

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SONY CORPORATION,
Petitioner,

v.

FUJIFILM CORPORATION
Patent Owner.

Case IPR2017-00618
Patent 7,355,805 B2

Before JO-ANNE M. KOKOSKI, JEFFREY W. ABRAHAM,
and MICHELLE N. ANKENBRAND, *Administrative Patent Judges*.

KOKOSKI, *Administrative Patent Judge*.

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

I. INTRODUCTION

We have jurisdiction to conduct this *inter partes* review under 35 U.S.C. § 6, and this Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons that follow, we determine that Petitioner has not shown by a preponderance of the evidence that claims 1–3 and 10 of U.S. Patent No. 7,355,805 B2 (“the ’805 patent,” Ex. 1001) are unpatentable.

A. *Procedural History*

Sony Corporation (“Petitioner”) filed a Petition (“Pet.,” Paper 2) to institute an *inter partes* review of claims 1–3 and 10 of the ’805 patent based on the following grounds: (1) whether claims 1–3 and 10 are unpatentable under 35 U.S.C. § 102¹ as being anticipated by Hennecken²; (2) whether claims 1–3 and 10 are unpatentable under 35 U.S.C. § 103 as being obvious over the combined teachings of Hennecken and Albrecht II³ (according to Basis 1 and/or Basis 2); (3) whether claims 1–3 and 10 are unpatentable under 35 U.S.C. § 103 as being obvious over the combined teachings of Hennecken, Albrecht II, and Dugas⁴ (according to Basis 1 and/or Basis 2); and (4) whether claims 1–3 and 10 are unpatentable under 35 U.S.C. § 103 as being obvious over the combined teachings of Albrecht II and Hennecken. Pet. 4. FUJIFILM Corporation (“Patent Owner”) filed a

¹ The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (“AIA”), amended several provisions of 35 U.S.C., including §§ 102 and 103. Because the ’805 patent has an effective filing date prior to the effective date of the applicable AIA amendments, we refer herein to the pre-AIA versions of §§ 102 and 103.

² U.S. Patent No. 6,710,967 B2, issued March 23, 2004 (Ex. 1005).

³ U.S. Patent No. 5,930,065, issued July 27, 1999 (Ex. 1003).

⁴ U.S. Patent No. 6,496,328 B1, issued December 17, 2002 (Ex. 1006).

Preliminary Response. Paper 7. We denied the Petition and did not institute an *inter partes* review based on our determination that the information presented in the Petition did not demonstrate a reasonable likelihood that Petitioner would prevail on its challenge that claims 1–3 and 10 are unpatentable. Paper 9 (“Decision Denying Institution”), 1, 21.

Petitioner filed a Request for Rehearing of our Decision Denying Institution. Paper 10 (“Req. Reh’g). We granted Petitioner’s Request and instituted an *inter partes* review of claims 1–3 and 10 based on a subset of the asserted grounds. Paper 11 (“Dec. on Inst.” or “Institution Decision”), 11. We subsequently modified our Institution Decision to include review of “all of the grounds presented in the Petition.” Paper 15, 2.

After institution of trial, Patent Owner filed a Patent Owner Response (“PO Resp.,” Paper 14) and a Supplemental Patent Owner Response (“Supp. PO Resp.,” Paper 17), and Petitioner filed a Reply (“Pet. Reply,” Paper 22). Petitioner relies on the Declaration of Dr. Thomas R. Albrecht (“the Albrecht Declaration,” Ex. 1016). Patent Owner relies on the Declaration of Dr. William C. Messner (“the Messner Declaration,” Ex. 2003), the Supplemental Declaration of Dr. William C. Messner (“the Supplemental Messner Declaration,” Ex. 2008), and the Second Supplemental Declaration of Dr. William C. Messner (“the Second Supplemental Messner Declaration,” Ex. 2011).

An oral hearing was held on September 25, 2018, and a transcript is included in the record. Paper 31 (“Tr.”).

B. Related Proceedings

The parties identify *Certain Magnetic Data Storage Tapes and Cartridges Containing the Same* (ITC Investigation No. 337-TA-1012) as a

related matter. Pet. vi; Paper 4, 2. Petitioner also states that “[a] decision in this proceeding could affect or be affected by” *Sony Corp. v. Fujifilm Holdings Corp.*, Civil Action No. 1:16-cv-05988-PGG (S.D.N.Y). Pet. vi.

C. The '805 Patent

The '805 patent, titled “Magnetic Tape and Method of Manufacturing Magnetic Tape, Servo Writer, and Method of and Apparatus for Specifying Servo Band,” is directed to, *inter alia*, magnetic tape “wherein specifying a servo band where the magnetic head positions can be performed without comparing servo signals written on adjacent servo bands,” and a method of manufacturing such magnetic tape. Ex. 1001, 1:49–55. Figure 1 of the '805 patent is reproduced below.

FIG. 1

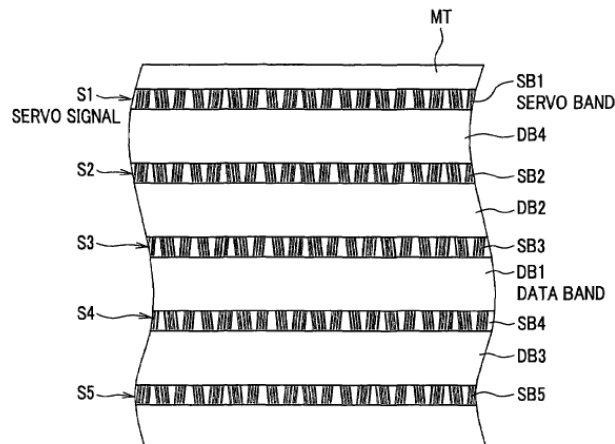


Figure 1 is a plan view illustrating a magnetic tape described in the '805 patent. *Id.* at 4:15–16. In Figure 1, magnetic tape MT includes five servo bands SB1–SB5 along the longitudinal direction of the tape. *Id.* at 4:45–47. Data bands DB1–DB4 are arranged between servo bands SB1–SB5, which are positioned at equally-spaced intervals along the width direction of

magnetic tape MT. *Id.* at 4:47–50. Predetermined servo signals S1–S5 are written on servo bands SB1–SB5 for tracking control of the magnetic head. *Id.* at 4:50–52.

Figure 2 of the '805 patent is reproduced below.

FIG. 2

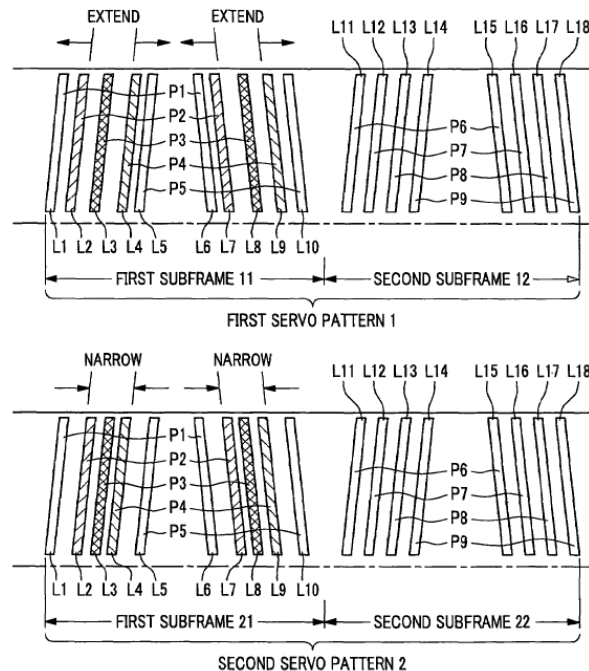


Figure 2 is an enlarged plan view of a servo signal of Figure 1. Ex. 1001, 4:17–18. Servo signals S1–S5 consist of first servo pattern 1 and second servo pattern 2 that are arranged arbitrarily for a plurality of sets along the longitudinal direction of the tape. *Id.* at 4:53–56. First servo pattern 1 includes first subframe 11 and second subframe 12 as nonparallel stripes, and second servo pattern 2 includes first subframe 21 and second subframe 22 as nonparallel stripes. *Id.* at 4:56–60.

First subframes 11 and 21 include five line patterns L1–L5 that incline against the longitudinal direction of the tape, and five line patterns L6–L10 that incline symmetrically to line patterns L1–L5. *Id.* at 4:61–65. Pairs of

line patterns (L1, L6), (L2, L7), (L3, L8), (L4, L9), and (L5, L10) are referred to as nonparallel patterns P1–P5. *Id.* at 5:3–7. In first subframe 11, nonparallel patterns P2 and P4 are spaced apart with respect to nonparallel pattern P3, and in first subframe 21, nonparallel patterns P2 and P4 are close to nonparallel pattern P3. *Id.* at 5:8–14.

Second subframes 12 and 22 include four line patterns L11–L14 that incline against the longitudinal direction of the tape, and four line patterns L15–L18 that incline symmetrically to line patterns L11–L14. Ex. 1001, 5:15–18. Nonparallel patterns P6–P9, consisting of line patterns L11–L18, are arranged at equally spaced intervals along the longitudinal direction of the tape. *Id.* at 5:18–21.

The '805 patent explains that first subframes 11 and 21 “are formed differently so that the data indicating ‘1’ is embedded in the first servo pattern 1 and the data indicating ‘0’ is embedded in the second servo pattern 2.” *Id.* at 5:24–28. Due to the “arbitrary arrangement of these first and second servo patterns 1, 2 along the longitudinal direction of the tape, it is possible to read out a predetermined data, upon reading out, for example, the whole servo signal S1.” *Id.* at 5:28–32.

Figure 6 of the '805 patent is reproduced below.

FIG. 6

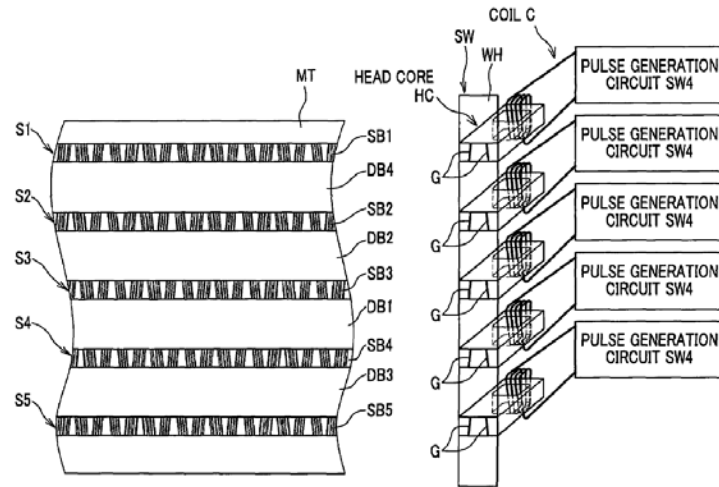


Figure 6 is a plan view illustrating a servo write head of a servo writer as described in the '805 patent. *Id.* at 4:26–27. Servo write head WH has a plurality of pairs of nonparallel gap patterns G that are formed in the position corresponding to each of servo bands SB1–SB5, and records servo signals S1–S5 by gap patterns G. *Id.* at 6:50–54. Head cores HC are independently provided for each gap pattern G, and each head core HC is wound by coil C. *Id.* at 7:3–4. Pulse generation circuit SW4 connected to each coil C converts the data that is encoded by controller SW5 (not pictured) to each of servo bands SB1–SB5 into a recording current pattern, and supplies the recording current patterns to coil C. *Id.* at 7:4–9. In this way, a characteristic ID is embedded in each of servo signals S1–S5 in accordance with the respective servo bands SB1–SB5. *Id.* at 7:11–13.

According to the '805 patent, “because data indicating the respective servo bands SB1 to SB5 are embedded in the corresponding servo signals S1 to S5 written on a plurality of servo bands SB1 to SB5, it is possible to specify the servo band without comparing the servo signals written on the adjacent servo bands.” *Id.* at 8:27–33. The '805 patent further explains that “because the servo band can be specified from one servo signal,” if one

servo read head malfunctions, a reserve servo read head can specify the servo band to reliably determine that the head unit is positioned on the correct data band. *Id.* at 8:33–37.

Claim 1 is the only challenged independent claim, and is reproduced below.

1. A magnetic tape comprising:
a plurality of servo bands on each of which is written a different servo signal for tracking control of a magnetic head, and
data is embedded in each servo signal for specifying the servo band corresponding to the data,
wherein reading the data enables a servo read head of the magnetic head to specify on which servo band the servo read head is currently positioned without referring to other servo bands.

Ex. 1001, 9:27–36.

II. ANALYSIS

A. *Level of Ordinary Skill in the Art*

Petitioner contends that a person having ordinary skill in the art at the time of the '805 patent would have had “a bachelor’s degree in electrical engineering, mechanical engineering, physics, materials science (or a related field), plus two years of experience working with magnetic storage systems or media,” an advanced degree in any of the recited fields “either with an emphasis in magnetic storage technology or equivalent experience working with magnetic storage systems, or media,” or “work experience equivalent to the prior qualifications.” Pet. 16–17.

Patent Owner’s declarant, Dr. Messner, opines that a person having ordinary skill in the art would have had “a bachelor’s degree in electrical engineering, mechanical engineering, or physics, or an equivalent education

or level of knowledge, and one year of industrial experience relating to magnetic information storage and retrieval,” a master’s degree in the same fields, “or an equivalent level of knowledge based on education and/or industrial experience relating to magnetic information storage and retrieval.” Ex. 2003 ¶ 25.

We do not observe meaningful differences between the parties’ assessment of a person having ordinary skill in the art. We further note that both assessments appear consistent with the level of ordinary skill in the art at the time of the invention as reflected in the prior art in this proceeding. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (explaining that specific findings regarding ordinary skill level are not required “where the prior art itself reflects an appropriate level and a need for testimony is not shown” (quoting *Litton Indus. Prods., Inc. v. Solid State Sys. Corp.*, 755 F.2d 158, 163 (Fed. Cir. 1985))). Our determination regarding the patentability of the challenged claims does not turn on the differences between these definitions. We adopt Petitioner’s assessment, but note that our conclusions would be the same under Dr. Messner’s assessment.

B. Claim Interpretation

We interpret claims of an unexpired patent using the “broadest reasonable construction in light of the specification of the patent in which [the claims] appear[.]” 37 C.F.R. § 42.100(b) (May 2, 2016)⁵; *see Cuozzo*

⁵ The Office recently changed the claim construction standard applicable to an *inter partes* review. *See* Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board, 83 Fed. Reg. 51,340 (Oct. 11, 2018). The rule changing the claim construction standard, however, does not apply to this proceeding because Petitioner filed its Petition before the effective date of the final rule, i.e.,

Speed Techs., LLC v. Lee, 136 S. Ct. 2131, 2144–46 (2016). Consistent with the broadest reasonable construction, claim terms are presumed to have their ordinary and customary meaning as understood by a person of ordinary skill in the art in the context of the entire patent disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). Only those terms in controversy need to be construed, and only to the extent necessary to resolve the controversy. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (“[W]e need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy.’”) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

For the purposes of the Decision Denying Institution (Paper 9, 7–8) and the Institution Decision, we determined that, based on the record at that time, no claim term required express construction. We see no reason to modify that determination in light of the record developed during trial.

C. *Principles of Law*

To prevail on its challenges to the patentability of the claims, a petitioner must establish facts supporting its challenge by a preponderance of the evidence. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). “In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to

November 13, 2018. *Id.* at 51,340 (rule effective date and applicability date), 51,344 (explaining how the Office will implement the rule).

each claim”)). This burden of persuasion never shifts to the patent owner. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378–79 (Fed. Cir. 2015) (discussing the burdens of persuasion and production in *inter partes* review).

To establish anticipation, each and every element in a claim, arranged as recited in the claim, must be found in a single prior art reference. *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1369 (Fed. Cir. 2008); *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1383 (Fed. Cir. 2001). Although the elements must be arranged in the same way as in the claim, “the reference need not satisfy an *ipsissimis verbis* test,” i.e., identity of terminology is not required. *In re Gleave*, 560 F.3d 1331, 1334 (Fed. Cir. 2009); *In re Bond*, 910 F.2d 831, 832 (Fed. Cir. 1990).

A claim is unpatentable under 35 U.S.C. § 103 if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious to a person having ordinary skill in the art to which the subject matter pertains. *KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

D. Overview of the Prior Art

1. Hennecken

Hennecken is directed to “servo tracks written on magnetic tape to assist tape access machines in locating and positioning tape access heads on

the magnetic tape and to otherwise access the magnetic tape.” Ex. 1005, 1:8–11. In a section of the specification entitled “Background Art,” Hennecken states that “[i]n order to increase the accuracy of positioning the tape head relative to the tape, servo tracks or stripes may be used to provide one or more reference points,” and that “[o]ne or more servo tracks may be used depending upon the number of data tracks which are placed upon the tape, the number of tracks simultaneously accessed, and the like.” *Id.* at 1:40–45. Hennecken then describes “[o]ne type of servo pattern allowing the positions of a servo read element across the width of a servo track” that “uses two sets of low frequency transitions in each servo frame,” where “[t]he two sets of low frequency transitions are recorded at a relative angle to each other at a given transverse location across the servo track.” *Id.* at 1:51–56. “Thus, a time difference between accessing transitions in the first set and accessing transitions in the second set provides an indication of the servo read element location across the width of the servo track.” *Id.* at 1:56–59.

The Background Art section of Hennecken further explains that information other than fine transverse location can be encoded on the servo track, such as a longitudinal value that indicates position of the access head along the tape length. *Id.* at 1:60–65. This additional information can be encoded by “vary[ing] the spacing between one or more low frequency transitions in each set of transitions,” for example, by moving the second transition in each set closer to the first transition to indicate a binary one, or spacing the second transition equally between the first and third transitions to indicate a binary zero. *Id.* at 1:65–2:4.

2. *Albrecht II*

Albrecht II is directed to “timing based servos for longitudinal recording.” Ex. 1003, 1:12–13. In particular, *Albrecht II* describes “a magnetic tape media having data information superimposed on prerecorded track following servo information, which data information may comprise longitudinal addressing or tachometer information.” *Id.* at 2:27–30.

Figure 4 of *Albrecht II* is reproduced below.

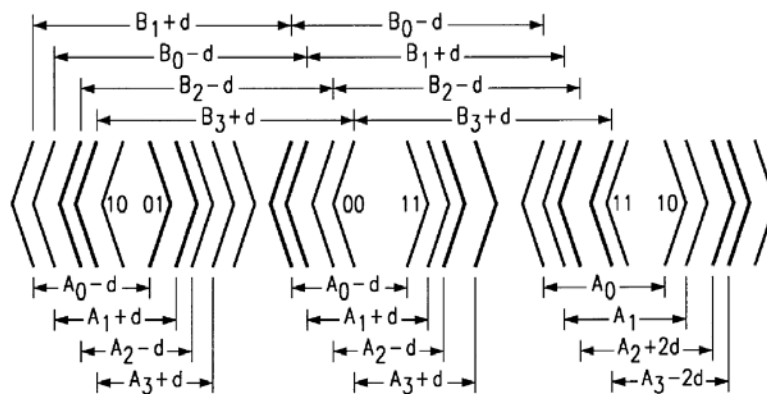


FIG. 4

Figure 4 “is a representation of a combined servo and encoded data pattern in accordance with an embodiment” described in *Albrecht II*. *Id.* at 3:33–35. A first set of stripes (or “chevrons”) extends across the width of the servo track, having a first orientation slanted with respect to the longitudinal direction of the track. *Id.* at 5:33–35. A second set of stripes, or chevrons, also extends across the width of the servo track, slanted opposite that of the first set of chevrons. *Id.* at 5:36–38. Each chevron in the first set and its corresponding chevron in the second set comprises a pair of transitions separated by predetermined distance A_0 , A_1 , A_2 , and A_3 . *Id.* at 5:39–41. The transitions are separated by predetermined distance B_0 , B_1 , B_2 , and B_3 . *Id.* at 5:65–65. These “A and B intervals are used to generate a position signal

that is independent of tape speed,” where “only the A intervals, which are between chevrons at the opposite sides of the diamond-shaped patterns, hereinafter, the ‘diamonds,’ vary with transverse position” and “[t]he B intervals are constant, regardless of position.” *Id.* at 5:65–6:3. In this way, “the position signal is generated by timing the intervals and calculating their ratio.” *Id.* at 6:3–5. To encode data into the servo track, “ones of the transitions are shifted longitudinally with respect to the tape,” and “data may be encoded in any manner so long as the servo timing remains correct.” *Id.* at 6:13–15.

Albrecht II teaches that “[a] key is that the chevrons be shifted in pairs in the same or opposite directions or in such a manner that any changes in the pattern offset one another from a servo timing standpoint” so that “data can be encoded into the location of the chevron patterns without impacting the performance of the servo.” *Id.* at 7:30–36. “The encoded data may be used to encode address information, such as tachometer information, or sector identification number, or to encode other information about the cartridge, such as length of tape, manufacturer, media type, etc.” *Id.* at 7:36–40.

Figure 30 of Albrecht II is reproduced below.

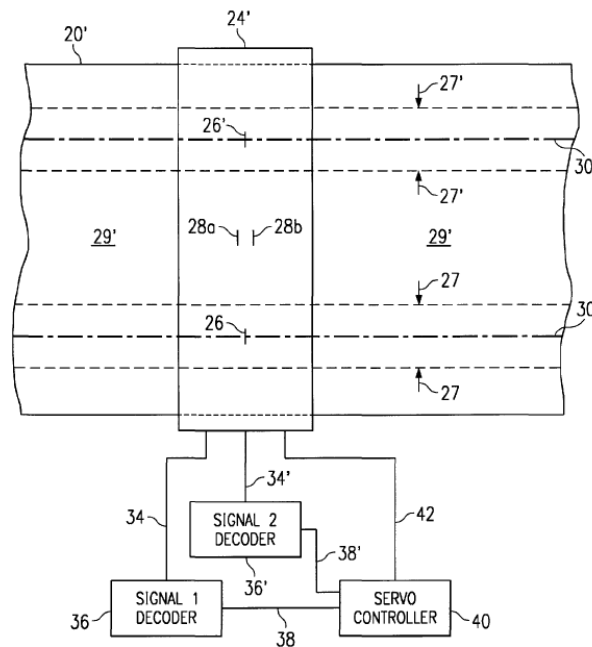


FIG. 30

Figure 30 “is a schematic and block diagram representation of a multi-track servo and data system” described in Albrecht II. *Id.* at 4:25–27. Duplicate servo tracks 27 and 27' are read by servo heads 26 and 26' of head assembly 24'. *Id.* at 14:54–55. “The servo tracks are read simultaneously and provide a more accurate positioning of the data head 28a and 28b by servoing the servo heads over both servo track centerlines 30 and 30', whose average or combined position is more accurate than that of a single head.” *Id.* at 14:55–60. Signal decoders 36 and 36' may be identical to each other, and may provide additional information by employing the identical superimposed data decoding arrangement. *Id.* at 14:60–63. For example, Albrecht II states that “servo track 27 may provide addressing data, and servo track 27' may provide a description of the tape which may be employed for indexing, such as the tape length, or may indicate the type of media, the manufacturer, etc.” *Id.* at 14:63–67.

3. *Dugas*

Dugas “relates to a low inductance, high efficiency sub-gap, surface thin film magnetic recording head and a method of fabricating the same.” Ex. 1006, 4:28–30. Dugas describes a “multi-channel head having five independent channels,” wherein “each channel can be individually triggered and caused to write, independent of the other four channels.” *Id.* at 9:17–20.

E. *Anticipation by Hennecken*

Petitioner contends that claims 1–3 and 10 of the ’805 patent are unpatentable under 35 U.S.C. § 102(e) as anticipated by Hennecken. Pet. 20–37; Pet. Reply 2–25. Patent Owner disagrees with Petitioner’s assertions. PO Resp. 31–58.

Petitioner asserts, with supporting testimony from Dr. Albrecht, that the Background Art section of Hennecken teaches all of the elements of independent claim 1. Pet. 22–25, 33–35. For example, Petitioner asserts that Hennecken discloses “a plurality of servo bands on each of which is written a different servo signal for tracking control of a magnetic head” because it explains, in the Background Art section, “that it was known to encode the servo track number into conventional timing-based servo patterns recorded on each servo track to provide co[ar]se transverse location of the servo read head across the width of magnetic tape.” *Id.* at 23.

In particular, Petitioner points to two statements in the Background Art of Hennecken: (1) “A servo track may contain information in addition to fine transverse location. For example, a servo stripe number may be encoded in the servo track for coarse transverse location” (Ex. 1005, 1:60–63); and (2) “Fourth, the low frequency pattern is typically written by a single current driver, and thus cannot contain any information that varies

between the servo tracks, such as a servo stripe number” (*id.* at 2:17–19).

Pet. 34. Petitioner asserts that, because “Hennecken uses the terms ‘servo track’ and ‘servo stripe’ interchangeably to refer to the servo band on which tracking patterns are written,” “one of ordinary skill in the art would understand that the ‘servo stripe number’ describes a number that identifies the respective servo track.” *Id.* at 23–24 (citing Ex. 1005, 1:41–49; Ex. 1016 ¶¶ 106–107). Petitioner further asserts that, “[b]y embedding in each servo track its respective servo stripe number, each servo track will necessarily have a different servo pattern recorded thereon that specifies the respective servo track.” *Id.* at 24 (citing Ex. 1016 ¶¶ 107–108, 175–177).

Patent Owner responds that “Petitioner relies on nothing more than Dr. Albrecht’s interpretation of the Background Art section to import a missing claim limitation, i.e., that Hennecken’s reference to ‘a servo stripe number’ necessarily means unique servo stripe numbers.” PO Resp. 37. Patent Owner argues that “[t]he Background Art section of Hennecken mentions the term ‘servo stripe number’ only twice,” and “this scant disclosure would not have been understood by a [person having ordinary skill in the art] as disclosing that servo stripe numbers are unique.” *Id.* at 38 (citing Ex. 1005, 1:61–62, 2:16–19).

The dispute between the parties, therefore, is whether a person having ordinary skill in the art (“POSA”) would have understood the express disclosure in the Background Art of Hennecken to teach a servo stripe number that uniquely identifies its respective servo track. *See* Pet. Reply 13 (“The disputed issue in this trial is how a POSA would have understood this express disclosure in Hennecken.” (emphasis omitted)); PO Resp. 34 (“Petitioner’s argument boils down to an allegation that a POSA would have

understood the disclosure of ‘a servo stripe number’ as conveying a unique servo stripe number for each servo track.” (emphasis omitted)). Based on our review of the record, we determine that Petitioner has not shown sufficiently that a person having ordinary skill in the art would have understood Hennecken as Petitioner contends.

Petitioner relies on the testimony of Dr. Albrecht to support its contention that a POSA would have understood that Hennecken teaches servo stripe numbers that uniquely identify their respective servo tracks. *See* Pet. 23–24 (citing Ex. 1016 ¶¶ 106–108, 175–177). In that regard, Dr. Albrecht testifies that a person having ordinary skill in the art would have understood that Hennecken’s servo stripe number “describes a number that identifies the respective servo track,” and would further have understood “that by encoding the servo track number into each servo track, a read element can identify the servo track being read without needing to reference any other servo track.” Ex. 1016 ¶ 107. Dr. Albrecht further testifies that

Hennecken points out that the servo stripe number varies between servo tracks. [Ex. 1005] at C2:L16–19 (“Fourth, the low frequency pattern is typically written by a single current driver, and thus cannot contain any information that varies between the servo tracks, such as a servo stripe number.”). Thus, Hennecken describes providing each servo track with a different respective servo stripe number, which necessarily enables a servo read element to identify the servo track being read without referencing other servo tracks. That is, a servo read element need do nothing more than read the unique servo stripe number embedded in a servo track to identify it.

Id. ¶ 108. According to Dr. Albrecht, because “Hennecken discloses a servo pattern comprising two sets of low frequency transitions in each servo frame of the respective servo track to allow for tracking of the servo read element across the width of the servo track into which the servo track number is

encoded by” varying the spacing between adjacent transitions to encode a zero or a one into each frame, “each servo pattern will be different by virtue of having different data encoded therein.” *Id.* ¶ 177.

Neither Petitioner nor Dr. Albrecht, however, provide adequate explanation or evidence as to why a POSA would have understood Hennecken’s characterization of servo stripe numbers as information that “varies between the servo tracks” to be disclosing servo stripe numbers that uniquely identify their respective servo tracks. *See* Pet. Reply 3 (“[A] POSA would have understood this disclosure as referring to a number that uniquely identifies its respective servo track.” (citing Pet. 24–25; Ex. 1016 ¶¶ 107–108, 175–177)). Dr. Albrecht merely repeats the disclosures in Hennecken and concludes, without further explanation or reference to objective evidence, that Hennecken discloses unique servo stripe numbers as claim 1 requires. *See* Ex. 1016 ¶¶ 106–108, 175–177. Absent underlying facts or data to support Dr. Albrecht’s opinion, Dr. Albrecht’s testimony does not persuade us that a POSA would have understood Hennecken’s disclosures as Petitioner contends. 37 C.F.R. § 42.65(a) (“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.”); *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 294 (Fed. Cir. 1985) (stating a lack of objective support for an expert opinion “may render the testimony of little probative value in [a patentability] determination”).

Petitioner also directs us to “another portion” of Hennecken’s disclosure, which Petitioner argues “explicitly describes the servo track number as information different for each servo stripe.” Pet. Reply 3 (citing Ex. 1005, 9:23–27) (emphasis omitted). Specifically, Petitioner points to the

Detailed Description of the Invention section of Hennecken, where Hennecken describes high frequency transition writing according to an embodiment of Hennecken's invention as follows:

If high frequency field 66 includes servo data indicating servo track number or other gross transverse positioning information, each third write gap 162 must have a separate high frequency driver 192 since at least a portion of the high frequency signal written will be different amongst the third write gaps 162.

Ex. 1005, 9:23–27. Based on this disclosure, Petitioner argues that “Hennecken is explicit that when servo track numbers are embedded in the servo tracks, each servo track number is different.” Pet. Reply 4; *see* Ex. 1016 ¶ 180. Petitioner further argues that, at his deposition, “Dr. Messner conceded that Hennecken's plain language ‘says’ the servo stripe number is different for each servo track.” Pet. Reply 5 (citing Ex. 1017, 190:5–16) (emphasis omitted).

As was the case with Petitioner's argument based on the disclosures in the Background Section of Hennecken, Petitioner does not adequately explain why a POSA would have understood Hennecken to be disclosing servo stripe numbers that uniquely identify their respective servo stripes. Dr. Albrecht again merely repeats the disclosures in Hennecken and concludes, without further explanation or reference to objective evidence, that Hennecken discloses unique servo stripe numbers as claim 1 requires. Ex. 1016 ¶ 180.

Moreover, we disagree with Petitioner's assertion that Dr. Messner's testimony that Hennecken says that a different driver is used when there is different information written to the servo tracks is a concession that Hennecken discloses servo stripe numbers that uniquely identify the servo tracks. *See* Ex. 1017, 190:5–16. Instead, Dr. Messner's testimony raises the

possibility that “different information” could mean “merely enough [information] needed to identify the servo band,” which is not necessarily unique to the respective servo tracks. *Id.* at 190:17–23; *see also* Ex. 2003 ¶ 94 (Dr. Messner testifying that U.S. Patent App. Pub. No. 2004/0032685 (Ex. 1007, “Trabert”) “informs my opinion of how a POSA would have understood coarse transverse positioning disclosed in Hennecken,” and that Trabert discloses “servo bands that are adjacent to the data bands are written with different, but not unique, servo patterns that, when taken in combination, provide for the unique identification of the data band between them.” (citing Ex. 1007 ¶¶ 13, 40)).

After considering the parties’ arguments and evidence, we determine that, at best, Hennecken is ambiguous as to whether the servo stripe numbers disclosed therein uniquely identify their respective servo tracks, as claim 1 of the ’805 patent requires. It is Petitioner’s burden, however, to establish by a preponderance of the evidence facts supporting its challenge that claim 1 of the ’805 patent is anticipated by Hennecken. 35 U.S.C. § 316(e); *see also Harmonic*, 815 F.3d at 1363 (citing 35 U.S.C. § 312(a)(a) (requiring *inter partes* review petitions to identify “with particularly . . . the evidence that supports the grounds for the challenge to each claim”)). “Failure to prove the matter as required by the applicable standards means that the party with the burden of persuasion loses on that point—thus, if the fact trier of the issue is left uncertain, the party with the burden loses.” *Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1327 (Fed. Cir. 2008). Because Petitioner’s argument is based on its contention that a POSA would have understood Hennecken to be disclosing servo stripe numbers that uniquely identify their respective servo bands, and because Petitioner has not

established by a preponderance of evidence that a POSA would have understood Hennecken in that manner, we are not persuaded that Hennecken anticipates claim 1 of the '805 patent.

Accordingly, we find that Petitioner has not established by a preponderance of the evidence that claim 1, and claims 2, 3, and 10 that depend, directly or indirectly therefrom, are anticipated by Hennecken.

F. Obviousness over Hennecken and Albrecht II

Petitioner contends that claims 1–3 and 10 would have been obvious under 35 U.S.C. § 103(a) over the combination of the Background Art of Hennecken and Albrecht II. Pet. 37–52; Pet. Reply 27–34. Petitioner relies on the Albrecht Declaration in support of its contentions. *Id.* Patent Owner disagrees with Petitioner's contentions, and relies on the Messner Declaration, the Supplemental Messner Declaration, and the Second Supplemental Messner Declaration. PO Resp. 59–64; Supp. PO Resp. 4–14.

1. Basis 1

Petitioner first contends that “[t]he Background of Hennecken discloses each limitation recited in claims 1 and 2 (see Ground 1 above), and the combination of Hennecken and Albrecht II disclose[s] each limitation recited in claims 1 and 2 for at least the same reasons under a first basis (Basis 1).” Pet. 42 (citing Ex. 1016 ¶ 241). In the claim chart provided in the Petition, for “Basis 1” Petitioner relies solely on the disclosures in Hennecken (and the arguments made with respect to Petitioner's contention that Hennecken anticipates claims 1 and 2) to support its contention that the combination of Hennecken and Albrecht II discloses all of the elements of claims 1 and 2. *See id.* at 48–50.

As set forth above, we determine that Petitioner has not established by a preponderance of the evidence that claims 1 and 2 are anticipated by Hennecken. *See supra* Section II.E. For the same reasons, Petitioner has not established by a preponderance of the evidence that claim 1 (and claim 10 that depends therefrom) and claim 2 (and claim 3 that depends therefrom) would have been obvious over the combined teachings of Hennecken and Albrecht II under Basis 1.

2. *Basis 2*

In Basis 2, Petitioner contends that “Hennecken discloses encoding the servo track number into respective servo tracks using an encoding technique of varying the spacing between transitions in a servo frame,” and that “Albrecht II also describes using this same general encoding scheme,” as well as “pattern generators to drive separate pulse generators to encode different data into respective servo tracks.” Pet. 42. Petitioner contends that “[t]he resulting combination (Basis 2) encodes the servo track number into the servo patterns of respective servo tracks as taught by Hennecken, using the encoding techniques and servo writers configured to write different data to respective servo track[s] of Albrecht II” and, therefore, “discloses each and every limitation of claims 1 and 2 under this second basis.” *Id.* (citing Ex. 1016 ¶ 241).

Petitioner contends that “Albrecht II discloses magnetic tape having servo patterns having additional data written thereon,” and “also discloses a plurality of servo bands, each having a servo pattern on which different information is superimposed.” *Id.* at 43 (citing Ex. 1003, 2:27–30, 14:46–49, 14:63–67). Petitioner also contends that Albrecht II “states ‘the pattern generator and separate pulse generators may be connected to each chevron

of gaps 414, to provide **different** data to each chevron,” and “Albrecht II discloses writing ‘addressing data’ to one track (servo track 27) and ‘a description of the tape’ to another (servo track 27’).” Pet. Reply 33 (quoting Ex. 1003, 14:46–49); see Pet. 43. In that regard, Dr. Albrecht testifies that “[w]hile Albrecht II does not explicitly mention encoding data to identify the servo track, by writing different data on respective servo tracks, the encoded data necessarily enables a servo reader to do so.” Ex. 1016 ¶ 127.

Petitioner and Dr. Albrecht, however, do not provide adequate explanation or evidence demonstrating that providing “different data to each chevron” or writing addressing data to one servo track and a description of the tape to another discloses “a plurality of servo bands on each of which is written a different servo signal” that uniquely identifies the respective servo tracks as required by claim 1. In fact, Dr. Albrecht acknowledges that “the different encoded data is not specifically described in Albrecht II as being used to identify the servo track.” Ex. 1016 ¶ 249. Albrecht II’s statement that different information can be superimposed on a servo track alone is not sufficient to demonstrate that the “different information” is necessarily unique to, and identifies, a specific servo band as Dr. Albrecht opines.

For these reasons, we are not persuaded that Petitioner has made a sufficient showing that Albrecht II discloses “a plurality of servo bands on each of which is written a different servo signal for tracking control of a magnetic head” as recited in claim 1. Accordingly, we find that Petitioner has not shown by a preponderance of the evidence that independent claim 1 of the ’805 patent, and claims 2, 3, and 10 that depend, directly or indirectly, therefrom, would have been obvious over the combined teachings of Hennecken and Albrecht II.

G. Obviousness over Hennecken, Albrecht II, and Dugas

Petitioner contends that claims 1–3 and 10 would have been obvious under 35 U.S.C. § 103(a) over the combination of Hennecken, Albrecht II, and Dugas. Pet. 52–56. For example, with respect to independent claim 1, Petitioner relies on its arguments with respect to Bases 1 and 2 set forth for its proposed combination of Hennecken and Albrecht II as demonstrating that the combination of Hennecken, Albrecht II, and Dugas also meets the limitations of claim 1. *Id.* at 55 (“The combination meets each limitation in claim 1—See Ground 2 Claim 1, Bases 1 and 2 (§ VIII.B above).”). As set forth above, we determine that Petitioner has not established sufficiently that either Hennecken or Albrecht II discloses “a plurality of servo bands on each of which is written a different servo signal for tracking control of a magnetic head” as recited in independent claim 1. *See supra* Sections II.E, II.F. Petitioner does not rely on Dugas to remedy these deficiencies in Hennecken and Albrecht II. Accordingly, for the same reasons given above, we determine that Petitioner has not shown by a preponderance of the evidence that claims 1–3 and 10 of the ’805 patent would have been obvious over the combine teachings of Hennecken, Albrecht II, and Dugas.

H. Obviousness over Albrecht II and Hennecken

Petitioner contends that “[a]s demonstrated in Ground II (see §§ VIII.B.3 and VIII.B.4), the combination of Hennecken and Albrecht II disclose[s] each limitation recited in claims 1–3 and 10 and the combination of Albrecht II and Hennecken also discloses each limitation recited in these claims for at least the same reasons.” Pet. 59 (citing Ex. 1016 ¶¶ 279–291). As set forth above, we determine that Petitioner has not established that either Hennecken or Albrecht II discloses “a plurality of servo bands on each

of which is written a different servo signal for tracking control of a magnetic head” as required by claim 1. *See supra* Sections II.E, II.F. Petitioner does not make any additional arguments that remedy the deficiencies described above with respect to the combination of Hennecken and Albrecht II. *See* Pet. 59 (claim chart).

Thus, for the same reasons given above, we determine that Petitioner has not shown by a preponderance of the evidence that claims 1–3 and 10 of the ’805 patent would have been obvious over the combined teachings of Albrecht II and Hennecken.

III. CONCLUSION

After reviewing the record and weighing the evidence offered by both parties, we determine that Petitioner has not demonstrated, by a preponderance of the evidence, that claims 1–3 and 10 of the ’805 patent are unpatentable.

IV. ORDER

In consideration of the foregoing, it is

ORDERED that Petitioner has not shown by a preponderance of the evidence that claims 1–3 and 10 of the ’805 patent are unpatentable; and

FURTHER ORDERED that because this is a Final Written Decision, parties to the proceeding seeking judicial review of the Decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

IPR2017-00618
Patent 7,355,805 B2

PETITIONER:

Richard F. Giunta
Randy J. Pritzker
Marc S. Johannes
WOLF, GREENFIELD & SACKS, P.C.
rgiunta-ptab@wolfgreenfield.com
rpritzker-ptab@wolfgreenfield.com
mjohannes-ptab@wolfgreenfield.com

PATENT OWNER:

Neil P. Sirota
Robert C. Scheinfeld
Eliot D. Williams
Eric J. Faragi
Albert J. Boardman
BAKER BOTTS L.L.P.
neil.sirota@bakerbotts.com
robert.scheinfeld@bakerbotts.com
eliot.williams@bakerbotts.com
eric.faragi@bakerbotts.com
albert.boardman@bakerbotts.com