” *Personalized Media Comm’ns, LLC v. Int’l Trade Comm’n*, 161 F.3d 696, 703 (Fed. Cir. 1999). “The point of the requirement that the patentee disclose particular structure in the specification and that the scope of the patent claims be limited to that structure and its equivalents is to avoid pure functional claiming.” *Aristocrat Techs. Australia Pty Ltd. v. Int’l Game Tech.*, 521 F.3d 1328, 1333 (Fed. Cir. 2008).

The determination of whether a particular limitation should be regarded as a means-plus-function limitation is a question of law, even though it is a question on which evidence from experts may be relevant. *Lighting World, Inc. v. Birchwood Lighting, Inc.*, 382 F.3d 1354, 1358 (Fed. Cir. 2004) (citations omitted). The *Lighting World* court set forth the standard to be used when determining whether to apply section 112, ¶ 6 to a claim limitation:

A claim limitation that actually uses the word “means” invokes a rebuttable presumption that § 112, ¶ 6 applies. By contrast, a claim term that does not use “means” will trigger the rebuttable presumption that § 112, ¶ 6 does not apply. The use of the term “means” is central to the analysis because the term “means,” particularly as used in the phrase “means for,” is part of the classic template for functional claim elements and has come to be closely associated with means-plus-function claiming.

Id. at 1358. However, claim language that further defines a generic term, such as nouns or adjectival qualifications that appear before or after the word “means,” can add or suggest sufficient structure to avoid section 112, ¶ 6. *Mass. Inst. of Tech. v. Abacus Software*, 462 F.3d 1344, 1354 (Fed. Cir. 2006). Moreover, section 112, ¶ 6 may be avoided where “the claim term is used in common parlance or by persons of skill in the pertinent art to designate structure, even if the term covers a broad class of structures and even if the terms identify the structures by their function.” *Id.* at 1356

(quotations and citations omitted).

Claim construction of a means-plus-function limitation has two steps: “First, the court must determine the claimed function. Second, the court must identify the corresponding structure in the written description of the patent that performs that function.” *Applied Med. Res. Corp. v. U.S. Surgical Corp.*, 448 F.3d 1324, 1332 (Fed. Cir. 2006). The claimed function is recited in the claim itself, and the corresponding structure “must not only perform the claimed function [but] the specification must clearly associate the structure with the performance of the function.” *Cardiac Pacemakers, Inc. v. St. Jude Med., Inc.*, 296 F.3d 1106, 1113 (Fed. Cir. 2002). The court should first inquire as to whether “structure is described in [the] specification, and, if so, whether one skilled in the art would identify the structure from that description.” *Atmel Corp. v. Info. Storage Devices, Inc.*, 198 F.3d 1374, 1381 (Fed. Cir. 1999). “The inquiry is whether one of skill in the art would understand the specification itself to disclose a structure, not simply whether that person would be capable of implementing a structure.” *Biomedino, LLC v. Waters Techs. Corp.*, 490 F.3d 946, 953 (Fed. Cir. 2007).

III. ANALYSIS

The parties have presented two claims from the 529 Patent for construction. Claim 1 recites (with the disputed claim limitations emphasized in bold):

1. An energy conversion device employing an **oscillating resonant converter** producing oscillations, having **DC input terminals producing a control signal** and adapted to power at least one gas discharge lamp having heatable filaments, the device comprising:

voltage source means providing a constant or variable magnitude DC voltage between the DC input terminals;

output terminals connected to the filaments of the gas discharge lamp;

control means capable of receiving control signals from the DC input terminals and from the resonant converter, and operable to effectively initiate the oscillations, and to effectively stop the oscillations of the converter; and a direct current blocking means coupled to the output terminals and operable to stop flow of the control signal from the DC input terminals, whenever at least one gas discharge lamp is removed from the output terminals or is defective.

Pl.'s Opening App. 14, ECF No. 84-1.

Claim 18 recites (again with the disputed claim limitations emphasized in bold):

18. An energy conversion device employing an **oscillating resonant converter**, having **DC input terminals** and adapted for powering at least one gas discharge lamp having heatable filaments, the device comprising:

voltage source means able to provide a constant or variable magnitude DC voltage between the DC input terminals;

output terminals for connection to the filaments of the gas discharge lamp;

control means able to receive control signals from the DC input terminals and from the resonant converter, and operable to effectively initiate the oscillations, and to effectively stop the oscillations of the converter; and

direct current blocking means coupled to output terminals and operable to stop flow of the control signal from the DC input terminals, whenever at least one gas discharge lamp is removed from the output terminals or is defective wherein the direct current blocking means includes a semiconductor diode and is connected effectively across at least one heatable filament of at least one gas discharge lamp.

Pl.'s Opening App. 15, ECF No. 84-1. Independent Claims 1 and 18 are nearly identical, with Claim 18 adding one additional limitation relating to a diode. Pl.'s Opening Br. 14. The parties dispute the construction of three alleged means-plus-function limitations, and four other terms. *Id.* The Court

will turn to the disputed terms and limitations, most of which appear in both Claims 1 and 18.

The parties dispute several terms that initially appear in the preambles and further dispute whether the use of these terms in the preambles should serve as a substantive limitation where those terms appear elsewhere in the claims. Plaintiff LBC concedes that the disputed terms appearing in the preambles provide the antecedent basis for those terms where they appear elsewhere in the claims. Thus, the Court's construction of the preamble terms will necessarily limit the terms for which the preamble provides the antecedent basis. Therefore, the Court need not go further in determining whether the preambles constitute substantive limitations of the claims.

A. "Oscillating Resonant Converter"

The term "oscillating resonant converter" appears in the preambles to Claims 1 and 18. The parties agree that the oscillating resonant converter can convert DC to AC and "includes inductance and capacitance; they also agree that the AC voltage created by the resonant converter is of a frequency close to the resonant frequency determined by the inductive and capacitive elements." Pl.'s Opening Br. 21. However, they disagree as to whether the term includes both self-excited and driven resonant converters.

1. Plaintiff's Proposed Construction

Plaintiff LBC argues that "oscillating resonant converter producing oscillations" need not be construed, but in the event that it is proposed a construction as follows: "a circuit, or portion of a circuit, containing inductance, capacitance, and at least one electronic switching device (such as a transistor) that operates to convert direct current into alternating current." *Id.* LBC notes that this term occurs only in the preambles, and while not conceding "that the Preamble constitutes a substantive limitation, because it does not 'breath life' into the claim[.]" LBC agrees that "oscillating

resonant converter” as “recited in the Preamble serves as the antecedent basis for the ‘resonant converter’ recited elsewhere in Claims 1, 2, and 18.” *Id.* LBC’s proposed construction is consistent with its contention that the term “oscillating resonant converter” is not limited to self-excited resonant converters.

2. *Defendant’s Proposed Construction*

Defendant ULT proposes to construe “oscillating resonant converter” as follows: “a self-excited electronic circuit capable of converting a DC voltage to an AC voltage of a resonant frequency determined by a combination of inductive and capacitive elements within the self-excited circuit.” Defs.’ Opening Br. Cl. Const. 11, ECF No. 85. At the heart of ULT’s proposed construction is their argument that the term should be limited to self-exciting oscillating resonant converters. *See id.* Since the term is the antecedent reference to “resonant converter” in the claim limitations, the claims would be limited to self-exciting oscillating resonant converters.

3. *Court’s Analysis and Construction*

Plaintiff LBC urges the Court to reject ULT’s proposed construction because the self-excited electronic circuit limitation, upon which their construction is based, is not supported by either the claim language or specification of the 529 Patent. *See* Pl.’s Opening Br. 21-22. However, ULT argues that the claim language “oscillating resonant converter producing oscillations” necessarily limits the structure to self-excited oscillating resonant converters. Defs.’ Opening Br. 11. ULT’s proposed construction is premised on this contention. *See id.* at 11-13; Defs.’ Resp. Br. 12-14.

ULT’s proposed construction, limiting “oscillating resonant converter” to self-excited oscillating resonant converter, confuses two distinct structures—a resonant circuit and a resonant converter. *See* App. Supp. Pl.’s Resp. Br. Cl. Const. 21, ECF No. 88. In a resonant circuit, “AC

energy is rhythmically transferred, or oscillates, between an inductor and capacitor,” whereas a resonant converter is “composed of a resonant circuit working in combination with an energy converter.” *Id.* at 21-22. In a lamp ballast, “the energy converter converts DC power into high frequency AC power . . . [which then] flows from the energy converter through all or part of the resonant circuit and ultimately powers the lamp.” *Id.* at 22. Thus, “[w]hile all resonant circuits oscillate naturally until their stored energy has been dissipated, the energy converter portion of a resonant converter must be driven by a high frequency signal.” *Id.* In a self-oscillating resonant converter this “drive signal” comes from the resonant circuit itself, whereas in a so-called “driven resonant converter,” the drive signal comes from a “driver” circuit rather than the resonant circuit. *See id.* Therefore, in a true self-excited, or self-oscillating, resonant converter the component energy converter is driven by the other component of the converter, the resonant circuit; but in a driven resonant converter, the energy converter is driven by a separate device. Accordingly, both driven resonant converters and self-excited oscillating resonant converters fall within the ambit of the term “oscillating resonant converter,” because both include, as a component, a resonant circuit which produces oscillations by nature.

ULT’s proposed construction seeks to exclude driven resonant converters from the term “oscillating resonant converter.” To do so, ULT argues that an “oscillating resonant converter producing oscillations” describes only a self-excited oscillating resonant converter. The Court believes that this construction is unduly narrow. As set forth above, no such limitation is implicit or explicit within the claim language as understood by one of ordinary skill in the art. Moreover, the specification explicitly contemplates the use of other non-self-excited resonant converters. *See* 529 Patent at col. 11, ll. 34-39. Thus, ULT’s proposed limitation is not apparent from the language of

the claims, the specification, or the knowledge of one of ordinary skill in the art of designing lighting ballasts. It rests on an unduly narrow interpretation of "oscillating resonant converter" that obscures the fact that both self-exciting and driven resonant converters include a resonant circuit producing oscillations. All of ULT's remaining arguments in support of its proposed construction are based on this premise and occasional imprecise usages of the term in deposition testimony. The Court need not further address the issue.

B. "DC Input Terminals"

This term appears initially in the preambles to Claims 1 and 18 and again appears in three out of the four limitations in each claim. While the parties' dispute revolves around whether the DC input terminals are appropriately understood as conducting elements or points on a schematic, neither party proposes a construction radically different from the other.

1. Plaintiff's Proposed Construction

Plaintiff does not believe that any construction is necessary, but in the event the term is construed LBC suggests "the points at which the ballast receives a direct current voltage." *See* Pl.'s Opening Br. 22.

2. Defendant's Proposed Construction

ULT proposes that "DC input terminals" be defined as "conducting elements that receive a DC input voltage." Defs.' Opening Br. 13.

3. Court's Analysis and Construction

The specification of the 529 Patent at column 3, lines 5-6 speaks directly to the issue of the proper construction of this term: "DC input terminals B+,B- for receiving thereacross a DC supply voltage[.]" This statement unambiguously defines "DC input terminals." *See Interactive Gift*

Express, Inc. v. Compuserve, Inc., 256 F.3d 1323, 1332 (Fed. Cir. 2001) (“If the meaning of the claim limitations is apparent from the totality of the intrinsic evidence, then the claim has been construed.”).

Plaintiff LBC prefers to define the “DC input terminals” as mere points on a schematic, whereas Defendant ULT proposes to define them as conducting elements. It is clear that neither party’s proposed constructions are inherently inconsistent with one another; defining the “DC input terminals” as conducting elements is not inconsistent with their being labeled as points on a schematic diagram and *vice-versa*. Moreover, the Court finds that neither proposed construction further clarifies the term beyond the extent to which it is already defined in the specification. Accordingly, the term “DC input terminals” need not be construed beyond the definition provided by the specification: terminals “for receiving . . . a DC supply voltage[.]”

C. “DC input terminals producing a control signal”

Plaintiff LBC acknowledges that this term appears only in the preamble to Claim 1. LBC also concedes that the term "provides the antecedent basis for the 'control signal[] from the DC input terminals' referenced in the 'control means' limitations" of Claims 1 and 18. Pl.'s Opening Br. 23. The parties' dispute revolves around whether the “DC input terminals” produce "a control signal."

1. Plaintiff's Proposed Construction

Plaintiff LBC does not believe that any construction of this term is necessary, but in the event it is construed proposes as follows: "DC input terminals" are "the points at which the ballast receives a direct current voltage," "producing" means "serving as the origin of," and "control signal [from the DC input terminals]" means "direct current that travels along a direct current path from the DC input terminals, through the filament or filaments, and to an input terminal of the control means, but

which does not pass through the DC blocking means." Pl.'s Opening Br. 23.

2. *Defendant's Proposed Construction*

Like LBC, Defendant ULT reargues its proposed construction of "DC input terminals." With respect to "producing a control signal," ULT argues the limitation fails to comply with section 112, ¶¶ 1 and 2. Therefore, according to ULT, Claims 1 and 18 are invalid in that "DC input terminals" are not capable of producing any type of "control signal." *See* Defs.' Opening Br. 14.

3. *Court's Analysis and Construction*

The specification of the 529 Patent at column 7, lines 48-54, provides that "The device receives a DC voltage at the DC input terminals B+,B- and the capacitors 04,06 are charged DC current starts to flow in the direct current path DCP from terminal B+ through: resistor 09, filament 12, resistor 18, filament 15, diode 39, resistor 40 to charge the capacitor 42[.]" Moreover, Figure 1 of the 529 Patent indicates that the DCP begins at the DC input terminals B+,B- and flows along a dotted line through various structures and filaments to terminal CTa. However, the specification never refers to the DC voltage flowing along the DCP as a "control signal."

ULT seizes upon the fact that the claims "unambiguously require[] that the 'control signal' be *produced by* the 'DC input terminals,' not by other circuit elements." Defs.' Resp. Br. 14. Their argument proceeds as follows: the "DC input terminals," whether they are construed as points at which the ballast receives a direct current voltage or as conducting elements that receive a DC input voltage, are incapable of "producing" a control signal. *See* Defs.' Opening Br. 15. According to ULT:

It is only after the current flowing along the path DCP has passed through the lamp filaments (12,15) and resistors (09, 18) that a control signal results at intermediate terminal (27) to signal the control circuit that non-defective lamp is properly connected to the

“output terminals” of the energy conversion device. This control signal appears on the intermediate terminal (27) and the control terminal (CTa) downstream of the lamp filaments, not at the DC input terminals. If a connection were made along the path DCP at a point upstream of the lamp filaments, the resulting signal would be present whether or not [a] non-defective lamp is connected, and the device would be completely inoperative for the purpose for which it is intended.

Id. One basic assumption underlies this argument: the word “produce” means something more than originate, or point of origin.

The clear language of the specification of the 529 Patent at column 7, lines 51-56, column 8, lines 13-17, 37-40, 47-50, teaches that when a lamp is removed or is defective the DC voltage will not flow through the filaments and thus will not reach the intermediate terminal (27). Moreover, ULT never defines what it means by “producing a control signal;” it assumes that since the “DC input terminals” are merely points or conducting elements they cannot produce a “control signal.” LBC counters that the term “produce” is interchangeable with “originate” and directs the Court to the 529 Patent’s specification and Figure 1 describing the path of the DC current. *See* Pl.’s Opening Br. 24; Webster’s Third New Int’l Dictionary 1810 (1993). The specification and Figure 1 clearly indicate, as LBC argues, that “B+ and B- . . . indicate the points (or terminals or nodes) at which DC enters the ballast and as a point of reference from which the DC control signal flows.” *Id.* While the drafter was perhaps imprecise by referring to a control signal in the claims without clarifying that the control signal was in fact the DC current referred to elsewhere, it is clear from the specification and Figure 1 that the control signal produced by, or originating at, the DC input terminals is the DC voltage running from B+ through the various resistors and filaments to the control terminal (CTa). Therefore, “DC input terminals” means terminals for receiving a DC supply voltage, “producing” means serving as the origin of, and “control signal” means DC that travels along a direct current path

from the DC input terminals, through the filament or filaments, and to an input terminal of the controls means, but which does not pass through the DC blocking means.

D. Reconsideration of “Voltage Source Means” Limitation

The parties dispute whether the limitation “voltage source means providing a constant or variable magnitude DC voltage between the DC input terminals” is a means-plus-function limitation, subject to construction as limited by section 112, ¶ 6. LBC argues that “voltage source” connotes sufficient structure to one skilled in the art and that it should avoid treatment as a means-plus-function limitation. In the alternative, LBC argues that if the Court determines that section 112, ¶ 6 applies, then the specification discloses the corresponding structure. ULT argues that the term should be treated as a means-plus-function limitation because it is written in means-plus-function format, and furthermore, that the specification does not disclose a corresponding structure, making both claims in which the limitation appears indefinite.

1. Plaintiff’s Proposed Construction

LBC argues that this limitation, while using the term “means,” is not a means-plus-function limitation because the entire limitation “connotes sufficient structure to one skilled in the art” and has an understood meaning in the art when read in the context of the specification. *See* Pl.’s Opening Br. 14-15. Specifically, according to LBC, “voltage source means [providing (claim 1), able to provide (claim 18)] a constant or variable magnitude DC voltage between the DC input terminals” connotes the structure of a rectifier to anyone skilled in the art. *Id.* at 15. As support for this assertion LBC points to testimony from Andrew Bobel, the inventor, who has several years of experience working on electronic ballast designs, and Dr. Victor Roberts, an expert witness. *Id.* Both Bobel and Dr. Roberts testify, that as persons skilled in the art, the “voltage source means” limitation clearly

connotes the structure of a rectifier. Pl.'s Opening App. Ex. 2-A at 226, ECF No. 84-3; Ex. 3 at 7-8, ECF No. 84-7. In the alternative, LBC argues that if the Court determines that section 112, ¶ 6 applies, making the limitation a means-plus-function limitation, then the specification discloses the structure of a rectifier. Pl.'s Opening Br. 15-16.

2. *Defendant's Proposed Construction*

ULT argues that this limitation is governed by section 112, ¶ 6 as a means-plus-function limitation. Defs.' Opening Br. 16. First, ULT points to the use of the term "means," which presumptively invokes section 112, ¶ 6. *Id.* Secondly, according to ULT, the limitation itself clearly recites a function only. *Id.* And third, the claim language does not point to any structure. *Id.* Thus, ULT asserts, this limitation is a classic means-plus-function limitation and must be construed according to section 112, ¶ 6. ULT then goes on to argue that the specification does not disclose any structure, a rectifier or otherwise, for performing the claimed function. *Id.* 18-20. Accordingly, ULT urges that Claims 1 and 18 should be held invalid because they are indefinite.

3. *Court's Analysis and Construction*

The Court previously adopted the proposed construction of Defendant ULT. *See* Memorandum Opinion and Order, August, 19, 2010. The Court found that the "voltage source means" limitation was written in the classic means-plus-function format, that it recited only a function, and did not disclose sufficient structure to remove it from the ambit of section 112, ¶ 6. *See id.* at 10-12. The Court, construing the "voltage source means" limitation as a means-plus-function limitation, went on to find that "Lighting Ballast . . . failed to identify a structure in the 529 Patent's specification that corresponds to the 'voltage source means' limitation, contrary to the requirements of 35 U.S.C. § 112, ¶ 6." *Id.* at 17. Accordingly, the Court found both Claims 1 and

18 to be invalid as indefinite under section 112, ¶ 2 because the specification failed to disclose a structure corresponding to the functional limitation. *Id.* at 18-19.

In its Motion for Reconsideration, LBC argues that in so construing the “voltage source means” limitation the Court improperly discounted “the importance of the functional language following ‘means’” and the unchallenged expert testimony in the record from Bobel and Dr. Roberts. *See* Pl.’s Mot. Recons. 2-6, ECF No. 102. In its response, ULT focuses on the standards applicable to a post-judgment motion under Rule 59 of the Federal Rules of Civil Procedure and argues that LBC has not identified any proper basis for the Court to reconsider its ruling that the “voltage source means” limitation is subject to construction under section 112, ¶ 6. *See* Def.’s Resp. 1-2, ECF No. 104. ULT supports the Court’s prior ruling by arguing that the Court expressly considered all the recited claim language, properly considered LBC’s expert testimony, and found that it does not support LBC’s desired outcome. *See id.* at 2-7.

After careful consideration, research, and deliberation the Court finds that in issuing its previous claim construction order it erred in its construction of the “voltage source means” limitation. The Court’s prior ruling unduly discounted the unchallenged expert testimony, in light of Federal Circuit precedent on the issue, offered by Bobel and Dr. Roberts regarding the knowledge of one of ordinary skill in the electronic ballast field. Under Rule 54(b) of the Federal Rules of Civil Procedure, the Court may freely review and revise interlocutory orders at any time before the entry of a final judgment adjudicating all claims of all parties before the Court. Therefore, the Court may modify a prior ruling if the arguments of the parties or new evidence persuade the Court to do so for any reason, so long as the Court is not making a legal error or abusing its discretion. *See Matagorda Ventures Inc. v. Travelers Lloyds Ins. Co.*, 208 F. Supp. 2d 687, 688 (S.D. Tex. 2001) (interlocutory

orders of the court are subject to revision on motion or *sua sponte* before entry of final judgment). Moreover, the Federal Circuit has expressly noted the need for district courts to entertain motions to reconsider in the specific context of claim construction. *See Jack Guttman, Inc. v. Kopykake Enters., Inc.*, 302 F.3d 1352, 1361 (Fed. Cir. 2002) (“District courts may engage in a rolling claim construction, in which the court revisits and alters its interpretation of the claim terms as its understanding of the technology evolves. This is particularly true where issues involved are complex, either due to the nature of the technology or because the meaning of the claims is unclear from the intrinsic evidence.”)² *see also Union Oil Co. v. Atl. Richfield Co.*, 1998 WL 34238564 at *2 (C.D. Cal. Mar. 6, 1998) (noting that motion to reconsider is proper vehicle by which to challenge a claim construction order). LBC’s motion for reconsideration is granted, in part, and denied, in part, as explained below.

The parties dispute whether the limitation “voltage source means providing a constant or variable magnitude DC voltage between the DC input terminals” is a means-plus-function limitation, subject to section 112, ¶ 6. The Court begins with the presumption that this is a means-plus-function limitation, subject to construction under section 112, ¶ 6 because it uses the term “means.” *See Kemco Sales, Inc. v. Control Papers Co.*, 208 F.3d 1352, 1361 (Fed. Cir. 2000). Plaintiff LBC, as the party advocating a construction outside of section 112, ¶ 6, has the burden of overcoming the presumption. *See Linear Tech. Corp. v. Impala Linear Corp.*, 379 F.3d 1311, 1319-20 (Fed. Cir. 2004). This presumption will collapse if the claim describes sufficient structure for performing the recited function, despite its use of the term “means.” *See Apex, Inc. v. Raritan Computer, Inc.*, 325

² Although the Court has revised its construction of the “voltage source means” limitation in response to Plaintiff’s Motion for Reconsideration, the Court does not imply, by this quote, that any further revisions to any of the Court’s claim constructions in this order will be necessary or likely. A settled claim construction order is required for this case to proceed.

F.3d 1364, 1372 (Fed. Cir. 2003); *see also Personalized Media*, 161 F.3d at 704 (In deciding whether the presumption has been rebutted “the focus remains on whether the claim as properly construed recites sufficiently definite structure to avoid the ambit of § 112, ¶ 6.”); *Rodime PLC v. Seagate Tech., Inc.*, 174 F.3d 1294, 1302 (Fed. Cir. 1999) (“[E]ven if the claim element specifies a function, if it also recites sufficient structure . . . for performing that function, § 112, ¶ 6 does not apply.”). In order to avoid means-plus-function construction the “voltage source means” limitation need not denote a specific structure, it is sufficient if the term is used “in common parlance or by persons of skill in the pertinent art to designate structure, *even if the term covers a broad class of structures and even if the term identifies the structures by their function.*” *Lighting World*, 382 F.3d at 1359-60 (emphasis added); *see also Apex*, 325 F.3d at 1372 (“[T]his court inquires into whether the ‘term, as the name for the structure, has a reasonably well understood meaning in the art,’ keeping in mind that a claim term ‘need not call to mind a single well-defined structure’ to fall within the ambit of § 112, ¶ 6.”) In *Comtech EF Data Corp. v. Radyne Corp.*, 2007 U.S. Dist. LEXIS 97038 (D. Ariz. Oct. 12, 2007) *aff’d in relevant part*, 2008 U.S. Dist. LEXIS 26966 (D. Ariz. Mar. 31, 2008), a special master appointed by the district court confronted a similar claim term with a curious and seemingly unnecessary use of “means.”

The term at issue in *Comtech* stated “power supply means for supplying power.” *Id.* at *31. The special master first determined that the drafter’s use of “means” was most likely not intended to invoke section 112, ¶ 6 because it was clear that no corresponding structure was disclosed in the specification. *Id.* at *33. The special master’s report and recommendation went on to explain the drafter’s use of “means” was based on “the highly likely proposition that, in the context of the claimed invention, a person of ordinary skill in the art would recognize that ‘power supply’ connotes

a well understood class of structures[.]” *Id.* at 34. Referencing *Lighting World*,³ the special master held that “power supply means” did not “denote a specific structure, but it is understood by persons of skill in the RF converter system art to designate a broad class of structures that supply power appropriate to the claimed system.” *Id.* at *36. Thus, the “power supply means” term was understood by those of ordinary skill in the industry to describe structure. *See id.* The Court believes this rationale applies equally to the “voltage source means” term in the 529 Patent.⁴

LBC presents the testimony of Dr. Roberts and the inventor, Andrew Bobel, to support its contention that the “voltage source means” limitation connotes the structure of a rectifier to anyone skilled in the art of designing electronic ballasts. According to Dr. Roberts:⁵

The “voltage source” limitation connotes, or suggests, to me, and would connote to anyone skilled in the art, the structure of a rectifier—with its input terminals connected to an AC power line and with its output terminals connected to the DC input terminals. In other words, the only way for a lighting ballast to convert AC (from a “power line source” such as a wall outlet or other similar AC power source in a home or office) into DC (for use as the “DC supply voltage”) is through a rectifier. In the vast majority of applications, including nearly all common applications for residential and commercial uses, the ballast receives its power from an AC power

³ 382 F.3d at 1360 (“What is important is whether the term is one that is understood to describe structure, as opposed to a term that is simply a nonce word or a verbal construct that is not recognized as the name of structure[.]”).

⁴ Defendant ULT continues to urge the Court to accept the approach laid out in *Nilssen v. Motorola, Inc.*, 80 F. Supp. 2d 921, 928 (N.D. Ill. 2000), where the district court found that “source means having AC terminals and being operative to provide an AC voltage thereat” did not recite sufficient structure. As will explained *infra*, this Court finds the approach of *Comtech* to be in line with Federal Circuit precedent regarding the importance of considering functional language to determine whether sufficient structure is disclosed. Moreover, *Comtech* focuses on the knowledge and understanding of one skilled in the art relative to the language of the claim term as a whole.

⁵ Dr. Roberts has an extensive background in electrical engineering, applied physics, power electronics, lighting ballast design, and various other types of lighting-related technologies. Defendant ULT does not appear to dispute Dr. Roberts’ qualifications or the substance of his opinions, rather ULT questions LBC’s use of his testimony itself. For Dr. Roberts’ qualifications *see* Decl. Victor D. Roberts, Ph.D. Supp. Pl.’s Opening Br. Claim Construction 1-3, ECF No. 84.

source, and that AC power is converted into DC power through the use of a rectifier. A battery could likewise provide the necessary DC supply voltage described in the patent, but in reality, such an arrangement would be used if [sic] very few applications. In either case, one skilled in the art would immediately ascertain and implement the structure necessary to supply the DC supply voltage, based on the particular application of the ballast in question. Stated otherwise, the “voltage source” limitation, when read in the context of the specification and claims, suggests to me a sufficient structure, or class of structures, namely: a rectifier (if converting AC from a “power line source” to DC for a “DC supply voltage”) or, in a very few specialized applications, a battery (if providing the DC supply voltage directly to the DC input terminals).

Decl. Victor D. Roberts, Ph.D. Supp. Pl.’s Opening Br. Claim Construction 7-8, ECF No. 84. Additionally, Bobel, in his deposition, offered that as one skilled in the art of designing lighting ballasts, the “voltage source means” limitation connotes a structure that will “rectify the line.” Bobel Dep. 226:15-227:25, ECF No. 84. Bobel also testified that when he drafted the term he intended to suggest physical structure to those skilled in the art. *Id.* at 229:14-18. ULT presents no expert testimony contradicting the opinions of Dr. Roberts and Bobel, that one of skill in the lighting ballast design art would understand the “voltage source means” term to disclose a rectifier.

The “voltage source means” term and Claims 1 and 18, of which it is a part, must be read in the context of the specification of the 529 Patent, although the Court relies primarily on the language of the claims themselves. *See Apex*, 325 F.3d at 1373; *see also Rodime*, 174 F.3d at 1302. Like the term at issue in *Comtech*, the Court finds that while the “voltage source means” term does not denote a specific structure, it is nevertheless understood by persons of skill in the lighting ballast design art to connote a class of structures, namely a rectifier, or structure to rectify the AC power line into a DC voltage for the DC input terminals. The Court’s prior construction of this term, and ULT’s proposed construction, exalted form over substance and disregarded the knowledge of a person of

ordinary skill in the art. *See Phillips*, 415 F.3d at 1313.

Moreover, it is in keeping with Federal Circuit precedent to refer to the functional language following “voltage source means” in determining whether the term connotes sufficient structure to avoid section 112, ¶ 6. *See Mass. Inst. of Tech.*, 462 F.3d at 1356; *see also Linear Tech.*, 379 F.3d at 1320. This functional language, “providing a constant or variable magnitude DC voltage between the DC input terminals,” when read by one familiar with the use and function of a lighting ballast, such as the one disclosed by the 529 Patent, would understand a rectifier is, at least in common uses, the only structure that would provide “a constant or variable magnitude DC voltage.” The remaining language, “between the DC input terminals,” merely describes the path of the DC voltage provided by the rectifier. According to Dr. Roberts:

The ballast described in the preferred embodiment of the 529 Patent receives AC from “a power line source,” such as an electrical outlet in an office building, converts it to DC for use during the initial start-up phase, and then, upon receipt of a “DC control signal” by the ballast’s control circuit, generates a higher frequency AC power for use in pre-heating the lamp filaments and for powering the lamps.

Roberts Decl. 6-7. It is clear to one skilled in the art that to provide a DC voltage when the source is a power line, which provides an AC voltage, a structure to rectify the line is required and is clear from the language of the “voltage source means” term. To hold otherwise would disregard the meaning this limitation would have to a person of ordinary skill in the lighting ballast design art. Although the term describes a rectifier by its function, this in and of itself is not objectionable. *See Mass. Inst. of Tech.*, 462 F.3d at 1356.

The Court also finds persuasive the fact that the “voltage source means” element’s disclosure of structure is clear excluding the generic use of “means,” which would read “voltage source . . . providing a constant or variable magnitude DC voltage between the DC input terminals.” *See Cole*

v. Kimberly-Clark Corp., 102 F.3d 524, 531 (Fed. Cir. 1996) (“Here, the claim drafter’s perfunctory addition of the word ‘means’ did nothing to diminish the precise structural character of this element.”); *see also Allen Eng’g Corp. v. Bartell Indus., Inc.*, 299 F.3d 1336, 1348 (Fed. Cir. 2002); *Comtech*, 2007 U.S. Dist. LEXIS 97038 at *33-38. The drafter’s use of the term “means” seems unnecessary but does not diminish the element’s disclosure of structure, or a class of structures, to one skilled in the art. Accordingly, the Court finds that Plaintiff LBC has successfully overcome the presumption that section 112, ¶ 6 applies to the “voltage source means” element of Claims 1 and 18 of 529 Patent. As such, the Court construes these limitations according to their ordinary meaning in the art.

E. “Control Means” Element

The parties agree that the limitation “control means [capable of receiving (Claim 1)/able to receive (Claim 18)] control signals from the DC input terminals and from the resonant converter, and operable to effectively stop the oscillations of the converter” should be construed in accordance with section 112, ¶ 6, that it recites three functions, and lastly, they agree on the structure corresponding to two of the functions. *See* Defs.’ Resp. Br. 7. The parties disagree as to whether the specification discloses a structure related to the remaining function. *See id.*

Specifically, the parties agree that the structure corresponding to the function “operable to effectively initiate the oscillations and to effectively stop the oscillations” is set forth at column 3, line 50, through column 4, line 21 of the 529 Patent. *See id.* They also agree that the structures corresponding to the “effectively stop the oscillations” function are the diode 29, resistor 30, resistor 32, capacitor 33, transistor 48, and diac 45 connected as described in the 529 Patent. *See id.* The only disagreement between the parties is whether the 529 Patent discloses a structure to correspond

to the function of “receiving a control signal from the DC input terminals[.]” *See id.*

1. *Plaintiff’s Proposed Construction*

To perform the function of “receiving a control signal from the DC input terminals[.]” Plaintiff LBC identifies the structure of the control circuit, labeled as 58 in Figure 1 and discussed at column 3, line 59 through column 4, line 21 of the 529 Patent. *See* Pl.’s Opening Br. 17. According to LBC, “[t]he dotted line in Figure 1 clearly shows a DC control signal, which originates at the DC input terminal B+ and travels through the filaments to the control circuit 58, where the signal is received and processed.” *Id.*

2. *Defendant’s Proposed Construction*

Defendant ULT argues there is no corresponding structure for “receiving a control signal from the DC input terminals.” *See* Defs.’ Opening Br. 21. According to ULT, the control circuit described in the specification at column 3, line 59 through column 4, line 21 does not receive any control signal from the DC input terminals. Rather, ULT asserts that any “control signals applied to the control circuit 58 are received only from the intermediate node 27 within the resonant converter; there is no control signal input to the control circuit from the DC input terminals.”⁸ *Id.* at 22. Thus, the lack of any corresponding structure, material, or act renders Claims 1 and 18 invalid under section 112, ¶¶ 1 and 2. *See id.*

3. *Court’s Analysis and Construction*

ULT’s argument that the specification of the 529 Patent fails to disclose a structure to perform the function of “receiving a control signal from the DC input terminals” is based on the same premise as ULT’s argument that the DC input terminals do not produce a control signal,

⁸ ULT also makes the same argument in support of their construction of the term “DC input terminals producing a control signal.” *See supra* at Part III(C)(3) where this argument is fully laid out.

which the Court rejected *supra* at Part III(C)(3). ULT argues that since the DC input terminals cannot produce a control signal then the specification of the 529 Patent does not teach DC input terminals producing a control signal; therefore, the control means cannot possibly receive a control signal from the DC input terminal and there can be no corresponding structure for a function that the patent doesn't teach. *See* Defs.' Opening Br. 22; Pl.'s Resp. Br. 8. The Court rejected ULT's premise—that the DC input terminals do not produce a control signal—*supra* at Part III(C); the Court adopts and incorporates that discussion herein. Therefore, the specification of the 529 Patent discloses a structure, namely a control circuit, at column 3, line 59 through column 4, line 21 corresponding to the function of “receiving a control signal from the DC input terminals.”

F. “Direct current blocking means”

The parties agree that the limitation “direct current blocking means coupled to the output terminals and operable to stop flow of the control signal from the DC input terminals, whenever at least one gas discharge lamp is removed from the output terminals or is defective” is a means-plus-function limitation governed by section 112, ¶ 6. *See* Pl.'s Opening Br. 18. The parties disagree on the named function and the corresponding structure.

1. Plaintiff's Proposed Construction

Plaintiff LBC argues the function should include language beyond that which is recited in the “direct current blocking means” limitation of Claims 1 and 18. LBC proposes to construe the function as follows: “To stop the flow of the DC control signal when the lamp is removed or defective and, upon replacement, to facilitate the heating of the filaments.” *See id.* The language describing the heating of the filaments upon replacement of the lamp does not appear in “direct current blocking means” limitation. As corresponding structure LBC proposes “a DC blocking

circuit that has a series connected secondary winding with a capacitor or diode [for Claim 18: DC blocking circuit must include diode].” *Id.*

2. *Defendant’s Proposed Construction*

Defendant ULT argues it would be improper to import language to the “direct current blocking means” which has the effect of adding a new function that is not recited in the limitation. ULT asks the Court to construe the function as follows: “stop the flow of the control signal from the DC input terminals whenever at least one gas discharge lamp is removed from the output terminals or is defective.” *See* Defs.’ Opening Br. 23. As corresponding structure, ULT suggests a “capacitor or diode connected to the heatable filament of the lamp” for Claim 1 and “a diode connected to the heatable filament of the lamp” for Claim 18. *Id.*

3. *Court’s Analysis and Construction*

The specification of the 529 Patent discloses the structure of two DC blocking circuits which are each composed of a series connected secondary winding with capacitor or diode connected across the output terminals of the lamp. *See* 529 Patent, col. 3, ll. 53-58. The specification also makes clear that the DC blocking circuit structures perform two functions: (1) preheating the filaments of the lamp via the secondary windings and (2) stopping the DC current from flowing through the circuits when the direct current path between terminal B+ and terminal CTa is broken via a capacitor or diode. *See id.* at col. 7, ll. 63-65, col. 8, ll. 38-43. However, the “direct current blocking means” limitation recites only one of these functions—“stop the flow of the control signal from the DC input terminals whenever at least one gas discharge lamp is removed from the output terminals or is defective.” The only reference to “heatable filaments” in Claims 1 and 18 comes from the preambles which describe the type of gas discharge lamp.

LBC argues that the Court should import the filament preheating function of the DC blocking circuits because the specification indicates that the structures that perform this function, the secondary windings, are component parts of the DC blocking circuits. LBC thus argues that any claim that includes within its scope a gas discharge lamp having heatable filaments necessarily implies the filament preheating function performed by the secondary windings. The Court agrees with LBC that the appropriate test for whether a limitation appearing only in the specification may be applied to limit all claims in a patent is laid out in *Alloc, Inc. v. International Trade Commission*, 342 F.3d 1361, 1370 (Fed. Cir. 2003):

[A court] must interpret the claims in light of the specification, yet avoid impermissibly importing limitations from the specification. That balance turns on how the specification characterizes the claimed invention. In this respect, this court looks to whether the specification refers to a limitation only as a part of less than all possible embodiments or whether the specification read as a whole suggests that the very character of the invention requires the limitation be a part of every embodiment. . . . [W]here the specification makes clear at various points that the claimed invention is narrower than the claim language might imply, it is entirely permissible and proper to limit the claims.

(internal citations omitted). However, neither the facts nor the reasoning of *Alloc* support LBC's proposed construction of the "direct current blocking means" limitation.

The Federal Circuit in *Alloc*, using the above-quoted test, was actually *limiting* the claimed invention in a way that was *narrower* than the claim language otherwise implied. *See id.* at 1370. Specifically at issue in *Alloc* was whether the claimed invention required "play" in every embodiment. *See id.* at 1369. The Federal Circuit determined that "the . . . specification read as a whole leads to the inescapable conclusion that the claimed invention must include play in every embodiment." *Id.* at 1370. Thus, even though the claims did not explicitly require play and thereby

appeared to have a broader scope, the court held that the scope of the claims, in light of the specification and prosecution history, must be limited to include only embodiments with play. *See id.* at 1372. In contrast, LBC seeks to add an omitted function to the language of the “direct current blocking means” limitation; by doing so LBC would *broaden* the claim language and scope rather than *narrow* it. The facts and reasoning of the *Alloc* case are distinguishable and do not support LBC’s proposed function of the “direct current blocking means” limitation. *Alloc* stands for the proposition that the scope of a patent’s claims may not be broader than the specification’s characterization of the invention. *Alloc* does not allow a patentee to expand the scope of *some* claims by importing language, in the form of an additional function for purposes of section 112, ¶ 6, from the specification.

The sole function disclosed in the “direct current blocking means” limitation is “operable to stop the flow of the control signal from the DC input terminals[.]” No additional function, such as one facilitating the heating of the filaments, is present in this limitation; and to declare as much would impermissibly depart from the actual language of the claim. *See Micro Chem. v. Great Plains Chem. Co.*, 194 F.3d 1250, 1258 (Fed. Cir. 1999) (“The statute does not permit limitation of a means-plus-function claim by adopting a function different from that explicitly recited in the claim.”). The specification ties the structure of the DC blocking circuits to the function of stopping “the flow of the control signal from the DC input terminals[.]” The other function, which LBC seeks to add to the limitation, preheating the filaments, is specifically tied to the secondary windings, not the DC blocking circuit. *See col. 7, ll. 63-65.* However, according to the specification and Figure 1, the secondary windings are components of the DC blocking circuits. *See Col. 7:53-58, Figure 1 (07, 26).*

LBC argues that since the secondary windings are part of the DC blocking circuit they should be considered corresponding structure. *See* Pl.’s Opening Br. 19-20. According to LBC:

The inventor's chosen word order [referring to specification’s disclosure of the DC blocking circuit] is persuasive: it emphasizes the importance of the secondary winding and demonstrates that the winding is not an afterthought but rather is central to the role played by the “DC blocking circuit.” In fact, the specification teaches that the recited capacitor and diode may be interchangeable but makes no such allowance for the secondary winding. Bobel, as his own lexicographer, chose to define the blocking circuitry to include a secondary winding. In light of his unambiguous definition, Defendants’ attempt to exclude the secondary winding from the corresponding structure must be rejected.

Id. at 20. ULT responds that only the capacitor or diode component of the DC blocking circuit is necessary to perform the function of “operable to stop flow of the control signal from the DC input terminals, whenever at least one gas discharge lamp is removed from the output terminals or is defective” and thus the patent only discloses the DC blocking circuit, insofar as it consists of a capacitor or diode, as the corresponding structure. *See* Defs.’ Resp. Br. 10-11.

In determining the proper corresponding structure for the function of stopping the flow of the control signal from the DC input terminals, the Court must look only to structures in the specification that are necessary to perform this function. *See Micro Chem.*, 194 F.3d at 1258 (“Nor does the statute permit incorporation of structure from the written description beyond that necessary to perform the claimed function.”). Moreover, the structure must actually perform the function of stopping the flow of the control signal and not merely enable another structure to do so. *See Asyst Techs., Inc. v. Empak, Inc.*, 268 F.3d 1364, 1371 (Fed. Cir. 2001) (“The corresponding structure to a function set forth in a means-plus-function limitation must actually perform the recited function, not merely enable the pertinent structure to operate as intended[.]”). The secondary windings,

located in series before the capacitor or diode, depending on the claim, within the DC control circuit, cannot be structure corresponding to the function the DC blocking means.

According to ULT, “[f]irst, the specification of the ‘529 patent does not link the secondary winding with the *function* of the DC blocking means. Second, it is without question that the secondary winding is not necessary to *or capable of* performing the claimed function of the DC blocking means (i.e. blocking the direct current signal).” Defs.’ Resp. Br. 11 (emphasis in original). The Court agrees, LBC does not dispute that the secondary windings do not, and are incapable of, blocking the control signal from the DC input terminals. Direct current merely passes through the secondary windings to the capacitor or diode, which is the structure that actually performs the function of the DC blocking means within the DC control circuit. ULT goes on to argue that “the secondary winding may help enable the invention of the patent-in-suit to perform other functions does not mean that the secondary winding enables the ‘DC blocking means’ to perform its claimed function.” *Id.* Again, the Court agrees; the function of the secondary windings is to preheat the filaments in a gas discharge lamp, they have nothing to do with the function of the DC blocking means. LBC’s argument to the contrary rests merely on the fact that the drafter chose to include the secondary windings as a part of the DC blocking circuit, this placement does not affect the function of the secondary windings. *See Cardiac Pacemakers*, 296 F.3d at 1113 (“[T]he structure must not only perform the claimed function but the specification must clearly associate the structure with performance of the function.”). While the specification clearly links the DC blocking circuit to the function of stopping the flow of the control signal, it does not associate the secondary windings with any such function. The only function of the secondary windings, as disclosed by the specification, is to preheat the lamp filaments.

G. “Whenever at least one gas discharge lamp. . .”

Lastly, the parties dispute this phrase from the “direct current blocking means” of claims 1 and 18: “whenever at least one gas discharge lamp is removed from the output terminals or is defective[.]” ULT urges the Court to construe this phrase as follows:

Whenever at least one gas discharge lamp is removed from the output terminals or is defective, the direct current blocking means operates to stop flow of the control signal through the filaments to the control means, thereby to prevent self-excitation of the resonant converter and hence starting of the oscillation of the ballast.

Defcs.’ Opening Br. 25. By this proposed construction, ULT again urges that a self-excited oscillating resonant converter limitation is appropriate. The Court has previously rejected this proposed construction with regard to the term “oscillating resonant converter” as it appeared in the preambles. The Court adopts and incorporates its reasoning rejecting ULT’s proposed construction limiting “oscillating resonant converter” to self-excited resonant converters *supra* at Part III(A) and finds that this phrase needs no further construction.

IV. CONCLUSION

Based on the foregoing, the Court construes the following terms and limitations in the 529 Patent as follows:

1. In the preambles to Claims 1 and 18 respectively of the 529 Patent “oscillating resonant converter producing oscillations” means “a circuit, or portion of a circuit, containing inductance, capacitance and at least one electronic switching device (such as a transistor) that operates to convert direct current into alternating current.”
2. In the preambles to Claims 1, 4, and 18 respectively of the 529 Patent “DC input terminals” means “terminals for receiving a DC supply voltage.”

3. In the preamble to Claim 1 of the 529 Patent “producing a control signal” means “serving as the origin of direct current that travels along a direct current path from the DC input terminals, through the filament or filaments, and to an input terminal of the control means, but which does not pass through the DC blocking means.”
4. In Claims 1 and 18 of the 529 Patent “voltage source means providing a constant or variable magnitude DC voltage between the DC input terminals” shall be construed according to its ordinary meaning and in accordance with the Court’s reasoning in Part III(D)(3) *supra*.
5. In Claims 1 and 18 of the 529 Patent “control means capable of receiving a control signal from the DC input terminals and from the resonant converter, and operable to effectively initiate the oscillations, and to effectively stop the oscillations of the converter” shall be construed according to section 112, ¶ 6 as reciting three functions with the specification disclosing the structures corresponding to those functions as set forth *supra* in Part III(E).
6. In Claims 1 and 18 of the 529 Patent “direct current blocking means coupled to the output terminals and operable to stop flow of the control signal from the DC input terminals, whenever at least one gas discharge lamp is removed from the output terminals or is defective” shall be construed according to section 112, ¶ 6 as reciting the function “operable to stop the flow of the control signal from the DC input terminals, whenever at least one gas discharge lamp is removed from the output terminals or is defective,” and the specification disclosing the structure corresponding to that function as a capacitor or diode within the control circuit, as

set forth *supra* in Part III(F)(3).

7. In Claims 1 and 18 of the 529 Patent the phrase “whenever at least one gas discharge lamp is removed from the output terminals or is defective” shall be construed according to its ordinary meaning and in accordance with the Court’s reasoning in Part III(G)(3) *supra*.

SO ORDERED on this **2nd** day of **December, 2010**.


Reed O'Connor
UNITED STATES DISTRICT JUDGE