

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

COMCAST CABLE COMMUNICATIONS, LLC,
Petitioner,

v.

ROVI GUIDES, INC.,
Patent Owner.

IPR2019-00224
Patent 7,827,585 B2

Before WILLIAM M. FINK, *Vice Chief Administrative Patent Judge*, and
KARL D. EASTHOM and BARBARA A. PARVIS,
Administrative Patent Judges.

PARVIS, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

Comcast Cable Communications, LLC, (“Petitioner”) filed a Petition pursuant to 35 U.S.C. §§ 311–319 to institute an *inter partes* review of claims 1–28 of U.S. Patent No. 7,827,585 B2 (Ex. 1001, “the ’585 Patent”). Paper 2 (“Pet.”). Rovi Guides, Inc. (“Patent Owner”) filed a Preliminary Response. Paper 8 (“Prelim. Resp.”). Patent Owner also filed a Statutory Disclaimer disclaiming claims 5, 12, 19, and 26. Ex. 2002. Additionally, Petitioner filed a Reply to Patent Owner’s Preliminary Response (Paper 9) and Patent Owner filed a Sur-Reply (Paper 11).

Upon consideration of the parties’ contentions and supporting evidence, we instituted an *inter partes* review pursuant to 35 U.S.C. § 314, as to claims 1–4, 6–11, 13–18, 20–25, 27, and 28 of the ’585 Patent. Paper 14 (“Inst. Dec.”). We did not institute on disclaimed claims 5, 12, 19, and 26. Ex. 2002.

After institution, Patent Owner filed a Patent Owner Response (Paper 23, “PO Resp.”); Petitioner filed a Reply (Paper 25, “Pet. Reply”); and Patent Owner filed a Sur-Reply (Paper 36, “PO Sur-Reply”). A transcript of the hearing held on March 4, 2020 has been entered into the record as Paper 44 (“Tr.”).

This Final Written Decision is entered pursuant to 35 U.S.C. § 318(a). For the reasons that follow, we determine that Petitioner has demonstrated by a preponderance of evidence that claims 1–4, 6–11, 13–18, 20–25, 27, and 28 of the ’585 Patent are unpatentable.

II. BACKGROUND

A. *Real Parties-in-Interest*

Petitioner identifies as the real parties-in-interest the following: Comcast Corp.; Comcast Business Communications, LLC; Comcast Cable Communications Management, LLC; Comcast Cable Communications, LLC; Comcast Financial Agency Corp.; Comcast Holdings Corp.; Comcast Shared Services, LLC; Comcast STB Software I, LLC; Comcast of Santa Maria, LLC; and Comcast of Lompoc, LLC. Pet. 1. Patent Owner names as the real parties-in-interest Rovi Guides, Inc. and Rovi Corp. Paper 3, 1.

B. *Related Matters*

As required by 37 C.F.R. § 42.8(b)(2), each party identifies a judicial matter that would affect, or be affected by, a decision in this proceeding. In particular, the parties inform us that the '585 Patent is asserted in *Rovi Guides, Inc. v. Comcast Corp.*, No. 2-18-cv-00253 (C.D. Cal. filed Jan. 10, 2018), and *Digital Video Receivers and Related Hardware and Software Components*, Inv. No. 337-TA-1103 (ITC filed Feb. 8, 2018) (“related ITC proceeding”). Pet. 1; Paper 3, 1.

Additionally, Petitioner filed six petitions, each requesting *inter partes* review of claims 1–28 of the '585 Patent, including the instant Petition. We exercised our discretion under 35 U.S.C. § 314 and denied institution of *inter partes* review in the other five of those proceedings. *See, e.g., Comcast Cable Communications, LLC v. Rovi Guides, Inc.*, IPR2019-00225, Paper 14 (PTAB June 3, 2019) (Decision Denying Institution).

C. The '585 Patent

The '585 Patent is directed to interactive television program guide systems. Ex. 1001, 1:16. Figure 2 of the '585 Patent is reproduced below.

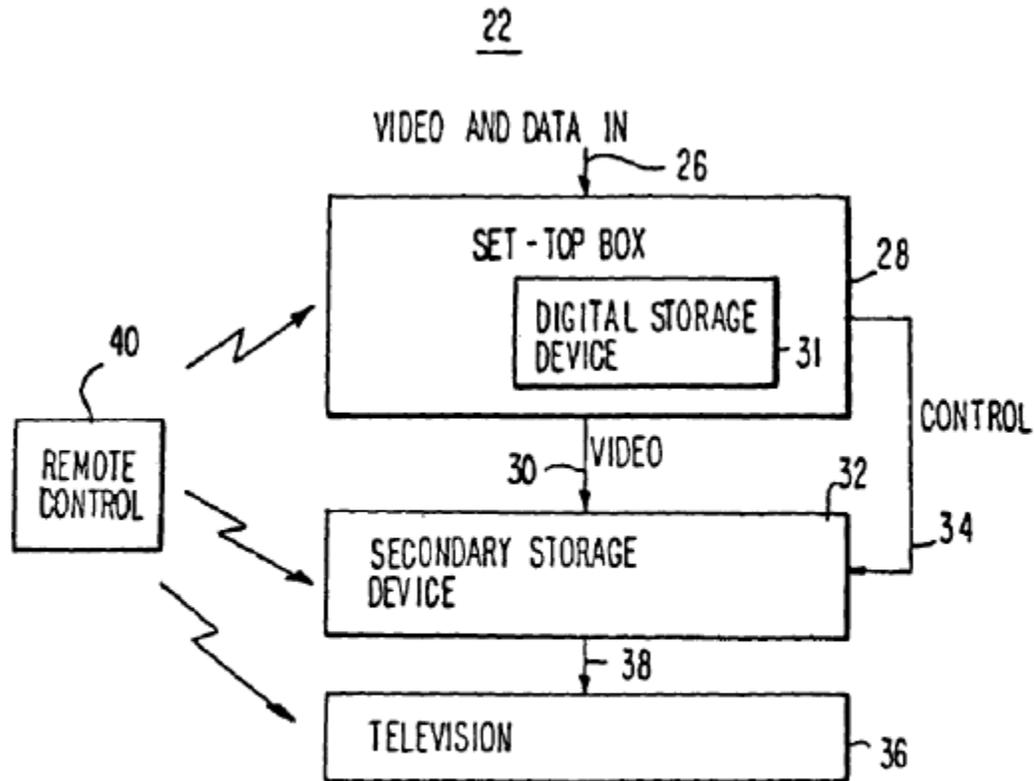


FIG. 2

Figure 2 of the '585 Patent, above, illustrates a schematic block diagram of user television equipment 22. *Id.* 2:49–50. Television equipment 22 receives video and data from television distribution facility 16 (not shown) at input 26. *Id.* at 3:30–31. During normal television viewing, a user tunes set-top box 28 to a desired television channel. *Id.* 3:31–32. The signal for that television channel is then provided at video output 30 and is received by

optional secondary storage device 32. *Id.* at 3:32–40. Secondary storage device 32 is a program storage device, such as a videocassette recorder or a digital video disc (DVD) player with the ability to record DVD discs. *Id.* at 3:40–43. Remote control 40 is used to control set-top box 28, secondary storage device 32, and television 36. *Id.* at 3:50–52.

D. Illustrative Claim

As indicated above, this trial involves Petitioner’s challenges to claims 1–4, 6–11, 13–18, 20–25, 27, and 28 of the ’585 Patent. Pet. 1. Claims 1, 8, 15, and 22 are independent claims. Claims 2–4, 6, 7, 9–11, 13, 14, 16–18, 20, 21, 23–25, 27 and 28 depend, directly or indirectly, from claims 1, 8, 15, and 22, respectively. Independent claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A method for allowing a user to select storage options for storing programs using an interactive television program guide implemented on user television equipment, the method comprising:

providing the user with an opportunity to select at least one storage option for storing a program to be recorded, wherein the at least one storage option relates to at least one storage setting configured to control how programs are to be digitally stored on a random access digital storage device;

in response to a user selection of the at least one storage option, modifying the at least one storage setting;

displaying in the interactive television program guide at least one program listing related to at least one program;

providing the user with an opportunity to select a program listing from the at least one displayed program listing for recording on the random access digital storage device; and

recording the program on the random access digital storage device based on the modification of the at least one storage setting.

Ex. 1001, 18:46–67.

E. Evidence Relied Upon

Petitioner relies on the following references:

U.S. Patent No. 6,177,931 B1, filed July 21, 1998, issued January 23, 2001 (Ex. 1018, “Alexander”);

United Kingdom Patent Application Publication No. GB 2 298 544 A, filed March 3, 1995, published September 4, 1996 (Ex. 1020, “Malik”);

U.S. Patent No. 5,887,115, filed November 16, 1994, issued March 23, 1999 (Ex. 1021, “Boyce”);

U.S. Patent No. 6,252,834 B1, filed January 5, 1998, issued June 26, 2001 (Ex. 1023, “Kumagai”); and

International Application Publication No. WO 92/22983, filed June 9, 1992, published December 23, 1992 (Ex. 1022, “Browne”).

Additionally, Petitioner relies on the Declaration of Mr. Anthony Wechselberger (Ex. 1025) and the Second Declaration of Mr. Wechselberger (Ex. 1050). Patent Owner relies on the Declaration of Mr. John Tinsman (Ex. 2016).

F. Grounds Asserted

Petitioner asserts the grounds of unpatentability below. Pet. 9.¹

Claims Challenged	35 U.S.C.²	Reference(s)/Basis
1, 8, 15, 22	§ 102(e)	Alexander
1, 2, 7–9, 14–16, 21–23, 28	§ 103(a)	Alexander, Malik
1, 3, 4, 8, 10, 11, 15, 17, 18, 22, 24, 25	§ 103(a)	Alexander, Boyce
1, 6, 8, 13, 15, 20, 22, 27	§ 103(a)	Alexander, Kumagai, Browne
1, 6, 8, 13, 15, 20, 22, 27	§ 103(a)	Alexander, Browne
1, 2, 7–9, 14–16, 21–23, 28	§ 103(a)	Alexander, Browne, Malik
1, 3, 4, 8, 10, 11, 15, 17, 18, 22, 24, 25	§ 103(a)	Alexander, Browne, Boyce

Table 1 of this Decision, above, summarizes the grounds in the instant proceeding.

¹ Disclaimed claims 5, 12, 19, and 26 have been omitted from the table.

²The '585 Patent was filed August 4, 2005 and claims priority to a series of continuation applications. Ex. 1001, at codes (22), (63). Petitioner asserts “the earliest priority date” of the '585 Patent is September 17, 1998. Pet. 12. Because the challenged claims of the '585 Patent have an effective filing date before March 16, 2013, the 35 U.S.C. §§ 102 and 103 provisions of the Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, §§ 3(b)–3(c), 3(n)(1), 125 Stat. 284, 285–87, 293 (2011), do not apply and we apply the pre-AIA versions of these statutes.

III. DISCUSSION

A. Principles of Law Relating to Anticipation and Obviousness

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). “To anticipate a claim, a prior art reference must disclose every limitation of the claimed invention, either explicitly or inherently.” *In re Schreiber*, 128 F.3d 1473, 1477 (Fed. Cir. 1997).

A patent claim is unpatentable if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. 35 U.S.C. § 103(a). 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 skill in the art; and (4) objective evidence of nonobviousness, i.e., secondary considerations. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). When evaluating a combination of teachings, we also “determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007).

B. Level of Ordinary Skill

Relying on the testimony of Mr. Wechselberger, Petitioner contends that a person having ordinary skill in the art would have had a bachelor’s

degree in electrical engineering, computer engineering, computer science, applied mathematics, or a similar discipline, as well as two or more years of relevant industry or research experience, including in electronic content delivery, electronic program guides, television video signal processing, graphical user interfaces, cable or satellite television systems, set-top boxes, multimedia systems, or digital storage devices. Pet. 19 (citing Ex. 1025 ¶¶ 29–31). We adopted Petitioner’s definition for the purposes of determining whether to institute an *inter partes* review. Inst. Dec. 10.

In its Patent Owner Response, relying on the testimony of Mr. Tinsman, Patent Owner asserts a slightly different definition. In particular, Patent Owner asserts that “[a] person of ordinary skill in the art would have a bachelor’s degree in electrical engineering, computer engineering, computer science, or applied mathematics as well as two or more years of relevant industry experience, including in electronic content delivery, electronic program guides, television video signal processing, graphical user interfaces, cable or satellite television systems, set-top boxes, multimedia systems, or data search techniques.” PO Resp. 9 (citing Ex. 2016 ¶ 38; Ex. 2021, 57).

In determining the level of ordinary skill in the art, various factors may be considered, including the “type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field.” *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (citation omitted). On the complete record now before us, we adopt Petitioner’s definition because it is consistent with the problems and solutions in the prior art of record. Petitioner’s definition also is consistent

with the '585 Patent Specification. For instance, we determine that Petitioner's definition more appropriately reflects that a person having ordinary skill in the art would have had two or more years of relevant industry *or research experience*, whereas Patent Owner's definition omits research experience. Also, Petitioner's definition appropriately reflects the relevance of experience in digital storage devices, which is more consistent with the evidence of record in this case than Patent Owner's definition which omits experience in digital storage devices. We further find that the prior art of record in the instant proceeding reflects the appropriate level of ordinary skill in the art. *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (the prior art itself can reflect the appropriate level of skill in the art). Neither party identified how the result would differ based on the level of ordinary skill in the art. Also, our conclusions do not turn on which definition is selected.

C. *Claim Construction*

1. *Overview*

At the institution stage, we summarized the parties' claim construction contentions in Table 2 below.

Claim Term	Petitioner's Proposed Construction	Patent Owner's Proposed Construction
"using an interactive television program guide" (claims 1 and 8)	The preambles of the independent claims should not be considered to be limiting. Pet. 16.	The preambles of claims 1 and 8 are limiting with respect to "using an interactive television program guide." Prelim. Resp. 13.
"random access digital storage device" (claims	"A digital storage device that can access	Petitioner's construction is not

Claim Term	Petitioner’s Proposed Construction	Patent Owner’s Proposed Construction
1, 8, 15, and 22)	memory locations in a non-sequential manner.” Pet. 13.	disputed by Patent Owner. Prelim. Resp. 12–26.
“wherein [the/said] at least one storage option relates to at least one storage setting configured to control how [programs are/the program is] to be digitally stored” (claims 1, 8, 15, and 22) ³	“The BRI of ‘storage setting’ includes those settings related to the storage options identified in the specification, figures, and claims of the patent: (1) language tracks, (2) subtitles, (3) video formats, (4) parental control features, and (5) automatic erasure of viewed programs.” Pet. 14 (citing, <i>e.g.</i> , Ex. 1001, 15:51-61; FIG. 14).	“This phrase should be construed to define ‘the way or manner in which the program(s) will be digitally stored.’” Prelim. Resp. 18.

Table 2, above, is a summary of the parties’ claim construction contentions at the institution stage.

Inst. Dec. 10–11.

At the institution stage, we analyzed only the “wherein” clause. *Id.* at 10–18. The disputes in this proceeding continue to be centered on the

³ We refer to this recitation as “the ‘wherein’ clause” herein.

construction of that clause and, below, we discuss the parties' contentions in that regard following our Decision to Institute.⁴

In view of the issues we address below, we determine we need not provide further express constructions for any other terms in this proceeding. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017), *cert. denied*, 138 S. Ct. 1695 (April 30, 2018) (noting that “we need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy’”) (citing *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

2. “wherein [the/said] at least one storage option relates to at least one storage setting configured to control how [programs are/the program is] to be digitally stored”

In this *inter partes* review, we construe claim terms according to their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b) (2018).⁵ The disputes between

⁴ Our analysis of the “wherein” clause is needed to evaluate the parties’ contentions only with respect to anticipation and dependent claims 6, 13, 20, and 27 because Petitioner has shown obviousness of claims 1–4, 7–11, 14–18, 21–25, and 28 even if the “wherein” clause is limited in the manner proposed by Patent Owner. *See infra* §§ III.D.–III.F.

⁵ The claim construction standard to be employed in an *inter partes* review has changed. *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) (amending 37 C.F.R. § 42.100(b) effective November 13, 2018) (now codified at 37 C.F.R. § 42.100(b) (2019)). At the time of the filing of the Petition, however, the Board employed the “broadest reasonable construction,” as set forth in 37 C.F.R. § 42.100(b) (2018).

the parties' center on two terms "how" and "programs/program" recited in the "wherein" clause.

Petitioner contends "[t]he BRI of 'storage setting' includes those settings related to the storage options identified in the specification, figures, and claims of the patent: (1) language tracks, (2) subtitles, (3) video formats, (4) parental control features, and (5) automatic erasure of viewed programs." Pet. 14 (citing, *e.g.*, Ex. 1001, 15:51–61; FIG. 14). Although Petitioner also contends the broadest reasonable interpretation would include "those settings asserted by Patent Owner to infringe," Petitioner contends "the prior art shows at least those options and settings disclosed in the '585 patent." *Id.* at 14–15.⁶

At the institution stage, we determined that even using Patent Owner's plain and ordinary meaning "Patent Owner's proposal i.e., 'the way or manner in which the program(s) will be digitally stored' unnecessarily interjects 'will' into the aforementioned phrase." Inst. Dec. 13. We also determined that the intrinsic evidence including the '585 Patent Specification does not support Patent Owner's interpretation. *Id.* at 13–18. We, therefore, declined to limit "storage option" as Patent Owner proposed and, instead, determined that the broadest reasonable construction encompasses the exemplary storage options described in the '585 Patent Specification, such as "language tracks," "video formats," "parental control" on storage, and automatic erasure of viewed programs. *Id.* at 17 (citing Ex. 1001, 15:51–61, Figs. 14, 16).

⁶ Petitioner also contends "[i]n the ITC, the ALJ declined to construe this term as a means plus function element." *Id.*

We start with Patent Owner’s contentions regarding the term “how” in the “wherein” clause. Referring to the Decision to Institute, Patent Owner asserts “Patent Owner’s revised proposed construction differs from the construction in the [Patent Owner Preliminary Response (POPR)] by deleting ‘will.’” PO Resp. 19. Patent Owner contends in the context of the ’585 Patent “[t]he term ‘how’ is different from ‘what’ or ‘whether.’” *Id.* at 21 (citing Ex. 2016 ¶ 69). Patent Owner contends “[i]n the concurrent ITC proceeding, the ALJ agreed with and articulated this distinction: “‘how’ storage options pertain only *to the particulars of actually storing* a program on a digital device.” PO Resp. 21 (citing, *e.g.*, Ex. 2021, 242 (emphasis added)).

Patent Owner, more specifically, asserts “[t]he claimed storage options in the ’585 patent are directed to *a particular subset of options* that effect the manner in which—i.e., ‘how’—programs *are actually stored* (i.e., recorded) on the random access digital storage device.” *Id.* at 20 (citing Ex. 2016 ¶ 67) (emphases added). Relying on its Statutory Disclaimer filed after the Petition, Patent Owner maintains that at least the parental control function is not within the subset of storage options recited in the independent claims. *See, e.g., id.* at 8–9. Patent Owner asserts “if the parental control option is exercised upon storage, some programs would not be recorded and the last step of independent claim 1, for example, would not be met” so Patent Owner filed a statutory disclaimer to disclaim dependent claims 5, 12, 19, and 26 further limiting storage option to at least one parental control criterion. *Id.*

Starting with the language of the claims, each of independent claims 1, 8, 15, and 22 recites “wherein [the/said] at least one storage option relates

to at least one storage setting configured to control how [programs are/the program is] to be digitally stored on a random access digital storage device.” Ex. 1001, 18:53–56, 19:34–37, 20:6–9, 20:59–62. The dependent claims recite further limitations regarding “at least one storage option.” For example, each of dependent claims 6, 13, 20, and 27 recites “wherein the at least one storage option is for *automatically erasing* [programs/the program] from the digital storage device once the [programs are/program is] viewed by the user.” *Id.* at 19:16–18, 19:58–60, 22:6–8 (emphasis added). The claim language supports Petitioner’s position that storage options relate to storage (and erasure of stored programs).

We turn to Patent Owner’s contention that its construction is required by the last step in independent claim 1. PO Resp. 8, 23; PO Sur-Reply 6–7. Contrary to Patent Owner’s contention, claim 1 recites “providing the user with an opportunity to select *a program listing*,” and then in the last step “recording *the program*,” which derives antecedent basis from the prior step in which the user is provided the opportunity to select *a program*. Ex. 1001, 18:61–67. Both steps follow the “wherein” clause that recites “*programs*,” prior to selection. The last step recited in claim 1 does not require that we adopt Patent Owner’s proposal and Patent Owner does not contend that the “wherein” clause has a different meaning in different claims. The language of the independent and dependent claims is consistent with Petitioner’s

contentions that the storage options relate to storage, including whether to erase after viewing.⁷

Turning to the Specification, the portion of the '585 Patent Specification relied upon by both parties describes the following:

Storage option area 122 allows the user to select options relating to storage. For example, the user can select the language tracks or video formats for storing with a program. The user can also set whether a *parental control feature applies to the recording of programs which do not meet certain parental control criteria*. The user may also choose whether the program guide automatically erases entries from digital storage device 49 once the entries are viewed. When erased, an entry's directory information and additional components are also removed from digital storage device 49.

Id. at 15:51–61 (emphasis added). Another portion of the '585 Patent Specification relied upon describes “[i]f language, video format, *enforcement of parental control*, and auto-erase storage options are provided (FIG. 15), the program guide stores the programs and associated program data on digital storage device 49 according to how the storage options are defined.” *Id.* at 16:31–35.⁸ According to the '585 Patent Specification, parental control is a storage option.

⁷ Patent Owner's attorney argument that “[t]he verb ‘are to be stored’ indicates a definite future action, not a conditional action” is conclusory and not supported by the intrinsic record. PO Resp. 22–23 (citing Ex. 2016 ¶ 72). Mr. Tinsman's testimony does not include support for that argument and, instead, his testimony pertains to “how” and the last step recited in claim 1. Ex. 2016 ¶ 72 (citing Ex. 1001, 18:51–56, 18:65–67).

⁸ The '585 Patent Specification describes the “associated program data” as different than the “program” and “storage options.” *Id.* at 9:14–20.

Patent Owner relies on portions of the '585 Patent Specification pertaining to only two options, i.e., language and video format options, but not the auto-erase option (which has not been disclaimed). PO Resp. 23–25 (citing Ex. 1001, 9:27–29, 15:53–54; Ex. 2016 ¶¶ 74–78); *see also* Ex. 2016 ¶¶ 73–78 (testifying regarding the language and video format options). Those portions of the '585 Patent Specification describe that “[t]he program guide will either store all of the supplied video formats and language, or store only the variant that matches the current profile preferences” (*id.* at 9:27–29) and “the user can select the language tracks or video formats for storing with a program” (*id.* at 15:53–54).

With respect to the auto-erase option recited in dependent claims 6, 13, 20, and 27 at issue in this proceeding, relying on Mr. Tinsman, Patent Owner asserts “[t]he ‘way or manner in which’ a program is stored can also change the ‘other data’ component of a broadcasted program.” PO Resp. 26–27 (citing Ex. 2016 ¶¶ 79–82). Patent Owner, more specifically, asserts that “the ‘other data’ takes the form of modifiable fields or settings that are stored as part of the program, and that are then modified upon recording based on the storage option and related storage setting.” *Id.* at 26 (citing Ex. 1001, 4:38–43, 16:28–36; Ex. 2016 ¶ 80).

Contrary to Patent Owner’s arguments and Mr. Tinsman’s testimony, the portions of the '585 Patent Specification relied upon by Patent Owner do not describe modifiable fields or settings in association with the auto-erase option that set forth a particular broadcasted program. Instead, the first of the portions of the '585 Patent Specification relied upon by Patent Owner describes associated data from television distribution facility 16, such as the title, date, time, channel, and duration of the program, as well as “cast

members, parental control ratings, program categories, episode information, recorded languages and video formats.” Ex. 1001, 4:38–43, 9:13–21. The second portion of the ’585 Patent Specification relied upon by Patent Owner describes “the program guide stores the programs and associated program data on digital storage device 49” in accordance with “language, video format, enforcement of parental control, and auto-erase storage options,” if provided. *Id.* at 16:28–36. Patent Owner acknowledges that it relies on the knowledge of the skilled artisan to implement details necessary to limit the claims. *See, e.g.*, Tr. 53:16–17. Contrary to Patent Owner’s proposal, we maintain our determination that the auto erase option generally pertains to “entries,” not data associated and stored with a particular entry. Inst. Dec. 14–15 (citing Ex. 1001, 15:52–61, Fig. 14).

We turn to Patent Owners’ contention regarding the ITC investigation and, in particular, Patent Owner’s contention that “[i]n the concurrent ITC proceeding, the ALJ agreed with and articulated this distinction: “‘how’ storage options pertain only *to the particulars of actually storing* a program on a digital device.” PO Resp. 21 (citing, *e.g.*, Ex. 2021, 144, 174, 242, 243 (emphasis added)). The portions of the ITC investigation discussed by Patent Owner pertain to the prosecution history of the ’585 Patent, but not the ’585 Patent Specification. *See, e.g.*, Ex. 2021, 144 (stating that “based on the *prosecution history* of the ’585 patent, mere specification of the program to record and store, without more, does not satisfy the ‘setting configured to control how programs are to be digitally stored’ limitation required by the claims” (emphasis added)).

In response to the same argument at the instituted stage, we said the following:

Additionally, Patent Owner's contentions regarding arguments made during prosecution are misplaced because the remarks are broader than Patent Owner's proposed construction. Prelim. Resp. 24 (citing Ex. 1010, 11). In particular, during prosecution, Applicant argued "the modified device would not disclose the provision of a storage option that relates to a storage setting configured to control storage of programs on a random access digital storage device." Ex. 1010, 11. Contrary to Patent Owner's characterization here, these prosecution history arguments attempted to distinguish the prior art based on the type of storage employed *See id.* (Patent Owner also argued "the digital recording mode disclosed in Young, would enable a user to control the recording speed at which programs are stored on digital video tape or other sequential access storage device. The amended independent claims require the digital storage device to be a random access digital storage device.").

Inst. Dec. 16. In other words, Patent Owner's arguments relying on the amendment adding the "wherein" clause and remarks filed therewith are based on a mischaracterization of the remarks, which attempt to distinguish the prior art based on the type of storage employed.

Patent Owner also maintains its position that its proposal is supported by Patent Owner's statutory disclaimer filed after the Petition. PO Resp. 8–9, 27–28. At institution, we said:

As to the statutory disclaimer, we are not persuaded this should affect claim construction. The instant proceeding is distinguishable from the precedential decision in *Facebook* in which the panel concluded that the statutorily disclaimed claims should be treated as though they never existed for purposes of determining CBM patent review eligibility. *Facebook* slip op. at 3–4, 11. Patent Owner's reliance on *Vectra* is misplaced because that decision recognized that the public is entitled to rely on the entire prosecution history. *Vectra*, 162 F.3d at 1384 ("The public is entitled to rely upon the public record of a patent in determining the scope of the patent's claims."). Here, Patent Owner's recent disclaimer of dependent claims 5, 12, 19, and 26,

which issued to further limit independent claims 1, 8, 15, and 22 by reciting storage settings that defined “whether” programs were to be recorded (Prelim. Resp. 25), “cannot be squared with the prosecution history,” according to Patent Owner (PO Sur-Reply 2–3). On the contrary, claims 5, 12, 19, and 26 are part of the prosecution history and serve to inform the breadth of claims 1, 8, 15, and 22. Accordingly, based on the record at this juncture, we decline to limit “storage option” as Patent Owner proposes. Instead, at this preliminary stage in the proceeding, we determine that the broadest reasonable construction encompasses the exemplary storage options described in the ’585 Patent Specification, such as “language tracks,” “video formats,” “parental control” on storage, and automatic erasure of viewed programs. Ex. 1001, 15:51–61, Figs. 14, 16.

Inst. Dec. 16–17.

Regarding the amendment adding the “wherein” clause and remarks filed therewith, in its Patent Owner Response, Patent Owner does not dispute Petitioner’s proposed construction for “random access digital storage device.” *See generally* PO Resp. Patent Owner also does not supplement its arguments made prior to institution regarding the prosecution history. *Id.* at 8–9, 27. Based on the complete record now before us, after considering the arguments and evidence of both parties, as well as the determinations in the ITC investigation, we maintain our determinations at the institution stage, reproduced above. Inst. Dec. 16–17.

We turn to Patent Owner’s contentions regarding the term “programs/program” in the “wherein” clause. Patent Owner asserts that the term “program” should be construed to mean “video, audio, and other data corresponding to a single program listing in a program guide.” PO Resp. 11 (citing Ex. 2016 ¶ 52). As an initial matter, Patent Owner does not explain why a “program” must include video and audio and what is meant by “other data.” *Id.* at 10–19. Upon consideration of the arguments in the Patent

Owner Response, Patent Owner's inclusion of "single" is to limit "program" to no more than one episode. *Id.* at 12 (asserting that a construction "of the term 'program' to include more than one episode" is not consistent with the understanding of that term by a person having ordinary skill in the art), 16 (asserting that the '585 Patent Specification figures "do not suggest that a single episode and a 'program' are somehow different").

Patent Owner relies on the '585 Patent Specification, but upon consideration of those portions identified by Patent Owner, we do not agree it supports limiting "program" in the manner argued by Patent Owner. PO Resp. 13–19 (citing, *e.g.*, Ex. 1001, 4:37–41, 5:29–32, 6:2–3, 7:24–26, 7:62–66, 8:51–55, 9:3–40, 16:8–17, 16:44–46, 16:59–62, Figs. 5A, 6, 7b, 15, 16); PO Sur-Reply 2–6 (citing, *e.g.*, Ex. 1001, 6:37–42, 6:56–60, 6:44–48, Figs. 5A, 5B, 6, 7A, 7B, 17). For instance, the '585 Patent Specification's description of associated program data does not limit the term "program" to a single episode. Ex. 1001, 9:13–21 (describing associated program data as including "the date and time the program was recorded, the channel the program was recorded on, the time duration of the program, the program title and description, cast members, parental control ratings, program categories, episode information, recorded languages and video formats"). Additionally, the '585 Patent Specification's description of transmitting video and audio does not limit "program" to a single episode. Ex. 1001, 4:37–41 (describing that "program listings, programming and program data associated with the programming (hereinafter 'associated program data') from television distribution facility 16 (FIG. 1) are received by control circuitry 42 of user television equipment 22"), 9:3–10 (describing that "[t]he program and associated program data may even be stored in non-contiguous

space on the storage medium”), 16:8–10 (describing that “the programs and associated program data are stored on digital storage device 49 using the program guide”). Furthermore, the ’585 Patent Specification’s description of user interfaces and steps performed by a user also does not limit the term “program” to a single episode, for example, because they illustrate or pertain to daily programming schedules showing what is broadcast during particular timeslots, but do not limit the term “program” or indicate it has the same meaning as “episode.” *See, e.g., id.* at 7:24–26, 7:62–66, 8:51–55, 9:3–40, 16:8–17, 16:44–46, 16:59–62, Figs. 5a, 5b, 6, 7a, 7b, 15, 16, 17).

The intrinsic record is clear. Nevertheless, Patent Owner’s extrinsic evidence including digital television standards describes technical details regarding transmission and does not require limiting “program” to a single episode. *See, e.g., Ex. 2016 ¶¶ 61–64; Ex. 2009, 1, 4, 8, 18, 19.* We have considered Patent Owner’s arguments and evidence and conclude that although the term “program” encompasses a single episode, based on the disclosure in the ’585 Patent Specification, the broadest reasonable interpretation of “program” is not limited such that “program” cannot include more than one episode and the term “program” is not synonymous with “episode.”

Based on the complete record now before us, we decline to limit “storage option” as Patent Owner proposes. Instead, we maintain our determinations in the Decision to Institute. Inst. Dec. 17–18. In particular, we determine that the broadest reasonable construction encompasses the exemplary storage options described in the ’585 Patent Specification, such as “language tracks,” “video formats,” “parental control” on storage, and automatic erasure of viewed programs. Ex. 1001, 15:51–61, Figs. 14, 16.

We also determine that the '585 Patent Specification describes an episode of a program such that the two terms are not synonymous and the term “program” may include more than one episode. We need not make further determinations to resolve a dispute in this proceeding. We, however, note that although we do not limit “storage option” as Patent Owner proposes, for completeness, we consider Patent Owner’s narrower construction of “storage option” when addressing Petitioner’s obviousness challenges below.

D. Unpatentability—Independent Claims 1, 8, 15, and 22

Petitioner contends each of claims 1, 8, 15, and 22 of the '585 Patent is unpatentable, under 35 U.S.C. § 102(e), as anticipated by Alexander. Pet. 9, 33–55. Petitioner also contends each of claims 1, 8, 15, and 22 of the '585 Patent is unpatentable, under 35 U.S.C. § 103(a), as obvious over the following prior art combinations: (1) Alexander and Malik; (2) Alexander and Boyce; (3) Alexander, Kumagai, and Browne; (4) Alexander and Browne; (5) Alexander, Browne, and Malik; (6) Alexander, Browne, and Boyce. *Id.* at 9, 56–74. Patent Owner opposes. *See generally* PO Resp. In our discussion below, we first provide a brief overview of the prior art, and then we address the parties’ contentions in turn.

1. Overview of Alexander

Alexander is directed to an electronic program guide (EPG). Ex. 1018, 1:53–54, 2:3–4. An EPG is shown in Figure 1 of Alexander, which is reproduced below.

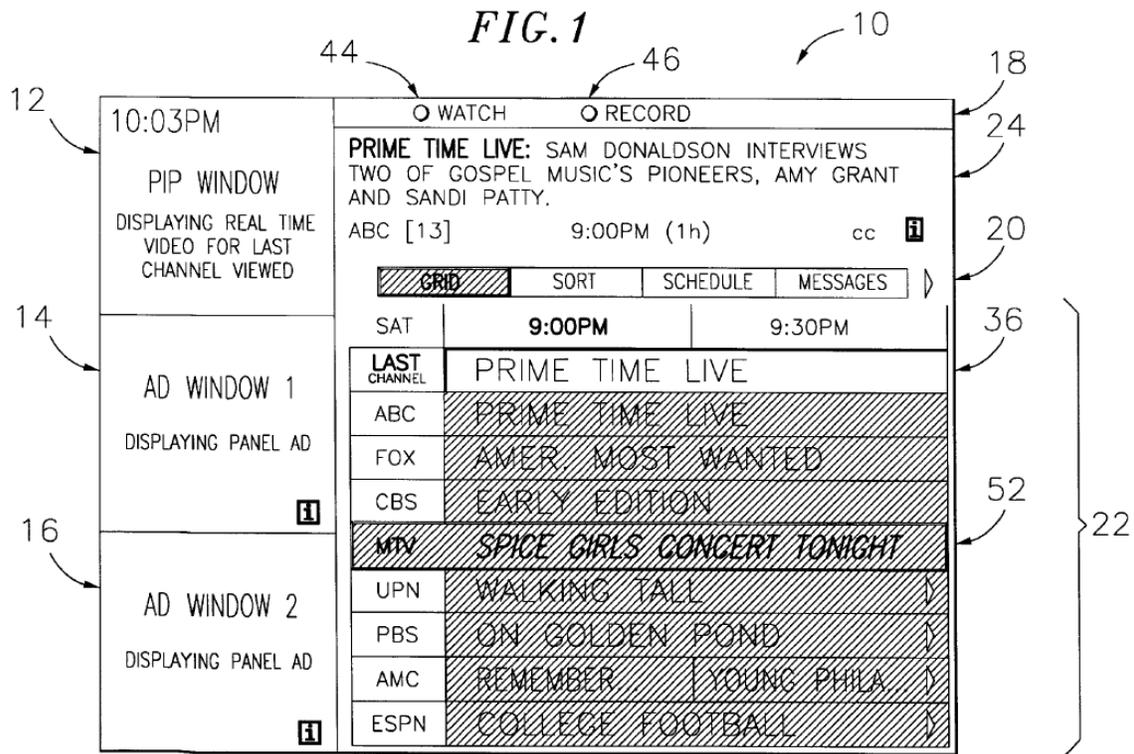


Figure 1 of Alexander, above, illustrates television screen display 10 having Picture in Picture (PIP) window 12, Panel Ad Windows 14 and 16, action key bar 18, navigation bar 20, information box 24, and Grid Guide 22. *Id.* at 3:1–13.

Display 10 is generated by a conventional television receiver. *Id.* at 3:3–4. A real time television program is displayed in PIP window 12. *Id.* at 3:57–58. Advertising messages are displayed in Panel Ad Windows 14 and 16. *Id.* at 3:1–2. Titles and channels are displayed in Grid Guide 22. *Id.* at 3:30. Remote controller 26 is used for activating the functions of display 10. *Id.* at 3:21–23.

2. *Overview of Malik*

Malik is directed to a television system that records programs with a multiplicity of language tracks. Ex. 1020, 1.⁹ Malik's system also records textual messages in different languages, messages such as textual dubbing, scores, results, tables, program headers, and footers. *Id.* at 2. A user chooses the language of interest from a menu displayed on the display unit. *Id.* at 5.

3. *Overview of Boyce*

Boyce is directed to digital video tape recorders (VTRs) that record high definition television (HDTV) and standard definition television (SDTV). Ex. 1021, 1:19–21. Figure 9 of Boyce is reproduced below.

⁹ The citations herein are to the page numbers in the original document, so page 1 is the first page of text, not the cover page. *See generally id.*

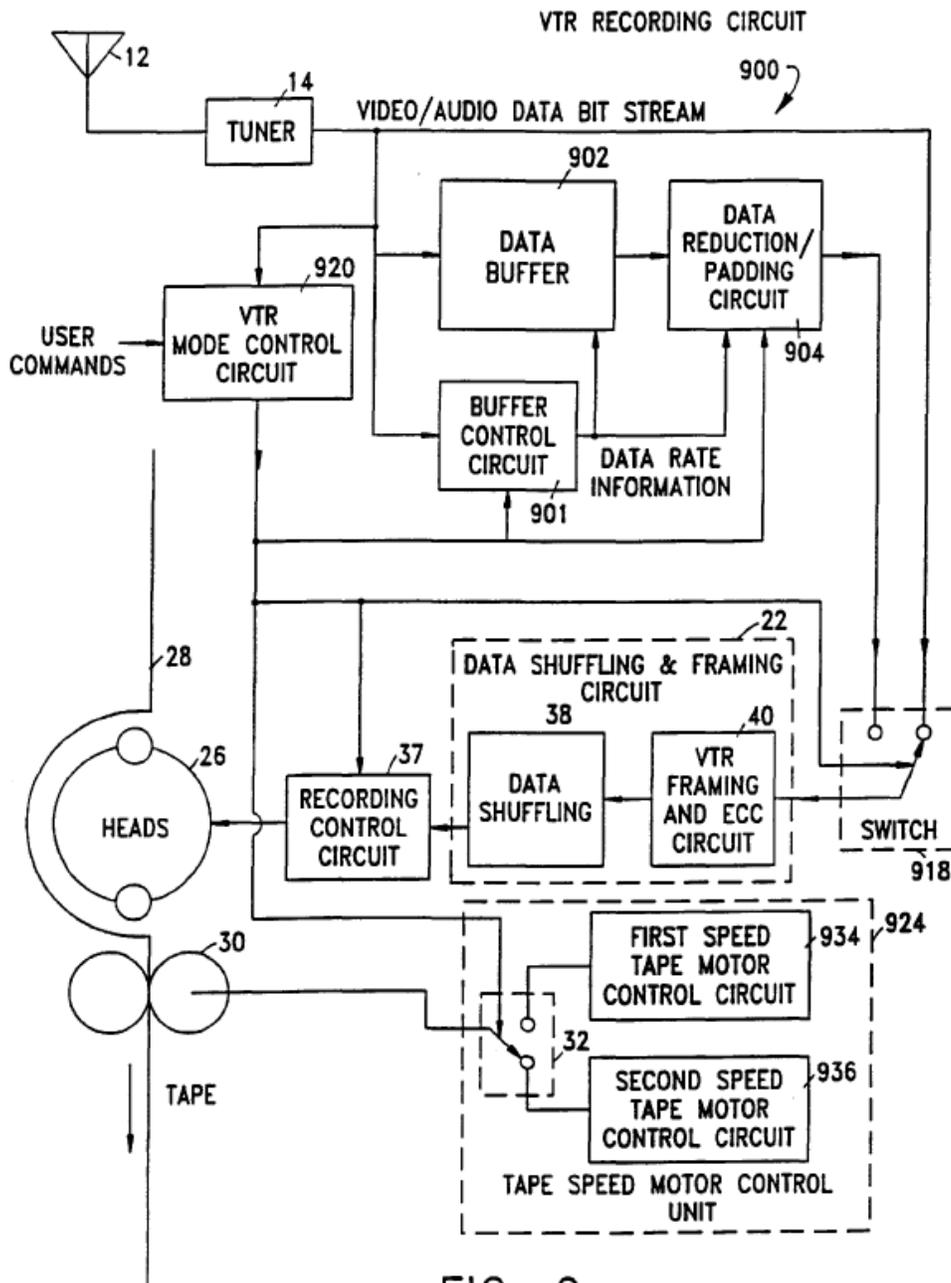


FIG. 9

Figure 9 of Boyce, above, illustrates VTR recording circuit 900 for recording SDTV and HDTV signals. *Id.* at 39:48–51. VTR recording circuit 900 includes VTR mode control circuit 920, which receives user

then the oldest available program in storage section 104 is erased and a new program is stored in this storage space. *Id.* at 19:9–12. If the locking option described is selected, and if the oldest stored program is locked, the next oldest unlocked program is preferably overwritten when recording occurs. *Id.* at 19:12–15. Thus, the FIFO mode causes the oldest stored program, or oldest stored unlocked program, to be automatically erased when the storage capacity of storage section 104 is reached. *Id.* at 19:15–18. Alternatively, by selecting previously viewed option 301b, only programs which have been viewed will be automatically erased. *Id.* at 19:19–22. The erasure of the stored viewed programs is performed on a FIFO basis. *Id.* at 19:22–24.

5. *Overview of Kumagai*

Kumagai is directed to an optical disc device. Ex. 1023, 1:7–9. Kumagai describes a rewritable optical disc (DVD-RW). *Id.* at 7:64–67.

6. *Claim 1*

Petitioner contends that claim 1 is anticipated by Alexander (Pet. 33–46) and obvious over Alexander in combination with other art summarized above (*id.* at 56–74). In its obviousness contentions, Petitioner relies on

Alexander for most recitations in claim 1, except “at least one storage option.” *Id.*¹⁰

The dispute between the parties centers on

providing the user with an opportunity to select at least one storage option for storing a program to be recorded, wherein the at least one storage option relates to at least one storage setting configured to control how programs are to be digitally stored on a random access digital storage device

(Ex. 1001, 18:51–56, referred to herein as “element 1[b]”), discussed above in Section III.C.2 with respect to claim construction. PO Resp. 36–50, 53–55. Also, with respect to element 1[b], Patent Owner contends that a person having ordinary skill in the art would not and could not have combined Alexander and Boyce because they are technically incompatible. *Id.* at 50–

¹⁰ Petitioner asserts that Alexander is prior art under § 102(e) and claims priority to provisional application No. 60/055,761 filed August 14, 1997 (herein “the Alexander ’761 provisional”). Pet. 20. Petitioner provides a detailed analysis to show how the Alexander ’761 provisional provides written description support for claims 1 and 28 of Alexander. *See* Pet. 21–29 (citing *Dynamic Drinkware, LLC v. National Graphics, Inc.*, 800 F.3d 1375, 1381 (Fed. Cir. 2015); Ex. 1025 ¶¶ 56–59; Ex. 1019, 2:16–23; 3:14–25; 4:13–17; 5:8–11; 5:30; 7:23–24; 9:6–7; 9:10–19; 9:23–27; 16:25–32; 17:23–18:9; 18:30–33; Ex. 1028, 26 Fig. 1; 6:22–35; 7:29–8:1.). Petitioner also provides detailed explanations including element-by-element analysis showing that the ’176 provisional supports the disclosures in Alexander that Petitioner relies on. Pet. 33–46. Petitioner’s showing is not disputed by Patent Owner, and we agree with Petitioner’s arguments and evidence regarding the ’761 provisional. Accordingly, we determine that Petitioner shows by a preponderance of evidence that the Alexander ’761 provisional provides written description support for at least claims 1 and 28 of Alexander as a priority document under *Dynamic Drinkware* and for the portions of Alexander that Petitioner relies upon regarding the challenged claims.

53. Patent Owner also contends that a person having ordinary skill in the art would not have modified Alexander to substitute its DVD (Digital Versatile Disc), which is persistent storage, with Browne’s RAM (Random Access Memory), which is volatile memory. *Id.* at 57–59. Petitioner’s contentions regarding other elements recited in claim 1 are unopposed.

- a) *Element 1[a]: “[a] method for allowing a user to select storage options for storing programs using an interactive television program guide implemented on user television equipment, the method comprising”*

Petitioner points to Alexander’s EPG illustrated, for example, in Figure 1, reproduced and discussed above in the overview of Alexander in Section III.D.1. Pet. 33 (citing, *e.g.*, Ex. 1018, 3:1–7, 3:25–32, 5:20–53, 7:57–8:3, Fig. 1; Ex. 1025 ¶¶ 70–79). Petitioner also points to Alexander’s disclosures regarding selecting a desired recording frequency and whether to filter reruns, as well as Alexander’s parental control feature. *Id.* at 33–36 (citing, *e.g.*, Ex. 1018, 11:13–16; 11:29–43; 11:45–49, 25:39–49; Ex. 1025 ¶¶ 58–59, 73–75, 78).

We agree with Petitioner’s contentions and we credit and give significant weight to the testimony of Mr. Wechselberger (*see, e.g.*, Ex. 1025 ¶¶ 70–79) because Petitioner’s contentions and Mr. Wechselberger’s testimony are consistent with the evidence of record. For instance, a user interfaces with Alexander’s EPG using remote control 26 to highlight, for example, windows 12, 14, or 16 or the titles and channels in Grid Guide 22. Ex. 1018, 3:28–31.

Patent Owner’s arguments regarding storage options are discussed below in Section III.D.6.b. For the reasons given, we determine that

Petitioner's arguments and evidence show that Alexander describes the preamble. Because Petitioner has shown that the recitation in the preamble is satisfied by Alexander, we need not determine whether the preamble is limiting.

- b) *Element 1[b]: "providing the user with an opportunity to select at least one storage option for storing a program to be recorded, wherein the at least one storage option relates to at least one storage setting configured to control how programs are to be digitally stored on a random access digital storage device"*

Petitioner asserts that element 1[b] is disclosed by Alexander. Pet. 36–40. Petitioner's alternative contentions of obviousness relate to "at least one storage option" and "random access digital storage device" recited in element 1[b]. Pet. 56–73. Patent Owner does not dispute Petitioner's showing that Alexander discloses the "random access digital storage device" recited in claim 1. PO Resp. 56. Patent Owner's arguments disputing Petitioner's showing for "at least one storage option" are discussed below.

(1) Anticipation by Alexander

We start with the "at least one storage option" recited in element 1[b]. Petitioner points to Alexander's recording frequency and rerun filter options, as well as Alexander's parental control function and provides Mr. Wechselberger's testimony as support. Pet. 34–38 (citing, e.g., Ex. 1018, 11:8–16, 11:29–43, 11:45–49, 12:10–23, 17:11–36, 21:55–67, 23:63–24:7, 25:35–49, Fig. 1; Ex. 1025 ¶¶ 73–75, 78, 80–93). Mr. Wechselberger testifies, for example, "it is my opinion that Alexander's recording frequency option and rerun filter option—which are selected with Alexander's IPG and which control whether multiple episodes of a program

are recorded and whether reruns are filtered—meets the claimed ‘storage options.’” Ex. 1025 ¶ 75.

Patent Owner’s arguments disputing Petitioner’s showing (*see, e.g.*, PO Resp. 36–45; PO Sur-Reply 8–10) are premised on Patent Owner’s proposed claim construction of “storage option,” which we do not adopt for the reasons given above. *See supra* § III.C.2. In particular, we determine that the broadest reasonable construction of “storage option” encompasses the exemplary storage options described in the ’585 Patent Specification, such as “language tracks,” “video formats,” “parental control” on storage, and automatic erasure of viewed programs. Ex. 1001, 15:51–61, Figs. 14, 16. Also, as discussed above with respect to claim construction, we determine the broadest reasonable interpretation of “program” is not limited such that “program” cannot include more than one episode and the term “program” is not synonymous with “episode.” *See supra* § III.C.2.

After considering the arguments and evidence of both parties, we agree with Petitioner’s contentions, and we credit and give significant weight to the testimony of Mr. Wechselberger (*see, e.g.*, Ex. 1025 ¶¶ 73–75, 78, 80–93) over that of Mr. Tinsman as both Petitioner’s contentions and Mr. Wechselberger’s testimony are consistent with the evidence of record and the broadest reasonable interpretation of “storage option.” For instance, Alexander describes an option for storing a single or multiple episodes of programs. In particular, Alexander’s recording “‘regularly’ option” results in “recording *a particular program*” regularly. Ex. 1018, 11:10–11 (emphasis added). Alexander describes alternatively that the viewer can select “a record frequency of once, daily or weekly.” *Id.* at 25:40–41; *see also id.* at 11:48–49 (describing selection of “Once, Daily, Weekly, or

Regularly as a record-scheduling option”). Furthermore, “when the viewer selects the ‘Regularly’ record option, the viewer is also given the option of filtering reruns” (*id.* at 11:35–37) and, if the viewer has selected the rerun filter option for that program title and the EPG determines “the episode is a rerun, then the EPG will not record the episode” (*id.* at 11:39–43).

Patent Owner also argues that Alexander’s record frequency does not impact the storage of data corresponding to a single program. PO Resp. 39–40. Patent Owner asserts that Mr. Wechselberger testifies that Alexander is “silent on whether the recording frequency options affects [the program’s] components.” *Id.* at 40 (citing Ex. 2011, 76:15–20). However, Patent Owner does not explain what “affects components” entails. Under the broadest reasonable interpretation of the “wherein” clause, a storage option need not require components of a program to be altered.

Patent Owner also argues that selection of Alexander’s rerun filter option results in a program not being stored. PO Resp. 41–42. Patent Owner’s arguments regarding Alexander’s record frequency option and rerun filter option (*id.*), however, do not take into consideration Alexander’s description of the operation of those options together. Ex. 1018, 11:35–43 (“[W]hen the viewer selects the ‘Regularly’ record option, the viewer is also given the option of filtering reruns[, and] . . . [i]f the episode is a rerun, and if the viewer has selected the rerun filter option for that program title, then the EPG will not record the episode.”). Patent Owner’s asserted deficiencies of Alexander also are premised on Patent Owner’s proposed construction of “storage options” excluding some exemplary storage options disclosed in the ’585 Patent, which we decline to adopt.

Also, Alexander describes that “[i]n the Parental Control Function, the Parent selects the channels and programs that can be visible in the Grid Guide for a particular viewer and selects channels and/or programs that are to be blocked from viewing.” Ex. 1018, 17:27–30. Patent Owner argues the parental control function pertains to only displaying programs on Alexander’s EPG. PO Resp. 43. Upon selection by the parent of Alexander’s parental control function, however, child viewers are blocked from viewing marked programs and, therefore, cannot record those programs. *Id.*

Patent Owner argues contrary to the disclosures in Alexander that the marked program would be displayed anyway (*see, e.g.*, PO Resp. 44; Ex. 2016 ¶¶ 107–108), but Patent Owner’s arguments are based on circumventing Alexander’s system using an Internet connection. Also, Mr. Tinsman’s testimony (Ex. 2016 ¶¶ 107–109) that the circumvention would have allowed a child viewer to record a marked program is not supported by the disclosures of Alexander or the evidence of record. For instance, Alexander describes that the recording features not accessed via the Grid “operate in the same way as if recording a show from the Grid.” Ex. 1018, 24:6–7. We agree with Petitioner that Alexander’s parental control function is an additional example of Alexander’s disclosure of a “storage option” within the scope of claim 1.

We turn to whether Alexander discloses a “random access digital storage device.” Relying on the testimony of Mr. Wechselberger, Petitioner points to Alexander’s DVD. Pet. 38–40 (citing, *e.g.*, Ex. 1018, 11:13–15; 12:7–21, 12:22–23; Ex. 1025 ¶¶ 88–91). Patent Owner does not dispute

Petitioner's showing that Alexander discloses the "random access digital storage device" recited in claim 1. PO Resp. 56.

We agree with Petitioner's contentions and we credit and give significant weight to the testimony of Mr. Wechselberger (*see, e.g.*, Ex. 1025 ¶¶ 88–91) that Alexander discloses a "random access digital storage device" because Petitioner's contentions and Mr. Wechselberger's testimony are consistent with the evidence of record. For instance, Alexander describes,

[t]he viewer can instruct the EPG to record programs on recordable Digital Video Discs (DVD's). Because of the extended storage capacity of DVD's, the viewer can instruct the EPG to record and index an extended period of programming. For instance, the viewer can instruct the EPG to record and index, e.g., 4 hours of CNN news broadcasts certain number. When the viewer is ready to view the DVD recording, the EPG displays the DVD index on screen. The viewer can then select to view either the entire DVD, or only those portions of the recording in which the viewer is interested.

Ex. 1018, 12:11–21. Alexander also describes creating "program-level indexing of recorded programs." *Id.* at 1018, 12:22–23.

For the reasons given, after consideration of the arguments and evidence of both parties based on the complete record now before us, we determine that Petitioner's arguments and evidence show that Alexander describes element 1[b]. We determine that Patent Owner's arguments and evidence do not undermine Petitioner's showing.

(2) *Overview of Obviousness Grounds*

For completeness, we now consider Petitioner's alternative contentions and Patent Owner's narrower construction requiring both that

“at least one storage option” is limited to “particular subset of options that effect the manner in which—i.e., ‘how’—programs are actually stored (i.e., recorded) on the random access digital storage device” (PO Resp. 20) and that term “program” is limited to a single episode (*id.* at 11–12). Petitioner’s alternative contentions regarding “storage option” are provided if that term is construed more narrowly.

In particular, Petitioner points to alternative teachings for “storage options” as follows: (1) Malik’s “recording programs having ‘a multiplicity of language tracks’ which include ‘sound tracks’ and ‘text messages in different languages’” (Pet. 57 (citing, *e.g.*, Ex. 1020, 1 ¶ 6, 2 ¶¶ 1, 5)); (2) Boyce’s HDTV and SDTV video format options (*id.* at 62–63 (citing, *e.g.*, Ex. 1021, 1:17–21, 3:32–33, 4:14–21, 40:26–31)); and (3) Browne’s program erasure options (*id.* at 67–68 (citing, *e.g.*, Ex. 1022, 19 ¶¶ 2–3, Fig. 3)). Petitioner relies on the testimony of Mr. Wechselberger regarding reasons one having ordinary skill in the art would have had to make the proposed modifications to Alexander to allow a user to select the alternative storage options using an IPG in the secondary references. Pet. 58–60, 63–65, 68–72 (citing, *e.g.*, Ex. 1025 ¶¶ 137–142, 150–157, 163–179).

(3) *Obviousness over Alexander and Malik*

We turn to the parties’ contentions regarding Malik’s language tracks. Relying on the testimony of Mr. Tinsman, Patent Owner contends, contrary to Petitioner’s contentions, Malik describes how the language selected by the user affects playback, but not recording of a program. PO Resp. 46–47, 49 (citing, *e.g.*, Ex. 2016 ¶¶ 112–113, 115, 118); PO Sur-Reply 11–13 (“But importantly, none of these embodiments alter Malik’s stated order of

operations – recording multiple tracks first and selecting a single program to be used second.”). Patent Owner also contends, contrary to Petitioner’s contentions and the declaration and deposition testimony of Mr. Wechselberger, Malik does not disclose transmitting only a single language track with the program, or selecting a single language for recording. PO Resp. 47–48 (citing, *e.g.*, Ex. 2016 ¶ 116; Ex. 2011, 86:15–87:12; Ex. 1020, 3); PO Sur-Reply 11 (“Malik teaches transmission and recording of multiple language tracks with a program”). Patent Owner asserts, therefore, “Petitioner’s proposed combination of Alexander and Malik is deficient” because “[n]either reference describes the claimed storage option . . . and combining their disclosures does not cure that fact.” *Id.* at 49.

Patent Owner’s contentions and Mr. Tinsman’s testimony do not take into account, however, that Mr. Wechselberger testifies a person having ordinary skill in the art would have recognized Malik’s “multi-lingual operation” as a technical improvement and would have combined Malik’s “choice of the language” with Alexander’s EPG resulting in a recording system in which the viewer uses the EPG to select both a program and sound or text track for recording. Ex. 1025 ¶¶ 137–138 (citing, *e.g.*, Ex. 1020, 1 ¶¶ 1, 6). The parties do not dispute that Alexander’s EPG allows a user to select a program for recording. *See, e.g.*, Ex. 1018, 7:57–8:3, Figs. 1, 3. Petitioner’s proposed modification is to incorporate Malik’s language selection into Alexander’s recording system. Pet. 58 (“It would have been obvious to modify Alexander’s recording system to also allow a user to select, using an IPG, a sound track in a desired language or text track in a desired language, as taught by Malik, when selecting a program to record, as in Alexander”); Ex. 1025 ¶ 137 (“In my opinion, a POSA [person of

ordinary skill in the art] would have found it obvious to modify Alexander's recording system to also allow a user to select a sound track in one or more desired languages or a text track in one or more desired languages, as taught by Malik, when selecting programs to record.”).

After considering the arguments and evidence of both parties, we agree with Petitioner's contentions regarding the proposed modification of Alexander to select both a program and sound or text track for recording, and we credit and give significant weight to the supporting testimony of Mr. Wechselberger over that of Mr. Tinsman because Petitioner's contentions and Mr. Wechselberger's testimony are consistent with the evidence of record including the evidence cited therein. For instance, Malik describes “an *improved* television transmission, reception and recording means *incorporating multi-lingual operation*” in which “the choice of the language is open for selection” by the viewer. Ex. 1020, ¶¶ 1, 6 (emphases added). Malik describes bringing “up a menu” and the user interacting “to select the language of interest.” *Id.* at 5, ¶ 1. Based on the complete record now before us, we determine Patent Owner's arguments are based on Malik alone, rather than the proposed combination of teachings set forth by Petitioner. *In re Keller*, 642 F.2d 413, 426 (CCPA 1981) (“[O]ne cannot show non-obviousness by attacking references individually where, as here, the rejections are based on combinations of references.”)

For the reasons given, after consideration of the arguments and evidence of both parties based on the complete record now before us, we determine that Petitioner's arguments and evidence show that the combination of Alexander and Malik teaches element 1[b] under the broadest reasonable interpretation and even under Patent Owner's narrower

construction (*see supra* § III.D.6.b(2)). We also determine that Petitioner has offered articulated reasoning with a rational underpinning as to why one of ordinary skill in the art would have modified and combined the teachings of the asserted art in the manner proposed by Petitioner and that Petitioner has demonstrated that such person would have had a reasonable expectation of success. *See* Ex. 1025 ¶¶ 137–138. We further determine that Patent Owner’s arguments and evidence do not undermine Petitioner’s showing.

(4) *Obviousness over Alexander and Boyce*

We turn to Petitioner’s contentions that element 1[b] is taught by Alexander modified to allow users to use an IPG to select one of Boyce’s HDTV and SDTV video format options. Pet. 62–63 (citing, *e.g.*, Ex. 1021, 1:17–21, 3:32–33, 4:14–21, 40:26–31). Petitioner relies on the testimony of Mr. Wechselberger regarding reasons one having ordinary skill in the art would have had to make the proposed modifications to Alexander. Pet. 58–60, 63–65, 68–72 (citing, *e.g.*, Ex. 1025 ¶¶ 137–142, 150–157, 163–179).

Patent Owner does not dispute Petitioner’s showing that Boyce teaches the “storage option” recited in claim 1. We determine that Petitioner has shown that Boyce’s disclosures teach the “wherein” clause even using Patent Owner’s narrower construction. For instance, consistent with Petitioner’s contentions, Boyce describes “VTR mode control circuit 920 receives user commands” instructing “the VTR to operate in either a HDTV recording mode or a SDTV recording mode of operation.” Ex. 1021, 40:26–31. Boyce also describes “it is highly desirable that a VTR be capable of recording both HDTV signals as well as SDTV signals.” *Id.* at 4:14–15.

The parties' dispute centers of reasoning to combine. In that regard, Mr. Wechselberger testifies a person having ordinary skill in the art would have combined the teachings to modify Alexander's EPG and digital recording system to include Boyce's selection of either an SDTV or HDTV digital recording mode because Boyce's selection is an improvement that gives the user the format choice of which trade-off to make, i.e., image quality or storage requirements. Ex. 1025 ¶¶ 151–155.

Relying on the testimony of Mr. Tinsman, Patent Owner contends “[a] POSA would have known that digital video discs (DVDs) used by Alexander only support SDTV format recording but do not support HDTV format recording.” PO Resp. 51 (citing Ex. 2006, 30–31; Ex. 2016 ¶¶ 123–125). Mr. Tinsman testifies that the maximum image resolution for video recorded due to compression schemes used by DVDs at the time of the '585 Patent was too low for HDTV. Ex. 2016 ¶¶ 123–128 (citing, *e.g.*, Ex. 1018, 4:11–17; Ex. 1021, 4:2–6; Ex. 2004, 3; Ex. 2006, 25, 30–31, 36–37; Ex. 2007, 24; Ex. 2018, 8; Ex. 2020, 1). Mr. Tinsman testifies because of those DVD limitations that a person having ordinary skill in the art would not have recognized that DVDs would have been suitable for recording programs in both SDTV and HDTV formats. *Id.*

Relying on the testimony of Mr. Wechselberger, Petitioner responds that a person having ordinary skill in the art would not have understood high definition television to require the resolution or bit rate argued by Patent Owner. Pet. Reply 18–19 (citing, *e.g.*, Ex. 1050 ¶¶ 55–62). Petitioner also asserts that a compression scheme used by DVDs at the time of the '585 Patent was suitable for recording HDTV. *Id.* at 19–22 (citing, *e.g.*, Ex. 1050 ¶¶ 63–69, 71–72, 83–91). Mr. Wechselberger testifies that a person

having ordinary skill in the art would have known of DVD technology that would have been able to successfully record HDTV to a DVD.

Ex. 1050 ¶¶ 89–90 (citing, *e.g.*, Ex. 1047, 378; Ex. 1048, code (62), 11:35–40, 12:35–46).

Patent Owner contends that Mr. Wechselberger’s deposition and declaration testimony, as well as other evidence submitted by Petitioner, shows that commercial DVD technology did not support HDTV resolutions. PO Sur-Reply 13–24 (citing, *e.g.*, Ex. 1050 ¶¶ 39, 58, 62, 66, 80, 150–151; Ex. 2026, 38:18–23, 49:12–50:17, 52:14–53:8, 64:25–72:11, 83:14–21, 85:11–16, 94:4–95:6, 98:4–14; Ex. 1044, 150–51, 180–82; Ex. 1046, 137, 313; Ex. 1048). Patent Owner also contends that Petitioner “provided certain self-selected portions of a book” describing DVD technology, but “other portions of that book” do not support Petitioner’s assertions. *Id.* (citing, *e.g.*, Ex. 2027, 154, 193, 257–258, 282, 305). Patent Owner also asserts that Petitioner introduced a new theory in its Reply. *Id.* at 24.

Even assuming that Patent Owner’s contention and Mr. Tinsman’s testimony are correct that commercial DVD technology did not support HDTV resolutions, we agree with Petitioner’s assertion and Mr. Wechselberger’s testimony that a person having ordinary skill in the art would have had a reason to modify Alexander’s EPG and digital recording system to include Boyce’s selection of either an SDTV or HDTV digital recording mode and would have had a reasonable expectation of success. Pet. 62–66; Ex. 1025 ¶¶ 151–155; Pet. Reply 18–19; Ex. 1050 ¶¶ 55–69, 71–72, 83–91. Boyce describes the MPEG data rate and further that, therefore, “there is a need for a method and apparatus for implementing a digital video tape recorder capable of recording and reproducing SDTV video signals.”

Ex. 1021, 4:2–12. In other words, the benefit of providing an option to record SDTV, rather than always recording HDTV, is due to recording technology limitations. We credit and give significant weight to Mr. Wechselberger’s testimony over the testimony of Mr. Tinsman that a person having ordinary skill in the art would have known of DVD technology that would have been able to successfully record HDTV to a DVD because Mr. Wechselberger’s testimony is consistent with the evidence of record. *See, e.g.*, Ex. 1047, 378 (“DVD offers a practical way for delivery of wide-screen HDTV movies.”); Ex. 1048, 11:35–40 (describing with respect to recording disk 724 that a HDTV signal can be recorded), 12:35–46 (describing recording an HDTV signal on a DVD). Furthermore, Boyce describes that its teachings are not limited to the particular HDTV and SDTV technology and apply to other types of fixed and variable rate digital data bit streams. Ex. 1021, 40:42–48.

Mr. Wechselberger further testifies that consumer appliance markets for DVD applications were constrained for commercial reasons. Ex. 1050 ¶ 51. Mr. Wechselberger also testifies that “there is no teaching or suggestion in Alexander or Boyce that would have led a POSA to assume or conclude the constraints of commercial DVD appliances designed for consumer markets should apply to the DVD appliance that would have resulted from the Alexander-Boyce combination.” Ex. 1050 ¶ 52. We note that simply because “a given combination would not be made by businessmen for economic reasons does not mean that persons skilled in the art would not make the combination because of some technological incompatibility.” *In re Farrenkopf*, 713 F.2d 714, 718 (Fed. Cir. 1983).

We further agree with Petitioner that claim 1 does not require a resolution or a bit rate or provide a narrow definition of HDTV. Pet. Reply 18; Ex. 1050 ¶¶ 56, 62. Although not necessary for our determination, we also agree with Petitioner's assertion and Mr. Wechselberger's testimony that the '585 Patent identifies that the MPEG-2 standard is suitable for storing data, including data of various video formats, on digital storage device 31, which includes a DVD player capable of handling recordable DVD discs. Ex. 1001, 3:53–56, 4:4–10.

We do not agree with Patent Owner (PO Resp. 24) that Petitioner presents a new theory of unpatentability. Petitioner's Reply and Mr. Wechselberger's reply testimony simply provide further details and evidence to support the accuracy of assertions in the Petition and Mr. Wechselberger's testimony in his initial Declaration (Ex. 1025) regarding reasoning to combine Alexander and Boyce. Petitioner's Reply and Mr. Wechselberger's reply testimony do no more than fairly and directly respond to Patent Owner's Response and Mr. Tinsman's testimony. *See* 37 C.F.R. § 42.23(b); *see also Apple Inc. v. Andrea Electronics Corp.*, 949 F.3d 697, 706 (Fed. Cir. 2020) (explaining Apple's reply arguments "are not the types of arguments that we have previously found to raise a 'new theory of unpatentability'" and "any ambiguity as to whether Apple raised a new argument on reply is eliminated when we consider whether Apple's reply arguments are responsive to arguments raised in Andrea's Patent Owner Response"); *Belden Inc., v. Berk-Tek LLC*, 805 F.3d 1064, 1078–80 (Fed. Cir. 2015) (holding that the Board may rely on new evidence submitted with a reply because the evidence was legitimately responsive to patent owner's arguments and not needed for a prima facie case of obviousness).

For the reasons given, after consideration of the arguments and evidence of both parties based on the complete record now before us, we determine that Petitioner's arguments and evidence show that the combination of Alexander and Boyce teaches element 1[b] under the broadest reasonable interpretation and even under Patent Owner's narrower construction (*see supra* § III.D.6.b(2)). We also determine that Petitioner has offered articulated reasoning with a rational underpinning as to why one of ordinary skill in the art would have modified and combined the teachings of the asserted art in the manner proposed by Petitioner and that Petitioner has demonstrated that such person would have had a reasonable expectation of success. We further determine that Patent Owner's arguments and evidence do not undermine Petitioner's showing.

(5) *Obviousness over Alexander, Kumagai, and Browne*

We turn to Petitioner's contentions that element 1[b] is taught by Alexander modified to incorporate Browne's program erasure options. Pet. 67–68 (citing, *e.g.*, Ex. 1022, 19 ¶¶ 2–3, Fig. 3). Petitioner relies on the testimony of Mr. Wechselberger regarding reasons one having ordinary skill in the art would have had to make the proposed modifications to Alexander. Pet. 68–72 (citing, *e.g.*, Ex. 1025 ¶¶ 163–170). For instance, Mr. Wechselberger testifies a person having ordinary skill in the art would have combined the teachings to present Browne's option to automatically erase previously viewed programs using Alexander's EPG and recording system to reduce attention needed from the viewer to manage the storage capacity. 1025 ¶¶ 165–166.

Relying on the testimony of Mr. Tinsman, Patent Owner argues “none of Browne’s three program erasure options as shown above in reproduced FIG. 3 of Browne is the claimed storage options.” PO Resp. 54–55 (citing Ex. 2016 ¶¶ 133–134). Mr. Tinsman testifies “Browne’s program erasure options merely determine whether to erase programs that have already been stored.” Ex. 2016 ¶ 133.

Patent Owner’s contentions and Mr. Tinsman’s testimony are premised on Patent Owner’s proposed claim construction. Although we agree with Patent Owner to the extent that Browne’s auto erase option does not satisfy Patent Owner’s construction, we did not adopt that construction. *See supra* § III.C.2.

Using the broadest reasonable interpretation, we agree with Petitioner’s contentions and credit and give significant weight to Mr. Wechselberger’s testimony over Mr. Tinsman’s testimony because Petitioner’s contentions and Mr. Wechselberger’s testimony are supported by the evidence of record under the broadest reasonable interpretation of the “wherein” clause. For instance, consistent with Petitioner’s contentions and Mr. Wechselberger’s testimony, Browne describes “[b]y selecting previously viewed option 301b, only programs which have been viewed will be automatically erased.” Ex. 1022, 19 ¶ 3; *see also id.* at Fig. 3 (“ERASE OLDEST VIEWED PROGRAMS”). Browne further describes that “automatic erasure” in a large capacity recorder player “greatly reduces the

need for constant user attention and provides multiple viewing options.”

Id. at 2 ¶ 2.¹¹

Additionally, Petitioner points to Alexander’s recording system modified to use Kumagai’s rewritable recording medium. Pet. 65–69 (citing, *e.g.*, Ex. 1025 ¶¶ 159–170). Mr. Wechselberger testifies a person having ordinary skill in the art would have “found it desirable to include comparable overwriting capabilities in recording systems that use optical disc-based storage media (*e.g.*, DVDs)” and, therefore, would have used Kumagai’s rewritable DVD in Alexander’s recording system.

Ex. 1025 ¶ 162.

We agree with Petitioner’s assertion and we credit and give significant weight to Mr. Wechselberger’s testimony because Petitioner’s assertion and Mr. Wechselberger’s testimony are consistent with the evidence of record. For instance, Kumagai describes a detection system “used for recording/reproducing an optical disc DVD-RW (Rewritable) which is a rewritable recording medium, now being researched, pursuant to the DVD standard.” Ex. 1023, 7:64–67.

For the reasons given, after consideration of the arguments and evidence of both parties based on the complete record now before us, we determine that Petitioner’s arguments and evidence show that the combination of Alexander, Kumagai, and Browne teaches element 1[b] under the broadest reasonable interpretation. We also determine that

¹¹ Browne’s auto erase option causes already-stored programs to be erased, like that in the ’585 Patent Specification, which describes “[t]he user may also choose whether the program guide automatically erases entries from digital storage device 49 once the entries are viewed.” Ex. 1001, 15:57–59.

Petitioner has offered articulated reasoning with a rational underpinning as to why one of ordinary skill in the art would have modified and combined the teachings of the asserted art in the manner proposed by Petitioner and that Petitioner has demonstrated that such person would have had a reasonable expectation of success. We further determine that Patent Owner's arguments and evidence do not undermine Petitioner's showing.

(6) *Remaining Obviousness Grounds—Alexander and Browne; Alexander, Browne, and Malik; and Alexander, Browne, and Boyce*

The grounds of obviousness over Alexander and Browne; Alexander, Browne, and Malik; and Alexander, Browne, and Boyce are presented by Petitioner to provide alternatives to Alexander's indexed DVD for "random access digital storage device." Pet. 70–74. Patent Owner does not dispute Petitioner's showing that Alexander discloses "random access digital storage device." PO Resp. 56.

We note with respect to our determination that claim 1 is obvious over Alexander, Kumagai, and Browne that Petitioner points to Browne's program erasure options for element 1[b]. Pet. 67–68. In its contentions regarding obviousness over Alexander and Browne, however, other than modifying Alexander's indexed DVD with respect to "random access digital storage device," Petitioner points to its contentions that claim 1 is anticipated by Alexander. Pet. 72.

Because Patent Owner does not dispute Petitioner's showing regarding "random access digital storage device" and the grounds of anticipation and obviousness previously discussed (*see supra* §§ III.D.6.b.(1)–(5)) are dispositive to all challenged claims, we need not reach the grounds of obviousness over Alexander and Browne; Alexander,

Browne, and Malik; and Alexander, Browne, and Boyce. *See SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1359 (2018) (holding a petitioner “is entitled to a final written decision addressing all of the claims it has challenged”).

(7) *Element 1[b]*

For the reasons given, we determine that Petitioner’s arguments and evidence show that Alexander alone describes element 1[b]. We also determine Petitioner has shown how Alexander in combination with the asserted art teaches element 1[b]. Furthermore, we determine that Petitioner has offered articulated reasoning with a rational underpinning as to why one of ordinary skill in the art would have modified and combined the teachings of the asserted art in the manner recited in claim 1. We also determine that Petitioner has demonstrated that such person would have had a reasonable expectation of success. We determine Patent Owner’s arguments and evidence do not undermine Petitioner’s showing.

c) *Element 1[c] “in response to a user selection of the at least one storage option, modifying the at least one storage setting”*

Petitioner points to Alexander’s adjustment of storage in accordance with the storage option selected. *See, e.g.*, Pet. 40–42 (citing, e.g., Ex. 1018, 2:42–44, 9:61–62, 25:35–49, Fig. 6; Ex. 1025 ¶¶ 94–104). Patent Owner does not dispute this showing. We agree with Petitioner’s contentions because they are consistent with the evidence of record. For instance, Alexander describes

[a] show associated with an ad is recorded by pressing the Right Action button while the ad is highlighted. The user may select a record frequency of once, daily or weekly. From an ad, the user presses the Right Action button (the Green button labeled

“Record”) to place the show in the Record Schedule. In the event that the show is currently on, pressing the Right Action button while highlighting an ad allows recording of the show in progress. The show title is also placed in the Record Schedule until the show ends in the event the user wishes to modify the record frequency to daily or weekly.

Ex. 1018, 25:35–49. Disclosures relating to other storage options are discussed above with respect to element 1[b]. *See supra* § III.D.6.(b).

For the reasons given, we determine that Petitioner’s unopposed arguments and evidence show that Alexander describes element 1[c].

d) *Element 1[d]: “displaying in the interactive television program guide at least one program listing related to at least one program”*

Petitioner points to Alexander’s display of program listings using Grid Guide 22 and, alternatively, using panel ads. Pet. 43 (citing, *e.g.*, Ex. 1018, 4:28–33; 4:52–56, 25:35–49, Figs. 1, 10A–B). Patent Owner does not dispute this evidence. We agree with Petitioner’s contentions because they are consistent with the evidence of record. For instance, Alexander describes

[i]n grid guide 22 the viewer moves cursor 36 to highlight one of the nine tiles in which channel and title are displayed by pressing arrow keys 28 and 30. The viewer can view program listings scheduled at future times by pressing keys 32 or 34 to move horizontally about the Grid.

Ex. 1018, 4:52–56.

Alexander also describes displaying an ad for a future telecast program in window 14, which the viewer can record by pressing the green right action button. Ex. 1018, 4:28–33. Alexander further includes Figure 1, which is a graphic representation of a sample screen display of the EPG and Figures 10A and 10B, which are graphic representations of sample on screen

EPG displays depicting the presentation of additional information concerning the subject matter of a highlighted Panel Ad Window. *Id.* at Figs. 1, 10A, 10B.

For the reasons given, we determine that Petitioner's unopposed arguments and evidence show that Alexander describes element 1[d].

- e) *Element 1[e]: "providing the user with an opportunity to select a program listing from the at least one displayed program listing for recording on the random access digital storage device"*

Petitioner contends Alexander describes selecting a program from the grid guide or from an ad and using a "Record" button or remote to record. Pet. 44–45 (citing, *e.g.*, Ex. 1018, 4:29–33, 4:45–47, 4:52–54, 7:58–8:3, 21:55–67, 23:63–24:7, 25:35–49, Figs. 1–2). Patent Owner does not dispute this evidence. We agree with Petitioner's contentions because they are consistent with the evidence of record. For instance, Alexander describes

[i]n the Record Selection Function, also referred to as the Recording Function, the viewer instructs the EPG what programs to add to the Record List, which is the list of programs and related programming schedule information, for programs that the viewer want to have recorded. As is further described below, the viewer can identify the frequency/regularity with which the viewer wants to record each program listed in the Record List.

The viewer can enter the Recording Function in a number of ways. The viewer can press the "Record" key, if there is one, on the viewer's remote control device. Alternatively, the viewer can "press" a "Record" action button on the EPG display.

Ex. 1018, 7:58–8:3; *see also id.* at 4:45–47, Fig. 1 ("Remote controller 26 has corresponding keys 48 and 50, respectively, to activate the functions represented by blocks 44 ['WATCH'] and 46 ['RECORD']").

Also supportive of Petitioner’s contentions, Alexander describes a viewer recording a program displayed in window 14 by pressing the green right action button. Ex. 1018, 4:28–33; *see also id.* at 21:55–67 (describing recording by pressing “the Green button, labeled ‘Record’”). Alexander further describes

[i]n one embodiment, if a Channel ad has show information associated with it, the show may be recorded by highlighting the ad and pressing the Right Action button (the Green button, labeled Record). If the show is already being delivered in the television signal, recording begins immediately and the show is placed in the Record/Watch Schedule for the duration of the show. If the show is on in the future, the show is added to the Record/Watch Schedule for recording. Shows added to the Record/Watch Schedule may be set to be recorded: once, daily, or weekly. The Record feature and related Action button labels operate in the same way as if recording a show from the Grid.

Id. at 23:63–24:7.

For the reasons given, we determine that Petitioner’s unopposed arguments and evidence show that Alexander describes element 1[e].

f) Element 1[f]: “recording the program on the random access digital storage device based on the modification of the at least one storage setting”

Petitioner contends Alexander describes that the selected program is recorded based on the storage option, e.g., selected recording frequency. Pet. 46 (citing, e.g., Ex. 1018, 7:62–65, 11:13–16, 11:48–49, 12:10–29; Ex. 1025 ¶¶ 116–122). Patent Owner does not dispute this evidence. We agree with Petitioner’s contentions because they are consistent with the evidence of record.

For instance, Alexander describes

[t]he viewer can instruct the EPG to record programs on recordable Digital Video Discs (DVD's). Because of the extended storage capacity of DVD's, the viewer can instruct the EPG to record and index an extended period of programming. For instance, the viewer can instruct the EPG to record and index, e.g., 4 hours of CNN news broadcasts certain number. When the viewer is ready to view the DVD recording, the EPG displays the DVD index on screen. The viewer can then select to view either the entire DVD, or only those portions of the recording in which the viewer is interested.

In one embodiment, program-level indexing of recorded programs is created. In another embodiment, intra-program indexing is created by using information transmitted in the VBI [vertical blanking interval] of the video transmitted.

Ex. 1018, 12:10–25.

Alexander also describes, for example, that “[v]iewer selection of the ‘regularly’ option instructs the VCR control system to record the particular title on the selected channel at the selected time slot any day of the week that the program is telecast.” *Id.* at 11:13–16. Recording in response to other options is discussed above with respect to element 1[b]. *See supra* § III.D.6.(b).

Patent Owner’s arguments relating to element 1[b] refer to this recitation. *See generally* PO Resp. For the reasons given, we determine Patent Owner’s arguments do not undermine Petitioner’s showing. *See supra* § III.D.6.b.(2). For instance, Patent Owner’s arguments are premised on its claim construction, which we do not adopt. *See supra* § III.C.2.

For the reasons given, we determine that Petitioner’s arguments and evidence show that Alexander describes element 1[f].

g) Conclusion—Claim 1

In summary, upon consideration of the contentions and evidence presented by both parties in the complete record now before us, we determine that Petitioner has shown that all recitations in claim 1 are described by Alexander and taught by Alexander and the asserted prior art. Also, we determine that Petitioner has articulated reasoning with a rational underpinning as to why one of ordinary skill in the art would have modified and combined the teachings of the asserted art in the manner recited in claim 1. We also determine that Petitioner has demonstrated that such person would have had a reasonable expectation of success.

We have considered all Patent Owner’s arguments and evidence. We determine that Patent Owner’s arguments and evidence do not undermine Petitioner’s showing.

Accordingly, based on the complete record now before us, we determine that Petitioner has demonstrated by a preponderance of the evidence that claim 1 of the ’585 Patent is unpatentable, under 35 U.S.C. § 102(e), as anticipated by Alexander. We also determine that Petitioner has demonstrated by a preponderance of the evidence that claim 1 of the ’585 Patent is unpatentable, under 35 U.S.C. § 103(a), as obvious over the following prior art combinations: (1) Alexander and Malik; (2) Alexander and Boyce; and (3) Alexander, Kumagai, and Browne. Because Patent Owner does not dispute Petitioner’s showing that Alexander discloses “random access digital storage device” (PO Resp. 56), we need not reach the grounds of obviousness over Alexander and Browne; Alexander, Browne, and Malik; and Alexander, Browne, and Boyce.

7. *Claims 8, 15, and 22*

Independent claims 8, 15, and 22 of the '585 Patent are similar to independent claim 1. Petitioner's showing for anticipation with respect to each of claims 8, 15, and 22 is similar to its showing with respect to claim 1 and, indeed, Petitioner relies on the same disclosures and teachings as discussed above in Section III.D.6 with respect to claim 1. Pet. 47–55. Petitioner's alternative grounds based on obviousness are the same for all independent claims, and are discussed above in Section III.D.6 in our analysis pertaining to claim 1. *Id.*

Petitioner accounts sufficiently for all differences in the claims. For instance, regarding “displaying in a display screen” recited in claim 8 and “a display screen” recited in claims 15 and 22, Petitioner points to Alexander's disclosure of an “on-screen EPG display.” Pet. 47–48, 50, 53 (citing, *e.g.*, Ex. 1018, 2:32–33, 4:54–55, Fig. 3). Petitioner's contentions are supported by Alexander's disclosures including, for example, Figure 3 and Alexander's related description that Figure 3 illustrates “a graphic representation of a sample *on screen EPG display* depicting the EPG's on-screen Grid Guide in the programming scrolling mode.” Ex. 1018, 2:32–33 (emphasis added).

Regarding “an interactive television program guide implemented at least partially on circuitry” recited in claim 15, Petitioner points to Alexander's “EPG system hardware” including a “circuit board” and “module for creating an on-screen display.” Pet. 50 (citing, *e.g.*, Ex. 1018, 5:46–47, 5:21, 5:27–28). Petitioner's contentions are supported by, for example, Alexander's description of “hardware” including “a circuit board” (Ex. 1018, 5:21) with “a module for creating an on-screen display” (*id.* at 5:27–28) and further that “[a]nother feature-of one embodiment of the EPG

system hardware is that display list hardware is capable of both video input and output on the same DMA [direct memory access] hardware.” *Id.* at 5:46–47.

For independent claims 8, 15, and 22, Patent Owner relies on the same arguments discussed above in Section III.D.6 with respect to claim 1. *See generally* PO Resp. For the reasons discussed above in Section III.D.6 with respect to claim 1, upon consideration of the contentions and evidence presented by both parties in the complete record now before us, we determine that Petitioner has shown that all recitations in claims 8, 15, and 22 of the ’585 Patent are described by Alexander and taught by Alexander and the asserted prior art. Also, we determine that Petitioner has articulated reasoning with a rational underpinning as to why one of ordinary skill in the art would have modified and combined the teachings of the asserted art in the manner recited in those claims. We also determine that Petitioner has demonstrated that such person would have had a reasonable expectation of success.

We have considered all Patent Owner’s arguments and evidence. We determine that Patent Owner’s arguments and evidence as to claim 1 do not undermine Petitioner’s showing as to claims 8, 15, and 22.

Accordingly, based on the complete record now before us, we determine that Petitioner has demonstrated by a preponderance of the evidence that claims 8, 15, and 22 of the ’585 Patent are unpatentable, under 35 U.S.C. § 102(e), as anticipated by Alexander. We also determine that Petitioner has demonstrated by a preponderance of the evidence that claims 8, 15, and 22 of the ’585 Patent are unpatentable, under 35 U.S.C. § 103(a), as obvious over the following prior art combinations: (1) Alexander and

Malik; (2) Alexander and Boyce; and (3) Alexander, Kumagai, and Browne. Because Patent Owner does not dispute Petitioner’s showing that Alexander discloses “random access digital storage device” (PO Resp. 56), we need not reach the grounds of obviousness over Alexander and Browne; Alexander, Browne, and Malik; and Alexander, Browne, and Boyce. *See SAS*, 138 S. Ct. at 1359 (holding a petitioner “is entitled to a final written decision addressing all of the claims it has challenged”).

E. Obviousness—Claims 2, 7, 9, 14, 16, 21, 23, and 28

Petitioner contends each of dependent claims 2, 7, 9, 14, 16, 21, 23, and 28 of the ’585 Patent is unpatentable, under 35 U.S.C. § 103(a), as obvious over (1) Alexander and Malik; and (2) Alexander, Browne, and Malik. Pet. 9, 56–61, 72–73. Each of claims 2, 7, 9, 14, 16, 21, 23, and 28 depend directly from one of independent claims 1, 8, 15, and 22. Patent Owner does not dispute separately for those dependent claims Petitioner’s showing that Alexander discloses “random access digital storage device.” PO Resp. 56–57. Therefore, as we discussed with respect to independent claims 1, 8, 15, and 22 (*see supra* §§ III.D.6, III.D.7), we need not decide Petitioner’s alternative contentions that any dependent claims would have been obvious over Alexander, Browne, and Malik.

We turn to Petitioner’s contentions that dependent claims 2, 7, 9, 14, 16, 21, 23, and 28 would have been obvious over Alexander and Malik. Each of claims 2, 9, 16, and 23 recites “wherein the at least one storage option is for selecting at least one language track for storing with [programs when a program/the program when the program] is recorded.” Ex. 1001, 19:1–3, 19:44–46, 20:21–23, 21:4–6. Each of claims 7, 14, 21, and 28

recites “wherein the at least one storage option is for selecting at least one language of subtitles for storing with [programs when the programs are/the program when the program is] recorded.” Ex. 1001, 19:18-20, 19:61–63, 20:39–41, 22:9–11.

For the further recitations of claims 2, 7, 9, 14, 16, 21, 23, and 28, Petitioner points to Malik’s “recording programs having ‘a multiplicity of language tracks’ which include ‘sound tracks’ and ‘text messages in different languages.’” Pet 56–61 (citing, *e.g.*, Ex. 1020, 1 ¶¶ 1–8, 2 ¶¶ 1, 5–9, 3 ¶ 1, 7, 5 ¶ 1, 6 ¶ 4; Ex. 1025 ¶¶ 133–146). Petitioner relies on the testimony of Mr. Wechselberger regarding reasoning to combine. *Id.*

Patent Owner does not argue separately Petitioner’s contentions for claims 2, 7, 9, 14, 16, 21, 23, and 28. We discuss Patent Owner’s contentions in full with respect to the independent claims. *See supra* §§ III.D.6, III.D.7. We agree with Petitioner’s contentions and we credit and give significant weight to Mr. Wechselberger’s testimony because Petitioner’s contentions and Mr. Wechselberger’s testimony (*see, e.g.*, Ex. 1025 ¶¶ 133–146) are consistent with the teachings of Alexander and Malik. For instance, Malik describes “a multiplicity of language tracks” and that its “technique employed here can also be used to transmit, receive, record textual messages in different languages, messages such as textual dubbing, scores, results, tables, program headers, footers and the like.” Ex. 1020, 1 ¶ 6, 2 ¶ 1; *see also id.* at 3, ¶ 1 (describing “[a]n embodiment of a television reception system with the capability to pick a different language track for sounding with the current frames”), 3, ¶ 7 (describing that “[t]he video recorder would record such programs in similar fashion, the number of sound, text tracks recordable will depend on size of the tape and the quality

of the read/write head”). In addition to the teachings highlighted here, our reasoning provided with respect to the independent claims applies, in particular with respect to Patent Owner’s contentions regarding those claims. *See supra* §§ III.D.6, III.D.7.

Based on the complete record now before us, we determine that Petitioner has shown that the further recitations in claims 2, 7, 9, 14, 16, 21, 23, and 28 are taught by the asserted art. Also, we determine that Petitioner has offered articulated reasoning with a rational underpinning as to why one of ordinary skill in the art would have modified and combined the teachings of the asserted art in the manner recited in those claims. Pet. 58–60 (citing, e.g., Ex. 1025 ¶¶ 137–142); *see also supra* § III.D.6.b.(3) (discussing and adopting as persuasive Petitioner’s contentions regarding why a person having ordinary skill in the art would have modified Alexander’s recording system to also allow a user to select, using an IPG, a sound track in a desired language or a text track in a desired language, as taught by Malik).

Accordingly, based on the complete record now before us, we determine that Petitioner has demonstrated by a preponderance of the evidence that claims 2, 7, 9, 14, 16, 21, 23, and 28 of the ’585 Patent are unpatentable, under 35 U.S.C. § 103(a), as obvious over Alexander and Malik.

F. Obviousness—Dependent Claims 3, 4, 10, 11, 17, 18, 24, and 25

Petitioner contends each of claims 3, 4, 10, 11, 17, 18, 24, and 25 of the ’585 Patent is unpatentable, under 35 U.S.C. § 103(a), as obvious over (1) Alexander and Boyce; and (2) Alexander, Browne, and Boyce. Pet. 9, 62–65, 73–74. Each of claims, 3, 4, 10, 11, 17, 18, 24, and 25 depends,

directly or indirectly, from one of independent claims 1, 8, 15, and 22.¹²

Patent Owner does not dispute separately for those dependent claims Petitioner's showing that Alexander discloses "random access digital storage device." PO Resp. 57–58. Like we discussed with respect to independent claims 1, 8, 15, and 22 (*see supra* §§ III.D.6, III.D.7), therefore, we need not decide Petitioner's alternative contentions that any dependent claims would have been obvious over Alexander, Browne, and Boyce.

We turn to Petitioner's contentions that dependent claims 3, 4, 10, 11, 17, 18, 24, and 25 would have been obvious over Alexander and Boyce. Each of claims 3, 10, 17, and 24 recites "wherein the at least one storage option is for selecting at least one video format for [recording programs/recording]." Ex. 1001, 19:4–6, 19:47–48, 20:24–26, 21:9–10. Claims 4, 11, 18, and 25 depend, directly, on claims 3, 10, 17, and 24, respectively and each of claims 4, 11, 18, and 25 recites "wherein the at least one video format comprises at least one of high definition television, normal television and digital format." Ex. 1001, 19:7–9, 19:49–51, 20:27–29, 21:10–12.

For the further recitations in claims 3, 4, 10, 11, 17, 18, 24, and 25, Petitioner points to Boyce's HDTV and SDTV video format options. Pet. 62–65 (citing, *e.g.*, Ex. 1021, 1:17–21, 2:11–21, 3:32–33, 3:36–38, 4:14–21, 4:52–54, 40:26–32, 41:33–35; Ex. 1025 ¶¶ 148–157)). Petitioner relies on the testimony of Mr. Wechselberger regarding reasoning to combining the

¹² Claims 3, 10, 17, and 24 depend, directly, on claims 1, 8, 15, and 22, respectively and claims 4, 11, 18, and 25 depend, directly, on claims 3, 10, 17, and 24, respectively.

teachings of Alexander and Boyce to give the user the format choice of which trade-off to make i.e., image quality or storage requirements. *Id.*

Patent Owner does not argue separately Petitioner's contentions for claims 3, 4, 10, 11, 17, 18, 24, and 25. We discuss Patent Owner's contentions in full with respect to the independent claims. *See supra* §§ III.D.6, III.D.7. We agree with Petitioner's contentions and we credit and give significant weight to Mr. Wechselberger's testimony because Petitioner's contentions and Mr. Wechselberger's testimony (*see, e.g.*, Ex. 1025 ¶¶ 148–157) are consistent with the teachings of Alexander and Boyce. For instance, Boyce describes “VTR mode control circuit 920 receives user commands” instructing “the VTR to operate in either a HDTV recording mode or a SDTV recording mode of operation.” Ex. 1021, 40:26–31. Boyce describes “it is highly desirable that a VTR be capable of recording both HDTV signals as well as SDTV signals.” *Id.* at 4:14–15.

Based on the complete record now before us, we determine that Petitioner has shown that the further recitations in claims 3, 4, 10, 11, 17, 18, 24, and 25 are taught by the asserted art. Also, we determine that Petitioner has offered articulated reasoning with a rational underpinning as to why one of ordinary skill in the art would have modified and combined the teachings of the asserted art in the manner recited in those claims. Pet. 63–65 (citing, *e.g.*, Ex. 1025 ¶¶ 150–157); *see also supra* § III.D.6.b.(4) (discussing Petitioner's contentions regarding why one having ordinary skill in the art would have modified Alexander to allow users to use an IPG to select a storage option to instruct the recording device to operate in either an HDTV or SDTV recording mode as taught by Boyce).

Accordingly, based on the complete record now before us, we determine that Petitioner has demonstrated by a preponderance of the evidence that claims 3, 4, 10, 11, 17, 18, 24, and 25 of the '585 Patent are unpatentable, under 35 U.S.C. § 103(a), as obvious over Alexander and Boyce.

G. Obviousness—Dependent Claims 6, 13, 20, and 27

Petitioner contends each of claims 6, 13, 20, and 27 of the '585 Patent is unpatentable, under 35 U.S.C. § 103(a), as obvious over (1) Alexander, Kumagai, and Browne; and (2) Alexander and Browne. Pet. 9, 65–72. Petitioner presents the ground of Alexander and Browne as an alternative “[t]o any extent that Alexander’s indexed DVD is alleged not to meet the proper construction of ‘random access digital storage device.’” *Id.* at 70. Claims 6, 13, 20, and 27 depend, directly, on claims 1, 8, 15, and 22, respectively. Patent Owner does not dispute separately for dependent claims 6, 13, 20, and 27 Petitioner’s showing that Alexander discloses “random access digital storage device.” PO Resp. 56–57. Like we discussed with respect to independent claims 1, 8, 15, and 22 (*see supra* §§ III.D.6, III.D.7), therefore, we need not decide Petitioner’s alternative contentions that dependent claims would have been obvious over Alexander and Browne.

Each of claims 6, 13, 20, and 27 recites “wherein the at least one storage option is for automatically erasing programs from the digital storage device once the [programs are viewed by the user/program is viewed by the user].” Ex. 1001, 19:15–17, 19:58–60, 20:36–38, 22:6–8. Petitioner contends that the combination of Kumagai’s rewritable recording medium, Browne’s option to automatically erase previously viewed programs, and

Alexander's recording system teaches the further recitations in claims 6, 13, 20, and 27. Pet. 65–69 (citing, *e.g.*, 1022, 19 ¶¶ 2–3, Fig. 3; Ex. 1025 ¶¶ 159–170). Petitioner relies on the testimony of Mr. Wechselberger, including that discussed above in Section III.D.6 with respect to claim 1 regarding reasons one having ordinary skill in the art would have had to make the proposed modifications to Alexander. *Id.* at 66–69 (citing, *e.g.*, Ex. 1025 ¶¶ 159–170).

Patent Owner does not argue separately Petitioner's contentions for claims 6, 13, 20, and 27. PO Resp. 53–55. We discuss Patent Owner's contentions in full with respect to the independent claims. *See supra* §§ III.D.6, III.D.7. We agree with Petitioner's contentions and we credit and give significant weight to Mr. Wechselberger's testimony because Petitioner's contentions and Mr. Wechselberger's testimony are consistent with the teachings of Alexander and Browne. For instance, Browne describes

Programs may be stored in storage section 104 and erased when storage capacity is reached in a first-in/first-out (FIFO) mode, if selection of FIFO option 301a is made from program erasure section 301. . .

Alternatively, program erasure may be selected by choosing erasure section 301. By selecting previously viewed option 301b, only programs which have been viewed will be automatically erased. The erasure of the stored viewed programs will preferably be performed on a FIFO basis. Thus, having selected this option, unviewed programs are automatically saved.

Ex. 1022, 19 ¶¶ 2, 3 (emphasis added). Browne teaches automatically erasing programs from the digital storage device after the programs are viewed by the user.

Upon consideration of the contentions and evidence presented by both parties in the complete record now before us, we determine that Petitioner has shown that the further recitations in claims 6, 13, 20, and 27 are taught by the asserted art. Also, we determine that Petitioner has articulated reasoning with a rational underpinning as to why one of ordinary skill in the art would have modified and combined the teachings of the asserted art in the manner recited in those claims. Pet. 68–72 (citing, *e.g.*, Ex. 1025 ¶¶ 163–179); *see also supra* § III.D.6.b.(5) (discussing why it would have been obvious to a person having ordinary skill in the art to modify Alexander’s recording system to allow a user to use an IPG to select a storage option that automatically erases previously viewed programs, as taught by Browne, from Kumagai’s DVD-RW). We also determine that Petitioner has demonstrated that such person would have had a reasonable expectation of success. *Id.*

We have considered all Patent Owner’s arguments and evidence. We determine that Patent Owner’s arguments and evidence do not undermine Petitioner’s showing.

Accordingly, based on the complete record now before us, we determine that Petitioner has demonstrated by a preponderance of the evidence that dependent claims 6, 13, 20, and 27 of the ’585 Patent are unpatentable, under 35 U.S.C. § 103(a), as obvious over Alexander, Kumagai, and Browne.

IV. CONCLUSION

Petitioner challenged claims 1–28 of the ’585 Patent. Pet. 1. Patent Owner filed a statutory disclaimer on March 4, 2019, to disclaim claims 5,

12, 19, and 26. PO Resp. 8–9; Ex. 2002. The outcome for the challenged claims remaining in this proceeding is set forth in Table 3 of this Decision below.¹³ In summary:

Claims Challenged	35 U.S.C.	Reference(s)/ Basis	Claims Shown Unpatent-able	Claims Not shown Unpatent-able
1, 8, 15, 22	§ 102(e)	Alexander	1, 8, 15, 22	
1, 2, 7–9, 14–16, 21–23, 28	§ 103(a)	Alexander, Malik	1, 2, 7–9, 14–16, 21–23, 28	
1, 3, 4, 8, 10, 11, 15, 17, 18, 22, 24, 25	§ 103(a)	Alexander, Boyce	1, 3, 4, 8, 10, 11, 15, 17, 18, 22, 24, 25	
1, 6, 8, 13, 15, 20, 22, 27	§ 103(a)	Alexander, Kumagai, Browne	1, 6, 8, 13, 15, 20, 22, 27	

¹³ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner’s attention to the April 2019 Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding. *See* 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. *See* 37 C.F.R. § 42.8(a)(3), (b)(2).

Claims Challenged	35 U.S.C.	Reference(s)/ Basis	Claims Shown Unpatent-able	Claims Not shown Unpatent-able
1, 6, 8, 13, 15, 20, 22, 27	§ 103(a) ¹⁴	Alexander, Browne		
1, 2, 7–9, 14–16, 21–23, 28	§ 103(a)	Alexander, Browne, Malik		
1, 3, 4, 8, 10, 11, 15, 17, 18, 22, 24, 25	§ 103(a)	Alexander, Browne, Boyce		
Overall Outcome			1–4, 6–11, 13–18, 20–25, 27, 28	

Table 3 of this Decision, above, summarizes the outcome for each challenged claim and ground in the instant proceeding.

¹⁴ The grounds of obviousness over Alexander and Browne; Alexander, Browne, and Malik; and Alexander, Browne, and Boyce are presented by Petitioner to provide alternative teachings to Alexander’s indexed DVD for “random access digital storage device.” Pet. 70–74. Patent Owner does not dispute Petitioner’s showing in that regard. PO Resp. 56. We, therefore, need not reach these alternative grounds. *See supra* §§ III.D.6, III.D.7.

V. ORDER

In consideration of the foregoing, it is hereby
ORDERED that claims 1–4, 6–11, 13–18, 20–25, 27, and 28 of the
'585 Patent have been proven to be 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.

IPR2019-00224
Patent 7,827,585 B2

PETITIONER:

Frederic M. Meeker
Bradley C. Wright
Charles L. Miller
Brian J. Emfinger
Blair A. Silver
BANNER AND WITCOFF, LTD.
fmeeker@bannerwitcoff.com
bwright@bannerwitcoff.com
cmiller@bannerwitcoff.com
bemfinger@bannerwitcoff.com
bsilver@bannerwitcoff.com

PATENT OWNER:

Jason D. Eisenberg
Jon E. Wright
Wenchong Shu
STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.
jasone-PTAB@sternekessler.com
jwright-PTAB@sternekessler.com
wshu-PTAB@sternekessler.com