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IN THE UNITED STATES DISTRICT COURT

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FOR THE DISTRICT OF ARIZONA

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Supermarket Energy Technologies, LLC,)

No. CV-10-2288-PHX-SMM

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Plaintiff/Counter-Defendant,)

11

v.)

MEMORANDUM OF DECISION AND ORDER

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Supermarket Energy Solutions, Inc.,)

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Defendant/Counter-Claimant.)

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Before the Court is Defendant/Counter-Claimant’s Motion for Summary Judgment of Invalidity. (Doc. 80.) The matter is fully briefed. (Docs. 86; 91.) For the reasons that follow, Defendant/Counter-Claimant’s Motion is granted in part and denied in part.

18

PROCEDURAL POSTURE

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This patent infringement action concerns United States Patent Number 5,899,078: “Method and Apparatus for Reducing Energy Use by Refrigeration Door and Frame Heaters” (the “’078 Patent”) (Doc. 1-1 at 2.) The particular claim at issue is Claim 2, which concerns the “[a]pparatus for controlling a condensation-preventing heater in a refrigeration unit.” (Doc. 1-1 at 7.) Following a two-day hearing pursuant to Markman v. Westview Instruments, Inc., 52 F.3d 967, 979 (Fed. Cir. 1995), aff’d 517 U.S. 370 (1996), the Court construed the five elements of Claim 2 and granted Plaintiff/Counter-Defendant Supermarket Energy Technologies (“SET”) summary judgment on the issue of infringement. (Docs. 42; 43; 46; 59.) Based on discovered information, Defendant/Counter-Claimant Supermarket Energy Solutions (“SES”) sought leave to amend its answer and counter-claims and also moved the

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1 Court to find the '078 Patent invalid because the claimed invention was on-sale and in public
2 use more than one year before the patent application was filed. (Docs. 80; 82.) The Court
3 issued an order granting SES leave to file an amended answer and counter-claims and
4 amending nunc pro tunc the Court's claims construction. (Doc. 98.)

5 **FACTUAL BACKGROUND**

6 The named inventor of the '078 Patent—Malcolm Mager—filed his patent application
7 on March 25, 1997. (Doc. 1-1 at 2.) The purpose of the claimed invention—the “Door
8 Miser”—was to prevent condensation from forming on the glass doors of commercial
9 refrigeration units by heating the doors only once condensation began to form, instead of
10 continuously heating the doors, which is less efficient. (Doc. 87-1 at 4-5.) The design process
11 was iterative, and at least one of the approximately 20 revisions to the Door Miser occurred
12 after the patent was issued on May 4, 1999. (Docs. 1-1 at 2; 80-4 ¶ 6; 87 at 7-8; 87-1 at 8.)
13 The very first Door Miser, as well as every subsequent revision, controlled a heater that
14 prevented condensation from forming in a refrigeration unit. (Docs. 80-2 at 12-13; 80-5 at
15 7; 80-6 at 2; 87-1 at 5-8.) There were at least three “semi-discrete versions”: the humidistat
16 version, the “120-volt” version, and the “patented version.” (Doc. 87-1 at 26.)

17 The assignee of the '078 Patent was Peak Energy Systems (“PES”), a company that
18 marketed and sold the Door Miser. (Docs. 1-1 at 2; 80-5.) As president of PES, Mr. Mager
19 sent correspondence dated January 25, 1996, to Brad Geuke, a potential distributor of the
20 Door Miser. (Doc. 80-5 at 2.) The correspondence explains the “XL 2000 Control Panel
21 Door Miser systems disconnect glass display door heaters except when required to prevent
22 condensation.” (*Id.* at 7.) Mr. Mager wrote that the Door Miser is “very profitable and sell[s]
23 extremely well.” (*Id.* at 2) During his deposition, Mr. Mager confirmed that numerous 120-
24 volt Door Misers had been sold before the critical date, but denied that those devices were
25 the patented iteration. (Docs. 80-2 at 14-15, 18, 35-36; 84-3 at 3, 87-1 at 29.)

26 In February of 1996, Mr. Geuke and Bruce Malwitz—owners of AZTech Energy
27 Systems, Inc., (“AZTech”) doing business as Energex Enterprises (“Energex”)—met with
28 Mr. Mager at his PES offices to discuss a possible distribution arrangement. (Doc. 80-3 at

1 7-8, 10-11.) Neither Mr. Mager nor Mr. Geuke can recall what occurred during this meeting.
2 (Docs. 80-2 at 26-27; 87-1 at 19-20; 87-2.) On April 29, 1996, Energex agreed to distribute
3 the Door Miser for PES. (Doc. 80-2 at 28-29.) On May 13, 2002, Mr. Malwitz negotiated a
4 deal in which PES and Mr. Mager assigned the '078 Patent to AZTech—SET's predecessor
5 in interest. (Doc. 84-6.)

6 At some point, Mr. Mager prepared a promotional brochure for Energex describing
7 “[o]ngoing testing” including “[t]wo Door Miser systems . . . installed in a convenience store
8 . . . from February 22, 1996, to March 22, 1996.” (Docs. 80-2 at 22; 80-6 at 2.) The brochure
9 lists Energex as the point of contact and explains the Door Miser’s “XL2000 controller[]
10 monitors the moisture content on the glass using small sensors adhered to the glass. If
11 condensation begins to form, the sensors signal the controller, which then regulate the heaters
12 to remove the condensation.” (*Id.*) Mr. Mager and Mr. Geuke confirmed in their depositions
13 that Energex was indeed distributing Door Misers. (Docs. 80-2 at 26-29; 84-2 at 5.) Mr.
14 Mager also confirmed that the test devices referred to in the brochure were the 120-volt¹
15 Door Misers. (Doc. 80-2 at 22-26).

16 LEGAL STANDARDS

17 “The court shall grant summary judgment if the movant shows that there is no genuine
18 dispute as to any material fact and the movant is entitled to judgment as a matter of law.”
19 Fed. R. Civ. P. 56(a). “The substantive law determines which facts are material; only disputes
20 over facts that might affect the outcome of the suit under the governing law properly preclude
21 the entry of summary judgment.” Nat’l Ass’n of Optometrists & Opticians v. Harris, 682 F.3d
22 1144, 1147 (9th Cir. 2012). A material fact is subject to “genuine dispute” when “the
23 evidence is such that a reasonable jury could return a verdict for the nonmoving party.”
24 Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 248 (1986). In ruling on a motion for
25 summary judgment, the evidence is viewed in the light most favorable to the non-movant and
26 all justifiable inferences are drawn in its favor. *Id.* at 255.

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28 ¹ The XL2000 control panel was in the 120-volt system. (Doc. 80-2 at 18.)

1 A patent is invalid if the claimed invention was in public use or was on sale more than
2 one year before the date the patent application was filed (the “critical date”). 35 U.S.C. §
3 102(b) (2006).² A patent is also invalid if the differences between the claimed invention and
4 the prior art are such that the claimed invention would have been obvious to an ordinarily
5 skilled artisan at the time of invention. 35 U.S.C. § 103(a). Whether a patent is invalid under
6 either section 102 or section 103 is a question of law based on underlying questions of fact,
7 but a conclusion that a patent is invalid must be proved by clear and convincing evidence.
8 Plantronics, Inc. v. Aliph, Inc., 724 F.3d 1343, 1353 (Fed. Cir. 2013) (§ 103); Netscape
9 Commc’ns Corp. v. Konrad, 295 F.3d 1315, 1320 (Fed. Cir. 2002) (§ 102). Under either
10 section 102 or section 103, “a [movant] seeking to invalidate a patent at summary judgment
11 must submit such clear and convincing evidence of invalidity so that no reasonable jury
12 could find otherwise.” Eli Lilly and Co. v. Barr Labs., Inc., 251 F.3d 955, 962 (Fed. Cir.
13 2001).

14 “Public use includes ‘any public use of the claimed invention by a person other than
15 the inventor who is under no limitation, restriction or obligation of secrecy to the inventor.’ ”
16 Motionless Keyboard Co. v. Microsoft Corp., 486 F.3d 1376, 1384 (Fed. Cir. 2007)
17 (alteration omitted) (quoting In re Smith, 714 F.2d 1127, 1134 (Fed. Cir. 1983)). To
18 determine if a public use has occurred within the meaning of section 102, courts consider the
19 totality of the circumstances surrounding the public activity, including: the nature of the
20 activity; public access to and knowledge of the activity; and the existence of confidentiality
21 obligations. Netscape, 295 F.3d at 1320. If the nature of the public activity was experimental
22 testing, additional circumstances include: who performed the testing; the number of tests; the
23 duration of testing; and whether the inventor was compensated for the testing. Id.

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26 ² The language and structure of Title 35 was changed by the Leahy-Smith America
27 Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284 (Sept. 16, 2011). Since this case was
28 filed before the effective date, the Court refers to the pre-AIA versions of sections 102(b),
103, and 112. See Hamilton Beach Brands, Inc. v. Sunbeam Products, Inc., 726 F.3d 1370,
1374 n.1 (Fed. Cir. 2013).

1 “The overriding concern of the on-sale bar is an inventor’s attempt to commercialize
2 his invention beyond the statutory term.” STX, LLC v. Brine, Inc., 211 F.3d 588, 590 (Fed.
3 Cir. 2000). “The on-sale bar applies when two conditions are satisfied before the critical date:
4 (1) the claimed invention must be the subject of a commercial offer for sale; and (2) the
5 invention must be ready for patenting.” Hamilton Beach Brands, Inc. v. Sunbeam Products,
6 Inc., 726 F.3d 1370, 1374 (Fed. Cir. 2013). “To establish an on-sale bar, it must be shown
7 that the device sold ‘fully anticipated the claimed invention or would have rendered the
8 claimed invention obvious by its addition to the prior art.’ ” Allen Eng’g Corp. v. Bartell
9 Indus., Inc., 299 F.3d 1336, 1352 (Fed. Cir. 2002) (quoting Tec Air, Inc. v. Denso Mfg.
10 Mich. Inc., 192 F.3d 1353, 1358 (Fed. Cir. 1999)).

11 A “definite sale” satisfies the first condition. Pfaff v. Wells Elecs. (“Pfaff I”), 124
12 F.3d 1429, 1433 (Fed. Cir. 1997), aff’d 525 U.S. 55 (1998). The second condition is satisfied
13 “by proof of reduction to practice before the critical date; or by proof that prior to the critical
14 date the inventor had prepared drawings or other descriptions of the invention that were
15 sufficiently specific to enable a person skilled in the art to practice the invention.” Pfaff v.
16 Wells Elecs., Inc. (“Pfaff II”), 525 U.S. 55, 67-68 (1998). “An invention is reduced to practice
17 when it works for its intended purpose,” Atlanta Attachment Co. v. Leggett & Platt, Inc., 516
18 F.3d 1361, 1366 (Fed. Cir. 2008); “a demonstration of the [claimed invention’s] workability
19 or utility” satisfies this condition, Honeywell Int’l Inc. v. Universal Avionics Sys. Corp., 488
20 F.3d 982, 997 (Fed. Cir. 2007).

21 DISCUSSION

22 I. Public Use

23 The only pre-critical date public use alleged by SES was the testing referred to in the
24 promotional brochure. Considering the totality of the circumstances in the light most
25 favorable to SET, there was a single test over a one month period at one location; Mr. Mager
26 was not compensated; confidentiality agreements may have been in place and it is unlikely
27 the public was aware of the use. Under these facts, SES has not proven by clear and
28 convincing evidence that pre-critical date public use had occurred. Therefore, the Court will

1 deny SES summary judgment in that regard.

2 **II. On-Sale**

3 **A. Applicability**

4 Moving to the on-sale bar, “[a]n assessment of the validity of a patent claim in light
5 of an alleged sale involves, first, determining whether a sale is truly a ‘sale’ within the
6 meaning of 35 U.S.C. § 102(b).” Minton v. Nat’l Ass’n of Sec. Dealers, Inc., 336 F.3d 1373,
7 1376 (Fed. Cir. 2003). Mr. Mager confirmed in his deposition the assertions made in his
8 January 25, 1996, solicitation to Mr. Geuke, viz., that Door Misers sold extremely well
9 before the pre-critical date. (Docs. 80-2 at 14-15, 35-36; 80-5 at 2.) SET does not deny that
10 pre-critical date sales occurred. Since the uncontroverted evidence is that pre-critical date
11 sales occurred, no reasonable jury could conclude otherwise. Accordingly, SES has carried
12 its burden with respect to the first predicate condition of the on-sale bar.

13 With regard to the second condition, whether the potentially invalidating prior art had
14 been reduced to practice, SES argues that the pre-critical date Door Misers worked for their
15 intended purpose. Evidence in the record that supports SES’s assertion includes the brochure
16 and solicitation letter corroborated by Mr. Mager’s deposition that the devices were selling
17 “extremely well,” were “very profitable,” and had achieved “amazing test results.” (Docs.
18 80-2 at 14-16, 22-25, 35-36; 80-5 at 2; 80-6 at 2.) Mr. Mager denied that this was “salesman
19 puffery” (Doc. 80-2 at 35), and explained that the devices “worked well,” but often needed
20 repair (Doc. 87-1 at 22-23). While Mr. Malwitz testified that he saw a demonstration of the
21 Door Miser in February ‘96 (Doc. 80-3 at 11), neither Messrs. Mager’s nor Geuke’s scant
22 recollection of the meeting overlaps with Mr. Malwitz’s (Docs. 87-1 at 20; 87-2 at 4-5).

23 SET argues that the pre-critical date Door Miser did not work for its intended purpose
24 because the promotional brochure claimed energy savings of 98% to 99% (Doc. 80-6 at 2),
25 but Mr. Malwitz stated that the evolved iteration of the Door Miser only achieves savings of
26 60% to 70% for freezers and 80% to 90% for coolers (Doc. 87-3 at 17). Based on Mr.
27 Malwitz’s statement that the sensors were not properly positioned in the devices upon which
28 the tests were conducted (id. at 8), SET concludes that the heaters failed to activate in the

1 presence of condensation and the pre-critical date Door Misers were thus practically
2 nonfunctional. SET does not argue, however, that the heaters never activated or that the
3 devices were totally nonfunctional, nor does SET deny that the devices sold well.
4 Circumstantially, it is unreasonable to infer that devices that sold well did not function at all.

5 Even inferring, as the Court must, that the devices worked poorly, no reasonable jury
6 could conclude that the pre-critical date devices did not function whatsoever. While
7 imperfect, the devices demonstrated the workability and utility of the pre-critical date Door
8 Miser; therefore, they worked for their intended purpose. See Honeywell Int'l, 488 F.3d at
9 997. Since the pre-critical date Door Misers worked for their intended purpose, they were
10 reduced to practice and therefore ready for patenting. See Atlanta Attachment, 516 F.3d at
11 1367. Consequently, both conditions to the applicability of the on-sale bar are satisfied and
12 the pre-critical date devices were sold within the meaning of section 102. Since the Court has
13 already construed the disputed claims (Doc. 98 at 7-8), the remaining issue is “a comparison
14 of the asserted claims with the device or process that was sold.” Minton, 336 F.3d at 1376.

15 **B. Anticipation and Obviousness**

16 For the pre-critical date Door Miser to invalidate the '078 Patent, SES must show by
17 clear and convincing evidence “that the device sold ‘fully anticipated the claimed invention
18 or would have rendered the claimed invention obvious by its addition to the prior art.’ ” Allen
19 Eng'g, 299 F.3d at 1352 (quoting Tec Air, 192 F.3d at 1358). Anticipation “requires factual
20 findings that ‘each and every limitation is found either expressly or inherently’ in the device
21 or process that was sold.” Minton, 336 F.3d at 1376 (quoting Celeritas Techs. Inc. v.
22 Rockwell Int'l Corp., 150 F.3d 1354, 1360 (Fed. Cir. 1998)). Obviousness is a question of
23 law based on underlying factual inquiries into “[w]hether the claimed subject matter would
24 have been obvious to an ordinarily skilled artisan at the time of the invention.” Plantronics,
25 724 F.3d at 1353.

26 SES is arguing both anticipation and obviousness. SET asserts that SES is limited to
27 arguing anticipation and is precluded from arguing obviousness because SES admitted its
28 “only affirmative defense to infringement . . . is that the '078 patent is invalid because the

1 patented device was offered for sale more than one year prior to the filing” date. (Doc. 65-3
2 at 4.) The Court disagrees with SET. “Section 102(b) may create a bar to patentability . . .
3 in conjunction with [§ 103], if the claimed invention would have been obvious from the
4 on-sale device in conjunction with the prior art.” Dippin’ Dots, Inc. v. Mosey, 476 F.3d 1337,
5 1344 (Fed. Cir. 2007) (quoting LaBounty Mfg., Inc. v. United States Int’l Trade Comm’n,
6 958 F.2d 1066, 1071 (Fed. Cir. 1992)). “Because of the conjunctive use of sections 102(b)
7 and 103, this bar has been called the § 102(b)/103 bar.” Pfaff I, 124 F.3d at 1436. Thus, the
8 ‘078 Patent is invalid if SES proves by clear and convincing evidence that “the device sold
9 ‘ . . . would have rendered the claimed invention obvious by its addition to the prior art.’ ”
10 See Allen Eng’g, 299 F.3d at 1352 (quoting Tec Air, 192 F.3d at 1358).

11 C. Characteristics of the Pre-Critical Date Device

12 Comparison of the limitations of Claim 2 against the pre-critical date device requires
13 a determination of that device’s characteristics. SET asserts that the device’s functional
14 composition is shrouded by so much uncertainty that SES cannot meet the “high probability”
15 standard required by a clear and convincing burden of proof. Pfizer, Inc. v. Apotex, Inc., 480
16 F.3d 1348, 1359 n.5 (Fed. Cir. 2007) (quoting Colorado v. New Mexico, 467 U.S. 310, 316
17 (1984)). SES argues that the 120-volt version of the Door Miser is the pre-critical date device
18 and that Mr. Mager’s testimony along with the solicitation letter and the promotional
19 brochure identify that device’s characteristics with sufficient exactitude for the Court to
20 compare it against the limitations of Claim 2.

21 During his deposition, Mr. Mager testified that the Door Miser with the XL2000
22 control panel that he referred to in the January 25, 1996, solicitation letter to Mr. Geuke was
23 the Door Miser that he was selling and also that it was the 120-volt version. (Doc. 80-2 at
24 18.) Mr. Mager confirmed that the 120-volt version was the January 1996 iteration and that
25 it sold extremely well. (Doc. 80-2 at 14-15, 36; 87-1 at 29.) Mr. Mager also testified that the
26 version that was used for the testing described in the promotional brochure was the XL2000
27 device. (Doc. 80-2 at 23-26.) SET does not argue the XL2000 was not the 120-volt version,
28 nor does SET deny that the 120-volt version was the pre-critical date device.

1 Instead, SET notes Mr. Mager’s poor memory regarding the development of the Door
2 Miser, and stresses that he does not remember whether the XL2000 functioned with the
3 humidistat version or the 120-volt version. The part of Mr. Mager’s deposition testimony
4 cited by SET undermines its position more than supporting it: he states that the 120-volt Door
5 Misers that he was selling as of January 1996 had sensors, but that he did not remember
6 whether the XL 2000 control panel referred to just the control box or both the control box
7 and the sensor. (Doc. 87-1 at 16-17.) That testimony is consistent with the promotional
8 brochure that described the devices tested in February and March of 1996 as using sensors
9 to detect the presence of condensation. (Doc. 80-6 at 2.) Further, Mr. Mager abandoned
10 humidistats when he “moved on and started with a 120-volt unit.” (Doc. 87-1 at 23.)

11 SES also contends that the solicitation letter’s use of the word “anticipate” rather than
12 “detect” is evidence that the pre-critical date device used humidistats; however, Mr. Mager
13 conceded that, although poorly written, his use of the term “moisture anticipator” meant
14 sensor. (*Id.* at 28.) SET further argues the fact that Mr. Mager threw away several humidistats
15 leads to the inference that he was selling humidistat versions of the Door Miser. As proof of
16 uncertainty, SET points to Mr. Mager’s inability to recall whether it was possible the January
17 ‘96 version of the Door Miser used a humidistat. (*Id.* at 24.)

18 The Court finds an isolated equivocation that something may be possible must be
19 viewed in context; in this case, a metaphysical possibility that something might have
20 occurred is not sufficient to outweigh overwhelming evidence to the contrary. While SET
21 tries its best to erect an argument from Mr. Mager’s inability to precisely recall the iterative
22 evolution of the Door Miser, what he does recall is unequivocal: devices sold before the
23 critical date used sensors.

24 The record establishes that Mr. Mager recalls several particular characteristics of the
25 120-volt version. Regarding sensor structure, Mr. Mager testified that there were eight to ten
26 sensors connected in parallel to the sensor line (Doc. 80-2 at 37), that the sensors were more
27 than one conductor made of solder rather than gold, and that the purpose of the sensors was
28 to detect condensation (*id.* at 19). Mr. Mager also testified that once the sensors detected

1 condensation beyond a threshold level, the XL2000 control panel would send a signal to turn
2 off the heater. (*Id.* at 13, 19-20.) With respect to the structure that controlled power to the
3 heater, the pre-critical date device had a control circuit with a relay configured so that the
4 signal would “shut off the heater and break the circuit.” (*Id.* at 12, 33.) This description is,
5 again, consistent with the description in the promotional brochure: “If condensation begins
6 to form, the sensors signal the [XL2000] controller, which then regulate[s] the heaters.”
7 (Doc. 80-5 at 2.) As there is no contrary evidence regarding the structural composition of the
8 pre-critical date device, the Court finds the pre-critical date device had the characteristics
9 testified to by Mr. Mager.

10 **D. Comparison of Pre-critical Date Devices with the Limitations of Claim 2**

11 Based on the foregoing findings of fact, the Court sets out to compare the
12 characteristics of the pre-critical date device against the limitations in Claim 2 of the ‘078
13 Patent. There are five means-plus-function limitations in Claim 2: (1) sensing means; (2)
14 means for controlling power; (3) control means; (4) means responsive to conductivity; and
15 (5) means for measuring resistance. The fourth and fifth limitations are part and parcel to the
16 control means limitation. “[A] challenger who seeks to demonstrate that a means-plus-
17 function limitation was present in the prior art must prove that the corresponding structure
18 —or an equivalent—was present in the prior art.” *Fresenius USA, Inc. v. Baxter Intern.,*
19 *Inc.*, 582 F.3d 1288, 1299 (Fed. Cir. 2009). In this context, structures are equivalent if they
20 perform “the claimed function in substantially the same way to achieve substantially the
21 same result.” *Odetics, Inc. v. Storage Tech. Corp.*, 185 F.3d 1259, 1267-68 (Fed. Cir. 1999).

22 Sensing Means

23 The first limitation of Claim 2 requires “a plurality of sensing means connected in
24 parallel, for detecting the presence of condensation, each of said sensing means being
25 mounted on the refrigeration unit in proximity to said heater.” (Doc. 1-1 at 7.) The Court
26 defined the function of sensing means “as detecting the presence of condensation,” and the
27 corresponding structure as “two electrically isolated conductors, placed on an insulating
28 substrate, arranged so that one conductor lies in close proximity to the other conductor where

1 the formation of condensation on the corresponding structure raises the conductivity between
2 the conductors.” (Doc. 98 at 7-8) Mr. Mager’s uncontroverted testimony was that the pre-
3 critical date device had eight to ten sensors connected in parallel to detect condensation, and
4 that the sensors detected condensation by detecting an increase in conductivity between two
5 separated conductors. (Doc. 80-2 at 19-20, 37.) The promotional brochure also describes
6 sensors adhered to glass that respond to the presence of condensation. (Doc. 80-5 at 2.)

7 As SET points out, the sensors were mounted inside the door, rather than outside the
8 door; however, they were nevertheless mounted on the refrigeration unit. SET also argues
9 that the pre-critical date device did not use RJ-11 inputs to connect the sensors in parallel.
10 The Court finds that there is functional identity between the pre-critical date sensors and the
11 claimed sensing means: detect the presence of condensation. Both the pre-critical date
12 sensors and the claimed sensing means perform that function in substantially the same way
13 with substantially similar results: more than one set of two conductors arranged in parallel
14 and configured so that the formation of condensation between them raises conductivity.
15 SET’s remaining arguments are conclusory and unsupported, e.g., “[t]here is no evidence Mr.
16 Mager used a sensor prior to the critical date that functioned as described in claim 2.” (Doc.
17 86 at 9.) Therefore, the sensing means limitation was present in the prior art.

18 Means for Controlling Power

19 The second limitation of Claim 2 requires “means, responsive to a control signal, for
20 controlling power to said heater.” (Doc. 1-1 at 7.) The Court defined the function of means
21 for controlling power “ascontrolling power to a condensation-preventing heater on a
22 refrigeration unit in a way that is responsive to a control signal,” and the corresponding
23 structure as “a relay where one terminal of the magnetic inductive coil is connected to the
24 output of a threshold-detector, and where the second terminal of the coil is connected to the
25 voltage bus, and where the coil controls relay terminals normally in the open position, and
26 where the relay terminals are connected in series between the condensation-preventing door
27 heaters and the power source for the door heaters.” (Doc. 98 at 8.) Mr. Mager testified that
28 the pre-critical date device had a relay that activated to power the heaters and broke to shut

1 off the heaters. (Doc. 80-2 at 12-13, 19-20, 32-33.) Mr. Mager’s testimony is corroborated
2 by the promotional brochure’s explanation that “[i]f condensation begins to form, the sensors
3 signal the controller, which then regulate[s] the heaters to remove condensation.” (Doc. 80-6
4 at 2.) SES’s expert, Dr. F. Williams Sarles, opined that a relay is essentially a switch well-
5 known in prior art to consist of a magnetic coil that opens and closes the relay terminals, and
6 explained that the pre-critical date Door Miser relay necessarily must have had the structure
7 defined by the Court, or one equivalent thereto. (Doc. 80-4 at 6.)

8 SET’s only assertion about this limitation is terse: SES “fails to offer any documentary
9 proof to demonstrate the ‘pre-critical date Door Miser’ used . . . a relay controlled by an
10 electromagnetic coil as a means for controlling power.” (Doc. 86 at 9-10.) SET does not:
11 dispute that a relay is well-known in the art; deny that the pre-critical date device had a relay;
12 nor controvert Mr. Sarles’ declaration. Functional identity exists between the pre-critical date
13 device means for controlling power and the claimed means for controlling power: power to
14 the heaters is controlled by a signal. The only evidence before the Court is that the means for
15 controlling power structure in the pre-critical date device is equivalent to the structure
16 corresponding to the claimed means for controlling power: a relay that closed and opened in
17 response to the signal so as to regulate power to the heater. Both structures perform the same
18 function in substantially the same way to achieve substantially the same result. As a
19 consequence, both the sensing means and the means for controlling power limitations were
20 present in the same prior art reference.

21 Control Means

22 The third limitation of Claim 2 requires “control means, responsive to the detection
23 of condensation by said sensing means, for providing said control signal so that power is
24 applied to said heater only when condensation is present.” (Doc. 1-1 at 7.) The Court defined
25 the function of control means “as providing a control signal so that power is only applied to
26 a condensation-preventing heater on a refrigeration unit when condensation is present, and
27 is responsive to the detection of condensation by the sensors,” and the corresponding
28 structure as “a pair of sensor lines, where one sensor line is connected to the non-inverting

1 input of an op-amp, and the other sensor line is connected to ground, and where the voltage
2 bus is connected to the non-inverting input of the op-amp with one of the sensor lines, and
3 where the voltage bus is applied to the inverting input of the op-amp via a voltage divider
4 made up of resistors connected between the voltage bus and ground, and where a capacitor
5 is connected between the non-inverting sensor line and a ground so that the control circuitry
6 is not triggered by spurious signals, such that an increase in the conductivity between the pair
7 of the sensor lines triggers the op-amp to send a control signal.” (Doc. 98 at 8.)

8 Mr. Mager testified that the XL2000 sent a control signal to power the heaters when
9 the sensors detected condensation beyond a certain threshold (Doc. 80-2 at 12-13, 19-20, 32-
10 33), which is consistent with the solicitation letter that described the function of the XL2000
11 as disconnecting the “heaters except when required to prevent condensation” (Doc. 80-5 at
12 7), as well as the promotional brochure’s description of the XL2000 (Doc. 80-6 at 2). Indeed,
13 all the evidence is that the pre-critical date device had a control that would activate the
14 heaters via a signal when the sensors detected condensation; therefore, there is functional
15 identity between the pre-critical date control and the control means limitation in Claim 2.

16 While it is clear that the function is the same, Mr. Mager’s testimony sheds no light
17 on whether that function was accomplished in substantially the same way. In fact, he testified
18 that he was not familiar with an op-amp. (Doc. 80-2 at 37.) The only evidence with regard
19 to structure is Dr. Sarles’ declaration that in order to perform the control means function, the
20 pre-critical date device necessarily must have had a threshold detector circuit the same as or
21 equivalent to the control means structure. After explaining the operation and components of
22 a threshold detector circuit, Dr. Sarles opined that the threshold circuit in the ‘078 Patent “is
23 a basic circuit design and would have been known to first year electrical engineering students
24 and would have been an obvious choice for the ‘control means’ circuit.” (Doc. 80-4 at 8-9.)

25 SET does not contend that the XL2000 did not perform substantially the same
26 function as the control means function, nor does SET contend that the threshold detector
27 circuit as defined in claims construction is not a basic circuit design that would be an obvious
28 choice. Further, SET does not present any evidence that contradicts Dr. Sarles’ opinions.

1 SET does, however, point out that Dr. Sarles offered no evidence to support his conclusions
2 and that there must be factual support for an expert's conclusory opinion to support a
3 determination of invalidity.

4 In reply, SES attached a supplemental declaration of Dr. Sarles that included pages
5 from the 1982 National Semiconductor Linear Databook and details how one threshold
6 detector circuit uses the same op-amp and circuit topology as the threshold detector circuit
7 that was patented. (Doc. 91-4.) When new evidence is submitted with a reply to a motion for
8 summary judgment, the non-moving party must be given an opportunity to respond. Provenz
9 v. Miller, 102 F.3d 1478, 1483 (9th Cir. 1996). SET has had more than six months to respond
10 by objecting to SES's supplemental declaration. See LRCiv. 7.2(m)(2). Accordingly, the
11 Court will consider Dr. Sarles' supplemental declaration. See S.E.C. v. Platforms Wireless
12 Int'l Corp., 617 F.3d 1072, 1087 n.9 (9th Cir. 2010) (finding no error in district court's
13 consideration of evidence submitted with reply partly because non-movants did not object
14 to the new evidence despite having two months to do so).

15 Thus, the only evidence before the Court is that the circuit described as the
16 corresponding structure to the control means function is prior art and that it works in
17 substantially the same way to achieve substantially the same result as the circuit that
18 necessarily must have been used in the pre-critical date device.

19 **E. Invalidity**

20 Consequently, the pre-critical date device embodied the sensing means, means for
21 controlling power, and the control means limitations from Claim 2. Since the Court's
22 definition of the control means limitation necessarily encompasses the remaining limitations
23 of "means responsive to conductivity" and "means for measuring resistance," all of the
24 limitations from Claim 2 were present in a single prior art reference—the so-called pre-
25 critical date device. In other words, the Door Miser that was sold before the critical date fully
26 anticipated each and every limitation of Claim 2, thereby invalidating the '078 Patent. See
27 Minton, 336 F.3d at 1376.

28 Even if the control means threshold detector circuit was not present in the same pre-

1 critical date device that had both the sensing means and the means for controlling power
2 limitations, the '078 Patent would be invalid for obviousness. "If a device was . . . [sold]
3 before the critical date, then that device becomes a reference under section 103 against the
4 claimed invention." TorPharm, Inc. v. Ranbaxy Pharm., Inc., 336 F.3d 1322, 1327 (Fed. Cir.
5 2003) (quoting Baker Oil Tools, Inc. v. Geo Vann, Inc., 828 F.2d 1558, 1563 (Fed. Cir.
6 1987)). Therefore, the hypothetical combination of the sensing means and means for
7 controlling power with the non-equivalent control means was a prior-art reference.

8 "[W]hen a patent 'simply arranges old elements with each performing the same
9 function it had been known to perform' and yields no more than one would expect from such
10 an arrangement, the combination is obvious." KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398,
11 416 (2007). "One of the ways in which a patent's subject matter can be proved obvious is by
12 noting that there existed at the time of invention a known problem for which there was an
13 obvious solution encompassed by the patent's claims." Id. at 419-20. Whether a solution was
14 obvious—i.e., whether a person of ordinary skill in the art would be motivated to combine
15 the prior art—is a question of fact which requires expert testimony. Plantronics, 724 F.3d at
16 1354. Here, the only testimony is Dr. Sarles' opinion that the control means circuit would
17 have been an obvious choice for people of ordinary skill in the art. (Doc. 80-4 at 9-10.)

18 If SET had produced any evidence to controvert Dr. Sarles, then there would have
19 been a question of fact for the jury; however, SET did not produce any such evidence. In the
20 end, speculative uncertainty wholly unsupported by any evidence is far too slender a reed to
21 prop up SET's opposition to SES's properly supported motion for summary judgment. Even
22 drawing all justifiable inferences in SET's favor, the Court is nevertheless left with an
23 abiding conviction that it is highly probable that a single pre-critical date device embodied
24 each and every limitation in Claim 2. It is equally clear that even if the pre-critical date Door
25 Misers did not embody the control means, the devices sold rendered the claimed invention
26 obvious by its addition to prior art. In sum, SES managed to provide clear and convincing
27 evidence that the '078 Patent was invalid under § 102 or § 102/103. As a consequence, no
28 reasonable jury could find that the '078 Patent was valid. This result is in accord with the

1 purpose underlying the on-sale bar: Mr. Mager commercially exploited his invention outside
2 the period offered for legal monopoly.

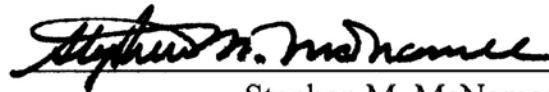
3 Accordingly,

4 **IT IS HEREBY ORDERED granting** SES's Motion for Summary Judgment of
5 Invalidation on the basis of the on-sale bar or the on-sale/obviousness bar. (Doc. 80.)

6 **IT IS FURTHER ORDERED denying** SES's motion in all other respects.

7 **IT IS FURTHER ORDERED** setting a status conference for **Monday, March 31,**
8 **2014, at 2:30 p.m.** in Courtroom 401, 401 West Washington Street, Phoenix, AZ before
9 Senior Judge Stephen M. McNamee. The parties shall come prepared to discuss the shape
10 of future proceedings in light of this Order and SES's amended counter-claims.

11 DATED this 19th day of March, 2014.

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15 Stephen M. McNamee
16 Senior United States District Judge
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