United States District Court,
E.D. Texas, Marshall Division.

POWER-ONE, INC,
Plaintiff.
v.
ARTESYN TECHNOLOGIES, INC,
Defendant.

No. Civ.A. 2:05CV463

March 22, 2007.

Alan D. Smith, Christopher D. Agnew, Matthew J. Leary, Michael H. Bunis, Steven R. Katz, Whitney A. Fellberg, Fish & Richardson PC, Boston, MA, Earl Glenn Thames, Jr., Michael Edwin Jones, Potter Minton PC, Tyler, TX, for Plaintiff.

Jeffrey A. Andrews, Nathaniel Cochran Dunn, Robert James McAughan, Jr., Locke Liddell & Sapp, Houston, TX, Jennifer Parker Ainsworth, Wilson Sheehy Knowles Robertson & Cornelius PC, Tyler, TX, Joseph M. Lafata, Roland A. Fuller, III, Harness Dickey & Pierce, Troy, MI, for Defendant.

MEMORANDUM OPINION AND ORDER

LOVE, Magistrate J.

This claim construction opinion construes terms in U.S. Patent Nos. 6,936,999 ("the '999 patent"), 6,949,916 ("the '916 patent"), 7,000,125 ("the '125 patent), and 7,049,798 ("the '798 patent). Plaintiff Power-One, Inc. ("Power-One") accuses Defendant Artesyn ("Artesyn") Technologies, Inc. of infringing various claims contained in these patents.

The Patents

Each of the patents-in-suit describes a system and method for supplying power to components and/or devices in an electronic system. The system and method disclosed in the '999 patent involves the use of one or more point-of-load ("POL") regulators that convert power from one level to another level. For example, a POL regulator may take, as an input, a voltage of 12 volts and provide an output of 3 volts or 5 volts. The POL regulator may be coupled to a power supply controller by way of a synchronous or asynchronous data bus. The claims in the '916 patent are directed more specifically to a serial data bus that facilitates communication between the various POL regulators and a controller connected to the bus.

Claims 1-15 of the '125 patent address, among other things, the transfer of programming and monitoring information between the POL regulators and the controller via a serial data bus. Claims 16 through 22 are method claims that call for transmitting programming data to a plurality of POL regulators over a serial data

bus and receiving performance monitoring data from the POL regulators over the serial data bus. The remaining claims 23-31 call for a controller, as a part of the POL regulator, that determines the operating parameters for the POL regulator responsive to the programming information and generates the monitoring information responsive to operational characteristics of the POL regulator. The claims of the '798 patent include system and method claims. The "power control system" claims call for a power supply controller that provides initial configuration data and receives fault-monitoring data. A serial data bus communicates the initial configuration data and the fault-monitoring data. The system includes at least one POL regulator connected to the data bus. The method claims generally address the storage and transfer of initial configuration data and fault-monitoring data between a POL regulator and a controller.

Applicable Law

"It is a 'bedrock principle' of patent law that 'the claims of a patent 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) (quoting Innova/Pure Water Inc. v. Safari Water Filtration Sys., Inc., 381 F.3d 1111, 1115 (Fed.Cir.2004)). In claim construction, courts examine the patent's intrinsic evidence to define the patented invention's scope. *See id.;* C.R. Bard, Inc. v. U.S. Surgical Corp., 388 F.3d 858, 861 (Fed.Cir.2004); Bell Atl. Network Servs., Inc. v. Covad Communications Group, Inc., 262 F.3d 1258, 1267 (Fed.Cir.2001). This intrinsic evidence includes the claims themselves, the specification, and the prosecution history. *See* Phillips, 415 F.3d at 1314; C.R. Bard, Inc., 388 F.3d at 861. Courts give claim terms their ordinary and accustomed meaning as understood by one of ordinary skill in the art at the time of the invention in the context of the entire patent. Phillips, 415 F.3d at 1312-13; Alloc, Inc. v. Int'l Trade Comm'n, 342 F.3d 1361, 1368 (Fed.Cir.2003).

The claims themselves provide substantial guidance in determining the meaning of particular claim terms. Phillips, 415 F.3d at 1314. First, a term's context in the asserted claim can be very instructive. *Id*. Other asserted or unasserted claims can also aid in determining the claim's meaning because claim terms are typically used consistently throughout the patent. *Id*. Differences among the claim terms can also assist in understanding a term's meaning. *Id*. For example, when a dependent claim adds a limitation to an independent claim, it is presumed that the independent claim does not include the limitation. *Id*. at 1314-15.

Claims "must be read in view of the specification, of which they are a part." *Id*. (quoting Markman v. Westview Instruments, Inc., 52 F.3d 967, 978 (Fed.Cir.1995)). "[T]he 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." ' *Id*. (quoting Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed.Cir.1996)); Teleflex, Inc. v. Ficosa N. Am. Corp., 299 F.3d 1313, 1325 (Fed.Cir.2002). This is true because a patentee may define his own terms, give a claim term a different meaning than the term would otherwise possess, or disclaim or disavow the claim scope. Phillips, 415 F.3d at 1316. In these situations, the inventor's lexicography governs. *Id*. Also, the specification may resolve ambiguous claim terms "where the ordinary and accustomed meaning of the words used in the claims lack sufficient clarity to permit the scope of the claim to be ascertained from the words alone." Teleflex, Inc., 299 F.3d at 1325. But, "although the specification may aid the court in interpreting the meaning of disputed claim language, particular embodiments and examples appearing in the specification will not generally be read into the claims." Comark Communications, Inc. v. Harris Corp., 156 F.3d 1182, 1187 (Fed.Cir.1998); *see also* Phillips, 415 F.3d at 1323. The prosecution history is another tool to supply the proper context for claim construction because a patent applicant may also define a term in prosecuting the patent. Home Diagnostics, Inc., v. Lifescan, Inc., 381 F.3d 1352, 1356 (Fed.Cir.2004) ("As in the case of the specification, a patent applicant

may define a term in prosecuting a patent.").

Although extrinsic evidence can be useful, it is "less significant than the intrinsic record in determining 'the legally operative meaning of claim language." ' Phillips, 415 F.3d at 1317 (quoting C.R. Bard, Inc., 388 F.3d at 862). Technical dictionaries and treatises may help a court understand the underlying technology and the manner in which one skilled in the art might use claim terms, but technical dictionaries and treatises may provide definitions that are too broad or may not be indicative of how the term is used in the patent. *Id*. at 1318. Similarly, expert testimony may aid a court in understanding the underlying technology and determining the particular meaning of a term in the pertinent field, but an expert's conclusory, unsupported assertions as to a term's definition is entirely unhelpful to a court. *Id*. Generally, extrinsic evidence is "less reliable than the patent and its prosecution history in determining how to read claim terms." *Id*.

The Terms

The terms at issue are: FN1 "POL regulator," "[output] voltage set point data," "output current set point data," "[output voltage] slew rate data," "initial configuration data," "control ... information," "control data," "monitoring information," "monitoring data," "address set," command set," "data set," "communication of control and monitoring data therebetween," "determine," "fault protection data," "controller," "power supply controller," "system controller," "fault-monitoring data," "output data," "performance monitoring information," "sequencing data," "at least one of ...," "turn-on data," "turn-off data," "turn-on period," "turn-off period," "turn-on delay period," "turn-off delay period," and "synchronizing signal."

FN1. At the hearing the parties agreed to define "programming ... information" as "data used to configure the one or more POL regulators in the power system" and "connecting" and "connected" as "joined together to allow communication."

1. "POL regulator"

The first term at issue is "POL regulator," which is found in every asserted claim of each of the four patents-in-suit. Power-One argues that this term should be construed as a "dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system." Artesyn contends that this term is indefinite and cannot be properly construed.

Power-One asserts that "POL regulator" had an ordinary meaning in the art at the time of the invention and cites, among other things, Artesyn's own literature in support of this contention. Artesyn argues that "POL regulator" is not defined in the specification and that the intrinsic evidence provides no objective criteria to determine a proper definition of the term. Further, Artesyn contends that the extrinsic evidence cited by Power-One fails to convey an ordinary meaning. More specifically, Artesyn contends that Power-One's use of the term "near" in its proposed construction is problematic and unhelpful because it fails to convey any objective standard by which one would determine "nearness" in the context of "POL regulator."

In Datamize v. Plumtree Software, LLC, 417 F.3d 1342 (Fed.Cir.2005), the Federal Circuit set forth the following principles pertaining to indefiniteness.

According to the Supreme Court, "[t]he statutory requirement [35 U.S.C. s. 112, para. 2] of particularity and

distinctness in claims is met only when [the claims] clearly distinguish what is claimed from what went before in the art and clearly circumscribe what is foreclosed from future enterprise." The definiteness requirement, however, does not compel absolute clarity. Only claims "not amenable to construction" or "insolubly ambiguous" are indefinite. Thus, the definiteness of claim terms depends on whether those terms can be given any reasonable meaning. Furthermore, a difficult issue of claim construction does not *ipso facto* result in a holding of indefiniteness. "If the meaning of the claim is discernible, even though the task may be formidable and the conclusion may be one over which reasonable persons will disagree, we have held the claim sufficiently clear to avoid invalidity on indefiniteness grounds." In this regard it is important to note that an issued patent is entitled to a statutory presumption of validity. "By finding claims indefinite only if reasonable efforts at claim construction prove futile, we accord respect to the statutory presumption of validity and we protect the inventive contribution of patentees, even when the drafting of their patents has been less than ideal." In this way we also follow the requirement that clear and convincing evidence be shown to invalidate a patent.

Id. at 1347 (citations omitted). Turning first to the specification of the '999 patent, it is important that the POL regulator is discussed in terms showing its familiarity to those skilled in the art. *See* '999 Patent, col. 1:12-14 (Point-of-load ("POL") regulators, which are also referred to as voltage regulators or DC/DC converters, are commonly used in conjunction with electronic circuits."); 34-35 ("Traditionally, POL regulators operate in conjunction with at least one power supply controller."); Col. 2:12-14 ("POL regulators are traditionally adapted to receive ..."). The specification of the '125 patent identifies problems facing complex electronic systems and how POL regulators help alleviate these problems.

With the increasing complexity of electronic systems, it is common for an electronic system to require power provided at several different discrete voltage and current levels ... It is undesirable to deliver relatively high current at low voltages over a relatively long distance through an electronic device for number of reasons. First, the relatively long physical run of low voltage, high current lines consumes significant circuit board area and congests the routing of signal lines on the circuit board. Second, the impedance of the lines carrying the high current tends to dissipate a lot of power and complicate load regulation. Third, it is difficult to tailor the voltage/current characteristics to accommodate changes in load requirements.

In order to satisfy these power requirements, it is known to distribute an intermediate bus voltage throughout the electronic system, and include an individual point-of-load ("POL") regulator, i.e., DC/DC converter, at the point of power consumption within the electronic system ... Ideally, the POL regulator would be physically located adjacent to the corresponding electronic circuit so as to minimize the length of the low voltage, high current lines through the electronic system. The intermediate bus voltage can be delivered to the multiple POL regulators using low current lines that minimize loss.

Col. 1: 13-15, 19-35, 42-47. Further, Figure 1 of the '125 patent shows a prior art power system where POLs 22, 24 and 26 are at the point of power consumption. The '125 specification also describes the functions and uses of POLs: "Each circuit has an associated point-of-load ("POL") regulator located closely thereby, such as POLs 22, 24, and 26. Each POL regulator converts the intermediate bus voltage to a low voltage, high current level demanded by the electronic circuit, such as 1.8 volts, 2.5 volts, and 3.3 volts provided by POLs 22, 24 and 26." Col. 3:22-27. "By locating the POLs 22, 24, and 26 close to their corresponding electronic circuits, the length of the low voltage, high current lines on the printed circuit board are minimized." Col. 3:32-35. The '798 specification again describes POL regulators in terms of the problems the POL is designed to address:

Similarly, some electronic devices include circuits that require low voltage (e.g. 1 v), high current (e.g., 100 A) power supplies. This is problematic in that it is impractical to deliver high current at low voltage levels over a relatively long distance and still meet desired regulation performances. A common solution is to use a high voltage, low current power supply and design a POL regulator near the internal circuit. This allows low current to travel throughout the device, and provides a low voltage, high current power supply (i.e., using the POL regulator) near the internal circuit.

See col. 1:25-35.

One problem with Artesyn's approach is that it ignores the intrinsic record's repeated acknowledgment of a known prior art POL device. The term "POL" is not a coined term in the patents-in-suit; rather, a "POL" was a known device in the art. Artesyn also ignores numerous statements in the intrinsic record concerning the function and purpose of a POL regulator. The specification of the '999 patent explains that "POL regulators" are also referred to as "voltage regulators" or "DC/DC converters." It describes a prior art system that utilized POL regulators. See '999 patent, col. 1:12-14; col. 3:4-11; Figure 1. The specification goes on to say that "the voltage/current requirements of electronic circuits typically differ from the voltage that is readily available or the current that can practically be delivered. For example, some electronic devices only include a single voltage input (e.g., 12v), but require different voltages for circuits contained within (e.g., 3v, 5v, 9v, etc.). A common solution is to design multiple POL regulators within the device for converting the single input voltage into multiple voltage levels." See '999 patent, col. 1:14-22. The intrinsic record also explains that prior art POL regulators were placed "near" the load to be serviced by the POL so high currents would not be delivered over "relatively long distance[s]." Locating the POL regulator near the load to be serviced "allows low current to travel throughout the device, and provides a low voltage, high power supply (i.e., using the POL regulator) near the internal circuit." See '999 patent, col. 1:25-33. Therefore, the intrinsic record makes clear that one skilled in the art would know that a POL regulator should be placed in such a way to accomplish certain objectives.FN2

FN2. Dennis Roark ("Roark"), Power-One's Chief Technical Officer, testified that to this point in his deposition:
Q. And how close to the load does a regulator have to be a point-load-regulator?

A. It has to be close enough to fulfill the need to manage transients and regulate the voltage in a tight fashion such that there is no disturbance to the load as a result of changes in load, changes in line, changes in the environmental conditions which it is. So those requirements define the requirement for the nearness.

See Ex. G to Power-One's Claim Construction Brief, p. 86, line 9-17.
The Court sees nothing problematic in describing the POL regulator as being "near" the load. This is simply a way of saying that the POL regulator should be located so as to alleviate the problems associated with complex power systems that require "several different discrete voltage and current levels." FN3 See '125 patent, col. 1:15. The intrinsic record shows that there is no "one size fits all" approach to electronic systems and therefore, the term "near" is as precise as this particular subject matter permits. *See, e.g.,* BJ Services, Co. v. Halliburton Energy Services, Inc. 338 F.3d 1368, 1373 (Fed.Cir.2003) (upholding jury's verdict rejecting indefiniteness defense because those skilled in the art would understand a "C^* value of about

0.06") ; Exxon Research Engineering Co. v. United States, 265 F.3d 1371, 1379-81 (Fed.Cir.2001) (finding "for a period sufficient" definite because the limitation was expressed in terms that are reasonably precise in light of the subject matter); Orthokinetics, Inc. v. Safety Travel Chairs, Inc., 806 F.2d 1565, 1576 (Fed.Cir.1986) (construing "so dimensioned" as definite and stating that the term "is as accurate as the subject matter permits, automobiles being of various sizes"); Seattle Box Co., Inc. v. Industrial Crating and Packing, Inc., 731 F.2d 818, 826 (Fed.Cir.1984) (rejecting claim that "substantially equal to" was indefinite and noting that the fact "some claim language may be imprecise ... does not automatically render a claim invalid").

FN3. There are additional reasons why the Court rejects Artesysn's indefiniteness argument. First, Artesyn initially proposed a construction of "POL regulator" indicating that the meaning of this term can be discerned. *See* Joint Claim Construction Statement. Not only did Artesyn propose a construction, but it did so describing a POL as being "placed near the one or more devices being powered." Second, Artesyn's own literature uses the term "point of load" and describes "POLs" as being near the load, *See* Ex. B to Power-One's Reply Brief, showing, at the very least, that the term has meaning to those skilled in the art. Third, when asked about "POLs," Trey Burns, Artesysn's 30(b)(6) witness on claim construction, did not testify that he was unaware of or unable to understand the term. Rather, Burns testified that, with a couple of caveats, Power-One's proposed definition of a "POL" is "a reasonable statement." *See* Ex. I to Power-One's Claim Construction Brief, p. 100, lines 3-11. Burns also discussed "point-of-load converters" as being part of a "distributed power architecture where we move the regulation function closer to the load" to "climinate the effects of distribution resistances and distribution inductances." *Id.* at p. 26, line 11-p. 27, line 3. Finally, nothing in the prosecution history shows that the patent examiner had any trouble understanding the term. This evidence plainly suggests that POLs were well known devices whose locations and functions relative to other components was understood by those of ordinary skill in the art.

Artesyn relies on Halliburton Energy Services, Inc. v. MI, LLC, 456 F.Supp.2d 811 (E.D.Tex.2006) (Davis, J.) to support its indefiniteness contention. In that case, however, the patentees relied upon the term "fragile gel" to distinguish their invention from the prior art tending to show that the characteristics of "fragile gel" were novel and a basis for patentability. Id. at 816. Having presented "fragile gel" in that fashion, the Court found that the patentees had failed to provide an objective standard for its definition. Id. at 817. Here, on the other hand, the specifications and prosecution history treat POL regulators as a known device in the art. *See, e.g.,* '999 Patent, col. 1:12-14. And, while the specifications may describe new features for POL regulators, the specifications use the term "POL regulator" in its "traditional" sense (see '999 patent, col. 1:34-35) to refer to a device in a system for supplying power to components in an electronic system. Accordingly, the Court adopts Plaintiff's construction and construes "POL regulator" to mean "a dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system."

2. "[output] voltage set point data," "output current set point data," and "[output voltage] slew rate data"

Artesyn contends that the claimed "data" actually specifies something, *i.e.,* the desired output voltage level, the desired output current level, and the desired slew rate respectively, while Power-One contends that this "data" is simply something "used to specify" these components. In other words, Power-One contends that, for example, "voltage set point data" is the collection of data used to specify the voltage set point.

i) "[output] voltage set point data"

Power-One proposes "data used to specify the commanded output voltage level of the POL regulator," while Artesyn proposes "data provided to a POL regulator specifying the desired output voltage level for the POL regulator." Beginning with the claim language, claims 2 and 26 of the '999 patent refer to "voltage set point data providing a desired output voltage of the corresponding POL regulator." Claim 3 of the '798 patent provides for the "power control system of claim 1, wherein said initial configuration data includes at least output voltage set point data corresponding to a desired voltage level of said output." Thus, the claims appear to equate the voltage set point data with a "desired output voltage." The '798 specification calls for the following:

... the controller is adapted to provide initial-configuration data to each POL regulator. The initial configuration data, which may include output-voltage-set-point-data (i.e., a desired output voltage), output-current-set point data (i.e., the highest desired output current), low-voltage-limit data (i.e., the lowest desired output voltage), high-voltage-limit data (i.e., the highest desired output voltage), output-voltage-slew-rate data (i.e., the desired output slew rate) ...

'798 patent, col. 2:10-17. The '999 specification further provides:

For example, a POL regulator might generate a one volt output five milliseconds after receiving activation data if it received voltage set-point data and sequencing data corresponding to one volt and five milliseconds, respectively. Alternatively, a POL regulator might generate a one volt output one millisecond after receiving activation data if it received voltage set point data, slew-rate data and turn-on data corresponding to two volts, one volt per millisecond and three milliseconds, respectively.

'999 patent, col. 4:33-41. These excerpts show that the POL regulator receives specified types or categories of "data." More specifically, the examples in the latter excerpt show that the "voltage-set-point data" has a specified numerical value, *i.e.* one or two volts.

In support of its argument, Power-One argues, for example, that data telling a POL regulator to cap or limit its output voltage can also be "voltage set point data." The '798 specification, however, is clear that such data is categorized as "high-voltage-limit data," not "output-voltage-set-point-data." '798 patent, col. 2:10-17 Power-One offers an example of a situation where, a POL regulator receives voltage set point data of seven volts, but the POL has an upper voltage limit of five volts. Thus, because the upper limit is five, the actual output voltage would be five. Power-One contends that the upper voltage limit data should be considered as part of the data determining the voltage set point. While the upper voltage limit data may affect the actual voltage level at the output, that does not change the fact that the "output voltage set point data" specifies the "desired" output voltage and that the intrinsic record shows that the voltage set point data is a distinct category of data, rather than a collection of data from which a set point is derived. *See* Applied Med. Res. Corp. v. U.S. Surgical Corp., 448 F.3d 1324, 1333 n. 3 (Fed.Cir.2006) ("in the absence of any evidence to the contrary, we must presume that the use of ... different terms in the claims connotes different meanings"). Accordingly, the Court adopts Artesyn's proposed construction and construes "[output] voltage set point data" as "data provided to a POL regulator specifying the desired output voltage level for the POL regulator."

ii) "output current set point data"

Power-One proposes this term means "data used to specify an output current level," while Artesyn proposes this term means "data provided to a POL regulator specifying the desired output current level for the POL regulator." Much of the analysis above applies here. Claim 4 of the '798 patent provides for the "power control system of claim 1, wherein said initial configuration data includes at least output current set point data corresponding to a desired maximum current level of said output." The '798 specification equates "output-current-set point data" with the "highest desired output current." *See* '798 patent, col. 2:13-14. Accordingly, the Court adopts Artesyn's proposed construction and construes "output current set point data" as "data provided to a POL regulator specifying the desired output current level for the POL regulator."

iii) "[output voltage] slew rate data"

Power-One proposes a construction of "data concerning the rate of change of the output of the device," while Artesyn proposes "data provided to a POL regulator specifying the desired slew rate (*i.e.*, rate of change of output voltage) for the POL regulator." Claims 2 and 26 of the '999 patent describe "output data" transmitted by the controller comprising:

at least one of turn-on data providing a command to turn-on the corresponding POL regulator, voltage set-point data providing a desired output voltage of the corresponding POL regulator, slew-rate data providing a rate of change of output voltage of the corresponding POL regulator, and sequencing data providing a delay period between either a turn-on or turn-off command and actual generation of a corresponding output.

This claim language demonstrates that "slew-rate data" is distinct from the other "data" referenced in the claim and specifies a particular type of information. See Allied, 448 F.3d at 1333 n. 3. Dependent Claim 7 of the '798 patent specifies that the initial configuration data includes "slew rate data corresponding to a desired slew rate of said output" again showing the distinctness of this category of data and what information it represents. The '798 specification also provides for distinct categories of data, including "output-voltage-slew-rate data," and states what each category represents. See '798 patent, col. 2:10-21. Similarly, the '999 specification provides for the POL receiving activation data including "voltage set point data, slew-rate data and turn-on data corresponding to two volts, one volt per millisecond, and three milliseconds, respectively." See '999 patent, col. 4:33-41. The specifications show that the slew rate data provided to the POL regulator is distinct from other categories of data and specifies a desired slew rate.

Plaintiff argues that the output of the POL need not be specified by the received data, but only in accordance with that data, citing, for example, column 5, lines 29-38 of the '999 patent and claim 11 of the '999 patent. First, Plaintiff's position would blur the distinctions between the different categories of data provided to the POL, whereas the patent specifications and claims clearly distinguish between them. Moreover, the fact that the POL produces an output "in accordance with" the provided data does not mean that the "slew rate data" need not specify a slew rate. Thus, the Court construes "[output voltage] slew rate data" as "data provided to a POL regulator specifying the desired slew rate (*i.e.*, rate of change of output voltage) for the POL regulator."

3. "initial configuration data"

Having considered the parties' competing proposals on this term, the Court adopts the following compromise construction: "programming information received by a POL regulator after power-up but prior to the first generation of an output voltage." *See* '798 patent, col. 2:10-23; col. 4:51-col. 5:49; col. 6:43-54; Figure 6.

4. "control ... information," "control data"

Having considered the parties' proposals, the Court disagrees with both proposals. Thus, the Court construes these terms as "data specifying a desired operation by a POL regulator." *See* '125 patent, col.6:44-55.

5. "monitoring information," "monitoring data"

The Court finds Power-One's proposal to be correct and, therefore, construes this term as "data concerning the status of the one or more POL regulators in the power system." *See* '125 patent, col.6:44-55

6. "address set," "command set," "data set"

The dispute with regard to these terms is whether a "set" can contain a single bit, as Power-One proposes, or, as Artesyn suggests, whether it must contain two or more bits. Power-One concedes that the examples of sets given in the specification are multi-bit sets. *See, e.g.,* '916 patent, col. 4:19-25. However, the '916 specification provides that "communication cycles containing more or less information and/or bits is within the spirit and scope of the present invention." Id. at col. 4:30-33. Although the '916 specification provides examples of multi-bit sets, this does not mean that a "set" referred to in the claims *must* contain more than one bit. *See, e.g.,* Varco, L.P. v. Pason Systems USA, Corp., 436 F.3d 1368, 1373 (Fed.Cir.2006) (" 'In examining the specification for proper context ... this court will not at any time import limitations from the specification into the claims." '). Accordingly, the Court declines to narrow the definition of set and construes these terms as follows:

Address set: A set of one or more bits in a message specifying the address of one or more devices connected to a bus.

Command set: A set of one or more bits in a message specifying a given command operation.

Data set: A set of one or more bits in a message reflecting data that is read from or written to a device.

7. "communication of control and monitoring data therebetween"

Power-One proposes this phrase refers to "sending control and monitoring data between the POL regulator and the data bus," while Artesyn proposes the phrase refers to "sending control and monitoring data between the POL regulators." The dispute here is whether the communication recited by the claims is between a POL regulator and the serial bus (Power-One's position) or between multiple POL regulators (Artesyn's position).

Claim 1 of the '916 patent describes

a plurality of point-of-load regulators ... and

a bi-directional, serial data bus connected to each of said plurality of point-of-load regulators to permit communication of control and monitoring data therebetween, each one of said plurality of point-of-load regulators being adapted to initiate a communication cycle by providing a synchronizing signal onto said serial data bus followed by a multi-bit data message that includes at least one of an address set, a command set, and a data set.

The claim language calling for communication "therebetween" seems to refer to communication between the

immediately preceding items, *i.e.,* "said plurality of point-of-load regulators." Unasserted Claim 14 of the '916 patent provides for a "point-of load regulator having a serial data interface adapted to communicate control and monitoring data with other like point-of load regulators via a serial data bus ..." Clearly, claim 14 contemplates communication of control and monitoring data between point-of-load regulators. *See* Phillips, 415 F.3d at 1314 ("Other claims of the patent, both asserted and unasserted, can also be valuable sources of enlightenment as to the meaning of a claim term ... Because claim terms are normally used consistently throughout the patent, the usage of a term in one claim can often illuminate the meaning of the same term in other claims.").

Further, the larger context of claim 1 also supports communication between POL regulators. Claim 1 provides for POL regulators "being adapted to initiate a communication cycle by initiating a synchronization signal onto said serial data bus followed by a multi-bit data message that includes at least one of an address set, a command set and a data set." The address set can be used to identify the POL regulator that is providing the information or the POL that is being written to or read, while the command set can identify what the POL regulator is providing. *See* '916 patent, col. 4:43-48. Thus, the communication at issue is between the devices connected to the serial bus, rather than between a device and the serial bus to which it is connected. While the devices certainly communicate by way of the serial bus, they communicate with, or between, themselves.

Power-One cites to the statement in the '916 specification that the "present invention provides a system and method for using a serial bus to passively or actively communicate with a point-of-load regulator." Col. 2:55-57. Power-One also cites to Figures 2 and 3 which show, according to Power-One, control and monitoring information flowing between the POLs and the controller across the data bus. However, simply because a data bus is used to communicate or permits communication does not mean that communication is *between* the bus and the POLs or a controller. The specification of the '916 patent regularly speaks of communication "via," "by way of," or "over" the serial bus, rather than "between" ' the serial bus and a device. *See, e.g.,* '916 patent, col. 3:42-44; col. 3:53-61; col. 3:66-67; col. 4:8-15. While a person can communicate over a telephone line, one does not typically refer to communication occurring between a person and a telephone line. Indeed, Figure 2 is discussed in terms of a controller communicating with a plurality of POL regulators (i.e., 220, 230, 230, and 250) *via a serial bus* 200. Col. 3:42-44 (emphasis added). Likewise, Figure 4 is described as a "method of communicating *over* a single-wire serial bus" and Figure 5 shows "how information can be transmitted *over* a serial bus." Col. 3:66-67; Col. 4:29-31. Finally, the specification discusses how POL regulators determine priority of communication where multiple POL regulators initiate a communication cycle simultaneously. Col, 4, line 59-63 ("Thus, a POL regulator can determine, by reading the start sequence 510 and address set 520 of a communication cycle 50 as it is being sent, whether another POL regulator is also attempting to send a communication cycle 50 at the same time. If multiple devices ..."). Thus, the bus is the vehicle that allows communication between multiple POL regulators or other devices. For the foregoing reasons, the Court construes this term as "sending control and monitoring data between the POL regulators."

8. "controller," "power supply controller," "system controller"

As to "controller," the parties have agreed to Power-One's proposal of "circuitry that controls the operation of one or more devices." As to the other terms, Power-One argues for the same construction, while Artesyn proposes "part of a distributed power control system that activates and at least partially programs and monitors a regulator and allows the output of the POL regulator to be transmitted to an external load circuit." The Court notes that a "power supply controller" is discussed in the '999 patent as follows:

Traditionally, POL regulators operate in conjunction with at least one power supply controller. The controller (1) activates and partially programs the POL regulator by providing data directly to the POL regulator, (2) monitors the output of the POL regulator by measuring data external to the POL regulator, and (3) allows the output of the POL regulator to be transmitted to an external load circuit by controlling an external switch.

Col. 1:34-42; *see also* '798 patent, col. 1:37-42. The Court finds that this language supports Artesyn's proposal and therefore, construes "power supply controller" and "system controller" as "part of a distributed power control system that activates and at least partially programs and monitors a regulator and allows the output of the POL regulator to be transmitted to an external load circuit."

9. "determine"

Power-One seeks no construction of this term, while Artesyn proposes that the term be construed as "calculate." The Court agrees with Power-One that the term needs no construction. The parties have agreed that the term "calculate" as used in the patents means "ascertain based on calculations." Artesyn fails to adequately explain why the term "determine" should have the same definition as "calculate." Further, the passages from the '999 patent Artesyn cites, col. 2:28-34 and col. 4:23-33, do not support narrowing the meaning of "determine." *See* Lieble-Flarsheim Co. v. Medrad, Inc., 358 F.3d 898, 906 (Fed.Cir.2004) (noting that courts will not impose additional limitations from the specification onto the claims). Both passages actually use the term "calculate" showing that "calculate" means something different than "determine."

10. "fault protection data"

Power-One suggests this term should be construed to mean "data concerning identification of or response to faults," while Artesyn proposes a construction of "a form of monitoring data provided by a POL regulator in which each datum is a value reflecting a characteristic of the POL regulator sending the message, such as the temperature, output voltage, or output current of the sending POL regulator." To support its proposal, Artesyn relies on column 2, lines 20-28 and column 5, lines 20-23 of the '916 patent. However, to construe these terms as Artesyn advocates would suggest that the term is limited to examples provided in the specification. Indeed, these passages use "e.g." showing that types of fault protection data discussed are exemplary only. *See* Varco, 436 F.3d at 1375. Artesyn's proposal also includes limitations, *i.e.,* "form of monitoring data" and "each datum is a value reflecting a characteristic of the POL regulator," that are unnecessarily vague and find no support in the cited passages. Thus, the Court construes "fault protection data" as "data concerning identification of or response to faults."

11. "fault monitoring data"

Power-One proposes this term be construed as "data concerning the status of one or more POL regulators in a distributed power system or surrounding conditions," while Artesyn suggests "information about a possible fault of the POL regulator or its output obtained through systematic measurements using an external device or sensor circuit." Again, the Court finds Artesyn's proposal too limiting and not justified in view of the specification. The '798 specification is clear that "fault monitoring data" is not limited to data "about a possible fault" as Artesyn proposes. *See* '798 patent, col. 5:40-46. Further, there is nothing in the '798 specification requiring that data be obtained through "systematic measurements." Concerning Power-One's proposal, the Court finds that the phrase "surrounding conditions" is not supported by the

specification. The Court construes "fault-monitoring data" as "data concerning the status or operating condition of one or more POL regulators used to determine if there is a fault."

12. "output data"

Power-One proposes "data reflecting information affecting the provision of power to the load," while Artesyn proposes "real-time generated data reflecting information affecting the provision of power to a load." The dispute with respect to this term is whether the '999 patent's prosecution history shows that the data must be "real-time generated." A prosecution history disclaimer must be clear and unambiguous. *See* Sorensen v. International Trade Com'n, 427 F.3d 1375, 1378 (Fed.Cir.2005) ("in order to disavow claim scope, a patent applicant must clearly and unambiguously express surrender of subject matter during prosecution."). Artesyn contends that during prosecution of the application that originally issued as the '999 patent, the claims were rejected over a prior art reference that disclosed a system including a "power-supply regulator 211" and a "look-up table 213" described by the patent examiner as "storage device 213." *See* Office Action, Mailed Jun. 3, 2004, for U.S. Patent Application No. 10/388,831. Artesyn argues that the applicant distinguished the claimed subject matter from the prior art on grounds that the "output data" in the "storage device" recited in the claim must be "real-time" data (as opposed to the type of data stored in the prior art device):

Since it is clear that the power supply controller 211 does not transmit output data, as discussed above, it further follows that there is no "storage device adapted to store said output data." The look-up table 213 cannot perform this function because, inter alia, it is not in communication with any device providing a "power supply controller." Further, a look up table generally contains an index of predetermined data and is not used to store real-time generated output data.

Id. Power-One contends that nothing in this passage concerning look-up tables can be fairly interpreted as a disclaimer of all but "real-time" output data in all the claims. The Court agrees. In the cited passage from the prosecution history, the applicant distinguished the prior art reference because it "does not transmit output data" and because it does not include a "storage device" that is in communication with any device providing a power supply controller. While the applicant further argued that a "look up table generally" is not used to store "real-time generated output data," the Court cannot conclude that this passage constitutes a clear and unambiguous disclaimer of all but "real-time generated data." Thus, the Court construes "output data" as "data reflecting information affecting the provision of power to the load."

13. "performance monitoring information"

Power-One proposes no construction or, in the alternative, "information concerning one or more performance characteristics of the device." Artesyn proposes "information obtained through systematic measurements that tracks one or more performance characteristics of a device." Artesyn advocates a dictionary definition of "monitoring" to arrive at its proposal of "systematic measurements." However, it is unclear what "systematic measurements" means and, therefore, the phrase would not appear to provide any additional clarity to the term at issue. Moreover, the patent specification does not support "systematic measurements" as being a requirement of "performance monitoring information." The Court finds that Power-One's proposal would assist the jury and, thus, construes this term as "information concerning one or more performance characteristics of the device."

14. "sequencing data"

Power-One advocates two proposals. The first is "data used to control the order of operation of multiple POL regulators." The Court finds this proposal to be incorrect because this term is used in relation to a single POL regulator. See, e.g., '999 patent, claims 2, 15, and 17. Power One's second proposed construction is "data used to determine a delay period between some event and the generation or termination of an output." Artesyn proposes "data specifying the duration of a delay period between the POL's receipt of a turn-on or turn-off command and generation or termination of a desired output."

This term is found in several claims of the '999 patent. For example, claim 2 recites "sequencing data providing a delay period between either a turn-on or turn-off command and actual generation of a corresponding output." Claim 10 calls for "sequencing data" and recites "using said sequencing data to determine when said output should be generated." Claim 15 also calls for "sequencing data" and recites "using said sequencing data and said enable data to determine when said output should be generated." Thus, from the claims, "sequencing data" is information related to the timing of the generation of an output. The specification of the '999 patent states that "the delay period can either be provided by the controller 210 (e.g., sequencing data) or calculated using data that has been provided by the controller 210 (e.g., turn-on data)." From the specification, the "sequencing data" specifies a delay period between some event (e.g., activation) and the generation of an output. '999 patent, col. 4:23-32. In this example, the event from which the generation of an output is delayed is the activation of the POL. However, the Court sees no basis in the claims or the patent specification for limiting the event or events from which the delay can be measured.

Accordingly, the Court will construe "sequencing data" to mean "data specifying a delay period between some event and the generation or termination of an output."

15. "at least one of ..." followed by an enumerated list

For illustration sake, the Court will consider this phrase as "at least one of X, Y, and Z." Essentially, Artesyn contends that this phrase means "at least one X, at least one Y, and at least one Z." Power-One, on the other hand, argues that the listing of "X, Y, and Z" composes a group (*i.e.,* the group includes X, Y, and Z) from at least one is selected. The Court finds Artesyn's position to be inconsistent with the specification. For example, Artesyn contends that in the sole example in the '999 patent specification where a control unit in a POL regulator calculates the period of time recited in the claim, the calculation is made using data from all three of the relevant data categories (turn-on data, slew rate data, voltage set-point data) in claims 3, 4, 27 and 30:

Alternatively, a POL regulator may generate a one volt output one millisecond after receiving activation data if it received voltage set-point data, slew rate data and turn-on data corresponding to two volts, one volt per millisecond and three milliseconds respectively.

See Col. 4:37-41. However, the passage immediately preceding describes a scenario where a turn-on period is determined without turn-on data or slew rate data.

For example, a POL regulator might generate a one volt output for five milliseconds after receiving activation data if it received voltage set-point data and sequencing data corresponding to one volt and five milliseconds, respectively.

See Col 4:33-36. Another embodiment in the specification only mentions voltage set-point data and enable data when it speaks of output data, '999 patent, col. 3:63-65, while another includes output timing data as

output data, col. 4:16-19. Further, claim 2 of the '999 patent describes "a control unit adapted to determine at least one timing parameter of said output in accordance with said output data wherein said output data further comprises at least one of turn-on data ... and turn-off data." Artesyn's proposal would require the output data to include both "turn-on" data and "turn-off" data even though the control unit need only determine "at least one timing parameter." Finally, Artesyn's proposed construction would require "slew rate data" and "sequencing data," even though the specification makes clear that these types of data are optional:

the POL control unit receives output timing data, which may include slew-rate data, sequencing data, termination data, etc.

See '999 patent, col. 7:1-3.

Artesyn cites Superguide Corp. v. Direct TV Enterprises, Inc., 358 F.3d 870, 886-87 (Fed.Cir.2004), arguing that *Superguide* requires an "at least one of X, Y, and Z" term be construed "at least one X, at least one Y, and at least one Z." However, even if the Court were to agree that *Superguide* holds that the ordinary meaning of "at least one" is as Artesyn suggests, nothing in *Superguide* dictates that this term must be construed in this manner no matter what the specification teaches. In *Superguide,* the specification taught that the user must choose a value for each designated category. *Id*. at 887. Here, as noted above, the specification teaches embodiments that do not require each category of the enumerated set. Thus, the Court holds that although one of each of the enumerated data categories may be used, the "at least one" language only requires that one of the categories be selected. *See* Orion IP, LLC v. Staples, Inc., 406 F.Supp.2d 717, 726 (E.D.Tex.2005).

16. "turn-on data," "turn-off data," "turn-on period," "turn-off period," "turn-on delay period," "turn-off delay period"

As to the terms "turn-on period," "turn-off period," "turn-on delay period," "turn-off delay period," the Court sees little substantive difference between the parties' constructions and, therefore, adopts Power-One's proposals as the more helpful to the jury. The specification of the '999 patent states that a "delay period" is a "period of time to wait," which would comport with the plain and ordinary meaning of the term. '999 patent, col. 2:31-32. Both parties include this aspect in their proposed constructions. Thus, the Court construes these terms as "the time to wait from an event before turning on an output," "the time to wait from an event before turning off an output," "the time to wait from an event before turning on an output," and "the time to wait from an event before turning off an output," respectively.

As to the terms "turn-on data" and "turn-off data," the '999 patent specification discusses turn-on and turn-off data at col. 2:14-24. In particular, the specification states "[e]xamples of output timing parameters include when to generate the output (e.g., sequencing data, turn-on data), when to stop generating the output (e.g., termination data, turn-off data), the slew rate of the output (e.g., slew rate data), etc." At col. 4:33-52, the '999 patent specification recites and discusses exemplary values of "turn-on data" and other data. In these cases, the "turn-on data" specifies when the output is to be generated. The Court finds that Power One's proposed construction is too broad, while Artesyn's proposed construction is unnecessarily limiting. Accordingly, the Court will construe "turn-on data" to mean "data indicating when to generate an output," and the Court will construe "turn-off data" to mean "data indicating when to stop generating an output."

17. "synchronizing signal"

Power-One proposes "a signal that identifies the start of a communication cycle," while Artesyn proposes "a

clock signal that synchronizes the timing of multiple devices with one another for purposes of communication." Claim 1 of the '916 patent requires a POL regulator be adapted "to initiate a communication cycle by providing a synchronizing signal onto a serial data bus followed by a multi-bit data message that includes at least one of an address set, a command set, and a data set." Claim 5, which depends from claim 1, recites that "said synchronizing signal further comprises a clock pulse that pulls said serial data bus to a low state." Thus, from the broad claims in the '916 patent, a "synchronizing signal" "initiate[s] a communication cycle" and is "followed by a multi-bit data message" that includes an address set, a command set and/or a data set.

The "synchronizing signal" of the claims corresponds to the "start sequence" described in the patent specification, as the start sequence in the specification is at the beginning of a communication cycle and is followed by the sets recited in the claims. '916 patent, col. 4:18-25, Fig. 5.

Artesyn uses the term "clock signal" in its proposal. The '916 patent specification describes a "clock signal" that synchronizes the various communicating devices and creates a series of clock cycles, each one including a data bit. '916 patent, col. 4:4-7. This "clock signal" is not described as initiating a communication cycle and it is not followed by a multi-bit message. Artesyn's proposed construction for the "synchronizing signal" of the claims appear to be more descriptive of the "clock signal" described in the specification that is used to transmit the data bits that comprise the address set, the command set and the data set. As the claims recite, these aspects follow the "synchronizing signal."

Power One's proposed construction accurately describes the start sequence described in the specification, which performs the function of the "synchronizing signal" in the claims. Accordingly, the Court construes this term as "a signal that identifies the start of a communication cycle."

Conclusion

For the foregoing reasons, the Court interprets the claim language in this case in the manner set forth above. For ease of reference, the Court's claim interpretations are set forth in a table attached to this opinion.

So ORDERED.

A. U.S. Patent No. 6,936,999 ("the '999 Patent")

Claim Language	Plaintiff's Construction	Defendant's Construction	Court's Construction
1. A power control system comprising: a power supply controller adapted to transmit output data; a data bus connected to said power	Point-of-load ... regulator A DC/DC switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board	Point-of-load ... regulator This term is indefinite and cannot be properly construed.	Point-of-load ... regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be

supply controller; and at least one point-of-load ("POL") regulator connected to said data bus, said at least one POL regulator comprising: a storage device adapted to store said output data; an output builder adapted to generate an output; and a control unit adapted to determine at least one timing parameter of said output in accordance with said output data.	and to be placed near the one or more devices being powered as part of a distributed board-level power system.		placed near the one or more devices being powered as part of a distributed board-level power system.
	Connected	Connected	Connected
	Coupled to allow communication	Joined together without an	Joined together to allow
		intervening component	communication
	Power supply controller	Power supply controller	Power supply controller
	Circuitry that controls the operation of one or more devices.	Part of a distributed power control system that activates and at least partially programs and monitors a regulator and allows the output of the POL regulator to be transmitted	Part of a distributed power control system that activates and at least partially programs and monitors a regulator and allows the output of the POL regulator to be transmitted
		to an external load circuit.	to an external load circuit.
	Determine No construction necessary.	Determine Calculate	Determine No construction.
	In the alternative: To ascertain		
	Output data Ordinary meaning: Data reflecting information affecting the provision	Output data Real-time generated data reflecting information affecting the provision	Output data Data reflecting information affecting the provision of power to the load.
	of power to the load.	of power to a load.	
	Control unit [AGREED]	Control unit [AGREED]	Control unit Circuitry in a POL regulator that controls the operation of the POL

			regulator.
	Data bus [AGREED]	Data bus [AGREED]	Data bus A bus for transmitting or receiving digital data either synchronously or asynchronously.
	Generate/generating an output [AGREED]	Generate/generating an output [AGREED]	Generate/generating an output Create/creating an output.
	Output builder [AGREED]	Output builder [AGREED]	Output builder A voltage building and converting circuit that is part of a POL regulator and that is adapted to generate an output voltage provided to a load.
	Timing parameter [AGREED]	Timing parameter [AGREED]	Timing parameter A parameter used to determine when in time a change in the output provided by the regulator occurs.
2. A power control system comprising: a power supply controller adapted to transmit output data; a data bus connected to said power supply controller; and at least one point-of-load ("POL") regulator connected to said data bus, said at least one POL regulator	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portio n of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system.

comprising:			
a storage device adapted to store said output data;	[Output] voltage set-point data	[Output] voltage set-point data	[Output] voltage set-point data
an output builder adapted to generate an output; and	Data used to specify the commanded output voltage level of the POL regulator.	Data provided to a POL regulator specifying the desired output voltage level for the POL regulator.	Data provided to a POL regulator specifying the desired output voltage level for the POL regulator.
a control unit adapted to determine at least one timing parameter of said output in accordance with said output data;			
wherein said output data further comprises at least one of *turn-on data* providing a command to turn-on the corresponding POL regulator, *voltage set-point data* providing a desired output voltage of the corresponding POL regulator, *turn-off data* providing a command to turn off the corresponding POL regulator, and *sequencing data* providing a delay period between either a turn-on or turn-off command and actual generation of a corresponding output.	[Output-voltage] slew-rate data Data concerning the rate of change of the output of a device.	[Output-voltage] slew-rate data Data provided to a POL regulator specifying the desired slew rate (*i.e.*, rate of change of output voltage) for the POL regulator.	[Output-voltage] slew-rate data Data provided to a POL regulator specifying the desired slew rate (*i.e.*, rate of change of output voltage) for the POL regulator.
	Connected [See '999 Patent, claim 1]	Connected [See '999 Patent, claim 1]	Connected Joined together to allow communication
	Power supply controller [See '999 Patent, claim 1]	Power supply controller [See '999 Patent, claim 1]	Power supply controller Part of a distributed power control system that activates and at least partially programs and

		partially programs and monitors a regulator and allows the output of the POL regulator to be transmitted to an external load circuit.
Output data [See '999 Patent, claim 1]	Output data [See '999 Patent, claim 1]	Output data Data reflecting information affecting the provision of power to the load.
Sequencing data Data used to control the order of operation of multiple POL regulators. In the alternative: data used to determine a delay period between some event and the generation or termination of an output.	Sequencing data Data specifying the duration of a delay period between the POL's receipt of a turn-on or turn-off command and generation or termination of a desired output.	Sequencing data Data specifying a delay period between some event and the generation or termination of an output.
The phrase "at least one of turn-on data ... voltage set-point data ... slew-rate data ... turn-off data ... and sequencing data ..."	The phrase "at least one of turn-on data ... voltage set-point data ... slew-rate data ... turn-off data ... and sequencing data ..."	The phrase "at least one of turn-on data ... voltage set-point data ... slew-rate data ... turn-off data ... and sequencin g data ..."
No construction necessary. The term "at least one of" does not mean "at least one of each of." Rather, it means what it says-"at least one of" the set <X, Y, and Z>.	At least one item of turn-on data, at least one item of voltage set-point data, at least one item of slew-rate data, at least one item of turn-off data, and at least one item of sequencing data.	At least one of the set <X, Y, and Z>

	Turn-on data No construction necessary. In the alternative: Data that concerns turning on an output.	Turn-on data Data commanding a POL regulator to provide a specified output voltage level after a specified time period has passed from the receipt of the data.	Turn-on data Data indicating when to generate an output.
	Turn-off data No construction necessary. In the alternative: Data that concerns turning off of an output.	Turn-off data Data commanding a POL regulator to cease to provide an output.	Turn-off data Data indicating when to stop generating an output.
	Control unit [AGREED]	Control unit [AGREED]	Control unit [See '999 Patent, claim 1]
	Data bus [AGREED]	Data bus [AGREED]	Data bus [See '999 Patent, claim 1]
	Generate/generating an output [AGREED]	Generate/generating an output [AGREED]	Generate/generating an output [See '999 Patent, claim 1]
	Output builder [AGREED]	Output builder [AGREED]	Output builder [See '999 Patent, claim 1]
3. The power control system of claim 2, wherein said control unit is further adapted to determine a turn-on period to generate desired output in accordance with at least one of said *turn-on data*, said *sequencing data*, said *slew rate* *data*, and said *voltage set point* *data*.	[Output] voltage set-point data [See '999 Patent, claim 2] --- [Output-voltage] slew-rate data [See '999 Patent, claim 2]	[Output] voltage set-point data [See '999 Patent, claim 2] --- [Output-voltage] slew-rate data [See '999 Patent, claim 2]	[Output] voltage set-point data Data provided to a POL regulator specifying the desired output voltage level for the POL regulator. --- [Output-voltage] slew-rate data Data provided to a POL regulator specifying the desired slew rate (*i.e.*, rate of change of output voltage) for the POL

		regulator.
Sequencing data [See '999 Patent, claim 2]	Sequencing data [See '999 Patent, claim 2]	Sequencing data Data specifying a delay period between some event and the generation or termination of an output.
The phrase "at least one of turn-on data ... voltage set-point data ... slew-rate data ... turn-of data ... and sequencing data ..."	The phrase "at least one of turn-on data ... voltage set-point data ... slew-rate data ... turn-of data ... and sequencing data ..."	The phrase "at least one of turn-on data ... voltage set-point data ... slew-rate data ... turn-of data ... and sequencin g data ..."
No construction necessary. The term "at least one of" does not mean "at least one of each of." Rather, it means what it says-"at least one of" the set <X, Y, and Z>.	At least one item of said turn-off data, at least one item of said sequencing data, at least one item of said slew-rate data, and at least one item of said voltage set-point data.	At least one of the set < X, Y, and Z>. At least one of the set < X, Y, and Z>
Turn-on data [See '999 Patent, claim 2]	Turn-on data [See '999 Patent, claim 2]	Turn-on data Data indicating when to generate an output.
Turn-on period No construction necessary. In the alternative: The time to wait from an event before turning on an output.	Turn-on period A period of time that the POL regulator waits after a particular event before transferring power to a load.	Turn-on period The time to wait from an event before turning on an output.
Control unit [AGREED]	Control unit [AGREED]	Control unit [AGREED]
[Output] voltage set-	[Output] voltage set-	[Output] voltage set-point

	point data [See '999 Patent, claim 2]	point data [See '999 Patent, claim 2]	data Data provided to a POL regulator specifying the desired output voltage level for the POL regulator.
4. The power control system of claim 2, wherein said control unit is further adapted to determine a turn-off period of time to terminate a selected output in accordance with at least one of said *turn-off data,* said *sequencing data,* said *slew rate data,* and said *voltage set point data*.	---		
	Determine	Determine	Determine
	[See '999 Patent, claim 1]	[See '999 Patent, claim 1]	No construction.
	Sequencing data [See '999 Patent, claim 2]	Sequencing data [See '999 Patent, claim 2]	Sequencing data Data specifying a delay period between some event and the generation or termination of an output.
	The phrase "at least one of turn-on data ... voltage set-point data ... slew-rate data ... turn-of data ... and sequencing data ..."	The phrase "at least one of turn-on data ... voltage set-point data ... slew-rate data ... turn-of data ... and sequencing data ..."	The phrase "at least one of turn-on data ... voltage set-point data ... slew-rate data ... turn-of data ... and sequencin g data ..."
	[See '999 Patent, claim 3]	[See '999 Patent, claim 3]	At least on e of the set < X, Y, and Z>
	Turn-off data [See '999 Patent, claim 2]	Turn-off data [See '999 Patent, claim 2]	Turn-off data Data indicating when to stop generating an output.
	Turn-off period No construction necessary. In the alternative: The	Turn-off period Data specifying a time period after some event at which	Turn-off period Th e time to wait from an event before turning off an

	time to wait from an event before turning off an output.	the POL regulator should, in the absence of sequencing data, cease to provide an active output.	output.
	Control unit	Control unit	Control unit
	[AGREED]	[AGREED]	[See '999 Patent, claim 1]
5. The power control system of claim 3, wherein said turn-on period is provided by said power supply controller in said sequencing data.	Power supply controller [See '999 Patent, claim 1]	Power supply controller [See '999 Patent, claim 1]	Power supply controller Part of a distributed power control system that activates and at least partially programs and monitors a regulator and allows the output of the POL regulator to be transmitted to an external load circuit.
	Sequencing data [See '999 Patent, claim 2]	Sequencing data [See '999 Patent, claim 2]	Sequencing data Data specifying a delay period between some event and the generation or termination of an output.
	Turn-on period [See '999 Patent, claim 3]	Turn-on period [See '999 Patent, claim 3]	Turn-on period The time to wait from an event before turning on an output.
8. The power control system of claim 1, wherein said data bus further comprises a bi-directional serial bus.	Data bus [AGREED]	Data bus [AGREED]	Dat a bus [See '999 Patent, claim 1]
9. A method of	Point-of-load ... regulator [See '999 Patent, claim	Point-of-load ... regulator [See '999 Patent, claim	Point-of-load ... regulator A dc/dc switching voltage

determining at least one output-timing parameter of at least one point-of-load ("POL") regulator comprising: receiving output-timing data from a controller; storing said output-timing data in a POL storage device; generating an output of said at least one POL regulator; and using said output-timing data to determine at least one timing parameter of said output.	1]	1]	regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system.
	---	---	---
	Generate/generating an output [AGREED]	Generate/generating an output [AGREED]	Generate/generating an output [See '999 Patent, claim 1]
	Output timing data [AGREED]	Output timing data [AGREED]	Output timing data Data used to determine when in time a change in the output provided by a POL regulator occurs.
	Timing parameter [AGREED]	Timing parameter [AGREED]	Timing parameter [See '999 Patent, claim 1]
10. A method of determining at least one output-timing parameter of at least one point-of-load ("POL") regulator comprising: receiving output-timing data from a controller;	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more devices being

storing said output-timing data in a POL storage device;			powered as part of a distributed board-level power system.
generating an output of said at least one POL regulator;	----------		
	Sequencing data [See '999 Patent, claim 2]	Sequencing data [See '999 Patent, claim 2]	Sequencing Data Data specifying a delay period between some event and the generation or termination of an output.
and using said output-timing data to determine at least one timing parameter of said output;			
	Generate/generating an output [AGREED]	Generate/generating an output [AGREED]	Generate/generating an output [See '999 Patent, claim 1]
wherein said step of receiving output-timing data further comprises receiving sequencing data and said step of using said output-timing data further comprises using said sequencing data to determine when said output should be generated.			
	Output timing data [AGREED]	Output timing data [AGREED]	Output timing data Data used t o determine when in time a change in the output provide d by a POL regulator occurs.
	Timing parameter [AGREED]	Timing parameter [AGREED]	Timing parameter [See '999 Patent, claim 1]
11. A method of determining at least one output-timing parameter of at least one point-of-load ("POL") regulator comprising:	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more
receiving output-timing data from a controller; storing said			

output-timing data in a POL storage device; generating an output of said at least one POL regulator;			devices being powered as part of a distributed board-level power system.
and using said output-timing data to determine at least one timing parameter of said output;	[Output-voltage] slew-rate data [See '999 Patent, claim 2]	[Output-voltage] slew-rate data [See '999 Patent, claim 2]	[Output-voltage] slew-rate data Data provided to a POL regulator specifying the desired slew rate (*i.e.*, rate of change of output voltage) for the POL regulator.
wherein said step of receiving output-timing data further comprises receiving slew-rate data and said step of using said output-timing data further comprises using said slew-rate data to determine the slew rate of said output.	Generate/generating an output [AGREED] --- Output timing data [AGREED] --- Timing parameter [AGREED]	Generate/generating an output [AGREED] --- Output timing data [AGREED] --- Timing parameter [AGREED]	Generate/generating an output [See '999 Patent, claim 1] --- Output timing data [See '999 Patent, claim 9] --- Timing parameter [See '999 Patent, claim 1]
12. A method of determining at least one output-timing parameter of at least one point-of-load ("POL") regulator comprising: receiving output-timing data from a controller; storing said output-	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a

timing data in a POL storage device;			distributed board-level power system.
generating an output of said at least one POL regulator; and using said output-timing data to determine at least one timing parameter of said output;	----------	----------	----------
	Turn-off data [See '999 Patent, claim 2]	Turn-off data [See '999 Patent, claim 2]	Turn-off data Data indicating when to stop generating an output.
	----------	----------	----------
wherein said step of receiving output-timing data further comprises receiving turn-off data and said step of using said output-timing data further comprises using said turn-off data to calculate a turn-off delay period corresponding to when said output is to be turned off.	Turn-off delay period No construction necessary. In the alternative: The time to wait from an event before turning off an output.	Turn-off delay period Data specifying a time period after some event at which the POL regulator should, in the absence of sequencing data, cease to provide an active output.	Turn-off delay period The time to wait from an event before turning off an output.
	Calculate	Calculate	Calculate
	[AGREED]	[AGREED]	To ascertain based o n calculations.
	Generate/generating an output	Generate/generating an output	Generate/generating an output
	[AGREED]	[AGREED]	[See '999 Patent, claim 1]
	Output timing data	Output timing data	Output timing data
	[AGREED]	[AGREED]	[See '999 Patent, claim 9]
	Timing parameter [AGREED]	Timing parameter [AGREED]	Timing parameter [See '999 Patent, claim 1]
13. A method of determining at least one output-timing parameter of at least one point-of-load ("POL") regulator comprising:	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a

			and adapted to power a portion of the
receiving output-timing data from a controller;			devices on the board and to be placed near the one or more devices being
storing said output-timing data in a POL storage device;			powered as part of a distributed board-level power system.
generating an output of said at least one POL regulator; and	---	---	---
	Turn-on data [See '999 Patent, claim 2]	Turn-on data [See '999 Patent, claim 2]	Turn-on data Data indicating when to generate an output.
using said output-timing data to determine at least one timing parameter of said output;			
wherein said step of receiving output-timing data further comprises receiving turn-on data and said step of using said output-timing data further comprises using said turn-on data to calculate a turn-on delay period corresponding to when said output should be generated.	Turn-on delay period No construction necessary. In the alternative: The time to wait from an event before turning on an output.	Turn-on delay period A period of time that the POL regulator waits after a particular event before transferring power to a load.	Turn-on delay period The time to wait from an event before turning on an output.
	Calculate [AGREED]	Calculate [AGREED]	Calculate To ascertain based o n calculations.
	Generate/generating an output [AGREED]	Generate/generating an output [AGREED]	Generate/generating an output [See '999 Patent, claim 1]
	Output timing data [AGREED]	Output timing data [AGREED]	Output timing data [See '999 Patent, claim 9]
	Timing parameter [AGREED]	Timing parameter [AGREED]	Timing parameter [See '999 Patent, claim 1]
14. The method of claim	Enable data	Enable data	Enable data

9, further comprising receiving enable data from said controller.	[AGREED]	[AGREED]	Data that allows a POL regulator to produce an output.
15. A method determining at least one output-timing parameter of at least one point-of-load ("POL") regulator comprising:	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system.
receiving output-timing data from a controller;			
storing said output-timing data in a POL storage device;			
generating an output of said at least one POL regulator;	---------- Generate/generating an output	---------- Generate/generating an output	---------- Generate/generating an output
using said output-timing data to determine at least one timing parameter of said output; and	[AGREED] Output timing data [AGREED]	[AGREED] Output timing data [AGREED]	[See '999 Patent, claim 1] Output timing data [See '999 Patent, claim 9]
receiving enable data from said controller;	---------- Timing parameter	---------- Timing parameter	---------- Timing parameter
wherein said step of receiving output-timing data further comprises receiving sequencing data and said step of using said output-timing data further comprises using said sequencing data and said	[AGREED]	[AGREED]	[Se e '999 Patent, claim 1]

enable data to determine when said output should be generated.			
16. A method of determining at least one output timing parameter of at least one point-of-load ("POL") regulator comprising:	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system.
receiving slew-rate data from a controller;			
storing said slew-rate data in a POL storage device;			
receiving enable data from said controller; and	---	---	---
using said slew-rate data to determine the slew-rate of an output of said at least one POL regulator.	[Output-voltage] slew-rate data [See '999 Patent, claim 2]	[Output-voltage] slew-rate data [See '999 Patent, claim 2]	[Output-voltage] slew-rate data Data provided to a POL regulator specifying the desired slew rate (*i.e.*, rate of change of output voltage) for the POL regulator.
17. A method of determining at least one output timing parameter of at least one point-of-load ("POL") regulator comprising:	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed
receiving slew-rate data from a			

controller; storing said slew-rate data in a POL storage device; receiving enable data from said controller; using said slew-rate data to determine the slew-rate of an output of said at least one POL regulator; receiving sequencing data from said controller; storing said sequencing data in said POL storage device; and using said sequencing data to determine when said output is to be produced.	[Output-voltage] slew-rate data [See '999 Patent, claim 2] Sequencing data [See '999 Patent, claim 2]	[Output-voltage] slew-rate data [See '999 Patent, claim 2] Sequencing data [See '999 Patent, claim 2]	near the one or more devices being powered as part of a distributed board-level power system. [Output-voltage] slew-rate data Data provided to a POL regulator specifying the desired sle w rate (*i.e.*, rate of change of output voltage) for the POL regulator. Sequencing data Data specifying a delay period between some event and the generation or termination of an output.
18. The method of claim 17, wherein said step of using said sequencing data to determine when said output is to be provided further comprises waiting a period of time after said enable data has been received before said output is produced, said period of time being	Sequencing data [See '999 Patent, claim 2]	Sequencing data [See '999 Patent, claim 2]	Sequencing data Data specifying a delay period between some event and the generation or termination of an output.

determined by said sequencing data.			
19. A method of determining at least one output timing parameter of at least one point-of-load ("POL") regulator comprising:	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion of the
receiving stew-rate data from a controller;			devices on the board and to be placed near the one or more devices being
storing said slew-rate data in a POL storage device;			powered as part of a distributed board-level power system.
receiving enable data from said controller;	---	---	---
using said slew-rate data to determine the slew-rate of an output of said at least one POL regulator;	[Output voltage] slew-rate data [See '999 Patent, claim 2]	[Output voltage] slew-rate data [See '999 Patent, claim 2]	[Output voltage] slew-rate data Data provided to a POL regulator specifying the desired sle w rate (*i.e.*, rate of change of output voltage) for the POL regulator.
receiving turn-on data from said controller;	Turn-on data [See '999 Patent, claim 2]	Turn-on data [See '999 Patent, claim 2]	Turn-on data Data indicating when to stop generating an output.
storing said turn-on data in said POL storage device; and			
using at least said turn-on data and said slew-rate data to calculate a turn-on delay period corresponding to when said output is to be produced.	---	---	---

	Turn-on delay period [See '999 Patent, claim 13]	Turn-on delay period [See '999 Patent, claim 13]	Turn-on delay period The time to wait from an event before turning on an output.
20. A method of determining at least one output timing parameter of at least one point-of-load ("POL") regulator comprising:	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system.
receiving slew-rate data from a controller;	----------		
storing said slew-rate data in a POL storage device;	[Output voltage] slew-rate data [See '999 Patent, claim 2]	[Output voltage] slew-rate data [See '999 Patent, claim 2]	[Output voltage] slew-rate data Data provided to a POL regulator specifying the desired sle w rate (*i.e.*, rate of change of output voltage) for the POL regulator.
receiving enable data from said controller;	----------		
using said slew-rate data to determine the slew-rate of an output of said at least one POL regulator;	[Output voltage] slew-rate data [See '999 Patent, claim 2]	[Output voltage] slew-rate data [See '999 Patent, claim 2]	[Output voltage] slew-rate data Data provided to a POL regulator specifying the desired sle w rate (*i.e.*, rate of change of output voltage) for the POL regulator.
receiving turn-off data from said controller;	----------		
storing said turn-off data in said POL storage device; and	Turn-off data [See '999 Patent, claim 2]	Turn-off data [See '999 Patent, claim 2]	Turn-off data Data indicating when to stop generating an output.
using said turn-off data and said slew-rate data to calculate a turn-off delay period corresponding to when said	Turn-off delay period	Turn-off delay period	Turn-off delay period

output is to be terminate.	[See '999 Patent, claim 12]	[See '999 Patent, claim 12]	The time to wait from an event before turning off an output.
21. A point-of-load regulator comprising: a serial data bus interface; a storage device adapted to store output data received externally via said serial data bus interface; a control unit adapted to calculate at least one timing parameter based on said output data; and an output builder adapted to generate an output voltage in accordance with said at least one timing parameter.	Point-of-load ... regulator [See '999 Patent, claim 1] --- Output data [See '999 Patent, claim 1] --- Calculate [AGREED] Control unit [AGREED] Data bus [AGREED] Generate/generating an output [AGREED] Output builder [AGREED] Received externally [AGREED]	Point-of-load ... regulator [See '999 Patent, claim 1] --- Output data [See '999 Patent, claim 1] --- Calculate [AGREED] Control unit [AGREED] Data bus [AGREED] Generate/generating an output [AGREED] Output builder [AGREED] Received externally [AGREED]	Point-of-load ... regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system. --- Output data Data reflecting information affecting the provision of power to the load. --- Calculate [See '999 Patent, claim 12] Control unit [See '999 Patent, claim 1] Data bus [See '999 Patent, claim 1] Generate/generating an output [See '999 Patent, claim 1] Output builder [See '999 Patent, claim 1] Received externally Received from a source external to the

			POL regulator.
	Timing parameter	Timing parameter	Timing parameter
	[AGREED]	[AGREED]	[See '999 Patent, claim 1]
22. A point-of-load regulator comprising: a serial data bus interface; a storage device adapted to store output data received externally via said serial data bus interface; a control unit adapted to calculate at least one timing parameter based on said output data; and an output builder adapted to generate an output voltage in accordance with said at least one timing parameter; wherein said output data further comprises sequencing data and said control unit is further adapted to calculate a time when said output voltage is to be generated, said time being determined in accordance with said sequencing data.	Point-of-load ... regulator [See '999 Patent, claim 1] --- Output data [See '999 Patent, claim 1] --- Sequencing data [See '999 Patent, claim 2] Calculate [AGREED] --- Control unit [AGREED]	Point-of-load ... regulator [See '999 Patent, claim 1] --- Output data [See '999 Patent, claim 1] --- Sequencing data [See '999 Patent, claim 2] Calculate [AGREED] --- Control unit [AGREED]	Point-of-load ... regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system. --- Output data Data reflecting information affecting the provision of power to the load. --- Sequencing data Data specifying a delay period between some event and the generation or termination of an output. Calculate [See '999 Patent, claim 12] --- Control unit [See '999 Patent, claim 1]

	Data bus	Data bus	Data bus
	[AGREED]	[AGREED]	[See '999 Patent, claim 1]
	Generate/generating an output	Generate/generating an output	Generate/generating an output
	[AGREED]	[AGREED]	[See '999 Patent, claim 1]
	Output builder	Output builder	Output builder
	[AGREED]	[AGREED]	[See '999 Patent, claim 1]
	Received externally	Received externally	Received externally
	[AGREED]	[AGREED]	[See '999 Patent, claim 21]
23. A point-of-load regulator	Point-of-load ... regulator	Point-of-load ... regulator	Point-of-load ... regulator
comprising:	[See '999 Patent, claim 1]	[See '999 Patent, claim 1]	A dc/dc switching voltage regulator
a serial data bus interface;			designed to receive power from a voltage bus on a printed circuit board
a storage device adapted to store output data received externally via said serial data bus interface;			and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system.
a control unit adapted to calculate at least one timing parameter based on said output data; and	----------		
	[Output-voltage] slew-rate data	[Output-voltage] slew-rate data	[Output-voltage] slew-rate data
an output builder adapted to generate an output voltage in accordance with said at least one timing parameter;	[See '999 Patent, claim 2]	[See '999 Patent, claim 2]	Data provided to a POL regulator specifying the desired slew rate (*i.e.*, rate of change of output voltage) for the POL regulator.
wherein said output data further comprises slew-rate data and said control unit is further adapted to determine a slew rate for	Output data [See '999 Patent, claim 1]	Output data [See '999 Patent, claim 1]	Output data Data reflecting information affecting the provision of power to the load.
	Calculate	Calculate	Calculat e

said output voltage, said slew rate being determined in accordance with said slew-rate data.	[AGREED]	[AGREED]	[See '999 Patent, claim 12]
	Data bus	Data bus	Data bus
	[AGREED]	[AGREED]	[See '999 Patent, claim 1]
	Generate/generating an output	Generate/generating an output	Generate/generating an output
	[AGREED]	[AGREED]	[See '999 Patent, claim 1]
	Output builder	Output builder	Output builder
	[AGREED]	[AGREED]	[See '999 Patent, claim 1]
	Received externally	Received externally	Received externally
	[AGREED]	[AGREED]	[See '999 Patent, claim 21]
	Timing parameter	Timing parameter	Timing parameter
	[AGREED]	[AGREED]	[See '999 Patent, claim 1]
24. A point-of-load regulator comprising:	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system.
a serial data bus interface;			
a storage device adapted to store output data received externally via said serial data bus interface;			
a control unit adapted to calculate at least one timing parameter based on said output data; and			
	---	---	---
	Output data	Output data	Output data
an output builder adapted to generate an output voltage in accordance with said at least one timing parameter;	[See '999 Patent, claim 1]	[See '999 Patent, claim 1]	Data reflecting information affecting the provision of power to the load.
	Turn-off data	Turn-off data	Turn-off data
	[See '999 Patent, claim	[See '999 Patent, claim	Data indicating when to

	2]	2]	stop
wherein said output data further			generating an output.
comprises turn-off data and said	Turn-off period	Turn-off period	Turn-off period
control unit is further adapted to			
calculate a turn-off period of time	[See '999 Patent, claim 4]	[See '999 Patent, claim 4]	The time to wait from an event before
that is to be waited before said control			turning off an output.
unit terminates said output, said turn-off	Calculate	Calculate	Calculate
data being used to calculate said	[AGREED]	[AGREED]	[See '999 Patent, claim 12]
turn-off period of time.	---	---	---
	Control unit	Control unit	Control unit
	[AGREED]	[AGREED]	[See '999 Patent, claim 1]
	Data bus	Data bus	Data bus
	[AGREED]	[AGREED]	[See '999 Patent, claim 1]
	Generate/generating an output	Generate/generating an output	Generate/generating an output
	[AGREED]	[AGREED]	[See '999 Patent, claim 1]
	Output builder	Output builder	Output builder
	[AGREED]	[AGREED]	[See '999 Patent, claim 1]
	Received externally	Received externally	Received externally
	[AGREED]	[AGREED]	[See '999 Patent, claim 21]
	Timing parameter	Timing parameter	Timing parameter
	[AGREED]	[AGREED]	[See '999 Patent, claim 1]
25. A point-of-load regulator	Point-of-load ... regulator	Point-of-load ... regulator	Point-of-load ... regulator
comprising:	[See '999 Patent, claim 1]	[See '999 Patent, claim 1]	A dc/dc switching voltage regulator
a serial data bus interface;			designed to receive power from a voltage bus on a printed circuit board
a storage device adapted to store			and adapted to power a portion of the
output data received externally via			devices on the board and to be placed
said serial data bus interface;			near the one or more devices being

a control unit adapted to calculate at least one timing parameter based on said output data; and			powered as part of a distributed board-level power system.
	Output data	Output data	Output data
an output builder adapted to generate an output voltage in accordance with said at least one timing parameter;	[See '999 Patent, claim 1]	[See '999 Patent, claim 1]	Data reflecting information affecting the provision of power to the load.
	Turn-on data	Turn-on data	Turn-o n data
wherein said output data further comprises turn-on data and said control unit is further adapted to calculate a turn-on period of time that is to be waited before said control unit produces said output voltage, said turn on data being used to calculate said turn-on period of time.	[See '999 Patent, claim 2]	[See '999 Patent, claim 2]	Data indicating when to generate an output.
	Turn-on period	Turn-on period	Turn-on period
	[See '999 Patent, claim 3]	[See '999 Patent, claim 3]	The time to wait from an event before turning on an output.
	Calculate	Calculate	Calculate
	[AGREED]	[AGREED]	[See '999 Patent, claim 12]
	Control unit [AGREED]	Control unit [AGREED]	Control unit [See '999 Patent, claim 1]
	Data bus	Data bus	Data bus
	[AGREED]	[AGREED]	[See '999 Patent, claim 1]
	Generate/generating an output	Generate/generating an output	Generate/generating an output
	[AGREED]	[AGREED]	[See '999 Patent, claim 1]
	Output builder	Output builder	Output builder
	[AGREED]	[AGREED]	[See '999 Patent, claim 1]
	Received externally	Received externally	Received externally
	[AGREED]	[AGREED]	[See '999 Patent, claim 21]
	Timing parameter	Timing parameter	Timing parameter
	[AGREED]	[AGREED]	[See '999 Patent, claim 1]
26. A point-of-load	Point-of-load ...	Point-of-load ...	Point-of-load ... regulator

regulator comprising: a serial data bus interface; a storage device adapted to store output data received externally via said serial data bus interface; a control unit adapted to calculate at least one timing parameter based on said output data; and an output builder adapted to generate an output voltage in accordance with said at least one timing parameter; wherein said output data further comprises at least one of *turn-on data* providing a command to turn-on the corresponding POL regulator, *voltage set-point data* providing a desired output voltage of the corresponding POL regulator, *slew-rate data* providing a rate of change of output voltage of the corresponding POL	regulator [See '999 Patent, claim 1]	regulator [See '999 Patent, claim 1]	A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system.
	[Output] voltage set-point data [See '999 Patent, claim 2]	[Output] voltage set-point data [See '999 Patent, claim 2]	[Output] voltage set-point data Data provided to a POL regulator specifying the desired output voltage level for the POL regulator.
	[Output-voltage] slew-rate data [See '999 Patent, claim 2]	[Output-voltage] slew-rate data [See '999 Patent, claim 2]	[Output-voltage] slew-rate data Data provided to a POL regulator specifying the desired slew rate (*i.e.*, rate of change of output voltage) for the POL regulator.
	Output data [See '999 Patent, claim 1]	Output data [See '999 Patent, claim 1]	Output data Data reflecting information affecting the provision of power t o the load.
	Sequencing data [See '999 Patent, claim	Sequencing data [See '999 Patent, claim	Sequencing data Data specifying a delay

regulator, *scquencing data* providing a delay period between execution of other functions by the corresponding POL regulator, and *turn-off data* providing a command to turn off the corresponding *POL regulator*.	2]	2]	period between some event and the generation or termination of a n output.
	---	---	---
	The phrase "at least one of turn-on data ... voltage set-point data ... slew-rate data ... turn-off data ... and sequencing data ..."	The phrase "at least one of turn-on data ... voltage set-point data ... slew-rate data ... turn-off data ... and sequencing data ..."	The phrase "at least one of turn-on data ... voltage set-point data ... slew-rate data ... turn-off data ... and sequencin g data ..."
	[See '999 Patent, claim 2]	[See '999 Patent, claim 2].	At least one of the set <X Y, and Z>
	Turn-on data [See '999 Patent, claim 2]	Turn-on data [See '999 Patent, claim 2]	Turn-on data Data indicating when to generate an output.
	Turn-off data [See '999 Patent, claim 2]	Turn-off data [See '999 Patent, claim 2]	Turn-off data Data indicating when to stop generating an output.
	Calculate [AGREED]	Calculate [AGREED]	Calculate [See '999 Patent, claim 12]
	Control unit [AGREED]	Control unit [AGREED]	Control unit [See '999 Patent, claim 1]
	Data bus [AGREED]	Data bus [AGREED]	Data bus [See '999 Patent, claim 1]
	Generate/generating an output [AGREED]	Generate/generating an output [AGREED]	Generate/generating an output [See '999 Patent, claim 1]
	Output builder [AGREED]	Output builder [AGREED]	Output builder [See '999 Patent, claim 1]
	Received externally [AGREED]	Received externally [AGREED]	Received externally [See '999 Patent, claim 21]
	Timing parameter [AGREED]	Timing parameter [AGREED]	Timing parameter [See '999 Patent, claim 1]
27. A point-of-load regulator	Point-of-load ... regulator	Point-of-load ... regulator	Point-of-load ... regulator

comprising:	[See '999 Patent, claim 1]	[See '999 Patent, claim 1]	A dc/dc switching voltage regulator
a serial data bus interface;			designed to receive power from a voltage bus on a printed circuit board
a storage device adapted to store output data received externally via said serial data bus interface;			and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system.
a control unit adapted to calculate at least one timing parameter based on said output data; and	---		
an output builder adapted to generate an output voltage in accordance with said at least one timing parameter;	[Output] voltage set-point data [See '999 Patent, claim 2]	[Output] voltage set-point data [See '999 Patent, claim 2]	[Output] voltage set-point data Data provided to a POL regulator specifying the desired output voltage level for the POL regulator.
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wherein said control unit is further adapted to determine a turn-on period to generate a desired output in accordance with at least one of said turn-on data, said *sequencing data,* said *slew rate data,* and said *voltage set point data*.	Output data [See '999 Patent, claim 1]	Output data [See '999 Patent, claim 1]	Output data Data reflecting information affecting the provision of power to the load.
	Sequencing data [See '999 Patent, claim 2]	Sequencing data [See '999 Patent, claim 2]	Sequencing data Data specifying a delay period between some event and the generation or termination of an output.

	The phrase "at least one of turn-on data ... voltage set-point data ... slew rate data ... turn	The phrase "at least one of turn-on data ... voltage set-point data ... slew rate data ... turn	The phrase "at least one of turn-on data ... voltage set-point data ... slew rate data ... turn of

	slew-rate data ... turn-of data ... and sequencing data ..."	slew-rate data ... turn-of data ... and sequencing data ..."	slew-rate data ... turn-of data ... and sequencin g data ..."
	[See '999 Patent, claim 3]	[See '999 Patent, claim 3]	At least on e of the set <X, Y, and Z>
	Turn-on data [See '999 Patent, claim 2]	Turn-on data [See '999 Patent, claim 2]	Turn-on data Data indicating when to generate an output.
	Turn-on period [See '999 Patent, claim 3]	Turn-on period [See '999 Patent, claim 3]	Turn-on period The time to wait from an event before turning on an output.
	Calculate [AGREED]	Calculate [AGREED]	Calculate [See '999 Patent, claim 12]
	Data bus [AGREED]	Data bus [AGREED]	Data bus [See '999 Patent, claim 1]
	Generate/generating an output [AGREED]	Generate/generating an output [AGREED]	Generate/generating an output [See '999 Patent, claim 1]
	Output builder [AGREED]	Output builder [AGREED]	Output builder [See '999 Patent, claim 1]
	Received externally [AGREED]	Received externally [AGREED]	Received externally [See '999 Patent, claim 21]
	Timing parameter [AGREED]	Timing parameter [AGREED]	Timing parameter [See '999 Patent, claim 1]
28. The point-of-load regulator of claim 27, wherein said turn-on period is provided in said sequencing data.	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level

			power system.
	Sequencing data [See '999 Patent, claim 2]	Sequencing data [See '999 Patent, claim 2]	Sequencing data Data specifying a delay period between some event and the generation or termination of an output.
	Control unit [AGREED]	Control unit [AGREED]	Control unit [See '999 Patent, claim 1]
30. The point-of-load regulator of claim 26, wherein said control unit is further adapted to determine a turn-off period of time to terminate a selected output in accordance with at least one of said *turn-off data,* said *sequencing data,* said *slew rate data*. and said *voltage set point data*.	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator A dc/dc switching voltage regulator designed to receive powe r from a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system.
	[Output] voltage set-point data [See '999 Patent, claim 2]	[Output] voltage set-point data [See '999 Patent, claim 2]	[Output] voltage set-point data Data provided to a POL regulator specifying the desired output voltage level for the POL regulator.
	Sequencing data [See '999 Patent, claim 2]	Sequencing data [See '999 Patent, claim 2]	Sequencing data Data specifying a delay period between some event and the generation or termination of an output.
	The phrase "at least one of turn-on data ... voltage set	The phrase "at least one of turn-on data ... voltage set	The phrase "at least one of turn-on data ... voltage set-point

	data ... voltage set-point data ... slew-rate data ... turn-of data ... and sequencing data ..."	data ... voltage set-point data ... slew-rate data ... turn-of data ... and sequencing data ..."	data ... voltage set-point data ... slew-rate data ... turn-of data ... and sequencin g data ..."
	[See '999 Patent, claim 3]	[See '999 Patent, claim 3]	At least on e of the set <X, Y, and Z>
	Turn-off data [See '999 Patent, claim 2]	Turn-off data [See '999 Patent, claim 2]	Turn-off data Data indicating when to stop generating an output.
	Turn-off period [See '999 Patent, claim 4]	Turn-off period [See '999 Patent, claim 4]	Turn-off period The time to wait from an event before turning off an output.
	Control unit	Control unit	Control unit
	[AGREED]	[AGREED]	[See '999 Patent, claim 1]
31. The point-of-load regulator of claim 30, wherein said turn-off period is provided in said sequencing data.	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system.
	Sequencing data [See '999 Patent, claim 2]	Sequencing data [See '999 Patent, claim 2]	Sequencing data Data specifying a delay period between some event and the generation or termination of an output.
	Turn-off period	Turn-off period	Turn-off period

	[See '999 Patent, claim 4]	[See '999 Patent, claim 4]	The time to wait from an event before turning off an output.
34. The power control system of claim 4, wherein said turn-off period is provided in said sequencing data.	Sequencing data [See '999 Patent, claim 2]	Sequencing data [See '999 Patent, claim 2]	Sequencing data Data specifying a delay period between some event and the generation or termination of an output.
	Turn-off period [See '999 Patent, claim 4]	Turn-off period [See '999 Patent, claim 4]	Turn-off period The time to wait from an event before turning off an output.

B. U.S. Patent No. 6,949,916 ("the '916 Patent")

Claim Lauguage	Plaintiff's Construction	Defendant's Construction	Court's Construction
1. A power control system comprising: a plurality of point-of-load regulators providing corresponding regulated output voltages; and a bi-directional, serial data bus connected to each of said plurality of point-of-load regulators to permit communication of *control and monitoring data* there between, each one of said plurality of point-of-load regulators being adapted to	Point-of-load regulator [See '999 Patent, claim 1]	Point-of-load regulator [See '999 Patent, claim 1]	Point-of-load regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system.
	Control ... data	Control ... data	Control ... data
	Data used to adjust the operation of the one or more POL regulators in the	Information provided to one or more POL regulators reflecting a desired	Data specifying a desired operation by a POL regulator.

initiate a communication cycle by providing a synchronizing signal onto said serial data bus followed by a multi-bit data message that includes at least one of an *address set*, a *command set*, and a *data set*.	power system.	operating set point for the POL regulator, such as an output voltage set point.	
	Monitoring data Data concerning the status of the one or more POL regulators in the power system or surrounding conditions.	Monitoring data Information provided by a POL regulator that keeps track of the operation of the power control system through systematic measurements.	Monitoring data Data concerning the status of the one or more POL regulators in the power system.
	Address set A set of one or more bits in a message specifying the address of one or more devices connected to a bus.	Address set A set of bits in a message specifying the address of one or more devices connected to a bus.	Address set A set of one or more bits in a message specifying the address of one or more devices connected to a bus.
	Command set A set of one or more bits in a message specifying a given command operation.	Command set A set of bits in a message specifying a given command operation.	Command set A set of one or more bits in a message specifying a given command operation.
	Data set A set of one or more bits in a message reflecting data that is read from or written to a device.	Data set A set of bits in a message reflecting data that is read from or written to a device.	Data set A set of one or more bits in a message reflecting data that is read from or written to a device.
	Communication of control and monitoring information	Communication of control and monitoring information	Communication of control and monitoring information

	monitoring information there between Sending control and monitoring data between the POL regulator and the data bus. Connected [See '999 Patent, claim 1]	monitoring information there between Sending both control and monitoring information between POL regulators. Connected [See '999 Patent, claim 1]	monitoring information there between Sending control and monitoring data between the POL regulators. Connected Joined together to allow communication.
	The phrase "at least one of an address set, a command set, and a data set" No construction necessary. The term "at least one of" does not mean "at least one of each of." Rather, it means what it says-"at least one of" the set <X, Y, and Z>. Synchronizing signal A signal that identifies the start of a communication cycle. Data bus [AGREED]	The phrase "at least one of an address set, a command set, and a data set" At least one item from an address set, at least one item from a command set, and at least one item from a data set. Synchronizing signal A clock signal that synchronizes the timing of multiple devices with one another for purposes of communication. Data bus [AGREED]	The phrase "at least one of an address set, a command set, and a data set" At least one of the set <X, Y, and Z>. Synchronizing signal A signal that identifies the start of a communication cycle. Data bus [See '999 Patent, claim 1]
2. The power control system of claim 1, further comprising a	Address set A set of one or more bits in a message	Address set A set of bits in a message specifying	Address set A set of one or more bits in a message

controller connected to said serial data bus, said controller also being adapted to initiate a communication cycle by providing a synchronizing signal onto said serial data bus followed by a multi-bit data message that includes at least one of an *address set,* a *command set,* and a *data set*.	specifying the address of one or more devices connected to a bus.	the address of one or more devices connected to a bus.	specifying the address of one or more devices connected to a bus.
	Command set A set of one or more bits in a message specifying a given command operation.	Command set A set of bits in a message specifying a given command operation.	Command set A set of one or more bits in a message specifying a given command operation.
	Data set A set of one or more bits in a message reflecting data that is read from or written to a device.	Data set A set of bits in a message reflecting data that is read from or written to a device.	Data set A set of one or more bits in a message reflecting data that is read from or written to a device.
	Connected [See '999 Patent, claim 1]	Connected [See '999 Patent, claim 1]	Connected Joined together to allow communication.
	The phrase "at least one of an address set, a command set, and a data set" [See '916 Patent, claim 1]	The phrase "at least one of an address set, a command set, and a data set" [See '916 Patent, claim 1]	The phrase "at least one of an address set, a command set, and a data set" At least on e of the set <X, Y, and Z>
	Data bus [AGREED]	Data bus [AGREED]	Data bus [See '999 Patent, claim 1]
4. The power control system of claim 1, wherein each one of said plurality of point-of-load	Point-of-load regulator [See '999 Patent, claim 1]	Point-of-load regulator [See '999 Patent, claim 1]	Point-of-load regulator A dc/dc switching voltage regulator designed to receive

plurality of point-of-load regulators includes at least one register adapted to store at least one of *output voltage set-point data, output current set-point data,* and *fault protection data*.			designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system.
	[Output] voltage set-point data [See '999 Patent, claim 2]	[Output] voltage set-point data [See '999 Patent, claim 2]	[Output] voltage set-point data Data provided to a POL regulator specifying the desired output voltage level for the POL regulator.
	Output current set-point data Data used to specify an output current level.	Output current set-point data Data provided to a POL regulator specifying the desired output current level for the POL regulator.	Outpu t current set-point data Data provided to a POL regulator specifying the desired output current level for the POL regulator.
	Fault protection data Data concerning identification of or response to faults.	Fault protection data A form of monitoring data provided by a POL regulator in which each datum is a value reflecting characteristics of the POL regulator sending the message, such as the temperature output voltage, or output	Fault protection data Data concerning identification of or response to faults.

		current of the sending POL regulator.	
	The phrase "at least one of output voltage set-point data, output current set-point data, and fault protection data" No construction necessary. The term "at least one of" does not mean "at least one of each of." Rather, it means what it says-"at least one of" the set <X, Y, and Z>.	The phrase "at least one of output voltage set-point data, output current set-point data, and fault protection data" At least one item of output voltage set-point data, at least one item of output current set-point data, and at least one item of fault protection data.	The phrase "at least one of output voltage set-point data, output current set-point data, and fault protection data" At least one of the set <X, Y, and Z>.
6. The power control system of claim 1, wherein said address set further comprises plural data bits identifying one of said plurality of point-of-load regulators to which control data is being written.	Point-of-load regulator [See '999 Patent, claim 1]	Point-of-load regulator [See '999 Patent, claim 1]	Point-of-load regulator A dc/dc switching voltage regulator designed to receive power fro m a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system.
7. The power control system of claim 1, wherein said address set further comprises plural data bits identifying one of said	Point-of-load regulator [See '999 Patent, claim 1]	Point-of-load regulator [See '999 Patent, claim 1]	Point-of-load regulator A dc/dc switching voltage regulator designed to receive power fro m a voltage bus on a printed

plurality of point-of-load regulators that initiates the communication cycle.			circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system.
9. The power control system of claim 1, wherein said data set further comprises plural data bits defining data to be written to or read from one of said plurality of point-of-load regulators.	Point-of-load regulator [See '999 Patent, claim 1]	Point-of-load regulator [See '999 Patent, claim 1]	Point-of-load regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portio n of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system.
10. The power control system of claim 9, wherein said data set includes at least one of output voltage set-point data, output current set-point data, and fault protection data.	[Output] voltage set-point data [See '999 Patent, claim 2] Output current set-point data Data used to specify an output current level.	[Output] voltage set-point data [See '999 Patent, claim 2] Output current set-point data Data provided to a POL regulator specifying the desired output current level for the POL	[Output] voltage set-point data Data provided to a POL regulator specifying the desired output voltage level for the POL regulator. Output current set-point data Data provided to a POL regulator specifying the desired output current level for the POL

		regulator.	regulator.

C. U.S. Patent No. 7,000,125 ("the '125 Patent")

Claim Language	Plaintiff's Construction	Defendant's Construction	Court's Construction
1. A power control system comprising:	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator A dc/dc switching voltage regulator designed to receive power fro m a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system.
a plurality of point-of-load (POL) regulators;			
at least one serial data bus operatively connecting said plurality of POL regulators; and			
a system controller connected to said at least one serial data bus and			
adapted to send and receive digital data to and from said plurality of POL regulators; wherein, programming, control and monitoring information is carried on said at least one serial data bus between said system controller and said plurality of POL regulators.	Programming ... information Data used to configure the one or more POL regulators in the power system.	Programming ... information Information provided to one or more POL regulator that determines a programmable characteristic of a point-of-load regulator such as the address setting the POL regulator, the identification of the PL regulator, or the phase displacement of the POL regulator.	Programming ... information Data used to configure the one or more POL regulators in the power system.
	Control ... information	Control ... information	Control ... information

	Data used to adjust the operation of the one or more POL regulators in the power system.	Information provided to one or more POL regulators reflecting a desired operating set point for the POL regulator, such as an output voltage set point.	Data specifying a desired operation by a POL regulator.
	Monitoring information Data concerning the status of the one or more POL regulators in the power system or surrounding conditions.	Monitoring information Information provided y a POL regulator that keeps track of the operation of the power control system through systematic measurements.	Monitoring information Data concerning the status of the one or more POL regulators in the power system.
	Connected, connecting [See '999 Patent, claim 1]	Connected, connecting [See '999 Patent, claim 1]	Connected, connecting Joined together to allow communication.
	System controller Circuitry that controls the operation of one or more devices.	System controller Part of a distributed power control system tat activates and at least partially programs and monitors a POL regulator and allows the output of the POL regulator to be transmitted to an external load circuit.	System controller Part of a distributed power control system that activates and at least partially programs and monitor s a regulator and allows the output of the POL regulator to be transmitted to an external load circuit.
	Data bus [AGREED]	Data bus [AGREED]	Data bus [See '999 Patent, claim 1]
2. The power control system of claim 1, wherein said at least one serial data bus further comprises a first data bus carrying	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed

first data bus carrying said programming, control and monitoring information between said system controller and said plurality of POL regulators.			voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system.
	Programming ... information [See '125 Patent, claim 1]	Programming ... information [See '125 Patent, claim 1]	Programming ... information Data used t o configure the one or more POL regulators in the power system.
	Control ... information [See '125 Patent, claim 1]	Control ... information [See '125 Patent, claim 1]	Control ... information Data specifying a desired operation by a POL regulator.
	Monitoring information [See '125 Patent, claim 1]	Monitoring information [See '125 Patent, claim 1]	Monitoring information Data concerning the status of the one or more POL regulators in the power system.
	System controller [See '125 Patent, claim 1]	System controller [See '125 Patent, claim 1]	System controller Part of a distributed power control system that activates and at least partially programs and monitors a regulator and allows the output of the POL regulator to be transmitted to an external load circuit.
	Data bus [AGREED]	Data bus [AGREED]	Data bus [See '999 Patent, claim 1]

4. The power control system of claim 1, further comprising a front-end regulator providing an intermediate voltage to said plurality of POL regulators on an intermediate voltage bus.	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system.
6. The power control system of claim 1, wherein said system controller further comprises a user interface adapted to communicate at least one of said monitoring and control information with a user.	Control information [See '125 Patent, claim 1]	Control information [See '125 Patent, claim 1]	Control information Data specifying a desired operation by a POL regulator.
	Monitoring information [See '125 Patent, claim 1]	Monitoring information [See '125 Patent, claim 1]	Monitoring information Data concerning the status of the one or more POL regulators in the power system.
	System controller [See '125 Patent, claim 1]	System controller [See '125 Patent, claim 1]	System controller Part of a distributed power control system that activates and at least partially programs and monitors a regulator and allows the output of the POL regulator to be transmitted to an external load circuit.
10. The power control	Point-of-load ...	Point-of-load ...	Point-of-load ...

system of claim 1, wherein said plurality of POL regulators each further comprise at least one serial interface adapted to communicate with said at least one serial data bus.	regulator [See '999 Patent, claim 1]	regulator [See '999 Patent, claim 1]	regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system.
	Data bus [AGREED]	Data bus [AGREED]	Data bus [See '999 Patent, claim 1]
11. The power control system of claim 10, wherein said plurality of POL regulators each further comprise a hardwired interface permitting programming in the absence of data received from said system controller via said serial interface.	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to b e placed near the one or more devices being powered as part of a distributed board-level power system.
	The phrase "permitting programming in the absence of data received from said	The phrase "permitting programming in the absence of data received from said	The phrase "permitting programming in the absence of dat a received from said

	data received from said system controller via said serial interface" [AGREED]	data received from said system controller via said serial interface" [AGREED]	data received from said system controller via said serial interface" The phrase "permitting programming in the absence of data received from said system controller via said serial interface" requires that each of the plurality of POL regulators includes a hardwired interface through which the POL regulator can be programmed without using the serial interface.
13. The power control system of claim 11, wherein said hardwired interface further comprises an address interface adapted to receive a unique identification address for each said POL regulator.	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system.
15. The power control system of claim 1, wherein said plurality of POL regulators each further comprises a memory	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed

containing default configuration settings to revert to in the absence of data received from said system controller.			circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system.
	System controller [See '125 Patent, claim 1]	System controller [See '125 Patent, claim 1]	System controller Part of a distributed power control system that activates and at least partially programs and monitors a regulator and allows the output of the POL regulator to be transmitted to an external load circuit.
	Default configuration settings [AGREED]	Default configuration settings [AGREED]	Default configuration settings Configuration settings used in the absence of configuration data being received via the data bus.
16. A method of controlling a plurality of point-of-load (POL) regulators, comprising: receiving programming parameters; transmitting serially over a common data bus operably	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more

connected to said plurality of POL regulators digital programming data based on said programming parameters; and receiving performance monitoring information from said plurality of POL regulators over said common data bus.			devices being powered as part of a distributed board-level power system.
	Connected [See '999 Patent, claim 1]	Connected [See '999 Patent, claim 1]	Connected Joined together to allow communication.
	Performance monitoring information No construction necessary. In the alternative: Information concerning one or more performance characteristics of the device.	Performance monitoring information Information obtained through systematic measurements that tracks one or more performance characteristics of a device.	Performanc e monitoring information Information concerning one or more performance characteristics of the device.
	Data bus [AGREED]	Data bus [AGREED]	Data bus [See '999 Patent, claim 1]
	Programming parameters [AGREED]	Programming parameters [AGREED]	Programming parameters Information that is received by a power supply controller that relates to a programmable characteristic of a point-of-load regulator.
17. The method of claim 16, wherein said first receiving step further comprises receiving programming parameters from a user.	Programming parameters [AGREED]	Programming parameters [AGREED]	Programming parameters [See '125 Patent, claim 16]

23. A point-of-load regulator comprising: a power conversion circuit adapted to convert an intermediate voltage to an output voltage; a serial data bus interface adapted to communicate programming and monitoring information to and from an external serial data bus connected thereto; and a controller connected to said serial data bus interface and said power conversion circuit, said controller being adapted to determine operating parameters for said power conversion circuit responsive to said programming information and generate said monitoring information responsive to operational characteristics of said power conversion circuit.	Point-of-load ... regulator [See '999 Patent, claim 1] Programming ... information [See '125 Patent, claim 1] Monitoring information [See '125 Patent, claim 1] Connected [See '999 Patent, claim 1] Controller Circuitry that controls	Point-of-load ... regulator [See '999 Patent, claim 1] Programming ... information [See '125 Patent, claim 1] Monitoring information [See '125 Patent, claim 1] Connected [See '999 Patent, claim 1] Controller Circuitry in a POL	Point-of-load ... regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system. Programming ... information Data used to configure the one or more POL regulators in the power system. Monitoring information Data concerning the status of the one or more POL regulators in the power system. Connected Joined together to allow communication. Controller Circuitry that controls

	the operation of one or more devices.	regulator that controls the operation of the POL regulator.	the operation of one or more devices.
	Data bus [AGREED]	Data bus [AGREED]	Data bus [See '999 Patent, claim 1]
	Power conversion circuit [AGREED]	Power conversion circuit [AGREED]	Power conversio n circuit Circuitry that transforms an input voltage to the desired output voltage according to settings received through a serial interface, hardwired settings, or default settings.
26. The point-of-load regulator of claim 23, further comprising a hardwired interface coupled to said controller permitting said controller to determine said operating parameters without receiving said programming information from said serial data bus interface.	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion of th e devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system.
	Programming ... information [See '125 Patent, claim 1]	Programming ... information [See '125 Patent, claim 1]	Programming ... information Data used t o configure the one or more POL regulators in the power system.
	Controller	Controller	Controller

	[See '125 Patent, claim 23]	[See '125 Patent, claim 23]	Circuitry that controls the operation of one or more devices.
28. The point-of-load regulator of claim 26, wherein said hardwired interface further comprises an address interface adapted to receive a unique identification address.	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system.
30. The point-of-load regulator of claim 23, further comprising a memory containing default configuration settings to revert to in the absence of said programming information received from said serial b interface.	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion o f the devices on the board and t o be placed near the one or more devices being powered as part of a distributed board-level power system.
	Programming information [See '125 Patent, claim 1]	Programming information [See '125 Patent, claim 1]	Programming information Data used t o configure the one or more POL regulators in

			more POL regulators in the power system.
	Data bus [AGREED]	Data bus [AGREED]	Data bus [See '999 Patent, claim 1]
	Default configuration settings [AGREED]	Default configuration settings [AGREED]	Default configuration settings [See '125 Patent, claim 15]

D. U.S. Patent No. 7,049,798 ("the '798 Patent")

Claim Language	Plaintiff's Construction	Defendant's Construction	Court's Construction
1. A power control system comprising: a power supply controller adapted to provide initial-configuration data and receive fault-monitoring data; a serial data bus connected to said power supply controller to communicate said initial configuration data and fault-monitoring data; and at least one point-of-load ("POL") regulator connected to said data bus, adapted to produce an output in accordance with at least a portion of	Point-of-load ... regulator [See '999 Patent, claim 1] Initial configuration data Configuration data (i.e., programming data) received prior to the generation of an output voltage.	Point-of-load ... regulator [See '999 Patent, claim 1] Initial configuration data Data provided to a POL regulator by a power supply controller prior to any activation of the POL regulator that relates to one or more programmable	Point-of-load ... regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system. Initial configuration data Programming information received by a POL regulator after power-up but prior to the first generation of an output voltage.

said initial-configuration data, said at least one POL regulator comprising: a storage device adapted to store said initial-configuration data and said fault-monitoring data; and a control unit adapted to provide at least a portion of said fault-monitoring data to said power supply controller.		features of the POL regulator.	
	Fault-monitoring data Data concerning the status of one or more POL regulators in a distributed power system or surrounding conditions.	Fault-monitoring data Information about a possible fault of the POL regulator or its output obtained through systematic measurements using an external device or sensor circuit.	Fault-monitoring data Data concerning the status or operating condition of one or more POL regulators used to determine if there is a fault.
	Connected [See '999 Patent, claim 1]	Connected [See '999 Patent, claim 1]	Connected Joined together to allow communication.
	Power supply controller [See '999 Patent, claim 1]	Power supply controller [See '999 Patent, claim 1]	Power supply controller Part of a distributed power control system that activates and at least partially programs and monitors a regulator and allows the output of the POL regulator to be transmitted to an external load circuit.
	Control unit [AGREED]	Control unit [AGREED]	Control unit [See '999 Patent, claim 1]
	Data bus [AGREED]	Data bus [AGREED]	Data bus [See '999 Patent, claim 1]
2. The power control system of claim 1, wherein said at least one POL regulator further comprises at	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator A dc/dc switching voltage regulator designed to receive power fro m a

least one sensor circuit for detecting information corresponding to said fault-monitoring data.			voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system.
	Fault-monitoring data [See '798 Patent, claim 1]	Fault-monitoring data [See '798 Patent, claim 1]	Fault-monitoring data Data concerning the status or operating condition of one or more POL regulators used to determine if there is a fault.
3. The power control system of claim 1, wherein said initial-configuration data includes at least output-voltage-set-point data corresponding to a desired voltage level of said output.	[Output] voltage set-point data [See '999 Patent, claim 2]	[Output] voltage set-point data [See '999 Patent, claim 2]	[Output] voltage set-point data Data provided to a POL regulator specifying the desired output voltage level for the POL regulator.
	Initial configuration data [See '798 Patent, claim 1]	Initial configuration data [See '798 Patent, claim 1]	Initial configuration data Programming information received by a POL regulator after power-up but prior to the first generation of an output voltage.
5. The power control system of claim 1, wherein said initial-configuration data includes at least	Initial configuration data [See '798 Patent, claim 1]	Initial configuration data [See '798 Patent, claim 1]	Initial configuration data Programming information received by a POL regulator after power-up but

low-voltage-limit data corresponding to a lowest desired voltage level of said output.			prior to the first generation of an output voltage.
6. The power control system of claim 1, wherein said initial-configuration data includes at least high-voltage-limit data corresponding to a highest desired voltage level of said output.	Initial configuration data [See '798 Patent, claim 1]	Initial configuration data [See '798 Patent, claim 1]	Initial configuration data Programming information received by a POL regulator after power-up but prior to the first generation of an output voltage.
7. The power control system of claim 1, wherein said initial-configuration data includes at least output-voltage-slew-rate data corresponding to a desired slew rate of said output.	[Output] voltage slew-rate data [See '999 Patent, claim 2]	[Output] voltage slew-rate data [See '999 Patent, claim 2]	[Output] voltage slew-rate data Data provided to a POL regulator specifying the desired slew rate (*i.e.*, rate of change of output voltage) for the POL regulator.
	Initial configuration data [See '798 Patent, claim 1]	Initial configuration data [See '798 Patent, claim 1]	Initial configuration data Programming information received by a POL regulator after power-up but prior to the first generation of an output voltage.
8. The power control system of claim 1, wherein said initial-configuration data includes at least enable/disable data.	Initial configuration data [See '798 Patent, claim 1]	Initial configuration data [See '798 Patent, claim 1]	Initial configuration data Programming information received by a POL regulator after power-up but prior to the first generation of an output voltage.

	Enable/disable data [AGREED]	Enable/disable data [AGREED]	Enable/disable data Data that allows a POL regulator to produce and output or disallows a POL regulator from producing an output.
9. The power control system of claim 1, wherein said initial-configuration data includes at least timing data.	Initial configuration data [See '798 Patent, claim 1]	Initial configuration data [See '798 Patent, claim 1]	Initial configuration data Programming information received by a POL regulator after power-up but prior to the first generation of an output voltage.
	Timing data [AGREED]	Timing data [AGREED]	Timing data Data used to determine when in time a change in the output provided by a POL regulator occurs.
10. The power control system of claim 1, wherein said fault-monitoring data includes at least output-voltage data that is based upon a measured voltage level of said output.	Fault-monitoring data [See '798 Patent, claim 1]	Fault-monitoring data [See '798 Patent, claim 1]	Fault-monitoring data Data concerning the status or operating condition of one or more POL regulators used to determine if there is a fault.
11. The power control system of claim 10, wherein said output-voltage data corresponds to said measured voltage level of said output.			
12. The power control system of			

claim 10, wherein said output-voltage data corresponds to a comparison of said measured voltage level of said output and a known voltage value.			
13. The power control system of claim 1, wherein said fault-monitoring data includes at least output-current data that is based upon a measured current level of said output.	Fault-monitoring data [See '798 Patent, claim 1]	Fault-monitoring data [See '798 Patent, claim 1]	Fault-monitoring data Data concerning the status or operating condition of one or more POL regulators used to determine if there is a fault.
14. The power control system of claim 13, wherein said output-current data corresponds to said measured current level of said output.			
15. The power control system of claim 13, wherein said output-current data corresponds to a comparison of said measured current level of said output and a known current value.			
16. The power control system of claim 1, wherein said fault-monitoring data includes at least temperature-status data that is based upon a measured	Point-of-load regulator [See '999 Patent, claim 1]	Point-of-load regulator [See '999 Patent, claim 1]	Point-of-load regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a

temperature level of said at least one point-of-load regulator.			portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system.
	Fault-monitoring data [See '798 Patent, claim 1]	Fault-monitoring data [See '798 Patent, claim 1]	Fault-monitoring data Data concerning the status or operating condition of one or more POL regulators used to determine if there is a fault.
17. The power control system of claim 16, wherein said temperature-status data corresponds to said measured temperature level of said at least one point-of-load regulator	Point-of-load regulator [See '999 Patent, claim 1]	Point-of-load regulator [See '999 Patent, claim 1]	Point-of-load regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system.
18. The power control system of claim 16, wherein said temperature-status data corresponds to a comparison of said measured	Point-of-load regulator [See '999 Patent, claim 1]	Point-of-load regulator [See '999 Patent, claim 1]	Point-of-load regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board

temperature level of said at least one point-of-load regulator and a known temperature value.			and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system.
24. A method of controlling at least one point-of-load ("POL") regulator comprising:	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator [See '999 Patent, claim 1]	Point-of-load ... regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system.
receiving initial-configuration data from a controller via a serial data bus;			
storing at least a portion of said initial-configuration data in a POL storage device;			
using at least a portion of said initial-configuration data to determine at least one output-parameter of an output of said at least one POL regulator;	Initial configuration data [See '798 Patent, claim 1]	Initial configuration data [See '798 Patent, claim 1]	Initial configuration data Programming information received by a POL regulator after power-up but prior to the first generation of an output voltage.
generating said output;	Controller [See '999 Patent, claim 1]	Controller [See '999 Patent, claim 1]	Controller Circuitry that controls the operation of one or more devices.
storing fault-monitoring data in said POL storage device;			

providing at least a portion of said fault-monitoring data to said controller via said serial data bus; and using said at least a portion of said fault-monitoring data to monitor at least one POL-parameter of said at least one POL regulator.	Fault-monitoring data [See '798 Patent, claim 1] --- Data bus [AGREED] Generate/generating an output [AGREED]	Fault-monitoring data [See '798 Patent, claim 1] --- Data bus [AGREED] Generate/generating an output [AGREED]	Fault-monitoring data Data concerning the status or operating condition of one or more POL regulators used to determine if there is a fault. --- Data bus [See '999 Patent, claim 1] Generate/generating an output [See '999 Patent, claim 1]
26. The method of claim 24, wherein said initial-configuration data includes at least enable data, and said step of generating said output further comprises generating said output in response to receiving said enable data.	Initial configuration data [See '798 Patent, claim 1] Generate/generating an output [AGREED]	Initial configuration data [See '798 Patent, claim 1] Generate/generating an output [AGREED]	Initial configuration data Programming information received by a POL regulator after power-up but prior to the first generation o f an output voltage. Generate/generating an output [See '999 Patent, claim 1]
27. The method of claim 24, wherein said step of providing at least a portion of said fault-monitoring data to said controller is performed in response to receiving	Fault-monitoring data [See '798 Patent, claim 1]	Fault-monitoring data [See '798 Patent, claim 1]	Fault-monitoring data Data concerning the status or operating condition of one or more POL regulators used to determine if there is a fault.

a request for said at least a portion of said fault-monitoring data.	Controller [See '999 Patent, claim 1]	Controller [See '999 Patent, claim 1]	Controller Circuitry that controls the operation of one or more devices.
28. The method of claim 24, wherein said step of providing at least a portion of said fault-monitoring data to said controller is performed independent of a request for said at least a portion of said fault-monitoring data.	Fault-monitoring data [See '798 Patent, claim 1] Controller [See '999 Patent, claim 1]	Fault-monitoring data [See '798 Patent, claim 1] Controller [See '999 Patent, claim 1]	Fault-monitoring data Data concerning the status or operating condition of one or more POL regulators used to determine if there is a fault. Controller Circuitry that controls the operation of one or more devices.
30. The method of claim 28, wherein said step of providing at least a portion of said fault-monitoring data to said controller is performed if said at least one POL-parameter violates a known parameter.	Fault-monitoring data [See '798 Patent, claim 1] Controller [See '999 Patent, claim 1]	Fault-monitoring data [See '798 Patent, claim 1] Controller [See '999 Patent, claim 1]	Fault-monitoring data Data concerning the status or operating condition of one or more POL regulators used to determine if there is a fault. Controller Circuitry that controls the operation of one or more devices.
32. The method of claim 24, wherein said initial-configuration data includes output-voltage-set-point data, and said step of using said at least a portion of said initial-configuration data further includes	POL regulator [See '999 Patent, claim 1]	POL regulator [See '999 Patent, claim 1]	PO L regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapte d to power a portion of the devices on the board

data further includes using said output-voltage-set-point data to determine the voltage level of said output of said at least one POL regulator.			devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system.
	[Output] voltage set-point data [See '999 Patent, claim 2]	[Output] voltage set-point data [See '999 Patent, claim 2]	[Output] voltage set-point data Data provided to a POL regulator specifying the desired output voltage level for the POL regulator.
	Initial configuration data [See '798 Patent, claim 1]	Initial configuration data [See '798 Patent, claim 1]	Initial configuration data Programming information received by a POL regulator after power-up but prior to the first generation of an output voltage.
33. The method of claim 24, wherein said initial-configuration data includes output-voltage-slew-rate data, and said step of using said at least a portion of said initial-configuration data further includes using said output-voltage-slew-rate data to determine the slew rate of said output of said at least one POL regulator.	POL regulator [See '999 Patent, claim 1]	POL regulator [See '999 Patent, claim 1]	PO L regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system.

	[Output] voltage slew-rate data [See '999 Patent, claim 2]	[Output] voltage slew-rate data [See '999 Patent, claim 2]	[Output] voltage slew-rate data Data provided to a POL regulator specifying the desired slew rate (*i.e.*, rate of change of output voltage) for the POL regulator.
	Initial configuration data [See '798 Patent, claim 1]	Initial configuration data [See '798 Patent, claim 1]	Initial configuration data Programming information received by a POL regulator after power-up but prior to the first generation of an output voltage.
34. The method of claim 24, wherein said initial-configuration data includes timing data, and said step of using said at least a portion of said initial-configuration data further includes using said timing data to determine when said at least one POL regulator is to perform a particular action.	POL regulator [See '999 Patent, claim 1]	POL regulator [See '999 Patent, claim 1]	PO L regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printe d circuit board and adapted to power a portion of the devices on the board and to b e placed near the one or more devices being powered as part of a distributed board-level power system.
	Initial configuration data [See '798 Patent, claim 1]	Initial configuration data [See '798 Patent, claim 1]	Initial configuration data Programming information received by a POL regulator after power-up but prior to the first

			generation of an output voltage.
35. The method of claim 24, wherein said fault-monitoring data includes actual-output-voltage data, and said step of using said at least a portion of said fault-monitoring data further includes using said actual-output-voltage data to monitor the output voltage level of said at least one POL regulator.	POL regulator [See '999 Patent, claim 1]	POL regulator [See '999 Patent, claim 1]	PO L regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system.
	Fault-monitoring data [See '798 Patent, claim 1]	Fault-monitoring data [See '798 Patent, claim 1]	Fault-monitoring data Data concerning the status or operating condition of one or more POL regulators used to determine if there is a fault.
36. The method of claim 24, wherein said fault-monitoring data includes voltage-comparison data, and said step of using said at least a portion of said fault-monitoring data further includes using said voltage-comparison data to monitor the output voltage level of said	POL regulator [See '999 Patent, claim 1]	POL regulator [See '999 Patent, claim 1]	PO L regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a

at least one POL regulator in relation to a known parameter.			distributed board-level power system.
	Fault-monitoring data [See '798 Patent, claim 1]	Fault-monitoring data [See '798 Patent, claim 1]	Fault-monitoring data Data concerning the status or operating condition of one or more POL regulators used to determine if there is a fault.
37. The method of claim 24, wherein said fault-monitoring data includes actual-output-current data, and said step of using said at least a portion of said fault-monitoring data further includes using said actual-output-current data to monitor the output current level of said at least one POL regulator.	POL regulator [See '999 Patent, claim 1]	POL regulator [See '999 Patent, claim 1]	PO L regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system.
	Fault-monitoring data [See '798 Patent, claim 1]	Fault-monitoring data [See '798 Patent, claim 1]	Fault-monitoring data Data concerning the status or operating condition of one or more POL regulators used to determine if there is a fault.
38. The method of claim 24, wherein said fault-monitoring data includes current-	POL regulator [See '999 Patent, claim 1]	POL regulator [See '999 Patent, claim 1]	PO L regulator A dc/dc switching voltage regulator designed to receive

comparison data, and said step of using said at least a portion of said fault-monitoring data further includes using said current-comparison data to monitor the output current level of said at least one POL regulator in relation to a known parameter.			power from a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system.
	Fault-monitoring data [See '798 Patent, claim 1]	Fault-monitoring data [See '798 Patent, claim 1]	Fault-monitoring data Data concerning the status or operating condition of one or more POL regulators used to determine if there is a fault.
39. The method of claim 24, wherein said fault-monitoring data includes actual-temperature data, and said step of using said at least a portion of said fault-monitoring data further includes using said actual-temperature data to monitor the temperature of said at least one POL regulator.	POL regulator [See '999 Patent, claim 1]	POL regulator [See '999 Patent, claim 1]	PO L regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system.
	Fault-monitoring data [See '798 Patent, claim 1]	Fault-monitoring data [See '798 Patent, claim 1]	Fault-monitoring data Data concerning the status or

			operating condition of one or more POL regulators used to determine if there is a fault.
40. The method of claim 24, wherein said fault-monitoring data includes temperature-comparison data, and said step of using said at least a portion of said fault-monitoring data further includes using said temperature-comparison data to monitor the temperature of said at least one POL regulator in relation to a known parameter.	POL regulator [See '999 Patent, claim 1]	POL regulator [See '999 Patent, claim 1]	PO L regulator A dc/dc switching voltage regulator designed to receive power from a voltage bus on a printed circuit board and adapted to power a portion of the devices on the board and to be placed near the one or more devices being powered as part of a distributed board-level power system.
	Fault-monitoring data [See '798 Patent, claim 1]	Fault-monitoring data [See '798 Patent, claim 1]	Fault-monitoring data Data concerning the status or operating condition of one or more POL regulators used to determine if there is a fault.